Date: September 4, 2020

To: All Interested Parties

From: Town of Cheverly, Cheverly,
6401 Forest Road
Cheverly, MD 20785

SUBJECT: Invitation for Bid (PW-IFB-FY2021-003)
Underground Storage Tank (UST) Removal
Town of Cheverly Public Works Yard
6401 Forest Road, Cheverly, Maryland 20785

The Town of Cheverly is requesting a bid for all permitting, construction, and documentation needed for the removal of two underground storage tank (UST) systems, one fuel island canopy, and associated UST appurtenances in Cheverly, Maryland. The Contractor shall be fully equipped, staffed, and licensed for the work to be performed in compliance with all federal, state, and local requirements. The Contractor shall be responsible for providing all equipment required for work to be performed, for the duration of the contract.

The Contractor shall be responsible for fully understanding Scope of Work, laws, regulations, and other requirements of this Invitation for Bid (IFB) and the resulting contract. Bid submission constitutes a representation of compliance by the Contractor. Refer to the attached IFB for details. The Town of Cheverly reserves the right to modify, amend, or cancel this IFB. If amendment to this IFB is required, written notice of the amendment will be posted as an addendum to all bidders on the Town of Cheverly's website, the Maryland Municipal League's website, and any other relevant websites.

A pre-bid meeting will be held at the site at 10:00 a.m. on Tuesday, September 15, 2020. The Town's Consulting Engineer will be present.

All questions and inquiries for additional information shall be submitted via email to the Town's Consulting Engineer. Email inquiries shall be sent to Nelson Brooks at nbrooks@eaest.com (and copied to Steve Brayman at sbrayman@cheverly-md.gov) no later than 11:00 a.m. on Thursday, September 17, 2020. Questions and inquiries must note "**IFB PW-IFB-FY2021-003**" in the email subject line. Questions will be compiled, and written responses provided no later than Monday, September 21, 2020.

Sealed hard copy bids are due via hand delivery, US Mail, or other delivery service by **10:00 a.m. on Thursday, September 24, 2020**. Any bids received after this time will not be considered and returned unopened. An electronic copy (scanned copy) of the fully completed and executed bid and associated documents must be included in the sealed bid on a **USB thumb drive in PDF format**.

The sealed bid must be labeled:

PROPOSAL: REMOVAL OF UNDERGROUND STORAGE TANKS (USTs) AND REMEDIATION OF PETROLEUM IMPACTED MEDIA.

IFB PW-IFB-FY2021-003

Attention: Dylan O. Galloway, Town Administrator
6401 Forest Road
Cheverly, MD 20785

The bid opening will be done via Zoom. Parties interested in participating in the bid opening Zoom meeting should indicate so on sealed bid label with email address to send the Zoom meeting invitation. If possible, the Town will advertise on its website the Zoom meeting information. The estimated award date is **September 24, 2020**. We look forward to receiving your bid.

INVITATION FOR BID

Underground Storage Tank Removal
Town of Cheverly Public Works Yard
6401 Forest Road, Cheverly, Maryland 20785

IFB PW-IFB-FY2021-003

DATE: September 4, 2020

BIDS DUE: 10:00 a.m. on Thursday, September 24, 2020

SCOPE OF WORK

1. GENERAL DESCRIPTION

The Town of Cheverly owns and operates the Public Works Yard located at 6401 Forest Road, Cheverly, Maryland 20785. There is currently one (1) 10,000-gallon (gal) diesel underground storage tank (UST) in use and one (1) 10,000-gal gasohol UST, which was emptied of liquids to less than 1 inch in November 2019 and taken out of service. According to the Maryland Department of the Environment (MDE) database, the diesel tank (MDE ID No. 002) was installed in 1990 and is constructed of steel with a fiberglass reinforced plastic (FRP) coating to reduce external corrosion. The same record indicates the gasohol tank (MDE ID No. 001) was installed in 1990 and is also constructed of steel with a FRP coating. Two mechanical dispensers pull fuel from the USTs via suction through single-walled FRP piping. They are located under a two (2) column canopy and are authorized for dispensing by a Fuel Master Unit. The tanks are currently monitored by a Veeder-Root TLS-350R.

A Limited Subsurface Investigation of the soil and groundwater within the vicinity of the two USTs at the site was conducted by EA Engineering, Science, and Technology, Inc., PBC in April 2020 (Attachment A). The findings of this investigation indicate that petroleum-impacted soil and groundwater are present in the vicinity of the two (2) USTs to be removed. See Attachment A for site figures and findings.

The scope of work for this project will include the permitting, construction, and documentation for the removal of the two (2) existing UST systems, fueling canopy, and associated UST appurtenances, as well as backfill and surface restoration at this location.

2. QUALIFICATIONS

The bid must include a brief statement of qualification and two (2)-printed-page (maximum) resumes of proposed key team members. The statement of qualification must include a summary of recent projects and a minimum of three (3) references. Qualifications for UST removal must meet requirements specified in performance specification Section 017330 (Attachment B).

3. BID TASK — UST SYSTEM REMOVAL

This bid task will include the development of the construction documents for the removal of the two (2) existing UST systems, associated appurtenances, and fueling canopy; the removal of petroleum-contaminated soil and groundwater; site restoration; and erosion and sediment control measures. This task will also include acquiring all permits and approvals necessary to complete the work, as well as the material and equipment submittals to the Town of Cheverly's Consulting Engineer approval; stakeout, construction (including labor and materials), and final acceptance. An example Contractor's Application for Payment Form is included as Attachment C. Finally, this task will include the regulatory notifications and documentation necessary for the closure and removal of the existing USTs.

The scope of work will include the following phases:

PERMITTING

The Contractor is responsible for obtaining any and all required permits and approvals required to complete Tasks 2 and 3, including but not limited to:

- Erosion and sediment control plan approved by the Prince George's Soil Conservation District per Town of Cheverly Code Section 24-24.

- Stormwater management plan or waiver approved by Prince George's County per Town of Cheverly Code Section 24-6.

- Natural Resources Inventory (NRI) or NRI Equivalency Letter submitted to Maryland-National Capital Park and Planning Commission in compliance with Woodland and Wildlife Habitat Conservation Ordinance.

- Fire Marshal inspection.

The Contractor shall design and provide a package of construction materials and specifications as necessary, adequate for the permitting submittals necessary for existing UST systems removal. Construction materials and specifications shall be developed in accordance with applicable permitting requirements and checklists. Materials will be submitted to the Town of Cheverly's Consulting Engineer for review and approval prior to submittal to permitting agencies, and the Contractor shall be prepared to address one (1) round of comments prior to permitting submittal.

PRE-CONSTRUCTION PLANNING

In addition to construction materials developed to meet applicable permit requirements, the Contractor shall perform necessary pre-construction planning as detailed in performance specification Section 017330 (Attachment B) and Section 222000 (Attachment D). This planning will include, but not be limited to, the development of a Site-Specific Health and Safety Plan, a Work Plan, a Spill Prevention and Control Plan, and a Dewatering Plan. All site work shall comply with the current proclamations and executive orders issued by Governor Larry Hogan regarding COVID-19. These documents shall be submitted to the Town of Cheverly's Consulting Engineer for approval prior to the start of any removal activities.

The Contractor shall also develop a Maintenance of Traffic Plan to be approved by the Town of Cheverly's Consulting Engineer for temporary traffic, consisting of signage and temporary pavement markings to direct vehicles around proposed construction areas and staging/stockpile areas. Upon approval by the Town of Cheverly's Consulting Engineer, the Contractor shall install temporary fencing around the work area. Adequate handicap accessible parking spaces must be maintained in this parking lot to allow residents to use the adjacent park. A figure has been included with this IFB to identify DPW site areas and access that will be maintained during construction.

UST SYSTEM REMOVAL

This phase includes, but is not limited to, the excavation, removal, and disposal of one (1) 10,000-gal diesel UST and one (1) 10,000-gal gasohol UST, as well as all associated UST appurtenances, including piping, dispensers, pumps, electrical wiring, and fueling canopy. The Contractor will be responsible for removal of the items noted in accordance with all applicable federal, state, and local codes, regulations, and standards governing the closure of USTs, and as specified in performance specification Section 017330 (Attachment B).

If encountered, the Contractor will be responsible for the removal of petroleum-impacted soils and groundwater as directed by the Town of Cheverly's Consulting Engineer and as specified in performance specification Section 222000 (Attachment D).

This phase also includes site restoration, including surface restoration in the area of the UST and fueling canopy removal, and necessary erosion and sediment control measures.

The Contractor shall provide any necessary field office and facilities/restrooms. The Contractor shall have access to all equipment required for work performed for the duration of the contract. The Contractor's Certified UST Technician or Remover must be on site during all aspects of UST removal. USTs shall only be removed in the presence and/or at the direction of an MDE representative.

Final Completion shall include completion of all punch list items, final cleanup, and demobilization.

UST DOCUMENTATION AND APPROVALS

Following the UST removal, the facility's registration with MDE for each tank must be updated for its current condition (as removed). Documentation of the UST closures and removals in compliance with all federal, state, and local requirements shall be provided, and shall include the following information at a minimum:

1. A cover letter signed by the Contractor certifying that all services involved have been performed in accordance with the terms and conditions of the Contract Documents.

2. Information describing what was encountered at each site, including:

    a. Condition and size of the USTs removed;

    b. Location of the USTs on the property;

    c. Any visible evidence of free product, leaks, or stained soils;

    d. Results of vapor monitoring readings;

    e. Actions taken including quantities of materials removed;

f. Collection data such as time of collection and method of preservation;

g. Reasons for backfilling site;

h. Whether or not groundwater was encountered, dewatering method, treatment used; and

i. Copies of all waste analysis/waste profile, manifests, receipts, and certification of final disposal by the responsible disposal facility official.

Pricing shall be provided per the Bid Summary Form. (Attachment E)

Base Bid Items – Regular Schedule
Item 1 – UST System Removal and Disposal
Item 2 – Removal and Disposal of Contaminated Soil
Item 3 – Removal and Disposal of Contaminated Groundwater

OPTIONAL Base Bid Items – Expedited Schedule
Item 1A – UST System Removal and Disposal
Item 2A – Removal and Disposal of Contaminated Soil
Item 3A – Removal and Disposal of Contaminated Groundwater

The Contractor shall provide an anticipated schedule for the project with the Bid Summary Form for Base Bid Items – Regular Schedule, assuming construction will be conducted during business hours Monday through Friday. The Contractor has the option to provide an anticipated schedule with Bid Summary Form for Optional Base Bid Items – Expedited Schedule, including construction activities to complete work on Saturday and Sunday. The expedited schedule is to reduce the impact of limiting public access to Town Park and associated amenities during this time of pandemic. Limiting pubic access to Town Park and associated amenities is a public health and safety issue during this time of pandemic and required social distancing.

All other required forms need to be executed and included in the sealed bid with the Bid Summary Form for Base Bid Items and Bid Summary Form for Optional Base Bid Items in **Attachment E**.

Work shall begin, including notification and permit applications, within seven (7) days of receiving a written Notice to Proceed by the Town of Cheverly, and shall be completed within the schedule as identified with the bid form. The schedule shall provide for the USTs to be removed by November 30, 2020, as designated by MDE.

GENERAL CONDITIONS

TOWN OF CHEVERLY

The General Conditions set out below shall apply to formal bid solicitations for the Town of Cheverly. Bidders are responsible for informing themselves of these requirements prior to submission of bids. Failure to do so will be at bidder's own risk, and pleas of error, or ignorance shall not be honored. Bidders seeking information regarding the General Conditions set forth below should contact the Town of Cheverly's Town Administrator.

I. Receipt of Proposals:

A. If received after the time specified for Public Bid Opening, formal bids, amendment thereto, or requests for withdrawal of bids will not be considered.

B. Properly marked bids received prior to the specified time of Public Bid Opening will be securely kept, unopened, by Town Administrator.

C. No liability shall be attached to the Town or to its representative (s) for the premature opening of an improperly addressed or improperly identified bid.

D. The checks/bid bonds of all except the lowest bidder will be returned/released within 30 days after the opening of bids. The check/bond will be returned/released to the lowest bidder when the contract is executed. In the event that the bids are rejected, or shelved for any reason, the check/bond will be returned/released to the low bidder within 30 days therefrom.

E. Unless otherwise specified, all formal bids submitted shall be binding for 180 calendar days following the specified bid opening date, unless the bidder(s), upon request of the Town of Cheverly, agrees to an extension.

F. The attention of persons intending to make proposals is specifically called to Article 3 of the contract Agreement wherein the bidder agrees that the bidder corporation and/or one of its principal agents legally able to sign and execute a contract has examined the Contract Documents and the demands being made and is fully informed from personal examination of the same regarding the purchase other conditions affecting the procurement to be performed. Particular attention is called to special notes and specifications in the proposal which may contain contract requirements at variance with standard plans and specifications.

II. Bid Opening

A. Although not necessary Bidders are encouraged to attend the Public Bid Opening and offer constructive suggestions as to format or ways in which the Town may realize greater savings. Bids are available for public inspection subsequent to the Public opening.

B. Unless otherwise specified by the Town, all formal bids submitted shall be binding form Town acceptance for 180 days from the date of the bid opening.

III. Award or Rejection of Proposals

A. Bids shall be awarded to the lowest and best responsive and responsible bidder. Bidders (if applicable) may restrict bids to consideration in aggregate by specifically stating same in writing on the bid form. Unless otherwise specified, the Town reserves the right: (1) to award in part or in whole, (2) to reject any or all bids, (3) to waive any information in the bids, and (4) to award so as to best serve the interest of the Town. The Town also reserves the right to reject the proposal of a bidder who has previously failed to execute properly or deliver on time contracts of a similar nature, or the proposal of a bidder who, upon investigation, shows they are not in a position to perform the contract.

B. The bidder must supply all information required by the Invitation For Bid and Bid Forms. Failure to fill in all blanks may cause the bid to be disqualified.

C. A written notice of award (acceptance of bid) shall be provided to the successful bidder within the specified acceptance period.

IV. Quotation

A. Bid prices must be net.

B. Bid prices shall not include Federal, State, or Local taxes. The Town's Maryland State Tax Exempt Number is 30041926.

C. When an error is made in computing the extension of total price(s), the unit price will govern. In the event of discrepancies between the prices quoted in the Proposal in words and those quoted in figures, the words shall control.

D. Bidders must submit any and all exceptions to conditions of the specifications in writing at the time of the bid and as part of the submission.

E. No oral interpretation shall be made by any Bidder and/or to any Bidder as to the meaning of any of the Contract Documents. Every request for interpretations shall be in writing to the Town.

V. Standards of Quality, "or Equal Clauses"

Any catalog, brand name, or manufacturer's reference used in a bid invitation is descriptive, and shall be deemed to include "an equal." Bidders submitting equal substitutions will be considered provided the bidder submits a complete description of same and noting all variations from the specified brand in sufficient detail to support equal quality, equal capability, and equal durability to enable to the Town to judge whether or not all requirements are met. If such information is not provided, like brands will be considered non-responsive. Otherwise, it shall be understood that the specified brand will be furnished.

VI. Purchaser's Right of Rejection

The Town reserves the right to accept proposals by items or as a whole, or at its discretion, reject any and all proposals and readvertise. The Town of Cheverly reserves the right to increase or decrease all quantities. The Town also reserves the right to reject any and all proposals which comply with these specifications, or to accept a higher bid which complies, provided that, in the judgment of the Town Administrator, the items offered under the higher bid have additional values or functions which justify the difference in price.

VII. Delivery and installation

Delivery of services must conform to the instructions in the bid specifications and/or in the applicable notice of award or purchase order(s).

VIII. Billing and Payment

Bills must be submitted in duplicate. Original and one copy shall be forwarded to the Town of Cheverly. Payment will be made only upon final acceptance by the Town.

IX. Reservations and Annulments

A. The right is reserved the Town to reject bids for any and all items, and/or waive technical defects if in its judgment the interest of the Town is better served.

B. The Town also reserves the right to annul any contract, if in its opinion there shall be a failure, or anytime, to perform faithfully any of its stipulations, or in case of any willful attempt to impose upon the Town materials, products and/or workmanship inferior to that required by the contract, and action taken in pursuance of this latter

stipulation shall not affect or impair any rights or claims of the Town to damages for the breech of any covenant of the contract by the contractor.

C. Should the contractor be prevented from furnishing any item or items, or from completing the required work included in this contract by reason of such failures caused by circumstances beyond his control, including but not limited to an Act of God, war, flood, governmental action, and inability to obtain transportation, the Town reserves the right to withdraw such items or required work form the operation of this contract without incurring further liabilities on the part of the Town thereby.

X. Compliance with Specifications

The Contractor shall abide and comply with the true intent of the specifications and not take advantage of any unintentional error or omission, but shall fully complete every part as the true intent and meaning of the specifications, as decided by the Town's Administrator and as described hereinafter.

XI. Responsibility for Supplies Tendered

The contractor shall be responsible for the materials or supplies covered by this contract until they are delivered at the designated point, and the Contractor shall bear all risk on rejected materials or supplied after notice of rejection. Rejected materials or supplies must be removed by and at the expense of the contractor promptly after notification of rejection. Upon failure to do so within ten (10) days after date of written notification, the Town may return the rejected materials or supplies to the contractor at the contractor's risk and expense.

XII. Inspection

Inspection and acceptance of all procurements will be made after delivery at the destination herein specified unless otherwise stated. Final inspection and acceptance or rejection of the procurements will be made as promptly as practicable, but failure to inspect and or reject procurements shall not impose liability on the Town for such procurements that are not in accordance with the specifications.

XIII. Bidder's List

In an attempt to keep the prospective Bidder's List current, Bidders are asked to respond to all bid specifications. If the response is a "no bid" the bidder is requested to explain his reasons for not bidding. Failure to respond to three consecutive Invitations For Bid may result in the deletion of the Bidder from the Bidder's List.

XIV. Conflict of Interest

No employee of the Town shall be admitted to any share or part of this contract or to any benefit that may arise thereafter.

BIDDERS QUESTIONNAIRE
THE APPROPRIATE SECTION OF THIS PAGE MUST BE SIGNED BY ALL BIDDERS

NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this bid, each bidder and each person signing on behalf of any bidder certified, and in the case of a joint bid, each party thereto certifies as to its own organizations, under penalty of perjury, that to the best of their knowledge and belief:

1. The prices in this bid have been arrived at independently, without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder, or with any competitor;

2. Unless otherwise required by law, the prices which have been quoted in this bid have
not been knowingly disclosed by the bidder prior to opening, directly, or indirectly to any other bidder or to any competitor; and

3. No attempt has been made or will be made by the bidder to induce any other person,
partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

I hereby affirm under the penalties of perjury that the foregoing statement is true.

Affix Seal If_____
Principal IsLegal Name of Person/Firm/Corporation
Corporation
BY: _____

IF A CORPORATION

The following is a certified copy of resolution authorizing the execution of this certificate by the signature of this bid or proposal on behalf of the corporate bidder, resolved that _____ be authorized to sign and submit the bid or proposal of this corporation for the project on items described, herein, in the Notice to Bidders, and to include in such bid or proposal the Certificate as to Non-Collusion required by the Town of Cheverly, Maryland as the act and deed or such corporation, and for any inaccuracies of misstatement in such certificate this corporate bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution by _____ Corporation at a meeting of its Board of Directors held on the _____ day of _____, 20_____.

_____
Secretary Seal of Corporation

AFFIDAVITS

Name and Address of Bidder:

_____

_____

_____

The above named Bidder affirms and declares:

1. That said Bidder is of lawful age and the only one interested in this bid; and that no person, firm or corporation other than hereinabove named has any interest in this bid, or in the contract proposed to be entered into.

2. That this bid is made without any understanding, agreement, or connection with any other person, firm, or corporation making a bid for the same material, supplies, or equipment, and is in all respects fair and without collusion or fraud.

3. The said bidder has carefully examined the procurement documents that from said Bidder's own investigations, said Bidder has satisfied itself as to the nature and intent of the procurement, its character, quality and quantity.

4. Upon acceptance of this proposal for said procurement the undersigned does or do bind the person or persons to enter into written contract with the owner as specified in the "Instructions for Bidders".

5. In default of the performance of any of the conditions required in making this bid, the undersigned agrees that the certified check/bid bond which is herewith deposited with the Owner shall be retained by the Owner as liquidated damages for such default or fraud, otherwise the check/bond will be returned to the successful bidder as noted in the "Instructions for Bidders". **Note: No check/bond is required for this bid.**

Legal name of person, firm or corporation making bid:

BY:_____

_____
(Title of person signing)

AFFIDAVITS
(Continued)

NOTES

1. Where a bidder is a firm, the bid must be signed in the name of the firm by a member of the firm, who must sign that the member's own name immediately thereunder, as A.B. Company, by C.D. Partner.

2. Where a bidder is a corporation, the bid must be signed in the name of the corporation by some duly authorized officer or agent thereof having knowledge of the matters stated in the bid, and such officer or agent shall also subscribe said person's own name, as: A.B. Company, by C.D., President, and the seal of the corporation must be affixed.

3. The bid must be sworn to by the person signed it, in one of the following forms:

Page Break

AFFIDAVITS
(Continued)

(Form of Affidavit where Bidder is an Individual)

STATE OF MARYAND)
) ss:
COUNTY OF PRINCE GEORGE'S)

_____ being duly sworn says:

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

_____
Signature of person who signed the bid

Subscribed and sworn to before me: this _____ day of _____, 20 ____.

_____
(Notary Public)

COUNTY OF: _____

Page Break

AFFIDAVITS
(Continued)

(Form of Affidavit where Bidder is a Partnership)

STATE OF MARYLAND)
) ss:
COUNTY OF PRINCE GEORGE'S)

_____ being duly sworn, says: I am a member of

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

_____
Signature of person who signed the bid

Subscribed and sworn to before me: this _____ day of _____, 20 _____.

_____
(Notary Public)

COUNTY OF: _____

Page Break

AFFIDAVITS
(Continued)

(Form of Affidavit where Bidder is a Corporation)

STATE OF MARYLAND)
) ss:
COUNTY OF PRINCE GEORGE'S)

_____ being duly sworn, says:

I am _____ of _____ Corporation, the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at
_____.
I have knowledge of the several matters therein stated, and they are in all respects true.

_____
Signature of person who signed the bid

Subscribed and sworn to before me: this _____ day of _____, 20_____.

_____
(Notary Public)

COUNTY OF: _____

ATTACHMENT A

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EA Engineering, Science,
and Technology, Inc., PBC

225 Schilling Circle, Suite 400
Hunt Valley, MD 21031
Telephone: 410-584-7000
Fax: 410-771-1625
www.eaest.com

April 1, 2020

Mr. Stephen A. Brayman
Department of Public Works
Town of Cheverly
6401 Forest Road
Cheverly, MD 20785

Subject: **Limited Subsurface Investigation Report,**
6401 Forest Road, Cheverly, Maryland
MDE Facility I.D. No. 4773
MDE OCP Case No. 2020-0399-PG

Dear Mr. Brayman:

EA Engineering, Science, and Technology, Inc., PBC (EA) is pleased to submit this report summarizing the Limited Subsurface Assessment of soil and groundwater within the vicinity of one (1) active 10,000-gal single walled diesel gas underground storage tank (UST) and one (1) out-of-service 10,000-gal single-walled gasohol UST located at 6401 Forest Road, Cheverly, Maryland (Figure 1).

BACKGROUND

EA was authorized by the Town of Cheverly to prepare the Limited Subsurface Investigation Work Plan as part of the Town's response to the Maryland Department of the Environment (MDE) Report of Observations (ROO) dated November 27, 2019 and to implement the field work and reporting contained herein. The objective of the limited subsurface investigation was to assess whether the existing gasohol UST system may have released gasohol into the subsurface soil and groundwater. A total of six (6) direct-push borings for the collection of soil and groundwater samples were completed in the vicinity of the gasohol UST system.

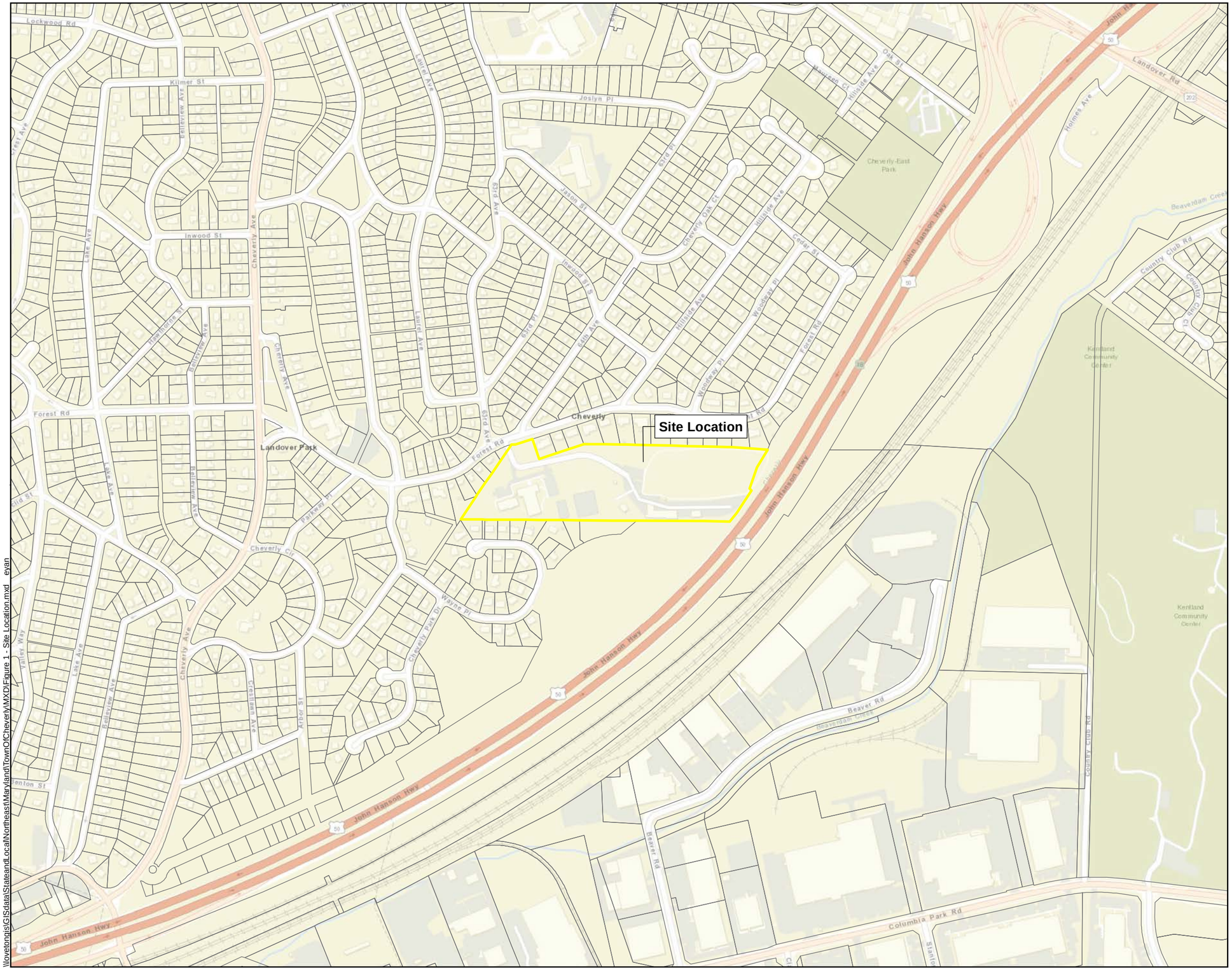
EA submitted the Limited Subsurface Investigation Work Plan to MDE OCP on Monday, December 23, 2019. In a letter dated January 30, 2020, the Limited Subsurface Investigation Work Plan was approved by MDE OCP (Attachment A) with the following additional requirements:

1) No later than March 2, 2020, initiate implementation of the approved Work Plan. Ensure that all required permits are obtained prior to initiating the proposed activities.

2) If field screening results continue to reveal evidence of petroleum impact at the targeted depth/groundwater interface, the OCP will also require additional vertical delineation. Unless liquid phase hydrocarbons (LPH) are encountered, the direct-push borings must be advanced vertically until field screening data indicate the absence of petroleum impact. Boring locations may be field-modified as necessary to avoid damaging underground utilities.

3) During completion of the direct-push borings, soil cores will be screened with a photoionization device (PID).

    a. Field screening of the soil cores must be performed utilizing a consistent methodology that will not be adversely affected by site conditions. The use of glass jars or sealable



VICINITY MAP

Legend

- Area of Interest
- Parcel Boundary

Map Date: 12/19/2019
Source: ESRI Basemap 2018, PG County 2018
Projection: NAD 1983 State Plane Maryland FIPS 1900 Feet

N

0 500 1,000
Feet

1 inch = 500 feet

Figure 1
Site Location
Limited Subsurface Investigation
Town of Cheverly, Maryland

\\lovetongis\GISdata\StateandLocal\Northeast\Maryland\TownOfCheverly\MXD\Figure 1 - Site Location.mxd evan

plastic bags to store a portion of the sample material for screening purposes is recommended.

b. Soil samples for laboratory analysis will be collected in each boring at the interval exhibiting the highest PID response and/or at the bottom of the boring. PID readings will be included in the boring logs.

c. All soil samples will be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using U.S. Environmental Protection Agency (EPA) Method 8260 and total petroleum hydrocarbons – diesel range hydrocarbons (TPH-DRO) and total petroleum hydrocarbons – gasoline range organics (TPH-GRO) using U.S. EPA Method 8015B.

4) If measurable LPH are detected in soil or groundwater during assessment activities, its presence must be reported within 2 hours of discovery by calling the OCP's Baltimore Headquarters at 410-537-3442 during standard business hours or the Emergency Response Division hotline at 1-866-633-6866. Reports should not be made via voice mail message to OCP case managers.

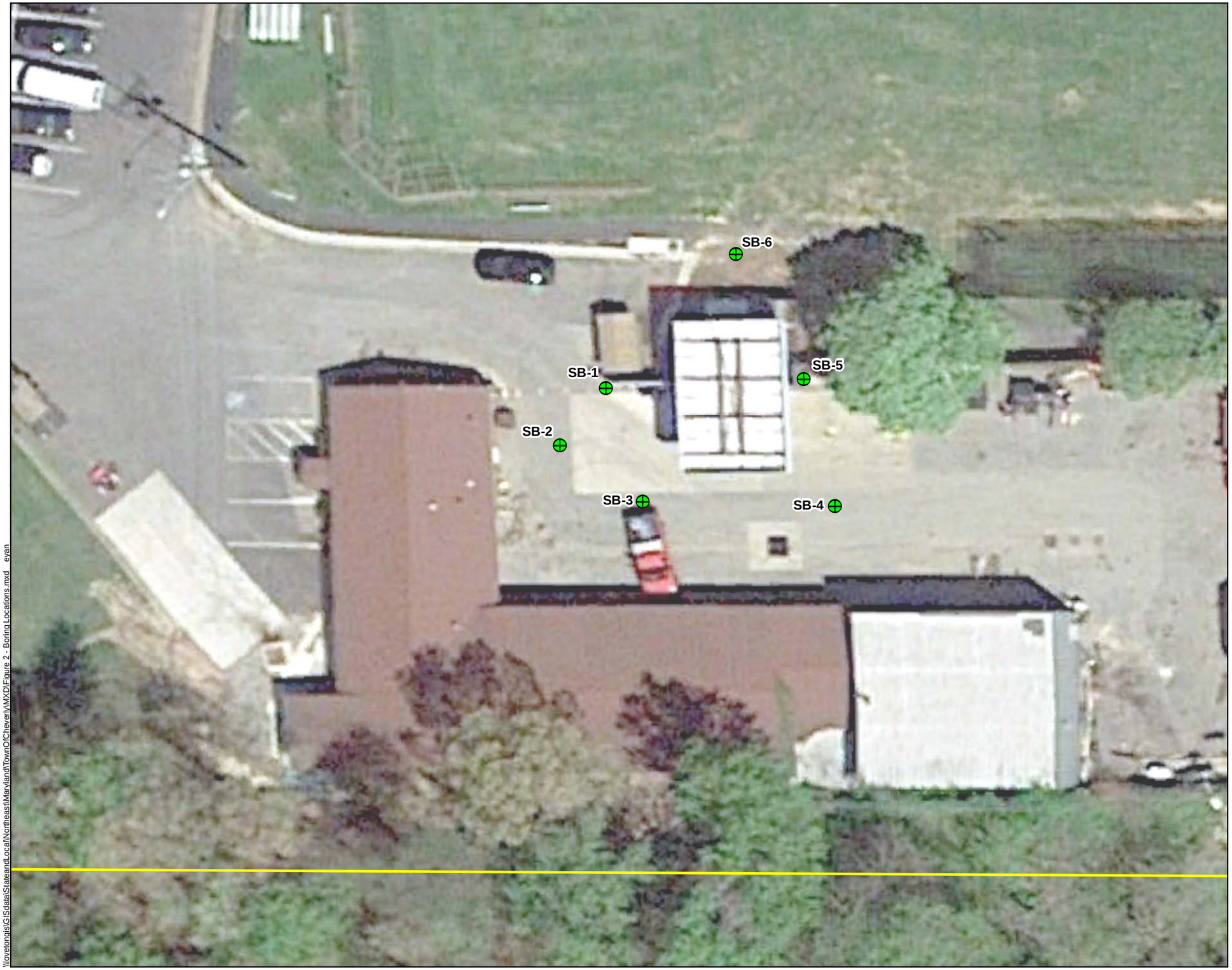
5) **No later than 60 days following the completion of the approved Work Plan activities**, MDE requires the submittal of a comprehensive report documenting the results of the subsurface investigation and any remedial activities. The report must include the tabulated data documenting any petroleum mass and groundwater recovered, and any additional monitoring and sampling data obtained. Include a discussion of how the results influence future investigative and remedial activities. When submitting sampling results, include data summary tables and scaled site maps showing actual sampling locations (i.e., monitoring well locations). Reports must also include groundwater contour maps, site-specific detailed hydrogeology, groundwater flow, product thickness and dissolved phase concentration maps, monitoring well completion reports, and qualitative and/or quantitative discussions. Provide receipts to document proper disposal of the petroleum contact soil, groundwater, and/or LPH that may be generated as a result of the assessment activities.

