Dudley Street Auto
34 Dudley Street
Arlington, Massachusetts 02476

PHASE II LIMITED SUBSURFACE INVESTIGATION

FEBRUARY 7, 2022

PREPARED FOR:
PSI Atlantic Arlington MA, LLC
530 Oak Court Drive, Suite 185
Memphis, TN 38117
Attn: Mr. Jesse Morgan

PREPARED BY:
The Vertex Companies, Inc.
100 N. Washington Street, Suite 302
Boston, MA 02114
PHONE: 617.275.5407

VERTEX PROJECT NO: 74303

February 7, 2022

PSI Atlantic Arlington MA, LLC
530 Oak Court Drive, Suite 185
Memphis, TN 38117
Attn: Mr. Jesse Morgan

Re: Phase II Limited Subsurface Investigation
Dudley Street Auto
34 Dudley Street
Arlington, Massachusetts 02476

Dear Mr. Morgan:

The Vertex Companies, Inc. (VERTEX) is pleased to submit the results of a Phase II Limited Subsurface Investigation (LSI) for the above referenced property (the Site). The purpose of the Phase II LSI was to assess the Site for potential impacts from the recognized environmental conditions (REC) identified in VERTEX's Phase I Environmental Site Assessment (ESA) of the Site, dated October 26, 2021.

The enclosed Phase II LSI report describes the investigation procedures and summarizes the sampling results. The investigation was performed in general accordance with VERTEX proposal P.4717.21, dated November 2, 2021; however, certain changes were made to VERTEX's scope as described in the Phase II LSI report.

Please do not hesitate to contact us at your convenience should you have any questions or comments regarding this report or our recommendations. It has been a pleasure working with you on this project.

Sincerely,

The Vertex Companies, Inc.

Technical Director

Vice President – Due Diligence

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PHASE II LIMITED SUBSURFACE INVESTIGATION

Dudley Street Auto
34 Dudley Street
Arlington, Massachusetts 02476
VERTEX Project No. 74303

1.0 INTRODUCTION

1.1 General Site Information

The Vertex Companies, Inc. (VERTEX) was retained by PSI Atlantic Arlington MA, LLC (PSI) to complete a Phase II Limited Subsurface Investigation (LSI) of the property located at 34 Dudley Street in Arlington, Massachusetts (the Site). According to the Town of Arlington Assessor, the Site consists of one 0.767-acre parcel of land, identified as Parcel ID: 55-2-39.B. The Site is located on the south side of Dudley Street. According to the Middlesex South Registry of Deeds, the Site is currently owned by 34 Dudley Street, LLC. The Site location is shown on Figure 1 - Site Locus Map.

The Site is currently improved with two single-story commercial/industrial buildings. The main building totals 10,271 square feet and was constructed circa 1955 with additions to the north and south sides of the building in 2000. The garage/shed building is approximately 1,000 square feet and was reportedly constructed in 1985. The main building is constructed of wood framing with concrete block and vinyl-covered exterior walls, a hip slate roof, and a concrete foundation. The main building interior is separated into office and automotive body repair spaces. Interior office finishes include carpet and concrete floors, painted drywall walls, and suspended grid ceilings with drop-in acoustical tiles. The auto body shop areas are finished with concrete floors, painted and unpainted concrete masonry unit (CMU) block, painted drywall walls, and unfinished ceilings exposing the underside of the roof deck.

Exterior areas on the Site consist of asphalt-paved parking areas and drive lanes, wood fencing, and limited landscaping. Mill Creek is present along the southern/southeastern boundary of the Site.

During the inspection of the Site performed by VERTEX as part of a Phase I Environmental Site Assessment (ESA), three groundwater monitoring wells were identified to be present on the Site. The general Site location is shown on Figure 1, and a general layout of the Site is shown on Figure 2.

1.2 Purpose

The purpose of this Phase II LSI was to assess the Site for potential subsurface impacts associated with the recognized environmental conditions (RECs) identified during VERTEX's Phase I ESA performed at the Site in October 2021. The Phase I ESA identified that each of the following represents a REC associated with the Site:

- Based on the long-term use of the Site for automotive repair operations, the potential for impacts to soil and groundwater on the Site is considered a REC.
- Former underground storage tanks (USTs) without adequate closure is considered a REC.

Based on information provided in the Phase I ESA report, the Site is located within an area of known fill material. As such, in the event of future soil removal activities at the Site, additional characterization should be conducted prior to off-site disposal.

The scope of work for the Phase II LSI was identified in VERTEX's proposal P.4717.21. The following identifies the tasks and the associated revisions to the work based on changes in the project organization and subsurface conditions:

- Preparation of a Site-Specific Health and Safety Plan (HASP) – VERTEX prepared this document for the field work we conducted during the project.

- Mark-out of public utilities by Dig Safe notification – VERTEX completed this on November 16, 2021.
- Subsurface remote sensing using Ground Penetrating Radar (GPR) to confirm boring locations were not located in areas of underground utilities – Because of changes to the approach to the project, VERTEX did not retain the drilling company and thus did not compete the GPR survey of the drilling locations.
- Advancement of three soil borings in the exterior areas on the Site – The drilling of the soil borings was originally in VERTEX's scope of work; however, to capture project efficiencies, PSI arranged to have the drilling of the soil borings to be managed by GeoEngineers, Inc. (GeoEngineers). GeoEngineers is the geotechnical engineer hired by PSI for the project. Under the supervision of GeoEngineers, G&M Subsurface, LLC completed one soil boring on December 9, 2021, and Crawford Drilling Services of Westminster, Massachusetts (Crawford Drilling) completed three soil borings on December 18, 2021, as described in Section 2.2 of this report. In addition, Crawford Drilling completed additional borings at the Site on January 8, 2022.
- Installation of three groundwater monitoring wells – due to difficult drilling conditions and groundwater present at depths greater than anticipated, monitoring wells were not installed during the project.
- The collection of soil samples for laboratory analysis – Due to difficult drilling conditions and the inability to drill to the desired sample depth, no soil samples were collected for laboratory analysis.
- The collection of groundwater samples for laboratory analysis – Because monitoring wells were not installed at the Site during this project, groundwater samples were instead collected from three existing monitoring wells identified on the Site.

2.0 FIELD ACTIVITIES

2.1 Utility Locate/Geophysical Survey

VERTEX contacted Massachusetts Dig Safe and requested that public utility locations be marked so that we could identify where various utilities entered the Site from the public road. This was completed November 16, 2021.

2.2 Advancement of Soil Borings

On December 9, 2021, and December 18, 2021, VERTEX and GeoEngineers oversaw the advancement of four borings at the Site. The four borings are designated GEO-3W, GEO-2W, GEO-5W, and GEO-6W. The soils encountered during drilling were extremely dense and hollo-stem auger encountered refusal at depths between approximately 13 and 20 feet below ground surface (bgs). The soils encountered during the advancement of the soil borings was common fill consisting of sand and gravel to an approximate depth of 10 to 12 feet bgs which was underlain by native coarse sand and gravel. The following provides a description of each boring location:

- Soil boring GEO-3W was advanced in the northeastern corner of the main building on the Site. The boring was advanced to a maximum depth of 20 feet bgs.
- Soil boring GEO-5W was advanced near the southeast corner of the main building on the Site. The boring was advanced to a maximum depth of 16 feet bgs.
- Soil boring GEO-6W was advanced in the southwest corner of the Site adjacent to the smaller garage building. The boring was advanced to a maximum depth of 10.5 feet bgs.
- Soil boring GEO-2W was advanced in the northwestern portion of the parking lot in the front of the building adjacent to Dudley Street. The boring was advanced to a maximum depth of 12.8 feet bgs.

Groundwater monitoring wells were not installed due to refusal at depths above the water table level. Soil boring logs are available from GeoEngineers.

2.3 Soil Screening and Sampling

Soil samples were collected from the soil borings and physically characterized and screened for total ionizable organic volatiles (TOVs). The screen for TOVs was conducted using a photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. The PID was calibrated to 100 parts per million by volume (ppmv) isobutylene gas standard to provide readings of TOVs as isobutylene equivalents. PID readings are not considered actual TOV concentrations in the soil samples but are useful indicators of relative TOV concentrations between locations. Soil samples were not collected for laboratory analysis because insufficient sample volumes were retrieved during the drilling, significant amounts of gravel were encountered, and subsurface conditions prevented the borings to be advanced to the desired sampling depth (i.e., groundwater table).

Elevated concentrations of TOVs were not detected in screened soil samples collected from each of the four soil borings (i.e., all TOV concentrations were noted to be below 1.0 ppmv). Evidence of visual or olfactory impacts were not identified in each of the four soil borings.

2.4 Initial Groundwater Sampling

On December 18, 2021, VERTEX collected groundwater samples from the three existing on-site monitoring wells (MW-1, MW-2, and MW-3). Each well was gauged using an oil/water interface probe, to measuring the depth to groundwater and identify if non-aqueous phase liquid (NAPL) was present in the monitoring wells. The monitoring wells did not contain evidence of NAPL during the groundwater gauging.

Following the gauging, monitoring wells MW-2 and MW-3 were purged using a peristaltic pump and dedicated polyethylene tubing. After purging, a representative sample of groundwater was collected from these two monitoring wells. Due to the weather conditions, VERTEX did not have sufficient time to purge monitoring well MW-1, and thus a grab sample of groundwater was collected from this well.

The groundwater samples were collected in laboratory-supplied pre-cleaned containers, stored on ice, and transferred under chain-of-custody to ESS Laboratory, Inc. located in Cranston, Rhode Island (ESS Laboratory) for the following laboratory analyses:

GROUNDWATER	
MONITORING WELL ID	**ANALYSIS**
MW-1	VOCs, SVOCs, PCBs, RCRA 8 Dissolved Metals, TPH
MW-2	VOCs, SVOCs, PCBs, RCRA 8 Dissolved Metals, TPH
MW-3	VOCs, SVOCs, PCBs, RCRA 8 Dissolved Metals, TPH

Volatile Organic Compounds (VOCs) by USEPA Method 8260.
Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270.
Polychlorinated Biphenyls (PCBS) by USEPA Method 8082
Dissolved metals via USEPA Methods 6010C, 6020A, 7470C.
Total Petroleum Hydrocarbons (TPH) USEPA Method 8100M.

Purge water generated during the monitoring well sampling activities was returned to the ground surface on the Site.

2.5 Supplemental Groundwater Sampling

On January 8, 2022, VERTEX returned to the Site to collect a supplemental groundwater sample from monitoring well MW-3. Monitoring well MW-3 was gauged using an oil/water interface probe to measure the depth to groundwater and determine if NAPL is present in a monitoring well. The monitoring well did not contain evidence of NAPL during the groundwater gauging.

Following the gauging, monitoring well MW-3 was purged using a peristaltic pump and dedicated polyethylene tubing. After purging, a representative sample of groundwater was collected from this monitoring well.

The groundwater sample was collected in laboratory-supplied pre-cleaned containers, stored on ice, and transferred under chain-of-custody to ESS Laboratory for the following laboratory analyses:

GROUNDWATER	
MONITORING WELL ID	**ANALYSIS**
MW-3	Pyrene

Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270.

Purge water generated during the monitoring well sampling activities was returned to the ground surface on the Site.

2.6 Site Geology and Hydrogeology

The soils encountered were extremely dense and auger refusal was encountered between approximately 13 and 20 feet bgs. The soils encountered during the advancement of the soil borings was common fill consisting of sand and gravel to an approximate depth of 10 to 12 feet bgs which was underlain by native coarse sand and gravel.

Based on surface topography, and the presence of Mill Creek which is present along the southern boundary of the Site, VERTEX estimates that the groundwater flow direction is to the southeast. Actual local groundwater flow direction can be influenced by factors such as underground structures, seasonal fluctuations, soil and bedrock geology, and production wells, none of which were considered during this study. A groundwater elevation survey to calculate groundwater flow direction was not performed as part of this investigation.

3.0 LABORATORY ANALYTICAL RESULTS

3.1 Applicable Regulatory Standards

The results of the groundwater sample analyses were compared to the Massachusetts Contingency Plan (MCP) RCGW-2 Reportable Concentrations. VERTEX compared the results to the RCGW-2 Reportable Concentrations because, based on the Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Site Cleanup Phase 1 Site Assessment Map, included in Appendix A, the Site is not located within a Current or Potential Drinking Water Source Area.

