GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

IMPROVING FATS OIL AND GREASE RECEIVINGS

Project SSF 2020-03

ADDENDUM #1

January 10, 2024

BIDDERS MUST ACKNOWLEDGE RECEIPT OF THIS ADDENDUM #1 IN THEIR PROPOSAL

Bidders are hereby informed that plans and specifications for the above-mentioned project are modified, corrected, and or supplemented as follows and that Addendum #1, complete with the enclosures, becomes part of the Contract Documents.

A. PRE-BID CONFERENCE:

1. A voluntary pre-bid meeting was held on January 1, 2024. Results of the meeting, in the form of the meeting agenda and a list of attendees are attached hereto and are herewith made a part of the Contract Documents for the project.

B. Bid Package

1. Bidders shall only submit the Bid Package attached to this Addendum as part of their Bid. This includes itemized proposal, bid bond, and statement of qualifications.

C. WAGE RATE INFORMATION:

1. The State of Connecticut Department of Labor Wage Rates to be used for the project are incorporated into this Addendum. Bidders are reminded that they are responsible to obtain any trades not listed or updates directly from the State of Connecticut.

D. SUBSURFACE INFORMATION:

1. The following geotechnical document is provided in this Addendum as supplemental information to the Contract Documents as part of the appendix to the Contract Documents: **FOG Receiving Station & Fuel Storage Tank Relocation, East Shore Water Pollution Control Facility, 365 East Shore Parkway, New Haven, Connecticut. Haley & Aldrich, Inc, July 2023.**

E. RECORD DRAWINGS:

1. Record drawings of the areas impacted by this project will be provided on request. Please note the drawings are provided for reference only and will not be part of the Bid Documents.

F. **SPECIFICATIONS:**

1. Replace the following in the Invitation:

   i. **Wednesday, January 17th, 2023**

   With

   ii. **Wednesday, January 17th, 2024**

2. Replace the following items in the Attachments to this Bid section of the Proposal:

   i. **2. Payment Bond**

   3. Performance Bond

   4. Statement of Qualifications

   With

   ii. **2. Bid Security/Bond**

   3. Statement of Qualifications

3. Delete the following from Article 9 of the Agreement:

   i. **"including the posing of a twenty-five percent (25%) maintenance bond in a form acceptable to the Authority by the Contractor ensuring the Project for a period of three (3) years from the date of final acceptance and the making of all payments due all subcontractors and material suppliers in connection with the Project.**

4. Delete the following from Article 12 of the Agreement:

   i. **", and the Contractor's having posted a satisfactory three (3) year maintenance bond with the Authority"**

5. Delete the following from Section 101 Definition and Terms under BOND:

   i. **"and Maintenance Bond"**

6. Delete 109-15 MAINTENANCE BOND in its entirety.

7. Replace the following in Specification 02 60 00 – 3.10.A.2

   i. **10,000-gallon**

   With

   ii. **25,000-gallon**

END OF ADDENDUM 1

ENCLOSURES:

- January 1, 2024 Pre-Bid Meeting Agenda (2 pages)
- January 1, 2024 Pre-Bid Meeting Attendee List (1 page)
- Bid Package (7 pages)
- Prevailing Wages (28 pages)
- FOG Receiving Station & Fuel Storage Tank Relocation, East Shore Water Pollution Control Facility, 365 East Shore Parkway, New Haven, Connecticut. Haley & Aldrich, Inc, July 2023 (91 pages)

Greater New Haven Water Pollution Control Authority
260 East Street New Haven, CT 06511
203.466.5280 p 203 772.1564 f www.gnhwpca.com

PRE-BID MEETING
GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY
IMPROVING FATS, OIL, AND GREASE RECEIVINGS
GNHWPCA Project Number: SSF 2020-03
Thursday, January 4, 2024

AGENDA

I. INTRODUCTION & PROJECT TEAM

Greater New Haven Water Pollution Control Authority (GNHWPCA) – Owner
260 East Street, New Haven, CT 06511

Name	Title/Project Role	Email
Nick Stevens	Project Manager	nstevens@gnhwpca.com
Joe Megale	Deputy Director of Operations	jmegale@gnhwpca.com
Charlie Biggs	Operations/Engineering Coordinator	cbiggs@gnhwpca.com
Gary Zrelak	Director of Operations	gzrelak@gnhwpca.com
Tom Sgroi	Director of Engineering	tsgroi@gnhwpca.com
Peter Santoro	Construction Inspector	psantoro@gnhwpca.com
Luigi DiMonaco	Construction Administrator	ldimonaco@gnhwpca.com

Brown and Caldwell
175 Capital Blvd, 4th Floor, Rocky Hill, CT 06067

Name	Role	Email
Stephen Clark, PE	Project Manager	sclark@brwncald.com
Dylan Dorris	Resident Project Representative	ddorris@brwncald.com

II. PROJECT DESCRIPTION

- Background
- Demolition of Existing Equipment/Structures
  - Fuel Storage Tank
  - Existing boiler
- Installation of Proposed Equipment/Structures
- Startup and Testing

III. PROJECT SCHEDULE

- Questions Due By: January 17th, 2024
- Bid Opening January 30th, 2024
- Anticipated Notice to Proceed: March 1st, 2024
- Time to Complete: 540 days

IV. CONSTRUCTION PROJECT CONSIDERATIONS

- Temporary Facilities and Staging
    - Trailers, laydown, temp heating
- Sequence of Construction
- Maintenance of Operations
    - Equipment shut-down procedures
    - Ash Containers
    - FOG Deliveries
    - Power Feed
    - Frequent Communication is key!
- Permitting
    - Fuel Storage Tank Decommissioning
    - City Permits
- Minipiles
- Owner Provided Equipment
- Asset Management Forms
- As-builts

V. Bidding Requirements

- Prevailing Wage Rates project
- Itemized Proposal - Acknowledgement of Addendum
- Bid Bond (10%)
- Contractor Qualifications

V. Execution of Contract

- Insurance: 100% Performance and Payment Bonds

VI. QUESTIONS

VII. SITE TOUR

GNHWPCA
Protecting the Environment

SSF 2020-03

Improving Fats, Oil and Grease Receivings

Thursday, January 4, 2024 @ 10:00 AM

Pre-Bid Attendance

NAME (Please Print)	COMPANY	EMAIL
Joseph Meagle	GNHWPCA	Jmeagle@gnhwpca.com
Stephen Clark	Brown & Caldwell	sclark@brwncald.com
Dylan Dorris	Brown & Caldwell	ddorris@brwncald.com
Bill Naragon	CH Nicherson	bnaragon@CHNicherson.com
Mike Weinzimmer	CH Nickerson	mweinzimmer@chnickelson.com
Mike Flannery	NIC	mflannery@nicsystems.com
Charlie Biggs	GNHWPCA	cbiggs@gnhwpca.com
NICK STEVENS	GNHWPCA	NSTEVENS@GNHWPCA.COM
Eric Muir	Brown & Caldwell	emuir@brwncald.com
Tom Sgroi	GNHWPCA	tsgroi@gnhwpca.com
DAN NEAGLE	L. BRUNOLI INC.	bids@lbrunoli.com
Dave Mueller	L. Brunoli, Inc.	bids@lbrnoli.com
BILL MONTANARO	WESCOR/SAVI BEAST	BILLJR@WESCOR1.NET
PETER SANTORO	GNHWPCA	PSANTORO@gnhwpca.com
Tom Turci	NIC SYSTEMS	TTURCI@NICSYSTEMS.COM

Greater New Haven Water Pollution Control Authority

Bid Package

Company Name (Bidder): _____

The following separate documents shall be completed and submitted with each bid:

- Itemized Proposal
- Bid Security/Bond
- Statement of Qualifications

ITEMIZED PROPOSAL

For Constructing

PROJECT: **IMPROVING FATS OIL AND GREASE RECEIVINGS**
PROJECT NO: **SSF 2020-03**

The Work proposed herein must be completed by (MONTH) (DATE) (YEAR).

Greater New Haven
Water Pollution Control Authority
260 East Street
New Haven, Connecticut 06511

To Whom It May Concern,

In submitting this bid the duly authorized undersigned declares that the entity on behalf of which this bid is made is, or they are, the only person or persons interested in the said bid; that the bid is made without any connection with any person making another bid for the same contract; that the bid is in all respects fair and without collusion, fraud or mental reservation; and that no official of the Greater New Haven Water Pollution Control Authority, or any person in the employ of the Authority is directly or indirectly interested in said bid or in the supplies or work to which it relates, or in any portion of the profits thereof.

The undersigned also hereby declares that they have, either for themselves or on behalf of the entity they represent, carefully examined the Plans, specifications, and form of Contract for this Project, have personally inspected the actual location of the Work and have considered potential local sources of supply, and are satisfied as to all the quantities and conditions, and understands that in signing this Proposal they or the entity that they represent waives all rights to plead any misunderstanding regarding the same.

The undersigned further understands and agrees that they are to furnish and provide for the respective item price bid all the necessary material, machinery, implements, tools, labor, services, and other items of whatever nature, and to do and perform all the Work necessary under the aforesaid conditions, to complete the improvements of the Project, which Plans and specifications it is agreed are a part of this Proposal, and to accept in full compensation therefore the amount of the summation of the products of the approximate quantities multiplied by the unit prices bid. This summation will hereinafter be referred to as the gross sum bid.

The undersigned further agrees to accept the aforesaid unit bid prices in compensation for any additions or deductions caused by any variation in quantities due to more

accurate measurement, or by any changes or alterations in the Plans or specifications of the Work and for use in the computation of the value of the Work performed for monthly estimates.

Every Proposal must be accompanied by a certified check or bank cashier's check or bid bond payable to the Greater New Haven Water Pollution Control Authority in the amount of ten percent (10%) of the bid.

Accompanying this Proposal is a certified check or bank cashier's check or bid bond payable to the Greater New Haven Water Pollution Control Authority in the amount of $100.00. In case this Proposal shall be accepted by the Authority, and the undersigned shall fail to execute the Contract, the monies represented by such certified check or bank cashier's check or bid bond shall be regarded as liquidated damages and shall be forfeited and become the property of the Authority. The undersigned understands and accepts:

A. When Work is required in which no specific payment item is listed on the Proposal Form, the cost of such Work shall be included in the unit prices bid.

B. All unit prices, lump sums, etc. listed in the bid Proposal are firm and not subject to change for ninety (90) days from the day bids are opened.

C. Within ten (10) days from the date of a notice of acceptance of this Proposal, the undersigned agrees to execute the Contract and to furnish to the Authority a satisfactory "Faithful Performance Bond" and "Labor and Material Payment Bond" in the amount of one hundred percent (100%) of the Contract price.

D. Time is of the Essence. All Work to be performed under the Contract shall be completed within the time stated in the Agreement for the Project or within such extended time for completion as may be granted by the Authority.

E. As a condition of the Contract Award, the successful Bidder shall provide proof, from the Connecticut Secretary of State’s office, of its current authorization to do business in Connecticut. All Connecticut corporations must provide a Certificate of Good Standing from the Secretary of State’s Office. All foreign (out of State) corporations shall provide a valid license to do business in Connecticut, in the form of a current Certificate of Authority from the Secretary of State’s office and evidence of compliance with the bond

requirements of the Connecticut Department of Revenue Services. These documents must be presented within thirty (30) days from the date of the bid opening.

Bidder acknowledges receipt of the Addenda listed below and further acknowledges that the provisions of each Addendum have been included in the preparation of this bid.

Addendum No.	**Date Received**	**Addendum No.**	**Date Received**
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
1	General Construction	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
2	Handling and disposal of regulated materials from excavation activities in accordance with Section 02 61 50, Handling, Transportation, and Disposal of Regulated Materials	CY	700	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
3	Handling and disposal of regulated materials from dewatering activities in accordance with Section 02 61 50, Handling, Transportation, and Disposal of Regulated Materials	Allowance	1	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words
4	Miscellaneous Fuel Oil repairs in accordance with Section 01 20 00	Allowance	1	$20,000.00 Figures (Twenty Thousand Dollars and No Cents) Words	$20,000.00 Figures (Twenty Thousand Dollars and No Cents) Words

Bid Summary

Lump Sum Bid Price Bid Item 1 $_____
Total Unit Bid Prices Bid Items 2, 3, 4 $_____
Total Bid (Bid Items 1, 2, 3, 4) $_____

Total Bid (words)_____
_____dollars
and_____cents

COMPANY NAME (BIDDER): _____

Address of Bidder: _____

_____

Phone Number: Area Code (_____) _____

E-mail Address: _____

I hereby sign this document acting within my authority as a duly authorized representative of the named Bidder. By signing below, I certify, acknowledge and affirm that the information set forth in this document is true, accurate and complete to the best of my knowledge and belief.

Signature of Bidder:_____**Dated:** _____

Name and Addresses of Members of the Firm:

_____

_____

Attachments to this Bid

The following documents are attached to and made a condition of this Bid:

1. Itemized Proposal
2. Bid Security/Bond
3. Statement of Qualifications

STATEMENT OF QUALIFICATIONS

_____
Bidder

_____
Address

Similar Projects Completed by Bidder:

1. **NAME OF PROJECT:** _____

   OWNER: _____ **ADDRESS:** _____

   DATE STARTED: _____ **DATE COMPLETED:** _____

   APPROX. QUANTITIES OF MAJOR ITEMS: _____

   _____

   VALUE OF CONTRACT: _____

2. **NAME OF PROJECT:** _____

   OWNER: _____ **ADDRESS:** _____

   DATE STARTED: _____ **DATE COMPLETED:** _____

   APPROX. QUANTITIES OF MAJOR ITEMS: _____

   _____

   VALUE OF CONTRACT: _____

3. **NAME OF PROJECT:** _____

   OWNER: _____ **ADDRESS:** _____

   DATE STARTED: _____ **DATE COMPLETED:** _____

   APPROX. QUANTITIES OF MAJOR ITEMS: _____

   _____

   VALUE OF CONTRACT: _____

4. **OTHER PROJECT REFERENCES:** _____

   _____

   _____

CONNECTICUT DEPARTMENT OF LABOR

Partner of the American Job Center Network

THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

If you have QUESTIONS regarding your wages
CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Sec. 31-53b. Worker training requirements for public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (h) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 46 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268, and, on or after July 1, 2012, that any plumber or electrician subject to the continuing education requirements of section 20-334d, who has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration five or more years prior to the date such electrician or plumber begins work on such public works project, has completed a supplemental refresher training course of at least four hours in duration in construction safety and health taught by a federal Occupational Safety and Health Administration authorized trainer.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2012, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or, in the case of a supplemental refresher training course, shall include, but not be limited to, an update of revised Occupational Safety and Health Administration standards and a review of required construction hazards training, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety

and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project or, in the case of supplemental refresher training, a student course completion card issued by said Occupational Safety and Health Administration authorized trainer dated not earlier than five years prior to the date such electrician or plumber begins work on such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1; P.A. 10-47, S. 2; P.A. 11-63, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009; P.A. 10-47 made a technical change in Subsec. (a); P.A. 11-63 amended Subsec. (a) by adding provision re supplemental refresher training course for plumbers and electricians subject to Sec. 20-334d, amended Subsec. (c) by adding provisions re regulations and subject matter of refresher training course and refresher training course student completion cards, and made technical changes, effective July 1, 2011.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007,* where the total cost of all work to be performed is at least $100,000)

(1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);

(2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;

(3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least $100,000;

(4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;

(5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;

(12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.

(16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTMATELY ARISE CONCERNIG THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.

- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

Sec. 31-55a. Annual adjustments to wage rates by contractors doing state work. Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

(P.A. 02-69, S. 1.)

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM

Construction Manager at Risk/General Contractor/Prime Contractor

I,_____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

_____
Street

_____
City

and all of its subcontractors will pay all workers on the

_____
Project Name and Number

_____
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

_____
Signed

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

_____
Notary Public

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53
Certified Payrolls with a statement of compliance
shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:			SUBCONTRACTOR NAME & ADDRESS	WORKER'S COMPENSATION INSURANCE CARRIER POLICY # EFFECTIVE DATE: EXPIRATION DATE:
PAYROLL NUMBER	Week-Ending Date	PROJECT NAME & ADDRESS		

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE							Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
				S	M	T	W	TH	F	S					FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER		
				HOURS WORKED EACH DAY																
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

12/9/2013 *IF REQUIRED
WWS-CP1

*SEE REVERSE SIDE

PAGE NUMBER _____OF

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care _____ 4) Disability_____

2) Pension or retirement _____ 5) Vacation, holiday_____

3) Life Insurance _____ 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of _____,

I, _____of _____, (hereafter known as

Employer) in my capacity as _____ (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such person is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such persons name first appears.

_____ _____ _____

(Signature) (Title) Submitted on (Date)

*****THIS IS A PUBLIC DOCUMENT*****
*****DO NOT INCLUDE SOCIAL SECURITY NUMBERS*****

Weekly Payroll Certification For Public Works Projects (Continued)

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

Week-Ending Date:
Contractor or Subcontractor Business Name:

WEEKLY PAYROLL

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE							Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
				S	M	T	W	TH	F	S					FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER		
				HOURS WORKED EACH DAY																
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

*IF REQUIRED

NOTICE: THIS PAGE MUST BE ACCOMPANIED BY A COVER PAGE (FORM # WWS-CP1)

Information Bulletin
Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine *"job classification"* on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

- ***ASBESTOS WORKERS***

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- ***ASBESTOS INSULATOR***

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- ***BOILERMAKERS***

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- ***BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS***

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- ***CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS***

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **LABORER, CLEANING**

• The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **DELIVERY PERSONNEL**

• If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

• An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

- ***ELECTRICIANS***

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ****License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.***

- ***ELEVATOR CONSTRUCTORS***

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ****License required by Connecticut General Statutes: R-1,2,5,6.***

- ***FORK LIFT OPERATOR***

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- ***GLAZIERS***

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

- ***IRONWORKERS***

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

- ***INSULATOR***

• Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

- ***LABORERS***

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- ***PAINTERS***

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- ***LEAD PAINT REMOVAL***

• Painter's Rate
1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

• Laborer's Rate
1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- ***PLUMBERS AND PIPEFITTERS***

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ****License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- ***POWER EQUIPMENT OPERATORS***

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ****License required, crane operators only, per Connecticut General Statutes.***

- ***ROOFERS***

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be relaid.)

- ***SHEETMETAL WORKERS***

Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, facia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

- ***SPRINKLER FITTERS***

Installation, alteration, maintenance and repair of fire protection sprinkler systems. ****License required per Connecticut General Statutes: F-1,2,3,4.***

- ***TILE MARBLE AND TERRAZZO FINISHERS***

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are requires to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ****License required, drivers only, per Connecticut General Statutes.***

For example:

• Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
• Hauling material off site is not covered provided they are not dumping it at a location outlined above.
• Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

➢ *Any questions regarding the proper classification should be directed to:*
Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6790.

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

⇨ Please Note: If the "Benefits" listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the "Benefits" section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Minimum Rates and Classifications for
Heavy/Highway Construction

ID#: 24-56918

Connecticut Department of Labor
Wage and Workplace Standards

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: Project Town: New Haven
State#: FAP#:
Project: Improving Fats Oil and Grease Receivings At the Greater New Haven WPCA

CLASSIFICATION	Hourly Rate	Benefits
1) Boilermaker	45.21	29.05
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	41.63	34.50
2) Carpenters, Piledrivermen	37.61	27.61
2a) Diver Tenders	37.61	27.61
3) Divers	46.07	27.61
03a) Millwrights	40.56	28.87
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	56.25	25.15
4a) Painters: Brush and Roller	37.62	24.55
4b) Painters: Spray Only	40.62	24.55

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4c) Painters: Steel Only	39.62	24.55
4d) Painters: Blast and Spray	40.62	24.55
4e) Painters: Tanks, Tower and Swing	39.62	24.55
4f) Elevated Tanks (60 feet and above)	46.62	24.55
5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	42.6	33.21+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	42.37	40.02 + a
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	48.28	35.50
----LABORERS---- -		
8) Group 1: General Laborers and concrete specialist	33.5	25.59
8) Group 1a: Acetylene Burners (Hours worked with a torch)	34.5	25.59
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	33.75	25.59
10) Group 3: Pipelayers	34.0	25.59
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	34.0	25.59

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12) Group 5: Toxic waste removal (non-mechanical systems)	35.5	25.59
13) Group 6: Blasters	35.25	25.59
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	36.5	25.59
Group 8: Traffic control signalmen	20.1	25.59
Group 9: Hydraulic Drills	34.25	25.59
Group 10: Toxic Waste Removers A or B With PPE	36.5	25.59
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	35.73	25.59 + a
13b) Brakemen, Trackmen, Miners' Helpers and all other men	34.76	25.59 + a
----CLEANING, CONCRETE AND CAULKING TUNNEL----		
14) Concrete Workers, Form Movers, and Strippers	34.76	25.59 + a
15) Form Erectors	35.09	25.59 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		

16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers, Miners Helpers	34.76	25.59 + a
17) Laborers Topside, Cage Tenders, Bellman	34.65	25.59 + a
18) Miners	35.73	25.59 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----		
18a) Blaster	42.22	25.59 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	42.02	25.59 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	40.04	25.59 + a
21) Mucking Machine Operator, Grout Boss, Track Boss	42.81	25.59 + a
----TRUCK DRIVERS----(*see note below)		
Two Axle Trucks, Helpers	32.16	30.51 + a
Three Axle Trucks; Two Axle Ready Mix	32.27	30.51 + a
Three Axle Ready Mix	32.33	30.51 + a
Four Axle Trucks	32.39	30.51 + a
Four Axle Ready-Mix	32.44	30.51 + a

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Heavy Duty Trailer (40 tons and over)	34.66	30.51 + a
Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	32.44	30.51 + a
Heavy Duty Trailer (up to 40 tons)	33.39	30.51 + a
Snorkle Truck	32.54	30.51 + a
----POWER EQUIPMENT OPERATORS----		
Group 1: Crane Handling or Erecting Structural Steel or Stone, Hoisting Engineer (2 drums or over). (Trade License Required)	52.78	27.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and over.	48.37	27.80 + a
Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	52.41	27.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	51.51	27.80 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver ($3.00 premium when operator controls hammer).	48.0	27.80 + a
Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar);Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	47.1	27.80 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper).	46.64	27.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps;	45.92	27.80 + a

Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" mandrel)		
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	45.92	27.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	45.55	27.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrel)	45.14	27.80 + a
Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	44.67	27.80 + a
Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder), Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	44.14	27.80 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	41.69	27.80 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	41.69	27.80 + a
Group 12: Wellpoint Operator.	41.61	27.80 + a
Group 13: Compressor Battery Operator.	40.92	27.80 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	39.54	27.80 + a

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Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	39.06	27.80 + a
Group 16: Maintenance Engineer.	38.28	27.80 + a
Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator., Portable Grout Plant Operator, Portable Water Filtration Plant Operator.	43.46	27.80 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	40.54	27.80 + a

**NOTE: SEE BELOW

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----

20) Lineman, Cable Splicer, Technician	48.36	16.92
21) Heavy Equipment Operator	42.26	6.5% + 19.88
22) Equipment Operator, Tractor Trailer Driver, Material Men	40.96	6.5% + 19.21
23) Driver Groundmen	26.5	6.5% + 9.00
23a) Truck Driver	40.96	6.5% + 17.76