MOBILIZATION AND UTILITY AVOIDANCE

EA contacted Miss Utility for utility avoidance on Wednesday, February 12, 2020 and obtained ticket number 20090449. On Saturday, February 15, 2020, EA's subcontractor Accurate Infrastructure Data, Inc. (A/I Data) performed a private utility clearance within a 15 foot radius of each of the six borings (Attachment B). A/I Data identified buried electrical lines near SB-1, SB-4, SB-5, and SB-6. In addition, storm drain piping was identified near SB-4 and SB-6. While subsurface utilities were identified near the boring locations, they did not present an unacceptable risk; therefore, the original boring locations were not moved.

SUBSURFACE INVESTIGATION

Drilling activities were completed in one day (February 18, 2020). Green Services, Inc. (GSI), subcontracted by EA, provided a Geoprobe Model 6620DT for the field effort. Boreholes were completed in the following order: SB-2, SB-3, SB-4, SB-5, SB-1, and SB-6 (Figure 2). After the direct push boring was completed, a temporary polyvinyl chloride (PVC) well was installed prior to advancing the next boring. At each location, EA completed a soil boring log to document soil lithology, noted visual and/or olfactory impacts, and PID readings (Attachment C).



VICINITY MAP

Legend

- Boring Location
- Area of Interest

Map Date: 3/12/2020
Source: Google Earth Aerial 2018
Projection: NAD 1983 State Plane Maryland FIPS 1900 Feet

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Feet

1 inch = 20 feet

Figure 2
Boring Locations
Limited Subsurface Investigation
Town of Cheverly, Maryland

\\lovetongis\GIS\data\StateandLocal\Northeast\Maryland\TownOfCheverly\MXD\Figure 2 - Boring Locations.mxd eyan

Soil Sampling

Soil boring SB-1 was located to the south of the wall dividing the UST field from the used oil aboveground storage tank (AST). The soil boring started at ground surface and was terminated at 10 feet (ft) below ground surface (bgs). The borehole was composed primarily of clay with a thin lens of sand at 2.5 to 5 ft. LPH was not observed during this boring. A maximum PID reading of 2.4 parts per million (ppm) was recorded at the 1 to 2 ft bgs interval but was considered background. One soil sample was collected from the 5 to 6 ft bgs interval, placed in laboratory supplied bottleware, and labeled SB-1-5-6. Groundwater was encountered in this boring at 8.47 ft bgs.

Soil boring SB-2 was located approximately 4 ft southwest of SB-1 at the western edge of the concrete pad associated with the UST field. The soil boring started at ground surface and was terminated at 15 ft bgs. The lithology was similar to soil boring SB-1, with clay being the primary component of the material recovered from the borehole; little fine sand was observed. A maximum PID reading of 200 ppm was recorded at the 5 to 6 ft bgs interval. One soil sample was collected from the 5 to 6 ft bgs interval, placed into laboratory supplied bottleware, and labeled SB-2-5-6. Groundwater was encountered in this boring at 2.80 ft.

Soil boring SB-3 was located approximately 10 ft southeast of SB-1 near the edge of the concrete pad. The soil boring started at ground surface and was terminated at 15 ft bgs. The borehole was composed primarily of clay with a lens of sand with fine gravel at 1 to 4 ft bgs. A maximum PID reading of 300 ppm was recorded at the 5 to 6 ft interval. One soil sample was collected from the 5 to 6 ft bgs interval, placed into laboratory supplied bottleware, and labeled SB-3-5-6. Groundwater not encountered in this boring.

Soil boring SB-4 was located approximately 15 ft southeast of SB-1 in the asphalt approximately 1 ft northeast of the storm drain. The soil boring started at ground surface and was terminated at 10 ft bgs. The borehole was comprised mainly of clay and silt with an interbedded lens of sand. A maximum PID reading of 0.5 was recorded from the 3 to 4 foot interval. One soil sample was collected from the sand interval of 5 to 6 ft bgs, placed into laboratory supplied bottleware, and labeled SB-4-5-6. Groundwater was encountered in this boring at 3.33 ft bgs.

Soil boring SB-5 was located approximately 10 ft east of SB-1 in the asphalt approximately 0.5 ft north of the concrete pad. The soil boring started at ground surface and was terminated at 10 ft bgs. The borehole was comprised mainly of clay with an interbedded lens of sand and a small layer of pea gravel from the tank fill. No PID readings were observed greater than 0.0 ppm. One soil sample was collected from the sand interval of 5 to 6 ft bgs, placed into laboratory supplied bottleware, and labeled SB-5-5-6. Groundwater was encountered in this boring at 3.82 ft bgs.

Soil boring SB-6 was located approximately 10 ft northeast of SB-1 in the grass approximately 3 ft northeast of the used oil AST. The soil boring started at ground surface and was terminated at 14 ft bgs. The borehole was comprised mainly of clay with an interbedded lens of sand with gravel. No PID readings were observed greater than 0.0 ppm. One soil sample was collected from the sand interval of 5 to 6 ft bgs, placed into laboratory supplied bottleware, and labeled SB-6-5-6. Groundwater was encountered in this boring at 5.46 ft bgs.

Temporary Well Groundwater Gauging

EA gauged the temporary wells to determine depth to groundwater using an oil/water interface probe. The interface probe was lowered down each well, the groundwater was checked for petroleum, and the

depth to water was recorded in the field logbook. The oil/water interface probe was decontaminated between each gauging event. No petroleum light non-aqueous phase liquid (LNAPL) was observed in the temporary wells. Groundwater was not encountered in SB-3.

Groundwater Sampling

Groundwater samples were collected from temporary wells installed in SB-1, SB-2, SB-4, SB-5, and SB-6. Prior to sampling, each temporary well was purged using a dedicated polyethylene bailer. Groundwater quality parameters were not monitored as part of this limited investigation. Once the groundwater was visibly clear, groundwater samples were collected at each temporary well location. Groundwater samples were sealed immediately upon collection to prevent the loss of constituents of concern, packaged on ice, and delivered under standard chain-of-custody procedures to Eurofins Lancaster Laboratories, Inc. for analysis of VOCs plus fuel oxygenates and naphthalene by U.S. EPA Method 8260B, as well as TPH-GRO/DRO by U.S. EPA Method 8015B. For quality assurance purposes, a field duplicate was collected from SB-6 (Field Duplicate 1) and submitted for analysis for the same constituents as the other samples. Rinse blank samples were not required because disposable bailers were used during sample collection. The purged groundwater generated during the sampling event was pumped through a carbon filter and discharged to the ground surface.

Site Restoration

Subsequent to collection of groundwater samples, the temporary wells were removed from the ground, the boring was filled with a combination of drill cuttings, and bentonite chips and the surface repaired to match existing.

RESULTS

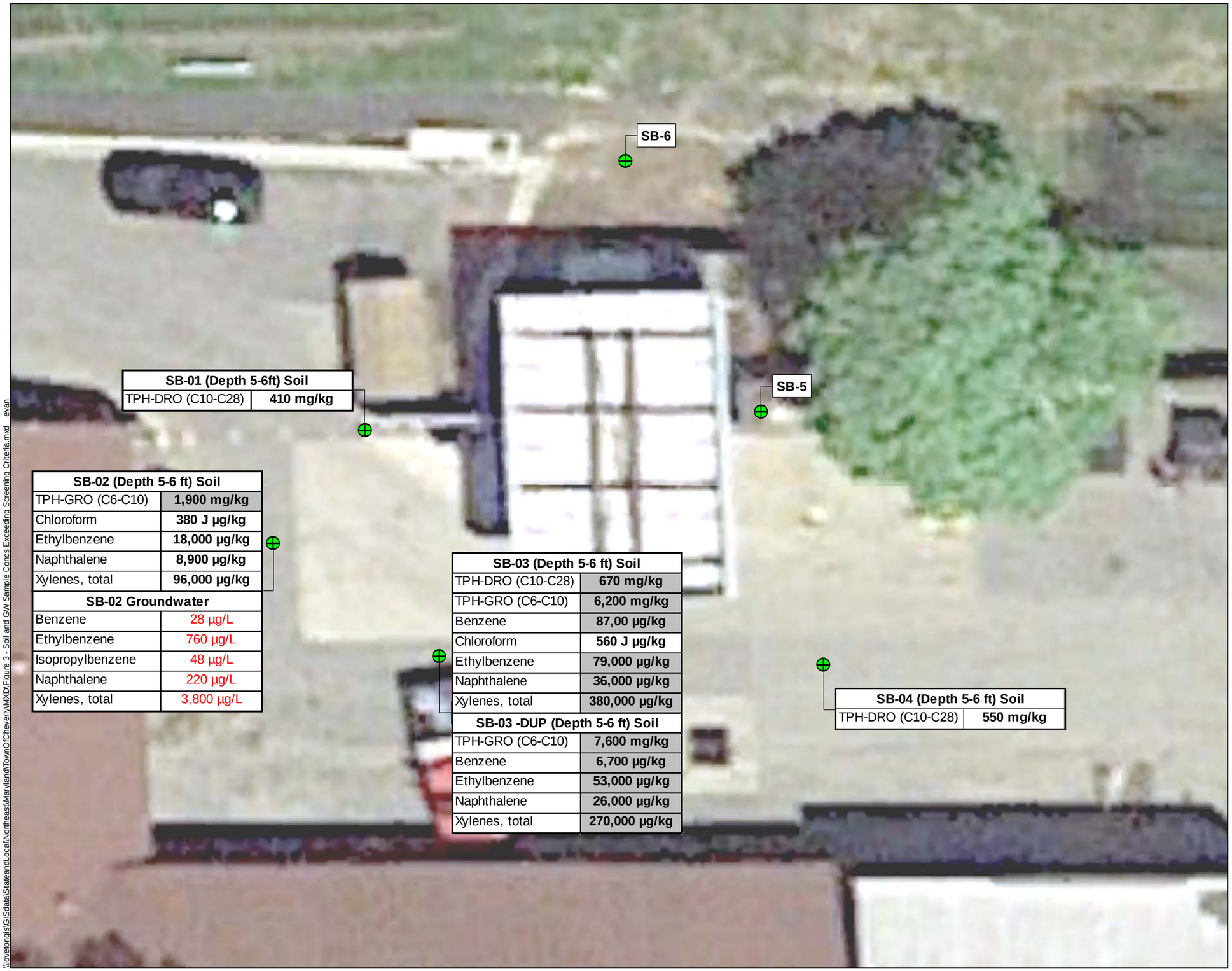
Local Groundwater Flow Direction Assessment

Groundwater depths differed by as much as 5.67 ft, with the deepest groundwater observed at SB-1 (8.47 ft bgs) and the shallowest groundwater observed at SB-2 (2.80 ft bgs). The locally high groundwater elevation is inconsistent with the topography and the presumed groundwater flow direction toward the stream. Complicating factors included the relatively short time frame that the temporary wells were in place and the clay lithology. Clay soil can result in inconsistent groundwater elevations since groundwater is often slow to recharge the well and furthermore could result in perched groundwater that is not consistent with the local and regional groundwater table and flow paths.

Laboratory Analytical Results - Soil

A total of six soil samples were collected from boring locations SB-1 through SB-6 (Figure 3). The parent sample for Duplicate 1 was SB-3-5-6. Where the reported concentrations differ between the parent and the duplicate, the higher of the detections will be included to represent soil at boring 3. Analytical results from the sampling event are summarized for comparison with the MDE Generic Numeric Cleanup Standards for Residential and Non-Residential Soil (MDE 2018) and the Maryland Environmental Assessment Technology for Leaking Underground Storage Tanks (MDE 2003) as provided in Table 1. Laboratory analytical results are included in Attachment D.

TPH-DRO was detected in the soil samples at reported concentrations ranging from 28 milligrams per kilogram (mg/kg) (SB-2-5-6) to 670 mg/kg (SB-3-5-6). Two of the reported concentrations exceeded the



VICINITY MAP

Legend

- Boring Location
- Area of Interest

Map Notes:
Concentrations exceeding the
MDE Residential Screening Criteria are boldfaced.
Concentrations exceeding the
MDE Non-residential Screening Criteria are shaded gray.
Concentrations exceeding the
MDE Groundwater Standards are in red font.
J = Estimated value.
mg/kg = milligrams per killogram.
µg/kg = micrograms per kilogram.
µg/L = micrograms per liter.

Map Date: 3/12/2020
Source: Google Earth Aerial 2018
Projection: NAD 1983 State Plane Maryland FIPS 1900 Feet

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Feet

1 inch = 10 feet

Figure 3
Soil and Groundwater
Sample Concentrations
Exceeding Screening Criteria
Limited Subsurface Investigation
Town of Cheverly, Maryland

\\lovetonnis\GIS\data\StateandLocal\Northeast\MarylandTownOfCheverly\MXD\Figure 3 - Soil and GW Sample Concs Exceeding Screening Criteria.mxd eyan

residential soil generic numeric cleanup standard of 230 mg/kg. One of the reported concentrations exceeded the residential and non-residential soil generic numeric cleanup standard of 620 mg/kg.

TPH-GRO was detected in the soil samples at reported concentrations ranging from 0.2 J mg/kg (SB-1-5-6) to 7,600 mg/kg (DUP-1). Two of the reported concentrations (SB-2-5-6 and DUP-1) exceeded the non-residential soil generic numeric cleanup standard of 620 mg/kg.

Benzene was detected in three of the soil samples at reported concentrations ranging from 0.7 J µg/kg (SB-5-5-6) to 8,700 µg/kg (SB-3-5-6). Two of the reported concentrations (SB-2-5-6 and SB-5-5-6) were less than the corresponding generic numeric cleanup standard. One of the reported concentrations (SB-3-5-6) exceeded the non-residential soil generic numeric cleanup standard of 5,100 µg/kg.

Chloroform was detected in two of the soil samples at reported concentrations ranging from 380 J µg/kg (SB-2-5-6) to 560 J µg/kg (SB-3-5-6). The results exceeded the residential soil generic numeric cleanup standard of 320 µg/kg.

Ethylbenzene was detected in two of the six soil samples at reported concentrations ranging from 18,000 µg/kg (SB-2-5-6) to 79,000 µg/kg (SB-3-5-6). The reported concentration detected in soil sample SB-2-5-6 exceeded the corresponding residential soil generic numeric cleanup standard of 5,800 µg/kg. The reported concentration detected in soil sample SB-3-5-6 exceeded the corresponding non-residential soil generic numeric cleanup standard of 25,000 µg/kg.

Naphthalene was detected in two of the six soil samples at reported concentrations ranging from 8,900 µg/kg (SB-2-5-6) to 36,000 µg/kg (SB-3-5-6). The reported concentration detected in soil sample SB-2-5-6 exceeded the corresponding residential soil generic numeric cleanup standard of 3,800 µg/kg. The reported concentration detected in soil sample SB-3-5-6 exceeded the corresponding non-residential soil generic numeric cleanup standard of 17,000 µg/kg.

Toluene was detected in three of the six soil samples at reported concentrations ranging from 0.9 J µg/kg (SB-5-5-6) to 180,000 µg/kg (SB-3-5-6). None of the detections exceeded either the residential or non-residential generic numeric screening criteria.

Total Xylenes were detected in two of the six soil samples at reported concentrations ranging from 96,000 µg/kg (SB-2-5-6) to 380,000 µg/kg (SB-3-5-6). The reported concentration detected in soil sample SB-2-5-6 exceeded the corresponding residential soil generic numeric cleanup standard of 58,000 µg/kg. The reported concentration detected in soil sample SB-3-5-6 exceeded the corresponding non-residential soil generic numeric cleanup standard of 250,000 µg/kg.

Additional volatile organic compounds were detected at concentrations greater than the laboratory's reporting limit; however, they did not exceed their corresponding soil standard; therefore, they are omitted from the results section for brevity. These included 1,2-Dichlorobenzene, 1,4-Dichlorobenzene, 2-Butanone, acetone, carbon disulfide, chlorobenzene, isopropylbenzene, methyl acetate, and methylcyclohexane.

Laboratory Analytical Results – Groundwater

A total of five groundwater samples were collected from boring location SB-1, SB-2, SB-4, SB-5, and SB-6. While a temporary well was installed in boring SB-3; however, groundwater was not observed in this boring location. Analytical results from the sampling event are summarized for comparison with the MDE Generic Numeric Groundwater Standards for Type I and II Aquifers (MDE 2018) as provided in Table 2. Laboratory analytical results are included in Attachment D.

TPH-DRO was detected in the groundwater samples at reported concentrations ranging from 290 micrograms per liter (µg/L) (DUP-GW) to 6,700 µg/L (SB-4). There is no MDE screening level for TPH-DRO.

TPH-GRO was detected in two of the five groundwater samples at reported concentrations ranging from 28 J µg/L (SB-5) to 18,000 µg/L (SB-2). There is no MDE screening level for TPH-GRO.

Benzene was detected in SB-2 at a reported concentration of 28 µg/L, which exceeded the corresponding screening level of 5 µg/L.

Ethylbenzene was detected in two of the five groundwater samples at reported concentrations ranging from 0.5 J µg/L (SB-4) to 760 µg/L (SB-2) with the detection in SB-2 exceeding the corresponding screening level of 700 µg/L.

Isopropylbenzene was detected in SB-2 at a reported concentration of 48 µg/L, which exceeded the corresponding screening level of 45 µg/L.

Naphthalene was detected in SB-2 at a reported concentration of 220 µg/L, which exceeded the corresponding screening level of 0.17 µg/L.

Total Xylenes were detected in three of the five groundwater samples at reported concentrations ranging from 2 J µg/L (SB-4 and SB-5) to 3,800 µg/L (SB-2). The reported concentration detected in groundwater sample SB-2 exceeded the corresponding screening level of 1,000 µg/L.

Additional volatile organic compounds were detected at concentrations greater than the laboratory's reporting limit; however, they did not exceed their corresponding soil standard; therefore, they are omitted from the results section for brevity. These included 1,2-Dichloroethane, 2-Butanone, acetone, carbon disulfide, chlorobenzene, cyclohexane, methylcyclohexane, and toluene.

SEVEN RISK FACTORS

The MDE Maryland Environmental Assessment Technology (MEAT) guidelines (MDE, 2003) provided an approach to evaluate the physical, chemical, and biological integrity in order to protect human health and the environment. The "Seven Risk Factors" used to evaluate the potential impact to human health and the environment include:

1. ***Liquid Phase Hydrocarbons (LPH)***: LPH was not observed in soil collected from the soil borings or in groundwater collected from each temporary well.

2. ***Current and Future Use of Impacted Groundwater***: The facility is in the Coastal Plane physiographic province. Based on the 1968 Geologic Map of Maryland the site is underlain by the Potomac Group including the Raritan and Patapsco Formations, Arundel Clay, and Patuxent

Formation. The Potomac Group consists of interbedded quartzose gravels; protoquartzitic to orthoquartzitic argillaceous sands, and white, dark gray, and multicolored slits and clays, thickness of 0 to 800 feet. However, due to the topographic location of the facility, the upper lithology is most likely comprised of Quarternary lowland deposits consisting of gravel, sand, slit, and clay. The lithology observed while inspecting the soil cores appears to confirm that the subsurface is composed of the sediments laid down by a meandering stream channel. Groundwater in these formations tends to flow through preferential pathways of sand/gravel and thus serve as the predominant mode of hydraulic transport for subsurface contaminants.

The facility is in a residential area and is serviced by public water and an onsite septic system. Residential areas are present to the north and west of the facility. There are no potable wells within 1/2-mile of the site. Therefore, groundwater is not a complete exposure pathway.

3. ***Migration of Contamination:*** The migration of contamination is the potential ability for contaminated groundwater to migrate off site to a receptor. The subsurface investigation confirmed the presence of impacted soil and groundwater to the west and south of the gasohol UST system. Attempts were made to determine groundwater elevations and ultimately flow direction but the presence of significant quantities of clay and the temporary nature of the temporary wells made the effort impossible. However, given site topography and proximity to the stream, groundwater is assumed to flow towards the south and east eventually discharging as baseflow to the stream.

   The subsurface lithology observed in SB-1, SB-2, and SB-3 is dominated by clay with low to medium plasticity. A sand lens was observed in SB-4 at approximately 4 to 6 ft bgs before transitioning back to silt and clay with increasing depth. Soil lithology observed in SB-5 and SB-6 tended to have coarse grained material near the groundwater depth before transitioning to silt/clay with increasing depth. These lithologies were anticipated given the proximity to the stream channel.

   In summary, migration of contamination is impeded by the presence of low hydraulic conductivity soil present to the west and south of the leaking gasohol UST system. However, the more volatile petroleum constituents are expected to continue migration out from the tank field toward the office building, under the shop, and ultimately discharging to the stream.

4. ***Human Exposure:*** Exposure to humans through ingestion or dermal contact is not expected; however, the inhalation pathway cannot be ruled out based on the data collected to date. Given that benzene was detected in groundwater collected from SB-2 at a reported concentration of 28 µg/L, the proximity of the sample location to the office, the shallow depth of groundwater, and that the concentration exceeds the U.S. EPA vapor intrusion screening calculator screening criteria of 6.9 µg/L, indoor air and sub-slab sampling is recommended <u>after</u> the source area is remediated.

   As an interim measure, two (2) indoor air samples were collected on Saturday, March 7, 2020 to determine if workers were being exposed to concentrations of benzene that exceed the indoor air numeric screening criteria. The reported concentrations of chemicals detected in the two samples (break room and office) were compared to the U.S. EPA Regional Screening Levels (Nov19) for both resident and industrial air. All detections were less than the corresponding screening levels; therefore, there is no evidence of a completed exposure pathway between the gasoline constituents in the shallow groundwater and occupants of the one story office building.

5. ***Environmental Ecological Exposure:*** The nearest ecological exposure point would be the flora and fauna in and near the stream flowing to the south of the facility. The proximity of the stream to the impacted soil detected in SB-3 is approximately 100 feet. There is a potential that impacted groundwater could discharge to the stream before being diluted and transported downstream towards the Anacostia River. However, the lithology present around the tank field consists of low hydraulic permeability soil thus impeding groundwater flow.

6. ***Impact to Utilities and Other Buried Services:*** A 15-inch (in.) diameter storm drain line is located to the south of the UST field and runs from west to east, ultimately discharging to an outlet located on the southern edge of the property just east of the garage. The nearest inlet has an invert depth of 24-in. below grade. Depth to groundwater in SB-4 and SB-5 are 3.33 ft bgs and 3.82 ft bgs, respectively. While shallow, groundwater appears to be below the base of the stormwater inlet and the piping conveying stormwater to the stream.

7. ***Other Sensitive Receptors:*** No other receptors were identified during the evaluation.

DISCUSSION AND RECOMMENDATIONS

The objective of the limited subsurface investigation was to assess whether the existing gasohol UST system may have released gasohol into the subsurface soil and groundwater. It was not intended to completely delineate the horizontal and vertical nature and extent of the impacts. To accomplish the objective, a total of six borings were completed for the collection of soil and groundwater samples within proximity of the gasohol UST system. On February 18, 2020, EA performed the subsurface investigation in accordance with the approved Work Plan and MDE's approval letter. A total of six soil and five groundwater samples were collected and analyzed for petroleum constituents. During the field work, a PID was used to screen soil for any indication of petroleum impacts. Soil collected from SB-2 and SB-3 at the 4 to 5 ft bgs interval resulted in PID responses greater than 200 ppm. Soil sample analytical results indicated petroleum constituents at reported concentrations greater than MDE generic numeric screening criteria.

EA utilized the risk evaluation factors in MDE's MEAT guidance to evaluate the risks posed by the leaking UST. As a result, two of the seven risk factors were identified as meeting the threshold for follow-up including the potential for contaminant migration and ecological exposure. Contaminant migration has occurred as evidenced by detections in SB-2 and SB-3 and will continue to occur temporally by advection and dispersion. The ecological exposure pathway is potentially complete given the proximity of the impacted groundwater and soil to the perennial stream located to the south of the UST field/facility. Furthermore, it is possible that subsurface contaminants dissolved in groundwater may migrate to the stream through baseflow.

We look forward to our continued partnership with the Town of Cheverly. Should you have any questions or comments, please do not hesitate to call me directly at 410-329-5105.

Respectfully yours,
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC., PBC

Nelson C. Brooks, P.E., P.G.
Senior Project Manager

Cc: Mr. Jim Richmond, MDE OCP
Mr. Dylan Galloway, Town of Cheverly

Attachments:

A: MDE Work Plan Approval, Dated January 30, 2020
B: Accurate Infrastructure Data, Inc. – Utility Mark-out
C: Soil Boring Logs
D: Laboratory Analytical Report

Table 1: Soil Sample Results
Town of Cheverly - Limited Subsurface Investigation

Analyte	MDE Residential Soil SLs	MDE Non-Residential Soil SLs	Unit	Location ID	SB-01	SB-02	SB-03	SB-03	SB-04	SB-05	SB-06
				Sample Name	SB-1-5-6	SB-2-5-6	SB-3-5-6	DUP-1	SB-4-5-6	SB-5-5-6	SB-6-5-6
				Sample Date	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020
				Parent Sample				SB-3-5-6			
Total Petroleum Hydrocarbons (SW8015C)											
TPH-DRO (C10-C28)	230*	620*	mg/kg		**410**	28	**670**	170	**550**	44	110
TPH-GRO (C6-C10)	230*	620*	mg/kg		0.2 J	**1900**	**6200**	**7600**	32	0.7 J	0.3 J
VOCs (SW8260C)											
1,1,1-Trichloroethane	810000	3600000	µg/kg		< 0.5 U	< 130 U	< 260 U	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
1,1,2,2-Tetrachloroethane	600	2700	µg/kg		< 0.3 U	< 88 U	< 180 U	< 150 U	< 0.3 U	< 0.5 U	< 0.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NSL	NSL	µg/kg		< 0.5 U	< 130 U	< 260 U	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
1,1,2-Trichloroethane	150	630	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
1,1-Dichloroethane	3600	16000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
1,1-Dichloroethene	23000	100000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
1,2,4-Trichlorobenzene	5800	26000	µg/kg		< 4 U	< 1100 U	< 2200 U	< 1900 U	< 4 U	< 6 U	< 5 U
1,2-Dibromo-3-chloropropane	5.3	64	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
1,2-Dibromoethane	36	160	µg/kg		< 0.3 U	< 88 U	< 180 U	< 150 U	< 0.3 U	< 0.5 U	< 0.4 U
1,2-Dichlorobenzene	180000	930000	µg/kg		1 J	< 110 U	< 220 U	< 190 U	< 0.4 U	0.9 J	< 0.5 U
1,2-Dichloroethane	460	2000	µg/kg		< 0.5 U	< 130 U	< 260 U	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
1,2-Dichloropropane	1600	6600	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
1,3-Dichlorobenzene	NSL	NSL	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
1,4-Dichlorobenzene	2600	11000	µg/kg		1 J	< 88 U	< 180 U	< 150 U	< 0.3 U	1 J	< 0.4 U
2-Butanone	2700000	19000000	µg/kg		< 2 U	< 440 U	< 880 U	< 750 U	< 2 U	3 J	6 J
2-Hexanone	NSL	NSL	µg/kg		< 0.8 U	< 220 U	< 440 U	< 380 U	< 0.8 U	< 1 U	< 1 U
4-Methyl-2-pentanone	3300000	14000000	µg/kg		< 0.8 U	< 220 U	< 440 U	< 380 U	< 0.8 U	< 1 U	< 1 U
Acetone	6100000	61000000	µg/kg		18	< 1300 U	< 2600 U	< 2300 U	22	40	72
Benzene	1200	5100	µg/kg		< 0.4 U	190 J	**8700**	**6700**	< 0.4 U	0.7 J	< 0.5 U
Bromodichloromethane	290	1300	µg/kg		< 0.3 U	< 88 U	< 180 U	< 150 U	< 0.3 U	< 0.5 U	< 0.4 U
Bromoform	19000	86000	µg/kg		< 4 U	< 1100 U	< 2200 U	< 1900 U	< 4 U	< 6 U	< 5 U
Bromomethane	680	3000	µg/kg		< 0.6 U	< 150 U	< 310 U	< 260 U	< 0.6 U	< 0.8 U	< 0.8 U
Butyl alcohol, tert-	NSL	NSL	µg/kg		< 12 U	< 3300 U	< 6600 U	< 5600 U	< 13 U	< 18 U	< 16 U
Carbon disulfide	77000	350000	µg/kg		5	< 130 U	< 260 U	< 230 U	1 J	4 J	3 J
Carbon tetrachloride	650	2900	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Chlorobenzene	28000	130000	µg/kg		8	< 110 U	< 220 U	< 190 U	< 0.4 U	13	< 0.5 U
Chloroethane	1400000	5700000	µg/kg		< 0.8 U	< 220 U	< 440 U	< 380 U	< 0.8 U	< 1 U	< 1 U
Chloroform	320	1400	µg/kg		< 0.5 U	**380 J**	**560 J**	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
Chloromethane	11000	46000	µg/kg		< 0.5 U	< 130 U	< 260 U	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
Cis-1,2-Dichloroethene	16000	230000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Cis-1,3-dichloropropene	NSL	NSL	µg/kg		< 0.3 U	< 88 U	< 180 U	< 150 U	< 0.3 U	< 0.5 U	< 0.4 U
Cyclohexane	NSL	NSL	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Dibromochloromethane	8300	39000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Dichlorodifluoromethane	NSL	NSL	µg/kg		< 0.5 U	< 130 U	< 260 U	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
Diisopropyl ether	NSL	NSL	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Ethyl tert-butyl ether	NSL	NSL	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Ethylbenzene	5800	25000	µg/kg		< 0.3 U	**18000**	**79000**	**53000**	< 0.3 U	< 0.5 U	< 0.4 U
Isopropylbenzene	190000	990000	µg/kg		< 0.3 U	2300	8800	5400	< 0.3 U	< 0.5 U	< 0.4 U
Methyl acetate	NSL	NSL	µg/kg		< 0.8 U	< 220 U	< 440 U	< 380 U	< 0.8 U	< 1 U	3 J
Methyl tert-butyl ether	47000	210000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Methylcyclohexane	NSL	NSL	µg/kg		< 0.5 U	8600	26000	13000	< 0.5 U	< 0.7 U	< 0.6 U
Methylene chloride	35000	320000	µg/kg		< 2 U	< 440 U	< 880 U	< 750 U	< 2 U	< 2 U	< 2 U
Naphthalene	3800	17000	µg/kg		< 2 U	**8900**	**36000**	**26000**	< 2 U	< 2 U	< 2 U
Styrene	600000	3500000	µg/kg		< 0.3 U	< 88 U	< 180 U	< 150 U	< 0.3 U	< 0.5 U	< 0.4 U
tert-Amyl methyl ether	NSL	NSL	µg/kg		< 0.6 U	< 180 U	< 350 U	< 300 U	< 0.7 U	< 0.9 U	< 0.9 U
Tetrachloroethene	8100	39000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Toluene	490000	4700000	µg/kg		< 0.5 U	5800	180000	140000	< 0.5 U	0.9 J	< 0.6 U
Trans-1,2-Dichloroethene	160000	2300000	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Trans-1,3-dichloropropene	NSL	NSL	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Trichloroethene	410	1900	µg/kg		< 0.4 U	< 110 U	< 220 U	< 190 U	< 0.4 U	< 0.6 U	< 0.5 U
Trichlorofluoromethane	NSL	NSL	µg/kg		< 0.6 U	< 150 U	< 310 U	< 260 U	< 0.6 U	< 0.8 U	< 0.8 U
Vinyl chloride	59	1700	µg/kg		< 0.5 U	< 130 U	< 260 U	< 230 U	< 0.5 U	< 0.7 U	< 0.6 U
Xylenes, total	58000	250000	µg/kg		< 1 U	**96000**	**380000**	**270000**	< 1 U	< 2 U	< 2 U

Notes:
U = Compound was analyzed but not detected.
J = Estimated value.
µg/kg = micrograms per killogram
mg/kg = milligrams per kilogram
Maryland Dept. of Environment October 2018 Soil Standards Residential Clean-up Standard
Maryland Dept. of Environment October 2018 Soil Standards Non-Residential Clean-up Standard
*Maryland Dept. of Environment MEAT Guidance, 2003
Cells exceeding the MDE Residential Screening Criteria are boldfaced
Cells exceeding the MDE Non-residential Screening Criteria are shaded gray

Table 2: Groundwater Sample Results
Town of Cheverly - Limited Subsurface Investigation

Analyte	MDE Groundwater SLs	Unit	Location ID	SB-01	SB-02	SB-04	SB-05	SB-06	SB-06
			Sample Name	SB-1	SB-2	SB-4	SB-5	SB-6	DUP-GW
			Sample Date	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020
			Parent Sample						SB-6
Total Petroleum Hydrocarbons (SW8015C)									
TPH-DRO (C10-C28)	NSL	µg/L		600	4300	6700	1100	350	290
TPH-GRO (C6-C10)	NSL	µg/L		< 23 U	18000	< 23 U	28 J	< 23 U	< 23 U
VOCs (SW8260C)									
1,1,1-Trichloroethane	200	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
1,1,2,2-Tetrachloroethane	0.076	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,1,2-Trichloroethane	5	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,1-Dichloroethane	2.8	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,1-Dichloroethene	7	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,2,4-Trichlorobenzene	70	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
1,2-Dibromo-3-chloropropane	0.2	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
1,2-Dibromoethane	0.05	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,2-Dichlorobenzene	600	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,2-Dichloroethane	5	µg/L		< 0.3 U	2 J	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
1,2-Dichloropropane	5	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,3-Dichlorobenzene	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,4-Dichlorobenzene	75	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
2-Butanone	560	µg/L		2 J	12 J	0.3 J	< 0.3 U	0.4 J	0.4 J
2-Hexanone	NSL	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
4-Methyl-2-pentanone	630	µg/L		< 0.5 U	< 3 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Acetone	1400	µg/L		15 J	40 J	2 J	2 J	4 J	3 J
Benzene	5	µg/L		< 0.2 U	28	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Bromodichloromethane	80	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Bromoform	80	µg/L		< 1 U	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromomethane	0.75	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
Butyl alcohol, tert-	NSL	µg/L		< 12 U	< 60 U	< 12 U	< 12 U	< 12 U	< 12 U
Carbon disulfide	81	µg/L		< 0.2 U	< 1 U	< 0.2 U	0.5 J	0.4 J	0.3 J
Carbon tetrachloride	5	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Chlorobenzene	100	µg/L		2	< 1 U	< 0.2 U	0.5 J	< 0.2 U	< 0.2 U
Chloroethane	2100	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Chloroform	80	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Chloromethane	19	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Cis-1,2-Dichloroethene	70	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Cis-1,3-dichloropropene	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Cyclohexane	NSL	µg/L		< 1 U	75	< 1 U	< 1 U	< 1 U	< 1 U
Dibromochloromethane	80	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Dichlorodifluoromethane	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Diisopropyl ether	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Ethyl tert-butyl ether	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Ethylbenzene	700	µg/L		< 0.4 U	760	< 0.4 U	0.5 J	< 0.4 U	< 0.4 U
Isopropylbenzene	45	µg/L		< 0.2 U	48	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Methyl acetate	NSL	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
Methyl tert-butyl ether	20	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Methylcyclohexane	NSL	µg/L		< 0.5 U	74	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Methylene chloride	5	µg/L		< 0.3 U	< 2 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
Naphthalene	0.17	µg/L		< 1 U	220	< 1 U	< 1 U	< 1 U	< 1 U
Styrene	100	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
tert-Amyl methyl ether	NSL	µg/L		< 0.8 U	< 4 U	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U
Tetrachloroethene	5	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Toluene	1000	µg/L		< 0.2 U	370	0.5 J	0.3 J	< 0.2 U	< 0.2 U
Trans-1,2-Dichloroethene	100	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Trans-1,3-dichloropropene	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Trichloroethene	5	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Trichlorofluoromethane	NSL	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Vinyl chloride	2	µg/L		< 0.2 U	< 1 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U
Xylenes, total	1000	µg/L		< 1 U	3800	2 J	2 J	< 1 U	< 1 U

Notes:
U = Compound was analyzed but not detected.
J = Estimated value.
µg/L = micrograms/liter
Maryland Dept. of Environment October 2018 Groundwater Standards Type I and II Aquifers
Cells exceeding the MDE Groundwater Standards are shaded gray

ATTACHMENT A: MDE WORK PLAN APPROVAL LETTER, DATED JANUARY 30, 2020

LIMITED SUBSURFACE INVESTIGATION

TOWN OF CHEVERLY, MD

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

January 30, 2020

Mr. Steve Brayman
Town of Cheverly
6401 Forest Road
Cheverly, MD 20785

RE: WORK PLAN APPROVAL
Case No. 2020-0399-PG
Department of Public Works
6401 Forest Road, Cheverly
Prince George's County, Maryland
Facility I.D. No. 4773

Dear Mr. Brayman:

The Maryland Department of the Environment's (MDE) Oil Control Program (OCP) completed a review of the case file for the above-referenced property, including the *Limited Subsurface Investigation Work Plan,* dated December 2019, prepared by EA Engineering, Science, and Technology, Inc. The *Work Plan* was submitted in response to the OCP's *Report of Observations*, dated November 27, 2019, to further investigate soil and groundwater conditions in the area of the active 10,000-gallon diesel underground storage tank (UST) system and the temporarily out-of-service 10,000-gallon gasohol UST system. The gasohol UST system was recently taken out of service following a failed precision tightness test. The OCP understands that all product has been removed from the gasohol UST system.