3.2 Groundwater Analytical Results

Based on the groundwater sampling conducted on December 18, 2021, VOCs, PCBs, dissolved RCRA 8 metals and TPH were not detected in the groundwater samples collected from monitoring wells MW-1, MW-2 and MW-3 at concentrations exceeding the applicable MCP RCGW-2 reportable concentrations.

One SVOC, Pyrene, was detected in the groundwater sample collected on December 18, 2021, from monitoring well MW-3 which exceeded the applicable MCP RCGW-2 reportable concentrations. Pyrene was detected at 22.4 micrograms per liter (µg/L), slightly above the RCGW-2 standard of 20 µg/L. VERTEX notes that on December 18, 2021, the purged water from the monitoring well was very likely present in the well for a few years, or longer. When the monitoring well was resampled on January 8, 2022, additional fresh formation water was likely drawn into the well as a result of the additional purging done on that day, and as such the sample collected on January 8, 2022 is expected to be a more-representative groundwater sample.

Based on the groundwater sample collected on January 8, 2022 from monitoring well MW-3, Pyrene was not detected above the laboratory method reporting limit.

A summary of groundwater analytical data is presented in Table 1, and a copy of the laboratory analytical report is included in Appendix B.

4.0 CONCLUSIONS AND RECOMMENDATIONS

VERTEX provides the following conclusions based on the groundwater sampling and analysis:

- Evidence of groundwater impacts exceeding the applicable MCP RCGW-2 RCs was not identified in the groundwater samples collected from monitoring wells MW-1, MW-2, and MW-3.

Based on the findings of this Phase II LSI, evidence of an MCP reporting condition was not identified, and therefore, no additional investigation is recommended at this time. In the event of future soil removal activities at the Site, additional characterization would be required prior to off-site disposal.

5.0 QUALIFICATIONS

5.1 Limitations and Exceptions

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. VERTEX is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

It must be recognized that environmental investigations are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and Site investigation. All subsurface conditions at the Site were not field investigated as part of this study and may differ from the conditions implied by the LSI. Additionally, the passage of time may result in a change in the environmental characteristics at this Site and surrounding properties. VERTEX does not warrant that there are no toxic or hazardous materials or contamination on the Site, nor does VERTEX accept any liability if such are found at some future time, or could have been found if additional studies, beyond the scope of this LSI, were conducted. VERTEX does not warrant against future operations or conditions, nor does VERTEX warrant against operations or conditions present of a type or at a location not investigated.

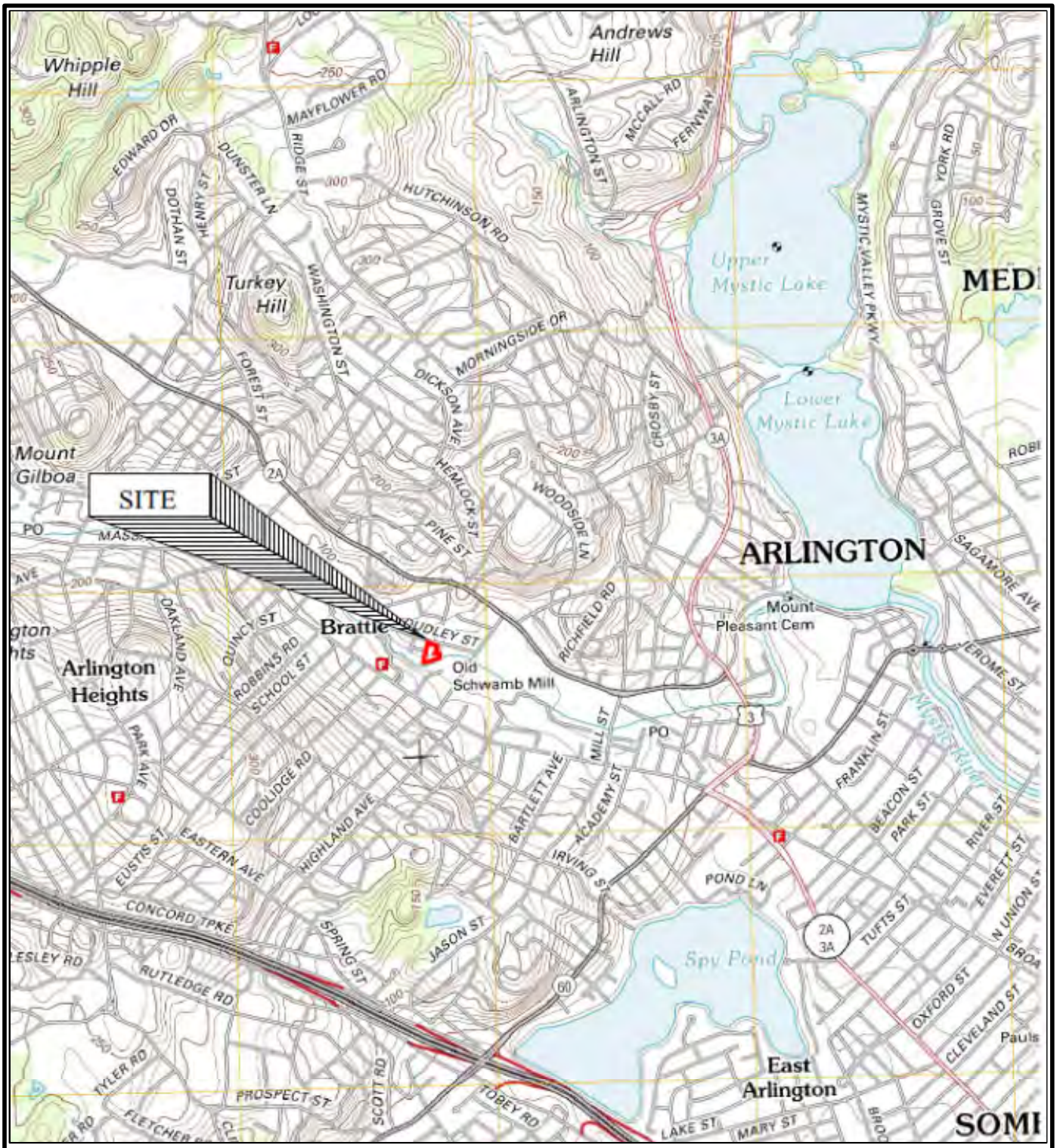
5.2 Special Terms and Conditions

The findings of this LSI are limited and based on the completeness and accuracy of the data and conditions of the Site as of the date of the on-site investigation.

5.3 User Reliance

This report is for the exclusive use of PSI Atlantic Arlington MA, LLC and any and all holders of a note or notes secured by a mortgage, deed of trust, or deed to secure debt encumbering the Site; and their respective affiliates, designates, successors and assignees, rating agencies, prospective bond holders, and bond holders. No other party shall have the right to rely on any service provided by VERTEX without prior written consent. Use of this report by any other party shall be at such party's sole risk.

FIGURES



USGS Topographic Map, 2012
Lexington, Massachusetts
Contour Interval: 10 Feet

SITE LOCUS MAP
Dudley Street Auto
34 Dudley Street
Arlington, Massachusetts 02476

SCALE: 1:24,000

February 2022

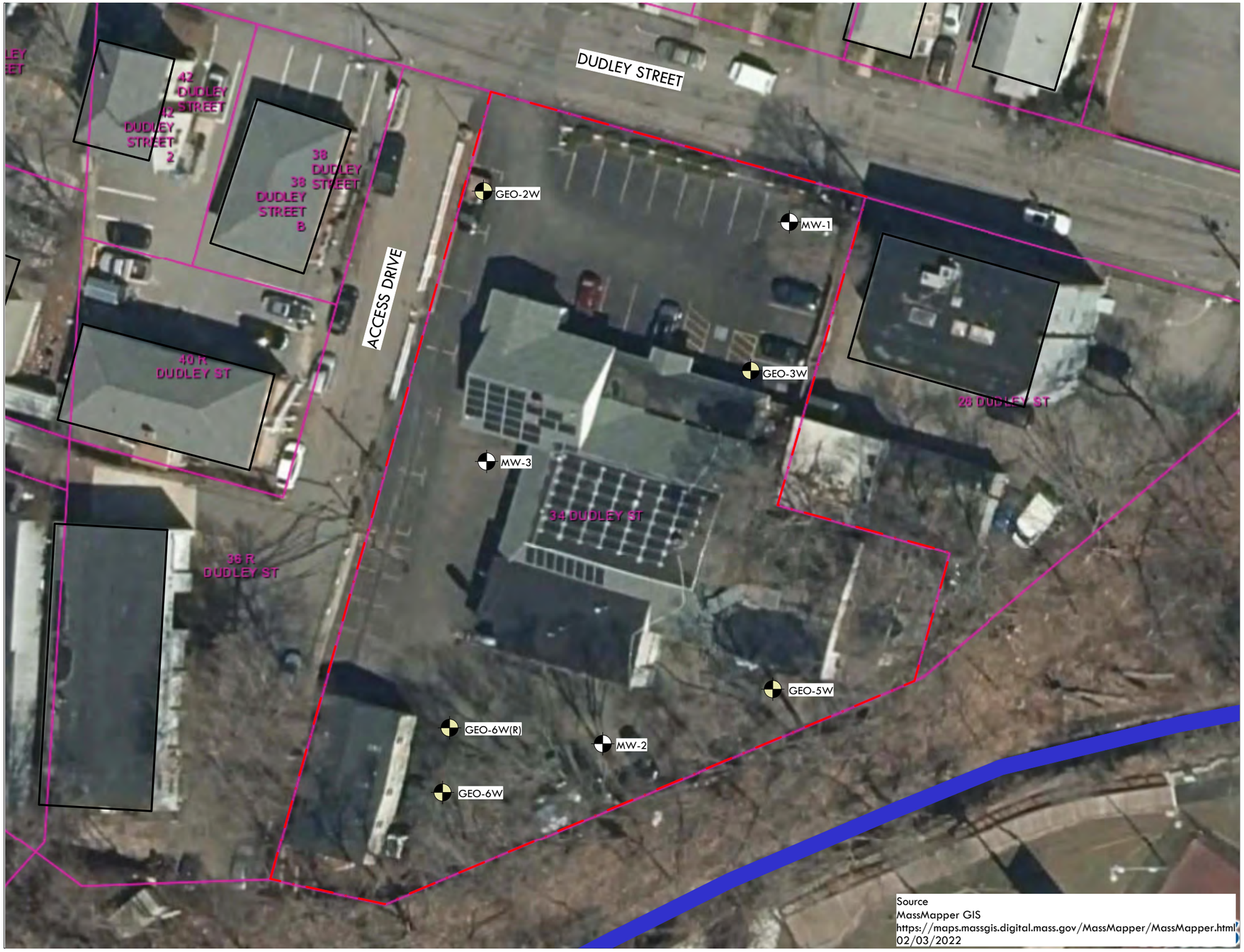
VERTEX Proj. No. 74303

VERTEX

FIGURE NO. 1

LEGEND:

- MW-1 — Monitoring well installed by others
- GEO-3W — Monitoring well installed by others
- Site boundary
- Abutting property boundaries



Source
MassMapper GIS
https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html
02/03/2022

N

0 35 70 105

SCALE: 1" = 35'-0"
(WHEN PRINTED AT 11"x17")

SITE PLAN

Dudley Street Auto
34 Dudley Street
Arlington, Massachusetts

Date: 02/03/2022
Drawn: KS
Checked: CC
Job No.: 74303

FIGURE 2

REVISIONS

VERTEX
100 N WASHINGTON ST, STE 302
BOSTON, MA 02114
617.275.5407
VERTEXENG.COM

TABLES

Table 1
Summary of Groundwater Analytical Data
Premier Storage Investors
34 Dudley Street
Arlington, MA
Vertex Project No. 74303