----LINE CONSTRUCTION----

24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20

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26) Heavy Equipment Operators	37.1	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20
28) Material Men, Tractor Trailer Drivers, Equipment Operators	35.04	6.5% + 10.45

Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional $1.25 per hour for truck drivers.*

***Note: Hazardous waste premium $3.00 per hour over classified rate*

Crane with 150 ft. boom (including jib) - $1.50 extra
Crane with 200 ft. boom (including jib) - $2.50 extra
Crane with 250 ft. boom (including jib) - $5.00 extra
Crane with 300 ft. boom (including jib) - $7.00 extra
Crane with 400 ft. boom (including jib) - $10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyperson instructing and supervising the work of each apprentice in a specific trade.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work ~~

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol. For those without internet access, please contact the division listed below.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

As of: January 10, 2024

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: January 10, 2024

HALEY ALDRICH

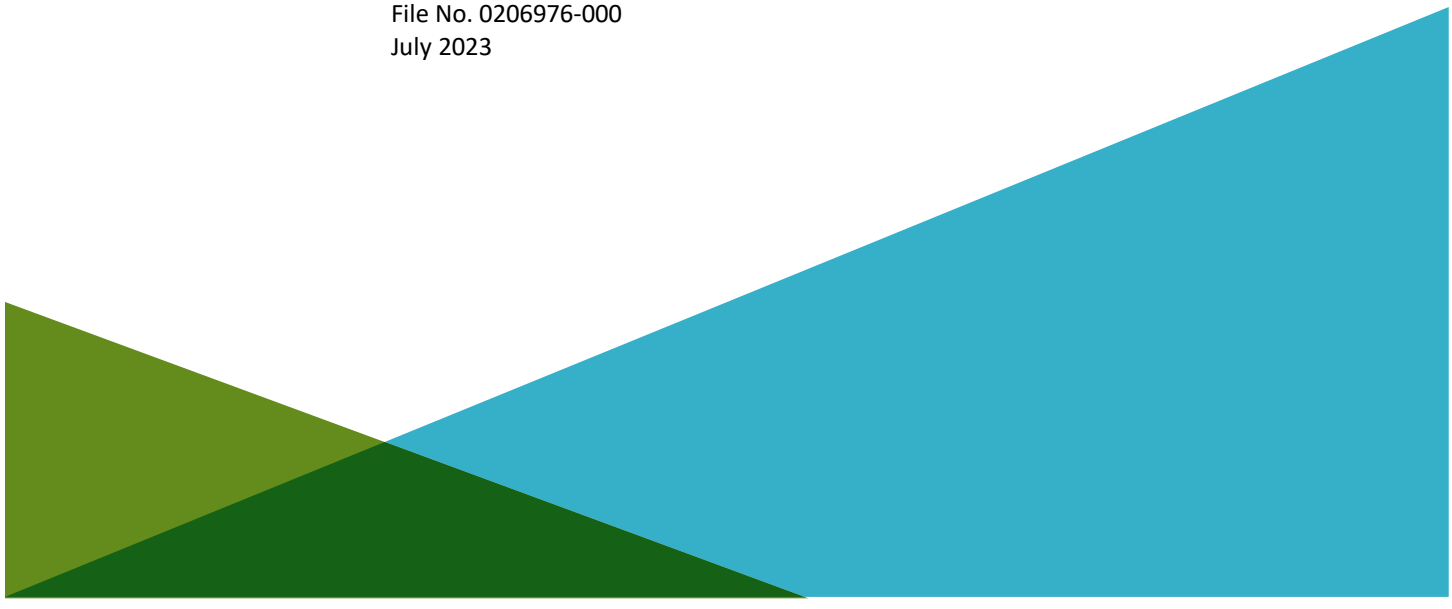
www.haleyaldrich.com

FOG RECEIVING STATION & FUEL STORAGE TANK RELOCATION
EAST SHORE WATER POLLUTION CONTROL FACILITY
365 EAST SHORE PARKWAY
NEW HAVEN, CONNECTICUT

by
Haley & Aldrich, Inc.
Rocky Hill, Connecticut

for
Brown & Caldwell
Rocky Hill, Connecticut

File No. 0206976-000
July 2023



HALEY & ALDRICH, INC.
100 Corporate Place
Suite 105
Rocky Hill, CT 06067
860.282.9400

13 July 2023
File No. 0206976-000

Brown & Caldwell
175 Capital Boulevard, 4th Floor
Rocky Hill, Connecticut 06067

Attention: Bill Brower, P.E.

Subject: FOG Receiving Station & Fuel Storage Tank Relocation
East Shore Water Pollution Control Facility
365 East Shore Parkway
New Haven, Connecticut

Ladies and Gentlemen:

This report presents the results of our subsurface investigations and geotechnical engineering and preliminary environmental soil management recommendations for the proposed FOG Receiving Station & Fuel Storage Tank Relocation project at the East Shore Water Pollution Control Facility (WPCF) in New Haven, Connecticut. Our services have been provided in accordance with our Subcontract and Amendment 1 to the Subcontract dated 21 November 2022 and 28 February 2023, respectively.

In summary, subsurface conditions consist of relatively thick fill overlying glaciofluvial sand deposits and bedrock. Soft organic deposits are present beneath fill at the proposed tank pad. We recommend the FOG Receiving Station and tank pad be supported by micropiles socketed into bedrock. Lowest floor slabs at the FOG Receiving Station may be soil-supported. Some of the soils are environmentally impacted, and there will be premium costs associated with off-site disposal of these materials.

Geotechnical engineering recommendations are presented in Section 3, environmental considerations in Section 4, and construction considerations in Section 5. We appreciate the opportunity to provide engineering services on this project. Please contact us if you have any questions or require additional information.

Sincerely yours,
HALEY & ALDRICH, INC.

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1. Introduction

1.1 GENERAL

This report provides the results of our subsurface investigations and geotechnical engineering and preliminary environmental soil management recommendations for the proposed FOG Receiving Station & Fuel Storage Tank Relocation project at the East Shore Water Pollution Control Facility (WPCF) in New Haven, Connecticut. The project location is shown on the Project Locus, Figure 1.

1.2 PURPOSE AND SCOPE

This investigation was undertaken to obtain information on subsurface soil, rock, and groundwater conditions and to provide geotechnical engineering recommendations for the proposed FOG building foundations and tank pad, as well as recommendations for environmental soil and groundwater management at the FOG Building. The scope of services included:

- visiting the site to observe existing conditions
- reviewing existing information on soil, rock and groundwater conditions
- planning and implementing an integrated geotechnical and environmental subsurface exploration program
- conducting a preliminary laboratory chemical testing program to assess soil management requirements at the FOG Building during construction
- performing geotechnical laboratory testing on soil
- performing geotechnical analyses
- tabulating and assessing chemical test data
- preparing this report

1.3 ELEVATION DATUM

Elevations in this report are in feet and refer to the North American Vertical Datum of 1988 (NAVD 88).

1.4 EXISTING CONDITIONS AND PROPOSED CONSTRUCTION

The site is located at the East Shore Water Pollution Control Facility at 365 East Shore Parkway in New Haven, Connecticut.

A 25,000-gallon petroleum underground storage tank (UST) is located in the grassy area north of the Main Building and will be removed to allow construction of the new FOG Receiving Station. Site grades in this area are relatively flat at about El. 11. The existing tank measures approximately 45 ft (L) by 10 ft (W) and is tied down by concrete deadman anchors bearing approximately 15 ft below ground surface.

We understand that the new FOG Receiving Station will consist of a one-story structure occupying an approximately 1,250 sq. ft footprint adjacent to the Main Building. Two new below-grade tanks, approximately 14 ft (L) by 14 ft (W) by 14 ft (D), are planned partially beneath the FOG Receiving Station. Based on a review of the 1975 drawings for the Main Building, the lowest floor level is at El. -12 and footings consist of spread footings bearing at about El. -18 (likely on bedrock).

A new 12,000-gallon petroleum above-ground storage tank will be supported by an approximately 10-ft by 40-ft concrete pad to be constructed in the grassed area south of the Odor Control Facility. We understand that the pad needs to be able to support 700 psf loading. Site grades in this area are relatively flat at approximately El. 16. An existing 42-in. RCP sanitary sewer pipe crosses this area with an invert at about El. -4.5. We understand that the sanitary pipe has been abandoned in-place and backfilled with flowable fill.

We understand that site grades surrounding proposed construction will remain the same as existing conditions.

Proposed construction is shown on the Boring Location Plan, Figure 2.

1.5 LIMITATIONS

This report has been prepared for specific application to the project. In the event that changes in the nature, design, or location of structures are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing. The analyses and recommendations submitted in this report are based in part upon data obtained from referenced explorations. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

The planned construction will be supported on or in the soil or rock at the site and below-grade structures may be close to or penetrate the design groundwater level for the project. Any recommendations presented in this report for foundation and floor drainage, moisture protection and waterproofing address only the conventional geotechnical engineering related aspects of design and construction and are not intended to provide an environment that would prohibit infestation of mold or other biological pollutants. Our work scope did not include the development of criteria or procedures to minimize the risk of mold or other biological pollutant infestations in or near any structure.

This report is prepared for the exclusive use of Brown & Caldwell and the project design team in connection with the geotechnical and preliminary environmental soil and groundwater management aspects of the project.

2. Field and Laboratory Investigations

2.1 RECENT TEST BORINGS

Haley & Aldrich planned a subsurface exploration program consisting of two test borings (B1 and B2). The purpose of the explorations was to gather subsurface information for geotechnical analyses. Work included collecting soil samples from the proposed FOG Receiving Station for preliminary environmental chemical testing. The borings were drilled by General Borings, Inc., Prospect, Connecticut, on 1 March 2023.

Test borings were advanced with a truck-mounted Diedrich D-50 drill rig using 4-1/4-in. I.D. hollow-stem augers or 4-in. dia. HW casing. Standard penetration tests (SPTs) were performed at maximum 5-ft intervals. The SPTs were performed in general accordance with ASTM D1586 and were conducted with a 2-in. O.D. split-spoon sampler driven 24 in. (where possible) with a 140-lb safety hammer falling 30 in. Boring B1 was terminated after refusal on top of probable bedrock at a depth of 26.3 ft deep, and B2 was advanced to the target depth of 27 ft.

Haley & Aldrich located explorations by taping from existing site features and estimated the ground surface elevations using contours shown on Figure 2. Soils were classified according to the Unified Soil Classification System (USCS). A summary of the USCS description system is at the beginning of Appendix A. Locations of borings are shown on Figure 2, and logs of the test borings are provided in Appendix A.

2.2 PREVIOUS TEST BORINGS

Haley & Aldrich performed several test borings as part of a previous project near the site in 2012. Select logs from this program (HA2 and HA3) are presented in Appendix B and boring locations are shown on Figure 2.

2.3 SUBSURFACE CONDITIONS

In summary, materials encountered include fill, organic deposits, glaciofluvial deposits and bedrock. Soils encountered at the recent test borings are described below in order of increasing depth below ground surface.

Approximate Range In Thickness, ft.	**Generalized Description**
0.3	TOPSOIL
6.7 to 14.7	FILL – Loose to medium dense dark brown silty SAND with varying amounts of gravel (SM). Trace brick was observed in fill at B2. A boulder was encountered in fill at B1 at a depth of about 13 ft.

15	ORGANIC DEPOSITS – Very loose to loose dark brown silty SAND with varying amounts of wood fibers. These deposits were encountered at B2 but not at B1.
>5 to 10	GLACIOFLUVIAL DEPOSITS – Medium dense red-brown to light brown silty SAND with varying amounts of gravel (SM); or poorly graded to well graded SAND (SP/SW).
---	BEDROCK – Red-brown New Haven ARKOSE. The upper few feet of bedrock is weathered in some areas. B1 encountered refusal on top of probable bedrock at El. -15.8 (26.3 ft below ground surface).

2.4 GROUNDWATER CONDITIONS

Groundwater level was measured during drilling at B1 at El. 0.5 (10 ft below ground surface). Based on wet samples, groundwater was encountered during drilling at about 7 ft below ground surface at B2 (El. 9.3). Water levels observed in the borings shortly after drilling may have been influenced by drilling operations, thus may not represent static conditions.

Groundwater levels will fluctuate with season, precipitation, nearby Long Island Sound level, leakage into or out of utilities, and nearby construction activity, and should be anticipated to vary both during and following construction.

2.5 GEOTECHNICAL LABORATORY SOIL TESTING

Haley & Aldrich performed two grain size analyses and one organic content test on soil samples recovered from the recent explorations in general conformance with ASTM D422. Testing was performed to aid in soil classification and evaluate engineering properties. Refer to Appendix C for test results.

2.6 GEOCHEMICAL LABORATORY TESTING

Testing Services, Inc., Salt Lake City, Utah, performed corrosion tests on one soil sample recovered from the explorations. Testing parameters included pH, water soluble sulfates, chlorides, electrical resistivity, sulfides, moisture content, and redox potential testing to evaluate corrosion potential. Test data are provided in Appendix D.

2.7 ENVIRONMENTAL LABORATORY TESTING

Refer to Table I and Section 4 of this report for a summary of the environmental sampling and testing.

3. Geotechnical Engineering Recommendations

3.1 GENERAL

This section provides recommendations for design of proposed structure foundations. Foundations should be designed and constructed in accordance with the Connecticut State Building Code, latest edition, applicable laws, regulations and ordinances, and the recommendations herein.

3.2 FOG RECEIVING STATION FOUNDATION AND SLAB DESIGN

3.2.1 Foundation Type

The existing topsoil and fill are not suitable for support of foundations. At the proposed FOG station, use of spread footings would require overexcavation of existing fill following removal of the existing tank. Fill was encountered to a depth of 15 ft at boring B1, but is anticipated to extend deeper closer to the existing Main Building where the backfill associated with the construction of the existing footings, which bear approximately 29 ft below ground surface, is present.

Assuming that excavation for the removal of the existing UST does not need to extend deeper than the bottom of the tank from an environmental perspective, approximately 14 ft of fill would need to be overexcavated and replaced near the existing building for new footings bearing at about El. -3. Additionally, temporary support of excavation and significant dewatering would be required for overexavation of existing fill required to construct spread footings in this area. Also, footings for the new structure will be in close proximity to below-grade walls for the existing Main Building. New footings bearing above the lowest slab level for the Main Building would result in increased lateral loading on the below-grade walls which may be greater than included in the wall design. For these reasons we recommend the proposed FOG station be supported on micropiles socketed into bedrock. The excavation following removal of the existing tank should be backfilled with compacted granular fill.

3.2.2 Drilled Micropile Foundation Design Criteria and Settlement

Drilled micropiles should consist of steel casing, cement grout, and core steel socketed into bedrock. Pile capacity should be developed by frictional resistance between the grout and bedrock. We recommend the design criteria for a 30-ton allowable capacity pile as shown below. Recommendations for other pile capacities can be provided separately as design progresses and anticipated loads are better known.

- Capacity: 30 tons compression.
- Minimum 7-in. O.D. permanent steel casing, with minimum 0.408-in. wall thickness.
- Permanent casing shall extend from pile cut-off to the top of sound bedrock.
- No. 9 (1.125-in. dia.) threaded steel bar (60 ksi steel) over the full length of the pile.
- Drill holes should be tremie grouted with 5,000 psi cement grout.
- Maximum allowable side friction strength in sound bedrock is 40 psi.
- Minimum embedment into sound bedrock for a 6-in. dia. socket is 10 ft. Weathered bedrock should not be considered to contribute to the socket length.

- Maximum allowable compressive stress in the steel core is 40 percent of the yield strength, up to a maximum of 30 ksi.
- Maximum allowable tensile stress in the steel core is 60 percent of the yield strength.
- Maximum allowable stress in grout is 30 percent of the grout compressive strength.
- The reinforcing steel shall be designed to carry at least 40 percent of the design load.
- The steel core shall be centered in the pile, and extend the entire length of the pile. Centralizers shall be used, consisting of plastic or steel and shall not impede the flow of grout.
- The minimum thickness of grout surrounding the core steel is 1 in.
- Design assumes no corrosion loss for steel casing.
- Piles should be designed to accommodate seismic loading conditions in accordance with the Building Code.
- We understand that the total lateral loading is about 0.3 kip across the foundation and lateral loading per pile is negligible.
- For frost protection, pile caps and grade beams should bear a minimum of 3.5 ft. below the lowest adjacent ground surface exposed to freezing.
- Total settlement of pile foundations designed as recommended herein are anticipated to be 0.5 in. or less, with differential settlements of 0.5 in. over 30 ft or less. Most of the settlement will occur during construction as load is applied.

Drilled micropiles should be designed by a Professional Engineer licensed in Connecticut, engaged by the specialty contractor, and the design submitted to the project team for review. Other pile configurations may satisfy the design requirements.

3.2.3 Floor Slab

- Design the lowest floor at about El. 11.0 as a soil-supported slab-on-grade bearing on a minimum 12 in. thickness of compacted granular fill.
- Existing fill may remain below floor slabs provided that it is stable following proofrolling, as determined by a Geotechnical Engineer.
- Backfill excavations below slabs-on-grade, such as those for foundations and utilities, with compacted granular fill.
- Design for an unfactored modulus of subgrade reaction (modulus for 1 ft by 1 ft plate) of 150 lbs. per cu. in.

The tank bottom (at about El. -1.83) should be pile supported as recommended above. The soil-supported portion of the floor slab at El. 11.0 should be structurally independent from the El. 11.0 slab bearing on the tank walls due to potential for differential settlement between the two slab areas.

3.3 FUEL TANK PAD

The existing topsoil, fill, and soft organic deposits are not suitable for tank pad support. We recommend the proposed fuel tank pad be supported by drilled micropiles socketed into bedrock. The 30-ton capacity pile described above for the FOG Receiving Station could be used, or recommendations for

other pile capacities can be developed as appropriate. Difficult drilling may be encountered where boulders are present.

Use of ground improvement, such as rigid inclusions, is technically feasible. However, based on discussion with a specialty contractor, ground improvement options would not be cost effective due to the relatively high cost for equipment mobilization compared to the small number of ground improvement elements that would be required.

3.4 SEISMIC DESIGN

The soils at the site are not considered liquefaction susceptible and seismically-induced settlement will not be significant during the design earthquake (less than ¼ in.). In accordance with the State of Connecticut Building Code, the seismic soil design criteria are as follows:

S_s = 0.201 g
S_1 = 0.054 g
Site Class = D

3.5 RESISTANCE TO HYDROSTATIC PRESSURES AT THE FOG RECEIVING FACILITY

Based on review of available FEMA mapping dated 8 July 2013, we understand the 100-yr flood elevation is El. 12 near the FOG Receiving Station. We assume that foundation and underslab drainage will not be provided and recommend that the walls be designed to resist hydrostatic pressures as described in Section 3.6.

The structure should also be designed to resist hydrostatic uplift at the design flood elevation. If the dead weight of the structure is not adequate to resist flotation at the design flood level, we recommend extending the base slab beyond the perimeter of the tanks to engage the weight of backfill materials directly above the slab. Assume an effective unit weight of the backfill of 58 pcf below design flood level.

3.6 LATERAL EARTH PRESSURES AND RESISTANCE TO LATERAL LOADS

Design below-grade walls using recommendations presented below for unrestrained or restrained walls, as appropriate:

- Unrestrained Walls (Active)

  Design below-grade walls that are not braced at the top for the following “active” earth pressure loads (H is in feet, and is the height of the soil against the wall below finished exterior grade):

Static:	80 pcf (equivalent hydrostatic) for a submerged condition, which assumes soil is submerged up to the ground surface for the design flood event. Wall design should also include additional hydrostatic pressure equal to the height of water above ground surface during the design flood event.

Surcharge: 0.33 times the vertical surcharge load (psf) uniformly distributed over the height of the wall.

- Restrained Walls (At Rest)

  Design below-grade walls that are braced at the top for the following "at-rest" earth pressure loads:

  Static: 90 pcf (equivalent hydrostatic) for a submerged condition, which assumes soil is submerged up to the ground surface for the design flood event. Wall design should also include additional hydrostatic pressure equal to the height of water above ground surface during the design flood event.

  Surcharge: 0.5 times the vertical surcharge load (psf) uniformly distributed over the height of the wall.

Although not specifically required by the Building Code, designers often consider the impact of seismic lateral earth pressures during design of below-grade walls. We can provide those recommendations separately upon request.

3.7 BACKFILL MATERIALS

3.7.1 Compacted Granular Fill

Compacted granular fill is recommended for the following areas:

- beneath soil-supported floor slabs at the FOG Receiving Station
- to backfill excavation below the tank pad
- to backfill the excavation made to remove the existing UST adjacent to the Main Building and other excavations beneath lowest floor

Granular fill should be placed in maximum 12-in. thick lifts and compacted to at least 95 percent of the maximum dry density determined by ASTM D1557. In confined areas, use maximum 6-in. thick lifts. Compaction equipment in confined areas may consist of hand-guided vibratory equipment or mechanical tampers.

Granular fill should consist of sandy gravel or gravelly sand, free of organic material, environmental contaminants, snow, ice, frozen soil, or other unsuitable material, and be well-graded within the following limits:

U.S. Standard Sieve Size	Percent Finer by Weight
6 in. *	100
No. 4	30-80
No. 40	10-50
No. 200	0-8

* use a maximum 3-in. size for fill placed within 6 in. of concrete slabs or footings

3.7.2 Crushed Stone Fill

A minimum 6-in. thickness of crushed stone is recommended to protect the surface beneath the new tank pad.

It should consist of No. 6 crushed stone (3/4-in. size) in accordance with Connecticut Department of Transportation Form 818, M.01.01 and Table M.01.02-2. Crushed stone should be separated from surrounding soil using a geotextile filter.

3.7.3 Common Fill

Common fill may be used for filling outside the building, and below pavement sections, sidewalks, and landscaped areas.

Common fill should consist of mineral soil, free of environmental contaminants, clay, organic soil, deleterious material, and particles larger than 6 in. in size, which can be spread and compacted. Common fill should be placed and compacted in maximum 12-in. thick lifts. In confined areas, use maximum 6-in. thick lifts. Compaction equipment in confined areas may consist of hand-guided vibratory equipment or mechanical tampers.

3.7.4 Geotextile

A filtration-type geotextile is recommended between crushed stone and surrounding soil. It should consist of a minimum 6 oz/sy needle-punched, non-woven geotextile such as TenCate Mirafi 160N, or equivalent.

3.7.5 Compaction

Recommended compaction requirements are as follow:

Location	Minimum Compaction Requirements
Beneath and around footings, under slabs	95%
Parking, roadways and sidewalks	92% up to 3 ft below finished grade 95% in the upper 3 ft
Landscaped areas	90%

Minimum compaction requirements refer to percentages of the maximum dry density determined in accordance with ASTM D1557C.

4. Environmental Considerations

4.1 GENERAL

This section of the report provides a summary of our environmental records review, chemical testing program and results, and environmental construction considerations at the FOG Receiving Station for preliminary planning. Refer to Section 5 for geotechnical construction considerations.