The *Work Plan* proposes the advancement of up to six soil borings at specified locations as discussed with your environmental consultant. If petroleum contamination is encountered, additional borings will be installed to delineate the horizontal extent of petroleum impact. Each boring will be completed to a depth at which groundwater is encountered using direct-push technology. Continuous soil cores will be collected at each boring to allow for logging of subsurface lithology. Subsurface soils will be field-screened at regular intervals with a photo-ionization detector (PID). A dye shaker test will be used as necessary to confirm the PID response.

At least one soil sample will be collected from each boring. Additional soil samples will be collected in at either the highest PID reading and/or near the groundwater interface. The soil samples will be field-preserved in accordance with EPA Method 5035. The borings will be completed as temporary 1-inch diameter monitoring wells to allow for the collection of representative groundwater samples. The OCP understands the temporary monitoring wells will be constructed to prevent the infiltration of surface water. All soil and groundwater samples will be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 8260 and total petroleum hydrocarbons - diesel and gasoline range organics (TPH-DRO and TPH-GRO) using EPA Method 8015.

Based on our review of the information provided, the OCP hereby approves the proposed *Work Plan* for immediate implementation, contingent upon the following comments/modifications:

1) **No later than March 2, 2020**, initiate implementation of the approved *Work Plan*. Ensure that all required permits are obtained prior to initiating the proposed activities.

2) If field screening results continue to reveal evidence of petroleum impact at the targeted depth/groundwater interface, the OCP will also require additional vertical delineation. Unless liquid phase hydrocarbons (LPH) are encountered, the direct-push borings must be advanced vertically until field screening data indicate the absence of petroleum impact. Boring locations may be field-modified as necessary to avoid damaging underground utilities.

3) During completion of the direct-push borings, soil cores will be screened with a PID.

   a. Field screening of the soil cores must be performed utilizing a consistent methodology that will not be adversely affected by site conditions. The use of glass jars or sealable plastic bags to store a portion of the sample material for screening purposes is recommended.

   b. Soil samples for laboratory analysis will be collected in each boring at the interval exhibiting the highest PID response and/or at the bottom of the boring. PID readings will be included in the boring logs.

   c. All soil samples will be collected and field preserved in accordance with EPA Method 5035 and analyzed for full-suite VOCs, including fuel oxygenates and naphthalene, using EPA Method 8260 and TPH-DRO and TPH-GRO using EPA Method 8015B.

4) If measurable LPH are detected in soil or groundwater during assessment activities, its presence must be reported within 2 hours of discovery by calling the OCP's Baltimore Headquarters at 410-537-3442 during standard business hours or the Emergency Response Division hotline at 1-866-633-686. Reports should not be made via voice mail messages to OCP case managers.

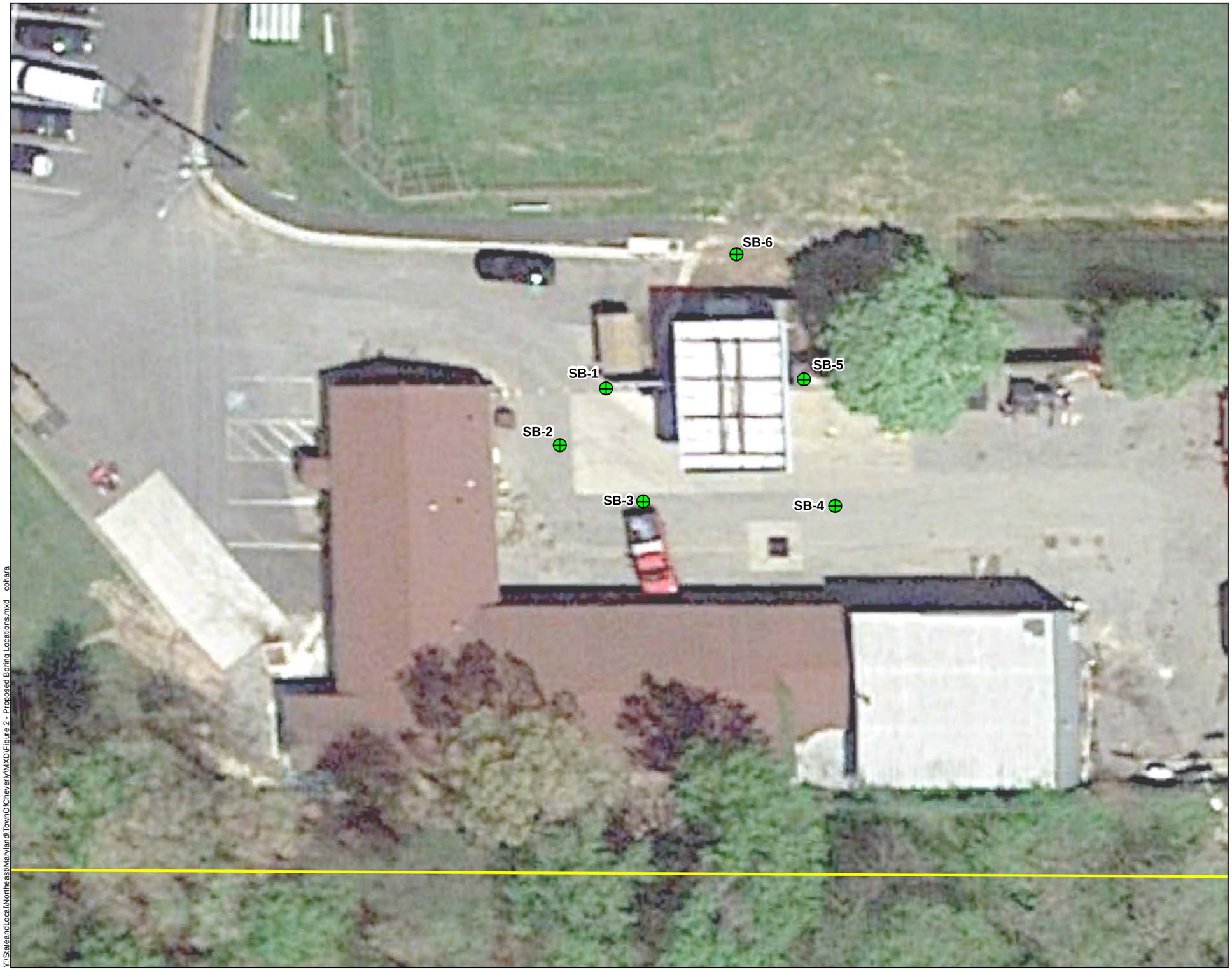
5) **No later than 60 days following the completion of approved *Work Plan* activities**, MDE requires the submittal of a comprehensive report documenting the results of the subsurface investigation and any remedial activities. The report must include the tabulated data documenting any petroleum mass and groundwater recovered, and any additional monitoring and sampling data obtained. Include a discussion of how the results influence future investigative and remedial activities. When submitting sampling results, include data summary tables and scaled site maps showing actual sampling locations (i.e., monitoring well locations). Reports must also include groundwater contour maps, site-specific detailed hydrogeology, groundwater flow, product thickness and dissolved phase concentration maps, monitoring well completion reports, and qualitative and/or quantitative discussions. Provide receipts to document proper disposal of the petroleum contact soil, groundwater, and/or LPH that may be generated as a result of the assessment activities.

Notify the OCP at least five working days prior to initiating the subsurface investigation so we can be on site to observe field activities. When submitting documentation, submit two hard copies and an electronic copy on a labeled compact disc (CD) or via email. If you have any questions, please contact Mr. Jim Richmond at 410-537-3337 or *jim.richmond@maryland.gov*.

Sincerely,

Mr. Andrew B. Miller, Chief
Remediation Division
Oil Control Program

cc: Mr. Nelson Brooks, EA Engineering, Science, and Technology, Inc.
Mr. Joseph Gill, Director, Prince George's County Department of Environment
Mr. Jim Richmond, Case Manager, Remediation Division, Oil Control Program
Mr. Christopher H. Ralston, Program Manager, Oil Control Program



VICINITY MAP

Legend

- Proposed Boring Location
- Area of Interest

Map Date: 1/28/2020
Source: Google Earth Aerial 2018
Projection: NAD 1983 State Plane Maryland FIPS 1900 Feet

N

0 20 40
Feet

1 inch = 20 feet

Figure 2
Proposed Boring Locations
Limited Subsurface Investigation
Town of Cheverly, Maryland

Y:\StateandLocal\NortheastMaryland\TownOfCheverly\MXD\Figure 2 - Proposed Boring Locations.mxd cohara

ATTACHMENT B: ACCURATE INFRASTRUCTURE DATA, INC. – UTILITY MARK-OUT

LIMITED SUBSURFACE INVESTIGATION

TOWN OF CHEVERLY

A|DATA
WHAT'S UNDERGROUND

Accurate Infrastructure Data, Inc.
UNDERGROUND UTILITY LOCATING, SURVEYING, MAPPING & DATA MANAGEMENT
1123 Hanzlik Avenue, Baltimore, MD 21237
Phone: 410-686-5091 Fax: 410-686-5093
Visit our web site at: www.aidatainc.com

PROJECT NAME: 6401 FOREST RD CHEVERLY	CLIENT: EA ENGINEERING	CONTACT: NELSON BROOKS
A/I DATA P.N.: 20048	DATE: 2-15-20	SHEET: 1 of 1
UTILITIES MARKED BY: EJN, DLJ	UTILITIES SKETCHED BY: EJN	P.M. REVIEW BY: JPM

TRAVEL TIME: HOURS TO SITE: 3/4 hrs. (830 to 915) HOURS FROM SITE: 3/4 hrs. (1045 to 1130)

SITE TIME: HOURS ON SITE: 1½ hrs. (START TIME: 915 END TIME: 1045) TOTAL TIME: 3 hrs.

TIME ON SITE ACKNOWLEDGED BY: X NOT ON SITE

DESCRIPTION OF WORK: ☒ UTILITY MARKING ☐ GPR ☐ OTHER:

15' RADIUS OF "6" BORE LOCATIONS STAKED IN FIELD

CHECK LIST ITEMS:

SITE WALK WITH CUSTOMER / RESPONSIBLE PARTY ☐ BEFORE MARKING ☐ AFTER MARKING

PROJECT LIMITS / RESPONSIBILITIES CLEARLY DEFINED: ☒ Y ☐ N UTILITY RECORDS PROVIDED: ☐ Y ☒ N

ORAL DESCRIPTION OF SITE UTILITIES PROVIDED: ☐ Y ☒ N ALL VISIBLE UTILITY FEATURES EVALUATED: ☒ Y ☐ N

PASSIVE SWEEPS PERFORMED: POWER ☒ Y ☐ N RADIO ☒ Y ☐ N ACTIVE SWEEP PERFORMED: ☒ Y ☐ N

UTILITY LEGEND

CATV	CABLE TELEVISION LINE	E	ELECTRIC LINE	FO	FIBER OPTIC LINE	G	GAS LINE (PAINTED YELLOW IN FIELD)
SAN	SANITARY SEWER LINE (PAINTED GREEN IN FIELD)	SD	STORM DRAIN LINE	T	TELECOMMUNICATIONS LINE	UNK	UNKNOWN LINE
W	WATER LINE						

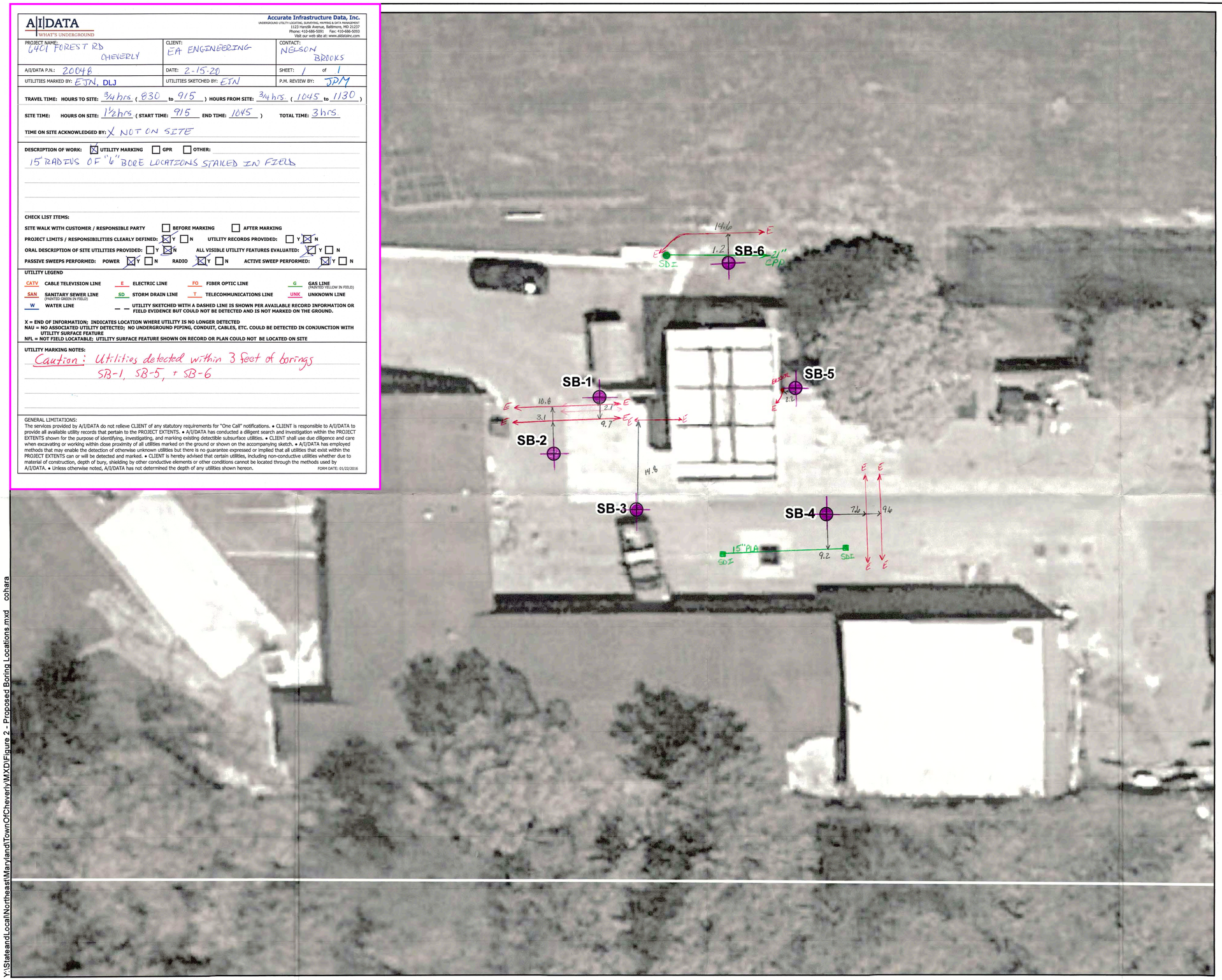
UTILITY SKETCHED WITH A DASHED LINE IS SHOWN PER AVAILABLE RECORD INFORMATION OR FIELD EVIDENCE BUT COULD NOT BE DETECTED AND IS NOT MARKED ON THE GROUND.

X = END OF INFORMATION; INDICATES LOCATION WHERE UTILITY IS NO LONGER DETECTED
NAU = NO ASSOCIATED UTILITY DETECTED; NO UNDERGROUND PIPING, CONDUIT, CABLES, ETC. COULD BE DETECTED IN CONJUNCTION WITH UTILITY SURFACE FEATURE
NFL = NOT FIELD LOCATABLE; UTILITY SURFACE FEATURE SHOWN ON RECORD OR PLAN COULD NOT BE LOCATED ON SITE

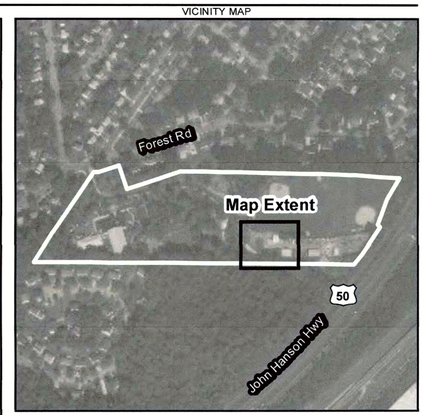
UTILITY MARKING NOTES:

Caution: Utilities detected within 3 feet of borings SB-1, SB-5, + SB-6

GENERAL LIMITATIONS:
The services provided by A/I/DATA do not relieve CLIENT of any statutory requirements for "One Call" notifications. • CLIENT is responsible to A/I/DATA to provide all available utility records that pertain to the PROJECT EXTENTS. • A/I/DATA has conducted a diligent search and investigation within the PROJECT EXTENTS shown for the purpose of identifying, investigating, and marking existing detectible subsurface utilities. • CLIENT shall use due diligence and care when excavating or working within close proximity of all utilities marked on the ground or shown on the accompanying sketch. • A/I/DATA has employed methods that may enable the detection of otherwise unknown utilities but there is no guarantee expressed or implied that all utilities that exist within the PROJECT EXTENTS can or will be detected and marked. • CLIENT is hereby advised that certain utilities, including non-conductive utilities whether due to material of construction, depth of bury, shielding by other conductive elements or other conditions cannot be located through the methods used by A/I/DATA. • Unless otherwise noted, A/I/DATA has not determined the depth of any utilities shown hereon. FORM DATE: 01/22/2016



VICINITY MAP



Legend

⊕ Proposed Boring Location

Area of Interest

Map Date: 1/28/2020
Source: Google Earth Aerial 2018
Projection: NAD 1983 State Plane Maryland FIPS 1900 Feet

N

0 20 40
Feet

1 inch = 20 feet

Figure 2
Proposed Boring Locations
Limited Subsurface Investigation
Town of Cheverly, Maryland

Y:\State and Local\Northeast Maryland\Town Of Cheverly\MXD\Figure 2 - Proposed Boring Locations.mxd cohara

ATTACHMENT C: SOIL BORING LOGS

LIMITED SUBSURFACE INVESTIGATION

TOWN OF CHEVERLY

EA Engineering, Science, and Technology, Inc.

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL/ROCK BORING

Coordinates: _____
Surface Elevation: _____
Casing Below Surface: _____
Reference Elevation: _____
Reference Desc: _____

Job. No.	Client: Cheverly DPW	Location: Cheverly MD
Drilling Method: Geoprobe		Boring No. SB-1
Sampling Method: 5' Core		Sheet 1 of 1
		Drilling Start: 1020 Finish: 1040

Water Level			
Time	-		
Date			
Reference			

Sample Type	Inches Drvn/In. Recvrd	Dpth. Csg.	Sample No.	PID ppm	Blows per 6 in.	Depth in Feet	USCS Log	Surface Conditions: Asphalt
		N/A		0		1		0-1' Asphalt; aggregate
	38/60			2.4		2	CL/SL	1-2.5' Lt Brown CLAY; some sand; V. Soft, medium plasticity; v moist.
				0		3	SP	2.5-5' Lt Brown/white medium SAND; some gravel; little clay; dense; moist.
				0		4		
			SB-1-	0		5	CL	5-10' Dark brown to light brown CLAY. V soft to stiff; medium plasticity; wet to moist.
			5-6 (1030)	0		6		
	59/60			0		7		
				0		8		
				0		9		
				0		10		both 10' temp well 5' screen.
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
						20		
						21		

Logged by: Bill Harvey Date: 2/18/20

Drilling Contractor: CSI Driller: J. Green

EA Engineering, Science, and Technology, Inc.

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL/ROCK BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Desc:

Job. No.	Client: Cheverly DPW	Location: Cheverly, MD
Drilling Method: Geoprobe		Boring No. SB-2
Sampling Method: 5' Core		Sheet 1 of 1
		Drilling Start: 0900 Finish: 0920

Water Level			
Time	-		
Date			
Reference			

Sample Type	Inches Drvn/In. Recvrd	Dpth. Csg.	Sample No.	PID ppm	Blows per 6 in.	Depth in Feet	USCS Log	Surface Conditions: Asphalt
		N/A		0		1		0-1' Asphalt; aggregate.
	36/60			0		2	CL	1-5' Brown CLAY; little medium sand; high plasticity; soft; moist - wet.
				2.5		3		
				10		4	CL	5-6' Gray to brown CLAY; little fine sand; medium plasticity; soft; wet.
			SB-2 -5.6 (915)	58		5	CL	6-15' mottled brown, red, gray CLAY; low plasticity; soft to stiff; moist.
				200		6		
				46		7		
	49/60			0		8		
				0		9		
				0		10		
				0		11		
				0		12		
	60/60			0		13		
				0		14		
				0		15		
						16		Doh 15' temp well 10' screen
						17		
						18		
						19		
						20		
						21		

Logged by: Bill Harvey Date: 2/18/20

Drilling Contractor: CSI Driller: J. Green

EA Engineering, Science, and Technology, Inc.

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL/ROCK BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Desc:

Job. No.	Client: Cheverly DPW	Location: Cheverly, MD
Drilling Method: Geoprobe		Boring No. SB-3
Sampling Method: 5' Core		Sheet 1 of 1
		Drilling

Water Level				Start	Finish
Time	-			0935	0955
Date					
Reference					

Sample Type	Inches Drvn/In. Recvrd	Dpth. Csg.	Sample No.	PID ppm	Blows per 6 in.	Depth in Feet	USCS Log	Surface Conditions: Asphalt
		N/A		0		1		0-1' Asphalt; aggregate
				5		2	SP/GP	1-4' Dark brown coarse SAND and fine GRAVEL, little clay; med dense; Dry.
	31/60			4		3	CL	4-5' Reddish brown CLAY; medium plasticity; soft; moist.
				5		4		
			SB-3-5-6 (0945)	5		5	CL	5-7' Brown to grey CLAY; low plasticity; very soft; moist to wet w/ strong gas odor.
				300		6		
				150		7		7-15' Brown to orange CLAY; little fine sand; med stiff to stiff; low plasticity; sl. moist.
	48/60		DUP-1	110		8	CL	
				7		9		
				1.2		10		
				0		11		
	60/60			0		12		
				0		13		
				0		14		
				0		15		
						16		
						17		bgh 15' temp well 10' screen
						18		
						19		
						20		
						21		

Logged by: Bill Harvey Date: 2/18/20

Drilling Contractor: GSI Driller: J. Green

EA Engineering, Science, and Technology, Inc.

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL/ROCK BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Desc:

Job. No.	Client: Cheverly DPW	Location: Cheverly, MD
Drilling Method: Geoprobe		Boring No.: SB-4
Sampling Method: 5' Core		Sheet 1 of 1
		Drilling

Water Level				Start	Finish
Time	-			0950	1005
Date					
Reference					

Sample Type	Inches Drvn/In. Recvrd	Dpth. Csg.	Sample No.	PID ppm	Blows per 6 in.	Depth in Feet	USCS Log	Surface Conditions: Asphalt
		N/A		0		1		0-1' Asphalt; aggregate
				1		2		1-4' FILL: (coarse sand, clay, silt); moist to v. moist.
	34/60			0.1		3		
				0.5		4	SC	4-6' Light brown to dark brown SAND and CLAY; soft/loose; moist to wet.
			SB-4	0.1		5		
			-5-6	0.2		6	OL	6-7' Dark brown SILT (Peat?); organic; soft; moist.
	60/60		(1000)	0.1		7		7-10' Light brown CLAY; medium plasticity; soft; v. moist.
				0		8	CL	
				0		9		
				0		10		Bsh 10' temp well 5' screen
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
						20		
						21		

Logged by: Bill Harvey Date: 2/18/20

Drilling Contractor: GSI Driller: J. Groom

EA Engineering, Science, and Technology, Inc.