Location ID Sample Date Sample ID Lab ID CHEMICAL NAME	RCGW-2	Units	V-MW-01 12/18/2021 V-MW-1_20211218 21L0726-03	V-MW-02 12/18/2021 V-MW-2_20211218 21L0726-01	V-MW-03 12/18/2021 V-MW-3_20211218 21L0726-02	V-MW-03 1/8/2022 MW-3-20220108 22A0168-01
Total Petroleum Hydrocarbons (TPH)						
TPH	5000	µg/L	134	150	615	--
Volatile Organic Compounds (VOCs)						
1,1,1,2-Tetrachloroethane	10	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,1,1-Trichloroethane (1,1,1-TCA)	4000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,1,2-Trichloroethane	900	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,1-Dichloroethane (1,1-DCA)	2000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,1-Dichloroethene (1,1-DCE)	80	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,1-Dichloropropene	NSE	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
1,2,3-Trichlorobenzene	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2,3-Trichloropropane	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2,4-Trichlorobenzene	200	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2,4-Trimethylbenzene	100000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2-Dibromo-3-Chloropropane	1000	µg/L	ND(5.0)	ND(5.0)	ND(5.0)	--
1,2-Dibromoethane	2	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2-Dichlorobenzene	2000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2-Dichloroethane (1,2-DCA)	5	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2-Dichloroethylene, cis (1,2-DCE, cis)	20	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2-Dichloroethylene, trans (1,2-DCE, trans)	80	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,2-Dichloropropane	3	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,3,5-Trimethylbenzene	1000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,3-Dichlorobenzene (1,3-DCB)	6000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,3-Dichloropropane	50000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,3-Dichloropropene, cis	5	µg/L	ND(0.4)	ND(0.4)	ND(0.4)	--
1,3-Dichloropropene, trans	5	µg/L	ND(0.4)	ND(0.4)	ND(0.4)	--
1,4-Dichlorobenzene	60	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
1,4-Dioxane	6000	µg/L	ND(500)	ND(500)	ND(500)	--
2,2-Dichloropropane	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
2-Hexanone	10000	µg/L	ND(10.0)	ND(10.0)	ND(10.0)	--
Acetone	50000	µg/L	ND(10.0)	ND(10.0)	14.8	--

Table 1
Summary of Groundwater Analytical Data
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34 Dudley Street
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Location ID Sample Date Sample ID Lab ID CHEMICAL NAME	RCGW-2	Units	V-MW-01 12/18/2021 V-MW-1_20211218 21L0726-03	V-MW-02 12/18/2021 V-MW-2_20211218 21L0726-01	V-MW-03 12/18/2021 V-MW-3_20211218 21L0726-02	V-MW-03 1/8/2022 MW-3-20220108 22A0168-01
Benzene	1000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Bromobenzene	10000	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
Bromochloromethane (Chlorobromomethane)	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Bromodichloromethane	6	µg/L	ND(0.6)	ND(0.6)	ND(0.6)	--
Bromoform	700	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Bromomethane	7	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
Carbon Disulfide	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Carbon Tetrachloride	2	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Chlorobenzene	200	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Chloroethane	10000	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
Chloroform	50	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Chloromethane	10000	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
Dibromochloromethane	20	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Dibromomethane	50000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Dichlorodifluoromethane	100000	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
Ethyl Ether	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Ethylbenzene	5000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Ethyl-Tert-Butyl-Ether (Tert-Butylethyl Ether)	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Hexachlorobutadiene	50	µg/L	ND(0.6)	ND(0.6)	ND(0.6)	--
Hexachloroethane	100	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Isopropyl Benzene	100000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Isopropyl Ether	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Methyl Ethyl Ketone (MEK)	50000	µg/L	ND(10.0)	ND(10.0)	ND(10.0)	--
Methyl Isobutyl Ketone (MIBK)	50000	µg/L	ND(10.0)	ND(10.0)	ND(10.0)	--
Methyl Tert-Butyl Ether	5000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Methylene Chloride	2000	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
Naphthalene	700	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
n-Butylbenzene	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
o-Chlorotoluene	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
o-Xylene	3000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--

Table 1
Summary of Groundwater Analytical Data
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Vertex Project No. 74303

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p/m-Xylene	3000	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--
p-Chlorotoluene (4-Chlorotoluene)	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
p-Cymene	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Propylbenzene	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Sec-Butylbenzene	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Styrene	100	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Tert-Butylbenzene	10000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Tertiary-Amyl Methyl Ether (TAME)	NSE	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Tetrachloroethane	9	µg/L	ND(0.5)	ND(0.5)	ND(0.5)	--
Tetrachloroethylene (PCE)	50	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Tetrahydrofuran	50000	µg/L	ND(5.0)	ND(5.0)	ND(5.0)	--
Toluene	40000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Trichloroethylene (TCE)	5	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Trichlorofluoromethane	100000	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Vinyl Chloride	2	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Xylenes (Mixed Isomers)	3000	µg/L	ND(2.00)	ND(2.00)	ND(2.00)	--
Semivolatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	200	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
1,2-Dichlorobenzene	2000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
1,3-Dichlorobenzene (1,3-DCB)	6000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
1,4-Dichlorobenzene	60	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2,4,5-Trichlorophenol	3000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2,4,6-Trichlorophenol	500	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2,4-Dichlorophenol	2000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2,4-Dimethylphenol	40000	µg/L	ND(48.1)	ND(50.0)	ND(49.5)	--
2,4-Dinitrophenol	20000	µg/L	ND(48.1)	ND(50.0)	ND(49.5)	--
2,4-Dinitrotoluene	20000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2,6-Dinitrotoluene	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2-Chloronaphthalene	100000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2-Chlorophenol	7000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--

Table 1
Summary of Groundwater Analytical Data
Premier Storage Investors
34 Dudley Street
Arlington, MA
Vertex Project No. 74303

Location ID Sample Date Sample ID Lab ID CHEMICAL NAME	RCGW-2	Units	V-MW-01 12/18/2021 V-MW-1_20211218 21L0726-03	V-MW-02 12/18/2021 V-MW-2_20211218 21L0726-01	V-MW-03 12/18/2021 V-MW-3_20211218 21L0726-02	V-MW-03 1/8/2022 MW-3-20220108 22A0168-01
2-Methylnaphthalene	2000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2-Methylphenol (o-Cresol)	50000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
2-Nitrophenol (o-Nitrophenol)	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
3,3-Dichlorobenzidine	2000	µg/L	ND(19.2)	ND(20.0)	ND(19.8)	--
3-Methylphenol/4-Methylphenol	NSE	µg/L	ND(19.2)	ND(20.0)	ND(19.8)	--
4-Bromophenyl Phenyl Ether	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Acenaphthene	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Acenaphthylene	40	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Acetophenone	100000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Aniline	100000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Anthracene	30	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Azobenzene	NSE	µg/L	ND(19.2)	ND(20.0)	ND(19.8)	--
Benzo(a)Anthracene	1000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Benzo(a)Pyrene	500	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Benzo(b)Fluoranthene	400	µg/L	ND(9.6)	ND(10.0)	10.8	--
Benzo(g,h,i)Perylene	20	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Benzo(k)Fluoranthene	100	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Bis (2-Chloroethyl) Ether	30	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Bis(2-Ethylhexyl)Phthalate	50000	µg/L	ND(5.8)	ND(6.0)	6.6	--
Butyl Benzyl Phthalate	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Chrysene	70	µg/L	ND(9.6)	ND(10.0)	11.8	--
Dibenzo(a,h)Anthracene	40	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Dibenzofuran	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Dichloroisopropyl Ether	100	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Dichloromethoxy Ethane	50000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Diethyl Phthalate	9000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Dimethyl Phthalate	50000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Fluoranthene	200	µg/L	ND(9.6)	ND(10.0)	31.3	--
Fluorene	40	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Hexachlorobenzene	1	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--

Table 1
Summary of Groundwater Analytical Data
Premier Storage Investors
34 Dudley Street
Arlington, MA
Vertex Project No. 74303

Location ID Sample Date Sample ID Lab ID CHEMICAL NAME	RCGW-2	Units	V-MW-01 12/18/2021 V-MW-1_20211218 21L0726-03	V-MW-02 12/18/2021 V-MW-2_20211218 21L0726-01	V-MW-03 12/18/2021 V-MW-3_20211218 21L0726-02	V-MW-03 1/8/2022 MW-3-20220108 22A0168-01
Hexachlorobutadiene	50	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Hexachloroethane	100	µg/L	ND(4.8)	ND(5.0)	ND(5.0)	--
Indeno(1,2,3-cd)Pyrene	100	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Isophorone	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Naphthalene	700	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
n-Butyl Phthalate	5000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
n-Dioctyl Phthalate	100000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Nitrobenzene	50000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
n-Nitrosodimethylamine	5000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
p-Chloroaniline	300	µg/L	ND(19.2)	ND(20.0)	ND(19.8)	--
Pentachlorophenol	200	µg/L	ND(48.1)	ND(50.0)	ND(49.5)	--
Phenanthrene	10000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
Phenol	2000	µg/L	ND(9.6)	ND(10.0)	ND(9.9)	--
p-Nitrophenol	10000	µg/L	ND(48.1)	ND(50.0)	ND(49.5)	--
Pyrene	20	µg/L	ND(9.6)	ND(10.0)	22.4	ND(10.2)
Metals, Dissolved						
Arsenic	900	µg/L	ND(5.0)	ND(5.0)	ND(1.0)	--
Barium	50000	µg/L	54.8	55.6	51.7	--
Cadmium	4	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Chromium	300	µg/L	ND(10.0)	ND(10.0)	ND(10.0)	--
Lead	10	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--
Mercury	20	µg/L	ND(0.20)	ND(0.20)	ND(0.20)	--
Selenium	100	µg/L	ND(5.0)	ND(5.0)	ND(5.0)	--
Silver	7	µg/L	ND(5.0)	ND(5.0)	ND(5.0)	--
Polychlorinated Biphenyls (PCBs)						
Aroclor 1016	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1221	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1232	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1242	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1248	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--

Table 1
Summary of Groundwater Analytical Data
Premier Storage Investors
34 Dudley Street
Arlington, MA
Vertex Project No. 74303

Location ID Sample Date Sample ID Lab ID CHEMICAL NAME	RCGW-2	Units	V-MW-01 12/18/2021 V-MW-1_20211218 21L0726-03	V-MW-02 12/18/2021 V-MW-2_20211218 21L0726-01	V-MW-03 12/18/2021 V-MW-3_20211218 21L0726-02	V-MW-03 1/8/2022 MW-3-20220108 22A0168-01
Aroclor 1254	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1260	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1262	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--
Aroclor 1268	5	µg/L	ND(0.10)	ND(0.10)	ND(0.10)	--

Notes:
- µg/L = microgram per Liter
- Reportable Concentrations (RCGW-2) taken from the Massachusetts Contingency Plan (MCP) 310 CMR 40.0974(2) dated April 2014
- ND = Not Detected above laboratory reporting limits shown in parenthesis
- -- = Not Analyzed
- NSE = No Standard Exists
- SNC = Standard Not Calculated
- Highlighted values exceeds the applicable Cleanup Criteria
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report