4.2 REGULATORY SETTING

In January 1996, the Connecticut Department of Energy & Environmental Protection (CTDEEP) promulgated the Remediation Standard Regulations (RSRs). The RSRs provide numeric baseline criteria used to evaluate the need for clean-up at certain properties including "establishments" as defined within Section 22a-134 of the Connecticut General Statutes (C.G.S.), those undergoing "Voluntary Remediation" pursuant to Section 22a-133 of the C.G.S., and/or those subject to CTDEEP enforcement action.

Since the site is not being transferred, is not under a CTDEEP order, and is not in "voluntary remediation", the site is not directly regulated by the CTDEEP RSRs. However, pursuant to C.G.S. Section 22a-449(d), CTDEEP RSRs do apply to those portions of the site that presently, or historically contained an underground storage tank (UST) system. Although the site is not subject to the CTDEEP RSRs, specific attention to options for on-site or off-site reuse of these materials may be necessary to comply with CTDEEP policies, and other regulatory agency requirements. In addition, a UST system closure documentation report will need to be prepared and submitted to the CTDEEP.

The RSR criteria used in our evaluation were the Residential Direct Exposure Criteria (RDEC), "GA" and "GB" Pollutant Mobility Criteria (PMC). Direct Exposure Criteria are used to evaluate the risks associated with human exposure to impacted soils. PMC are used to evaluate the potential for contaminants to leach from soil into groundwater. Additionally, we used the Massachusetts (MA) Landfill Reuse Acceptance Criteria (Policy# COMM-97-001) to assess reuse options at Massachusetts lined and unlined landfills as is common industry practice.

Groundwater at the site is classified by the CTDEEP as "GB." A "GB" classification indicates that the water resource is not suitable for drinking without treatment. Site drinking water is provided through a piped municipal water supply.

4.3 LABORATORY CHEMICAL TESTING PROGRAM

Two soil samples obtained from boring B1 during the recent explorations were submitted for chemical testing as part of a preliminary soil characterization program. Copies of the laboratory report and chain-of-custody documentation for the soil testing are provided in Appendix E.

4.3.1 Soil

Two fill soil samples (S1 1-5 FT and S2 5-9 FT) from boring B1 were submitted to Complete Environmental Testing, Stratford, Connecticut (CET), a Connecticut state-certified laboratory, for chemical testing. Each sample was analyzed for one or more of the following, as applicable:

- Volatile Organic Compounds (VOCs) by EPA Method 8260
- Semi-volatile Organic Compounds (SVOCs) by EPA Method 8270
- Extractable Total Petroleum Hydrocarbons (CT Extractable Total Petroleum Hydrocarbons [ETPH] Method)
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082
- MCP 14 Total Metals
- Waste characteristic parameters (by Method SW 846) Reactive Sulfide and Cyanide, Conductivity, Flashpoint, and pH

4.4 RESULTS OF CHEMICAL SOIL AND GROUNDWATER TESTING

The results of the soil testing were used to assess on-site reuse and off-site disposition requirements for excavated soils during construction at the FOG Receiving Station.

4.4.1 Soil

Analyses performed on the fill soil samples detected elevated concentrations of SVOCs and ETPH. Total SVOCs ranged from non-detect to 620 ug/kg, and CT ETPH ranged from non-detect to 1,400 mg/kg. Fill samples S1 1-5 FT exceeded RDEC.

Other sought analytes were either not detected above minimum laboratory detection limits or (in the case of total metals) at concentrations above typical background concentrations.

Refer to Table I “Summary of Laboratory Analytical Data for Soil” for further details.

4.5 PRELIMINARY SOIL CHARACTERIZATION AND ENVIRONMENTAL REUSE RECOMMENDATIONS

The information and chemical test data contained in this report should be used by the contractor and/or its subcontractors to arrange for off-site reuse of excess excavated soils and plan for limited on-site reuse of select soils from the FOG Receiving Station.

This report also provides information on the physical properties of soils as noted on the exploration logs. The logs document observations and conditions encountered at the specific exploration locations and may not be representative of the bulk soil requiring management. The contractor needs to understand the physical acceptance criteria for each facility and is responsible for the material meeting that respective facility’s criteria (e.g., screening excavated soils to remove oversized materials such as demolition debris as required by the facility).

Refer to Table I for Group designations of each sample and Appendix F for Group definitions. The on-site environmental professional may adjust the limits of the various Group designations during excavation activities from visual observation and screening, and chemical testing.

Limited existing soil data indicates that the upper approximately 5 ft of fill soil is Group II "contaminated" and the fill soil from approximately 5 ft to 9 ft below ground surface is Group I "polluted". Soil samples were taken from test boring B1 located near a 25,000-gallon UST and may indicate that a release has occurred from the UST system and/or from the previous UST system that was removed from this location in 2001.

Additional testing of fill soil will be required to satisfy CTDEEP UST Closure and disposal facility requirements. It may be possible to reuse some of this soil on-site if the soil meets regulatory and engineering requirements.

We recommend that an environmental professional be on-site during excavation activities to adjust the limits of clean and environmentally-impacted soils in the field through visual observation and additional chemical testing.

The contractor should be required to identify proposed off-site facilities/locations during bidding. Off-site disposition of soils should be conducted in accordance with applicable CTDEEP, MADEP, or other state environmental regulations and policies.

4.6 PERMITTING

State and local permits may be required if certain activities occur on-site including the following:

- If excavated contaminated soils are stockpiled (whether on-site or especially if off-site), registration for a CTDEEP General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) may be required (the permit has expired, but DEEP plans to reissue). At minimum, compliance with Section 5 of this General Permit will be required of the contractor by the engineer because contaminated soil will be handled during construction.

- Municipalities may require special permits for proposed construction activities. Some municipalities require special permits for stockpiling and/or earthwork activities.

- Stormwater should be managed in accordance with CTDEEP's General Permit for the Discharge of Stormwater and Remediation Wastewater from Construction Activities (DEEP-WPED-GP-015) unless stormwater is discharged to a Publicly Owned Treatment Works (POTW).

- If environmentally impacted groundwater is encountered during construction, the CTDEEP General Permit for the Discharge of Groundwater Remediation Wastewater (DEEP-WPED-GP-027) will be required. Based on our experience at similar facilities and that groundwater dewatering will be required to facilitate construction, we think it likely that this permit will be required. As part of the permit application process, a groundwater sample will be required.

4.7 ADDITIONAL CHEMICAL TESTING

Disposal facilities, or other suitable locations that can accept material, require chemical testing to document the levels of contaminants for comparison to their specific acceptance criteria. The frequency of testing is specified by the individual receiving facilities or determined by the facility operators, environmental professionals, or regulators who are responsible for reviewing the data and determining the acceptability of the material.

Some additional testing will be required, especially since it is likely that material will be reused off-site. This testing is generally completed just prior to or during construction once the disposal facilities have been identified by the contractor. The frequency and test parameters required are a function of soil type (i.e., fill vs. natural soils), the volume of soil anticipated, and previous site uses and known releases.

The Construction Manager, General Contractor, and Earthwork Contractor should coordinate additional testing with Haley & Aldrich prior to and/or during construction. The times required for additional sampling, laboratory testing, and data review should be coordinated and considered in the project sequence and schedule. In some cases, a comprehensive review is required to investigate the suitability of non-landfill receiving facilities such as certain pieces of a Phase I Environmental Site Assessment or a facility environmental compliance audit.

5. Construction Considerations

5.1 GENERAL

This section provides comments related to foundation construction, earthwork and other geotechnical aspects of the project. It will aid those responsible for the preparation of contract plans and specifications and those involved with construction monitoring. Contractors must evaluate potential construction problems based on their own knowledge and experience in the area and based on similar localities, considering their own proposed construction methods and procedures.

5.2 EXCAVATION AND TEMPORARY LATERAL SUPPORT

Excavation to remove the existing tank in the proposed FOG Receiving Station area will extend up to 15 ft (assuming no further excavation below the UST level is required to satisfy environmental requirements). After tank removal and backfilling, excavation for pile caps and grade beams at the FOG Receiving Station beyond the limits of the new tanks is anticipated up to about 4 ft below grade. Excavation for the new tanks at the FOG Receiving Station is anticipated to extend up to about 15 ft below grade. At the proposed new tank slab, excavation is anticipated to extend up to about 4 ft below ground surface. Where space permits, open cuts appear feasible and should conform to OSHA excavation regulations contained in 29 CFR Part 126. Temporary slopes of 1.5H:1V or flatter appear appropriate, but should be confirmed during construction at the time of excavation. Conventional heavy construction equipment appears practical for excavation of most of the overburden soils.

Where temporary cut slopes are deemed not feasible, temporary excavation support such as steel sheeting or soldier piles and lagging could be used. Internally braced soldier piles and lagging appears feasible provided sufficient dewatering can be achieved.

Steel sheet piles appear feasible provided the sheets are pushed in or installed with limited vibration to mitigate settlement or damage to nearby structures and utilities. Steel sheeting advanced to the top of bedrock would reduce the required dewatering effort. We note that site constraints may make sheeting installation logistically challenging (small site with limited laydown areas).

Use of sheeting to close off the excavation immediately adjacent to the existing Main Building does not appear feasible. Wood lagging could be installed between the end of sheeting and the Main Building, with dewatering wells installed to control water as required for lagging installation.

Boulders may be present and pre-excavation or pre-drilling may be required during installation of temporary excavation support systems.

The support of excavation system will be designed by the contractor considering their means, methods and equipment. The design should consider existing structures, utilities to remain, future utilities, and other site works.

5.3 DEWATERING

Final excavation, subgrade preparation, filling, foundation construction, and utility construction should be conducted "in the dry". Surface water should be diverted away from excavations. Excavation to remove the existing tank at the proposed FOG receiving station will extend up to approximately 5 ft below groundwater level.

Extensive dewatering with deep wells will be required to provide adequate dewatering capacity for removal of the existing tank and installation of the new tanks at the FOG Receiving Station with an open cut excavation or using soldier pile and lagging excavation support. If steel sheeting is used, the excavation may be dewatered by pumping from sumps and drainage trenches assuming sheet piles are driven to bedrock to provide a seepage cutoff. However, seepage “windows” where wood lagging extends between sheeting at the Main Building will likely require more extensive dewatering with deep wells.

During UST removal, backfill placement, and construction of the new FOG Receiving Station tanks, the contractor should be required to have sufficient pumping capacity and sediment filtration to remove water so that water levels are always 2 ft below excavation. Dewatering effluent must be discharged in accordance with all regulatory requirements. Refer to Section 4.6 Permitting for further details.

Excavations to construct new pile caps, grade beams, and the tank pad are anticipated to be above the groundwater level. Construction dewatering will primarily be related to control of precipitation and surface water runoff into excavations. Water that accumulates from precipitation should be removed to maintain dry conditions. If needed, dewatering may be accomplished using filtered sumps and drainage trenches.

During construction, the contractor should be required to prevent flotation of the new structure until backfilling is complete (such as not allowing water to build up outside an empty structure).

5.4 FLOOR SLAB BEARING SURFACE

Topsoil and other unsuitable materials should be removed beneath soil-supported slabs prior to placing compacted granular fill. Soil subgrades should be proof-compacted with at least eight passes of a minimum 10,000 lbs. dynamic force vibratory compactor until firm. If soft or unsuitable material is encountered at the exposed subgrade, remove the unsuitable material, and then backfill with compacted granular fill until a firm and stable surface is achieved.

5.5 GEOTECHNICAL USE OF ON-SITE EXCAVATED SOIL

Excavation will be in the fill. It may be possible to reuse some of the excavated soil on-site if the soil meets regulatory and engineering requirements.

The on-site soils can be silty, and will be difficult to compact when wet. Thus, during relatively cold or wet weather, there may be difficulties and delays associated with using these materials which take some time to dry. Final determination of suitability for re-use of on-site materials should be made when the materials are exposed during excavation and in conjunction with regulatory requirements.

5.6 EARTHWORK DURING FREEZING WEATHER

Precautions should be taken if work takes place while temperatures are below freezing. Frozen soil or soil containing snow or ice should not be used as compacted fill. Placement of fill should not be conducted when air temperatures are below freezing. Soil bearing surfaces below slabs and foundations must be protected against freezing, before and after placement of concrete. If construction is performed during freezing weather, footings on soil should be backfilled to a sufficient depth (up to 3 ft above the bottom of footing) as soon as possible after they are constructed. Alternatively, insulating blankets or other means may be used for protection against freezing.

Fill should not be placed on snow, ice or frozen subgrades. At the end of each day's operations, the last lift of placed fill should be rolled by a smooth-wheeled roller to eliminate ridges of uncompacted soil to aid runoff and drainage. Silty site soils are susceptible to disturbance by freezing, especially in the presence of water and traffic.

5.7 CONSTRUCTION MONITORING

The recommendations contained in this report are based on known and predictable behavior of properly engineered and constructed foundations and other facilities. We recommend that personnel qualified by training and experience perform full-time field observations of the geotechnical and environmental aspects of construction, including:

- removal of unsuitable materials
- installation of drilled micropiles
- environmental segregation of soil groups
- manifesting off-site transport of soils
- document compliance with CTDEEP permits
- document compliance with UST Closure
- installation of temporary excavation support systems
- placement and compaction of granular fill.

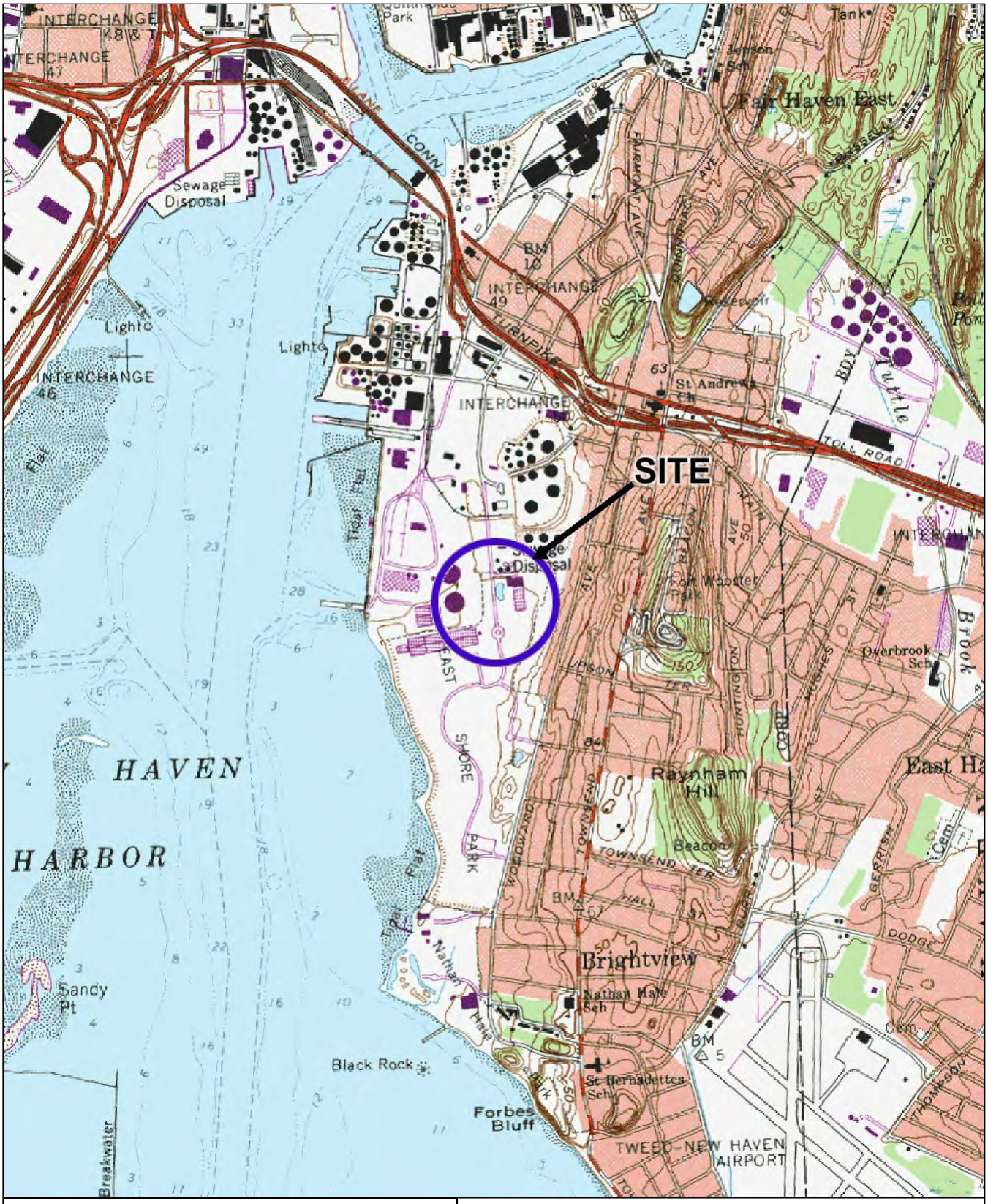
It is recommended that Haley & Aldrich be retained to perform full-time field observations of the geotechnical and environmental soil management aspects of construction based on familiarity with the subsurface conditions, design concepts, and specifications. Field observations are intended to confirm compliance with the design concepts and specifications and to allow design changes in the event that subsurface conditions differ from those anticipated prior to construction. We will also need to be on-site to document UST Closure, which will include confirmatory soil sampling, and to sample groundwater dewatering effluent in accordance with permit requirements.

TABLE II - SUMMARY OF LABORATORY ANALYTICAL DATA FOR SOIL

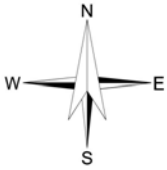
FOG RECEIVING STATION & FUEL TANK RELOCATION
EAST SHORE WPCF
NEW HAVEN, CONNECTICUT

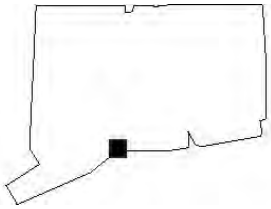
PARAMETER		CTDEEP RSR RDEC	CTDEEP RSR GA PMC	CTDEEP RSR GB PMC	Massachusetts Landfill Criteria		Sample ID:	S1 1-5 FT	S2 5-9 FT
							Lab Sample ID	3030028-01	3030028-02
							Sample Date:	3/1/2023	3/1/2023
							Depth (ft):	1-5	5-9
					Lined	Unlined	Stratum:	FILL	FILL
							Classification:	II-1	I-2A
Volatile Organic Compounds (VOCs) (ug/kg):									
Tetrachloroethene (PCE)		12,000	100	1,000	--	--			
	SUM	--	--	--	10,000	4,000		ND	ND
Semivolatile Organic Compounds (SVOCs) (ug/kg):									
Acenaphthylene		1,000,000	8,400	84,000	--	--		**110**	ND(120)
Benzo(a)anthracene		1,000	1,000	1,000	--	--		**220**	**260**
Benzo(a)pyrene		1,000	1,000	1,000	--	--		**270**	**250**
Benzo(b)fluoranthene		1,000	1,000	1,000	--	--		**350**	**340**
Benzo(ghi)perylene		1,000,000	4,200	42,000	--	--		**250**	**210**
Benzo(k)fluoranthene		8,400	1,000	1,000	--	--		**150**	**140**
Chrysene		84,000	1,000	1,000	--	--		**260**	**250**
Fluoranthene		1,000,000	5,600	56,000	--	--		**380**	**620**
Indeno(1,2,3-cd)Pyrene		1,000	1,000	1,000	--	--		**160**	**150**
Phenanthrene		1,000,000	4,000	40,000	--	--		**150**	**170**
Pyrene		1,000,000	4,000	40,000	--	--		**370**	**570**
	SUM	--	--	--	100,000	100,000		**2,670**	**2,960**
Extractable Total Petroleum Hydrocarbons (mg/kg):		500	500	2,500	5,000	2,500		**1,400**	ND(59)
Polychlorinated Biphenyls (PCBs) (mg/kg):									
	SUM	1	NA	NA	2	2		ND(0.052)	ND(0.059)
Total Metals (mg/kg):									
Antimony		27	NA	NA	--	--		ND(2.0)	ND(2.2)
Arsenic		10	NA	NA	40	40		**2.0**	**2.4**
Barium		4,700	NA	NA	--	--		**28**	**38**
Beryllium		2	NA	NA	--	--		ND(0.99)	ND(1.1)
Cadmium		34	NA	NA	80	30		ND(0.49)	ND(0.56)
Chromium		100	NA	NA	1,000	1,000		**9.7**	**14**
Lead		400	NA	NA	2,000	1,000		**15**	**22**
Mercury		20	NA	NA	10	10		**0.18**	**0.25**
Nickel		1,400	NA	NA	--	--		**11**	**8.6**
Selenium		340	NA	NA	--	--		ND(2.5)	ND(2.8)
Silver		340	NA	NA	--	--		ND(2.0)	ND(2.2)
Thallium		5.4	NA	NA	--	--		ND(2.0)	ND(2.2)
Vanadium		470	NA	NA				**61**	**21**
Zinc		20,000	NA	NA	--	--		**60**	**65**
Other Parameters:									
pH (Standard Units)		**--**	**--**	**--**	2.5 to 12	2.5 to 12		**8.22**	**8.30**
Conductivity (umhos/cm)		--	--	--	--	--		**130**	**200**
Cyanide, Reactive (mg/kg)		**--**	**--**	**--**	250	250		ND(5.3)	ND(5.9)
Sulfide, Reactive (mg/kg)		**--**	**--**	**--**	500	500		ND(21)	ND(24)
Ignitability		**--**	**--**	**--**	NI	NI		NI	NI

Notes:
1. This table typically includes only those compounds detected on the dates indicated.
2. CTDEEP Remedial Standard Regulations (RSRs) criteria are listed in the same units as the analyte test result reported.
3. RDEC: Residential Direct Exposure Criteria; GA PMC: Pollutant Mobility Criteria for an area where CTDEEP classified groundwater quality as "GA"; GB PMC: Pollutant Mobility Criteria where groundwater quality is classified "GB".
4. * In areas where the groundwater is classified as a "GB" by the CTDEP, SPLP data (with the exception of TPH) can be compared to 10 times the groundwater protection criteria (GWPC). Criteria shown is 10 times the GWPC.
5. mg/kg: milligrams per kilogram (ppm), mg/l: milligrams per liter, ug/kg: micrograms per kilogram (ppb)
6. ND: Compound not detected above laboratory reporting limits. The number in parentheses is the detection limit.
7. "--" indicates not applicable or compound not analyzed for
8. Concentrations shown in **bold** type detected above laboratory reporting limits.
9. Concentrations shaded in pink exceed CTDEEP RSR RDEC.
11. Green shaded cells indicate concentraion exceeds GA PMC
11. Blue shaded cells indicate concentraion exceeds GB PMC
12. Orange shaded cells indicate concentration exceeds Massachusetts Landfill Criteria
13. NI: not ignitable (i.e. >200 degrees Fahrenheit)
14. See attached Precharacterization Group Classification.