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL/ROCK BORING

Coordinates: _____
Surface Elevation: _____
Casing Below Surface: _____
Reference Elevation: _____
Reference Desc: _____

Job. No.	Client: Cheverly DPW	Location: Cheverly, MD
Drilling Method: Geoprobe		Boring No. SB-5
Sampling Method: 5' Core		Sheet 1 of 1
		Drilling

Water Level				Start	Finish
Time	-			1005	1025
Date					
Reference					

Sample Type	Inches Drvn/In. Recvrd	Dpth. Csg.	Sample No.	PID ppm	Blows per 6 in.	Depth in Feet	USCS Log	Surface Conditions: Asphalt
		N/A		0		1		0-1' Asphalt/aggregate.
	34/40			0		2	GP	1-4' Lt Brown coarse-fine GRAVEL (per gravel from tank field); loose; wet.
				0		3		
				0		4	CL/SC	4-7' Brown CLAY; some fine sand; low plast; soft; wet.
			SB-5	0		5		7-10' Lt Brown to Brown CLAY; soft to medium stiff; low plasticity; lcl. moist.
			5-6 (1015)	0		6	CL	
	51/40			0		7		
				0		8		
				0		9		
				0		10		both 10' temp well 5' screen
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
						20		
						21		

Logged by: Bill Harvey Date: 2/18/20

Drilling Contractor: GSI Driller: J. Groom

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL/ROCK BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Desc:

Job. No.	Client: Cheverly DPW	Location: Cheverly, MD
Drilling Method: Geoprobe		Boring No. SB-6
Sampling Method: 5' Core		Sheet 1 of 1
		Drilling Start: 1055 Finish: 11/20

Water Level			
Time	-		
Date			
Reference			

Sample Type	Inches Drvn/In. Recvrd	Dpth. Csg.	Sample No.	PID ppm	Blows per 6 in.	Depth in Feet	USCS Log	Surface Conditions: Grass
		N/A		0		1		0-1' Grass; organics.
	38/60			0		2	CL	1-4' Brown, CLAY; little sand; low-medium plasticity; stiff; moist.
				0		3		
				0		4	SP	4-6' Orange to brown medium SAND; little fine gravel; trace clay; dense; moist to v. moist.
			SB-6 5-6 (1100) MS/MSD	0		5		
				0		6	CL	6-10' Dark gray to beige CLAY; medium plasticity; v. soft; trace fine gravel; wet.
				0		7		
	56/60			0		8	CL	10-14' Beige to yellowish brown CLAY; medium plasticity; stiff; little medium sand; moist.
				0		9		
				0		10		
				0		11		
	47/48			0		12		
				0		13		
				0		14		
						15		bck 14'; 10' screen on temp well.
						16		
						17		
						18		
						19		
						20		
						21		

Logged by: Bill Harvey Date: 2/18/20

Drilling Contractor: GSI Driller: J. Groom

ATTACHMENT D: LABORATORY ANALYTICAL REPORT

LIMITED SUBSURFACE INVESTIGATION

TOWN OF CHEVERLY

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

EA Engineering
225 Schilling Circle
Suite 400
Hunt Valley MD 21031

Report Date: February 28, 2020 16:13

Project: Town of Cheverly

Account #: 10784
Group Number: 2088718
SDG: CEH01
PO Number: 20277
State of Sample Origin: MD

Electronic Copy To EA Engineering Attn: Nelson Brooks

Respectfully Submitted,

Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
SB-1-5-6 Grab Soil	02/18/2020 10:30	1263509
SB-2-5-6 Grab Soil	02/18/2020 09:15	1263510
SB-3-5-6 Grab Soil	02/18/2020 09:45	1263511
DUP-1 Grab Soil	02/18/2020	1263512
SB-4-5-6 Grab Soil	02/18/2020 10:00	1263513
SB-5-5-6 Grab Soil	02/18/2020 10:15	1263514
SB-6-5-6 Grab Soil	02/18/2020 11:00	1263515
SB-6 Grab Groundwater	02/18/2020 11:20	1263516
DUP-GW Grab Groundwater	02/18/2020	1263517
SB-1 Grab Groundwater	02/18/2020 11:40	1263518
SB-2 Grab Groundwater	02/18/2020 12:00	1263519
SB-5 Grab Groundwater	02/18/2020 12:15	1263520
SB-5 MS Grab Groundwater	02/18/2020 12:15	1263521
SB-5 MSD Grab Groundwater	02/18/2020 12:15	1263522
SB-4 Grab Groundwater	02/18/2020 12:30	1263523
TB Water	02/18/2020	1263524

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **SB-1-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 10:30
SDG#: CEH01-01

EA Engineering
ELLE Sample #: **SW 1263509**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	18	5	0.65
11995	t-Amyl methyl ether	994-05-8	N.D.	0.6	0.65
11995	Benzene	71-43-2	N.D.	0.4	0.65
11995	Bromodichloromethane	75-27-4	N.D.	0.3	0.65
11995	Bromoform	75-25-2	N.D.	4	0.65
11995	Bromomethane	74-83-9	N.D.	0.6	0.65
11995	2-Butanone	78-93-3	N.D.	2	0.65
11995	t-Butyl alcohol	75-65-0	N.D.	12	0.65
11995	Carbon Disulfide	75-15-0	5	0.5	0.65
11995	Carbon Tetrachloride	56-23-5	N.D.	0.4	0.65
11995	Chlorobenzene	108-90-7	8	0.4	0.65
11995	Chloroethane	75-00-3	N.D.	0.8	0.65
11995	Chloroform	67-66-3	N.D.	0.5	0.65
11995	Chloromethane	74-87-3	N.D.	0.5	0.65
11995	Cyclohexane	110-82-7	N.D.	0.4	0.65
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.65
11995	Dibromochloromethane	124-48-1	N.D.	0.4	0.65
11995	1,2-Dibromoethane	106-93-4	N.D.	0.3	0.65
11995	1,2-Dichlorobenzene	95-50-1	1 J	0.4	0.65
11995	1,3-Dichlorobenzene	541-73-1	N.D.	0.4	0.65
11995	1,4-Dichlorobenzene	106-46-7	1 J	0.3	0.65
11995	Dichlorodifluoromethane	75-71-8	N.D.	0.5	0.65
11995	1,1-Dichloroethane	75-34-3	N.D.	0.4	0.65
11995	1,2-Dichloroethane	107-06-2	N.D.	0.5	0.65
11995	1,1-Dichloroethene	75-35-4	N.D.	0.4	0.65
11995	cis-1,2-Dichloroethene	156-59-2	N.D.	0.4	0.65
11995	trans-1,2-Dichloroethene	156-60-5	N.D.	0.4	0.65
11995	1,2-Dichloropropane	78-87-5	N.D.	0.4	0.65
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.3	0.65
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.4	0.65
11995	Ethyl t-butyl ether	637-92-3	N.D.	0.4	0.65
11995	Ethylbenzene	100-41-4	N.D.	0.3	0.65
11995	Freon 113	76-13-1	N.D.	0.5	0.65
11995	2-Hexanone	591-78-6	N.D.	0.8	0.65
11995	di-Isopropyl ether	108-20-3	N.D.	0.4	0.65
11995	Isopropylbenzene	98-82-8	N.D.	0.3	0.65
11995	Methyl Acetate	79-20-9	N.D.	0.8	0.65
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.4	0.65
11995	4-Methyl-2-pentanone	108-10-1	N.D.	0.8	0.65
11995	Methylcyclohexane	108-87-2	N.D.	0.5	0.65
11995	Methylene Chloride	75-09-2	N.D.	2	0.65
11995	Naphthalene	91-20-3	N.D.	2	0.65
11995	Styrene	100-42-5	N.D.	0.3	0.65
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.3	0.65
11995	Tetrachloroethene	127-18-4	N.D.	0.4	0.65
11995	Toluene	108-88-3	N.D.	0.5	0.65
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.	4	0.65
11995	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	0.65
11995	1,1,2-Trichloroethane	79-00-5	N.D.	0.4	0.65

Sample Description: **SB-1-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 10:30
SDG#: CEH01-01

EA Engineering
ELLE Sample #: **SW 1263509**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	0.4	0.65
11995	Trichlorofluoromethane	75-69-4	N.D.	0.6	0.65
11995	Vinyl Chloride	75-01-4	N.D.	0.5	0.65
11995	Xylene (Total)	1330-20-7	N.D.	1	0.65
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	0.2 J	0.1	16.4
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv) The surrogate data is outside the QC limits due to unresolvable matrix problems.	n.a.	410	6.6	1
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	19.2	0.50	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	A200551AA	02/24/2020 11:26	Linda C Pape	0.65
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 10:30	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31A	02/25/2020 00:08	Jeremy C Giffin	16.4
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 10:30	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 12:21	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **SB-2-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 09:15
SDG#: CEH01-02

EA Engineering
ELLE Sample #: **SW 1263510**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**		**ug/kg**	
11995	Acetone	67-64-1	N.D.		1,300	183.55
11995	t-Amyl methyl ether	994-05-8	N.D.		180	183.55
11995	Benzene	71-43-2	190	J	110	183.55
11995	Bromodichloromethane	75-27-4	N.D.		88	183.55
11995	Bromoform	75-25-2	N.D.		1,100	183.55
11995	Bromomethane	74-83-9	N.D.		150	183.55
11995	2-Butanone	78-93-3	N.D.		440	183.55
11995	t-Butyl alcohol	75-65-0	N.D.		3,300	183.55
11995	Carbon Disulfide	75-15-0	N.D.		130	183.55
11995	Carbon Tetrachloride	56-23-5	N.D.		110	183.55
11995	Chlorobenzene	108-90-7	N.D.		110	183.55
11995	Chloroethane	75-00-3	N.D.		220	183.55
11995	Chloroform	67-66-3	380	J	130	183.55
11995	Chloromethane	74-87-3	N.D.		130	183.55
11995	Cyclohexane	110-82-7	N.D.		110	183.55
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		110	183.55
11995	Dibromochloromethane	124-48-1	N.D.		110	183.55
11995	1,2-Dibromoethane	106-93-4	N.D.		88	183.55
11995	1,2-Dichlorobenzene	95-50-1	N.D.		110	183.55
11995	1,3-Dichlorobenzene	541-73-1	N.D.		110	183.55
11995	1,4-Dichlorobenzene	106-46-7	N.D.		88	183.55
11995	Dichlorodifluoromethane	75-71-8	N.D.		130	183.55
11995	1,1-Dichloroethane	75-34-3	N.D.		110	183.55
11995	1,2-Dichloroethane	107-06-2	N.D.		130	183.55
11995	1,1-Dichloroethene	75-35-4	N.D.		110	183.55
11995	cis-1,2-Dichloroethene	156-59-2	N.D.		110	183.55
11995	trans-1,2-Dichloroethene	156-60-5	N.D.		110	183.55
11995	1,2-Dichloropropane	78-87-5	N.D.		110	183.55
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.		88	183.55
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.		110	183.55
11995	Ethyl t-butyl ether	637-92-3	N.D.		110	183.55
11995	Ethylbenzene	100-41-4	18,000		88	183.55
11995	Freon 113	76-13-1	N.D.		130	183.55
11995	2-Hexanone	591-78-6	N.D.		220	183.55
11995	di-Isopropyl ether	108-20-3	N.D.		110	183.55
11995	Isopropylbenzene	98-82-8	2,300		88	183.55
11995	Methyl Acetate	79-20-9	N.D.		220	183.55
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		110	183.55
11995	4-Methyl-2-pentanone	108-10-1	N.D.		220	183.55
11995	Methylcyclohexane	108-87-2	8,600		130	183.55
11995	Methylene Chloride	75-09-2	N.D.		440	183.55
11995	Naphthalene	91-20-3	8,900		440	183.55
11995	Styrene	100-42-5	N.D.		88	183.55
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		88	183.55
11995	Tetrachloroethene	127-18-4	N.D.		110	183.55
11995	Toluene	108-88-3	5,800		130	183.55
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.		1,100	183.55
11995	1,1,1-Trichloroethane	71-55-6	N.D.		130	183.55
11995	1,1,2-Trichloroethane	79-00-5	N.D.		110	183.55

Sample Description: **SB-2-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 09:15
SDG#: CEH01-02

EA Engineering
ELLE Sample #: **SW 1263510**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	110	183.55
11995	Trichlorofluoromethane	75-69-4	N.D.	150	183.55
11995	Vinyl Chloride	75-01-4	N.D.	130	183.55
11995	Xylene (Total)	1330-20-7	96,000	310	183.55
	A Report Limit Verification (RLV) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The RLV standard shows adequate sensitivity at or below the reporting limit.				
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	1,900	130	14836.8
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv)	n.a.	28	6.3	1
	The surrogate data is outside the QC limits due to unresolvable matrix problems.				
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture	n.a.	16.5	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	R200561AA	02/26/2020 00:59	Joel Trout	183.55
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 09:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 09:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 09:15	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31A	02/25/2020 03:51	Jeremy C Giffin	14836.8
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 09:15	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 08:43	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **SB-3-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 09:45
SDG#: CEH01-03

EA Engineering
ELLE Sample #: **SW 1263511**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**		**ug/kg**	
11995	Acetone	67-64-1	N.D.		2,600	360.75
11995	t-Amyl methyl ether	994-05-8	N.D.		350	360.75
11995	Benzene	71-43-2	8,700		220	360.75
11995	Bromodichloromethane	75-27-4	N.D.		180	360.75
11995	Bromoform	75-25-2	N.D.		2,200	360.75
11995	Bromomethane	74-83-9	N.D.		310	360.75
11995	2-Butanone	78-93-3	N.D.		880	360.75
11995	t-Butyl alcohol	75-65-0	N.D.		6,600	360.75
11995	Carbon Disulfide	75-15-0	N.D.		260	360.75
11995	Carbon Tetrachloride	56-23-5	N.D.		220	360.75
11995	Chlorobenzene	108-90-7	N.D.		220	360.75
11995	Chloroethane	75-00-3	N.D.		440	360.75
11995	Chloroform	67-66-3	560	J	260	360.75
11995	Chloromethane	74-87-3	N.D.		260	360.75
11995	Cyclohexane	110-82-7	N.D.		220	360.75
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		220	360.75
11995	Dibromochloromethane	124-48-1	N.D.		220	360.75
11995	1,2-Dibromoethane	106-93-4	N.D.		180	360.75
11995	1,2-Dichlorobenzene	95-50-1	N.D.		220	360.75
11995	1,3-Dichlorobenzene	541-73-1	N.D.		220	360.75
11995	1,4-Dichlorobenzene	106-46-7	N.D.		180	360.75
11995	Dichlorodifluoromethane	75-71-8	N.D.		260	360.75
11995	1,1-Dichloroethane	75-34-3	N.D.		220	360.75
11995	1,2-Dichloroethane	107-06-2	N.D.		260	360.75
11995	1,1-Dichloroethene	75-35-4	N.D.		220	360.75
11995	cis-1,2-Dichloroethene	156-59-2	N.D.		220	360.75
11995	trans-1,2-Dichloroethene	156-60-5	N.D.		220	360.75
11995	1,2-Dichloropropane	78-87-5	N.D.		220	360.75
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.		180	360.75
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.		220	360.75
11995	Ethyl t-butyl ether	637-92-3	N.D.		220	360.75
11995	Ethylbenzene	100-41-4	79,000		180	360.75
11995	Freon 113	76-13-1	N.D.		260	360.75
11995	2-Hexanone	591-78-6	N.D.		440	360.75
11995	di-Isopropyl ether	108-20-3	N.D.		220	360.75
11995	Isopropylbenzene	98-82-8	8,800		180	360.75
11995	Methyl Acetate	79-20-9	N.D.		440	360.75
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		220	360.75
11995	4-Methyl-2-pentanone	108-10-1	N.D.		440	360.75
11995	Methylcyclohexane	108-87-2	26,000		260	360.75
11995	Methylene Chloride	75-09-2	N.D.		880	360.75
11995	Naphthalene	91-20-3	36,000		880	360.75
11995	Styrene	100-42-5	N.D.		180	360.75
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		180	360.75
11995	Tetrachloroethene	127-18-4	N.D.		220	360.75
11995	Toluene	108-88-3	180,000		2,600	3607.5
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.		2,200	360.75
11995	1,1,1-Trichloroethane	71-55-6	N.D.		260	360.75
11995	1,1,2-Trichloroethane	79-00-5	N.D.		220	360.75

Sample Description: **SB-3-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 09:45
SDG#: CEH01-03

EA Engineering
ELLE Sample #: **SW 1263511**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	220	360.75
11995	Trichlorofluoromethane	75-69-4	N.D.	310	360.75
11995	Vinyl Chloride	75-01-4	N.D.	260	360.75
11995	Xylene (Total)	1330-20-7	380,000	610	360.75
	A Report Limit Verification (RLV) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The RLV standard shows adequate sensitivity at or below the reporting limit.				
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	6,200	320	36231.88
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv)	n.a.	670	6.4	1
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture	n.a.	17.8	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	R200561AA	02/26/2020 01:40	Joel Trout	360.75
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	R200561AA	02/26/2020 02:01	Joel Trout	3607.5
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 09:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 09:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 09:45	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31A	02/25/2020 04:26	Jeremy C Giffin	36231.88
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 09:45	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 09:05	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **DUP-1 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020
SDG#: CEH01-04FD

EA Engineering
ELLE Sample #: **SW 1263512**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	N.D.	2,300	308.64
11995	t-Amyl methyl ether	994-05-8	N.D.	300	308.64
11995	Benzene	71-43-2	6,700	190	308.64
11995	Bromodichloromethane	75-27-4	N.D.	150	308.64
11995	Bromoform	75-25-2	N.D.	1,900	308.64
11995	Bromomethane	74-83-9	N.D.	260	308.64
11995	2-Butanone	78-93-3	N.D.	750	308.64
11995	t-Butyl alcohol	75-65-0	N.D.	5,600	308.64
11995	Carbon Disulfide	75-15-0	N.D.	230	308.64
11995	Carbon Tetrachloride	56-23-5	N.D.	190	308.64
11995	Chlorobenzene	108-90-7	N.D.	190	308.64
11995	Chloroethane	75-00-3	N.D.	380	308.64
11995	Chloroform	67-66-3	N.D.	230	308.64
11995	Chloromethane	74-87-3	N.D.	230	308.64
11995	Cyclohexane	110-82-7	N.D.	190	308.64
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	190	308.64
11995	Dibromochloromethane	124-48-1	N.D.	190	308.64
11995	1,2-Dibromoethane	106-93-4	N.D.	150	308.64
11995	1,2-Dichlorobenzene	95-50-1	N.D.	190	308.64
11995	1,3-Dichlorobenzene	541-73-1	N.D.	190	308.64
11995	1,4-Dichlorobenzene	106-46-7	N.D.	150	308.64
11995	Dichlorodifluoromethane	75-71-8	N.D.	230	308.64
11995	1,1-Dichloroethane	75-34-3	N.D.	190	308.64
11995	1,2-Dichloroethane	107-06-2	N.D.	230	308.64
11995	1,1-Dichloroethene	75-35-4	N.D.	190	308.64
11995	cis-1,2-Dichloroethene	156-59-2	N.D.	190	308.64
11995	trans-1,2-Dichloroethene	156-60-5	N.D.	190	308.64
11995	1,2-Dichloropropane	78-87-5	N.D.	190	308.64
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.	150	308.64
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.	190	308.64
11995	Ethyl t-butyl ether	637-92-3	N.D.	190	308.64
11995	Ethylbenzene	100-41-4	53,000	150	308.64
11995	Freon 113	76-13-1	N.D.	230	308.64
11995	2-Hexanone	591-78-6	N.D.	380	308.64
11995	di-Isopropyl ether	108-20-3	N.D.	190	308.64
11995	Isopropylbenzene	98-82-8	5,400	150	308.64
11995	Methyl Acetate	79-20-9	N.D.	380	308.64
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	190	308.64
11995	4-Methyl-2-pentanone	108-10-1	N.D.	380	308.64
11995	Methylcyclohexane	108-87-2	13,000	230	308.64
11995	Methylene Chloride	75-09-2	N.D.	750	308.64
11995	Naphthalene	91-20-3	26,000	750	308.64
11995	Styrene	100-42-5	N.D.	150	308.64
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	150	308.64
11995	Tetrachloroethene	127-18-4	N.D.	190	308.64
11995	Toluene	108-88-3	140,000	2,300	3086.42
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.	1,900	308.64
11995	1,1,1-Trichloroethane	71-55-6	N.D.	230	308.64
11995	1,1,2-Trichloroethane	79-00-5	N.D.	190	308.64

Sample Description: **DUP-1 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020
SDG#: CEH01-04FD

EA Engineering
ELLE Sample #: SW 1263512
ELLE Group #: 2088718
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	190	308.64
11995	Trichlorofluoromethane	75-69-4	N.D.	260	308.64
11995	Vinyl Chloride	75-01-4	N.D.	230	308.64
11995	Xylene (Total)	1330-20-7	270,000	530	308.64
	A Report Limit Verification (RLV) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The RLV standard shows adequate sensitivity at or below the reporting limit.				
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	7,600	250	28636.88
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv)	n.a.	170	6.4	1
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture	n.a.	17.8	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	R200561AA	02/26/2020 02:21	Joel Trout	308.64
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	R200561AA	02/26/2020 02:42	Joel Trout	3086.42
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 00:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 00:00	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31A	02/25/2020 05:45	Jeremy C Giffin	28636.88
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 00:00	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 09:27	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **SB-4-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 10:00
SDG#: CEH01-05

EA Engineering
ELLE Sample #: **SW 1263513**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	22	5	0.69
11995	t-Amyl methyl ether	994-05-8	N.D.	0.7	0.69
11995	Benzene	71-43-2	N.D.	0.4	0.69
11995	Bromodichloromethane	75-27-4	N.D.	0.3	0.69
11995	Bromoform	75-25-2	N.D.	4	0.69
11995	Bromomethane	74-83-9	N.D.	0.6	0.69
11995	2-Butanone	78-93-3	N.D.	2	0.69
11995	t-Butyl alcohol	75-65-0	N.D.	13	0.69
11995	Carbon Disulfide	75-15-0	1 J	0.5	0.69
11995	Carbon Tetrachloride	56-23-5	N.D.	0.4	0.69
11995	Chlorobenzene	108-90-7	N.D.	0.4	0.69
11995	Chloroethane	75-00-3	N.D.	0.8	0.69
11995	Chloroform	67-66-3	N.D.	0.5	0.69
11995	Chloromethane	74-87-3	N.D.	0.5	0.69
11995	Cyclohexane	110-82-7	N.D.	0.4	0.69
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.69
11995	Dibromochloromethane	124-48-1	N.D.	0.4	0.69
11995	1,2-Dibromoethane	106-93-4	N.D.	0.3	0.69
11995	1,2-Dichlorobenzene	95-50-1	N.D.	0.4	0.69
11995	1,3-Dichlorobenzene	541-73-1	N.D.	0.4	0.69
11995	1,4-Dichlorobenzene	106-46-7	N.D.	0.3	0.69
11995	Dichlorodifluoromethane	75-71-8	N.D.	0.5	0.69
11995	1,1-Dichloroethane	75-34-3	N.D.	0.4	0.69
11995	1,2-Dichloroethane	107-06-2	N.D.	0.5	0.69
11995	1,1-Dichloroethene	75-35-4	N.D.	0.4	0.69
11995	cis-1,2-Dichloroethene	156-59-2	N.D.	0.4	0.69
11995	trans-1,2-Dichloroethene	156-60-5	N.D.	0.4	0.69
11995	1,2-Dichloropropane	78-87-5	N.D.	0.4	0.69
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.3	0.69
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.4	0.69
11995	Ethyl t-butyl ether	637-92-3	N.D.	0.4	0.69
11995	Ethylbenzene	100-41-4	N.D.	0.3	0.69
11995	Freon 113	76-13-1	N.D.	0.5	0.69
11995	2-Hexanone	591-78-6	N.D.	0.8	0.69
11995	di-Isopropyl ether	108-20-3	N.D.	0.4	0.69
11995	Isopropylbenzene	98-82-8	N.D.	0.3	0.69
11995	Methyl Acetate	79-20-9	N.D.	0.8	0.69
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.4	0.69
11995	4-Methyl-2-pentanone	108-10-1	N.D.	0.8	0.69
11995	Methylcyclohexane	108-87-2	N.D.	0.5	0.69
11995	Methylene Chloride	75-09-2	N.D.	2	0.69
11995	Naphthalene	91-20-3	N.D.	2	0.69
11995	Styrene	100-42-5	N.D.	0.3	0.69
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.3	0.69
11995	Tetrachloroethene	127-18-4	N.D.	0.4	0.69
11995	Toluene	108-88-3	N.D.	0.5	0.69
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.	4	0.69
11995	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	0.69
11995	1,1,2-Trichloroethane	79-00-5	N.D.	0.4	0.69

Sample Description: **SB-4-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 10:00
SDG#: CEH01-05

EA Engineering
ELLE Sample #: **SW 1263513**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	0.4	0.69
11995	Trichlorofluoromethane	75-69-4	N.D.	0.6	0.69
11995	Vinyl Chloride	75-01-4	N.D.	0.5	0.69
11995	Xylene (Total)	1330-20-7	N.D.	1	0.69
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	32	0.9	100
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv)	n.a.	550	6.5	1
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture	n.a.	18.6	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	A200571AA	02/27/2020 00:00	Laura Green	0.69
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 10:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 10:00	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31A	02/25/2020 02:39	Jeremy C Giffin	100
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 10:00	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 13:49	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **SB-5-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 10:15
SDG#: CEH01-06

EA Engineering
ELLE Sample #: **SW 1263514**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	40	7	0.82
11995	t-Amyl methyl ether	994-05-8	N.D.	0.9	0.82
11995	Benzene	71-43-2	0.7 J	0.6	0.82
11995	Bromodichloromethane	75-27-4	N.D.	0.5	0.82
11995	Bromoform	75-25-2	N.D.	6	0.82
11995	Bromomethane	74-83-9	N.D.	0.8	0.82
11995	2-Butanone	78-93-3	3 J	2	0.82
11995	t-Butyl alcohol	75-65-0	N.D.	18	0.82
11995	Carbon Disulfide	75-15-0	4 J	0.7	0.82
11995	Carbon Tetrachloride	56-23-5	N.D.	0.6	0.82
11995	Chlorobenzene	108-90-7	13	0.6	0.82
11995	Chloroethane	75-00-3	N.D.	1	0.82
11995	Chloroform	67-66-3	N.D.	0.7	0.82
11995	Chloromethane	74-87-3	N.D.	0.7	0.82
11995	Cyclohexane	110-82-7	N.D.	0.6	0.82
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.6	0.82
11995	Dibromochloromethane	124-48-1	N.D.	0.6	0.82
11995	1,2-Dibromoethane	106-93-4	N.D.	0.5	0.82
11995	1,2-Dichlorobenzene	95-50-1	0.9 J	0.6	0.82
11995	1,3-Dichlorobenzene	541-73-1	N.D.	0.6	0.82
11995	1,4-Dichlorobenzene	106-46-7	1 J	0.5	0.82
11995	Dichlorodifluoromethane	75-71-8	N.D.	0.7	0.82
11995	1,1-Dichloroethane	75-34-3	N.D.	0.6	0.82
11995	1,2-Dichloroethane	107-06-2	N.D.	0.7	0.82
11995	1,1-Dichloroethene	75-35-4	N.D.	0.6	0.82
11995	cis-1,2-Dichloroethene	156-59-2	N.D.	0.6	0.82
11995	trans-1,2-Dichloroethene	156-60-5	N.D.	0.6	0.82
11995	1,2-Dichloropropane	78-87-5	N.D.	0.6	0.82
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	0.82
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.6	0.82
11995	Ethyl t-butyl ether	637-92-3	N.D.	0.6	0.82
11995	Ethylbenzene	100-41-4	N.D.	0.5	0.82
11995	Freon 113	76-13-1	N.D.	0.7	0.82
11995	2-Hexanone	591-78-6	N.D.	1	0.82
11995	di-Isopropyl ether	108-20-3	N.D.	0.6	0.82
11995	Isopropylbenzene	98-82-8	N.D.	0.5	0.82
11995	Methyl Acetate	79-20-9	N.D.	1	0.82
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.6	0.82
11995	4-Methyl-2-pentanone	108-10-1	N.D.	1	0.82
11995	Methylcyclohexane	108-87-2	N.D.	0.7	0.82
11995	Methylene Chloride	75-09-2	N.D.	2	0.82
11995	Naphthalene	91-20-3	N.D.	2	0.82
11995	Styrene	100-42-5	N.D.	0.5	0.82
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	0.82
11995	Tetrachloroethene	127-18-4	N.D.	0.6	0.82
11995	Toluene	108-88-3	0.9 J	0.7	0.82
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.	6	0.82
11995	1,1,1-Trichloroethane	71-55-6	N.D.	0.7	0.82
11995	1,1,2-Trichloroethane	79-00-5	N.D.	0.6	0.82

Sample Description: **SB-5-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 10:15
SDG#: CEH01-06

EA Engineering
ELLE Sample #: **SW 1263514**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	0.6	0.82
11995	Trichlorofluoromethane	75-69-4	N.D.	0.8	0.82
11995	Vinyl Chloride	75-01-4	N.D.	0.7	0.82
11995	Xylene (Total)	1330-20-7	N.D.	2	0.82
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	0.7 J	0.3	26.6
	The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.				
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv)	n.a.	44	7.5	1
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture	n.a.	29.9	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	A200571AA	02/27/2020 00:22	Laura Green	0.82
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 10:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 10:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 10:15	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31B	02/25/2020 12:25	Jeremy C Giffin	26.6
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 10:15	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 09:49	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **SB-6-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:00
SDG#: CEH01-07

EA Engineering
ELLE Sample #: **SW 1263515**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Acetone	67-64-1	72	6	0.9
11995	t-Amyl methyl ether	994-05-8	N.D.	0.9	0.9
11995	Benzene	71-43-2	N.D.	0.5	0.9
11995	Bromodichloromethane	75-27-4	N.D.	0.4	0.9
11995	Bromoform	75-25-2	N.D.	5	0.9
11995	Bromomethane	74-83-9	N.D.	0.8	0.9
11995	2-Butanone	78-93-3	6 J	2	0.9
11995	t-Butyl alcohol	75-65-0	N.D.	16	0.9
11995	Carbon Disulfide	75-15-0	3 J	0.6	0.9
11995	Carbon Tetrachloride	56-23-5	N.D.	0.5	0.9
11995	Chlorobenzene	108-90-7	N.D.	0.5	0.9
11995	Chloroethane	75-00-3	N.D.	1	0.9
11995	Chloroform	67-66-3	N.D.	0.6	0.9
11995	Chloromethane	74-87-3	N.D.	0.6	0.9
11995	Cyclohexane	110-82-7	N.D.	0.5	0.9
11995	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.5	0.9
11995	Dibromochloromethane	124-48-1	N.D.	0.5	0.9
11995	1,2-Dibromoethane	106-93-4	N.D.	0.4	0.9
11995	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	0.9
11995	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	0.9
11995	1,4-Dichlorobenzene	106-46-7	N.D.	0.4	0.9
11995	Dichlorodifluoromethane	75-71-8	N.D.	0.6	0.9
11995	1,1-Dichloroethane	75-34-3	N.D.	0.5	0.9
11995	1,2-Dichloroethane	107-06-2	N.D.	0.6	0.9
11995	1,1-Dichloroethene	75-35-4	N.D.	0.5	0.9
11995	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	0.9
11995	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	0.9
11995	1,2-Dichloropropane	78-87-5	N.D.	0.5	0.9
11995	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.4	0.9
11995	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	0.9
11995	Ethyl t-butyl ether	637-92-3	N.D.	0.5	0.9
11995	Ethylbenzene	100-41-4	N.D.	0.4	0.9
11995	Freon 113	76-13-1	N.D.	0.6	0.9
11995	2-Hexanone	591-78-6	N.D.	1	0.9
11995	di-Isopropyl ether	108-20-3	N.D.	0.5	0.9
11995	Isopropylbenzene	98-82-8	N.D.	0.4	0.9
11995	Methyl Acetate	79-20-9	3 J	1	0.9
11995	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	0.9
11995	4-Methyl-2-pentanone	108-10-1	N.D.	1	0.9
11995	Methylcyclohexane	108-87-2	N.D.	0.6	0.9
11995	Methylene Chloride	75-09-2	N.D.	2	0.9
11995	Naphthalene	91-20-3	N.D.	2	0.9
11995	Styrene	100-42-5	N.D.	0.4	0.9
11995	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.4	0.9
11995	Tetrachloroethene	127-18-4	N.D.	0.5	0.9
11995	Toluene	108-88-3	N.D.	0.6	0.9
11995	1,2,4-Trichlorobenzene	120-82-1	N.D.	5	0.9
11995	1,1,1-Trichloroethane	71-55-6	N.D.	0.6	0.9
11995	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	0.9

Sample Description: **SB-6-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:00
SDG#: CEH01-07

EA Engineering
ELLE Sample #: **SW 1263515**
ELLE Group #: **2088718**
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/kg**	**ug/kg**	
11995	Trichloroethene	79-01-6	N.D.	0.5	0.9
11995	Trichlorofluoromethane	75-69-4	N.D.	0.8	0.9
11995	Vinyl Chloride	75-01-4	N.D.	0.6	0.9
11995	Xylene (Total)	1330-20-7	N.D.	2	0.9
	The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.				
GC Volatiles	**SW-846 8015C**		**mg/kg**	**mg/kg**	
10599	TPH-GRO soil C6-C10	n.a.	0.3 J	0.2	25.46
GC Petroleum Hydrocarbons	**SW-846 8015C**		**mg/kg**	**mg/kg**	
12838	DRO C10-C28 8015C/D (Microwv)	n.a.	110	6.2	1
Wet Chemistry	**SM 2540 G-2011 %Moisture Calc**		**%**	**%**	
00111	Moisture	n.a.	15.8	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11995	TCL VOC + Naph + Oxys 8260C	SW-846 8260C	1	A200551AA	02/24/2020 11:49	Linda C Pape	0.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	202005256240	02/18/2020 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	202005256240	02/18/2020 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	3	202005256240	02/18/2020 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	4	202005256240	02/18/2020 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	202005256240	02/18/2020 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	2	202005256240	02/18/2020 11:00	Client Supplied	1
10599	TPH-GRO soils C6-C10	SW-846 8015C	1	20055A31A	02/25/2020 00:44	Jeremy C Giffin	25.46
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	202005256240	02/18/2020 11:00	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	202005256240	02/18/2020 11:00	Client Supplied	n.a.
12838	DRO C10-C28 8015C/D (Microwv)	SW-846 8015C	1	200550014A	02/25/2020 13:05	Bridget Kovacs	1
12837	DRO 8015C/D Microwave Ext.	SW-846 3546	1	200550014A	02/24/2020 16:25	Scott Crawford	1

Sample Description: **SB-6-5-6 Grab Soil**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:00
SDG#: CEH01-07

EA Engineering
ELLE Sample #: **SW 1263515**
ELLE Group #: **2088718**
Matrix: Soil

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	20052820002A	02/21/2020 11:39	Larry E Bevins	1

Sample Description: **SB-6 Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:20
SDG#: CEH01-08

EA Engineering
ELLE Sample #: GW 1263516
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	4 J	0.7	1
11997	t-Amyl methyl ether	994-05-8	N.D.	0.8	1
11997	Benzene	71-43-2	N.D.	0.2	1
11997	Bromodichloromethane	75-27-4	N.D.	0.2	1
11997	Bromoform	75-25-2	N.D.	1	1
11997	Bromomethane	74-83-9	N.D.	0.3	1
11997	2-Butanone	78-93-3	0.4 J	0.3	1
11997	t-Butyl alcohol	75-65-0	N.D.	12	1
11997	Carbon Disulfide	75-15-0	0.4 J	0.2	1
11997	Carbon Tetrachloride	56-23-5	N.D.	0.2	1
11997	Chlorobenzene	108-90-7	N.D.	0.2	1
11997	Chloroethane	75-00-3	N.D.	0.2	1
11997	Chloroform	67-66-3	N.D.	0.2	1
11997	Chloromethane	74-87-3	N.D.	0.2	1
11997	Cyclohexane	110-82-7	N.D.	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.3	1
11997	Dibromochloromethane	124-48-1	N.D.	0.2	1
11997	1,2-Dibromoethane	106-93-4	N.D.	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	1
11997	Dichlorodifluoromethane	75-71-8	N.D.	0.2	1
11997	1,1-Dichloroethane	75-34-3	N.D.	0.2	1
11997	1,2-Dichloroethane	107-06-2	N.D.	0.3	1
11997	1,1-Dichloroethene	75-35-4	N.D.	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1
11997	1,2-Dichloropropane	78-87-5	N.D.	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1
11997	Ethyl t-butyl ether	637-92-3	N.D.	0.2	1
11997	Ethylbenzene	100-41-4	N.D.	0.4	1
11997	Freon 113	76-13-1	N.D.	0.2	1
11997	2-Hexanone	591-78-6	N.D.	0.3	1
11997	di-Isopropyl ether	108-20-3	N.D.	0.2	1
11997	Isopropylbenzene	98-82-8	N.D.	0.2	1
11997	Methyl Acetate	79-20-9	N.D.	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	1
11997	Methylcyclohexane	108-87-2	N.D.	0.5	1
11997	Methylene Chloride	75-09-2	N.D.	0.3	1
11997	Naphthalene	91-20-3	N.D.	1	1
11997	Styrene	100-42-5	N.D.	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1
11997	Tetrachloroethene	127-18-4	N.D.	0.2	1
11997	Toluene	108-88-3	N.D.	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	N.D.	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1

Sample Description: **SB-6 Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:20
SDG#: CEH01-08

EA Engineering
ELLE Sample #: GW 1263516
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	0.2	1
11997	Trichlorofluoromethane	75-69-4	N.D.	0.2	1
11997	Vinyl Chloride	75-01-4	N.D.	0.2	1
11997	Xylene (Total)	1330-20-7	N.D.	1	1
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	N.D.	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	350	49	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 15:29	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 15:28	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 20:03	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 20:02	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 01:09	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **DUP-GW Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020
SDG#: CEH01-09FD