APPENDIX A:
MASSDEP PHASE I SITE ASSESSMENT MAP

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

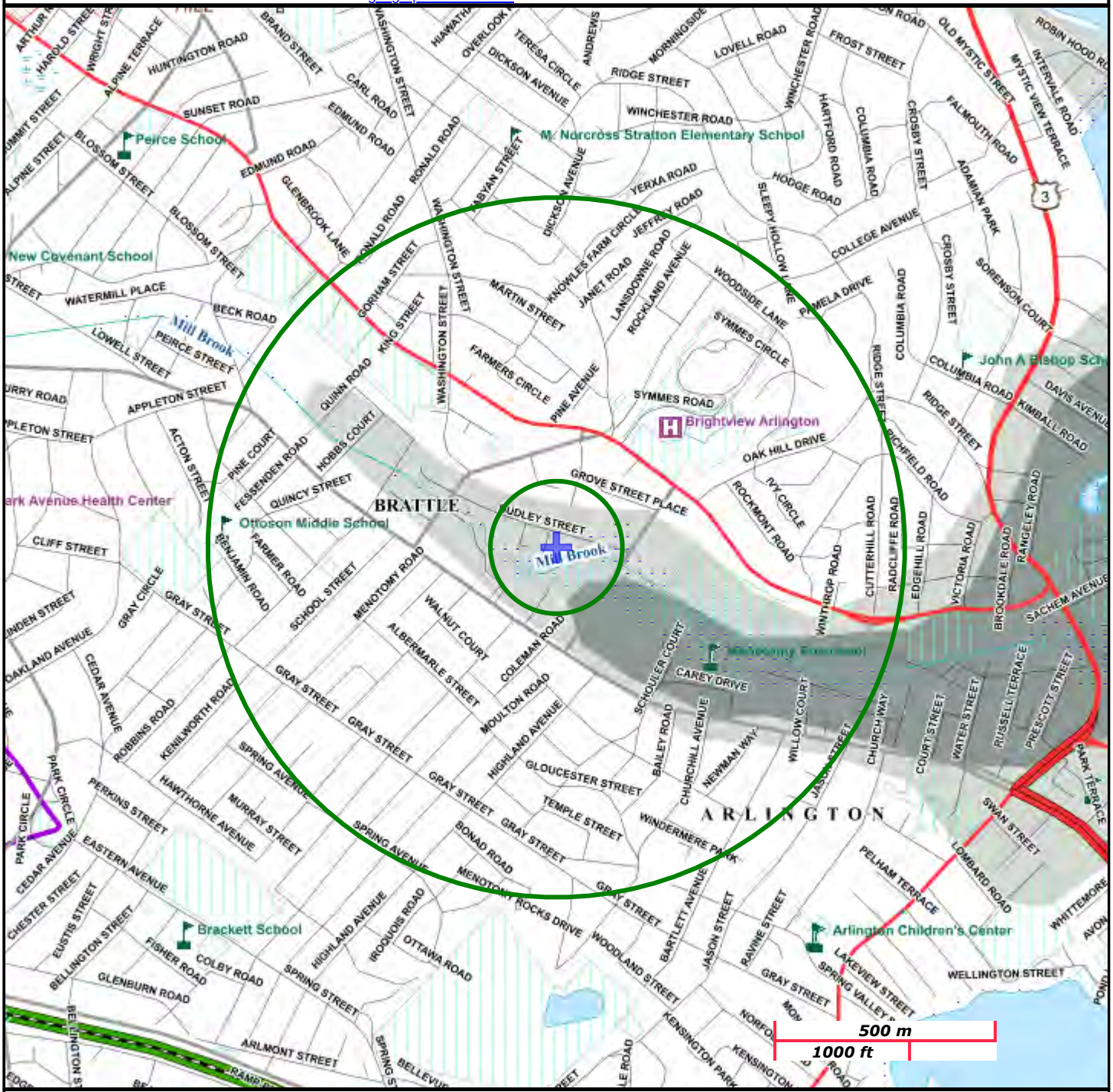
Site Information:

34 DUDLEY STREET ARLINGTON, MA

NAD83 UTM Meters:
4698738mN , 321793mE (Zone: 19)
December 2, 2021

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

APPENDIX B:
LABORATORY ANALYTICAL REPORTS

CERTIFICATE OF ANALYSIS

Chris Carleo
The Vertex Companies
100 North Washington Street Suite 302
Boston, MA 02114

RE: 34 Dudley St Arlington MA (74303)
ESS Laboratory Work Order Number: 21L0726

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:13 pm, Dec 27, 2021

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

SAMPLE RECEIPT

The following samples were received on December 20, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH and Metals were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
21L0726-01	V-MW-2	Ground Water	6010C, 6020A, 7010, 7470A, 8082A, 8100M, 8260B, 8270D
21L0726-02	V-MW-3	Ground Water	6010C, 6020A, 7470A, 8082A, 8100M, 8260B, 8270D
21L0726-03	V-MW-1	Ground Water	6010C, 6020A, 7010, 7470A, 8082A, 8100M, 8260B, 8270D

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

PROJECT NARRATIVE

8260B Volatile Organic Compounds

D1L0416-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Bromomethane (52% @ 20%), Tetrachloroethene (22% @ 20%)

DL12123-BS1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (136% @ 70-130%)

DL12123-BS1 **Blank Spike recovery is below lower control limit (B-).**
Bromomethane (58% @ 70-130%)

DL12123-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (137% @ 70-130%)

DL12123-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Bromomethane (57% @ 70-130%)

8270D Semi-Volatile Organic Compounds

D1L0460-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (82% @ 80-120%), Pentachlorophenol (90% @ 80-120%)

D1L0460-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
bis(2-Chloroethyl)ether (31% @ 20%)

D1L0460-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
4-Nitrophenol (27% @ 20%)

D1L0460-CCV1 **Initial Calibration Verification recovery is above upper control limit (ICV+).**
2,4-Dinitrophenol

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21L0726-01 through 21L0726-03**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for '"Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

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

Signature: Laurel Stoddard Date: December 27, 2021

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/21/21 19:51	10	10	DL12043
Barium	**55.6** (50.0)		6010C		1	KJK	12/21/21 14:37	10	10	DL12043
Cadmium	ND (1.0)		6020A		1	KJK	12/21/21 11:15	10	10	DL12043
Chromium	ND (10.0)		6010C		1	KJK	12/21/21 14:37	10	10	DL12043
Lead	ND (1.0)		6020A		1	KJK	12/21/21 11:15	10	10	DL12043
Mercury	ND (0.20)		7470A		1	JRB	12/21/21 10:54	20	40	DL12066
Selenium	ND (5.0)		6020A		1	KJK	12/21/21 11:15	10	10	DL12043
Silver	ND (5.0)		6010C		1	KJK	12/21/21 14:37	10	10	DL12043

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 960
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: JLG
Prepared: 12/21/21 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1221	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1232	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1242	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1248	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1254	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1260	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1262	ND (0.10)		8082A		1	12/21/21 16:02		DL12105
Aroclor 1268	ND (0.10)		8082A		1	12/21/21 16:02		DL12105

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 1010
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: BXK
Prepared: 12/22/21 16:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**150** (99.0)		8100M		1	12/23/21 15:40	D1L0472	DL12207

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*100 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,1-Dichloroethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,1-Dichloroethene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,1-Dichloropropene	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2-Dibromoethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2-Dichloroethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,2-Dichloropropane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,3-Dichloropropane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
1,4-Dioxane - Screen	ND (500)		8260B		1	12/21/21 14:54	D1L0416	DL12123
2,2-Dichloropropane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
2-Butanone	ND (10.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
2-Chlorotoluene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
2-Hexanone	ND (10.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
4-Chlorotoluene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
4-Isopropyltoluene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Acetone	ND (10.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Benzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Bromobenzene	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Bromochloromethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Bromoform	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Bromomethane	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Carbon Disulfide	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Carbon Tetrachloride	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Chlorobenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Chloroethane	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Chloroform	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Chloromethane	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Dibromochloromethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Dibromomethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Diethyl Ether	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Di-isopropyl ether	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Ethylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Hexachlorobutadiene	ND (0.6)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Hexachloroethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Isopropylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Methylene Chloride	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Naphthalene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
n-Butylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
n-Propylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
sec-Butylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Styrene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
tert-Butylbenzene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Tetrachloroethene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Tetrahydrofuran	ND (5.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Trichloroethene	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Trichlorofluoromethane	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Vinyl Chloride	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Xylene O	ND (1.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Xylene P,M	ND (2.0)		8260B		1	12/21/21 14:54	D1L0416	DL12123
Xylenes (Total)	ND (2.00)		8260B		1	12/21/21 14:54		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*99 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
1,2-Dichlorobenzene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
1,3-Dichlorobenzene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
1,4-Dichlorobenzene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,4,5-Trichlorophenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,4,6-Trichlorophenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,4-Dichlorophenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,4-Dimethylphenol	ND (50.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,4-Dinitrophenol	ND (50.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,4-Dinitrotoluene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2,6-Dinitrotoluene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2-Chloronaphthalene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2-Chlorophenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2-Methylnaphthalene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2-Methylphenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
2-Nitrophenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
3,3′-Dichlorobenzidine	ND (20.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
3+4-Methylphenol	ND (20.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
4-Bromophenyl-phenylether	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
4-Chloroaniline	ND (20.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
4-Nitrophenol	ND (50.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Acenaphthene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Acenaphthylene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Acetophenone	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Aniline	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Anthracene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Azobenzene	ND (20.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Benzo(a)anthracene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Benzo(a)pyrene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Benzo(b)fluoranthene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Benzo(g,h,i)perylene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Benzo(k)fluoranthene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
bis(2-Chloroethyl)ether	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
bis(2-chloroisopropyl)Ether	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
bis(2-Ethylhexyl)phthalate	ND (6.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Butylbenzylphthalate	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Chrysene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Dibenzo(a,h)Anthracene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Dibenzofuran	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Diethylphthalate	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Dimethylphthalate	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Di-n-butylphthalate	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Di-n-octylphthalate	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Fluoranthene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Fluorene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Hexachlorobenzene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Hexachlorobutadiene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Hexachloroethane	ND (5.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Indeno(1,2,3-cd)Pyrene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Isophorone	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Naphthalene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Nitrobenzene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
N-Nitrosodimethylamine	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Pentachlorophenol	ND (50.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Phenanthrene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Phenol	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128
Pyrene	ND (10.0)		8270D		1	12/23/21 1:47	D1L0460	DL12128

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*81 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*80 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*85 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-2
Date Sampled: 12/18/21 14:05
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*76 %*		*15-110*				
Surrogate: Nitrobenzene-d5		*85 %*		*30-130*				
Surrogate: Phenol-d6		*88 %*		*15-110*				
Surrogate: p-Terphenyl-d14		*68 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (1.0)		6020A		1	KJK	12/21/21 12:35	10	10	DL12043
Barium	**51.7** (50.0)		6010C		1	KJK	12/21/21 14:39	10	10	DL12043
Cadmium	ND (1.0)		6020A		1	KJK	12/21/21 12:35	10	10	DL12043
Chromium	ND (10.0)		6010C		1	KJK	12/21/21 14:39	10	10	DL12043
Lead	ND (1.0)		6020A		1	KJK	12/21/21 12:35	10	10	DL12043
Mercury	ND (0.20)		7470A		1	JRB	12/21/21 10:56	20	40	DL12066
Selenium	ND (5.0)		6020A		1	KJK	12/21/21 12:35	10	10	DL12043
Silver	ND (5.0)		6010C		1	KJK	12/21/21 14:39	10	10	DL12043

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 1020
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: JLG
Prepared: 12/21/21 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1221	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1232	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1242	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1248	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1254	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1260	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1262	ND (0.10)		8082A		1	12/21/21 16:21		DL12105
Aroclor 1268	ND (0.10)		8082A		1	12/21/21 16:21		DL12105

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 1030
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: BXK
Prepared: 12/22/21 16:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**615** (97.1)		8100M		1	12/23/21 16:14	D1L0472	DL12207