SITE COORDINATES:41°16'60"N 72°54'1"W





U.S.G.S. QUADRANGLE: NEW HAVEN, CT

HALEY ALDRICH

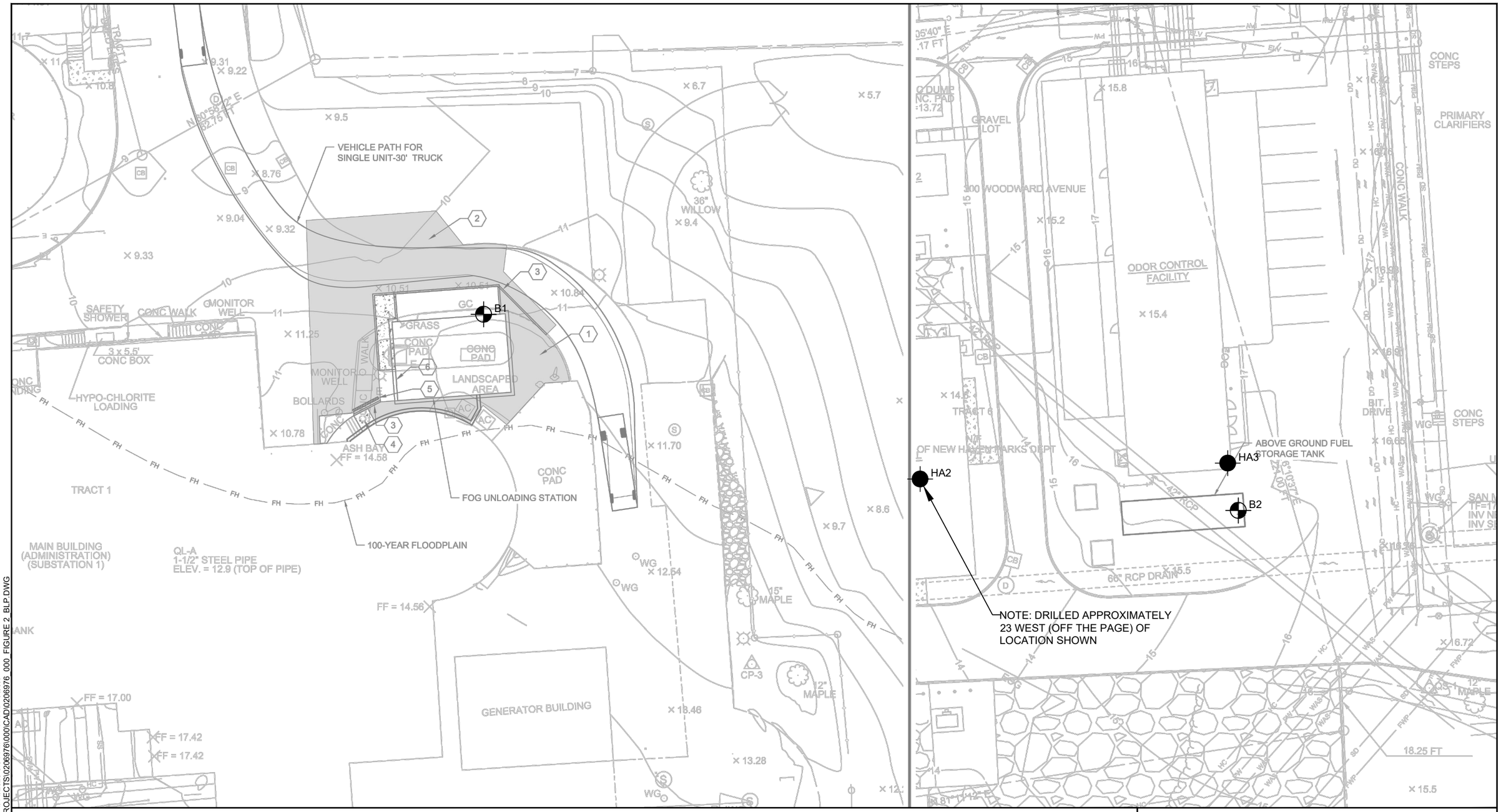
FOG RECEIVING STATION & FUEL STORAGE TANK RELOCATION
EAST SHORE WATER POLLUTION CONTROL FACILITY
365 EAST SHORE PARKWAY
NEW HAVEN, CONNECTICUT

PROJECT LOCUS

SCALE: 1:24,000
APRIL 2023

FIGURE 1

37176-000 1.PDF



LEGEND

B1 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED FOR HALEY & ALDRICH, INC. BY GENERAL BORINGS, INC. ON 1 MARCH 2023

HA2 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED FOR HALEY & ALDRICH, INC. BY GENERAL BORINGS, INC. ON 18 MAY 2012

NOTES

1. BASE PLAN TAKEN FROM PDF OF DRAWING NO. C-17-201 TITLED "SITE PAVEMENT AND LAYOUT PLAN", PREPARED BY BROWN & CALDWELL, DATED 23 FEBRUARY 2023.
2. ELEVATIONS ARE IN FEET AND REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

N

0 20 40
SCALE IN FEET

HALEY ALDRICH

FOG RECEIVING STATION & FUEL STORAGE TANK RELOCATION
EAST SHORE WATER POLLUTION CONTROL FACILITY
365 EAST SHORE PARKWAY
NEW HAVEN, CONNECTICUT

BORING LOCATION PLAN

SCALE: AS SHOWN
APRIL 2023

FIGURE 2

KPEREZ
\\HALEYALDRICH.COM\SHARE\CF\PROJECTS\02069761000\CAD\02069761000_FIGURE 2_BLP.DWG
Printed: 4/14/2023 5:04 PM
Sheet: 11X17

APPENDIX A
Test Boring Logs

IDENTIFICATION AND DESCRIPTION OF SUBSURFACE MATERIALS

SOIL

Soil description on logs of subsurface explorations are based on Standard Penetration Test results, visual–manual examination of exposed soil and soil samples, and the results of laboratory tests on selected samples. The criteria, descriptive terms and definitions are as follows:

DENSITY OR CONSISTENCY

Density of Cohesionless Soils	Penetration Resistance (Blows per ft.)	Consistency of Cohesive Soils	Penetration Resistance (Blows per ft.)
Very Loose	0–4	Very Soft	0–2
Loose	5–10	Soft	3–4
Medium	11–30	Medium	5–8
Dense	31–50	Stiff	9–15
Very Dense	over 50	Very Stiff	16–30
		Hard	over 30

PENETRATION RESISTANCE

Standard Penetration Test (ASTM D–1586) – Number of blows required to drive a standard 2 in. O.D. split spoon sampler 1 ft. with a 140 lb. weight falling freely through 30 in.

COLOR: Basic colors and combinations: black, brown, gray, yellow–brown, etc.

SUPPLEMENTAL SOIL TERMINOLOGY:

Lamina	– 0 to 1/16 in. thick (cohesive)
Parting	– 0 to 1/16 in. thick (granular)
Seam	– 1/16 to 1/2 in. thick
Layer	– 1/2 to 12 in. thick
Stratum	– > 12 in. thick
Pocket	– Small, erratic deposit less than 12 in. size
Lens	– Lenticular deposit larger than a pocket
Occasional	– One or less per 12 in. of thickness
Frequent	– More than one per 12 in. of thickness
Interbedded	– Alternating soil layers of differing composition
Varved	– Alternating thin seams of silt and clay
Mottled	– Variation of color

GEOLOGIC INTERPRETATION

Deposit type – GLACIAL TILL, ALLUVIUM, FILL.....

The natural soils are identified by criteria of Unified Soil Classification System (USCS), with appropriate group symbol in parenthesis for each soil description. Fill materials may not be classified by USCS criteria.

U.S. Standard Series Seive — Clear Square Sieve Openings

12"	3"	3/4"	4	10	40	200
Boulders	Cobbles	Gravel: Coarse	Gravel: Fine	Sand: Coarse	Sand: Medium	Sand: Fine / Silts and Clays
305 mm	76 mm	19 mm	4.75 mm	2.00 mm	0.43 mm	0.074 mm

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			Group Symbol	Graphic Symbol	TYPICAL NAMES
Coarse grained soils: more than half is larger than number 200 sieve	Gravels: More than half of coarse fraction is larger than number 4 sieve	Gravels with little or no fines	GW		Well graded gravels, gravel–sand mixtures
			GP		Poorly graded gravels, gravel–sand mixtures
		Gravels with over 12% fines	GM		Silty gravels, poorly graded gravel–sand–silt mixtures
			GC		Clayey gravels, poorly graded gravel–sand–clay mixtures
	Sands: More than half of coarse fraction is smaller than number 4 sieve	Sands with little or no fines	SW		Well graded sands, gravelly sands
			SP		Poorly graded sands, gravelly sands
		Sands with over 12% fines	SM		Silty sands, poorly graded sand–silt mixtures
			SC		Clayey sands, poorly graded sand–clay mixtures
Fined–grained soils: more than half smaller than number 200 sieve	Silts and Clays: Liquid limit 50% or less		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		Organic clays and organic silty clays of low plasticity
	Silts and Clays: Liquid limit greater than 50%		MH		Inorganic silty, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH		Inorganic clays of high plasticity, fat clays
			OH		Organic clays of medium to high plasticity, organic silts
Highly organic soils			PT		Peat and other highly organic soils

ROCK

Rock descriptions noted on logs of subsurface explorations are based on visual–manual examination of exposed rock outcrops and core samples. The criteria, descriptive terms and definitions used are as follows:

FIELD HARDNESS: A measure of resistance to scratching.

Very Hard	Cannot be scratched with a knife point or sharp pick.
Hard	Can be scratched with a knife point or sharp pick, only with difficulty.
Moderately Hard	Can be readily scratched with a knife point or pick.
Medium Hard	Can be grooved or gouged 1/16 in. deep with firm pressure on a knife point or sharp pick.
Soft	Can be grooved or gouged easily with a knife point or pick.
Very Soft	Can be carved with a knife and excavated with a pick point.

WEATHERING: The action of organic and inorganic and chemical and physical processes resulting in alteration of color, texture and composition.

Weathering:

Fresh–FR	No visible sign of alteration, except perhaps slight discoloration on major discontinuity surfaces.
Slight–SL	Discoloration of rock material and discontinuity surfaces.
Moderate–MOD	Less than half the rock material decomposed to soil. Some fresh rock; continuous "framework".
High–HIGH	More than half the rock material decomposed and/or disintegrated to soil. Fresh rock corestones or discontinuous "framework".
Complete–COMP	All rock material disintegrated to soil, but mass still intact.
Residual Soil	All rock material converted to soil. Volume of mass changed, but material has not been significantly transported.

COLOR: Basic colors and combinations: gray, light gray, brown, red–brown.

TEXTURE: Size, shape and arrangements of constituents.

Aphanitic	Individual grains invisible.
Fine–grained	Grains barely visible to the unaided eye, up to 1/16 in. diameter.
Medium–grained	Grains between 1/16 and 3/16 in. diameter
Coarse–grained	Grains between 3/16 and 1/4 in. diameter
Very Coarse–grained	Grains larger than 1/4 in.

LITHOLOGY: Rock classification and modifiers; accepted formation names.

DISCONTINUITIES:

Type	Definition
Joint	A natural fracture along which no displacement has occurred. May occur in parallel groups called sets.
Shear	A natural fracture along which displacement has occurred. Surface may be slickensided or striated.
Fault	A natural fracture along which displacement has occurred. Usually lined with gouge and slickensides.
Shear or Fault Zone	Zone of fractured rock and gouge bordering the displacement plane.

ORIENTATION/ATTITUDE:

Term	Angle (degrees)
Horizontal	0–5
Low Angle	6–35
Moderately Dipping	36–55
High Angle	56–85
Vertical	86–100

SPACING:

Term	Inches
Extremely Close	< 3/4
Very Close	3/4 – 2–1/2
Close	2–1/2 – 8
Moderate	8 – 24
Wide	24 – 80
Very Wide	80 – 20 ft.
Extremely Wide	> 20 ft.

PERSISTENCE/CONTINUITY:

Term	Feet
Very Low	0–3
Low	3–10
Medium	10–40
High	40–80
Very High	> 80

SOLUTION CAVITIES:

Term	Size
Pit	Barely visible – 1/4 in.
Vug	1/4 – 2 in.
Cavity	2 in. – 2 ft.
Cave	> 2 ft.

APERTURE/GAP:

Term	Inches
Very Tight	< 0.004
Tight	0.004 – 0.01
Partly Open	0.01 – 0.02
Open	0.02 – 0.1
Moderately Wide	0.1–0.4
Wide	> 0.4
Very Wide	0.4 – 4.0
Extremely Wide	4.0 – 40
Cavernous	> 40

BEDDING:

Term	Inches	Term
Very thin	< 2.5	Thick
Thin	2.5–8	Very thick
Medium	9–24	Massive

GENERAL NOTES

1. Logs of subsurface explorations depict soil, rock and groundwater conditions only at the locations specified on the dates indicated. Subsurface conditions may vary at other locations and at other times.
2. Water levels noted on the logs were measured at the times and under the conditions indicated. During test borings, these water levels could have been affected by the introduction of water into the borehole, extraction of tools on other procedures and thus may not reflect actual groundwater level at the test boring location. Groundwater level fluctuations may also occur as a result of variations in precipitation, temperature, season, tides, adjacent construction activities and pumping of water supply wells and construction dewatering systems.

HALEY ALDRICH

SUBSURFACE EXPLORATION KEY

SCALE: AS SHOWN

G:\29210-002\CAD\DWGS\SUBSURFACE EXP KEY.DWG

TEST BORING REPORT

Boring No. B1

Project	FOG Receiving Station & Fuel Tank Relocation, East Shore WPCF, New Haven, CT
Client	Brown & Caldwell
Contractor	General Borings, Inc.

File No. 0206976-000
Sheet No. 1 of 2
Start March 1, 2023
Finish March 1, 2023
Driller J. Wyant
H&A Rep. J. Franklin
Elevation 10.5 (est.)
Datum NAVD88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA/HW	S	-	Rig Make & Model: Truck-mounted Diedrich D-50
Inside Diameter (in.)	4.25/4.0	1 3/8	-	Bit Type: Roller Bit
Hammer Weight (lb)	-/300	140	-	Drill Mud: None
Hammer Fall (in.)	-/24	30	-	Casing: Driven
				Hoist/Hammer: Wire Winch Automatic Hammer
				PID Make & Model: None

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6 10 9 7	S1 8	0.0 2.0	SM	10.3 0.3	-TOPSOIL- Medium dense dark brown silty SAND with gravel (SM), mps 0.5 in., no structure, no odor, moist PID = 0.0 ppm	-	15	5	15	45	20				
	6 9 9 11	S2 10	2.0 4.0	GP	8.5 2.0	Medium dense dark brown poorly graded GRAVEL with silt and sand (GP), mps 0.5 in., no structure, no odor, moist PID = 0.1 ppm	-	55	5	5	20	15				
5	5 5 3 2	S3 12	5.0 7.0	SM	5.5 5.0	Loose dark brown silty SAND with gravel (SM), mps 0.5 in., no structure, no odor, moist PID = 0.1 ppm	-	20	5	10	40	25				
	2 2 3 3	S4 14	7.0 9.0	SM		Similar to S3 PID = 0.1 ppm	-	20	5	10	40	25				
						-FILL-										
10	2 3 3 3	S5 5	10.0 12.0	SP-SM		Loose brown poorly graded SAND with silt and gravel (SP-SM), mps 0.5 in., no structure, no odor, wet PID = 0.0 ppm	-	33	5	21	32	9				
						Note: Switched from HSA to 4-in. dia. HW casing at 13 ft. Continued drilling using mud rotary techniques. Boulder at 13 ft, roller bit to 15 ft.										
15	12 9 7 7	S6 11	15.0 17.0	SW	-4.5 15.0	Medium dense red-brown well graded SAND (SW), mps 4.75 mm, no structure, no odor, wet PID = 0.0 ppm	-	-	10	20	65	5				
						-GLACIOFLUVIAL DEPOSITS-										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
3/1/2023			10	12	10

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (ft) 26.3
Rock Cored (ft) -
Samples 8S

Boring No. B1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. B1
File No. 0206976-000
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	6 7 7 17	S7 14	20.0 22.0	SM	-9.5 20.0	Medium dense light brown silty SAND (SM), mps 4.75 mm, no structure, no odor, wet PID = 0.0 ppm	-	-	5	15	65	15				
					-14.5	-GLACIOFLUVIAL DEPOSITS-										
25	25 40 50/4"	S8 14	25.0 26.3	SM	25.0 -15.8 26.3	Very dense red-brown silty SAND with gravel (SM), mps 0.5 in., no structure, no odor, wet Note: Split spoon refusal on top of probable bedrock. PID = 0.0 ppm	-	15	5	15	45	20				
						-WEATHERED BEDROCK- BOTTOM OF EXPLORATION 26.3 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. B1

TEST BORING REPORT

Boring No. B2

Project	FOG Receiving Station & Fuel Tank Relocation, East Shore WPCF, New Haven, CT
Client	Brown & Caldwell
Contractor	General Borings, Inc.

File No. 0206976-000
Sheet No. 1 of 2
Start March 1, 2023
Finish March 1, 2023
Driller J. Wyant
H&A Rep. J. Franklin
Elevation 16.3 (est.)
Datum NAVD88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	-	Rig Make & Model: Truck-mounted Diedrich D-50
Inside Diameter (in.)	4.25	1 3/8	-	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: Spun
				Hoist/Hammer: Wire Winch Automatic Hammer
				PID Make & Model: None

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6 7 14 12	S1 17	0.0 2.0	SM	16.1 0.3	-TOPSOIL- Medium dense dark brown silty SAND with gravel (SM), mps 0.5 in., no structure, no odor, moist PID = 0.0 ppm	-	15	5	15	40	25				
	7 7 8 9	S2 20	2.0 4.0	SM		Similar to S1 PID = 0.0 ppm	-	15	5	15	40	25				
5	6 4 5 5	S3 22	5.0 7.0	SM		Loose dark brown silty SAND with gravel (SM), mps 0.5 in., no structure, no odor, moist, trace brick PID = 0.0 ppm	-	15	5	10	40	30				
					9.3	-FILL-										
	5 4 6 6	S4 15	7.0 9.0	SM	7.0	Loose dark brown silty SAND (SM), mps 1 mm, no structure, organic odor, wet, trace wood fragment PID = 0.0 ppm	-	-	5	10	45	40				
10	2 1 1 2	S5 13	10.0 12.0	SM		Similar to S4, except very loose PID = 0.1 ppm	-	-	5	10	45	40				
	2 2 1 1	S6 6	12.0 14.0	SM		Similar to S4, except very loose PID = 0.0 ppm	-	-	5	10	45	40				
15	6 2 1 1	S7 3	15.0 17.0	SM	1.3 15.0	Very loose dark brown silty SAND (SM), mps 0.75 in., no structure, organic odor, moist, wood fibers	-	-	5	30	35	30				
	3 2 2 2	S8 5	17.0 19.0	SM		Similar to S7, no wood fibers	-	2	4	31	34	29				
						-ORGANIC DEPOSITS-										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
		Not Measured			

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft) 27.0
Rock Cored (ft) -
Samples 11S

Boring No. B2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

†**Note: Maximum particle size is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

TEST BORING REPORT

Boring No. B2

File No. 0206976-000

Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size†, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	2 1 1 WOH	S9 0	20.0 22.0			Note: No recovery. -ORGANIC DEPOSITS-										
					-5.7 22.0											
	2 4 7 5	S10 6	22.0 24.0	SP-SM		Medium dense gray-brown poorly graded SAND with silt (SP-SM), mps 4.75 mm, no structure, slight organic odor, wet	-	-	10	15	60	10				
25	7 10 12 12	S11 7	25.0 27.0	SP		Medium dense gray-brown to red-brown poorly graded SAND (SP), mps 4.75 mm, no structure, no odor, wet -GLACIOFLUVIAL DEPOSITS-	-	-	10	20	65	5				
					-10.7 27.0	BOTTOM OF EXPLORATION 27.0 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. B2

APPENDIX B
Previous Test Boring Logs

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA2

Project	Wet Weather Capacity Improvements - Ph.I GNHWPCA ESWPAF, New Haven, CT
Client	CH2M HILL
Contractor	General Borings, Inc.

File No. 37176-000
Sheet No. 1 of 2
Start 18 May 2012
Finish 18 May 2012
Driller T. McGovern
H&A Rep. S. Brousseau
Elevation 14.2 (est.)
Datum NAVD88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	-	Rig Make & Model: Truck mounted Mobile Drill B53
Inside Diameter (in.)	3 1/4	1 3/8	-	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: -
				Hoist/Hammer: Cat-Head Safety Hammer
				PID Make & Model: None

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
0	8 11 12 15	S1 18	0.0 2.0		SM	Medium dense brown medium to fine SAND, little silt, trace gravel, with very few coal fragments, no odor, dry
	16 18 11 12	S2 16	2.0 4.0		SM	Medium dense brown SAND, little silt, trace gray clay, with few shell fragments, no odor, dry
				10.2 4.0		
5	3 2 2 4	S3 4	4.0 6.0		ML	Soft gray SILT, trace medium to fine SAND, trace fine gravel, few organics, organic odor, wet
	2 1 2 3	S4 10	6.0 8.0		ML	Similar to S3
						-FILL-
				6.2 8.0		
	4 1 1 1	S5 24	8.0 10.0		ML/ CL	Very soft interbedded SILT and CLAY, with few organics, no odor, wet
10	1 1 2 4	S6 24	10.0 12.0		ML/ CL	Similar to S5, except soft (bottom 4 in. fibrous peat)
	3 5 8 9	S7 15	12.0 14.0		PT	Medium dense dark brown fibrous PEAT
				1.2 13.0		-ORGANIC DEPOSITS-
					SM	Medium dense brown medium to fine SAND, little silt, with common organics, no odor, wet
15	5 13 20 22	S8 8	15.0 17.0		SM	Medium dense brown medium to fine SAND, little silt, no odor, wet
20						-GLACIODELTAIC DEPOSITS-

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
5/18/12	1130	0.0	4.0	8.0	4.0 ±

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft) 39.1
Rock Cored (ft) -
Samples 13S

Boring No. HA2

Field Tests:

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY& ALDRICH

TEST BORING REPORT

Boring No. HA2
File No. 37176-000
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
20	3 2 1 3	S9 22	20.0 22.0		SP	Very loose brown medium to fine SAND, trace silt, no odor, wet
				-10.8 25.0	SM	Dense red-brown silty fine SAND, no odor, wet
25	14 22 20 28	S10 18	25.0 27.0			
30	2 4 6 5	S11 20	30.0 32.0		ML/ CL	Medium stiff interbedded SILT and CLAY laminae, no odor, wet
35	1 5 9 9	S12 24	35.0 37.0	-21.3 35.5	ML/ CL SP	Similar to S11 Medium dense red-brown medium to fine SAND, trace silt, no odor, wet
				-23.8 38.0		Note: Drill action indicates change at 38.0 ft
	100/1"	S13 1	39.0 39.1	-24.9 39.1		Note: HSA refusal at 39.1 ft Weathered sandstone -GLACIODELTAIC DEPOSITS- Bottom of exploration at 39.1 ft Note: Borehole backfilled with drill cuttings upon completion

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA2

HALEY & ALDRICH

TEST BORING REPORT

Boring No. HA3

Project	Wet Weather Capacity Improvements - Ph.I GNHWPCA ESWPAF, New Haven, CT
Client	CH2M HILL
Contractor	General Borings, Inc.