EA Engineering
ELLE Sample #: GW 1263517
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	3 J	0.7	1
11997	t-Amyl methyl ether	994-05-8	N.D.	0.8	1
11997	Benzene	71-43-2	N.D.	0.2	1
11997	Bromodichloromethane	75-27-4	N.D.	0.2	1
11997	Bromoform	75-25-2	N.D.	1	1
11997	Bromomethane	74-83-9	N.D.	0.3	1
11997	2-Butanone	78-93-3	0.4 J	0.3	1
11997	t-Butyl alcohol	75-65-0	N.D.	12	1
11997	Carbon Disulfide	75-15-0	0.3 J	0.2	1
11997	Carbon Tetrachloride	56-23-5	N.D.	0.2	1
11997	Chlorobenzene	108-90-7	N.D.	0.2	1
11997	Chloroethane	75-00-3	N.D.	0.2	1
11997	Chloroform	67-66-3	N.D.	0.2	1
11997	Chloromethane	74-87-3	N.D.	0.2	1
11997	Cyclohexane	110-82-7	N.D.	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.3	1
11997	Dibromochloromethane	124-48-1	N.D.	0.2	1
11997	1,2-Dibromoethane	106-93-4	N.D.	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	1
11997	Dichlorodifluoromethane	75-71-8	N.D.	0.2	1
11997	1,1-Dichloroethane	75-34-3	N.D.	0.2	1
11997	1,2-Dichloroethane	107-06-2	N.D.	0.3	1
11997	1,1-Dichloroethene	75-35-4	N.D.	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1
11997	1,2-Dichloropropane	78-87-5	N.D.	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1
11997	Ethyl t-butyl ether	637-92-3	N.D.	0.2	1
11997	Ethylbenzene	100-41-4	N.D.	0.4	1
11997	Freon 113	76-13-1	N.D.	0.2	1
11997	2-Hexanone	591-78-6	N.D.	0.3	1
11997	di-Isopropyl ether	108-20-3	N.D.	0.2	1
11997	Isopropylbenzene	98-82-8	N.D.	0.2	1
11997	Methyl Acetate	79-20-9	N.D.	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	1
11997	Methylcyclohexane	108-87-2	N.D.	0.5	1
11997	Methylene Chloride	75-09-2	N.D.	0.3	1
11997	Naphthalene	91-20-3	N.D.	1	1
11997	Styrene	100-42-5	N.D.	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1
11997	Tetrachloroethene	127-18-4	N.D.	0.2	1
11997	Toluene	108-88-3	N.D.	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	N.D.	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1

Sample Description: **DUP-GW Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020
SDG#: CEH01-09FD

EA Engineering
ELLE Sample #: GW 1263517
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	0.2	1
11997	Trichlorofluoromethane	75-69-4	N.D.	0.2	1
11997	Vinyl Chloride	75-01-4	N.D.	0.2	1
11997	Xylene (Total)	1330-20-7	N.D.	1	1
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	N.D.	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	290	48	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 15:49	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 15:48	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 20:27	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 20:26	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 00:46	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **SB-1 Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:40
SDG#: CEH01-10

EA Engineering
ELLE Sample #: GW 1263518
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	15 J	0.7	1
11997	t-Amyl methyl ether	994-05-8	N.D.	0.8	1
11997	Benzene	71-43-2	N.D.	0.2	1
11997	Bromodichloromethane	75-27-4	N.D.	0.2	1
11997	Bromoform	75-25-2	N.D.	1	1
11997	Bromomethane	74-83-9	N.D.	0.3	1
11997	2-Butanone	78-93-3	2 J	0.3	1
11997	t-Butyl alcohol	75-65-0	N.D.	12	1
11997	Carbon Disulfide	75-15-0	N.D.	0.2	1
11997	Carbon Tetrachloride	56-23-5	N.D.	0.2	1
11997	Chlorobenzene	108-90-7	2	0.2	1
11997	Chloroethane	75-00-3	N.D.	0.2	1
11997	Chloroform	67-66-3	N.D.	0.2	1
11997	Chloromethane	74-87-3	N.D.	0.2	1
11997	Cyclohexane	110-82-7	N.D.	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.3	1
11997	Dibromochloromethane	124-48-1	N.D.	0.2	1
11997	1,2-Dibromoethane	106-93-4	N.D.	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	1
11997	Dichlorodifluoromethane	75-71-8	N.D.	0.2	1
11997	1,1-Dichloroethane	75-34-3	N.D.	0.2	1
11997	1,2-Dichloroethane	107-06-2	N.D.	0.3	1
11997	1,1-Dichloroethene	75-35-4	N.D.	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1
11997	1,2-Dichloropropane	78-87-5	N.D.	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1
11997	Ethyl t-butyl ether	637-92-3	N.D.	0.2	1
11997	Ethylbenzene	100-41-4	N.D.	0.4	1
11997	Freon 113	76-13-1	N.D.	0.2	1
11997	2-Hexanone	591-78-6	N.D.	0.3	1
11997	di-Isopropyl ether	108-20-3	N.D.	0.2	1
11997	Isopropylbenzene	98-82-8	N.D.	0.2	1
11997	Methyl Acetate	79-20-9	N.D.	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	1
11997	Methylcyclohexane	108-87-2	N.D.	0.5	1
11997	Methylene Chloride	75-09-2	N.D.	0.3	1
11997	Naphthalene	91-20-3	N.D.	1	1
11997	Styrene	100-42-5	N.D.	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1
11997	Tetrachloroethene	127-18-4	N.D.	0.2	1
11997	Toluene	108-88-3	N.D.	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	N.D.	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1

Sample Description: **SB-1 Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 11:40
SDG#: CEH01-10

EA Engineering
ELLE Sample #: GW 1263518
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	0.2	1
11997	Trichlorofluoromethane	75-69-4	N.D.	0.2	1
11997	Vinyl Chloride	75-01-4	N.D.	0.2	1
11997	Xylene (Total)	1330-20-7	N.D.	1	1
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	N.D.	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	600	50	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 16:09	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 16:08	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 20:50	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 20:49	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 00:24	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **SB-2 Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:00
SDG#: CEH01-11

EA Engineering
ELLE Sample #: GW 1263519
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11997	Acetone	67-64-1	40	J	4	5
11997	t-Amyl methyl ether	994-05-8	N.D.		4	5
11997	Benzene	71-43-2	28		1	5
11997	Bromodichloromethane	75-27-4	N.D.		1	5
11997	Bromoform	75-25-2	N.D.		5	5
11997	Bromomethane	74-83-9	N.D.		2	5
11997	2-Butanone	78-93-3	12	J	2	5
11997	t-Butyl alcohol	75-65-0	N.D.		60	5
11997	Carbon Disulfide	75-15-0	N.D.		1	5
11997	Carbon Tetrachloride	56-23-5	N.D.		1	5
11997	Chlorobenzene	108-90-7	N.D.		1	5
11997	Chloroethane	75-00-3	N.D.		1	5
11997	Chloroform	67-66-3	N.D.		1	5
11997	Chloromethane	74-87-3	N.D.		1	5
11997	Cyclohexane	110-82-7	75		5	5
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		2	5
11997	Dibromochloromethane	124-48-1	N.D.		1	5
11997	1,2-Dibromoethane	106-93-4	N.D.		1	5
11997	1,2-Dichlorobenzene	95-50-1	N.D.		1	5
11997	1,3-Dichlorobenzene	541-73-1	N.D.		1	5
11997	1,4-Dichlorobenzene	106-46-7	N.D.		1	5
11997	Dichlorodifluoromethane	75-71-8	N.D.		1	5
11997	1,1-Dichloroethane	75-34-3	N.D.		1	5
11997	1,2-Dichloroethane	107-06-2	2	J	2	5
11997	1,1-Dichloroethene	75-35-4	N.D.		1	5
11997	cis-1,2-Dichloroethene	156-59-2	N.D.		1	5
11997	trans-1,2-Dichloroethene	156-60-5	N.D.		1	5
11997	1,2-Dichloropropane	78-87-5	N.D.		1	5
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.		1	5
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.		1	5
11997	Ethyl t-butyl ether	637-92-3	N.D.		1	5
11997	Ethylbenzene	100-41-4	760		2	5
11997	Freon 113	76-13-1	N.D.		1	5
11997	2-Hexanone	591-78-6	N.D.		2	5
11997	di-Isopropyl ether	108-20-3	N.D.		1	5
11997	Isopropylbenzene	98-82-8	48		1	5
11997	Methyl Acetate	79-20-9	N.D.		2	5
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		1	5
11997	4-Methyl-2-pentanone	108-10-1	N.D.		3	5
11997	Methylcyclohexane	108-87-2	74		3	5
11997	Methylene Chloride	75-09-2	N.D.		2	5
11997	Naphthalene	91-20-3	220		5	5
11997	Styrene	100-42-5	N.D.		1	5
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		1	5
11997	Tetrachloroethene	127-18-4	N.D.		1	5
11997	Toluene	108-88-3	370		1	5
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.		2	5
11997	1,1,1-Trichloroethane	71-55-6	N.D.		2	5
11997	1,1,2-Trichloroethane	79-00-5	N.D.		1	5

Sample Description: **SB-2 Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:00
SDG#: CEH01-11

EA Engineering
ELLE Sample #: GW 1263519
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	1	5
11997	Trichlorofluoromethane	75-69-4	N.D.	1	5
11997	Vinyl Chloride	75-01-4	N.D.	1	5
11997	Xylene (Total)	1330-20-7	3,800	7	5
Reporting limits were raised due to interference from the sample matrix.					
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	18,000	120	5
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	4,300	47	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 16:50	Don V Viray	5
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 16:49	Don V Viray	5
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 22:47	Erin E Durkaj	5
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 22:46	Erin E Durkaj	5
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 01:32	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **SB-5 Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:15
SDG#: CEH01-12BKG

EA Engineering
ELLE Sample #: GW 1263520
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	2 J	0.7	1
11997	t-Amyl methyl ether	994-05-8	N.D.	0.8	1
11997	Benzene	71-43-2	N.D.	0.2	1
11997	Bromodichloromethane	75-27-4	N.D.	0.2	1
11997	Bromoform	75-25-2	N.D.	1	1
11997	Bromomethane	74-83-9	N.D.	0.3	1
11997	2-Butanone	78-93-3	N.D.	0.3	1
11997	t-Butyl alcohol	75-65-0	N.D.	12	1
11997	Carbon Disulfide	75-15-0	0.5 J	0.2	1
11997	Carbon Tetrachloride	56-23-5	N.D.	0.2	1
11997	Chlorobenzene	108-90-7	0.5 J	0.2	1
11997	Chloroethane	75-00-3	N.D.	0.2	1
11997	Chloroform	67-66-3	N.D.	0.2	1
11997	Chloromethane	74-87-3	N.D.	0.2	1
11997	Cyclohexane	110-82-7	N.D.	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.3	1
11997	Dibromochloromethane	124-48-1	N.D.	0.2	1
11997	1,2-Dibromoethane	106-93-4	N.D.	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	1
11997	Dichlorodifluoromethane	75-71-8	N.D.	0.2	1
11997	1,1-Dichloroethane	75-34-3	N.D.	0.2	1
11997	1,2-Dichloroethane	107-06-2	N.D.	0.3	1
11997	1,1-Dichloroethene	75-35-4	N.D.	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1
11997	1,2-Dichloropropane	78-87-5	N.D.	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1
11997	Ethyl t-butyl ether	637-92-3	N.D.	0.2	1
11997	Ethylbenzene	100-41-4	0.5 J	0.4	1
11997	Freon 113	76-13-1	N.D.	0.2	1
11997	2-Hexanone	591-78-6	N.D.	0.3	1
11997	di-Isopropyl ether	108-20-3	N.D.	0.2	1
11997	Isopropylbenzene	98-82-8	N.D.	0.2	1
11997	Methyl Acetate	79-20-9	N.D.	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	1
11997	Methylcyclohexane	108-87-2	N.D.	0.5	1
11997	Methylene Chloride	75-09-2	N.D.	0.3	1
11997	Naphthalene	91-20-3	N.D.	1	1
11997	Styrene	100-42-5	N.D.	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1
11997	Tetrachloroethene	127-18-4	N.D.	0.2	1
11997	Toluene	108-88-3	0.3 J	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	N.D.	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1

Sample Description: **SB-5 Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:15
SDG#: CEH01-12BKG

EA Engineering
ELLE Sample #: GW 1263520
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	0.2	1
11997	Trichlorofluoromethane	75-69-4	N.D.	0.2	1
11997	Vinyl Chloride	75-01-4	N.D.	0.2	1
11997	Xylene (Total)	1330-20-7	2 J	1	1
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	28 J	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	1,100	49	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 14:08	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 14:07	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 21:13	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 21:12	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 02:17	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **SB-5 MS Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:15
SDG#: CEH01-12MS

EA Engineering
ELLE Sample #: GW 1263521
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	170	0.7	1
11997	t-Amyl methyl ether	994-05-8	21	0.8	1
11997	Benzene	71-43-2	24	0.2	1
11997	Bromodichloromethane	75-27-4	24	0.2	1
11997	Bromoform	75-25-2	25	1	1
11997	Bromomethane	74-83-9	20	0.3	1
11997	2-Butanone	78-93-3	140	0.3	1
11997	t-Butyl alcohol	75-65-0	210	12	1
11997	Carbon Disulfide	75-15-0	25	0.2	1
11997	Carbon Tetrachloride	56-23-5	28	0.2	1
11997	Chlorobenzene	108-90-7	24	0.2	1
11997	Chloroethane	75-00-3	20	0.2	1
11997	Chloroform	67-66-3	24	0.2	1
11997	Chloromethane	74-87-3	19	0.2	1
11997	Cyclohexane	110-82-7	22	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	19	0.3	1
11997	Dibromochloromethane	124-48-1	25	0.2	1
11997	1,2-Dibromoethane	106-93-4	22	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	22	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	22	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	22	0.2	1
11997	Dichlorodifluoromethane	75-71-8	19	0.2	1
11997	1,1-Dichloroethane	75-34-3	24	0.2	1
11997	1,2-Dichloroethane	107-06-2	23	0.3	1
11997	1,1-Dichloroethene	75-35-4	27	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	26	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	25	0.2	1
11997	1,2-Dichloropropane	78-87-5	23	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	22	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	21	0.2	1
11997	Ethyl t-butyl ether	637-92-3	21	0.2	1
11997	Ethylbenzene	100-41-4	23	0.4	1
11997	Freon 113	76-13-1	25	0.2	1
11997	2-Hexanone	591-78-6	94	0.3	1
11997	di-Isopropyl ether	108-20-3	21	0.2	1
11997	Isopropylbenzene	98-82-8	23	0.2	1
11997	Methyl Acetate	79-20-9	7	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	21	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	97	0.5	1
11997	Methylcyclohexane	108-87-2	22	0.5	1
11997	Methylene Chloride	75-09-2	24	0.3	1
11997	Naphthalene	91-20-3	18	1	1
11997	Styrene	100-42-5	22	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	20	0.2	1
11997	Tetrachloroethene	127-18-4	24	0.2	1
11997	Toluene	108-88-3	23	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	20	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	26	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	24	0.2	1

Sample Description: **SB-5 MS Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:15
SDG#: CEH01-12MS

EA Engineering
ELLE Sample #: GW 1263521
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	25	0.2	1
11997	Trichlorofluoromethane	75-69-4	25	0.2	1
11997	Vinyl Chloride	75-01-4	20	0.2	1
11997	Xylene (Total)	1330-20-7	72	1	1
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	910	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	1,000	47	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 14:28	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 14:27	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 21:37	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 21:36	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 02:40	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **SB-5 MSD Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:15
SDG#: CEH01-12MSD

EA Engineering
ELLE Sample #: GW 1263522
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	160	0.7	1
11997	t-Amyl methyl ether	994-05-8	20	0.8	1
11997	Benzene	71-43-2	22	0.2	1
11997	Bromodichloromethane	75-27-4	23	0.2	1
11997	Bromoform	75-25-2	24	1	1
11997	Bromomethane	74-83-9	18	0.3	1
11997	2-Butanone	78-93-3	130	0.3	1
11997	t-Butyl alcohol	75-65-0	190	12	1
11997	Carbon Disulfide	75-15-0	22	0.2	1
11997	Carbon Tetrachloride	56-23-5	26	0.2	1
11997	Chlorobenzene	108-90-7	22	0.2	1
11997	Chloroethane	75-00-3	18	0.2	1
11997	Chloroform	67-66-3	23	0.2	1
11997	Chloromethane	74-87-3	18	0.2	1
11997	Cyclohexane	110-82-7	21	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	19	0.3	1
11997	Dibromochloromethane	124-48-1	23	0.2	1
11997	1,2-Dibromoethane	106-93-4	21	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	21	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	20	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	21	0.2	1
11997	Dichlorodifluoromethane	75-71-8	18	0.2	1
11997	1,1-Dichloroethane	75-34-3	22	0.2	1
11997	1,2-Dichloroethane	107-06-2	21	0.3	1
11997	1,1-Dichloroethene	75-35-4	25	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	24	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	23	0.2	1
11997	1,2-Dichloropropane	78-87-5	22	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	21	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	20	0.2	1
11997	Ethyl t-butyl ether	637-92-3	20	0.2	1
11997	Ethylbenzene	100-41-4	22	0.4	1
11997	Freon 113	76-13-1	23	0.2	1
11997	2-Hexanone	591-78-6	88	0.3	1
11997	di-Isopropyl ether	108-20-3	20	0.2	1
11997	Isopropylbenzene	98-82-8	22	0.2	1
11997	Methyl Acetate	79-20-9	19	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	20	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	91	0.5	1
11997	Methylcyclohexane	108-87-2	22	0.5	1
11997	Methylene Chloride	75-09-2	23	0.3	1
11997	Naphthalene	91-20-3	18	1	1
11997	Styrene	100-42-5	21	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	19	0.2	1
11997	Tetrachloroethene	127-18-4	23	0.2	1
11997	Toluene	108-88-3	22	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	20	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	24	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	22	0.2	1

Sample Description: **SB-5 MSD Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:15
SDG#: CEH01-12MSD

EA Engineering
ELLE Sample #: GW 1263522
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	23	0.2	1
11997	Trichlorofluoromethane	75-69-4	23	0.2	1
11997	Vinyl Chloride	75-01-4	20	0.2	1
11997	Xylene (Total)	1330-20-7	67	1	1
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	970	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	6,500	52	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 14:48	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 14:47	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 22:00	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 21:59	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 03:02	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **SB-4 Grab Groundwater**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:30
SDG#: CEH01-13

EA Engineering
ELLE Sample #: GW 1263523
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	2 J	0.7	1
11997	t-Amyl methyl ether	994-05-8	N.D.	0.8	1
11997	Benzene	71-43-2	N.D.	0.2	1
11997	Bromodichloromethane	75-27-4	N.D.	0.2	1
11997	Bromoform	75-25-2	N.D.	1	1
11997	Bromomethane	74-83-9	N.D.	0.3	1
11997	2-Butanone	78-93-3	0.3 J	0.3	1
11997	t-Butyl alcohol	75-65-0	N.D.	12	1
11997	Carbon Disulfide	75-15-0	N.D.	0.2	1
11997	Carbon Tetrachloride	56-23-5	N.D.	0.2	1
11997	Chlorobenzene	108-90-7	N.D.	0.2	1
11997	Chloroethane	75-00-3	N.D.	0.2	1
11997	Chloroform	67-66-3	N.D.	0.2	1
11997	Chloromethane	74-87-3	N.D.	0.2	1
11997	Cyclohexane	110-82-7	N.D.	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.3	1
11997	Dibromochloromethane	124-48-1	N.D.	0.2	1
11997	1,2-Dibromoethane	106-93-4	N.D.	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	1
11997	Dichlorodifluoromethane	75-71-8	N.D.	0.2	1
11997	1,1-Dichloroethane	75-34-3	N.D.	0.2	1
11997	1,2-Dichloroethane	107-06-2	N.D.	0.3	1
11997	1,1-Dichloroethene	75-35-4	N.D.	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1
11997	1,2-Dichloropropane	78-87-5	N.D.	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1
11997	Ethyl t-butyl ether	637-92-3	N.D.	0.2	1
11997	Ethylbenzene	100-41-4	N.D.	0.4	1
11997	Freon 113	76-13-1	N.D.	0.2	1
11997	2-Hexanone	591-78-6	N.D.	0.3	1
11997	di-Isopropyl ether	108-20-3	N.D.	0.2	1
11997	Isopropylbenzene	98-82-8	N.D.	0.2	1
11997	Methyl Acetate	79-20-9	N.D.	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	1
11997	Methylcyclohexane	108-87-2	N.D.	0.5	1
11997	Methylene Chloride	75-09-2	N.D.	0.3	1
11997	Naphthalene	91-20-3	N.D.	1	1
11997	Styrene	100-42-5	N.D.	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1
11997	Tetrachloroethene	127-18-4	N.D.	0.2	1
11997	Toluene	108-88-3	0.5 J	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	N.D.	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1

Sample Description: **SB-4 Grab Groundwater Cheverly DPW/1600401**

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020 12:30
SDG#: CEH01-13

EA Engineering
ELLE Sample #: GW 1263523
ELLE Group #: 2088718
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	0.2	1
11997	Trichlorofluoromethane	75-69-4	N.D.	0.2	1
11997	Vinyl Chloride	75-01-4	N.D.	0.2	1
11997	Xylene (Total)	1330-20-7	2 J	1	1
	Preservation requirements were not met. A preserved vial was submitted for analysis. However, the pH at the time of analysis was 3.				
GC Volatiles	**SW-846 8015C**		**ug/l**	**ug/l**	
10598	TPH-GRO water C6-C10	n.a.	N.D.	23	1
GC Petroleum Hydrocarbons	**SW-846 8015C Feb 2007 Rev 3**		**ug/l**	**ug/l**	
13579	DRO C10-C28	n.a.	6,700	48	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 16:30	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 16:29	Don V Viray	1
10598	TPH-GRO water C6-C10	SW-846 8015C	1	20051B20A	02/20/2020 22:23	Erin E Durkaj	1
01146	GC VOA Water Prep	SW-846 5030C	1	20051B20A	02/20/2020 22:22	Erin E Durkaj	1
13579	DRO 8015C/D(Mini)	SW-846 8015C Feb 2007 Rev 3	1	200510027A	02/22/2020 00:01	Timothy M Emrick	1
12906	Mini-extraction DRO (waters)	SW-846 3510C	1	200510027A	02/21/2020 08:30	Bojan Milinic	1

Sample Description: **TB Water**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020
SDG#: CEH01-14TB

EA Engineering
ELLE Sample #: **GW 1263524**
ELLE Group #: **2088718**
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Acetone	67-64-1	18 J	0.7	1
11997	t-Amyl methyl ether	994-05-8	N.D.	0.8	1
11997	Benzene	71-43-2	N.D.	0.2	1
11997	Bromodichloromethane	75-27-4	N.D.	0.2	1
11997	Bromoform	75-25-2	N.D.	1	1
11997	Bromomethane	74-83-9	N.D.	0.3	1
11997	2-Butanone	78-93-3	1 J	0.3	1
11997	t-Butyl alcohol	75-65-0	130	12	1
11997	Carbon Disulfide	75-15-0	N.D.	0.2	1
11997	Carbon Tetrachloride	56-23-5	N.D.	0.2	1
11997	Chlorobenzene	108-90-7	N.D.	0.2	1
11997	Chloroethane	75-00-3	N.D.	0.2	1
11997	Chloroform	67-66-3	N.D.	0.2	1
11997	Chloromethane	74-87-3	N.D.	0.2	1
11997	Cyclohexane	110-82-7	N.D.	1	1
11997	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.3	1
11997	Dibromochloromethane	124-48-1	N.D.	0.2	1
11997	1,2-Dibromoethane	106-93-4	N.D.	0.2	1
11997	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	1
11997	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	1
11997	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	1
11997	Dichlorodifluoromethane	75-71-8	N.D.	0.2	1
11997	1,1-Dichloroethane	75-34-3	N.D.	0.2	1
11997	1,2-Dichloroethane	107-06-2	N.D.	0.3	1
11997	1,1-Dichloroethene	75-35-4	N.D.	0.2	1
11997	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1
11997	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1
11997	1,2-Dichloropropane	78-87-5	N.D.	0.2	1
11997	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1
11997	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1
11997	Ethyl t-butyl ether	637-92-3	N.D.	0.2	1
11997	Ethylbenzene	100-41-4	N.D.	0.4	1
11997	Freon 113	76-13-1	N.D.	0.2	1
11997	2-Hexanone	591-78-6	N.D.	0.3	1
11997	di-Isopropyl ether	108-20-3	N.D.	0.2	1
11997	Isopropylbenzene	98-82-8	N.D.	0.2	1
11997	Methyl Acetate	79-20-9	N.D.	0.3	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1
11997	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	1
11997	Methylcyclohexane	108-87-2	N.D.	0.5	1
11997	Methylene Chloride	75-09-2	N.D.	0.3	1
11997	Naphthalene	91-20-3	N.D.	1	1
11997	Styrene	100-42-5	N.D.	0.2	1
11997	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1
11997	Tetrachloroethene	127-18-4	N.D.	0.2	1
11997	Toluene	108-88-3	N.D.	0.2	1
11997	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
11997	1,1,1-Trichloroethane	71-55-6	N.D.	0.3	1
11997	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1

Sample Description: **TB Water**
Cheverly DPW/1600401

Project Name: **Town of Cheverly**

Submittal Date/Time: 02/19/2020 17:27
Collection Date/Time: 02/18/2020
SDG#: CEH01-14TB

EA Engineering
ELLE Sample #: **GW 1263524**
ELLE Group #: **2088718**
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Trichloroethene	79-01-6	N.D.	0.2	1
11997	Trichlorofluoromethane	75-69-4	N.D.	0.2	1
11997	Vinyl Chloride	75-01-4	N.D.	0.2	1
11997	Xylene (Total)	1330-20-7	N.D.	1	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	TCL VOC + Naph + Oxys	SW-846 8260C	1	E200581AA	02/27/2020 13:47	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	E200581AA	02/27/2020 13:46	Don V Viray	1

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Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	ug/kg	ug/kg
Batch number: A200551AA	Sample number(s): 1263509,1263515	
Acetone	N.D.	6
t-Amyl methyl ether	N.D.	0.8
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	0.4
Bromoform	N.D.	5
Bromomethane	N.D.	0.7
2-Butanone	N.D.	2
t-Butyl alcohol	N.D.	15
Carbon Disulfide	N.D.	0.6
Carbon Tetrachloride	N.D.	0.5
Chlorobenzene	N.D.	0.5
Chloroethane	N.D.	1
Chloroform	N.D.	0.6
Chloromethane	N.D.	0.6
Cyclohexane	N.D.	0.5
1,2-Dibromo-3-chloropropane	N.D.	0.5
Dibromochloromethane	N.D.	0.5
1,2-Dibromoethane	N.D.	0.4
1,2-Dichlorobenzene	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.4
Dichlorodifluoromethane	N.D.	0.6
1,1-Dichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.6
1,1-Dichloroethene	N.D.	0.5
cis-1,2-Dichloroethene	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.4
trans-1,3-Dichloropropene	N.D.	0.5
Ethyl t-butyl ether	N.D.	0.5
Ethylbenzene	N.D.	0.4
Freon 113	N.D.	0.6
2-Hexanone	N.D.	1
di-Isopropyl ether	N.D.	0.5
Isopropylbenzene	N.D.	0.4
Methyl Acetate	N.D.	1
Methyl Tertiary Butyl Ether	N.D.	0.5
4-Methyl-2-pentanone	N.D.	1

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
Methylcyclohexane	N.D.	0.6
Methylene Chloride	N.D.	2
Naphthalene	N.D.	2
Styrene	N.D.	0.4
1,1,2,2-Tetrachloroethane	N.D.	0.4
Tetrachloroethene	N.D.	0.5
Toluene	N.D.	0.6
1,2,4-Trichlorobenzene	N.D.	5
1,1,1-Trichloroethane	N.D.	0.6
1,1,2-Trichloroethane	N.D.	0.5
Trichloroethene	N.D.	0.5
Trichlorofluoromethane	N.D.	0.7
Vinyl Chloride	N.D.	0.6
Xylene (Total)	N.D.	1
Batch number: A200571AA	Sample number(s): 1263513-1263514	
Acetone	N.D.	6
t-Amyl methyl ether	N.D.	0.8
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	0.4
Bromoform	N.D.	5
Bromomethane	N.D.	0.7
2-Butanone	N.D.	2
t-Butyl alcohol	N.D.	15
Carbon Disulfide	N.D.	0.6
Carbon Tetrachloride	N.D.	0.5
Chlorobenzene	N.D.	0.5
Chloroethane	N.D.	1
Chloroform	N.D.	0.6
Chloromethane	N.D.	0.6
Cyclohexane	N.D.	0.5
1,2-Dibromo-3-chloropropane	N.D.	0.5
Dibromochloromethane	N.D.	0.5
1,2-Dibromoethane	N.D.	0.4
1,2-Dichlorobenzene	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.4
Dichlorodifluoromethane	N.D.	0.6
1,1-Dichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.6
1,1-Dichloroethene	N.D.	0.5
cis-1,2-Dichloroethene	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.4

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Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
trans-1,3-Dichloropropene	N.D.	0.5
Ethyl t-butyl ether	N.D.	0.5
Ethylbenzene	N.D.	0.4
Freon 113	N.D.	0.6
2-Hexanone	N.D.	1
di-Isopropyl ether	N.D.	0.5
Isopropylbenzene	N.D.	0.4
Methyl Acetate	N.D.	1
Methyl Tertiary Butyl Ether	N.D.	0.5
4-Methyl-2-pentanone	N.D.	1
Methylcyclohexane	N.D.	0.6
Methylene Chloride	N.D.	2
Naphthalene	N.D.	2
Styrene	N.D.	0.4
1,1,2,2-Tetrachloroethane	N.D.	0.4
Tetrachloroethene	N.D.	0.5
Toluene	N.D.	0.6
1,2,4-Trichlorobenzene	N.D.	5
1,1,1-Trichloroethane	N.D.	0.6
1,1,2-Trichloroethane	N.D.	0.5
Trichloroethene	N.D.	0.5
Trichlorofluoromethane	N.D.	0.7
Vinyl Chloride	N.D.	0.6
Xylene (Total)	N.D.	1
Batch number: R200561AA	Sample number(s): 1263510-1263512	
Acetone	N.D.	300
t-Amyl methyl ether	N.D.	40
Benzene	N.D.	25
Bromodichloromethane	N.D.	20
Bromoform	N.D.	250
Bromomethane	N.D.	35
2-Butanone	N.D.	100
t-Butyl alcohol	N.D.	750
Carbon Disulfide	N.D.	30
Carbon Tetrachloride	N.D.	25
Chlorobenzene	N.D.	25
Chloroethane	N.D.	50
Chloroform	N.D.	30
Chloromethane	N.D.	30
Cyclohexane	N.D.	25
1,2-Dibromo-3-chloropropane	N.D.	25
Dibromochloromethane	N.D.	25
1,2-Dibromoethane	N.D.	20
1,2-Dichlorobenzene	N.D.	25

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Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
1,3-Dichlorobenzene	N.D.	25
1,4-Dichlorobenzene	N.D.	20
Dichlorodifluoromethane	N.D.	30
1,1-Dichloroethane	N.D.	25
1,2-Dichloroethane	N.D.	30
1,1-Dichloroethene	N.D.	25
cis-1,2-Dichloroethene	N.D.	25
trans-1,2-Dichloroethene	N.D.	25
1,2-Dichloropropane	N.D.	25
cis-1,3-Dichloropropene	N.D.	20
trans-1,3-Dichloropropene	N.D.	25
Ethyl t-butyl ether	N.D.	25
Ethylbenzene	N.D.	20
Freon 113	N.D.	30
2-Hexanone	N.D.	50
di-Isopropyl ether	N.D.	25
Isopropylbenzene	N.D.	20
Methyl Acetate	N.D.	50
Methyl Tertiary Butyl Ether	N.D.	25
4-Methyl-2-pentanone	N.D.	50
Methylcyclohexane	N.D.	30
Methylene Chloride	N.D.	100
Naphthalene	N.D.	100
Styrene	N.D.	20
1,1,2,2-Tetrachloroethane	N.D.	20
Tetrachloroethene	N.D.	25
Toluene	N.D.	30
1,2,4-Trichlorobenzene	N.D.	250
1,1,1-Trichloroethane	N.D.	30
1,1,2-Trichloroethane	N.D.	25
Trichloroethene	N.D.	25
Trichlorofluoromethane	N.D.	35
Vinyl Chloride	N.D.	30
Xylene (Total)	N.D.	70
	ug/l	ug/l
Batch number: E200581AA	Sample number(s): 1263516-1263524	
Acetone	N.D.	0.7
t-Amyl methyl ether	N.D.	0.8
Benzene	N.D.	0.2
Bromodichloromethane	N.D.	0.2
Bromoform	N.D.	1
Bromomethane	N.D.	0.3
2-Butanone	N.D.	0.3
t-Butyl alcohol	N.D.	12