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*94 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,1-Dichloroethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,1-Dichloroethene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,1-Dichloropropene	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2-Dibromoethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2-Dichloroethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,2-Dichloropropane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,3-Dichloropropane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
1,4-Dioxane - Screen	ND (500)		8260B		1	12/21/21 15:19	D1L0416	DL12123
2,2-Dichloropropane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
2-Butanone	ND (10.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
2-Chlorotoluene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
2-Hexanone	ND (10.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
4-Chlorotoluene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
4-Isopropyltoluene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Acetone	**14.8** (10.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Benzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Bromobenzene	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Bromochloromethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Bromoform	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Bromomethane	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Carbon Disulfide	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Carbon Tetrachloride	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Chlorobenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Chloroethane	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Chloroform	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Chloromethane	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Dibromochloromethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Dibromomethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Diethyl Ether	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Di-isopropyl ether	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Ethylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Hexachlorobutadiene	ND (0.6)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Hexachloroethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Isopropylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Methylene Chloride	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Naphthalene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
n-Butylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
n-Propylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
sec-Butylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Styrene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
tert-Butylbenzene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Tetrachloroethene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Tetrahydrofuran	ND (5.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Trichloroethene	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Trichlorofluoromethane	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Vinyl Chloride	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Xylene O	ND (1.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Xylene P,M	ND (2.0)		8260B		1	12/21/21 15:19	D1L0416	DL12123
Xylenes (Total)	ND (2.00)		8260B		1	12/21/21 15:19		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*99 %*		*70-130*
Surrogate: Toluene-d8	*102 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 1010
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
1,2-Dichlorobenzene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
1,3-Dichlorobenzene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
1,4-Dichlorobenzene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,4,5-Trichlorophenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,4,6-Trichlorophenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,4-Dichlorophenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,4-Dimethylphenol	ND (49.5)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,4-Dinitrophenol	ND (49.5)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,4-Dinitrotoluene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2,6-Dinitrotoluene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2-Chloronaphthalene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2-Chlorophenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2-Methylnaphthalene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2-Methylphenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
2-Nitrophenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
3,3′-Dichlorobenzidine	ND (19.8)		8270D		1	12/23/21 2:18	D1L0460	DL12128
3+4-Methylphenol	ND (19.8)		8270D		1	12/23/21 2:18	D1L0460	DL12128
4-Bromophenyl-phenylether	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
4-Chloroaniline	ND (19.8)		8270D		1	12/23/21 2:18	D1L0460	DL12128
4-Nitrophenol	ND (49.5)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Acenaphthene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Acenaphthylene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Acetophenone	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Aniline	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Anthracene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Azobenzene	ND (19.8)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Benzo(a)anthracene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Benzo(a)pyrene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Benzo(b)fluoranthene	**10.8** (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Benzo(g,h,i)perylene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Benzo(k)fluoranthene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 1010
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
bis(2-Chloroethyl)ether	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
bis(2-chloroisopropyl)Ether	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
bis(2-Ethylhexyl)phthalate	**6.6** (5.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Butylbenzylphthalate	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Chrysene	**11.8** (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Dibenzo(a,h)Anthracene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Dibenzofuran	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Diethylphthalate	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Dimethylphthalate	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Di-n-butylphthalate	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Di-n-octylphthalate	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Fluoranthene	**31.3** (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Fluorene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Hexachlorobenzene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Hexachlorobutadiene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Hexachloroethane	ND (5.0)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Indeno(1,2,3-cd)Pyrene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Isophorone	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Naphthalene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Nitrobenzene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
N-Nitrosodimethylamine	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Pentachlorophenol	ND (49.5)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Phenanthrene	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Phenol	ND (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128
Pyrene	**22.4** (9.9)		8270D		1	12/23/21 2:18	D1L0460	DL12128

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*84 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*83 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*88 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-3
Date Sampled: 12/18/21 15:35
Percent Solids: N/A
Initial Volume: 1010
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*81 %*		*15-110*				
Surrogate: Nitrobenzene-d5		*92 %*		*30-130*				
Surrogate: Phenol-d6		*89 %*		*15-110*				
Surrogate: p-Terphenyl-d14		*51 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 200.7/6010BNoDigest

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		7010		1	KJK	12/21/21 20:08	10	10	DL12043
Barium	**54.8** (50.0)		6010C		1	KJK	12/21/21 14:41	10	10	DL12043
Cadmium	ND (1.0)		6020A		1	KJK	12/21/21 12:41	10	10	DL12043
Chromium	ND (10.0)		6010C		1	KJK	12/21/21 14:41	10	10	DL12043
Lead	ND (1.0)		6020A		1	KJK	12/21/21 12:41	10	10	DL12043
Mercury	ND (0.20)		7470A		1	JRB	12/21/21 11:02	20	40	DL12066
Selenium	ND (5.0)		6020A		1	KJK	12/21/21 12:41	10	10	DL12043
Silver	ND (5.0)		6010C		1	KJK	12/21/21 14:41	10	10	DL12043

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 1040
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: JLG
Prepared: 12/21/21 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1221	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1232	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1242	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1248	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1254	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1260	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1262	ND (0.10)		8082A		1	12/21/21 16:41		DL12105
Aroclor 1268	ND (0.10)		8082A		1	12/21/21 16:41		DL12105

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*52 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 1010
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: BXK
Prepared: 12/22/21 16:00

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	**134** (99.0)		8100M		1	12/23/21 16:47	D1L0472	DL12207

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*97 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,1,1-Trichloroethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,1,2-Trichloroethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,1-Dichloroethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,1-Dichloroethene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,1-Dichloropropene	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2,3-Trichloropropane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2-Dibromoethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2-Dichloroethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,2-Dichloropropane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,3-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,3-Dichloropropane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,4-Dichlorobenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
1,4-Dioxane - Screen	ND (500)		8260B		1	12/21/21 15:45	D1L0416	DL12123
2,2-Dichloropropane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
2-Butanone	ND (10.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
2-Chlorotoluene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
2-Hexanone	ND (10.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
4-Chlorotoluene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
4-Isopropyltoluene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Acetone	ND (10.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Benzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Bromobenzene	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Bromochloromethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Bromoform	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Bromomethane	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Carbon Disulfide	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Carbon Tetrachloride	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Chlorobenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Chloroethane	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Chloroform	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Chloromethane	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Dibromochloromethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Dibromomethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Dichlorodifluoromethane	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Diethyl Ether	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Di-isopropyl ether	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Ethylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Hexachlorobutadiene	ND (0.6)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Hexachloroethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Isopropylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Methylene Chloride	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Naphthalene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
n-Butylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
n-Propylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
sec-Butylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Styrene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
tert-Butylbenzene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Tetrachloroethene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Tetrahydrofuran	ND (5.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Trichloroethene	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Trichlorofluoromethane	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Vinyl Chloride	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Xylene O	ND (1.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Xylene P,M	ND (2.0)		8260B		1	12/21/21 15:45	D1L0416	DL12123
Xylenes (Total)	ND (2.00)		8260B		1	12/21/21 15:45		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*100 %*		*70-130*
Surrogate: Toluene-d8	*102 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 1040
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
1,2-Dichlorobenzene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
1,3-Dichlorobenzene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
1,4-Dichlorobenzene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,4,5-Trichlorophenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,4,6-Trichlorophenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,4-Dichlorophenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,4-Dimethylphenol	ND (48.1)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,4-Dinitrophenol	ND (48.1)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,4-Dinitrotoluene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2,6-Dinitrotoluene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2-Chloronaphthalene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2-Chlorophenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2-Methylnaphthalene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2-Methylphenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
2-Nitrophenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
3,3′-Dichlorobenzidine	ND (19.2)		8270D		1	12/23/21 2:50	D1L0460	DL12128
3+4-Methylphenol	ND (19.2)		8270D		1	12/23/21 2:50	D1L0460	DL12128
4-Bromophenyl-phenylether	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
4-Chloroaniline	ND (19.2)		8270D		1	12/23/21 2:50	D1L0460	DL12128
4-Nitrophenol	ND (48.1)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Acenaphthene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Acenaphthylene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Acetophenone	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Aniline	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Anthracene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Azobenzene	ND (19.2)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Benzo(a)anthracene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Benzo(a)pyrene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Benzo(b)fluoranthene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Benzo(g,h,i)perylene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Benzo(k)fluoranthene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 1040
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
bis(2-Chloroethoxy)methane	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
bis(2-Chloroethyl)ether	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
bis(2-chloroisopropyl)Ether	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
bis(2-Ethylhexyl)phthalate	ND (5.8)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Butylbenzylphthalate	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Chrysene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Dibenzo(a,h)Anthracene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Dibenzofuran	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Diethylphthalate	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Dimethylphthalate	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Di-n-butylphthalate	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Di-n-octylphthalate	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Fluoranthene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Fluorene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Hexachlorobenzene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Hexachlorobutadiene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Hexachloroethane	ND (4.8)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Indeno(1,2,3-cd)Pyrene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Isophorone	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Naphthalene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Nitrobenzene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
N-Nitrosodimethylamine	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Pentachlorophenol	ND (48.1)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Phenanthrene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Phenol	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128
Pyrene	ND (9.6)		8270D		1	12/23/21 2:50	D1L0460	DL12128

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*85 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*90 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*93 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA
Client Sample ID: V-MW-1
Date Sampled: 12/18/21 16:30
Percent Solids: N/A
Initial Volume: 1040
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 21L0726
ESS Laboratory Sample ID: 21L0726-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 12/21/21 16:55

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorophenol		*81 %*		*15-110*				
Surrogate: Nitrobenzene-d5		*92 %*		*30-130*				
Surrogate: Phenol-d6		*96 %*		*15-110*				
Surrogate: p-Terphenyl-d14		*75 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch DL12043 - 200.7/6010BNoDigest										
Blank										
Barium	ND	50.0	ug/L							
Chromium	ND	10.0	ug/L							
Silver	ND	5.0	ug/L							
Blank										
Arsenic	ND	1.0	ug/L							
Cadmium	ND	1.0	ug/L							
Lead	ND	1.0	ug/L							
Selenium	ND	5.0	ug/L							
Blank										
Arsenic	ND	5.0	ug/L							
LCS										
Barium	0.5		mg/L	0.5000		100	80-120			
Chromium	0.5		mg/L	0.5000		100	80-120			
Silver	0.3		mg/L	0.2500		101	80-120			
LCS										
Arsenic	10.1		ug/L	10.00		101	80-120			
Cadmium	10.1		ug/L	10.05		101	80-120			
Lead	10.0		ug/L	9.990		100	80-120			
Selenium	10.8		ug/L	9.990		108	80-120			
LCS										
Arsenic	25.1		ug/L	25.00		100	80-120			
Batch DL12066 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	6.11	0.20	ug/L	6.042		101	80-120			
LCS Dup										
Mercury	6.16	0.20	ug/L	6.042		102	80-120	0.7	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch DL12105 - 3510C										
Blank										
Aroclor 1016	ND	0.05	ug/L							
Aroclor 1016 [2C]	ND	0.05	ug/L							
Aroclor 1221	ND	0.05	ug/L							
Aroclor 1221 [2C]	ND	0.05	ug/L							
Aroclor 1232	ND	0.05	ug/L							
Aroclor 1232 [2C]	ND	0.05	ug/L							
Aroclor 1242	ND	0.05	ug/L							

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL12105 - 3510C										
Aroclor 1242 [2C]	ND	0.05	ug/L							
Aroclor 1248	ND	0.05	ug/L							
Aroclor 1248 [2C]	ND	0.05	ug/L							
Aroclor 1254	ND	0.05	ug/L							
Aroclor 1254 [2C]	ND	0.05	ug/L							
Aroclor 1260	ND	0.05	ug/L							
Aroclor 1260 [2C]	ND	0.05	ug/L							
Aroclor 1262	ND	0.05	ug/L							
Aroclor 1262 [2C]	ND	0.05	ug/L							
Aroclor 1268	ND	0.05	ug/L							
Aroclor 1268 [2C]	ND	0.05	ug/L							
Surrogate: Decachlorobiphenyl	*0.0396*		ug/L	*0.05000*		*79*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0349*		ug/L	*0.05000*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0406*		ug/L	*0.05000*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0436*		ug/L	*0.05000*		*87*	*30-150*			
LCS										
Aroclor 1016	0.83	0.05	ug/L	1.000		83	40-140			
Aroclor 1016 [2C]	0.83	0.05	ug/L	1.000		83	40-140			
Aroclor 1260	0.90	0.05	ug/L	1.000		90	40-140			
Aroclor 1260 [2C]	0.87	0.05	ug/L	1.000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0483*		ug/L	*0.05000*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0424*		ug/L	*0.05000*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0432*		ug/L	*0.05000*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0430*		ug/L	*0.05000*		*86*	*30-150*			
LCS Dup										
Aroclor 1016	0.85	0.05	ug/L	1.000		85	40-140	2	20	
Aroclor 1016 [2C]	0.84	0.05	ug/L	1.000		84	40-140	2	20	
Aroclor 1260	0.89	0.05	ug/L	1.000		89	40-140	1	20	
Aroclor 1260 [2C]	0.86	0.05	ug/L	1.000		86	40-140	1	20	
Surrogate: Decachlorobiphenyl	*0.0459*		ug/L	*0.05000*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0401*		ug/L	*0.05000*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0409*		ug/L	*0.05000*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0417*		ug/L	*0.05000*		*83*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch DL12207 - 3510C										
Blank										
Decane (C10)	ND	5.00	ug/L							
Docosane (C22)	ND	5.00	ug/L							
Dodecane (C12)	ND	5.00	ug/L							
Eicosane (C20)	ND	5.00	ug/L							
Hexacosane (C26)	ND	5.00	ug/L							