File No. 37176-000
Sheet No. 1 of 2
Start 18 May 2012
Finish 18 May 2012
Driller R. Posa
H&A Rep. S. Brousseau
Elevation 16.0 (est.)
Datum NAVD88
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S	-	Rig Make & Model: ATV-mounted Mobile Drill B53
Inside Diameter (in.)	3 1/4	1 3/8	-	Bit Type: Cutting Head
Hammer Weight (lb)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: -
				Hoist/Hammer: Cat-Head Safety Hammer
				PID Make & Model: None

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
0	2 8 6 4	S1 12	0.0 2.0		SM	Medium dense brown to gray-brown silty medium to fine SAND, with gray clay layer, few asphalt fragments, no odor, dry
	11 18 12 11	S2 17	2.0 4.0		SM	Dense dark brown silty medium to fine SAND, trace gravel, with few organics and asphalt fragments, organic odor, dry
5	3 5 7 8	S3 10	4.0 6.0		SM	Medium dense red-brown SAND, little silt, trace gravel, with few shell fragments, no odor, dry
	7 6 3 3	S4 14	6.0 8.0		SM	Similar to S3, except loose, wet
				8.0		-FILL-
10	1 1 2 2	S5 24	10.0 12.0	8.0	ML/ CL	Soft gray black interbedded SILT and CLAY, with few organics, no odor, wet
				3.0 13.0		-ORGANIC DEPOSITS- Note: Drill action indicates change at 13.0 ft
15	4 5 7 8	S6 12	15.0 17.0		SP- SM	Medium dense medium to fine SAND, little silt, no odor, wet
20						-GLACIODELTAIC DEPOSITS-

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
5/18/12	1200	0.0	4.0	8.0	6.0 ±

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft) 42.0
Rock Cored (ft) -
Samples 11S

Boring No. HA3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY& ALDRICH

TEST BORING REPORT

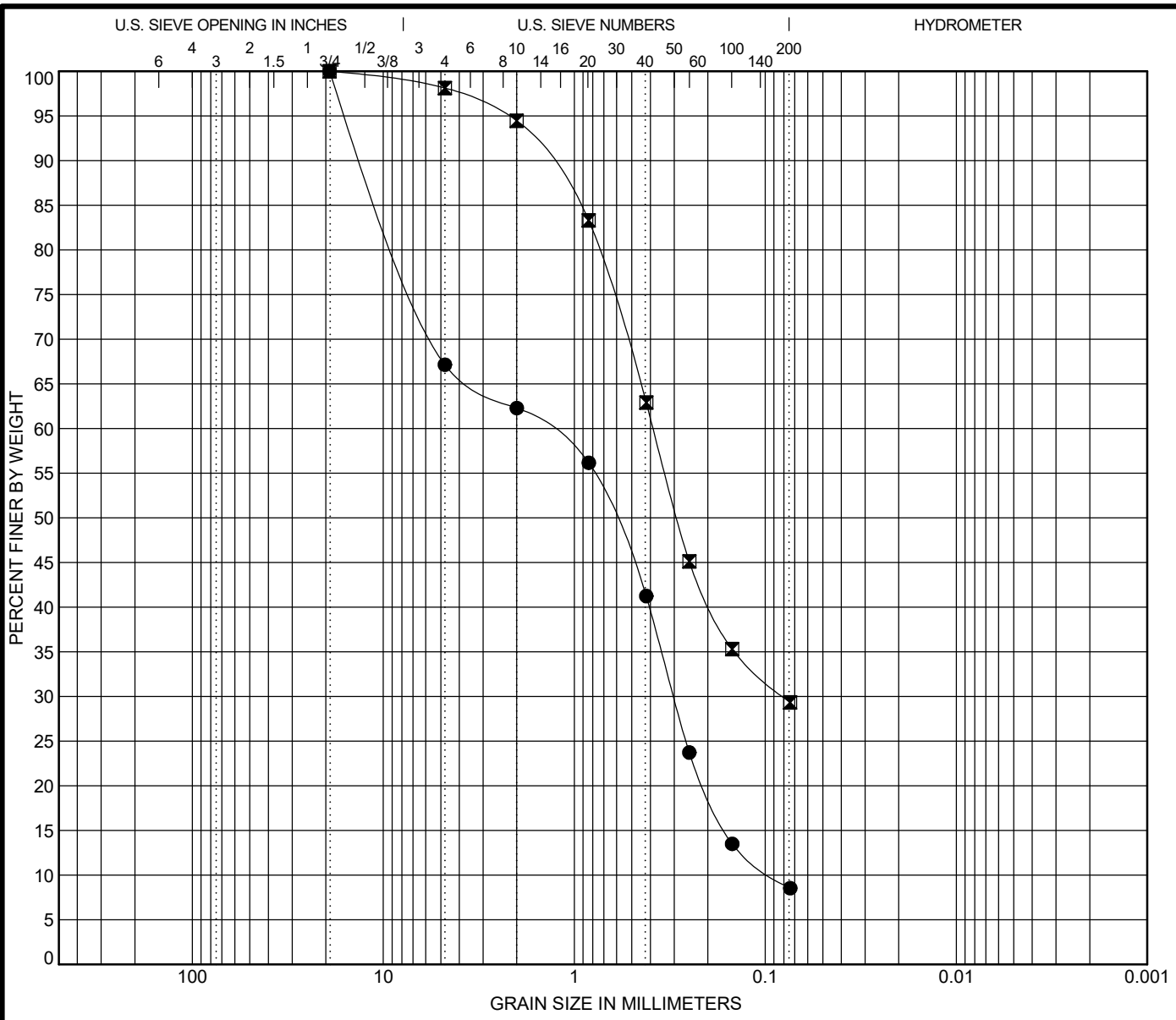
Boring No. HA3
File No. 37176-000
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
20	4 6 6 7	S7 20	20.0 22.0		SP	Medium dense brown medium to fine SAND, trace silt, no odor, wet
25	4 13 15 21	S8 20	25.0 27.0		SP	Medium dense brown medium to fine SAND, trace silt, trace gravel, no odor, wet Note: 2 ft running sands after sample recovered, washed out Note: Wash out 3 ft running sands before sampling at 30.0 ft
30	28 31 33 37	S9 18	30.0 32.0		SM	Very dense red-brown silty fine SAND, no odor, wet
35	10 11 14 21	S10 14	35.0 37.0		SM	Medium dense red-brown silty SAND, trace gravel (probable weathered sandstone), no odor, moist
40	100/1"	S11 0	40.0 40.0			No recovery Note: HSA refusal at 42.0 ft
				-26.0 42.0		-GLACIODELTAIC DEPOSITS- Bottom of exploration at 42.0 ft Note: Borehole backfilled with drill cuttings upon completion

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA3

APPENDIX C
Geotechnical Laboratory Test Results



	COBBLES	% GRAVEL		% SAND			% FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	% SILT	% CLAY
●		**0.0**	**32.9**	**4.9**	**21.0**	**32.7**	**8.5**	
⊠		**0.0**	**1.9**	**3.7**	**31.6**	**33.6**	**29.3**	

	Expl. No.	Sample No.	Depth (ft.)	LL	PL	PI	Water Content (%)	Cc	Cu
●	**B1**	**S5**	**10-12**				**18.2**	**0.69**	**15.89**
⊠	**B2**	**S8**	**17-19**				**19.9**		

Sample Description

● **Brown poorly graded SAND with silt and gravel (SP-SM)**

⊠ **Dark brown to gray silty SAND (SM)**

Remarks:

HALEY ALDRICH
Rocky Hill, Connecticut

FOG Receiving Station & Fuel Tank Relocation
East Shore WPCF
New Haven, Connecticut

GRAIN SIZE DISTRIBUTION

Date: 3/8/2023 File No.: 0206976-000

H&A SIEVE USCS LABTEMP.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\0206976\000\GEOTECH LAB\0206976_000_SIEVES.GPJ Mar 9, 23

Client:	Haley & Aldrich, Inc.				
Project:	Prop. FOG Receiving Station				
Location:	New Haven, CT			Project No:	GTX-316891
Boring ID:	B2	Sample Type:	bag	Tested By:	cam
Sample ID:	S7	Test Date:	03/14/23	Checked By:	ank
Depth :	15-17	Test Id:	708001		
Test Comment:	---				
Visual Description:	Moist, dark brown silty sand				
Sample Comment:	---				

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
B2	S7	15-17	Moist, dark brown silty sand	25	97.3	2.7

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass;
dried to a constant mass at temperature of 105º C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440º C

APPENDIX D
Geochemical Laboratory Test Results

PO Box 572455 / Salt Lake City UT 84157-2455 / USA
TEL +1 801 262 2448 · FAX +1 801 262 9870 · www.TEi-TS.com

HALEY & ALDRICH INCORPORATED
100 CORPORATE PLACE
SUITE 105
ROCKY HILL CT 06067-1876
USA

Analysis No.	TS-A2310994
Report Date	14 March 2023
Date Sampled	07 March 2023
Date Received	10 March 2023
Where Sampled	Rocky Hill, CT USA
Sampled By	Client

This is to attest that we have examined: Soils, Project: Proposed FOG Receiving Station; Site Location: East Shore WPCF, New Haven, CT; Job Number: 0206979-000

When examined to the applicable requirements of:

ASTM D 512 – 12*	"Standard Test Methods for Chloride Ion in Water" Method B
ASTM C 1580 - 20	"Standard Test Method for Water-Soluble Sulfate in Soil"
ASTM D 4658 - 15	"Standard Test Method for Sulfide Ion in Water"
ASTM D 4972 - 19	"Standard Test Method for pH of Soils" Method A
ASTM D 2216 - 19	"Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass"
ASTM G 200 - 20	"Standard Test Method for Measurement of Oxidation-Reduction Potential (ORP) of Soil"
ASTM G 187 – 18	"Standard Test Method for Measurement of Soil Resistivity Using the Two-Electrode Soil Box Method"

Results:

ASTM D512 – Chloride Method B

Sample		Results		Detection Limit
		ppm (mg/kg)	%[1]	
B1		161.	0.0161	10.
S-2	5 – 10'			

NOTE: 1Percent by weight after drying and prepared as per the Standard. *Withdrawn 2021 without Replacement

ASTM C 1580 – Water Soluble Sulfate

Sample		Results		Detection Limit
		ppm (mg/kg)	%[1]	
B1		34.	0.0034	10.
S-2	5 – 10'			

NOTE: 1Percent by weight after drying and prepared as per the Standard.

Testing Services analytical Laboratory
3455 South 500 West
Salt Lake City, UT 84115-4234 USA
TEL: +1 801 262 2448
FAX: +1 801 262 9870

CERTIFICATE OF ANALYSIS

ASTM D4658 – Sulfide

Sample		Results		Detection Limit
		ppb (µg/kg)	%[1]	
B1		20.	0.000020	10.
S-2	5 – 10’			

NOTE: 1Percent by weight after drying and prepared as per the Standard.

ASTM D 4972 – pH Method A

Sample		Results	Detection Limit
B1		5.53	0.01
S-2	5 – 10’		

NOTE: Prepared as per the Standard.

ASTM D 2216 – Moisture %

Sample		Results %	Detection Limit
B1		12.13	0.01
S-2	5 – 10’		

NOTE: Prepared as per the Standard.

ASTM G 200 – Reduction Oxidation Potential (REDOX)

Sample		Results	Detection Limit
B1		247.9 @ 19.8 ºC	0.1 mV
S-2	5 – 10’		

NOTE: Prepared as per the Standard.

Testing Services analytical Laboratory
3455 South 500 West
Salt Lake City, UT 84115-4234 USA
TEL: +1 801 262 2448
FAX: +1 801 262 9870

CERTIFICATE OF ANALYSIS

ASTM G 187 – Resistivity (Saturated using Soil Box)

Sample		Results	
		ohms-cm	mho/cm
B1		2 800	0.000356
S-2	5 – 10’		

NOTE: Prepared as per the Standard.

END OF ANALYSIS

USEPA Laboratory ID UT00930

Merrill Gee P.E. – Engineer in Charge

APPENDIX E
Laboratory Soil Analytical Data Reports

80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cet1@cetlabs.com

Client: Ms. Katrina Perez Mejia
Haley & Aldrich
100 Corporate Place, Suite 105
Rocky Hill, CT 06067-1803

Analytical Report

CET# 3030028

Report Date:March 06, 2023
Project: FOG Receiving Station and Fuel Storage Tank
Project Number: 0206976-000

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199

New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

SAMPLE SUMMARY

The sample(s) were received at 2.1°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
S1 1-5ft	3030028-01	Soil	3/01/2023 9:15	03/01/2023
S2 5-9ft	3030028-02	Soil	3/01/2023 9:30	03/01/2023

Analyte: Percent Solids [SM 2540 G]

Analyst: RAN

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	95	1.0	%	1	B3C0215	03/02/2023	03/02/2023 13:15	
3030028-02	S2 5-9ft	84	1.0	%	1	B3C0215	03/02/2023	03/02/2023 13:15	

Analyte: Flashpoint [EPA 1010A]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	>200 F	NA	°F	1	B3C0226	03/03/2023	03/03/2023 16:23	
3030028-02	S2 5-9ft	>200 F	NA	°F	1	B3C0226	03/03/2023	03/03/2023 16:23	

Analyte: Reactive Sulfide [SW 846 Ch. 7]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	ND	21	mg/kg dry	1	B3C0229	03/02/2023	03/02/2023 15:03	
3030028-02	S2 5-9ft	ND	24	mg/kg dry	1	B3C0229	03/02/2023	03/02/2023 15:03	

Analyte: Reactive Cyanide [SW 846 Ch. 7]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	ND	5.3	mg/kg dry	1	B3C0228	03/02/2023	03/02/2023 15:03	
3030028-02	S2 5-9ft	ND	5.9	mg/kg dry	1	B3C0228	03/02/2023	03/02/2023 15:03	

Analyte: pH [EPA 9045D]

Analyst: EAS

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	8.22 @21.2°C	NA	pH Units	1	B3C0241	03/02/2023	03/02/2023 14:26	
3030028-02	S2 5-9ft	8.30 @21.1°C	NA	pH Units	1	B3C0241	03/02/2023	03/02/2023 14:26	

Analyte: Conductivity [SM 2510 B Mod.]

Analyst: CBN

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	130	2.0	umhos/cm	1	B3C0330	03/03/2023	03/03/2023 15:48	
3030028-02	S2 5-9ft	200	2.0	umhos/cm	1	B3C0330	03/03/2023	03/03/2023 15:48	

Analyte: Mercury [EPA 7471B]

Analyst: EAS

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3030028-01	S1 1-5ft	0.18	0.13	mg/kg dry	1	B3C0313	03/03/2023	03/03/2023 13:06	
3030028-02	S2 5-9ft	0.25	0.15	mg/kg dry	1	B3C0313	03/03/2023	03/03/2023 13:09	

Client Sample ID S1 1-5ft

Lab ID: 3030028-01

Total Metals **Analyst: SS**

Method: EPA 6010C **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**15**	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Selenium	ND	2.5	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Cadmium	ND	0.49	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Chromium	**9.7**	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Arsenic	**2.0**	0.99	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Barium	**28**	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Silver	ND	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Nickel	**11**	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Zinc	**60**	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Beryllium	ND	0.99	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Antimony	ND	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Thallium	ND	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	
Vanadium	**61**	2.0	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:25	

Conn. Extractable TPH **Analyst: MJH**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**1400**	52	1	EPA 3550C	B3C0201	03/02/2023	03/02/2023 12:03	7
Surrogate: Octacosane	*88.5 %*		*50 - 150*		B3C0201	03/02/2023	*03/02/2023 12:03*	

7 C18-C36 unknown

PCBs by ASE **Analyst: MFJ**

Method: EPA 8082A **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
PCB-1016	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1221	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1232	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1242	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1248	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	

Client Sample ID S1 1-5ft

Lab ID: 3030028-01

PCBs by ASE **Analyst: MFJ**

Method: EPA 8082A **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
PCB-1254	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1260	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1268	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
PCB-1262	ND	0.052	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:27	
Surrogate: TCMX [1C]	*97.9 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:27*	
Surrogate: TCMX [2C]	*102 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:27*	
Surrogate: DCB [1C]	*98.1 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:27*	
Surrogate: DCB [2C]	*96.8 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:27*	

Semivolatile Organics **Analyst: KML**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Phenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
1,3-Dichlorobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
n-Nitroso-di-n-propylamine	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Pyridine	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*F1
n-Nitroso-dimethylamine	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*F1
bis(2-Chloroethyl)ether	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Aniline	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*I
2-Chlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
1,4-Dichlorobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Benzyl Alcohol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
1,2-Dichlorobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
bis(2-Chloroisopropyl)ether	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Hexachloroethane	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2-Methyl Phenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
3+4 Methyl Phenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Naphthalene	ND	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2-Nitrophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,4-Dichlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Hexachlorobutadiene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
4-Chloro-3-methylphenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Nitrobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Isophorone	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,4-Dimethylphenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	

Client Sample ID S1 1-5ft

Lab ID: 3030028-01

Semivolatile Organics **Analyst: KML**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
bis(2-Chloroethoxy)methane	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Benzoic Acid	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*F1
1,2,4-Trichlorobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,6-Dichlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
4-Chloroaniline	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
1,2,4,5-Tetrachlorobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Acenaphthylene	**110**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Acenaphthene	ND	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Dibenzofuran	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Fluorene	ND	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Hexachlorocyclopentadiene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*F1
2,4,6-Trichlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,4,5-Trichlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,4-Dinitrophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*F1
4-Nitrophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2-Chloronaphthalene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2-Nitroaniline	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Dimethylphthalate	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,6-Dinitrotoluene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
4-Nitroaniline	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,4-Dinitrotoluene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
2,3,4,6-Tetrachlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
4-Chlorophenyl-phenylether	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Diethylphthalate	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Phenanthrene	**150**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Anthracene	ND	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Carbazole	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Fluoranthene	**380**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Pyrene	**370**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
n-Nitrosodiphenylamine	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*I
Pentachlorophenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
3-Nitroaniline	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
4,6-Dinitro-2-methylphenol	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*F1
1,2-Diphenylhydrazine	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
4-Bromophenyl-phenylether	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Hexachlorobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Di-n-butylphthalate	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Pentachloronitrobenzene	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Benzo[a]anthracene	**220**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Chrysene	**260**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	

Client Sample ID S1 1-5ft

Lab ID: 3030028-01

Semivolatile Organics **Analyst: KML**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Butylbenzylphthalate	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
3,3-Dichlorobenzidine	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*C2
bis(2-Ethylhexyl)phthalate	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*C2
Di-n-octylphthalate	ND	210	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	*C2
Benzo[b]fluoranthene	**350**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Benzo[k]fluoranthene	**150**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Benzo[a]pyrene	**270**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Indeno[1,2,3-cd]pyrene	**160**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Dibenz[a,h]anthracene	ND	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Benzo[g,h,i]perylene	**250**	100	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 00:47	
Surrogate: 2-Fluorophenol	*80.0 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 00:47*	
Surrogate: Phenol-d6	*84.2 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 00:47*	
Surrogate: Nitrobenzene-d5	*67.8 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 00:47*	
Surrogate: 2-Fluorobiphenyl	*75.6 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 00:47*	
Surrogate: 2,4,6-Tribromophenol	*78.9 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 00:47*	
Surrogate: Terphenyl-d14	*81.3 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 00:47*	

Volatile Organics **Analyst: PDS**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	8.0	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C2*I
Chloromethane	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Vinyl Chloride	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Bromomethane	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Chloroethane	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C2
Trichlorofluoromethane	ND	21	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Acetone	ND	80	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1
Acrylonitrile	ND	4.3	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Trichlorotrifluoroethane	ND	21	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*F1*C1
1,1-Dichloroethene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1*I
Methylene Chloride	ND	32	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Carbon Disulfide	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1*I
Methyl-t-Butyl Ether (MTBE)	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
trans-1,2-Dichloroethene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1
1,1-Dichloroethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1

Client Sample ID S1 1-5ft

Lab ID: 3030028-01

Volatile Organics **Analyst: PDS**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
2-Butanone (MEK)	ND	13	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
2,2-Dichloropropane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
cis-1,2-Dichloroethene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1
Bromochloromethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*C1
Chloroform	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Tetrahydrofuran	ND	13	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	*I
1,1,1-Trichloroethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Carbon Tetrachloride	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,1-Dichloropropene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Benzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2-Dichloroethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Trichloroethene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2-Dichloropropane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Dibromomethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Bromodichloromethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Methyl Isobutyl Ketone	ND	13	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
cis-1,3-Dichloropropene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Toluene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
trans-1,3-Dichloropropene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
2-Hexanone	ND	13	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,1,2-Trichloroethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Tetrachloroethene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,3-Dichloropropane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Dibromochloromethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2-Dibromoethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
trans-1,4-Dichloro-2-Butene	ND	13	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Chlorobenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,1,1,2-Tetrachloroethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Ethylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
m+p Xylenes	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
o-Xylene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Styrene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Bromoform	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Isopropylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,1,2,2-Tetrachloroethane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Bromobenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2,3-Trichloropropane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
n-Propylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
2-Chlorotoluene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
4-Chlorotoluene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,3,5-Trimethylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	

Client Sample ID S1 1-5ft

Lab ID: 3030028-01

Volatile Organics **Analyst: PDS**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2,4-Trimethylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
sec-Butylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,3-Dichlorobenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
4-Isopropyltoluene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,4-Dichlorobenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2-Dichlorobenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
n-Butylbenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2-Dibromo-3-Chloropropane	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2,4-Trichlorobenzene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Hexachlorobutadiene	ND	2.7	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Naphthalene	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
1,2,3-Trichlorobenzene	ND	5.4	1.02	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:18	
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*70 - 130*		B3C0333	03/03/2023	*03/03/2023 17:18*	
Surrogate: Toluene-d8	*90.1 %*		*70 - 130*		B3C0333	03/03/2023	*03/03/2023 17:18*	
Surrogate: 4-Bromofluorobenzene	*87.5 %*		*70 - 130*		B3C0333	03/03/2023	*03/03/2023 17:18*	

Client Sample ID S2 5-9ft

Lab ID: 3030028-02

Total Metals **Analyst: SS**

Method: EPA 6010C **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**22**	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Selenium	ND	2.8	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Cadmium	ND	0.56	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Chromium	**14**	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Arsenic	**2.4**	1.1	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Barium	**38**	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Silver	ND	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Nickel	**8.6**	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Zinc	**65**	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Beryllium	ND	1.1	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Antimony	ND	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Thallium	ND	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	
Vanadium	**21**	2.2	1	EPA 3051A	B3C0213	03/02/2023	03/02/2023 15:29	

Conn. Extractable TPH **Analyst: MJH**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	59	1	EPA 3550C	B3C0201	03/02/2023	03/02/2023 12:24	
Surrogate: Octacosane	*93.7 %*	*50 - 150*			B3C0201	03/02/2023	*03/02/2023 12:24*	

PCBs by ASE **Analyst: MFJ**

Method: EPA 8082A **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
PCB-1016	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1221	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1232	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1242	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1248	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	

Client Sample ID S2 5-9ft

Lab ID: 3030028-02

PCBs by ASE **Analyst: MFJ**

Method: EPA 8082A **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
PCB-1254	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1260	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1268	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
PCB-1262	ND	0.059	1	EPA 3545A	B3C0223	03/02/2023	03/04/2023 05:47	
Surrogate: TCMX [1C]	*102 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:47*	
Surrogate: TCMX [2C]	*105 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:47*	
Surrogate: DCB [1C]	*103 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:47*	
Surrogate: DCB [2C]	*102 %*	*30 - 150*			B3C0223	03/02/2023	*03/04/2023 05:47*	