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Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Carbon Disulfide	N.D.	0.2
Carbon Tetrachloride	N.D.	0.2
Chlorobenzene	N.D.	0.2
Chloroethane	N.D.	0.2
Chloroform	N.D.	0.2
Chloromethane	N.D.	0.2
Cyclohexane	N.D.	1
1,2-Dibromo-3-chloropropane	N.D.	0.3
Dibromochloromethane	N.D.	0.2
1,2-Dibromoethane	N.D.	0.2
1,2-Dichlorobenzene	N.D.	0.2
1,3-Dichlorobenzene	N.D.	0.2
1,4-Dichlorobenzene	N.D.	0.2
Dichlorodifluoromethane	N.D.	0.2
1,1-Dichloroethane	N.D.	0.2
1,2-Dichloroethane	N.D.	0.3
1,1-Dichloroethene	N.D.	0.2
cis-1,2-Dichloroethene	N.D.	0.2
trans-1,2-Dichloroethene	N.D.	0.2
1,2-Dichloropropane	N.D.	0.2
cis-1,3-Dichloropropene	N.D.	0.2
trans-1,3-Dichloropropene	N.D.	0.2
Ethyl t-butyl ether	N.D.	0.2
Ethylbenzene	N.D.	0.4
Freon 113	N.D.	0.2
2-Hexanone	N.D.	0.3
di-Isopropyl ether	N.D.	0.2
Isopropylbenzene	N.D.	0.2
Methyl Acetate	N.D.	0.3
Methyl Tertiary Butyl Ether	N.D.	0.2
4-Methyl-2-pentanone	N.D.	0.5
Methylcyclohexane	N.D.	0.5
Methylene Chloride	N.D.	0.3
Naphthalene	N.D.	1
Styrene	N.D.	0.2
1,1,2,2-Tetrachloroethane	N.D.	0.2
Tetrachloroethene	N.D.	0.2
Toluene	N.D.	0.2
1,2,4-Trichlorobenzene	N.D.	0.3
1,1,1-Trichloroethane	N.D.	0.3
1,1,2-Trichloroethane	N.D.	0.2
Trichloroethene	N.D.	0.2
Trichlorofluoromethane	N.D.	0.2
Vinyl Chloride	N.D.	0.2
Xylene (Total)	N.D.	1

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Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
	mg/kg	mg/kg
Batch number: 20055A31A	Sample number(s): 1263509-1263513,1263515	
TPH-GRO soil C6-C10	N.D.	0.2
Batch number: 20055A31B	Sample number(s): 1263514	
TPH-GRO soil C6-C10	N.D.	0.2
	ug/l	ug/l
Batch number: 20051B20A	Sample number(s): 1263516-1263523	
TPH-GRO water C6-C10	N.D.	23
	mg/kg	mg/kg
Batch number: 200550014A	Sample number(s): 1263509-1263515	
DRO C10-C28 8015C/D (Microwv)	N.D.	5.3
	ug/l	ug/l
Batch number: 200510027A	Sample number(s): 1263516-1263523	
DRO C10-C28	N.D.	45

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A200551AA	Sample number(s): 1263509,1263515								
Acetone	150	137.81	150	132.4	92	88	41-150	4	30
t-Amyl methyl ether	20	17.57	20	16.66	88	83	45-146	5	30
Benzene	20	18.09	20	17.01	90	85	80-120	6	30
Bromodichloromethane	20	20.68	20	18.96	103	95	70-120	9	30
Bromoform	20	19.53	20	17.91	98	90	51-127	9	30
Bromomethane	20	11.89	20	13.35	59	67	45-140	12	30
2-Butanone	150	133.19	150	125.73	89	84	57-128	6	30
t-Butyl alcohol	200	196.4	200	183.2	98	92	74-121	7	30
Carbon Disulfide	20	18.63	20	17.8	93	89	64-133	5	30
Carbon Tetrachloride	20	22.43	20	20.88	112	104	64-134	7	30
Chlorobenzene	20	19.43	20	18.46	97	92	80-120	5	30
Chloroethane	20	11.24	20	12.21	56	61	43-135	8	30
Chloroform	20	20.45	20	18.91	102	95	80-120	8	30
Chloromethane	20	13.78	20	13.44	69	67	56-120	3	30
Cyclohexane	20	16.93	20	16.19	85	81	58-126	4	30
1,2-Dibromo-3-chloropropane	20	19.1	20	16.61	95	83	48-134	14	30
Dibromochloromethane	20	20.63	20	19.39	103	97	69-125	6	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dibromoethane	20	19.01	20	17.94	95	90	76-120	6	30
1,2-Dichlorobenzene	20	19.16	20	18.17	96	91	76-120	5	30
1,3-Dichlorobenzene	20	18.52	20	17.74	93	89	75-120	4	30
1,4-Dichlorobenzene	20	18.9	20	17.95	94	90	80-120	5	30
Dichlorodifluoromethane	20	12.09	20	11.08	60	55	21-127	9	30
1,1-Dichloroethane	20	18.46	20	17.48	92	87	79-120	5	30
1,2-Dichloroethane	20	22.57	20	20.92	113	105	71-128	8	30
1,1-Dichloroethene	20	18.64	20	17.79	93	89	73-129	5	30
cis-1,2-Dichloroethene	20	19.79	20	18.22	99	91	80-125	8	30
trans-1,2-Dichloroethene	20	18.35	20	17.31	92	87	80-126	6	30
1,2-Dichloropropane	20	18.02	20	16.97	90	85	80-120	6	30
cis-1,3-Dichloropropene	20	17.53	20	16.61	88	83	66-120	5	30
trans-1,3-Dichloropropene	20	18.09	20	17.27	90	86	68-122	5	30
Ethyl t-butyl ether	20	16.98	20	16.06	85	80	60-128	6	30
Ethylbenzene	20	19.19	20	18.28	96	91	78-120	5	30
Freon 113	20	20.75	20	19.26	104	96	64-135	7	30
2-Hexanone	100	88.78	100	80.12	89	80	54-140	10	30
di-Isopropyl ether	20	17.06	20	16.2	85	81	72-126	5	30
Isopropylbenzene	20	19.52	20	18.45	98	92	77-120	6	30
Methyl Acetate	20	19.32	20	18.24	97	91	67-128	6	30
Methyl Tertiary Butyl Ether	20	18.46	20	17.49	92	87	72-120	5	30
4-Methyl-2-pentanone	100	89.55	100	79.99	90	80	67-128	11	30
Methylcyclohexane	20	17.36	20	16.31	87	82	61-124	6	30
Methylene Chloride	20	18.71	20	17.6	94	88	76-122	6	30
Naphthalene	20	16.73	20	15.57	84	78	48-130	7	30
Styrene	20	18.18	20	17.31	91	87	76-120	5	30
1,1,2,2-Tetrachloroethane	20	18.12	20	16.86	91	84	69-125	7	30
Tetrachloroethene	20	20.29	20	19.45	101	97	73-120	4	30
Toluene	20	18.21	20	17.25	91	86	80-120	5	30
1,2,4-Trichlorobenzene	20	17.16	20	16.64	86	83	56-130	3	30
1,1,1-Trichloroethane	20	21.08	20	19.51	105	98	69-123	8	30
1,1,2-Trichloroethane	20	19.46	20	17.89	97	89	80-120	8	30
Trichloroethene	20	19.15	20	18.17	96	91	80-120	5	30
Trichlorofluoromethane	20	15.68	20	19.92	78	100	55-134	24	30
Vinyl Chloride	20	12.18	20	13.1	61	66	52-120	7	30
Xylene (Total)	60	57.27	60	54.49	95	91	75-120	5	30
Batch number: A200571AA	Sample number(s): 1263513-1263514								
Acetone	150	133.35	150	143.37	89	96	41-150	7	30
t-Amyl methyl ether	20	19.24	20	17.71	96	89	45-146	8	30
Benzene	20	19.11	20	18.76	96	94	80-120	2	30
Bromodichloromethane	20	23.3	20	21.98	116	110	70-120	6	30
Bromoform	20	21.08	20	19.43	105	97	51-127	8	30
Bromomethane	20	17.16	20	15.87	86	79	45-140	8	30

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2-Butanone	150	133.37	150	139.93	89	93	57-128	5	30
t-Butyl alcohol	200	218.12	200	204.87	109	102	74-121	6	30
Carbon Disulfide	20	20.12	20	19.7	101	99	64-133	2	30
Carbon Tetrachloride	20	26.85	20	25.22	134	126	64-134	6	30
Chlorobenzene	20	20.41	20	20.28	102	101	80-120	1	30
Chloroethane	20	14.12	20	16.2	71	81	43-135	14	30
Chloroform	20	23.29	20	22.39	116	112	80-120	4	30
Chloromethane	20	17.48	20	17.76	87	89	56-120	2	30
Cyclohexane	20	17.58	20	17.16	88	86	58-126	2	30
1,2-Dibromo-3-chloropropane	20	20.84	20	17.15	104	86	48-134	19	30
Dibromochloromethane	20	21.81	20	20.85	109	104	69-125	4	30
1,2-Dibromoethane	20	19.38	20	18.57	97	93	76-120	4	30
1,2-Dichlorobenzene	20	20.46	20	20.21	102	101	76-120	1	30
1,3-Dichlorobenzene	20	19.97	20	19.91	100	100	75-120	0	30
1,4-Dichlorobenzene	20	20.31	20	20.27	102	101	80-120	0	30
Dichlorodifluoromethane	20	17.24	20	16.37	86	82	21-127	5	30
1,1-Dichloroethane	20	20.33	20	19.48	102	97	79-120	4	30
1,2-Dichloroethane	20	25.85	20	23.71	129*	119	71-128	9	30
1,1-Dichloroethene	20	19.88	20	19.15	99	96	73-129	4	30
cis-1,2-Dichloroethene	20	20.99	20	20.61	105	103	80-125	2	30
trans-1,2-Dichloroethene	20	19.87	20	19.15	99	96	80-126	4	30
1,2-Dichloropropane	20	18.99	20	18.46	95	92	80-120	3	30
cis-1,3-Dichloropropene	20	19.66	20	18.21	98	91	66-120	8	30
trans-1,3-Dichloropropene	20	19.41	20	18.69	97	93	68-122	4	30
Ethyl t-butyl ether	20	18.29	20	17.3	91	86	60-128	6	30
Ethylbenzene	20	20.35	20	20.45	102	102	78-120	0	30
Freon 113	20	22.63	20	21.24	113	106	64-135	6	30
2-Hexanone	100	85.76	100	70.75	86	71	54-140	19	30
di-Isopropyl ether	20	17.6	20	16.94	88	85	72-126	4	30
Isopropylbenzene	20	21.05	20	20.97	105	105	77-120	0	30
Methyl Acetate	20	19.26	20	16.27	96	81	67-128	17	30
Methyl Tertiary Butyl Ether	20	19.97	20	18.24	100	91	72-120	9	30
4-Methyl-2-pentanone	100	89.35	100	72.7	89	73	67-128	21	30
Methylcyclohexane	20	18.73	20	17.85	94	89	61-124	5	30
Methylene Chloride	20	20.12	20	18.86	101	94	76-122	6	30
Naphthalene	20	17.98	20	16.28	90	81	48-130	10	30
Styrene	20	19.29	20	19.31	96	97	76-120	0	30
1,1,2,2-Tetrachloroethane	20	17.54	20	16.3	88	82	69-125	7	30
Tetrachloroethene	20	21.8	20	21.63	109	108	73-120	1	30
Toluene	20	18.64	20	18.61	93	93	80-120	0	30
1,2,4-Trichlorobenzene	20	19.52	20	19.42	98	97	56-130	0	30
1,1,1-Trichloroethane	20	24.98	20	23.48	125*	117	69-123	6	30
1,1,2-Trichloroethane	20	19.76	20	18.53	99	93	80-120	6	30
Trichloroethene	20	21.06	20	20.12	105	101	80-120	5	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Trichlorofluoromethane	20	21.28	20	25.69	106	128	55-134	19	30
Vinyl Chloride	20	18.54	20	17.89	93	89	52-120	4	30
Xylene (Total)	60	60.85	60	60.73	101	101	75-120	0	30
Batch number: R200561AA	Sample number(s): 1263510-1263512								
Acetone	7500	6881	7500	7432.51	92	99	41-150	8	30
t-Amyl methyl ether	1000	957.84	1000	959.68	96	96	45-146	0	30
Benzene	1000	1023.7	1000	1036.75	102	104	80-120	1	30
Bromodichloromethane	1000	964.57	1000	985.83	96	99	70-120	2	30
Bromoform	1000	795.83	1000	843.58	80	84	51-127	6	30
Bromomethane	1000	675.58	1000	1224.13	68	122	45-140	58*	30
2-Butanone	7500	4737.87	7500	5814.15	63	78	57-128	20	30
t-Butyl alcohol	10000	8566.32	10000	8211.84	86	82	74-121	4	30
Carbon Disulfide	1000	1031.1	1000	1042.05	103	104	64-133	1	30
Carbon Tetrachloride	1000	922.16	1000	943.3	92	94	64-134	2	30
Chlorobenzene	1000	964.16	1000	968.01	96	97	80-120	0	30
Chloroethane	1000	1390.23	1000	1113.52	139*	111	43-135	22	30
Chloroform	1000	975.48	1000	992.98	98	99	80-120	2	30
Chloromethane	1000	750.12	1000	742.3	75	74	56-120	1	30
Cyclohexane	1000	852.35	1000	901.12	85	90	58-126	6	30
1,2-Dibromo-3-chloropropane	1000	806.02	1000	832.61	81	83	48-134	3	30
Dibromochloromethane	1000	934.71	1000	956.84	93	96	69-125	2	30
1,2-Dibromoethane	1000	928.01	1000	961.58	93	96	76-120	4	30
1,2-Dichlorobenzene	1000	953.2	1000	947.76	95	95	76-120	1	30
1,3-Dichlorobenzene	1000	943.28	1000	957.99	94	96	75-120	2	30
1,4-Dichlorobenzene	1000	948.64	1000	960.48	95	96	80-120	1	30
Dichlorodifluoromethane	1000	595.61	1000	656.82	60	66	21-127	10	30
1,1-Dichloroethane	1000	1004.76	1000	1020.49	100	102	79-120	2	30
1,2-Dichloroethane	1000	914.99	1000	952.18	91	95	71-128	4	30
1,1-Dichloroethene	1000	1087.61	1000	1114.57	109	111	73-129	2	30
cis-1,2-Dichloroethene	1000	1080.65	1000	1101.24	108	110	80-125	2	30
trans-1,2-Dichloroethene	1000	1030.97	1000	1053.63	103	105	80-126	2	30
1,2-Dichloropropane	1000	1012.37	1000	1033.44	101	103	80-120	2	30
cis-1,3-Dichloropropene	1000	994.85	1000	1032.14	99	103	66-120	4	30
trans-1,3-Dichloropropene	1000	939.95	1000	959.69	94	96	68-122	2	30
Ethyl t-butyl ether	1000	934.9	1000	932.17	93	93	60-128	0	30
Ethylbenzene	1000	976.78	1000	986.84	98	99	78-120	1	30
Freon 113	1000	792.6	1000	858.64	79	86	64-135	8	30
2-Hexanone	5000	3316.14	5000	3854.91	66	77	54-140	15	30
di-Isopropyl ether	1000	928.27	1000	948.59	93	95	72-126	2	30
Isopropylbenzene	1000	994.68	1000	994.85	99	99	77-120	0	30
Methyl Acetate	1000	765.44	1000	842.47	77	84	67-128	10	30
Methyl Tertiary Butyl Ether	1000	889.89	1000	906.16	89	91	72-120	2	30
4-Methyl-2-pentanone	5000	3656.35	5000	4127.85	73	83	67-128	12	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methylcyclohexane	1000	801.76	1000	873.64	80	87	61-124	9	30
Methylene Chloride	1000	1080.54	1000	1089.94	108	109	76-122	1	30
Naphthalene	1000	963.69	1000	964.15	96	96	48-130	0	30
Styrene	1000	990.22	1000	999.21	99	100	76-120	1	30
1,1,2,2-Tetrachloroethane	1000	913.16	1000	970.96	91	97	69-125	6	30
Tetrachloroethene	1000	914.61	1000	928.96	91	93	73-120	2	30
Toluene	1000	998.43	1000	998.24	100	100	80-120	0	30
1,2,4-Trichlorobenzene	1000	958.92	1000	928.47	96	93	56-130	3	30
1,1,1-Trichloroethane	1000	941.28	1000	960.12	94	96	69-123	2	30
1,1,2-Trichloroethane	1000	985.87	1000	1023.69	99	102	80-120	4	30
Trichloroethene	1000	970.16	1000	1000.78	97	100	80-120	3	30
Trichlorofluoromethane	1000	836.82	1000	872.49	84	87	55-134	4	30
Vinyl Chloride	1000	764.4	1000	762.26	76	76	52-120	0	30
Xylene (Total)	3000	2982.51	3000	2993.57	99	100	75-120	0	30
	ug/l	**ug/l**	**ug/l**	**ug/l**					
Batch number: E200581AA	Sample number(s): 1263516-1263524								
Acetone	150	150.7	150	152.04	100	101	54-157	1	30
t-Amyl methyl ether	20	19.21	20	19.98	96	100	66-120	4	30
Benzene	20	20.82	20	21.49	104	107	80-120	3	30
Bromodichloromethane	20	21.9	20	22.36	110	112	71-120	2	30
Bromoform	20	23.9	20	24.45	119	122*	51-120	2	30
Bromomethane	20	16.94	20	17.16	85	86	53-128	1	30
2-Butanone	150	129.3	150	134.19	86	89	59-135	4	30
t-Butyl alcohol	200	191.41	200	198.92	96	99	60-130	4	30
Carbon Disulfide	20	20.09	20	20.55	100	103	65-128	2	30
Carbon Tetrachloride	20	23.35	20	24.29	117	121	64-134	4	30
Chlorobenzene	20	20.93	20	21.47	105	107	80-120	3	30
Chloroethane	20	15.83	20	16.35	79	82	55-123	3	30
Chloroform	20	21.43	20	21.99	107	110	80-120	3	30
Chloromethane	20	15.96	20	16.34	80	82	56-121	2	30
Cyclohexane	20	18.18	20	18.54	91	93	68-126	2	30
1,2-Dibromo-3-chloropropane	20	18.2	20	18.32	91	92	47-131	1	30
Dibromochloromethane	20	23.08	20	23.84	115	119	71-120	3	30
1,2-Dibromoethane	20	20.61	20	21.08	103	105	77-120	2	30
1,2-Dichlorobenzene	20	21.02	20	21.91	105	110	80-120	4	30
1,3-Dichlorobenzene	20	20.26	20	21.31	101	107	80-120	5	30
1,4-Dichlorobenzene	20	20.91	20	21.76	105	109	80-120	4	30
Dichlorodifluoromethane	20	14.16	20	14.87	71	74	41-127	5	30
1,1-Dichloroethane	20	20.71	20	21.41	104	107	80-120	3	30
1,2-Dichloroethane	20	20.79	20	21.47	104	107	73-124	3	30
1,1-Dichloroethene	20	22.83	20	23.32	114	117	80-131	2	30
cis-1,2-Dichloroethene	20	22.82	20	23.37	114	117	80-125	2	30
trans-1,2-Dichloroethene	20	21.65	20	22.56	108	113	80-126	4	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloropropane	20	20.95	20	21.77	105	109	80-120	4	30
cis-1,3-Dichloropropene	20	20.77	20	21.6	104	108	75-120	4	30
trans-1,3-Dichloropropene	20	19.61	20	20.29	98	101	67-120	3	30
Ethyl t-butyl ether	20	19.39	20	20.37	97	102	68-121	5	30
Ethylbenzene	20	20.3	20	20.66	102	103	80-120	2	30
Freon 113	20	20.17	20	20.84	101	104	73-139	3	30
2-Hexanone	100	86.19	100	90.3	86	90	56-135	5	30
di-Isopropyl ether	20	19.04	20	19.71	95	99	70-124	3	30
Isopropylbenzene	20	20.85	20	21.47	104	107	80-120	3	30
Methyl Acetate	20	18.32	20	19.37	92	97	54-136	6	30
Methyl Tertiary Butyl Ether	20	19.54	20	20.39	98	102	69-122	4	30
4-Methyl-2-pentanone	100	87.67	100	90.95	88	91	62-133	4	30
Methylcyclohexane	20	18.86	20	19.28	94	96	67-121	2	30
Methylene Chloride	20	21.7	20	22.15	108	111	80-120	2	30
Naphthalene	20	17.94	20	19.28	90	96	53-124	7	30
Styrene	20	20.92	20	21.33	105	107	80-120	2	30
1,1,2,2-Tetrachloroethane	20	18.96	20	19.58	95	98	72-120	3	30
Tetrachloroethene	20	21.07	20	21.47	105	107	80-120	2	30
Toluene	20	20.59	20	20.82	103	104	80-120	1	30
1,2,4-Trichlorobenzene	20	20.89	20	22.37	104	112	63-120	7	30
1,1,1-Trichloroethane	20	22.44	20	22.94	112	115	67-126	2	30
1,1,2-Trichloroethane	20	21.58	20	22.02	108	110	80-120	2	30
Trichloroethene	20	21.55	20	22.02	108	110	80-120	2	30
Trichlorofluoromethane	20	19.14	20	19.74	96	99	55-135	3	30
Vinyl Chloride	20	16.24	20	16.95	81	85	56-120	4	30
Xylene (Total)	60	63.24	60	65.3	105	109	80-120	3	30
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 20055A31A	Sample number(s): 1263509-1263513,1263515								
TPH-GRO soil C6-C10	11	11.48	11	11.46	104	104	60-132	0	30
Batch number: 20055A31B	Sample number(s): 1263514								
TPH-GRO soil C6-C10	11	11.48	11	11.46	104	104	60-132	0	30
	ug/l	**ug/l**	**ug/l**	**ug/l**					
Batch number: 20051B20A	Sample number(s): 1263516-1263523								
TPH-GRO water C6-C10	1100	988.38			90		70-123		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 200550014A	Sample number(s): 1263509-1263515								
DRO C10-C28 8015C/D (Microwv)	133.34	126.38			95		81-121		
	ug/l	**ug/l**	**ug/l**	**ug/l**					
Batch number: 200510027A	Sample number(s): 1263516-1263523								

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
DRO C10-C28	600.05	289.22			48		20-118		
	%	%	%	%					
Batch number: 20052820002A	Sample number(s): 1263509-1263515								
Moisture	89.5	89.46			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: E200581AA	Sample number(s): 1263516-1263524 UNSPK: 1263520									
Acetone	2.22	150	173.79	150	158.92	114	104	54-157	9	30
t-Amyl methyl ether	N.D.	20	20.89	20	19.65	104	98	66-120	6	30
Benzene	N.D.	20	23.62	20	21.96	118	110	80-120	7	30
Bromodichloromethane	N.D.	20	24.2	20	22.54	121*	113	71-120	7	30
Bromoform	N.D.	20	25.04	20	24.04	125*	120	51-120	4	30
Bromomethane	N.D.	20	19.85	20	18.44	99	92	53-128	7	30
2-Butanone	N.D.	150	140.55	150	131.13	94	87	59-135	7	30
t-Butyl alcohol	N.D.	200	208.01	200	190.74	104	95	60-130	9	30
Carbon Disulfide	0.477	20	24.68	20	21.71	121	106	65-128	13	30
Carbon Tetrachloride	N.D.	20	27.64	20	25.95	138*	130	64-134	6	30
Chlorobenzene	0.500	20	23.8	20	21.91	116	107	80-120	8	30
Chloroethane	N.D.	20	20.04	20	17.81	100	89	55-123	12	30
Chloroform	N.D.	20	23.86	20	22.52	119	113	80-120	6	30
Chloromethane	N.D.	20	18.84	20	18.21	94	91	56-121	3	30
Cyclohexane	N.D.	20	22.35	20	20.89	112	104	68-126	7	30
1,2-Dibromo-3-chloropropane	N.D.	20	19.08	20	18.7	95	94	47-131	2	30
Dibromochloromethane	N.D.	20	24.87	20	23.41	124*	117	71-120	6	30
1,2-Dibromoethane	N.D.	20	22.12	20	20.53	111	103	77-120	7	30
1,2-Dichlorobenzene	N.D.	20	22.11	20	21.08	111	105	80-120	5	30
1,3-Dichlorobenzene	N.D.	20	21.57	20	20.43	108	102	80-120	5	30
1,4-Dichlorobenzene	N.D.	20	21.89	20	20.99	109	105	80-120	4	30
Dichlorodifluoromethane	N.D.	20	19.18	20	17.93	96	90	41-127	7	30
1,1-Dichloroethane	N.D.	20	23.8	20	21.7	119	109	80-120	9	30
1,2-Dichloroethane	N.D.	20	22.79	20	21	114	105	73-124	8	30
1,1-Dichloroethene	N.D.	20	27.25	20	24.65	136*	123	80-131	10	30
cis-1,2-Dichloroethene	N.D.	20	25.68	20	23.91	128*	120	80-120	7	30
trans-1,2-Dichloroethene	N.D.	20	25.4	20	23.2	127*	116	80-120	9	30
1,2-Dichloropropane	N.D.	20	23.12	20	21.71	116	109	80-120	6	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
cis-1,3-Dichloropropene	N.D.	20	22.2	20	20.96	111	105	75-120	6	30
trans-1,3-Dichloropropene	N.D.	20	20.88	20	19.71	104	99	67-120	6	30
Ethyl t-butyl ether	N.D.	20	21.42	20	19.99	107	100	68-121	7	30
Ethylbenzene	0.480	20	23.02	20	21.66	113	106	80-120	6	30
Freon 113	N.D.	20	25.14	20	23.28	126	116	73-139	8	30
2-Hexanone	N.D.	100	94.38	100	87.78	94	88	56-135	7	30
di-Isopropyl ether	N.D.	20	21.24	20	19.91	106	100	70-124	6	30
Isopropylbenzene	N.D.	20	22.91	20	21.88	115	109	80-120	5	30
Methyl Acetate	N.D.	20	7.41	20	19.13	37*	96	54-136	88*	30
Methyl Tertiary Butyl Ether	N.D.	20	21.28	20	20.17	106	101	69-122	5	30
4-Methyl-2-pentanone	N.D.	100	96.65	100	91.09	97	91	62-133	6	30
Methylcyclohexane	N.D.	20	21.79	20	21.73	109	109	67-121	0	30
Methylene Chloride	N.D.	20	24.34	20	22.51	122*	113	80-120	8	30
Naphthalene	N.D.	20	18.47	20	18.49	92	92	53-124	0	30
Styrene	N.D.	20	22.19	20	20.86	111	104	80-120	6	30
1,1,2,2-Tetrachloroethane	N.D.	20	19.83	20	19.08	99	95	72-120	4	30
Tetrachloroethene	N.D.	20	23.54	20	22.53	118	113	80-120	4	30
Toluene	0.323	20	23.12	20	21.69	114	107	80-120	6	30
1,2,4-Trichlorobenzene	N.D.	20	19.96	20	20.13	100	101	63-120	1	30
1,1,1-Trichloroethane	N.D.	20	25.5	20	23.87	128*	119	67-126	7	30
1,1,2-Trichloroethane	N.D.	20	23.63	20	21.84	118	109	80-120	8	30
Trichloroethene	N.D.	20	24.56	20	22.54	123*	113	80-120	9	30
Trichlorofluoromethane	N.D.	20	24.61	20	23.14	123	116	55-135	6	30
Vinyl Chloride	N.D.	20	20.3	20	19.55	102	98	56-120	4	30
Xylene (Total)	1.95	60	71.85	60	67.28	117	109	80-120	7	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 20051B20A	Sample number(s): 1263516-1263523 UNSPK: 1263520									
TPH-GRO water C6-C10	28.47	1100	911.62	1100	971.8	80	86	70-123	6	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 200510027A	Sample number(s): 1263516-1263523 UNSPK: 1263520									
DRO C10-C28	1058.5	632.96	1037.82	697.73	6496.5	-2*	779*	20-118	145*	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCL VOC + Naph + Oxys 8260C
Batch number: A200551AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1263509	101	104	97	92
1263515	108	108	120	68
Blank	109	104	94	92
LCS	105	99	97	100
LCSD	104	100	98	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TCL VOC + Naph + Oxys 8260C
Batch number: A200571AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1263513	111	104	97	88
1263514	114	110	95	88
Blank	113	104	91	93
LCS	111	102	95	101
LCSD	107	95	96	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TCL VOC + Naph + Oxys
Batch number: E200581AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1263516	103	101	96	96
1263517	104	104	97	95
1263518	102	101	97	96
1263519	104	100	97	97
1263520	104	103	97	96
1263521	106	103	97	97
1263522	105	103	96	96
1263523	105	104	96	96
1263524	105	102	97	95
Blank	105	104	96	96
LCS	105	103	97	96
LCSD	104	103	97	96
MS	106	103	97	97
MSD	105	103	96	96
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TCL VOC + Naph + Oxys 8260C
Batch number: R200561AA

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCL VOC + Naph + Oxys 8260C
Batch number: R200561AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
1263510	80	88	92	95
1263511	83	90	105	118
1263512	97	110	112	117
Blank	81	86	82	80
LCS	81	84	81	80
LCSD	82	85	81	81
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-GRO water C6-C10
Batch number: 20051B20A

	Trifluorotoluene-F
1263516	71
1263517	65
1263518	72
1263519	102
1263520	79
1263521	83
1263522	89
1263523	82
Blank	79
LCS	90
MS	83
MSD	89
Limits:	63-135

Analysis Name: TPH-GRO soils C6-C10
Batch number: 20055A31A

	Trifluorotoluene-F
1263509	81
1263510	1838*
1263511	2757*
1263512	212059*
1263513	134
1263515	72
Blank	100
LCS	109
LCSD	106
Limits:	50-142

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: EA Engineering
Reported: 02/28/2020 16:13

Group Number: 2088718

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO soils C6-C10
Batch number: 20055A31B

	Trifluorotoluene-F
1263514	25*
Blank	100
LCS	109
LCSD	106
Limits:	50-142

Analysis Name: DRO 8015C/D(Mini)
Batch number: 200510027A

	Orthoterphenyl
1263516	55
1263517	57
1263518	75
1263519	85
1263520	48*
1263521	58
1263522	37*
1263523	78
Blank	88
LCS	86
MS	58
MSD	37*
Limits:	50-150

Analysis Name: DRO C10-C28 8015C/D (Microwv)
Batch number: 200550014A

	Orthoterphenyl
1263509	33*
1263510	26*
1263511	100
1263512	50
1263513	88
1263514	46
1263515	57
Blank	100
LCS	101
Limits:	42-143

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10784 Group # 2088718 Sample # 1263509-24

COC # 602496

Client Information

Client: EA Engineering	Acct. #:
Project Name/#: Cloverly DPW/1600401	PWSID #:
Project Manager: Nelson Brooks	P.O. #:
Sampler: B. Harvey	Quote #:
State where samples were collected: MD	For Compliance: Yes ☐ No ☒

Matrix

Soil ☒ Sediment ☐ Tissue ☐ | Water: Potable ☐ Ground ☒ NPDES ☐ Surface ☐ | Other: ____

Analysis Requested

Preservation and Filtration Codes: H | H | H

For Lab Use Only

FSC: ____

SCR#: 255649

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil/Sediment	Water	Other	Total # of Containers	VOA (8260B) w/ fuel oxy + naph	TPH DRO (8015C)	TPH GRO (8015C)	Remarks
SB-1-5-6	2/18/20	1030	X		X			5	X	X	X	
SB-2-5-6		0915	X		X			5	X	X	X	
SB-3-5-6		0945	X		X			5	X	X	X	
DUP-1		—	X		X			5	X		X	
SB-4-5-6		1000	X		X			5	X	X	X	
SB-5-5-6		1015	X		X			5	X	X	X	
SB-6-5-6		1100	X		X			10	X	X	X	MS/MSD
SB-6		1120	X			X		8	X	X	X	
DUP-GW		—	X			X		8	X		X	
SB-1		1140	X			X		8	X	X	X	

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: ____

E-mail address: NBrooks@eaest.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)

Type III (Reduced non-CLP) | NJ DKQP | TX TRRP-13

NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	2/14/20	12:09		2/19/20	11:52
	2/19/20				
	2/18/20	16:50			
				2/19/20	17:27

EDD Required? Yes No

If yes, format: EQUUS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.5-2.8 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 10784 Group # 2088718 Sample # 1263509-24

COC #602495

Client Information

Client: EA Engineering	Acct. #:
Project Name/#: Cheverly DPW / 16004.01	PWSID #:
Project Manager: Nelson Brooks	P.O. #:
Sampler: B. Harvey	Quote #:
State where samples were collected: MD	For Compliance: Yes ☐ No ☒

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water ☒ Potable ☐ Ground ☒ NPDES ☐ Surface ☐ | Other: ____

Analysis Requested

Preservation and Filtration Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs (8260B) w/ full oxy + naph (H)	TPH-DRO (8015C) (H)	TPH-GRO (8015C) (H)	Remarks
SB-2	2/19/20	1200	X		8	X	X	X	
SB-5		1215	X		18	X	X	X	MS/MSD
SB-4		1230	X		8	X	X	X	
TB		—	—		2	X			

For Lab Use Only

FSC: ____

SCR#: ____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: ____

E-mail address: NBrooks@aaest.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	2/19/20	12:09		2/19/20	11:52
	2/19/20				
	2/19/20	16:50			
				2/19/20	1727

EDD Required? Yes No

If yes, format: EQUUS

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 2.5-2.8 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 276148

Group Number(s): 2088718

Client: EA Engineering

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Date:	02/19/2020
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Melvin Sanchez

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Matrix	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	Water	DT42-03	2.8	DT	Wet	Y	Loose	N
2	Water	DT42-03	2.5	DT	Wet	Y	Loose	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
SB-1-5-6	6	5	
SB-2-5-6	6	5	
SB-3-5-6	6	5	
Dup-1	6	5	
SB-4-5-6	6	5	
SB-5-5-6	6	5	
SB-6-5-6 (MS/ MSD)	12	10	

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
Dup_GW	2/18/2020 11:20	
Dup-1	2/18/2020 09:45	

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ATTACHMENT B

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SECTION 017330

REMOVAL OF EXISTING UNDERGROUND TANKS

SECTION TABLE OF CONTENTS

SECTION 017330

REMOVAL OF EXISTING UNDERGROUND TANKS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Contractor will be responsible for the removal of the following tank systems:

1. Tank 1 – 10,000-gallon diesel UST
2. Tank 2 – 10,000-gallon gasohol UST (currently out of service and emptied of all liquids to less than 1 inch)

B. Contractor shall completely remove and dispose of two (2) existing underground storage tanks (USTs) and piping systems as required by the scope of work for this project. Removal work shall include, but not be limited to, the demolition and removal of underground tanks, concrete pads, concrete and asphalt paving, overburden soil, riser pipes, monitoring pipes, product and vent piping, wiring/conduits, fuel pumps/dispensers, associated oil and petroleum products, and all other incidentals to complete the work as required. The work shall also include the demolition and disposal of one (1) fueling canopy, oil and petroleum impacted soils and groundwater as directed by the Town of Cheverly's Consulting Engineer and as specified in Section 222000. Contractor shall remove and dispose of all other associated demolition scrap as debris. Concrete hold-down pads to be removed only if required by the Maryland Department of Environment (MDE).