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8100M Total Petroleum Hydrocarbons

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DL12207 - 3510C										
Hexadecane (C16)	ND	5.00	ug/L							
Hexatriacontane (C36)	ND	5.00	ug/L							
Nonadecane (C19)	ND	5.00	ug/L							
Nonane (C9)	ND	5.00	ug/L							
Octacosane (C28)	ND	5.00	ug/L							
Octadecane (C18)	ND	5.00	ug/L							
Tetracosane (C24)	ND	5.00	ug/L							
Tetradecane (C14)	ND	5.00	ug/L							
Total Petroleum Hydrocarbons	ND	100	ug/L							
Triacontane (C30)	ND	5.00	ug/L							
Surrogate: O-Terphenyl	*97.3*		ug/L	*100.0*		*97*	*40-140*			
LCS										
Decane (C10)	42.6	5.00	ug/L	50.00		85	40-140			
Docosane (C22)	48.1	5.00	ug/L	50.00		96	40-140			
Dodecane (C12)	45.0	5.00	ug/L	50.00		90	40-140			
Eicosane (C20)	48.5	5.00	ug/L	50.00		97	40-140			
Hexacosane (C26)	48.9	5.00	ug/L	50.00		98	40-140			
Hexadecane (C16)	48.6	5.00	ug/L	50.00		97	40-140			
Hexatriacontane (C36)	52.7	5.00	ug/L	50.00		105	40-140			
Nonadecane (C19)	53.6	5.00	ug/L	50.00		107	40-140			
Nonane (C9)	36.1	5.00	ug/L	50.00		72	30-140			
Octacosane (C28)	48.2	5.00	ug/L	50.00		96	40-140			
Octadecane (C18)	48.4	5.00	ug/L	50.00		97	40-140			
Tetracosane (C24)	43.8	5.00	ug/L	50.00		88	40-140			
Tetradecane (C14)	47.3	5.00	ug/L	50.00		95	40-140			
Total Petroleum Hydrocarbons	643	100	ug/L	700.0		92	40-140			
Triacontane (C30)	48.5	5.00	ug/L	50.00		97	40-140			
Surrogate: O-Terphenyl	*94.1*		ug/L	*100.0*		*94*	*40-140*			
LCS Dup										
Decane (C10)	43.7	5.00	ug/L	50.00		87	40-140	3	25	
Docosane (C22)	49.5	5.00	ug/L	50.00		99	40-140	3	25	
Dodecane (C12)	47.3	5.00	ug/L	50.00		95	40-140	5	25	
Eicosane (C20)	49.8	5.00	ug/L	50.00		100	40-140	3	25	
Hexacosane (C26)	50.5	5.00	ug/L	50.00		101	40-140	3	25	
Hexadecane (C16)	50.4	5.00	ug/L	50.00		101	40-140	3	25	
Hexatriacontane (C36)	53.9	5.00	ug/L	50.00		108	40-140	2	25	
Nonadecane (C19)	56.2	5.00	ug/L	50.00		112	40-140	5	25	
Nonane (C9)	38.4	5.00	ug/L	50.00		77	30-140	6	25	
Octacosane (C28)	49.7	5.00	ug/L	50.00		99	40-140	3	25	
Octadecane (C18)	49.8	5.00	ug/L	50.00		100	40-140	3	25	
Tetracosane (C24)	45.1	5.00	ug/L	50.00		90	40-140	3	25	
Tetradecane (C14)	48.9	5.00	ug/L	50.00		98	40-140	3	25	
Total Petroleum Hydrocarbons	651	100	ug/L	700.0		93	40-140	1	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DL12207 - 3510C										
Triacontane (C30)	49.9	5.00	ug/L	50.00		100	40-140	3	25	
Surrogate: O-Terphenyl	*94.1*		ug/L	*100.0*		*94*	*40-140*			
8260B Volatile Organic Compounds										
Batch DL12123 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	10.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DL12123 - 5030B										
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Hexachloroethane	ND	1.0	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	2.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*27.0*		ug/L	*25.00*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.8*		ug/L	*25.00*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*24.6*		ug/L	*25.00*		*98*	*70-130*			
Surrogate: Toluene-d8	*25.5*		ug/L	*25.00*		*102*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.2	1.0	ug/L	10.00		92	70-130			
1,1,1-Trichloroethane	10.1	1.0	ug/L	10.00		101	70-130			
1,1,2,2-Tetrachloroethane	10.5	0.5	ug/L	10.00		105	70-130			
1,1,2-Trichloroethane	9.9	1.0	ug/L	10.00		99	70-130			
1,1-Dichloroethane	10.0	1.0	ug/L	10.00		100	70-130			
1,1-Dichloroethene	11.1	1.0	ug/L	10.00		111	70-130			

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DL12123 - 5030B										
1,1-Dichloropropene	10.5	2.0	ug/L	10.00		105	70-130			
1,2,3-Trichlorobenzene	9.9	1.0	ug/L	10.00		99	70-130			
1,2,3-Trichloropropane	9.5	1.0	ug/L	10.00		95	70-130			
1,2,4-Trichlorobenzene	9.8	1.0	ug/L	10.00		98	70-130			
1,2,4-Trimethylbenzene	10.1	1.0	ug/L	10.00		101	70-130			
1,2-Dibromo-3-Chloropropane	8.2	5.0	ug/L	10.00		82	70-130			
1,2-Dibromoethane	9.7	1.0	ug/L	10.00		97	70-130			
1,2-Dichlorobenzene	10.4	1.0	ug/L	10.00		104	70-130			
1,2-Dichloroethane	10.6	1.0	ug/L	10.00		106	70-130			
1,2-Dichloropropane	9.7	1.0	ug/L	10.00		97	70-130			
1,3,5-Trimethylbenzene	10.3	1.0	ug/L	10.00		103	70-130			
1,3-Dichlorobenzene	10.5	1.0	ug/L	10.00		105	70-130			
1,3-Dichloropropane	10.4	1.0	ug/L	10.00		104	70-130			
1,4-Dichlorobenzene	10.6	1.0	ug/L	10.00		106	70-130			
1,4-Dioxane - Screen	219	500	ug/L	200.0		109	0-332			
2,2-Dichloropropane	10.0	1.0	ug/L	10.00		100	70-130			
2-Butanone	58.8	10.0	ug/L	50.00		118	70-130			
2-Chlorotoluene	10.6	1.0	ug/L	10.00		106	70-130			
2-Hexanone	59.8	10.0	ug/L	50.00		120	70-130			
4-Chlorotoluene	10.6	1.0	ug/L	10.00		106	70-130			
4-Isopropyltoluene	10.0	1.0	ug/L	10.00		100	70-130			
4-Methyl-2-Pentanone	51.0	10.0	ug/L	50.00		102	70-130			
Acetone	68.0	10.0	ug/L	50.00		136	70-130			B+
Benzene	10.2	1.0	ug/L	10.00		102	70-130			
Bromobenzene	10.4	2.0	ug/L	10.00		104	70-130			
Bromochloromethane	10.3	1.0	ug/L	10.00		103	70-130			
Bromodichloromethane	10.5	0.6	ug/L	10.00		105	70-130			
Bromoform	8.5	1.0	ug/L	10.00		85	70-130			
Bromomethane	5.8	2.0	ug/L	10.00		58	70-130			B-
Carbon Disulfide	10.0	1.0	ug/L	10.00		100	70-130			
Carbon Tetrachloride	10.0	1.0	ug/L	10.00		100	70-130			
Chlorobenzene	10.2	1.0	ug/L	10.00		102	70-130			
Chloroethane	11.1	2.0	ug/L	10.00		111	70-130			
Chloroform	10.5	1.0	ug/L	10.00		105	70-130			
Chloromethane	9.3	2.0	ug/L	10.00		93	70-130			
cis-1,2-Dichloroethene	10.7	1.0	ug/L	10.00		107	70-130			
cis-1,3-Dichloropropene	9.5	0.4	ug/L	10.00		95	70-130			
Dibromochloromethane	9.6	1.0	ug/L	10.00		96	70-130			
Dibromomethane	9.9	1.0	ug/L	10.00		99	70-130			
Dichlorodifluoromethane	9.8	2.0	ug/L	10.00		98	70-130			
Diethyl Ether	10.7	1.0	ug/L	10.00		107	70-130			
Di-isopropyl ether	10.5	1.0	ug/L	10.00		105	70-130			
Ethyl tertiary-butyl ether	10.1	1.0	ug/L	10.00		101	70-130			
Ethylbenzene	10.1	1.0	ug/L	10.00		101	70-130			
Hexachlorobutadiene	9.8	0.6	ug/L	10.00		98	70-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DL12123 - 5030B										
Hexachloroethane	8.9	1.0	ug/L	10.00		89	70-130			
Isopropylbenzene	10.4	1.0	ug/L	10.00		104	70-130			
Methyl tert-Butyl Ether	10.3	1.0	ug/L	10.00		103	70-130			
Methylene Chloride	10.0	2.0	ug/L	10.00		100	70-130			
Naphthalene	9.3	1.0	ug/L	10.00		93	70-130			
n-Butylbenzene	10.3	1.0	ug/L	10.00		103	70-130			
n-Propylbenzene	10.5	1.0	ug/L	10.00		105	70-130			
sec-Butylbenzene	10.1	1.0	ug/L	10.00		101	70-130			
Styrene	9.0	1.0	ug/L	10.00		90	70-130			
tert-Butylbenzene	10.4	1.0	ug/L	10.00		104	70-130			
Tertiary-amyl methyl ether	9.5	1.0	ug/L	10.00		95	70-130			
Tetrachloroethene	8.5	1.0	ug/L	10.00		85	70-130			
Tetrahydrofuran	10.9	5.0	ug/L	10.00		109	70-130			
Toluene	10.2	1.0	ug/L	10.00		102	70-130			
trans-1,2-Dichloroethene	10.6	1.0	ug/L	10.00		106	70-130			
trans-1,3-Dichloropropene	8.9	0.4	ug/L	10.00		89	70-130			
Trichloroethene	10.1	1.0	ug/L	10.00		101	70-130			
Trichlorofluoromethane	11.8	1.0	ug/L	10.00		118	70-130			
Vinyl Chloride	12.1	1.0	ug/L	10.00		121	70-130			
Xylene O	9.7	1.0	ug/L	10.00		97	70-130			
Xylene P,M	20.0	2.0	ug/L	20.00		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	*26.8*		ug/L	*25.00*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.4*		ug/L	*25.00*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*25.5*		ug/L	*25.00*		*102*	*70-130*			
Surrogate: Toluene-d8	*25.2*		ug/L	*25.00*		*101*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.2	1.0	ug/L	10.00		92	70-130	0.7	20	
1,1,1-Trichloroethane	10.2	1.0	ug/L	10.00		102	70-130	0.7	20	
1,1,2,2-Tetrachloroethane	10.4	0.5	ug/L	10.00		104	70-130	0.8	20	
1,1,2-Trichloroethane	9.9	1.0	ug/L	10.00		99	70-130	0.2	20	
1,1-Dichloroethane	10.2	1.0	ug/L	10.00		102	70-130	2	20	
1,1-Dichloroethene	11.3	1.0	ug/L	10.00		113	70-130	2	20	
1,1-Dichloropropene	10.7	2.0	ug/L	10.00		107	70-130	2	20	
1,2,3-Trichlorobenzene	9.6	1.0	ug/L	10.00		96	70-130	3	20	
1,2,3-Trichloropropane	9.6	1.0	ug/L	10.00		96	70-130	1	20	
1,2,4-Trichlorobenzene	9.7	1.0	ug/L	10.00		97	70-130	2	20	
1,2,4-Trimethylbenzene	10.1	1.0	ug/L	10.00		101	70-130	0.2	20	
1,2-Dibromo-3-Chloropropane	8.1	5.0	ug/L	10.00		81	70-130	0.6	20	
1,2-Dibromoethane	9.8	1.0	ug/L	10.00		98	70-130	0.5	20	
1,2-Dichlorobenzene	10.4	1.0	ug/L	10.00		104	70-130	0	20	
1,2-Dichloroethane	10.8	1.0	ug/L	10.00		108	70-130	2	20	
1,2-Dichloropropane	9.8	1.0	ug/L	10.00		98	70-130	0.4	20	
1,3,5-Trimethylbenzene	10.4	1.0	ug/L	10.00		104	70-130	1	20	
1,3-Dichlorobenzene	10.4	1.0	ug/L	10.00		104	70-130	1	20	
1,3-Dichloropropane	10.4	1.0	ug/L	10.00		104	70-130	0.1	20	