Semivolatile Organics **Analyst: JTS**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Phenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
1,3-Dichlorobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
n-Nitroso-di-n-propylamine	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Pyridine	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*F1
n-Nitroso-dimethylamine	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*F1
bis(2-Chloroethyl)ether	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Aniline	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*C2*I
2-Chlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
1,4-Dichlorobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Benzyl Alcohol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
1,2-Dichlorobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
bis(2-Chloroisopropyl)ether	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*C2
Hexachloroethane	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2-Methyl Phenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
3+4 Methyl Phenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Naphthalene	ND	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2-Nitrophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,4-Dichlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Hexachlorobutadiene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
4-Chloro-3-methylphenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Nitrobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Isophorone	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,4-Dimethylphenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	

Client Sample ID S2 5-9ft

Lab ID: 3030028-02

Semivolatile Organics
Method: EPA 8270D

Analyst: JTS

Matrix: Soil

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
bis(2-Chloroethoxy)methane	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Benzoic Acid	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*F1
1,2,4-Trichlorobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,6-Dichlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
4-Chloroaniline	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
1,2,4,5-Tetrachlorobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2-Methyl Naphthalene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Acenaphthylene	ND	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Acenaphthene	ND	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Dibenzofuran	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Fluorene	ND	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Hexachlorocyclopentadiene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*F1
2,4,6-Trichlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,4,5-Trichlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,4-Dinitrophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*F1
4-Nitrophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2-Chloronaphthalene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2-Nitroaniline	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Dimethylphthalate	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,6-Dinitrotoluene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
4-Nitroaniline	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*C2
2,4-Dinitrotoluene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
2,3,4,6-Tetrachlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
4-Chlorophenyl-phenylether	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Diethylphthalate	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Phenanthrene	**170**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Anthracene	ND	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Carbazole	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Fluoranthene	**620**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Pyrene	**570**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
n-Nitrosodiphenylamine	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Pentachlorophenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
3-Nitroaniline	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
4,6-Dinitro-2-methylphenol	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*F1
1,2-Diphenylhydrazine	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
4-Bromophenyl-phenylether	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Hexachlorobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Di-n-butylphthalate	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*C2
Pentachloronitrobenzene	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Benzo[a]anthracene	**260**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Chrysene	**250**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	

Client Sample ID S2 5-9ft

Lab ID: 3030028-02

Semivolatile Organics **Analyst: JTS**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Butylbenzylphthalate	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
3,3-Dichlorobenzidine	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
bis(2-Ethylhexyl)phthalate	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*C2
Di-n-octylphthalate	ND	240	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	*C2
Benzo[b]fluoranthene	**340**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Benzo[k]fluoranthene	**140**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Benzo[a]pyrene	**250**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Indeno[1,2,3-cd]pyrene	**150**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Dibenz[a,h]anthracene	ND	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Benzo[g,h,i]perylene	**210**	120	1	EPA 3545A	B3C0205	03/02/2023	03/03/2023 14:19	
Surrogate: 2-Fluorophenol	*73.2 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 14:19*	
Surrogate: Phenol-d6	*81.0 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 14:19*	
Surrogate: Nitrobenzene-d5	*68.8 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 14:19*	
Surrogate: 2-Fluorobiphenyl	*76.5 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 14:19*	
Surrogate: 2,4,6-Tribromophenol	*64.8 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 14:19*	
Surrogate: Terphenyl-d14	*95.2 %*	*30 - 130*			B3C0205	03/02/2023	*03/03/2023 14:19*	

Volatile Organics **Analyst: PDS**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	9.3	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C2*I
Chloromethane	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Vinyl Chloride	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Bromomethane	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Chloroethane	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C2
Trichlorofluoromethane	ND	25	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Acetone	ND	93	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1
Acrylonitrile	ND	4.9	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Trichlorotrifluoroethane	ND	25	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*F1*C1
1,1-Dichloroethene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1*I
Methylene Chloride	ND	37	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Carbon Disulfide	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1*I
Methyl-t-Butyl Ether (MTBE)	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
trans-1,2-Dichloroethene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1
1,1-Dichloroethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1

Client Sample ID S2 5-9ft

Lab ID: 3030028-02

Volatile Organics **Analyst: PDS**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
2-Butanone (MEK)	ND	15	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
2,2-Dichloropropane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
cis-1,2-Dichloroethene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1
Bromochloromethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*C1
Chloroform	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Tetrahydrofuran	ND	15	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	*I
1,1,1-Trichloroethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Carbon Tetrachloride	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,1-Dichloropropene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Benzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2-Dichloroethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Trichloroethene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2-Dichloropropane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Dibromomethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Bromodichloromethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Methyl Isobutyl Ketone	ND	15	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
cis-1,3-Dichloropropene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Toluene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
trans-1,3-Dichloropropene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
2-Hexanone	ND	15	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,1,2-Trichloroethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Tetrachloroethene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,3-Dichloropropane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Dibromochloromethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2-Dibromoethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
trans-1,4-Dichloro-2-Butene	ND	15	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Chlorobenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,1,1,2-Tetrachloroethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Ethylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
m+p Xylenes	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
o-Xylene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Styrene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Bromoform	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Isopropylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,1,2,2-Tetrachloroethane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Bromobenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2,3-Trichloropropane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
n-Propylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
2-Chlorotoluene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
4-Chlorotoluene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,3,5-Trimethylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	

Client Sample ID S2 5-9ft

Lab ID: 3030028-02

Volatile Organics **Analyst: PDS**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2,4-Trimethylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
sec-Butylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,3-Dichlorobenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
4-Isopropyltoluene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,4-Dichlorobenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2-Dichlorobenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
n-Butylbenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2-Dibromo-3-Chloropropane	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2,4-Trichlorobenzene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Hexachlorobutadiene	ND	3.1	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Naphthalene	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
1,2,3-Trichlorobenzene	ND	6.2	1.04	EPA 5035A-L	B3C0333	03/03/2023	03/03/2023 17:40	
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*70 - 130*		B3C0333	03/03/2023	*03/03/2023 17:40*	
Surrogate: Toluene-d8	*98.3 %*		*70 - 130*		B3C0333	03/03/2023	*03/03/2023 17:40*	
Surrogate: 4-Bromofluorobenzene	*101 %*		*70 - 130*		B3C0333	03/03/2023	*03/03/2023 17:40*	

QUALITY CONTROL SECTION

Batch B3C0201 - CT-ETPH

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0201-BLK1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
ETPH	ND	50							
Surrogate: Octacosane					*96.1*	*50 - 150*			
LCS (B3C0201-BS1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
ETPH	1360	50	1,500.000		90.6	60 - 120			
Surrogate: Octacosane					*93.0*	*50 - 150*			

Batch B3C0205 - EPA 8270D

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0205-BLK1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Phenol	ND	200							
1,3-Dichlorobenzene	ND	200							
n-Nitroso-di-n-propylamine	ND	200							
Pyridine	ND	200							
n-Nitroso-dimethylamine	ND	200							
bis(2-Chloroethyl)ether	ND	200							
Aniline	ND	200							
2-Chlorophenol	ND	200							
1,4-Dichlorobenzene	ND	200							
Benzyl Alcohol	ND	200							
1,2-Dichlorobenzene	ND	200							
bis(2-Chloroisopropyl)ether	ND	200							
Hexachloroethane	ND	200							
2-Methyl Phenol	ND	200							
3+4 Methyl Phenol	ND	200							
Naphthalene	ND	100							
2-Nitrophenol	ND	200							
2,4-Dichlorophenol	ND	200							
Hexachlorobutadiene	ND	200							
4-Chloro-3-methylphenol	ND	200							
Nitrobenzene	ND	200							
Isophorone	ND	200							
2,4-Dimethylphenol	ND	200							
bis(2-Chloroethoxy)methane	ND	200							
Benzoic Acid	ND	200							
1,2,4-Trichlorobenzene	ND	200							
2,6-Dichlorophenol	ND	200							
4-Chloroaniline	ND	200							
1,2,4,5-Tetrachlorobenzene	ND	200							
2-Methyl Naphthalene	ND	200							
Acenaphthylene	ND	100							
Acenaphthene	ND	100							
Dibenzofuran	ND	200							
Fluorene	ND	100							
Hexachlorocyclopentadiene	ND	200							
2,4,6-Trichlorophenol	ND	200							
2,4,5-Trichlorophenol	ND	200							
2,4-Dinitrophenol	ND	200							
4-Nitrophenol	ND	200							
2-Chloronaphthalene	ND	200							
2-Nitroaniline	ND	200							
Dimethylphthalate	ND	200							
2,6-Dinitrotoluene	ND	200							
4-Nitroaniline	ND	200							
2,4-Dinitrotoluene	ND	200							
2,3,4,6-Tetrachlorophenol	ND	200							
4-Chlorophenyl-phenylether	ND	200							
Diethylphthalate	ND	200							
Phenanthrene	ND	100							
Anthracene	ND	100							
Carbazole	ND	200							
Fluoranthene	ND	100							

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0205-BLK1) - Continued					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Pyrene	ND	100							
n-Nitrosodiphenylamine	ND	200							
Pentachlorophenol	ND	200							
3-Nitroaniline	ND	200							
4,6-Dinitro-2-methylphenol	ND	200							
1,2-Diphenylhydrazine	ND	200							
4-Bromophenyl-phenylether	ND	200							
Hexachlorobenzene	ND	200							
Di-n-butylphthalate	ND	200							
Pentachloronitrobenzene	ND	200							
Benzo[a]anthracene	ND	100							
Chrysene	ND	100							
Butylbenzylphthalate	ND	200							
3,3-Dichlorobenzidine	ND	200							
bis(2-Ethylhexyl)phthalate	ND	200							
Di-n-octylphthalate	ND	200							
Benzo[b]fluoranthene	ND	100							
Benzo[k]fluoranthene	ND	100							
Benzo[a]pyrene	ND	100							
Indeno[1,2,3-cd]pyrene	ND	100							
Dibenz[a,h]anthracene	ND	100							
Benzo[g,h,i]perylene	ND	100							
Surrogate: 2-Fluorophenol					*62.3*	*30 - 130*			
Surrogate: Phenol-d6					*66.8*	*30 - 130*			
Surrogate: Nitrobenzene-d5					*50.8*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*63.0*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*64.6*	*30 - 130*			
Surrogate: Terphenyl-d14					*69.5*	*30 - 130*			
LCS (B3C0205-BS1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Phenol	2100	200	4,000.000		52.5	30 - 130			
1,3-Dichlorobenzene	1640	200	4,000.000		40.9	40 - 140			
n-Nitroso-di-n-propylamine	2000	200	4,000.000		49.9	40 - 140			
Pyridine	988	200	4,000.000		**24.7**	40 - 140			**L**
n-Nitroso-dimethylamine	1420	200	4,000.000		**35.5**	40 - 140			**L**
bis(2-Chloroethyl)ether	1770	200	4,000.000		44.4	40 - 140			
Aniline	1720	200	4,000.000		43.1	40 - 140			
2-Chlorophenol	1960	200	4,000.000		48.9	30 - 130			
1,4-Dichlorobenzene	1630	200	4,000.000		40.9	40 - 140			
Benzyl Alcohol	2010	200	4,000.000		50.2	30 - 130			
1,2-Dichlorobenzene	1710	200	4,000.000		42.7	40 - 140			
bis(2-Chloroisopropyl)ether	2100	200	4,000.000		52.5	40 - 140			
Hexachloroethane	2590	200	4,000.000		64.7	40 - 140			
2-Methyl Phenol	2290	200	4,000.000		57.2	30 - 130			
3+4 Methyl Phenol	2310	200	4,000.000		57.7	30 - 130			
Naphthalene	1940	100	4,000.000		48.5	40 - 140			
2-Nitrophenol	2020	200	4,000.000		50.5	30 - 130			
2,4-Dichlorophenol	2080	200	4,000.000		52.1	30 - 130			
Hexachlorobutadiene	1910	200	4,000.000		47.7	40 - 140			
4-Chloro-3-methylphenol	2540	200	4,000.000		63.6	30 - 130			
Nitrobenzene	1730	200	4,000.000		43.3	40 - 140			
Isophorone	1950	200	4,000.000		48.8	40 - 140			
2,4-Dimethylphenol	1850	200	4,000.000		46.2	30 - 130			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B3C0205-BS1) - Continued					Prepared: 3/2/2023 Analyzed: 3/2/2023				
bis(2-Chloroethoxy)methane	2140	200	4,000.000		53.6	40 - 140			
Benzoic Acid	967	200	4,000.000		**24.2**	30 - 130			**L**
1,2,4-Trichlorobenzene	1960	200	4,000.000		48.9	40 - 140			
2,6-Dichlorophenol	2210	200	4,000.000		55.2	30 - 130			
4-Chloroaniline	1970	200	4,000.000		49.2	40 - 140			
1,2,4,5-Tetrachlorobenzene	2070	200	4,000.000		51.7	40 - 140			
2-Methyl Naphthalene	1940	200	4,000.000		48.4	40 - 140			
Acenaphthylene	2230	100	4,000.000		55.7	40 - 140			
Acenaphthene	2360	100	4,000.000		58.9	40 - 140			
Dibenzofuran	2260	200	4,000.000		56.5	40 - 140			
Fluorene	2500	100	4,000.000		62.4	40 - 140			
Hexachlorocyclopentadiene	1290	200	4,000.000		**32.4**	40 - 140			**L**
2,4,6-Trichlorophenol	2340	200	4,000.000		58.4	30 - 130			
2,4,5-Trichlorophenol	2320	200	4,000.000		58.1	30 - 130			
2,4-Dinitrophenol	518	200	4,000.000		**13.0**	30 - 130			**L**
4-Nitrophenol	2030	200	4,000.000		50.8	30 - 130			
2-Chloronaphthalene	2080	200	4,000.000		52.0	40 - 140			
2-Nitroaniline	2430	200	4,000.000		60.8	40 - 140			
Dimethylphthalate	2330	200	4,000.000		58.2	40 - 140			
2,6-Dinitrotoluene	2570	200	4,000.000		64.2	40 - 140			
4-Nitroaniline	2110	200	4,000.000		52.7	40 - 140			
2,4-Dinitrotoluene	2600	200	4,000.000		65.1	40 - 140			
2,3,4,6-Tetrachlorophenol	2310	200	4,000.000		57.7	30 - 130			
4-Chlorophenyl-phenylether	2500	200	4,000.000		62.5	40 - 140			
Diethylphthalate	2390	200	4,000.000		59.9	40 - 140			
Phenanthrene	2400	100	4,000.000		59.9	40 - 140			
Anthracene	2400	100	4,000.000		60.0	40 - 140			
Carbazole	1810	200	4,000.000		45.2	40 - 140			
Fluoranthene	2630	100	4,000.000		65.7	40 - 140			
Pyrene	2620	100	4,000.000		65.5	40 - 140			
n-Nitrosodiphenylamine	2710	200	4,000.000		67.8	40 - 140			
Pentachlorophenol	2100	200	4,000.000		52.5	30 - 130			
3-Nitroaniline	2510	200	4,000.000		62.7	40 - 140			
4,6-Dinitro-2-methylphenol	1140	200	4,000.000		**28.4**	30 - 130			**L**
1,2-Diphenylhydrazine	1940	200	4,000.000		48.6	40 - 140			
4-Bromophenyl-phenylether	2500	200	4,000.000		62.4	40 - 140			
Hexachlorobenzene	2470	200	4,000.000		61.8	40 - 140			
Di-n-butylphthalate	2620	200	4,000.000		65.4	40 - 140			
Pentachloronitrobenzene	2170	200	4,000.000		54.3	40 - 140			
Benzo[a]anthracene	2470	100	4,000.000		61.8	40 - 140			
Chrysene	2650	100	4,000.000		66.2	40 - 140			
Butylbenzylphthalate	2430	200	4,000.000		60.9	40 - 140			
3,3-Dichlorobenzidine	1950	200	4,000.000		48.7	40 - 140			
bis(2-Ethylhexyl)phthalate	2560	200	4,000.000		64.0	40 - 140			
Di-n-octylphthalate	2640	200	4,000.000		66.1	40 - 140			
Benzo[b]fluoranthene	2570	100	4,000.000		64.2	40 - 140			
Benzo[k]fluoranthene	2830	100	4,000.000		70.8	40 - 140			
Benzo[a]pyrene	2670	100	4,000.000		66.7	40 - 140			
Indeno[1,2,3-cd]pyrene	2440	100	4,000.000		61.0	40 - 140			
Dibenz[a,h]anthracene	2550	100	4,000.000		63.7	40 - 140			
Benzo[g,h,i]perylene	2650	100	4,000.000		66.1	40 - 140			
Surrogate: 2-Fluorophenol					*52.3*	*30 - 130*			
Surrogate: Phenol-d6					*60.5*	*30 - 130*			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B3C0205-BS1) - Continued					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Surrogate: Nitrobenzene-d5					*43.2*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*57.6*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*68.8*	*30 - 130*			
Surrogate: Terphenyl-d14					*80.4*	*30 - 130*			
Matrix Spike (B3C0205-MS1)		**Source: 3030028-01**			Prepared: 3/2/2023 Analyzed: 3/3/2023				
Phenol	3110	210	4,162.509	ND	74.8	30 - 130			
1,3-Dichlorobenzene	2690	210	4,162.509	ND	64.7	40 - 140			
n-Nitroso-di-n-propylamine	3140	210	4,162.509	ND	75.5	40 - 140			
Pyridine	2020	210	4,162.509	ND	48.4	40 - 140			
n-Nitroso-dimethylamine	2750	210	4,162.509	ND	66.1	40 - 140			
bis(2-Chloroethyl)ether	2950	210	4,162.509	ND	71.0	40 - 140			
Aniline	1810	210	4,162.509	ND	43.5	40 - 140			
2-Chlorophenol	3050	210	4,162.509	ND	73.2	30 - 130			
1,4-Dichlorobenzene	2720	210	4,162.509	ND	65.3	40 - 140			
Benzyl Alcohol	327	210	4,162.509	ND	**7.85**	30 - 130			**L**
1,2-Dichlorobenzene	2800	210	4,162.509	ND	67.4	40 - 140			
bis(2-Chloroisopropyl)ether	3510	210	4,162.509	ND	84.4	40 - 140			
Hexachloroethane	2140	210	4,162.509	ND	51.3	40 - 140			
2-Methyl Phenol	3750	210	4,162.509	ND	90.2	30 - 130			
3+4 Methyl Phenol	3670	210	4,162.509	ND	88.2	30 - 130			
Naphthalene	2990	100	4,162.509	ND	71.8	40 - 140			
2-Nitrophenol	2730	210	4,162.509	ND	65.6	30 - 130			
2,4-Dichlorophenol	3030	210	4,162.509	ND	72.8	30 - 130			
Hexachlorobutadiene	2920	210	4,162.509	ND	70.1	40 - 140			
4-Chloro-3-methylphenol	3390	210	4,162.509	ND	81.5	30 - 130			
Nitrobenzene	3110	210	4,162.509	ND	74.6	40 - 140			
Isophorone	3170	210	4,162.509	ND	76.1	40 - 140			
2,4-Dimethylphenol	1990	210	4,162.509	ND	47.7	30 - 130			
bis(2-Chloroethoxy)methane	3320	210	4,162.509	ND	79.7	40 - 140			
Benzoic Acid	2710	210	4,162.509	ND	65.2	30 - 130			
1,2,4-Trichlorobenzene	3000	210	4,162.509	ND	72.1	40 - 140			
2,6-Dichlorophenol	3030	210	4,162.509	ND	72.8	30 - 130			
4-Chloroaniline	2750	210	4,162.509	ND	66.1	40 - 140			
1,2,4,5-Tetrachlorobenzene	3060	210	4,162.509	ND	73.6	40 - 140			
2-Methyl Naphthalene	3120	210	4,162.509	ND	75.0	40 - 140			
Acenaphthylene	3260	100	4,162.509	112	75.6	40 - 140			
Acenaphthene	3240	100	4,162.509	ND	77.9	40 - 140			
Dibenzofuran	3050	210	4,162.509	ND	73.2	40 - 140			
Fluorene	3260	100	4,162.509	ND	78.4	40 - 140			
Hexachlorocyclopentadiene	655	210	4,162.509	ND	**15.7**	40 - 140			**L**
2,4,6-Trichlorophenol	2960	210	4,162.509	ND	71.1	30 - 130			
2,4,5-Trichlorophenol	3340	210	4,162.509	ND	80.3	30 - 130			
2,4-Dinitrophenol	745	210	4,162.509	ND	**17.9**	30 - 130			**L**
4-Nitrophenol	2360	210	4,162.509	ND	56.7	30 - 130			
2-Chloronaphthalene	3120	210	4,162.509	ND	75.0	40 - 140			
2-Nitroaniline	3560	210	4,162.509	ND	85.6	40 - 140			
Dimethylphthalate	3210	210	4,162.509	ND	77.2	40 - 140			
2,6-Dinitrotoluene	2900	210	4,162.509	ND	69.7	40 - 140			
4-Nitroaniline	2870	210	4,162.509	ND	69.0	40 - 140			
2,4-Dinitrotoluene	2900	210	4,162.509	ND	69.8	40 - 140			
2,3,4,6-Tetrachlorophenol	3060	210	4,162.509	ND	73.5	30 - 130			
4-Chlorophenyl-phenylether	3090	210	4,162.509	ND	74.1	40 - 140			
Diethylphthalate	3200	210	4,162.509	ND	76.9	40 - 140			