C. Contractor shall coordinate the removal of fuel with the Town of Cheverly's Consulting Engineer. Contractor shall remove tank contents including residues, sludges, and any other solids or liquids whether flammable or not, and whether existing or generated by Contractor's cleaning activities. Contractor shall provide all labor, material, equipment, and services to empty, clean, and transport all tank contents in accordance with local, state, and federal regulations, and in such a manner that contents are not discharged to the local environment. Contractor shall perform pump-out, recovery, removal, legal disposal, and cleanup of all fuel residues remaining in the existing tanks and distribution piping.

D. All disposal facilities for fuel, contaminated soil, and offsite waste shall be approved by the Town of Cheverly's Consulting Engineer. Locations of all offsite disposal facilities shall be submitted to the Town of Cheverly's Consulting Engineer for approval a minimum of ten (10) days prior to removal.

1.2 REFERENCES

A. American Petroleum Institute (API)

1. API 2015 Safe Entry and Cleaning of Petroleum Storage Tanks (2014).

2. API PUBL 1628 A Guide to the Assessment and Remediation of Underground Petroleum Releases (1996).

3. API RP 2219 Safe Operation of Vacuum Trucks in Petroleum Service (2005).

4. API RP 1604 Closure of Underground Petroleum Storage Tanks (2001).

5. API RP 2003 Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents (1998).

6. API Standard (STD) 2217A Guidelines for Safe Work in Inert Confined Spaces in the Petroleum and Petrochemical Industries (2005).

B. Code of Maryland Regulations (COMAR)

1. COMAR 26.10.02 Underground Storage Tanks.

2. COMAR 26.10.06 Underground Storage System Technician and Remover Certification.

3. COMAR 26.10.08 Release Reporting, Investigation and Confirmation.

4. COMAR 26.10.09 Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances.

5. COMAR 26.10.13 Oil Contaminated Soil.

C. United States Environmental Protection Agency (EPA)

1. EPA SW-846 Test Methods for Evaluating Solid Waste.

2. EPA 40 Code of Federal Regulations (CFR) Part 260 Hazardous Waste Management System: General.

3. EPA 40 CFR Parts 280 and 281 Underground Storage Tanks.

D. Occupational Safety and Health Administration (OSHA)

1. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.

2. OSHA 29 CFR 1910.146 Permit-Required Confined Spaces.

3. OSHA 29 CFR 1910.147 The Control of Hazardous Energy (Lockout/Tagout).

1.3 CONFORMANCE WITH REGULATIONS, CODES, STANDARDS, AND SPECIFICATIONS

A. All work in this Section, including materials, equipment, and installation work shall be in strict conformance with all applicable regulations, manufacturers recommendations, codes, and standards.

1. EPA Final Rule; Federal Regulations: Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (40 CFR Part 280).

2. State of Maryland, Department of the Environment, Title; 26, Subtitle 10, Oil Pollution and Tank Management (COMAR 26.10).

3. National Fire Prevention Association (NFPA) Standards: NFPA 30: Flammable and Combustible Liquids Code. NFPA 30A: Motor Fuel Dispensing Facilities and Repair Garage.

4. API Recommended Practice (RP) For the Closure of Underground Petroleum Storage Tanks (API RP 1604).

5. Petroleum Equipment Institute (PEI) RP for Installation of Aboveground Storage Systems for Motor Vehicle Fueling (PEI RP 200).

1.4 OWNERSHIP AND TITLE

A. Prior to the start if any demolition, the Contractor shall perform a detailed inspection with a the Town of Cheverly's Engineer and prepare an itemized list of equipment to be salvaged by the Town of Cheverly. The Contractor shall be responsible for the removal, transportation, unloading of all salvaged equipment to the Town of Cheverly's preferred storage location. All other equipment shall be disposed of by the Contractor at no additional cost to the Owner.

B. When waste materials are removed from the project site, ownership and title thereof shall pass from the Town of Cheverly to the Contractor, who shall at that time assume all incidents of ownership of said waste materials and bear all

liability and responsibility for their safe and lawful transportation, storage, and disposal.

1.5 PROJECT NOTIFICATIONS

A. The Contractor shall, in writing, notify MDE 30 days prior to the beginning of excavation for UST removal. Notification shall be provided by completing and submitting the "*Underground Storage System Removal/Abandonment 30-Day Written Notification Form*" It is recommended that the completed form be faxed to MDE and that a record of the fax transmission be retained to provide proof of notification.

The Contractor shall confirm the tank removal with MDE forty-eight (48) hours before beginning excavation. The notification shall be provided to the following:

Maryland Department of the Environment
Compliance and Remediation Section
1800 Washington Boulevard
Baltimore, Maryland. 21230
Attention: (*Appropriate Regional Compliance Inspector)*
Telephone: (410) 537-3442
Fax: (410) 537-3092

B. The Contractor shall call "MISS UTILITY" at 1-800-257-7777 to obtain utility information at least seventy-two (72) hours prior to excavation. The Contractor shall also coordinate location of utilities with the Town of Cheverly's Consulting Engineer. The Contractor is responsible for identifying all underground and aboveground utilities that may be impacted by the UST system and canopy removal.

C. The Contractor shall provide a written Notification of Intent to MDE of decommissioning the existing gasohol fuel system. The notification shall be directed to MDE, Air and Radiation Management Administration (ARMA) Air Quality Compliance Program, and the Land Management Administration (LMA) Oil Control Program, and shall include the form Notification of Intent to Decommission or to Not Install Stage II Vapor Recovery System on Certain New or Modified Gasoline Dispensing Facilities (GDF). The notification shall be made at least 30 days prior to the start of construction. Any subsequent soil screening, testing, or submittals required by MDE, as described in the abovementioned form shall be performed by the Contractor at no additional cost to the Town of Cheverly.

D. If required, the Contractor shall notify the local authority having jurisdiction, typically the local Fire Marshal, of the impending tank removal. Written documentation of the notification must be provided the Town of Cheverly's Consulting Engineer.

E. If, during the tank removal, evidence of a past or ongoing fuel release is discovered, the Contractor shall notify the Town of Cheverly's Consulting Engineer immediately. Additionally, MDE must be notified within two (2) hours by calling 866-633-4686.

1.6 SUBMITTALS

A. The Contractor shall submit to the Town of Cheverly's Consulting Engineer a Work Plan. Plan must be approved by the Town of Cheverly's Consulting Engineer prior to start of any removal work. However, approval of this plan is for general compliance only, and does not relieve the Contractor from full compliance with the Contract Documents, and all applicable code, regulations, and standards. The plan shall include the following minimum requirements:

1. Identification of site constraints and job hazards;
2. Environmental Safety and Health procedures for the work;
3. Identification of any possible ignition sources;
4. Identification of construction materials;
5. Identification of construction schedule;
6. Identification of quality assurance/quality control measures;
7. Methods of compliance with applicable regulations and approved permits;
8. Determination of potential for contaminated backfill, soil, or liquids;
9. Determination of need to de-water excavation;
10. Identification of staging area for stockpiling backfill materials;
11. Identification of area for storing tank;
12. Earth retention requirements and methods;
13. Pipe purging, removal, and capping procedures;
14. Tank purging/inerting methods; and
15. Erosion and Sediment Control (ESC) measures.

B. The Contractor shall submit to the Town of Cheverly's Consulting Engineer a Site-Specific Health and Safety Plan (HASP) prepared in accordance with OSHA 29 CFR 1926.65.

C. Spill Prevention and Control Plan: The Contractor shall have a spill prevention and control plan and procedures in place in the event that a spill is encountered during construction. The Contractor shall assure that all personnel participating in construction activities are aware of this plan and are prepared to execute the spill control plan if necessary. The Contractor shall provide the equipment necessary to execute the spill control plan in the event that a spill is encountered.

D. The Contractor shall submit to the Town of Cheverly's Consulting Engineer a copy of the MDE Underground Storage Tank Removal/Abandonment

Notification Form, as well as copies of notifications submitted to all local government agencies as required.

E. The Contractor shall submit copies of the MDE inspector's "Tank Removal/Abandonment Form" and "Report of Observations" to the Town of Cheverly's Consulting Engineer.

F. The Contractor shall submit copies of all Hazardous and Non-hazardous Waste Manifests to the Town of Cheverly's Consulting Engineer.

G. The Contractor shall submit to the Town of Cheverly's Consulting Engineer a written confirmation from each of the disposal or recycling facilities indicating acceptance of the UST, UST contents, concrete and asphalt paving materials, piping, and any product, sludge, or contaminated wash water.

H. The Contractor shall submit to the Town of Cheverly's Consulting Engineer a copy of the chain-of-custody and all laboratory certificates of analysis for all soil and/or water samples collected and submitted for laboratory analysis.

I. The Contractor shall submit to the Town of Cheverly's Consulting Engineer any additional permits, waste slips, manifests, and Bills of Lading at project closeout.

J. The Contractor shall submit to the Town of Cheverly's Consulting Engineer any items or information necessary to complete a UST System Closure Report in accordance with COMAR 26.10.10.03 *Assessing the Site at Closure or Change-in-Service*.

K. The Contractor shall submit to the Town of Cheverly's Consulting Engineer any proposed shoring and structural protective methods, which must be coordinated with and approved by the Town of Cheverly's Consulting Engineer.

1.7 QUALITY ASSURANCE

A. All work shall be performed in accordance with all applicable local, state, and federal codes, regulations, and standards governing the closure of USTs. The Contractor shall demonstrate, to the satisfaction of the Town of Cheverly's Consulting Engineer, that they meet the qualification requirements of the State of Maryland prior to award of the Contract. Specifically, the Contractor shall meet all of the requirements of COMAR 26.10.06. A copy of certification, specified in COMAR 26.10.06, shall be submitted in accordance with the Submittal specifications.

B. In deference to COMAR 26.10.06, the Contractor shall have a minimum of five (5) years of UST closure and/or removal experience with direct involvement in at least six (6) systems as a business. The experience of personnel in the company will not count towards the required experience of the business.

1.8 MATERIALS ENCOUNTERED

A. If the Contractor encounters or exposes any abnormal conditions during UST closure that indicate the presence of a hazardous or toxic material other than those covered in this Section, work in that area shall immediately be suspended and the Town of Cheverly's Consulting Engineer shall be notified. The Contractor's operations in this area shall not resume until permitted by the Town of Cheverly's Consulting Engineer; however, the Contractor may continue working in other areas of the Project, unless directed otherwise.

1. Abnormal conditions shall include, but not be limited to, obnoxious or unusual odors, excessively hot earth, smoke, and other conditions that could indicate the presence of hazardous or toxic material other than those covered in this Section.

2. The Town of Cheverly shall be listed as the generator of the hazardous or toxic material not covered in this Section and disposition of the hazardous or toxic material shall be made in conformance with all applicable requirements and regulations. Where the Contractor performs necessary work, as directed by the Town of Cheverly's Consulting Engineer, and must dispose of these materials with no Bid Items covering this work included in the Bid Form, the work shall be performed in accordance with the General Provisions.

3. The Town of Cheverly's Consulting Engineer may require any material furnished on the project by the Contractor suspected to be hazardous or toxic to be tested and certified to be in conformance with all applicable requirements and regulations.

4. Material found to be hazardous or toxic material, other than those covered in this Section, shall not be incorporated into the work. The required testing will be determined by the Town of Cheverly's Consulting Engineer and may include, but not be limited to, the EPA Toxicity Characteristic Leaching Procedure (TCLP) or its successor. The evaluation and interpretation of the test data will be made by the Town of Cheverly's Consulting Engineer.

1.9 SAFETY AND PRECAUTION

A. The Contractor shall determine the appropriate level of personal protection for all workers associated with work performed under this section to ensure health and safety of all personnel, including subcontractors, engaged in the tank removal activities.

B. The Contractor shall provide personal protective equipment (protective suits, gloves, boots, hard hats, respiratory equipment, etc.) for all workers as required for protection against exposure to contamination. Contractor shall determine the required level of personal protective equipment during each phase of the work. Contractor shall ensure their personnel are properly trained to use these items. Contractor shall follow all OSHA requirements.

C. Personnel working inside and in the general vicinity of the USTs shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work. Personnel shall use proper protection and safety equipment during work in and around USTs.

D. The area surrounding the tank and/or tank excavation shall be secured by temporary fence to protect building occupants, visitors, and workers. A temporary fence will only be necessary if the Contractor cannot control access by other means. Alternate methods for access control must be approved in writing by the Town of Cheverly's Consulting Engineer.

E. Warning signs and devices in number and content satisfactory to the Town of Cheverly's Consulting Engineer shall be placed at regular intervals along the work area perimeter.

F. The Contractor shall eliminate all potential sources of ignition from the area, including, but not limited to, smoking materials, non-explosion-proof tools, electrical equipment, and internal combustion equipment.

G. The Contractor shall provide and maintain adequate supply of fire extinguishers and other required safety equipment in close proximity to all demolition and removal activity. A minimum of two (2) portable twenty (20)-pound fire extinguishers must be visibly positioned around the tank excavation. The fire extinguishers must be in working condition, fully charged, and immediately available in the event of a fire.

H. The Contractor shall prevent vapors from accumulating at ground level and keep all tanks vented at least twelve (12) feet above ground surface until they are ready to be removed. The Contractor shall prevent a discharge of static electricity during venting of tanks by ensuring that all equipment used during venting is grounded to both the tank and the earth.

I. The Contractor shall prepare confined space entry permits for all activities where personnel enter confined spaces. If confined spaces must be entered, all OSHA and Maryland Occupational Safety and Health (MOSH) procedures for confined space entry shall be followed, including 29 CFR 1910.146 and COMAR 09.12.35.

J. The Contractor shall test interior UST spaces and surrounding excavation areas to detect dangerous vapor levels until the USTs are removed from the project site.

K. Prior to ending operations on any work day or at any time the Contractor is not on site, the Contractor shall secure all areas of work in a safe manner to the satisfaction of the Town of Cheverly's Consulting Engineer.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 GENERAL

A. Contractor shall verbally notify the regulating state agency (MDE) at least five (5) days prior to closure of the tanks. Tanks shall be removed only in the presence and/or at the direction of an MDE representative. All work shall be performed in strict accordance with the provisions of the Contract Documents and with the provisions of API 1604. If there is any discrepancy, the more stringent provisions will govern.

B. All work shall be performed in strict accordance with the provisions of the Contract Documents and with the provisions of API 1604. If there is any discrepancy, the more stringent provisions will govern.

C. Safety Guidelines: Personnel working inside or within the general vicinity of the tanks shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work. Personnel shall be trained and certified in accordance with OSHA 29 CFR 1910.120 and OSHA 29 CFR 1910.146 (permit required – confined spaces) and physically carry proof of certification at all times on the site. Personnel shall use proper protection and safety equipment during work in and around the tanks as specified in API STD 221 7A, API RP 1604, and the Contract Documents. Burning and Explosives: Use of explosives or burning will not be allowed.

D. All supply pipes, vents, fill pipes, and other appurtenances related to the fuel distribution system shall be cut and capped at both ends by the Contractor no later than forty-eight (48) hours after proper cleaning was completed and authorized to do so by the Town of Cheverly's Consulting Engineer.

E. The Contractor shall coordinate their work to allow vehicular and pedestrian ingress and egress during construction.

F. During the closure, the Contractor shall maintain vehicular and pedestrian traffic flow safely through the parking lots.

G. All health and safety monitoring equipment shall be maintained according to manufacturer's specifications.

3.2 SITE PREPARATION

A. The existing tank locations and piping as shown on the Contract Documents are approximate. The Contractor shall be responsible for verification of the exact location of the underground tanks and piping.

B. Familiarize all personnel with the general work area. Locate and mark buried obstructions and other buried utility lines in the area. Use a pipe locator if necessary. The Contractor is responsible for protecting all buried and overhead utilities. Any damage done to existing utilities by the Contractor shall be repaired by the Contractor at no cost to the Town of Cheverly.

C. Notify the Town of Cheverly's Consulting Engineer at least forty-eight (48) hours prior to the commencement of work.

D. Place barriers and warning signs as approved by the Town of Cheverly's Consulting Engineer to prevent unauthorized entry into work area and to protect all excavation areas.

E. Prohibit or mitigate all potential ignition sources within twenty-five (25) feet of the work area or other zone as defined by NFPA 70. Potential ignition sources include open flames, spark-producing equipment, and high-temperature equipment such as internal combustion engines. Contractor shall observe appropriate safety precautions such as installing vapor-isolating barriers, vapor concentration monitoring, and using equipment listed for use in hazardous zones as mitigation. Contractor shall submit a written safety plan for approval.

F. Coordinate removal of usable fuel from tanks with the Town of Cheverly's Consulting Engineer prior to work related to removal of USTs. All flammable or combustible liquids and/or sludge remaining in the tanks and/or piping after the removal of usable fuel shall be removed and disposed of by the Contractor.

G. Turn off, secure, and label pump circuit breakers, and disconnect wiring to the pumps at the panel in accordance with OSHA 29 CFR 1910.147.

H. Prevent the discharge of static electricity by properly grounding equipment and by controlling the rate of flow of gases and liquids during the work.

I. Prevent the accumulation of vapors at ground level by proper venting.

J. Furnish a properly calibrated combustible gas indicator (CGI) to monitor for hazardous vapor concentrations in the work area at all times. Calibration of the CGI shall be in accordance with the manufacturer's instructions. Operators of the

CGI shall be completely familiar with the use of the instrument and the interpretation of the instrument readings and shall be approved by the Town of Cheverly's Consulting Engineer before any work will be allowed to commence.

K. Scan the area for the presence of vapors and render the area non-combustible as necessary for safe performance of the work.

3.3 PROTECTION OF ADJACENT PAVEMENTS

A. Existing roadway and parking lot pavements shall be protected to the greatest extent possible from damage during excavation and subsequent construction activities.

B. Damage to adjacent pavements outside the sawcut area indicated on the Contract Documents shall be repaired and pavements restored to original condition at no additional cost to the Town of Cheverly.

3.4 SITE DEMOLITION

A. Prior to start of demolition operations, the Contractor shall install erosion and sediment control measures and devices as needed on the Contract Documents to protect adjacent undisturbed areas and prevent runoff from entering the excavation and the site stormwater system. Remove all unstable bottom materials, including large stones, debris, and organic soils for the excavation bottom.

B. All materials coming into contact with the tanks, or in the vicinity of the excavation, such as shovels, slings, and tools shall be of the non-sparking type.

C. Make all saw cuts perpendicular using a diamond saw blade. Remove concrete slabs by the lift-out method in large sections.

D. Soil, concrete pavement, bituminous pavement, and miscellaneous debris shall be removed and disposed of immediately after excavation. This material will not be stockpiled on site. Excavated material that is visibly stained and that has an obvious petroleum odor shall be considered contaminated, stockpiled separately, and handled as specified in Section 222000.

E. Contractor shall exercise care to preserve the material below and beyond the limits of excavation. Where excavation is carried below grade, backfill to the required grade.

3.5 TANK PREPARATION

A. Locate and identify tank. Contractor is responsible for determining exact location of underground work.

B. The Contractor shall make all practicable attempts to plan the tank removal in such a manner that reduces or eliminates the need for personnel to enter the interior of the tank and tank excavation.

C. The Contractor shall disconnect all electrical service going to, under, or through the tank, tank appurtenances, and excavation area. All electrical service must be disconnected at the circuit breaker prior to the initiation of any tank removal activities. Proper lock-out/tag-out procedures must be followed in accordance with the Contractor's HASP. The Contractor shall assure that any electrical power connected to the tank or its ancillary equipment such as pumps has been deactivated prior to beginning work each day.

D. All piping conduits and wiring shall be disconnected prior to excavation.

E. Contractor shall be fully responsible for sampling, testing, and quantifying existing contents of all tanks prior to excavation, in order to determine safe and lawful methods of handling, transport, and disposal.

F. The Contractor shall be responsible for the storage, transfer, and/or disposal of any petroleum products, liquids, sludges, or solids remaining within tanks after removal of usable fuel as directed by the Town of Cheverly's Consulting Engineer.

G. The Contractor shall document that the disposal facilities proposed have all certifications and permits required by local, state, and federal regulatory agencies to receive and dispose of the liquid and solid wastes resulting from the performance of the work.

H. Remove residues and liquids from the tanks using explosion-proof or air-driven pumps certified by the manufacturer to be compatible with pumped media. All pump motors shall be properly grounded and suction hoses shall be bonded to the tanks, or otherwise grounded, to prevent electrostatic ignition hazards. If necessary, use a hand pump to remove the last few inches of liquid from the bottom of the tanks.

I. Carefully excavate to the top of the tanks to expose all pipe fittings or other appurtenances attached to the tanks. Excavated material shall be monitored visually and with the CGI for indications of contamination. Material suspected of contamination shall be segregated and stockpiled separately from non-contaminated material for possible subsequent handling as a hazardous substance.

J. Remove the fill pipe, gauge pipe, vapor recovery truck connection, pumps, and other tanks fixtures. Leave the vent line connected until the tanks are purged completely.

K. Cap all non-product lines, such as vapor recovery lines. Temporarily plug all other tank openings so that all vapors will exit through the vent line during the inerting process.

3.6 EXCAVATION, ACCESS, AND REMOVAL OF UNDERGROUND STORAGE TANKS

A. Contractor's Certified UST Technician or Remover must be on site during all aspects of UST removal.

B. Remove tank only in the presence and/or at the direction of an MDE representative.

C. All UST removals shall be conducted in accordance with the latest edition of the API RP 1604 "*Closure of Underground Petroleum Storage Tanks.*"

D. Whenever possible do not enter the tank. Perform all work from outside the tank using whatever special equipment is required for disconnecting, cleaning, purging, combustible gas monitoring, etc. If the tank must be entered, all OSHA and MOSH procedures for confined space entry shall be followed, including 29 CFR 1910.146 and COMAR 09.12.35.

E. Whenever possible do not enter the tank excavation. Perform all work from outside the tank excavation using whatever special equipment is required for disconnecting, cleaning, purging, combustible gas monitoring, etc. If the tank excavation must be entered, all personnel working in an excavation shall be protected from cave-ins in accordance with 29 CFR 1926.650-652, and applicable MOSH amendments to the OSHA Standard.

F. Perform frequent combustible gas meter readings of the tank interior atmosphere during preparation, cleaning, storage, and cutting. Monitor atmosphere as required to ensure that there is never the potential for fire or explosion. Prevent vapors from accumulating at ground level. Keep all tanks properly vented until ready to remove them from the excavation.

G. All flammable and/or combustible liquids shall be removed from the UST system. During the transfer of any combustible and/or flammable liquids, follow electrical grounding procedures set forth by NFPA to prevent fire or explosion due to static electricity.

H. The Contractor shall drain all product piping back into the tank. The Contractor may use small amounts of water or nitrogen to flush the piping. If water is used,

the Contractor shall use no more than one (1) gallon of water for every ten (10) feet of one and a half (1.5)-inch-diameter pipe, or two (2) gallons of water for every ten (10) feet of two (2)-inch-diameter pipe.

I. All flammable or combustible liquids, petroleum-impacted-liquids, and/or sludge removed from the system by the Contractor shall be disposed of by the Contractor in accordance with all applicable local, state, and federal codes and regulations.

J. The Contractor shall avoid spilling any oil during the tank removal process. The Contractor is responsible for the cleanup and remediation of any and all releases of oil to the environment that occur during that tank removal process.

K. Remove asphalt and/or concrete above tank only to the extent needed to expose the tank or perform subsequent removal of petroleum-impacted soils. In either case the limits of excavation shall be approved by the Town of Cheverly's Consulting Engineer. Care shall be taken to protect the existing pavement and concrete adjacent to the excavation.

L. Excavate to the top of the tank. Remove all tank-top equipment including riser pipes, fill pipes, drop tubes, supply pipes, vapor recovery pipes, automatic tank gauging equipment, vapor recovery piping and equipment, submersible pump turbine and pump head, wiring and electrical conduits, and all other associated underground piping and appurtenances related to the fuel distribution system. Remove all piping and conduit that is accessible and uncovered, except the vent line**.** Any remaining piping must either be cut and capped or completely filled with concrete or cement. No piping shall be abandoned in place without the permission of the Town of Cheverly's Consulting Engineer.

M. Handle and treat petroleum-contaminated items properly to prevent spread of contamination or release of product. Clean petroleum contamination from items as required before disposal.

N. The vent line must remain connected until the tank is purged. Cap and plug all bungs on tank as tank-top equipment and risers are removed.

O. Prior to removal of the tank, the Contractor shall either purge the tank of all explosive vapors or inert the tank by removing or displacing the oxygen within the tank. Purge or inert the tank in place with either method below using safeguards and procedures described in API RP 1604.

1. Carbon dioxide (CO_2) or nitrogen (N_2) flooding.

2. Solid CO_2 at one and a half (1.5) pounds per one hundred (100) gallons of tank capacity.

3. Ventilate tank with a compressed air eductor or diffused air blower.

**DO NOT USE OXYGEN OR COMBUSTIBLE,
FLAMMABLE, OR EXPLOSIVE GAS TO PURGE TANK**

After purging the tank, test tank and tank excavation with a CGI to verify vapor concentrations of ten (10) percent of lower explosive limit (or less). Purge until tank interior atmosphere remains continuously at this level or below, even when purging is discontinued. If you use a CGI, always test the environment for oxygen content first to be sure you can rely on the instrument. CGIs may be misleading if the tank atmosphere contains less than fifteen (15) percent by volume oxygen.

If the tank was inerted, use an oxygen indicator to determine the oxygen concentration within the tank is at or below fifteen (15) percent. The tank shall be inerted until the interior atmosphere remains continuously at this level or below, even when inerting is discontinued.

P. Clean tank interior to prevent further off-gassing, as required to maintain vapor concentrations at ten (10) percent of lower explosive limit or below. Cleaning shall be performed in accordance with API RPs 2015 and 2016.

Q. After successfully purging/inerting the tank, the vent line shall be removed and a cap or plug shall be installed. The cap/plug shall have a one-quarter (1/4)-inch hole in it to allow additional venting and prevent over-pressurization of the tank.

R. Continue to excavate soils around the tank to permit removal. Petroleum-impacted soils and non-impacted soils must be segregated into separate piles. All excavated materials must be kept a minimum of two (2) feet from the edge of the excavation.

S. Contractor shall be responsible for the condition of the excavation. All slides and cave-ins shall be removed or corrected by the Contractor. The Contractor shall maintain the excavation open, safe, and water free until backfilling is authorized by the Town of Cheverly's Consulting Engineer.

T. The Contractor shall be responsible for any sheeting, temporary bracing and temporary supports that may be required to protect any structures or utilities outside and inside the limits of excavation and to permit safe entry by personnel to inspect for soil contamination. All excavation, trenching and related sheeting, bracing, and/or supports shall comply with the requirements of OSHA excavation safety standards 29 CFR, Part 1926.650-652.

U. All excavations shall be shored and drained so that workers may work safely and efficiently. Contractor shall keep all excavations free from water. Dewatering of the excavation will be limited to that necessary to assure adequate access to the USTs and piping and to assure safe excavation. Contractor shall provide for the disposal of the water removed from excavations in accordance with all applicable

codes and regulations. Surface water shall be diverted to prevent direct entry into the excavation.

V. Remove the tank from the tank pit and place in a secure level area on site. The Contractor must only use equipment capable of safely lifting the tank. The tank shall not be dragged. The Contractor shall render the tank unfit for reuse by cutting holes in both ends or by cutting the tank into scrap. If holes are cut into each end of the tank the holes must be either squares or triangles with a minimum length of twenty-four (24) inches. All cutting shall be done in such a way, and using such tools and equipment as to prevent generation of sparks of flame. Tanks shall not be cut up or crushed on site if, in the opinion of the Town of Cheverly's Consulting Engineer, this would pose a threat to public health or safety. In such a case, this work shall be done off site at a location approved by the Town of Cheverly's Consulting Engineer (Contractor's shop, scrap yard, etc.). The tank shall not be removed from the site until it has been inspected by MDE personnel.

W. Remove existing vent lines from USTs attached to canopy column. Contractor shall remove vent lines penetrating canopy in accordance with Contract Documents.

X. Remove existing fueling canopy, including foundations, footings, or any part thereof, and backfill and restore pavement as directed by the Town of Cheverly's Consulting Engineer.

3.7 SUPPORT OF EXCAVATION

A. The Contractor shall be responsible for providing, maintaining, and removing temporary excavation support in accordance with Maryland Occupational Safety and Health Administration requirements. Detail drawings and design calculations for sheeting, shoring, and other temporary support of excavation and methods of construction shall be submitted for review and approval to the Town of Cheverly's Consulting Engineer. The drawings shall bear the seal and signature of a professional engineer registered in the State of Maryland. The Contractor shall be solely responsible for the adequacy of the excavation supports, and for the safety of excavations.

3.8 HANDLING AND DISPOSAL OF EXCAVATED MATERIALS

A. The removed tank(s) and associated ancillary equipment shall become the property of the Contractor and transportation and disposal shall be in accordance with all local, state, and federal requirements.

B. The Contractor shall be responsible for safe and lawful manifesting, transportation, storage, and disposal of all waste materials and debris generated under this contract. Contractor will not sign non-hazardous or hazardous waste

manifests on behalf of the Town of Cheverly. The Town of Cheverly will be provided documents by the Contractor for signature.

C. All concrete and asphalt paving removed during the tank removal activities shall be disposed of offsite at an approved facility.

D. The Contractor shall submit to the Town of Cheverly's Consulting Engineer copies of all Hazardous and/or Non-Hazardous Waste Manifests for all solids and liquids generated during the tank removal activities that require disposal.

E. The Contractor shall submit copies to the Town of Cheverly's Consulting Engineer of the certification of acceptance recycling and treatment for cleaning of contaminated soils.

F. All excavated materials and imported fill materials shall be staged in accordance with MDE ESC requirements. This includes installation of silt fencing around excavated material that is to be stored more than one (1) day or during rainy weather.

G. All excavated materials not to be backfilled by the end of the workday shall be placed on double layers of six (6)-mil or thicker polyethylene sheeting, at locations to be designated by the Town of Cheverly's Consulting Engineer. Cover and securely anchor with polyethylene sheeting all soils at the end of the work day.

H. The Contractor shall control the grading so that the ground is pitched to prevent water from running to excavated areas, damaging other structures or adjacent properties. The Contractor shall ensure the protection of catch basins and public access areas from water runoff from the excavation areas of stockpiles, as well as provide erosion control.

I. Where soil has been softened or eroded by flooding or placement during unfavorable weather, it shall be removed and replaced with suitable material at no cost to the Town of Cheverly.

J. The Contractor shall provide appropriate dust control measures, as directed by the Town of Cheverly's Consulting Engineer.

3.9 BACKFILL MATERIALS

A. All UST excavations shall be backfilled with self-compacting stone (ninety-five [95] percent) approved by the Town of Cheverly's Consulting Engineer. Previously contaminated soils that have been recycled or treated are not suitable backfill unless approved by the Town of Cheverly's Consulting Engineer. The top two (2) feet of all excavations shall be backfilled with CR-6 sub-base in

preparation for final asphalt surface restoration. Contractor shall be responsible for installation of final surface to match existing asphalt, up to a 12-in section.

B. By importing and placing fill materials at a site, the Contractor is certifying that the backfill material is "clean" and does not contain contaminants including, but not limited to petroleum, heavy metals, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, solvents, volatile or semivolatile organic compounds, or any other contaminant above naturally occurring levels. If any material used as backfill is found to be "contaminated," the Contractor shall excavate and dispose of the material, import and place new clean backfill material, and restore the site to its original condition, at no cost to the Town of Cheverly.

C. Ensure that the bottom of the excavation (subgrade) is suitably compacted prior to beginning backfilling activities.

D. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces. If unsuitable materials are encountered during construction where concrete slabs or paving is to be placed, unsuitable materials are to be removed and replaced with tamped crusher run. The Town of Cheverly's Consulting Engineer will determine suitability of subgrade for subsequent fill. Contractor shall provide equipment for proof rolling of excavated subgrade.