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DL12123 - 5030B										
1,4-Dichlorobenzene	10.6	1.0	ug/L	10.00		106	70-130	0.5	20	
1,4-Dioxane - Screen	218	500	ug/L	200.0		109	0-332	0.4	200	
2,2-Dichloropropane	10.2	1.0	ug/L	10.00		102	70-130	2	20	
2-Butanone	59.3	10.0	ug/L	50.00		119	70-130	1	20	
2-Chlorotoluene	10.6	1.0	ug/L	10.00		106	70-130	0.09	20	
2-Hexanone	60.4	10.0	ug/L	50.00		121	70-130	0.9	20	
4-Chlorotoluene	10.6	1.0	ug/L	10.00		106	70-130	0.2	20	
4-Isopropyltoluene	10.0	1.0	ug/L	10.00		100	70-130	0.1	20	
4-Methyl-2-Pentanone	51.1	10.0	ug/L	50.00		102	70-130	0.3	20	
Acetone	68.6	10.0	ug/L	50.00		137	70-130	0.9	20	B+
Benzene	10.3	1.0	ug/L	10.00		103	70-130	1	20	
Bromobenzene	10.4	2.0	ug/L	10.00		104	70-130	0.1	20	
Bromochloromethane	10.4	1.0	ug/L	10.00		104	70-130	0.4	20	
Bromodichloromethane	10.5	0.6	ug/L	10.00		105	70-130	0.4	20	
Bromoform	8.3	1.0	ug/L	10.00		83	70-130	2	20	
Bromomethane	5.7	2.0	ug/L	10.00		57	70-130	0.3	20	B-
Carbon Disulfide	10.4	1.0	ug/L	10.00		104	70-130	5	20	
Carbon Tetrachloride	10.0	1.0	ug/L	10.00		100	70-130	0.3	20	
Chlorobenzene	10.2	1.0	ug/L	10.00		102	70-130	0.8	20	
Chloroethane	11.3	2.0	ug/L	10.00		113	70-130	2	20	
Chloroform	10.6	1.0	ug/L	10.00		106	70-130	1	20	
Chloromethane	9.7	2.0	ug/L	10.00		97	70-130	4	20	
cis-1,2-Dichloroethene	11.1	1.0	ug/L	10.00		111	70-130	4	20	
cis-1,3-Dichloropropene	9.4	0.4	ug/L	10.00		94	70-130	0.9	20	
Dibromochloromethane	9.7	1.0	ug/L	10.00		97	70-130	0.5	20	
Dibromomethane	10.0	1.0	ug/L	10.00		100	70-130	2	20	
Dichlorodifluoromethane	10.1	2.0	ug/L	10.00		101	70-130	3	20	
Diethyl Ether	11.5	1.0	ug/L	10.00		115	70-130	8	20	
Di-isopropyl ether	10.6	1.0	ug/L	10.00		106	70-130	0.2	20	
Ethyl tertiary-butyl ether	10.2	1.0	ug/L	10.00		102	70-130	1	20	
Ethylbenzene	10.1	1.0	ug/L	10.00		101	70-130	0.5	20	
Hexachlorobutadiene	9.5	0.6	ug/L	10.00		95	70-130	4	20	
Hexachloroethane	9.0	1.0	ug/L	10.00		90	70-130	1	20	
Isopropylbenzene	10.4	1.0	ug/L	10.00		104	70-130	0.4	20	
Methyl tert-Butyl Ether	10.4	1.0	ug/L	10.00		104	70-130	0.6	20	
Methylene Chloride	10.0	2.0	ug/L	10.00		100	70-130	0.9	20	
Naphthalene	9.3	1.0	ug/L	10.00		93	70-130	0.4	20	
n-Butylbenzene	10.2	1.0	ug/L	10.00		102	70-130	2	20	
n-Propylbenzene	10.4	1.0	ug/L	10.00		104	70-130	0.7	20	
sec-Butylbenzene	10.1	1.0	ug/L	10.00		101	70-130	0.2	20	
Styrene	9.1	1.0	ug/L	10.00		91	70-130	0.2	20	
tert-Butylbenzene	10.3	1.0	ug/L	10.00		103	70-130	0.5	20	
Tertiary-amyl methyl ether	9.6	1.0	ug/L	10.00		96	70-130	1	20	
Tetrachloroethene	9.2	1.0	ug/L	10.00		92	70-130	9	20	
Tetrahydrofuran	11.5	5.0	ug/L	10.00		115	70-130	5	20	

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DL12123 - 5030B										
Toluene	10.3	1.0	ug/L	10.00		103	70-130	1	20	
trans-1,2-Dichloroethene	11.1	1.0	ug/L	10.00		111	70-130	5	20	
trans-1,3-Dichloropropene	9.0	0.4	ug/L	10.00		90	70-130	0.7	20	
Trichloroethene	10.2	1.0	ug/L	10.00		102	70-130	1	20	
Trichlorofluoromethane	11.8	1.0	ug/L	10.00		118	70-130	0.7	20	
Vinyl Chloride	12.6	1.0	ug/L	10.00		126	70-130	4	20	
Xylene O	9.8	1.0	ug/L	10.00		98	70-130	1	20	
Xylene P,M	20.1	2.0	ug/L	20.00		100	70-130	0.3	20	
Surrogate: 1,2-Dichloroethane-d4	*27.0*		ug/L	*25.00*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.3*		ug/L	*25.00*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.0*		ug/L	*25.00*		*100*	*70-130*			
8270D Semi-Volatile Organic Compounds										
Batch DL12128 - 3520C										
Blank										
1,2,4-Trichlorobenzene	ND	10.0	ug/L							
1,2-Dichlorobenzene	ND	10.0	ug/L							
1,3-Dichlorobenzene	ND	10.0	ug/L							
1,4-Dichlorobenzene	ND	10.0	ug/L							
2,4,5-Trichlorophenol	ND	10.0	ug/L							
2,4,6-Trichlorophenol	ND	10.0	ug/L							
2,4-Dichlorophenol	ND	10.0	ug/L							
2,4-Dimethylphenol	ND	50.0	ug/L							
2,4-Dinitrophenol	ND	50.0	ug/L							
2,4-Dinitrotoluene	ND	10.0	ug/L							
2,6-Dinitrotoluene	ND	10.0	ug/L							
2-Chloronaphthalene	ND	10.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylnaphthalene	ND	10.0	ug/L							
2-Methylphenol	ND	10.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3,3´-Dichlorobenzidine	ND	20.0	ug/L							
3+4-Methylphenol	ND	20.0	ug/L							
4-Bromophenyl-phenylether	ND	10.0	ug/L							
4-Chloroaniline	ND	20.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
Acenaphthene	ND	10.0	ug/L							
Acenaphthylene	ND	10.0	ug/L							
Acetophenone	ND	10.0	ug/L							
Aniline	ND	10.0	ug/L							
Anthracene	ND	10.0	ug/L							
Azobenzene	ND	20.0	ug/L							
Benzo(a)anthracene	ND	10.0	ug/L							
Benzo(a)pyrene	ND	10.0	ug/L							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DL12128 - 3520C										
Benzo(b)fluoranthene	ND	10.0	ug/L							
Benzo(g,h,i)perylene	ND	10.0	ug/L							
Benzo(k)fluoranthene	ND	10.0	ug/L							
bis(2-Chloroethoxy)methane	ND	10.0	ug/L							
bis(2-Chloroethyl)ether	ND	10.0	ug/L							
bis(2-chloroisopropyl)Ether	ND	10.0	ug/L							
bis(2-Ethylhexyl)phthalate	ND	6.0	ug/L							
Butylbenzylphthalate	ND	10.0	ug/L							
Chrysene	ND	10.0	ug/L							
Dibenzo(a,h)Anthracene	ND	10.0	ug/L							
Dibenzofuran	ND	10.0	ug/L							
Diethylphthalate	ND	10.0	ug/L							
Dimethylphthalate	ND	10.0	ug/L							
Di-n-butylphthalate	ND	10.0	ug/L							
Di-n-octylphthalate	ND	10.0	ug/L							
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	10.0	ug/L							
Hexachlorobenzene	ND	10.0	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							
Hexachloroethane	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	10.0	ug/L							
Isophorone	ND	10.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Nitrobenzene	ND	10.0	ug/L							
N-Nitrosodimethylamine	ND	10.0	ug/L							
Pentachlorophenol	ND	50.0	ug/L							
Phenanthrene	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Pyrene	ND	10.0	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*69.2*		ug/L	*100.0*		*69*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*89.9*		ug/L	*150.0*		*60*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*111*		ug/L	*150.0*		*74*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*69.8*		ug/L	*100.0*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*101*		ug/L	*150.0*		*67*	*15-110*			
Surrogate: Nitrobenzene-d5	*75.2*		ug/L	*100.0*		*75*	*30-130*			
Surrogate: Phenol-d6	*112*		ug/L	*150.0*		*74*	*15-110*			
Surrogate: p-Terphenyl-d14	*76.9*		ug/L	*100.0*		*77*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	83.9	10.0	ug/L	100.0		84	40-140			
1,2-Dichlorobenzene	84.6	10.0	ug/L	100.0		85	40-140			
1,3-Dichlorobenzene	78.3	10.0	ug/L	100.0		78	40-140			
1,4-Dichlorobenzene	83.2	10.0	ug/L	100.0		83	40-140			
2,4,5-Trichlorophenol	89.6	10.0	ug/L	100.0		90	30-130			
2,4,6-Trichlorophenol	88.4	10.0	ug/L	100.0		88	30-130			
2,4-Dichlorophenol	94.9	10.0	ug/L	100.0		95	30-130			