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Matrix Spike (B3C0205-MS1) - Continued		**Source: 3030028-01**			Prepared: 3/2/2023 Analyzed: 3/3/2023				
Phenanthrene	3410	100	4,162.509	151	78.4	40 - 140			
Anthracene	3450	100	4,162.509	95.4	80.6	40 - 140			
Carbazole	3210	210	4,162.509	ND	77.0	40 - 140			
Fluoranthene	3760	100	4,162.509	380	81.2	40 - 140			
Pyrene	3770	100	4,162.509	368	81.8	40 - 140			
n-Nitrosodiphenylamine	3870	210	4,162.509	ND	92.9	40 - 140			
Pentachlorophenol	2280	210	4,162.509	ND	54.9	30 - 130			
3-Nitroaniline	3280	210	4,162.509	ND	78.7	40 - 140			
4,6-Dinitro-2-methylphenol	781	210	4,162.509	ND	**18.8**	30 - 130			**L**
1,2-Diphenylhydrazine	3270	210	4,162.509	ND	78.6	40 - 140			
4-Bromophenyl-phenylether	3250	210	4,162.509	ND	78.1	40 - 140			
Hexachlorobenzene	3250	210	4,162.509	ND	78.1	40 - 140			
Di-n-butylphthalate	3450	210	4,162.509	ND	82.9	40 - 140			
Pentachloronitrobenzene	2890	210	4,162.509	ND	69.3	40 - 140			
Benzo[a]anthracene	3470	100	4,162.509	219	78.1	40 - 140			
Chrysene	3570	100	4,162.509	261	79.5	40 - 140			
Butylbenzylphthalate	3670	210	4,162.509	ND	88.1	40 - 140			
3,3-Dichlorobenzidine	1990	210	4,162.509	ND	47.9	40 - 140			
bis(2-Ethylhexyl)phthalate	3770	210	4,162.509	ND	90.5	40 - 140			
Di-n-octylphthalate	3950	210	4,162.509	ND	95.0	40 - 140			
Benzo[b]fluoranthene	3700	100	4,162.509	346	80.6	40 - 140			
Benzo[k]fluoranthene	3700	100	4,162.509	154	85.1	40 - 140			
Benzo[a]pyrene	3750	100	4,162.509	267	83.8	40 - 140			
Indeno[1,2,3-cd]pyrene	3530	100	4,162.509	163	81.0	40 - 140			
Dibenz[a,h]anthracene	3550	100	4,162.509	ND	85.3	40 - 140			
Benzo[g,h,i]perylene	3650	100	4,162.509	250	81.6	40 - 140			
Surrogate: 2-Fluorophenol					*91.0*	*30 - 130*			
Surrogate: Phenol-d6					*94.6*	*30 - 130*			
Surrogate: Nitrobenzene-d5					*80.9*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*89.6*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*96.6*	*30 - 130*			
Surrogate: Terphenyl-d14					*92.0*	*30 - 130*			
Matrix Spike Dup (B3C0205-MSD1)		**Source: 3030028-01**			Prepared: 3/2/2023 Analyzed: 3/3/2023				
Phenol	3050	210	4,109.664	ND	74.3	30 - 130	1.96	30	
1,3-Dichlorobenzene	2660	210	4,109.664	ND	64.7	40 - 140	1.19	30	
n-Nitroso-di-n-propylamine	3110	210	4,109.664	ND	75.6	40 - 140	1.11	30	
Pyridine	1920	210	4,109.664	ND	46.7	40 - 140	4.85	30	
n-Nitroso-dimethylamine	2640	210	4,109.664	ND	64.1	40 - 140	4.33	30	
bis(2-Chloroethyl)ether	2920	210	4,109.664	ND	71.0	40 - 140	1.20	30	
Aniline	1740	210	4,109.664	ND	42.4	40 - 140	3.79	30	
2-Chlorophenol	2960	210	4,109.664	ND	72.0	30 - 130	2.93	30	
1,4-Dichlorobenzene	2680	210	4,109.664	ND	65.2	40 - 140	1.40	30	
Benzyl Alcohol	329	210	4,109.664	ND	**8.01**	30 - 130	0.850	30	**L**
1,2-Dichlorobenzene	2790	210	4,109.664	ND	67.8	40 - 140	0.675	30	
bis(2-Chloroisopropyl)ether	3440	210	4,109.664	ND	83.6	40 - 140	2.17	30	
Hexachloroethane	1770	210	4,109.664	ND	43.2	40 - 140	18.5	30	
2-Methyl Phenol	3480	210	4,109.664	ND	84.6	30 - 130	7.61	30	
3+4 Methyl Phenol	3400	210	4,109.664	ND	82.8	30 - 130	7.61	30	
Naphthalene	2920	100	4,109.664	ND	71.1	40 - 140	2.19	30	
2-Nitrophenol	2400	210	4,109.664	ND	58.3	30 - 130	13.0	30	
2,4-Dichlorophenol	3060	210	4,109.664	ND	74.5	30 - 130	1.10	30	
Hexachlorobutadiene	2870	210	4,109.664	ND	69.8	40 - 140	1.79	30	

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (B3C0205-MSD1) - Continued		**Source: 3030028-01**			Prepared: 3/2/2023 Analyzed: 3/3/2023				
4-Chloro-3-methylphenol	3290	210	4,109.664	ND	80.1	30 - 130	3.02	30	
Nitrobenzene	2920	210	4,109.664	ND	70.9	40 - 140	6.32	30	
Isophorone	3050	210	4,109.664	ND	74.3	40 - 140	3.70	30	
2,4-Dimethylphenol	3010	210	4,109.664	ND	73.3	30 - 130	**41.1**	30	**D**
bis(2-Chloroethoxy)methane	3210	210	4,109.664	ND	78.0	40 - 140	3.45	30	
Benzoic Acid	2680	210	4,109.664	ND	65.2	30 - 130	1.28	30	
1,2,4-Trichlorobenzene	2900	210	4,109.664	ND	70.5	40 - 140	3.55	30	
2,6-Dichlorophenol	3050	210	4,109.664	ND	74.1	30 - 130	0.528	30	
4-Chloroaniline	2650	210	4,109.664	ND	64.5	40 - 140	3.82	30	
1,2,4,5-Tetrachlorobenzene	2980	210	4,109.664	ND	72.6	40 - 140	2.58	30	
2-Methyl Naphthalene	3050	210	4,109.664	ND	74.1	40 - 140	2.46	30	
Acenaphthylene	3210	100	4,109.664	112	75.3	40 - 140	1.67	30	
Acenaphthene	3180	100	4,109.664	ND	77.4	40 - 140	1.97	30	
Dibenzofuran	3010	210	4,109.664	ND	73.3	40 - 140	1.18	30	
Fluorene	3200	100	4,109.664	ND	77.9	40 - 140	1.87	30	
Hexachlorocyclopentadiene	331	210	4,109.664	ND	**8.06**	40 - 140	**65.7**	30	**L,D**
2,4,6-Trichlorophenol	2990	210	4,109.664	ND	72.7	30 - 130	1.01	30	
2,4,5-Trichlorophenol	3330	210	4,109.664	ND	80.9	30 - 130	0.423	30	
2,4-Dinitrophenol	478	210	4,109.664	ND	**11.6**	30 - 130	**43.7**	30	**L,D**
4-Nitrophenol	2460	210	4,109.664	ND	59.9	30 - 130	4.18	30	
2-Chloronaphthalene	3020	210	4,109.664	ND	73.5	40 - 140	3.25	30	
2-Nitroaniline	3420	210	4,109.664	ND	83.1	40 - 140	4.19	30	
Dimethylphthalate	3080	210	4,109.664	ND	75.0	40 - 140	4.17	30	
2,6-Dinitrotoluene	2490	210	4,109.664	ND	60.6	40 - 140	15.2	30	
4-Nitroaniline	2740	210	4,109.664	ND	66.6	40 - 140	4.83	30	
2,4-Dinitrotoluene	2490	210	4,109.664	ND	60.7	40 - 140	15.2	30	
2,3,4,6-Tetrachlorophenol	3130	210	4,109.664	ND	76.3	30 - 130	2.35	30	
4-Chlorophenyl-phenylether	3110	210	4,109.664	ND	75.6	40 - 140	0.740	30	
Diethylphthalate	3110	210	4,109.664	ND	75.6	40 - 140	2.92	30	
Phenanthrene	3380	100	4,109.664	151	78.5	40 - 140	1.02	30	
Anthracene	3400	100	4,109.664	95.4	80.5	40 - 140	1.42	30	
Carbazole	3140	210	4,109.664	ND	76.5	40 - 140	1.97	30	
Fluoranthene	3690	100	4,109.664	380	80.4	40 - 140	1.99	30	
Pyrene	3750	100	4,109.664	368	82.3	40 - 140	0.652	30	
n-Nitrosodiphenylamine	3770	210	4,109.664	ND	91.8	40 - 140	2.46	30	
Pentachlorophenol	2300	210	4,109.664	ND	56.0	30 - 130	0.678	30	
3-Nitroaniline	3220	210	4,109.664	ND	78.5	40 - 140	1.56	30	
4,6-Dinitro-2-methylphenol	398	210	4,109.664	ND	**9.69**	30 - 130	**64.9**	30	**L,D**
1,2-Diphenylhydrazine	3200	210	4,109.664	ND	77.8	40 - 140	2.34	30	
4-Bromophenyl-phenylether	3220	210	4,109.664	ND	78.2	40 - 140	1.10	30	
Hexachlorobenzene	3200	210	4,109.664	ND	77.9	40 - 140	1.51	30	
Di-n-butylphthalate	3450	210	4,109.664	ND	83.9	40 - 140	0.0366	30	
Pentachloronitrobenzene	2380	210	4,109.664	ND	58.0	40 - 140	19.1	30	
Benzo[a]anthracene	3390	100	4,109.664	219	77.0	40 - 140	2.43	30	
Chrysene	3510	100	4,109.664	261	79.0	40 - 140	1.81	30	
Butylbenzylphthalate	3720	210	4,109.664	ND	90.6	40 - 140	1.52	30	
3,3-Dichlorobenzidine	2030	210	4,109.664	ND	49.4	40 - 140	1.79	30	
bis(2-Ethylhexyl)phthalate	3940	210	4,109.664	ND	95.8	40 - 140	4.43	30	
Di-n-octylphthalate	4050	210	4,109.664	ND	98.5	40 - 140	2.34	30	
Benzo[b]fluoranthene	3580	100	4,109.664	346	78.7	40 - 140	3.37	30	
Benzo[k]fluoranthene	3480	100	4,109.664	154	80.8	40 - 140	6.19	30	
Benzo[a]pyrene	3700	100	4,109.664	267	83.6	40 - 140	1.42	30	
Indeno[1,2,3-cd]pyrene	3590	100	4,109.664	163	83.5	40 - 140	1.66	30	

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (B3C0205-MSD1) - Continued		**Source: 3030028-01**			Prepared: 3/2/2023 Analyzed: 3/3/2023				
Dibenz[a,h]anthracene	3590	100	4,109.664	ND	87.5	40 - 140	1.19	30	
Benzo[g,h,i]perylene	3620	100	4,109.664	250	82.0	40 - 140	0.702	30	
Surrogate: 2-Fluorophenol					*85.2*	*30 - 130*			
Surrogate: Phenol-d6					*89.6*	*30 - 130*			
Surrogate: Nitrobenzene-d5					*74.0*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*83.8*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*93.7*	*30 - 130*			
Surrogate: Terphenyl-d14					*90.6*	*30 - 130*			

Batch B3C0213 - EPA 6010C

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0213-BLK1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Lead	ND	2.0							
Selenium	ND	2.5							
Cadmium	ND	0.50							
Chromium	ND	2.0							
Arsenic	ND	1.0							
Barium	ND	2.0							
Silver	ND	2.0							
Nickel	ND	2.0							
Zinc	ND	2.0							
Beryllium	ND	1.0							
Antimony	ND	2.0							
Thallium	ND	2.0							
Vanadium	ND	2.0							
LCS (B3C0213-BS1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Lead	20.4	1.8	22.686		90.0	80 - 120			
Selenium	42.7	2.3	45.372		94.0	80 - 120			
Cadmium	22.9	0.45	22.686		101	80 - 120			
Chromium	20.8	1.8	22.686		91.6	80 - 120			
Arsenic	21.2	0.91	22.686		93.6	80 - 120			
Barium	22.3	1.8	22.686		98.2	80 - 120			
Silver	4.33	1.8	4.537		95.4	80 - 120			
Nickel	20.8	1.8	22.686		91.9	80 - 120			
Zinc	23.6	1.8	22.686		104	80 - 120			
Beryllium	22.9	0.91	22.686		101	80 - 120			
Antimony	4.19	1.8	4.537		92.2	80 - 120			
Thallium	20.9	1.8	22.686		92.1	80 - 120			
Vanadium	20.2	1.8	22.686		89.2	80 - 120			

Batch B3C0223 - EPA 8082A

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0223-BLK1)					Prepared: 3/2/2023 Analyzed: 3/4/2023				
PCB-1016	ND	0.050							
PCB-1221	ND	0.050							
PCB-1232	ND	0.050							
PCB-1242	ND	0.050							
PCB-1248	ND	0.050							
PCB-1254	ND	0.050							
PCB-1260	ND	0.050							
PCB-1268	ND	0.050							
PCB-1262	ND	0.050							
Surrogate: TCMX [1C]					*94.6*	*30 - 150*			
Surrogate: TCMX [2C]					*96.3*	*30 - 150*			
Surrogate: DCB [1C]					*89.0*	*30 - 150*			
Surrogate: DCB [2C]					*89.9*	*30 - 150*			
LCS (B3C0223-BS1)					Prepared: 3/2/2023 Analyzed: 3/4/2023				
PCB-1016	0.864	0.050	1.000		86.4	40 - 140			
PCB-1260	0.904	0.050	1.000		90.4	40 - 140			
Surrogate: TCMX [1C]					*80.9*	*30 - 150*			
Surrogate: TCMX [2C]					*82.8*	*30 - 150*			
Surrogate: DCB [1C]					*74.2*	*30 - 150*			
Surrogate: DCB [2C]					*74.6*	*30 - 150*			

Batch B3C0228 - SW 846 Ch. 7

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0228-BLK1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Reactive Cyanide	ND	5.0							

Batch B3C0229 - SW 846 Ch. 7

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0229-BLK1)					Prepared: 3/2/2023 Analyzed: 3/2/2023				
Reactive Sulfide	ND	20							

Batch B3C0241 - EPA 9045D

Analyte	Result (pH Units)	RL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0241-BLK1)						Prepared: 3/2/2023 Analyzed: 3/2/2023			
pH	5.95								

Batch B3C0313 - EPA 7471B

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0313-BLK1)					Prepared: 3/3/2023 Analyzed: 3/3/2023				
Mercury	ND	0.13							
LCS (B3C0313-BS1)					Prepared: 3/3/2023 Analyzed: 3/3/2023				
Mercury	1.29	0.13	1.250		103	80 - 120			

Batch B3C0330 - SM 2510 B Mod.

Analyte	Result (umhos/cm)	RL (umhos/cm)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0330-BLK1)					Prepared: 3/3/2023 Analyzed: 3/3/2023				
Conductivity	ND	2.0							

Batch B3C0333 - EPA 8260C

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0333-BLK1)					Prepared: 3/3/2023 Analyzed: 3/3/2023				
Dichlorodifluoromethane	ND	7.5							
Chloromethane	ND	5.0							
Vinyl Chloride	ND	2.5							
Bromomethane	ND	5.0							
Chloroethane	ND	5.0							
Trichlorofluoromethane	ND	20							
Acetone	ND	75							
Acrylonitrile	ND	4.0							
Trichlorotrifluoroethane	ND	20							
1,1-Dichloroethene	ND	2.5							
Methylene Chloride	ND	30							
Carbon Disulfide	ND	5.0							
Methyl-t-Butyl Ether (MTBE)	ND	2.5							
trans-1,2-Dichloroethene	ND	2.5							
1,1-Dichloroethane	ND	2.5							
2-Butanone (MEK)	ND	13							
2,2-Dichloropropane	ND	2.5							
cis-1,2-Dichloroethene	ND	2.5							
Bromochloromethane	ND	2.5							
Chloroform	ND	2.5							
Tetrahydrofuran	ND	13							
1,1,1-Trichloroethane	ND	2.5							
Carbon Tetrachloride	ND	2.5							
1,1-Dichloropropene	ND	2.5							
Benzene	ND	2.5							
1,2-Dichloroethane	ND	2.5							
Trichloroethene	ND	2.5							
1,2-Dichloropropane	ND	2.5							
Dibromomethane	ND	2.5							
Bromodichloromethane	ND	2.5							
Methyl Isobutyl Ketone	ND	13							
cis-1,3-Dichloropropene	ND	2.5							
Toluene	ND	2.5							
trans-1,3-Dichloropropene	ND	2.5							
2-Hexanone	ND	13							
1,1,2-Trichloroethane	ND	2.5							
Tetrachloroethene	ND	2.5							
1,3-Dichloropropane	ND	2.5							
Dibromochloromethane	ND	2.5							
1,2-Dibromoethane	ND	2.5							
trans-1,4-Dichloro-2-Butene	ND	13							
Chlorobenzene	ND	2.5							
1,1,1,2-Tetrachloroethane	ND	2.5							
Ethylbenzene	ND	2.5							
m+p Xylenes	ND	5.0							
o-Xylene	ND	2.5							
Styrene	ND	2.5							
Bromoform	ND	2.5							
Isopropylbenzene	ND	2.5							
1,1,2,2-Tetrachloroethane	ND	2.5							
Bromobenzene	ND	2.5							
1,2,3-Trichloropropane	ND	2.5							

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B3C0333-BLK1) - Continued					Prepared: 3/3/2023 Analyzed: 3/3/2023				
n-Propylbenzene	ND	2.5							
2-Chlorotoluene	ND	2.5							
4-Chlorotoluene	ND	2.5							
1,3,5-Trimethylbenzene	ND	2.5							
tert-Butylbenzene	ND	2.5							
1,2,4-Trimethylbenzene	ND	2.5							
sec-Butylbenzene	ND	2.5							
1,3-Dichlorobenzene	ND	2.5							
4-Isopropyltoluene	ND	2.5							
1,4-Dichlorobenzene	ND	2.5							
1,2-Dichlorobenzene	ND	2.5							
n-Butylbenzene	ND	2.5							
1,2-Dibromo-3-Chloropropane	ND	2.5							
1,2,4-Trichlorobenzene	ND	2.5							
Hexachlorobutadiene	ND	2.5							
Naphthalene	ND	5.0							
1,2,3-Trichlorobenzene	ND	5.0							
Surrogate: 1,2-Dichloroethane-d4					*90.8*	*70 - 130*			
Surrogate: Toluene-d8					*95.4*	*70 - 130*			
Surrogate: 4-Bromofluorobenzene					*104*	*70 - 130*			
LCS (B3C0333-BS1)					Prepared: 3/3/2023 Analyzed: 3/3/2023				
Dichlorodifluoromethane	51.3	7.5	50.000		103	70 - 130			
Chloromethane	44.8	5.0	50.000		89.6	70 - 130			
Vinyl Chloride	42.3	2.5	50.000		84.5	70 - 130			
Bromomethane	46.3	5.0	50.000		92.5	70 - 130			
Chloroethane	48.5	5.0	50.000		97.0	70 - 130			
Trichlorofluoromethane	38.3	20	50.000		76.5	70 - 130			
Acetone	94.1	75	100.000		94.1	70 - 130			
Acrylonitrile	48.0	4.0	50.000		95.9	70 - 130			
Trichlorotrifluoroethane	33.7	20	50.000		**67.4**	70 - 130			**L**
1,1-Dichloroethene	35.8	2.5	50.000		71.7	70 - 130			
Methylene Chloride	39.3	30	50.000		78.6	70 - 130			
Carbon Disulfide	36.1	5.0	50.000		72.2	70 - 130			
Methyl-t-Butyl Ether (MTBE)	43.5	2.5	50.000		86.9	70 - 130			
trans-1,2-Dichloroethene	35.8	2.5	50.000		71.6	70 - 130			
1,1-Dichloroethane	36.1	2.5	50.000		72.2	70 - 130			
2-Butanone (MEK)	118	13	100.000		118	70 - 130			
2,2-Dichloropropane	42.7	2.5	50.000		85.4	70 - 130			
cis-1,2-Dichloroethene	37.2	2.5	50.000		74.4	70 - 130			
Bromochloromethane	37.6	2.5	50.000		75.1	70 - 130			
Chloroform	37.0	2.5	50.000		73.9	70 - 130			
Tetrahydrofuran	55.9	13	50.000		112	70 - 130			
1,1,1-Trichloroethane	40.5	2.5	50.000		81.0	70 - 130			
Carbon Tetrachloride	39.5	2.5	50.000		79.0	70 - 130			
1,1-Dichloropropene	39.7	2.5	50.000		79.4	70 - 130			
Benzene	39.5	2.5	50.000		79.1	70 - 130			
1,2-Dichloroethane	42.2	2.5	50.000		84.5	70 - 130			
Trichloroethene	41.2	2.5	50.000		82.3	70 - 130			
1,2-Dichloropropane	41.3	2.5	50.000		82.6	70 - 130			
Dibromomethane	47.3	2.5	50.000		94.7	70 - 130			
Bromodichloromethane	42.0	2.5	50.000		84.1	70 - 130			
Methyl Isobutyl Ketone	93.0	13	100.000		93.0	70 - 130			

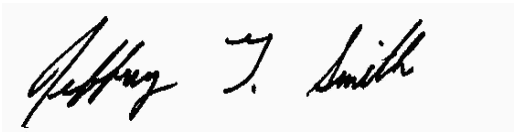
Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B3C0333-BS1) - Continued					Prepared: 3/3/2023 Analyzed: 3/3/2023				
cis-1,3-Dichloropropene	39.2	2.5	50.000		78.3	70 - 130			
Toluene	35.5	2.5	50.000		71.0	70 - 130			
trans-1,3-Dichloropropene	41.5	2.5	50.000		83.0	70 - 130			
2-Hexanone	98.2	13	100.000		98.2	70 - 130			
1,1,2-Trichloroethane	39.2	2.5	50.000		78.3	70 - 130			
Tetrachloroethene	37.2	2.5	50.000		74.5	70 - 130			
1,3-Dichloropropane	38.7	2.5	50.000		77.3	70 - 130			
Dibromochloromethane	46.3	2.5	50.000		92.7	70 - 130			
1,2-Dibromoethane	46.6	2.5	50.000		93.1	70 - 130			
trans-1,4-Dichloro-2-Butene	51.9	13	50.000		104	70 - 130			
Chlorobenzene	41.4	2.5	50.000		82.8	70 - 130			
1,1,1,2-Tetrachloroethane	44.5	2.5	50.000		89.0	70 - 130			
Ethylbenzene	40.0	2.5	50.000		79.9	70 - 130			
m+p Xylenes	85.2	5.0	100.000		85.2	70 - 130			
o-Xylene	46.2	2.5	50.000		92.5	70 - 130			
Styrene	46.0	2.5	50.000		92.1	70 - 130			
Bromoform	55.5	2.5	50.000		111	70 - 130			
Isopropylbenzene	46.2	2.5	50.000		92.5	70 - 130			
1,1,2,2-Tetrachloroethane	53.8	2.5	50.000		108	70 - 130			
Bromobenzene	42.5	2.5	50.000		85.1	70 - 130			
1,2,3-Trichloropropane	51.6	2.5	50.000		103	70 - 130			
n-Propylbenzene	42.0	2.5	50.000		83.9	70 - 130			
2-Chlorotoluene	42.2	2.5	50.000		84.3	70 - 130			
4-Chlorotoluene	41.7	2.5	50.000		83.4	70 - 130			
1,3,5-Trimethylbenzene	42.8	2.5	50.000		85.6	70 - 130			
tert-Butylbenzene	44.2	2.5	50.000		88.3	70 - 130			
1,2,4-Trimethylbenzene	42.8	2.5	50.000		85.6	70 - 130			
sec-Butylbenzene	43.4	2.5	50.000		86.8	70 - 130			
1,3-Dichlorobenzene	43.2	2.5	50.000		86.4	70 - 130			
4-Isopropyltoluene	44.2	2.5	50.000		88.4	70 - 130			
1,4-Dichlorobenzene	43.0	2.5	50.000		85.9	70 - 130			
1,2-Dichlorobenzene	45.1	2.5	50.000		90.1	70 - 130			
n-Butylbenzene	42.9	2.5	50.000		85.7	70 - 130			
1,2-Dibromo-3-Chloropropane	62.1	2.5	50.000		124	70 - 130			
1,2,4-Trichlorobenzene	48.3	2.5	50.000		96.7	70 - 130			
Hexachlorobutadiene	45.9	2.5	50.000		91.7	70 - 130			
Naphthalene	54.6	5.0	50.000		109	70 - 130			
1,2,3-Trichlorobenzene	47.7	5.0	50.000		95.4	70 - 130			
Surrogate: 1,2-Dichloroethane-d4					*90.5*	*70 - 130*			
Surrogate: Toluene-d8					*87.5*	*70 - 130*			
Surrogate: 4-Bromofluorobenzene					*110*	*70 - 130*			

All questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

David Ditta
Laboratory Director

This technical report was reviewed by Jeffrey Smith



Project Manager

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Report Comments:

Sample Result Flags:
E- The result is estimated, above the calibration range.
H- The surrogate recovery is above the control limits.
L- The surrogate recovery is below the control limits.
B- The compound was detected in the laboratory blank.
P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
+- The Surrogate was diluted out.
*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
*I- Analyte exceeds method limits from second source standard in Initial Calibration Verification (ICV). No directional bias.