E. The backfill shall be placed, uniformly spread, and compacted to maximum possible density. Maintain optimum moisture content of backfill materials to attain maximum compaction density (do not use water to increase density).

F. All backfilled materials shall be properly compacted in accordance with Maryland Department of Transportation State Highway Administration Embankment specifications. Place and compact material in continuous layers not exceeding eighty (8) inches compacted depth.

G. Employ a placement method that does not disturb or damage building foundations and/or utilities in excavation area.

H. Remove surplus backfill materials from site immediately following completion of backfill activities. All backfill materials staged on site are subject to the ESC measures detailed in the Contract Documents.

I. The Contractor shall take extreme care with backfill operations to ensure compaction to maximum possible density. At the discretion of the Town of Cheverly's Consulting Engineer, the Contractor shall remove and re-install/replace backfill that is suspected of having less than maximum density. In the event that compaction requirements for subgrade cannot be attained, Contractor shall remove and re-install/replace subgrade and backfill at the Town of Cheverly's request. All removal and reinstallation/replacement of aggregate

backfill and subgrade shall be done at the discretion of the Town of Cheverly's Consulting Engineer and at no additional cost to the Town of Cheverly.

J. Any settling of concrete, asphalt pavement, or earth shall be corrected by the Contractor at no cost to the Town of Cheverly. All repair work shall be completed within five (5) business days after being notified of the issue.

3.10 SITE RESTORATION

A. After approval, backfill the excavation with approved material from the excavation process, supplemented by imported borrow, if necessary. The top two (2) feet shall be backfilled with CR-6 sub-base in preparation for final asphalt surface restoration. Finish the surface with hot mix asphalt (HMA) to match existing.

B. The sawcut areas shall be restored to original grade and condition. Paving, sub-base, grading, topsoil, and landscape material replacement, etc. required for restoration shall be considered incidental to the applicable item(s) of work. Contractor shall match HMA surface to existing.

C. Contractor is responsible for repairing or replacing items damaged during tank closure activities, at no cost to the Town of Cheverly.

3.11 TANK CLOSURE AND DISPOSAL DOCUMENTATION

A. The Contractor shall submit all material necessary for the development of a Tank Closure Report to the Town of Cheverly's Consulting Engineer within ten (10) days of UST removals at the Project site. The materials submitted shall follow the MDE document titled "Sample UST Closure Report Guidance." The Contractor shall submit all documentation regarding tanks and any hazardous wastes within two (2) weeks after the completion of the work.

B. Final payment for the work will be withheld pending submission and approval of required destruction and disposal documentation. Documentation shall include the following information at a minimum:

1. A cover letter signed by the Contractor certifying that all services involved have been performed in accordance with the terms and conditions of the Contract Documents.

2. Information describing what was encountered at each site, including:

a. Condition and size of the USTs removed;

b. Location of the USTs on the property;

c. Any visible evidence of free product, leaks or stained soils;

d. Results of vapor monitoring readings;

e. Actions taken including quantities of materials removed;

f. Collection data such as time of collection and method of preservation;

g. Reasons for backfilling site;

h. Whether or not groundwater was encountered, dewatering method, treatment used; and

i. Copies of all waste analysis/waste profile, manifests, receipts, and certification of final disposal by the responsible disposal facility official.

END OF SECTION 017330

ATTACHMENT C

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Contractor's Application for Payment No. _____

	Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer):
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

Application For Payment

Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		

1. ORIGINAL CONTRACT PRICE	**$** _____
2. Net change by Change Orders	**$** _____
3. Current Contract Price (Line 1 ± 2)	**$** _____
4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)	**$** _____
5. RETAINAGE:	
a. X _____ Work Completed	**$** _____
b. X _____ Stored Material	**$** _____
c. Total Retainage (Line 5a + Line 5b)	**$** _____
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)	**$** _____
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)	**$** _____
8. AMOUNT DUE THIS APPLICATION	**$** _____
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)	**$** _____

Contractor's Certification

The undersigned Contractor certifies that to the best of its knowledge: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:

Payment of: $ _____
(Line 8 or other - attach explanation of the other amount)

is recommended by: _____ _____
(Engineer) (Date)

Payment of: $ _____
(Line 8 or other - attach explanation of the other amount)

is approved by: _____ _____
(Owner) (Date)

Approved by: _____ _____
Funding Agency (if applicable) (Date)

Endorsed by the Construction Specifications Institute.

Progress Estimate

Contractor's Application

For (contract):	Application Number:
Application Period:	Application Date:

A		B	Work Completed		E	F		G
Item		Scheduled Value	C	D	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) B	Balance to Finish (B - F)
Specification Section No.	Description		From Previous Application (C+D)	This Period				
	Totals							

Progress Estimate

Contractor's Application

For (contract):							Application Number:			
Application Period:							Application Date:			
A				B	C	D	E	F		
Item		Bid Quantity	Unit Price	Bid Value	Estimated Quantity Installed	Value	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F) B	Balance to Finish (B - F)
Bid Item No.	Description									
	Totals									

Stored Material Summary

Contractor's Application

For (contract):							Application Number:		
Application Period:							Application Date:		
A	B	C	D		E		F		G
Invoice No.	Shop Drawing Transmittal No.	Materials Description	Stored Previously		Stored this Month		Incorporated in Work		Materials Remaining in Storage ($) (D + E - F)
			Date (Month/Year)	Amount ($)	Amount ($)	Subtotal	Date (Month/Year)	Amount ($)	
		Totals							

ATTACHMENT D

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SECTION 222000

EXCAVATION AND DISPOSAL OF CONTAMINATED SOIL AND GROUNDWATER

SECTION TABLE OF CONTENTS

SECTION 222000

EXCAVATION AND DISPOSAL OF CONTAMINATED SOIL AND GROUNDWATER

PART 1 – GENERAL

1.1 GENERAL

A. Construction activities under this contract may require working with potentially contaminated material including soils and liquids, and potentially working in low oxygen or combustible atmospheres due to the presence of petroleum hydrocarbons.

B. This section includes work necessary for excavation, removal, and disposal of contaminated soil and groundwater as specified herein and in accordance with Maryland Department of the Environment (MDE) regulations and requirements.

C. The work also includes, but is not limited to, furnishing notification and obtaining permits required by federal, state, and local regulating agencies; and furnishing all certifications and other official documentation required by federal, state, and local regulating agencies concerning the disposal of contaminated and/or non-hazardous wastes.

D. The Contractor shall utilize qualified professionals to develop and implement an Occupational Safety and Health Administration (OSHA) compliant Site-Specific Health and Safety Plan (henceforth referred to in this Section as the "Plan") and shall use the requirements specified herein as a guideline for developing said Plan. The Plan must require that work be performed with strict adherence to applicable federal, state, and local regulations. The Plan shall be submitted for acceptance by the Town of Cheverly's Consulting Engineer prior to implementation. The Contractor shall also be responsible for any of their subcontractor's job-specific health and safety plans, which describe in detail their safety precautions and procedures to be followed. The Contractor shall also be responsible for providing any personal protective equipment or engineering controls, as specified in the Plan, for the Contractor's employees and subcontractors.

1.2 REFERENCES

A. American Petroleum Institute (API)

1. API PUBL 1628 A Guide to the Assessment and Remediation of Underground Petroleum Releases (1996).

API RP 2003 Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents (1998).

B. Code of Maryland Regulations (COMAR)

1. COMAR 26.10.08 Release Reporting, Investigation and Confirmation.
2. COMAR 26.10.13 Oil Contaminated Soil.

C. U.S. Environmental Protection Agency (EPA)

1. EPA SW-846 Test Methods for Evaluating Solid Waste.
2. EPA 40 CFR Part 260 Hazardous Waste Management System: General.

D. Occupational Safety and Health Administration (OSHA)

1. OSHA 29 CFR 1910 Occupational Safety and Health Standards.
2. OSHA 29 CFR 1926 Safety and Health Regulations for Construction.

E. National Fire Protection Association (NFPA)

1. NFPA 70 National Electrical Code.

1.3 PROJECT CONDITIONS

A. This project involves the removal of two (2) 10,000-gal underground storage tanks (USTs) at the Town of Cheverly Public Works Yard. The findings of a limited subsurface investigation performed in 2020 indicate that petroleum-contaminated soil and petroleum-contaminated groundwater are present in the vicinity of the two (2) USTs to be removed. Petroleum-contaminated soil and/or petroleum-contaminated groundwater might be encountered at the project site during UST removal activities.

B. The Contractor shall locate, analyze, remove, dispose of, document, and provide all incidental services associated with the contaminated soil and groundwater if encountered within the limits of disturbance and as described in this Section.

C. If the Contractor encounters or exposes any abnormal conditions during excavation that indicate the presence of a hazardous or toxic material other than those covered in this Section, work in that area shall immediately be suspended and the Town of Cheverly's Consulting Engineer shall be notified. The Contractor's operations in this area shall not resume until permitted by the Town

of Cheverly's Consulting Engineer; however, the Contractor may continue working in other areas of the project, unless directed otherwise.

1. Abnormal conditions shall include, but not be limited to, the presence of barrels, obnoxious or unusual odors, excessively hot earth, smoke, and other conditions that could indicate the presence of hazardous material or toxic waste.

2. Disposition of the hazardous or toxic material shall be made in conformance with all applicable requirements and regulations.

3. The Plan should discuss the site procedures that shall be enacted should these abnormal conditions be encountered (i.e., work stoppage, re-evaluation of site hazards, modification to the health and safety plan, potential for upgrade in personal protective equipment, additional worker training, etc.).

1.4 TESTING AND CERTIFICATION

A. The Contractor shall perform all testing and furnish all equipment, instruments, qualified personnel and facilities necessary to perform all tests required by the Contract. If necessary, the Contractor shall supply an independent testing laboratory to provide testing services. The testing laboratory shall be approved by the Town of Cheverly's Consulting Engineer.

B. The Contractor shall give sufficient notice to the Town of Cheverly's Consulting Engineer to permit them to witness the tests.

C. The Contractor shall submit the name, address, and qualifications together with the scope of proposed services of the proposed testing laboratory to the Town of Cheverly's Consulting Engineer for approval at least thirty (30) days prior to the scheduled commencement of any work. Should the Contractor desire to use more than one laboratory for testing, the required information shall be submitted for each proposed laboratory as specified herein.

D. The Contractor shall be responsible for furnishing all equipment and tools necessary to prepare and preserve the test samples as prescribed and delivering them to the approved testing laboratory.

E. All tests performed, and test results for each day, shall be recorded in a daily report. These records shall remain complete and available to the Town of Cheverly's Consulting Engineer at all times during the performance of work under

the Contract. Test records shall indicate the reference test, nature and number of observations made, and the number and type of deficiencies found.

F. The Contractor shall be responsible for obtaining required federal, state, and local permits for excavation and storage of contaminated material. Permits shall be obtained at no additional cost to the Town of Cheverly.

1.5 PROJECT NOTIFICATIONS

A. Contaminated soils will be encountered in the project area. If encountered at extents beyond that identified in the subsurface investigation report (EA Engineering, April 2020), the Contractor shall immediately notify the Town of Cheverly's Consulting Engineer. The Town of Cheverly's Consulting Engineer will coordinate with MDE so that a case manager can be assigned to oversee excavation activities.

B. The Contractor shall notify the Town of Cheverly's Consulting Engineer in advance (minimum of seventy-two [72] hours' notice) of when excavation of petroleum-impacted soils is expected to occur so that the Town of Cheverly's Consulting Engineer can make any required notice to MDE.

C. If free product is observed, the Contractor shall immediately notify the Town of Cheverly's Consulting Engineer who shall immediately notify MDE.

D. If any petroleum product pipelines are encountered, the Contractor shall notify the Town of Cheverly's Consulting Engineer immediately, since immediate notification to the appropriate State Agency (i.e., MDE) may be required.

E. The Contractor shall report spills related to project activities to the Town of Cheverly's Consulting Engineer immediately following discovery and shall comply with all applicable federal, state, and local requirements for spill response. A written follow-up report shall be submitted to the Town of Cheverly's Consulting Engineer no later than seven (7) days after the event.

PART 2 – PRODUCTS

2.1 GENERAL

A. The Contractor shall be responsible for providing to their employees and subcontractors any personal protective equipment, monitoring equipment, or materials required to implement engineering controls required for worker protection, as specified in the Plan.

2.2 CONTAMINATED MATERIAL STORAGE

A. The Contractor shall be responsible for providing materials necessary for the storage of contaminated soil and groundwater. For stockpiling, these products include chemically resistant geomembrane or plastic sheet liners and covers free of holes and other damage, and berms to surround stockpiles. If using roll-off units to temporarily store contaminated material, the containers must be water-tight and equipped with a cover. If temporarily storing contaminated liquids, the Contractor shall provide water-tight, covered barrels or tanks.

2.3 SPILL RESPONSE MATERIALS

A. The Contractor shall be responsible for providing appropriate spill response materials including, but not limited to the following: containers, adsorbents, shovels, and personal protective equipment. Spill response materials shall be available at all times when contaminated materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of materials and contaminants being handled.

PART 3 – EXECUTION

3.1 GENERAL

A. Safety Guidelines: Personnel working within the general vicinity of the project shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work. Personnel shall use proper protection and safety equipment during work hours. The Contractor shall observe appropriate safety precautions such as vapor concentration monitoring and using equipment listed for use in hazardous zones as mitigation. The Contractor shall adhere to safety measures contained in the approved Plan.

B. Burning and Explosives: Use of explosives or burning will not be allowed.

C. Contaminated soils and groundwater shall be hauled and disposed of by the Contractor in accordance with all federal, state, and local requirements.

D. Contaminated soils and groundwater shall be handled in a manner that complies with local and state regulations regarding sediment control and disposal.

E. The Contractor shall furnish a properly calibrated combustible gas indicator available to monitor for volatile vapor concentrations in the work area at all times.

Calibration of the combustible gas indicator shall be in accordance with the manufacturer's instructions. Operators of the combustible gas indicator shall be completely familiar with the use of the instrument and the interpretation of the instrument readings and shall be approved by the Town of Cheverly's Consulting Engineer before any work will be allowed to commence.

F. The Contractor shall furnish a properly calibrated photoionization detector (PID) to monitor the potential presence of petroleum-impacted soil in excavation areas to assist with soil segregation and to document field conditions.

G. If evidence of petroleum hydrocarbon is observed, the area shall be scanned for the presence of vapors and render the area non-combustible as necessary for safe performance of the work.

H. All potentially contaminated materials shall be analyzed by the Contractor for disposal purposes per applicable regulations and disposal facility requirements.

I. Records: Records shall be maintained of all waste determinations, including transportation manifests, disposal receipts, and other data required by MDE and other regulatory agencies. Following Contract closeout, the records shall become the property of the Town of Cheverly.

J. Spills: Immediate containment actions shall be taken as necessary to minimize effect of any spill or leak. Cleanup shall be in accordance with applicable federal, state, and local laws and regulations at no additional cost to the Town of Cheverly.

3.2 CONTAMINATED SOIL

A. As discussed previously, contaminated soils may be encountered in the project area. If encountered, the Contractor must notify the Town of Cheverly's Consulting Engineer. Excavation, placement, stockpiling, reuse, and/or disposal shall be handled as described herein.

1. Excavation: When excavation is performed in the area where contaminated soils have been identified by the Contractor, the material will not be reused without field screening. It is anticipated that the excavated soils will fall into one of two (2) potential categories: (1) Non-impacted soil (soil not requiring any special handling or disposal requirements, reusable on site); and (2) Non-hazardous petroleum-impacted soil (requiring disposal at approved non-hazardous waste

disposal facility). The removed materials will be handled in the following manner:

a. Excavation shall be performed in a manner that will limit the amount of potentially petroleum-contaminated soil that could be mixed with previously uncontaminated soil. Contaminated soil shall be reported immediately to the Town of Cheverly's Consulting Engineer. Surface water shall be diverted to prevent direct entry into the excavation.

b. Excavated material shall be placed at sufficient distance from the limits of excavation so as not to cause cave-ins or bank slides, but in no case closer than three (3) feet from the edge of excavations.

c. Excavated material that is visibly stained and that has an obvious petroleum odor shall be considered contaminated and shall be reported immediately to the Town of Cheverly's Consulting Engineer before proceeding. Material suspected of contamination shall be temporarily stockpiled separately on plastic sheeting, covered, and bermed to prevent contaminated soils from contacting clean soils or entering adjacent storm drains, inlets, and other waters.

d. Excavated soil will primarily be segregated using site assessment data. A field screening instrument (e.g., head space measurement using a PID) shall be used to monitor the potential presence of petroleum-impacted soil in excavation areas to assist with soil segregation and to document field conditions. Soil exhibiting a head space measurement of volatile organic compounds greater than one hundred (100) parts per million will be segregated for offsite disposal.

e. Petroleum-impacted soils shall be stockpiled in a pre-approved and pre-determined location and in accordance with COMAR 26.10. The Contractor shall document the environmental disposition of all excavated soil and shall confer with the Town of Cheverly's Consulting Engineer to ensure proper handling, manifesting, and disposal. Concurrence should be reached between the Contractor and the Town of Cheverly's Consulting Engineer pre-excavation as to who bears signature authority for waste manifestation of the non-hazardous waste streams. Soils must be disposed of by the

Contractor at approved facilities commensurate with the degree of impact and the media they contain.

f. If the excavation is found to contain grossly contaminated groundwater and/or floating product, upon request of and as directed by the Town of Cheverly's Consulting Engineer, arrangements shall be made by the Contractor for their removal. If free product is observed, Contractor shall immediately notify the Town of Cheverly's Consulting Engineer who shall immediately notify MDE.

2. Storage: A staging location shall be selected at the job site, in coordination with the Town of Cheverly's Consulting Engineer, for potentially impacted soil until it is transported off site for disposal. Potentially impacted soil will be placed on, and completely covered by, chemically resistant geomembrane or strong plastic sheeting (or equivalent) to prevent infiltration of precipitation or surface water runoff in accordance with COMAR 26.10 for petroleum-impacted soil stockpiling provisions. The procedures shall include measures to prevent the spread of contamination during rain and non-rain events and to protect the public (i.e., secure location, pile cover, berms, sorbents, hay bales, etc.). Petroleum-impacted excavated soils shall be removed from the site within 30 days in accordance with COMAR 26.10.

3. Disposal: The Contractor will be responsible for disposition of contaminated soils as outlined below:

a. Disposal of contaminated soil shall be in accordance with MDE regulations. Disposal work shall include all necessary personnel, labor, transportation, packaging, detailed analysis (if required for disposal, manifesting, or completing waste profile sheets), equipment, permitting, and reports. Contractor shall implement measures to ensure moisture content is acceptable for transport and disposal/treatment facility criteria. This may include the mixing of drier soil or a drying agent.

b. As part of the detailed analysis noted above, waste disposal characterization samples shall be obtained by the Contractor from each soil waste stream in accordance with requirements of selected disposal facility. The number of samples and sample analyses required will be based on the permit requirements of the selected disposal facility. The Contractor will submit the waste

characterization analysis results, manifests and certificates of contaminant disposal, and contaminant quantities to appropriate Town of Cheverly representatives.

c. The hauler shall transport the contaminated soil to a treatment or disposal facility licensed by state and federal regulatory authorities for acceptance of such wastes.

d. The Contractor shall haul petroleum-contaminated soils from the site directly to an accepting soil treatment facility. Unnecessary stops en route or parking of the vehicle will not be permitted. Transportation of petroleum-contaminated and/or hazardous soils shall be in accordance with all applicable Maryland Department of Transportation (DOT) regulations, other state DOT agency regulations as necessary when transporting these materials across state lines, and Federal DOT regulations. The soil treatment facility shall be fully permitted in the treatment of petroleum-contaminated and/or hazardous soils and shall have a current license to operate in the state where located. Petroleum-contaminated and/or hazardous water and sludge shall be transported and disposed of per all federal, state, and local requirements.

3.3 CONTAMINATED GROUNDWATER

A. As discussed previously, contaminated groundwater may be encountered in the project area. Identifying, transporting, and treating contaminated groundwater shall be handled as described herein and in accordance with any applicable local, state, or federal regulations.

1. Dewatering. The Contractor shall develop an overall dewatering plan with design details to minimize contaminated groundwater flow into trenches and structural excavations. The Dewatering Plan must be presented to the Town of Cheverly's Consulting Engineer for review and approval prior to dewatering operations. These plans and details shall include, but are not be limited to, design of sheeting and shoring, concrete tremie seal or clay foundation seals, and pervious foundation depths with maximum pumping rates for various groundwater inflow rates. The Contractor shall state if continuous excavation, pipe laying, and backfill operations will be employed and the maximum length of open trench that will be used.

2. The Contractor shall pump water from open excavations only, shall plug pipes, and shall divert other sources of water so that no liquid other than groundwater and precipitation collects in the project area.

3. Groundwater Management. The Contractor shall manage groundwater pumped due to dewatering in the project area. The Contractor may set up and maintain a groundwater treatment system designed to treat water for the presence of suspended solids, free product, and/or dissolved hydrocarbons. The Contractor may also elect to containerize the water for subsequent treatment and/or discharge or offsite disposal. Either groundwater management option shall have sufficient capacity to manage groundwater inflow into the open excavation. To the maximum extent practicable, the Contractor shall prevent the mixing of contaminated groundwater with uncontaminated groundwater in order to minimize the water volume requiring treatment or disposal. Free product may be addressed through surface removal using sorbent pads or skimmer pumping.

4. Any fluids removed from the site for offsite disposal must be transported to a licensed facility permitted for acceptance of the specific waste material. Sampling and laboratory analysis may be required to meet the requirements of the disposal facility or to determine appropriate permit requirements.

5. It is the responsibility of the Contractor to obtain any and all necessary permits that pertain to discharge or otherwise dispose of contaminated groundwater. For information, contact the MDE Waste Management Administration at 410-631-3443.

6. It is the responsibility of the Contractor to report, contain, and clean up any spills occurring as a result of dewatering activities until the water is treated in compliance with the discharge permit.

3.4 HEALTH AND SAFETY PLAN

A. The Contractor shall establish and maintain a complete Plan for all operations and all personnel working or visiting the Site during construction activities. The Plan shall be reviewed and accepted by the Town of Cheverly's Consulting Engineer prior to commencement of work. No construction activities are to commence prior to receipt of the Town of Cheverly's Consulting Engineer's written acceptance of the Plan. Revision to the Plan may be required as work is conducted; however, all revisions must be reviewed and accepted by the Town of Cheverly's Consulting

Engineer before implementation. The Plan shall be prepared by health and safety professionals experienced in the field of environmental health and safety. The Plan shall comply with all applicable construction and general industry standards and shall include the following:

B. Chain of Command. The chain of command for reporting all emergencies and notifications to the Town of Cheverly's Consulting Engineer as specified above shall be outlined in the Plan. In the case of an emergency, the Contractor's health and safety professional shall be responsible for instructing the Contractor's work crew, including subcontractors, and notifying the Town of Cheverly's Consulting Engineer.

C. Air Monitoring Equipment for Work Environments in which there is a Potential Risk of Exposure. Such equipment shall include, but not be limited to, a combustible gas indicator, a photoionization detector, a dust meter, and an oxygen meter. All employees operating the air monitoring equipment shall be trained in accordance with OSHA 29 CFR 1910, which includes proper use, limitations, data interpretation, and hazard alarm mechanisms. The operator of the monitoring equipment shall have completed a forty (40)-hour course satisfying OSHA 29 CFR 1910.120 (e)(3)(i) initial training needs for individuals involved in hazardous substance removal and waste management of hazardous waste operations. The operator shall demonstrate to the Town of Cheverly's Consulting Engineer sufficient expertise in equipment operation and interpretation of instrument readings. The operator shall also be in compliance with applicable refresher training. The Contractor will be required to document and provide to the Town of Cheverly's Consulting Engineer all calibration records and recorded instrument readings at the intervals specified in the Plan. The monitoring devices shall be operated at the interval specified in the Plan in the areas as defined herein and on an as-needed basis in all other areas, as determined by the Town of Cheverly's Consulting Engineer. If action levels established in the Plan are exceeded, appropriate response activities shall be implemented by the Site Health and Safety Officer as specified in the Plan.

D. Trench Excavations. The atmosphere in trenches shall be monitored in accordance with the specifications described in OSHA 29 CFR 1910.146 for a permit-required confined space. Sheeting and shoring shall be provided in accordance with the Contract Documents. All applicable procedures described in OSHA 29 CFR 1926, Subpart P shall be incorporated into the Plan and followed.

E. Lockout/Tag out Procedures. Such procedures shall be used to ensure that the equipment and pipelines are isolated from all potentially hazardous energy and locked out or tagged before anyone performs any servicing or maintenance. The

Contractor shall implement these procedures as needed, and specifically if any abandoned petroleum product pipelines are encountered during construction. If any petroleum product pipelines are encountered, the Contractor shall notify the Town of Cheverly's Consulting Engineer immediately, since immediate notification to the appropriate State agency (i.e., MDE) may be required. In addition, a protocol should be established in the Plan to address the discovery of petroleum pipelines (i.e., work stoppage, spill containment, etc.). The Contractor's Site Health and Safety Officer shall have the sole authority to lock out or implement a tag out system procedure. A lockout/tagout control log shall be maintained only by the Contractor's health and safety officer. The log shall contain the following information:

1. Lock number;

2. Location of pipeline to be locked out;

3. Checkout time and date;

4. Return time and date;

5. Signature of authorized personnel.

All applicable procedures described in Title 29 CFR Part 1910.147 shall be incorporated into the Plan and followed.

F. Hot Work Permit Procedures. In order to prevent ignition/explosion hazards of petroleum/air vapor mixtures, hot work shall not be permitted unless it is documented by the monitoring equipment that the atmosphere is safe for these procedures. Hot work includes, but is not limited to, work requiring use of:

1. Burning equipment;

2. Welding equipment;

3. Brazing equipment;

4. Explosives;

5. Open fires;

6. Portable grinders;

7. Operation of internal combustion engines in a confined space;

8. Concrete buster;

9. Soldering irons and guns;

10. Explosion-activated tools;

11. Abrasive blasting;

12. Heavy equipment operation;

13. Or other flame-or spark-inducing equipment or procedure.

All applicable procedures described in Title 29 CFR Part 1910 and Part 1926 shall be incorporated into the Plan and followed.

G. Personal Protective Equipment for Chemical Hazards. The minimum level of personal protection used in daily field operations shall be specified in the Plan and may include Level D PPE, including long pants, hard hat, steel toe reinforced boots, safety glasses, and work gloves. Personal protective equipment shall be used in accordance with OSHA 29 CFR 1910 and 29 CFR 1926 and as specified in the Plan. All personal protective equipment shall meet or exceed the requirements outlined in 29 CFR 1910 and 29 CFR 1926. Levels of personal protective equipment on the site will be specified in the Plan based on job task and may include use of nitrile or other similar hand protection. The Contractor shall provide to all site workers personal protective equipment necessary to upgrade to the next highest level of protection, should hazard conditions change. Face shields shall be used by all site workers whose job tasks may present a splash hazard. Only OSHA- and ANSI-approved eye wear is acceptable for use. Where a potential respiratory hazard exists, the Contractor shall provide proper protection to affected workers, including confined space entry personnel, equipment operators, authorized site visitors, and monitoring personnel. Work atmospheres that may require respiratory protection include, but are not limited to, those contaminated by dust, fumes, and toxic gases. Additional site controls may be needed to mitigate these types of hazards, such as using fans and working upwind. Respiratory equipment shall be inspected daily during regular use and weekly during non-regular use periods. Workers shall demonstrate to the Site Health and Safety Officer that they have been instructed on proper fit and use, maintenance procedures for equipment, and warning signs of respiratory environments where it has been determined that respiratory protection is necessary prior to work start. Ambient air monitoring shall be conducted by

trained employees at intervals specified in the Plan. No long, freely-f1owing hair is permitted in areas where a hazard of entanglement exists. Long hair may be secured under a hard hat. Beards are not allowed to be worn by employees who are required to wear respirators. Workers on the job site shall wear clothing appropriate to the job task. Clothing saturated with foreign substances, such as petroleum products, solvents, or other contaminants, shall be removed and replaced immediately. That clothing shall be cleaned or properly discarded as soon as possible. Any garments that will not be discarded shall be laundered separately to prevent the spread of contamination. If disposable protective clothing, such as coveralls, gloves, or boots, is used by site workers if required by the Plan, procedures for decontamination and receptacles for disposal shall be provided by the Contractor. If site hazards are determined to involve "hazardous waste," contaminated clothing requiring hazardous waste disposal shall be hauled to an approved disposal facility by a U.S. DOT licensed hazardous waste hauler. Personnel decontamination areas shall also be provided by the Contractor. If reusable protective clothing is used, equipment and personnel decontamination stations shall be provided on site by the Contractor.

H. Flammable Materials Handling. Appropriate chemical-resistant clothing, and other personal protective equipment, including but not limited to gloves and steel toe reinforced boots, shall be provided by the Contractor to each worker required to handle flammable liquids, such as petroleum products or wastes. Respiratory protection shall be provided to employees working in hazardous atmospheres. Firefighting equipment consisting of, at a minimum, a fire extinguisher specific to the types of chemical hazards present shall be provided for each work crew involved in the flammable materials handling. To minimize the potential for explosion or fire hazards, firefighting equipment shall be selected to minimize the generation of static electricity upon discharge. The Contractor shall make provisions for the prompt and safe removal and disposal of any leaked or spilled product by a DOT- or MDE-approved hazardous materials hauler. Bonding facilities for protection against sparks during handling shall be provided where Class 1 liquids are involved. Due to the presence of potentially hazardous or flammable atmospheres, no smoking shall be permitted within two hundred (200) feet of the active work zone including during flammable liquid transfer, loading, or unloading. No smoking shall be permitted within two hundred (200) feet of any dust monitors, to avoid interference with the monitoring results. Non-sparking tools are required unless the atmosphere is continuously tested and remains free of vapors.

I. Emergency Procedures. Emergency procedures shall be specified in the Plan and shall include any situation where outside help is needed, such as the Police, Fire Department, Ambulance, Poison Control, or Emergency Medical Services.

Emergency procedures are generally dictated by site-specific conditions and, therefore, shall be discussed in detail in the Plan. An emergency shall also include discovery or release of free product in the work zone, worker injury, or worker exposure above the permissible exposure limits (PELs) defined in the Plan. All emergencies shall be dealt with in a manner to minimize continued or increased risk of exposure to site workers and the public. Pre-work emergency procedure briefings are to be held daily by the Contractor's Site Health and Safety Officer on the work site. The Contractors' monitoring personnel shall immediately report all emergencies following the Chain of Command as outlined in the Plan. The Plan shall address the following provisions:

1. Emergency communications systems;

2. Hospital name, address, and map showing route from site;

3. Rescue personnel and equipment on site;

4. Rescue training of site personnel;

5. Location of nearest on-site telephone;

6. Location of nearest first aid kit.

In the event of an emergency in which a worker has potentially been exposed to a chemical hazard above the PEL specified in the Plan, the Contractor shall arrange for immediate medical screening for possible exposure to onsite hazardous materials or wastes. Subsequent monitoring as a result of this exposure shall be dictated by the industrial hygienist or attending physician. After reassignment of work responsibilities, where the worker's risk of exposure is eliminated or significantly reduced, a follow-up screening shall be performed. This exam shall be conducted only if that employee has not received an exam within the previous six (6) months. The extent of the exam will be limited to substances to which the worker may have been exposed to in their job assignment(s) since the previous exam.

J. Worker Training and Right-to-Know Compliance: In accordance with 29 CFR 1910.1200, the Contractor shall develop a hazard communication program. Workers shall be informed of what types of hazards are present or may be potentially present in the work environment. Material Safety Data Sheets (MSDS) for hazardous materials known to exist on the work site shall be included in the Plan. The minimum hazard communication training program shall include:

1. An explanation of the OSHA Hazard Communication Rule;

2. Discussion of potential hazards posed by chemicals;

3. Protective measures, such as work practices, engineering controls, and equipment to the be implemented to reduce the risk of exposure;

4. An explanation of how to obtain hazardous substance information;

5. Use and proper interpretation of labels and MSDS information;

6. An explanation of employee rights.

END OF SECTION 222000

ATTACHMENT E

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ATTACHMENT E: BID FORM

A. ESTIMATE BASE BID QUANTITIES AND UNIT COST

Base Bid Items – Regular Schedule		**Units**	**Cost**
Item 1 – UST System Removal and Disposal	Lump Sum	1	
Item 2 – Removal and Disposal of Contaminated Soil	Per ton	250	
Item 3 – Removal and Disposal of Contaminated Groundwater	Per gallon	1,000	
	Base Bid Total		

OPTIONAL Base Bid Items – Expedited Schedule		**Units**	**Cost**
Item 1A – UST System Removal and Disposal	Lump Sum	1	
Item 2A – Removal and Disposal of Contaminated Soil	Per ton	250	
Item 3A – Removal and Disposal of Contaminated Groundwater	Per gallon	1,000	
	Base Bid Total		

B. BASE BID SCHEDULE

The Bidder proposes to complete the work in accordance with the following schedule. Final Completion shall include completion of all punch list items, final cleanup, and demobilization, and shall occur by November 30, 2020. Indicate the proposed schedule in number of calendar days from Notice to Proceed or from Proposed Start of Work.