All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.

For Percent Solids, if any of the following prep methods (3050B, 3540C, 3545A, 3550C, 5035 and 9013A) were used for samples pertaining to this report, the percent solids procedure is within that prep method.

Complete Environmental Testing is only responsible for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt.

ND is None Detected at or above the specified reporting limit
Reporting Limit (RL) is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

80 Lupes Drive
Stratford, CT 06615

COMPLETE ENVIRONMENTAL TESTING, INC.

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration	An analytical standard analyzed with each set of samples to verify initial calibration of the system.
Batch	Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	RL is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate	Result from the duplicate analysis of a sample.
Result	Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.

NELAP ACCREDITED TNI LABORATORY

Connecticut Laboratory Certification PH0116
Massachussets Laboratory Certification M-CT903
Pennsylvania NELAP Accreditation 68-02927

New York NELAP Accreditation 11982
Rhode Island Certification 199

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Complete Environmental Testing, Inc. ***Client:*** Haley & Aldrich

Project Location: FOG Receiving Station and Fuel Storage Tank ***Project Number:*** 0206976-000

Laboratory Sample ID(s): ***Sample Date(s):***

3030028-01 thru 3030028-02 03/01/2023

List RCP Methods Used: ***CET #:*** 3030028

CT-ETPH, EPA 6010C, EPA 7471B, EPA 8082A, EPA 8260C, EPA 8270D

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CT DEP Reasonable Confidence Protocol documents achieved?	☐ Yes ☑ No
5a	a) Were reporting limits specified or referenced on the chain-of-custody?	☐ Yes ☑ No
5b	b) Were these reporting limits met?	☐ Yes ☐ No
6	For each analytical method referenced in this laboratory report package, were results reported for all consituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No
7	Are project specific matrix spikes and laboratory duplicates included with this data set?	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature:  **Position:** Laboratory Director

Printed Name: David Ditta **Date:** 03/06/2023

Name of Laboratory: Complete Environmental Testing, Inc.

This certification form is to be used for RCP methods only.

RCP Case Narrative

4- See Exceptions Report Below

6- The client requested a subset of the RCP metals list.

Analyte	QC Type	Exception	Result	RPD	Recovery (%)	Batch/Sequence Sample ID
2,4-Dinitrophenol	LCS	Low	518		13.0	B3C0205
4,6-Dinitro-2-methylphenol	LCS	Low	1140		28.4	B3C0205
Benzoic Acid	LCS	Low	967		24.2	B3C0205
Hexachlorocyclopentadiene	LCS	Low	1290		32.4	B3C0205
n-Nitroso-dimethylamine	LCS	Low	1420		35.5	B3C0205
Pyridine	LCS	Low	988		24.7	B3C0205
2,4-Dinitrophenol	MS	Low			17.9	3030028-01
4,6-Dinitro-2-methylphenol	MS	Low			18.8	3030028-01
Benzyl Alcohol	MS	Low			7.85	3030028-01
Hexachlorocyclopentadiene	MS	Low			15.7	3030028-01
2,4-Dimethylphenol	MSD	>RPD		41.1		3030028-01
2,4-Dinitrophenol	MSD	Low			11.6	3030028-01
2,4-Dinitrophenol	MSD	>RPD		43.7		3030028-01
4,6-Dinitro-2-methylphenol	MSD	Low			9.69	3030028-01
4,6-Dinitro-2-methylphenol	MSD	>RPD		64.9		3030028-01
Benzyl Alcohol	MSD	Low			8.01	3030028-01
Hexachlorocyclopentadiene	MSD	Low			8.06	3030028-01
Hexachlorocyclopentadiene	MSD	>RPD		65.7		3030028-01
Trichlorotrifluoroethane	LCS	Low	33.7		67.4	B3C0333
3,3-Dichlorobenzidine	CC	High	64900		130	S3C0216
bis(2-Ethylhexyl)phthalate	CC	High	63200		126	S3C0216
Di-n-octylphthalate	CC	High	67200		134	S3C0216
Aniline	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
n-Nitrosodiphenylamine	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
Aniline	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
4-Nitroaniline	CC	High	64600		129	S3C0302
Aniline	CC	High	61500		123	S3C0302
bis(2-Chloroisopropyl)ether	CC	High	62800		126	S3C0302
bis(2-Ethylhexyl)phthalate	CC	High	64200		128	S3C0302
Di-n-butylphthalate	CC	High	61200		122	S3C0302
Di-n-octylphthalate	CC	High	65100		130	S3C0302
Aniline	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
1,1-Dichloroethane	CC	Low	38.4		76.8	S3C0606
1,1-Dichloroethene	CC	Low	37.5		75.1	S3C0606
Acetone	CC	Low	76.1		76.1	S3C0606
Bromochloromethane	CC	Low	38.0		76.0	S3C0606
Carbon Disulfide	CC	Low	37.4		74.7	S3C0606
Chloroethane	CC	High	62.8		126	S3C0606
cis-1,2-Dichloroethene	CC	Low	39.8		79.5	S3C0606
Dichlorodifluoromethane	CC	High	60.4		121	S3C0606
trans-1,2-Dichloroethene	CC	Low	37.8		75.5	S3C0606
Trichlorotrifluoroethane	CC	Low	36.1		72.2	S3C0606
1,1-Dichloroethene	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				

Carbon Disulfide	ICV	Analyte exceeds method limit of second source standard. Non-directional bias
Dichlorodifluoromethane	ICV	Analyte exceeds method limit of second source standard. Non-directional bias
Tetrahydrofuran	ICV	Analyte exceeds method limit of second source standard. Non-directional bias

QC Batch/Sequence Report

Batch	Sequence	CET ID	Sample ID	Specific Method	Matrix	Collection Date
B3C0201		3030028-01	S1 1-5ft	CT-ETPH	Soil	03/01/2023
B3C0201		3030028-02	S2 5-9ft	CT-ETPH	Soil	03/01/2023
B3C0226		3030028-01	S1 1-5ft	EPA 1010A	Soil	03/01/2023
B3C0226		3030028-02	S2 5-9ft	EPA 1010A	Soil	03/01/2023
B3C0213	S3C0213	3030028-01	S1 1-5ft	EPA 6010C	Soil	03/01/2023
B3C0213	S3C0213	3030028-02	S2 5-9ft	EPA 6010C	Soil	03/01/2023
B3C0313		3030028-01	S1 1-5ft	EPA 7471B	Soil	03/01/2023
B3C0313		3030028-02	S2 5-9ft	EPA 7471B	Soil	03/01/2023
B3C0223	S3C0304	3030028-01	S1 1-5ft	EPA 8082A	Soil	03/01/2023
B3C0223	S3C0304	3030028-02	S2 5-9ft	EPA 8082A	Soil	03/01/2023
B3C0333	S3C0606	3030028-01	S1 1-5ft	EPA 8260C	Soil	03/01/2023
B3C0333	S3C0606	3030028-02	S2 5-9ft	EPA 8260C	Soil	03/01/2023
B3C0205	S3C0216	3030028-01	S1 1-5ft	EPA 8270D	Soil	03/01/2023
B3C0205	S3C0302	3030028-02	S2 5-9ft	EPA 8270D	Soil	03/01/2023
B3C0241		3030028-01	S1 1-5ft	EPA 9045D	Soil	03/01/2023
B3C0241		3030028-02	S2 5-9ft	EPA 9045D	Soil	03/01/2023
B3C0330		3030028-01	S1 1-5ft	SM 2510 B Mod.	Soil	03/01/2023
B3C0330		3030028-02	S2 5-9ft	SM 2510 B Mod.	Soil	03/01/2023
B3C0228		3030028-01	S1 1-5ft	SW 846 Ch. 7	Soil	03/01/2023
B3C0228		3030028-02	S2 5-9ft	SW 846 Ch. 7	Soil	03/01/2023
B3C0229		3030028-01	S1 1-5ft	SW 846 Ch. 7	Soil	03/01/2023
B3C0229		3030028-02	S2 5-9ft	SW 846 Ch. 7	Soil	03/01/2023

Certified Analyses included in this Report

Analyte	Certifications
CT-ETPH in Soil	
ETPH	CT
EPA 1010A in Soil	
Flashpoint	CT,NY,PA
EPA 6010C in Soil	
Lead	CT,NY,PA
Selenium	CT,NY,PA
Cadmium	CT,NY,PA
Chromium	CT,NY,PA
Arsenic	CT,NY,PA
Barium	CT,NY,PA
Silver	CT,NY,PA
Nickel	CT,NY,PA
Zinc	CT,NY,PA
Beryllium	CT,NY,PA
Antimony	CT,NY,PA
Thallium	CT,NY,PA
Vanadium	CT,NY
EPA 7471B in Soil	
Mercury	CT,NY,PA
EPA 8082A in Soil	
PCB-1016	CT,NY,PA
PCB-1221	CT,NY,PA
PCB-1232	CT,NY,PA
PCB-1242	CT,NY,PA
PCB-1248	CT,NY,PA
PCB-1254	CT,NY,PA
PCB-1260	CT,NY,PA
PCB-1268	CT,NY,PA
PCB-1262	NY,PA
EPA 8260C in Soil	
Dichlorodifluoromethane	CT,NY,PA
Chloromethane	CT,NY,PA
Vinyl Chloride	CT,NY,PA
Bromomethane	CT,NY,PA
Chloroethane	CT,NY,PA
Trichlorofluoromethane	CT,NY,PA
Acetone	CT,NY,PA
Acrylonitrile	CT
Trichlorotrifluoroethane	CT,NY,PA
1,1-Dichloroethene	CT,NY,PA
Methylene Chloride	CT,NY,PA
Carbon Disulfide	CT,NY,PA
Methyl-t-Butyl Ether (MTBE)	CT,NY,PA
trans-1,2-Dichloroethene	CT,NY,PA
1,1-Dichloroethane	CT,NY,PA
2-Butanone (MEK)	CT,NY,PA
2,2-Dichloropropane	CT,NY,PA

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Soil	
cis-1,2-Dichloroethene	CT,NY,PA
Bromochloromethane	CT,NY,PA
Chloroform	CT,NY,PA
Tetrahydrofuran	CT
1,1,1-Trichloroethane	CT,NY,PA
Carbon Tetrachloride	CT,NY,PA
1,1-Dichloropropene	CT,NY,PA
Benzene	CT,NY,PA
1,2-Dichloroethane	CT,NY,PA
Trichloroethene	CT,NY,PA
1,2-Dichloropropane	CT,NY,PA
Dibromomethane	CT,NY,PA
Bromodichloromethane	CT,NY,PA
Methyl Isobutyl Ketone	CT,NY,PA
cis-1,3-Dichloropropene	CT,NY,PA
Toluene	CT,NY,PA
trans-1,3-Dichloropropene	CT,NY,PA
2-Hexanone	CT,NY,PA
1,1,2-Trichloroethane	CT,NY,PA
Tetrachloroethene	CT,NY,PA
1,3-Dichloropropane	CT,NY,PA
Dibromochloromethane	CT,NY,PA
1,2-Dibromoethane	CT,NY,PA
trans-1,4-Dichloro-2-Butene	CT,NY,PA
Chlorobenzene	CT,NY,PA
1,1,1,2-Tetrachloroethane	CT,NY,PA
Ethylbenzene	CT,NY,PA
m+p Xylenes	CT,NY,PA
o-Xylene	CT,NY,PA
Styrene	CT,NY,PA
Bromoform	CT,NY,PA
Isopropylbenzene	CT,NY,PA
1,1,2,2-Tetrachloroethane	CT,NY,PA
Bromobenzene	CT,NY,PA
1,2,3-Trichloropropane	CT,NY,PA
n-Propylbenzene	CT,NY,PA
2-Chlorotoluene	CT,NY,PA
4-Chlorotoluene	CT,NY,PA
1,3,5-Trimethylbenzene	CT,NY,PA
tert-Butylbenzene	CT,NY,PA
1,2,4-Trimethylbenzene	CT,NY,PA
sec-Butylbenzene	CT,NY,PA
1,3-Dichlorobenzene	CT,NY,PA
4-Isopropyltoluene	CT,NY,PA
1,4-Dichlorobenzene	CT,NY,PA
1,2-Dichlorobenzene	CT,NY,PA
n-Butylbenzene	CT,NY,PA
1,2-Dibromo-3-Chloropropane	CT,NY,PA
1,2,4-Trichlorobenzene	CT,NY,PA

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Soil	
Hexachlorobutadiene	CT,NY
Naphthalene	CT,NY,PA
1,2,3-Trichlorobenzene	CT
EPA 8270D in Soil	
Phenol	CT,NY,PA
1,3-Dichlorobenzene	CT,NY,PA
n-Nitroso-di-n-propylamine	CT,NY,PA
Pyridine	CT,NY,PA
n-Nitroso-dimethylamine	CT,NY,PA
bis(2-Chloroethyl)ether	CT,NY,PA
Aniline	CT,NY,PA
2-Chlorophenol	CT,NY,PA
1,4-Dichlorobenzene	CT,NY,PA
Benzyl Alcohol	CT,NY,PA
1,2-Dichlorobenzene	CT,NY,PA
bis(2-Chloroisopropyl)ether	CT,NY,PA
Hexachloroethane	CT,NY,PA
2-Methyl Phenol	CT,NY,PA
3+4 Methyl Phenol	CT,NY,PA
Naphthalene	CT,NY,PA
2-Nitrophenol	CT,NY,PA
2,4-Dichlorophenol	CT,NY,PA
Hexachlorobutadiene	CT,NY,PA
4-Chloro-3-methylphenol	CT,NY,PA
Nitrobenzene	CT,NY,PA
Isophorone	CT,NY,PA
2,4-Dimethylphenol	CT,NY,PA
bis(2-Chloroethoxy)methane	CT,NY,PA
Benzoic Acid	CT,NY,PA
1,2,4-Trichlorobenzene	CT,NY,PA
2,6-Dichlorophenol	CT,NY,PA
4-Chloroaniline	CT,NY,PA
1,2,4,5-Tetrachlorobenzene	CT,NY,PA
2-Methyl Naphthalene	CT,NY,PA
Acenaphthylene	CT,NY,PA
Acenaphthene	CT,NY,PA
Dibenzofuran	CT,NY,PA
Fluorene	CT,NY,PA
Hexachlorocyclopentadiene	CT,NY,PA
2,4,6-Trichlorophenol	CT,NY,PA
2,4,5-Trichlorophenol	CT,NY,PA
2,4-Dinitrophenol	CT,NY,PA
4-Nitrophenol	CT,NY,PA
2-Chloronaphthalene	CT,NY,PA
2-Nitroaniline	CT,NY,PA
Dimethylphthalate	CT,NY,PA
2,6-Dinitrotoluene	CT,NY,PA
4-Nitroaniline	CT,NY,PA
2,4-Dinitrotoluene	CT,NY,PA

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270D in Soil	
2,3,4,6-Tetrachlorophenol	CT,NY,PA
4-Chlorophenyl-phenylether	CT,NY,PA
Diethylphthalate	CT,NY,PA
Phenanthrene	CT,NY,PA
Anthracene	CT,NY,PA
Carbazole	CT,NY,PA
Fluoranthene	CT,NY,PA
Pyrene	CT,NY,PA
n-Nitrosodiphenylamine	CT,NY,PA
Pentachlorophenol	CT,NY,PA
3-Nitroaniline	CT,NY,PA
4,6-Dinitro-2-methylphenol	CT,NY,PA
1,2-Diphenylhydrazine	CT
4-Bromophenyl-phenylether	CT,NY,PA
Hexachlorobenzene	CT,NY,PA
Di-n-butylphthalate	CT,NY,PA
Pentachloronitrobenzene	CT,NY
Benzo[a]anthracene	CT,NY,PA
Chrysene	CT,NY,PA
Butylbenzylphthalate	CT,NY,PA
3,3-Dichlorobenzidine	CT,NY
bis(2-Ethylhexyl)phthalate	CT,NY,PA
Di-n-octylphthalate	CT,NY,PA
Benzo[b]fluoranthene	CT,NY,PA
Benzo[k]fluoranthene	CT,NY,PA
Benzo[a]pyrene	CT,NY,PA
Indeno[1,2,3-cd]pyrene	CT,NY,PA
Dibenz[a,h]anthracene	CT,NY,PA
Benzo[g,h,i]perylene	CT,NY,PA
EPA 9045D in Soil	
pH	CT,NY,PA
SM 2540 G in Soil	
Percent Solids	CT
SW 846 Ch. 7 in Soil	
Reactive Cyanide	CT
Reactive Sulfide	CT

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2024
NY	New York Certification (NELAC)	11982	04/01/2023
PA	Pennsylvania DEP	68-02927	05/31/2023

HALEY ALDRICH
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Rocky Hill, CT 06067
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Fax (860) 712-0612

3030028

CHAIN OF CUSTODY RECORD

Page 1 of 1

H&A FILE NO.	0206976-000	LABORATORY	CET
PROJECT NAME	Proposed FOG Receiving Station and Fuel Sotrage Tank Reloc.	ADDRESS	80 Lupes Drive, Stratford, CT
H&A CONTACT	kperez@haleyaldrich.com	CONTACT	Dave Ditta

DELIVERY DATE
TURNAROUND TIME: Normal
PROJECT MANAGER: K. Perez

Sample No.	Date	Time	Depth	Type	VOCs by 8260	Semi VOCs by 8270	MCP 14 Metals	PCBs	ETPH	pH	Flashpoint	Reactive Sulfide and Cyanide	Conductivity					Number of Containers
S1_1-5	3/1/23	0915	1-5	SO	X	X	X	X	X	X	X	X	X					4
S2_5-9	3/1/23	0930	5-9	SO	X	X	X	X	X	X	X	X	X					4

Analysis Requested

Comments (special instructions, precautions, additional method numbers, etc.)

Please Analyze As Indicated:

Sampled and Relinquished by	Received by
Sign Joseph Franklin	Sign
Print Joseph Franklin	Print ROBBO PERGAMENT
Firm Haley & Aldrich, Inc	Firm CET
Date 3/1/23 Time	Date 3/1/23 Time 1850
Relinquished by	**Received by**
Sign	Sign
Print ROBBO PERGAMENT	Print
Firm CET	Firm
Date 3/1/23 Time 1500	Date 3-1-23 Time 1500
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date Time

LIQUID														
														VOA Vial
														Clear Glass
														Plastic Bottle
														Preservative
														Volume

SOLID													
X													VOA Vial
													Amber Glass
	X	X	X	X	X	X	X	X	X	X		X	Clear Glass
A,G	A	A	A	A	A	A	A	A	A	A		A	Preservative
40mL	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz		8 oz.	Volume

PRESERVATION KEY

A Sample chilled B Sample filtered C NaOH D HNO_3 E H_2SO_4 F HCL G Methanol H Sodium Bisulfate

Sampling Comments

CET freezer 3-1-23 1515

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Form #3204

APPENDIX F
Soil Group Definitions

Group I:

- Group I-1: Naturally-deposited soils or fill soils that contain no detectable substances other than metals at or below background conditions typical for natural soils, and meet CTDEEP Residential Direct Exposure Criteria (RDEC), Pollutant Mobility Criteria (PMC) for areas with groundwater classified "GA" by the CTDEEP (GA-PMC), and Residential Soil Vapor Criteria (RSVC).

- Group I-2a: Naturally-deposited soils (Polluted Soils) or artificially-deposited fill (Polluted Fill) that contain substances at concentrations above laboratory detection limits but below CTDEEP RDEC, GA-PMC, RSVC, and that are not otherwise a hazardous waste, as specified in CTDEEP Regulations.

- Group I-2b: Naturally-deposited soils (Polluted Soils) or artificially-deposited fill (Polluted Fill) that contain substances at concentrations above laboratory detection limits but below CTDEEP RDEC, GB-PMC, RSVC, and that are not otherwise a hazardous waste, as specified in CTDEEP Regulations.

- Group I-3: Naturally-deposited soils (Polluted Soils) or artificially-deposited fill (Polluted Fill) that contain substances at concentrations above laboratory detection limits but below CTDEEP RDEC and RSVC, above GB-PMC, and that are not otherwise a hazardous waste, as specified in CTDEEP Regulations.

Group II: Soils that contain substances at concentrations above applicable RDEC (i.e., contaminated soils).

- Group II-1: Soils that meet all applicable criteria (i.e., COMM-97-001 and/or facility-specific permit requirements) for reuse as daily cover, intermediate cover, or pre-cap contouring material at Massachusetts unlined landfills; or reused at other facilities proposed by the Contractor and approved by the Owner.

- Group II-2: Soils that meet all applicable criteria (i.e., COMM-97-001 and/or facility-specific permit requirements) for reuse as daily cover, intermediate cover, or pre-cap contouring material at Massachusetts lined landfills; or reused at other facilities proposed by the Contractor and approved by the Owner.

- Group II-3: Soils that exceed Massachusetts landfill criteria (i.e., COMM-97-001 and/or facility-specific permit requirements), but meet all applicable criteria for asphalt batching at the proposed facility, and are not classified as a RCRA Hazardous Waste.

- Group II-4: Soils that require removal to regional thermal treatment facilities or out-of-state recycling facilities, and are not classified as a RCRA Hazardous Waste.

- Group II-5: Soils that require removal to regional disposal facilities, and are not classified as a RCRA Hazardous Waste.

Group III (Hazardous Waste)

- Group III-1: Soils determined to contain "listed" or "characteristic" hazardous waste constituents that cannot be readily treated on-site. These soils must be transported to an approved out-of-state RCRA Subtitle C hazardous waste disposal or treatment facility.

- Group III-2: Soils determined to contain "listed" or "characteristic" hazardous waste constituents that can be readily treated on-site to remove applicable leachable contaminant concentrations. Following treatment, the material will be reclassified depending on other contaminants and disposed of at a Group II-2, II-3, II-4, or II-5 facility, as applicable.

Group IV (Solid Waste): Debris such as paper, glass, wood, metal, timber piles, timber cribbing, steel sheeting, and miscellaneous rubble shall be disposed at CTDEEP-approved solid waste landfills or processed and recycled if possible. Pursuant to CTDEEP's Solid Waste Regulations, if greater than ten cubic yards of Solid Waste are disposed at a location, it constitutes a Solid Waste Disposal Area. If significant amounts of Solid Waste materials are encountered in excavated materials at the site, discussion with the CTDEEP may be necessary to confirm the applicable requirements.