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Client Name: The Vertex Companies
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DL12128 - 3520C										
2,4-Dimethylphenol	85.0	50.0	ug/L	100.0		85	30-130			
2,4-Dinitrophenol	117	50.0	ug/L	100.0		117	30-130			
2,4-Dinitrotoluene	98.1	10.0	ug/L	100.0		98	40-140			
2,6-Dinitrotoluene	94.4	10.0	ug/L	100.0		94	40-140			
2-Chloronaphthalene	85.9	10.0	ug/L	100.0		86	40-140			
2-Chlorophenol	95.5	10.0	ug/L	100.0		96	30-130			
2-Methylnaphthalene	91.6	10.0	ug/L	100.0		92	40-140			
2-Methylphenol	105	10.0	ug/L	100.0		105	30-130			
2-Nitrophenol	92.1	10.0	ug/L	100.0		92	30-130			
3,3´-Dichlorobenzidine	83.1	20.0	ug/L	100.0		83	40-140			
3+4-Methylphenol	207	20.0	ug/L	200.0		103	30-130			
4-Bromophenyl-phenylether	91.0	10.0	ug/L	100.0		91	40-140			
4-Chloroaniline	74.9	20.0	ug/L	100.0		75	40-140			
4-Nitrophenol	79.6	50.0	ug/L	100.0		80	30-130			
Acenaphthene	89.9	10.0	ug/L	100.0		90	40-140			
Acenaphthylene	80.3	10.0	ug/L	100.0		80	40-140			
Acetophenone	101	10.0	ug/L	100.0		101	40-140			
Aniline	82.4	10.0	ug/L	100.0		82	40-140			
Anthracene	93.6	10.0	ug/L	100.0		94	40-140			
Azobenzene	92.2	20.0	ug/L	100.0		92	40-140			
Benzo(a)anthracene	102	10.0	ug/L	100.0		102	40-140			
Benzo(a)pyrene	90.2	10.0	ug/L	100.0		90	40-140			
Benzo(b)fluoranthene	99.9	10.0	ug/L	100.0		100	40-140			
Benzo(g,h,i)perylene	91.7	10.0	ug/L	100.0		92	40-140			
Benzo(k)fluoranthene	99.6	10.0	ug/L	100.0		100	40-140			
bis(2-Chloroethoxy)methane	97.6	10.0	ug/L	100.0		98	40-140			
bis(2-Chloroethyl)ether	113	10.0	ug/L	100.0		113	40-140			
bis(2-chloroisopropyl)Ether	96.9	10.0	ug/L	100.0		97	40-140			
bis(2-Ethylhexyl)phthalate	103	6.0	ug/L	100.0		103	40-140			
Butylbenzylphthalate	96.7	10.0	ug/L	100.0		97	40-140			
Chrysene	101	10.0	ug/L	100.0		101	40-140			
Dibenzo(a,h)Anthracene	98.4	10.0	ug/L	100.0		98	40-140			
Dibenzofuran	91.8	10.0	ug/L	100.0		92	40-140			
Diethylphthalate	96.8	10.0	ug/L	100.0		97	40-140			
Dimethylphthalate	95.2	10.0	ug/L	100.0		95	40-140			
Di-n-butylphthalate	102	10.0	ug/L	100.0		102	40-140			
Di-n-octylphthalate	102	10.0	ug/L	100.0		102	40-140			
Fluoranthene	98.2	10.0	ug/L	100.0		98	40-140			
Fluorene	98.8	10.0	ug/L	100.0		99	40-140			
Hexachlorobenzene	87.5	10.0	ug/L	100.0		87	40-140			
Hexachlorobutadiene	73.8	10.0	ug/L	100.0		74	40-140			
Hexachloroethane	82.6	5.0	ug/L	100.0		83	40-140			
Indeno(1,2,3-cd)Pyrene	97.0	10.0	ug/L	100.0		97	40-140			
Isophorone	91.9	10.0	ug/L	100.0		92	40-140			
Naphthalene	87.8	10.0	ug/L	100.0		88	40-140			

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DL12128 - 3520C										
Nitrobenzene	88.8	10.0	ug/L	100.0		89	40-140			
N-Nitrosodimethylamine	67.2	10.0	ug/L	100.0		67	40-140			
Pentachlorophenol	99.9	50.0	ug/L	100.0		100	30-130			
Phenanthrene	92.0	10.0	ug/L	100.0		92	40-140			
Phenol	95.1	10.0	ug/L	100.0		95	30-130			
Pyrene	95.8	10.0	ug/L	100.0		96	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*96.6*		ug/L	*100.0*		*97*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*150*		ug/L	*150.0*		*100*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*157*		ug/L	*150.0*		*105*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*98.1*		ug/L	*100.0*		*98*	*30-130*			
Surrogate: 2-Fluorophenol	*147*		ug/L	*150.0*		*98*	*15-110*			
Surrogate: Nitrobenzene-d5	*102*		ug/L	*100.0*		*102*	*30-130*			
Surrogate: Phenol-d6	*164*		ug/L	*150.0*		*110*	*15-110*			
Surrogate: p-Terphenyl-d14	*108*		ug/L	*100.0*		*108*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	81.6	10.0	ug/L	100.0		82	40-140	3	20	
1,2-Dichlorobenzene	83.3	10.0	ug/L	100.0		83	40-140	2	20	
1,3-Dichlorobenzene	76.4	10.0	ug/L	100.0		76	40-140	2	20	
1,4-Dichlorobenzene	80.9	10.0	ug/L	100.0		81	40-140	3	20	
2,4,5-Trichlorophenol	90.2	10.0	ug/L	100.0		90	30-130	0.7	20	
2,4,6-Trichlorophenol	87.0	10.0	ug/L	100.0		87	30-130	2	20	
2,4-Dichlorophenol	91.9	10.0	ug/L	100.0		92	30-130	3	20	
2,4-Dimethylphenol	83.1	50.0	ug/L	100.0		83	30-130	2	20	
2,4-Dinitrophenol	126	50.0	ug/L	100.0		126	30-130	8	20	
2,4-Dinitrotoluene	94.5	10.0	ug/L	100.0		95	40-140	4	20	
2,6-Dinitrotoluene	92.9	10.0	ug/L	100.0		93	40-140	2	20	
2-Chloronaphthalene	85.3	10.0	ug/L	100.0		85	40-140	0.6	20	
2-Chlorophenol	93.4	10.0	ug/L	100.0		93	30-130	2	20	
2-Methylnaphthalene	87.9	10.0	ug/L	100.0		88	40-140	4	20	
2-Methylphenol	101	10.0	ug/L	100.0		101	30-130	4	20	
2-Nitrophenol	90.2	10.0	ug/L	100.0		90	30-130	2	20	
3,3´-Dichlorobenzidine	84.0	20.0	ug/L	100.0		84	40-140	1	20	
3+4-Methylphenol	198	20.0	ug/L	200.0		99	30-130	4	20	
4-Bromophenyl-phenylether	89.7	10.0	ug/L	100.0		90	40-140	1	20	
4-Chloroaniline	76.2	20.0	ug/L	100.0		76	40-140	2	20	
4-Nitrophenol	76.7	50.0	ug/L	100.0		77	30-130	4	20	
Acenaphthene	88.6	10.0	ug/L	100.0		89	40-140	1	20	
Acenaphthylene	78.8	10.0	ug/L	100.0		79	40-140	2	20	
Acetophenone	97.9	10.0	ug/L	100.0		98	40-140	3	20	
Aniline	80.7	10.0	ug/L	100.0		81	40-140	2	20	
Anthracene	91.0	10.0	ug/L	100.0		91	40-140	3	20	
Azobenzene	91.5	20.0	ug/L	100.0		91	40-140	0.8	20	
Benzo(a)anthracene	99.7	10.0	ug/L	100.0		100	40-140	2	20	
Benzo(a)pyrene	88.1	10.0	ug/L	100.0		88	40-140	2	20	
Benzo(b)fluoranthene	99.2	10.0	ug/L	100.0		99	40-140	0.8	20	

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DL12128 - 3520C										
Benzo(g,h,i)perylene	85.3	10.0	ug/L	100.0		85	40-140	7	20	
Benzo(k)fluoranthene	95.4	10.0	ug/L	100.0		95	40-140	4	20	
bis(2-Chloroethoxy)methane	94.8	10.0	ug/L	100.0		95	40-140	3	20	
bis(2-Chloroethyl)ether	110	10.0	ug/L	100.0		110	40-140	2	20	
bis(2-chloroisopropyl)Ether	94.7	10.0	ug/L	100.0		95	40-140	2	20	
bis(2-Ethylhexyl)phthalate	99.9	6.0	ug/L	100.0		100	40-140	3	20	
Butylbenzylphthalate	94.0	10.0	ug/L	100.0		94	40-140	3	20	
Chrysene	98.0	10.0	ug/L	100.0		98	40-140	3	20	
Dibenzo(a,h)Anthracene	92.8	10.0	ug/L	100.0		93	40-140	6	20	
Dibenzofuran	89.8	10.0	ug/L	100.0		90	40-140	2	20	
Diethylphthalate	92.1	10.0	ug/L	100.0		92	40-140	5	20	
Dimethylphthalate	92.2	10.0	ug/L	100.0		92	40-140	3	20	
Di-n-butylphthalate	97.6	10.0	ug/L	100.0		98	40-140	4	20	
Di-n-octylphthalate	98.7	10.0	ug/L	100.0		99	40-140	4	20	
Fluoranthene	94.3	10.0	ug/L	100.0		94	40-140	4	20	
Fluorene	96.3	10.0	ug/L	100.0		96	40-140	3	20	
Hexachlorobenzene	86.2	10.0	ug/L	100.0		86	40-140	2	20	
Hexachlorobutadiene	71.7	10.0	ug/L	100.0		72	40-140	3	20	
Hexachloroethane	79.8	5.0	ug/L	100.0		80	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	89.3	10.0	ug/L	100.0		89	40-140	8	20	
Isophorone	88.4	10.0	ug/L	100.0		88	40-140	4	20	
Naphthalene	85.8	10.0	ug/L	100.0		86	40-140	2	20	
Nitrobenzene	86.7	10.0	ug/L	100.0		87	40-140	2	20	
N-Nitrosodimethylamine	65.8	10.0	ug/L	100.0		66	40-140	2	20	
Pentachlorophenol	97.5	50.0	ug/L	100.0		98	30-130	2	20	
Phenanthrene	89.4	10.0	ug/L	100.0		89	40-140	3	20	
Phenol	93.2	10.0	ug/L	100.0		93	30-130	2	20	
Pyrene	93.7	10.0	ug/L	100.0		94	40-140	2	20	
Surrogate: 1,2-Dichlorobenzene-d4	*91.9*		ug/L	*100.0*		*92*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*141*		ug/L	*150.0*		*94*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*150*		ug/L	*150.0*		*100*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*95.1*		ug/L	*100.0*		*95*	*30-130*			
Surrogate: 2-Fluorophenol	*139*		ug/L	*150.0*		*92*	*15-110*			
Surrogate: Nitrobenzene-d5	*99.0*		ug/L	*100.0*		*99*	*30-130*			
Surrogate: Phenol-d6	*159*		ug/L	*150.0*		*106*	*15-110*			
Surrogate: p-Terphenyl-d14	*102*		ug/L	*100.0*		*102*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ICV+	Initial Calibration Verification recovery is above upper control limit (ICV+).
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B+	Blank Spike recovery is above upper control limit (B+).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 34 Dudley St Arlington MA

ESS Laboratory Work Order: 21L0726

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: The Vertex Companies - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21L0726
Date Received: 12/20/2021
Project Due Date: 12/27/2021
Days for Project: 4 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) / No / NA
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

The bags were labeled for the vials instead of on the container.

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	243914	Yes	N/A	Yes	250 mL Poly	HNO3	
1	243917	Yes	No	Yes	VOA Vial	HCl	
1	243918	Yes	No	Yes	VOA Vial	HCl	
1	243919	Yes	No	Yes	VOA Vial	HCl	
1	243926	Yes	N/A	Yes	1L Amber	NP	
1	243927	Yes	N/A	Yes	1L Amber	NP	
1	243928	Yes	N/A	Yes	1L Amber	NP	
2	243915	Yes	N/A	Yes	250 mL Poly	HNO3	
2	243920	Yes	No	Yes	VOA Vial	HCl	
2	243921	Yes	No	Yes	VOA Vial	HCl	
2	243922	Yes	No	Yes	VOA Vial	HCl	
2	243929	Yes	N/A	Yes	1L Amber	NP	
2	243930	Yes	N/A	Yes	1L Amber	NP	
2	243931	Yes	N/A	Yes	1L Amber	NP	
3	243916	Yes	N/A	Yes	250 mL Poly	HNO3	
3	243923	Yes	No	Yes	VOA Vial	HCl	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: The Vertex Companies - TB

ESS Project ID: 21L0726

Date Received: 12/20/2021

3	243924	Yes	No	Yes	VOA Vial	HCl
3	243925	Yes	No	Yes	VOA Vial	HCl
3	243932	Yes	N/A	Yes	1L Amber	NP
3	243933	Yes	N/A	Yes	1L Amber	NP
3	243934	Yes	N/A	Yes	1L Amber	NP

2nd Review

Were all containers scanned into storage/lab? Initials TD

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Taylor Davies Date & Time: 12/20/21 1536

Reviewed By: [signature] Date & Time: 12/20/21 1610

CHAIN OF CUSTODY

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 2107216 | Page 1 of 1

Turn Time: ☐ >5 ☐ 5 ☒ 4 ☒ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: GW-2

☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☒ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: VERTEX
Address: 100 N. Washington St
Boston, MA 02114
Phone: 781-952-6000
Email Distribution List:
CBarbeo@vertexeng.com
tphillips@vertexeng.com

PROJECT INFORMATION

Project Name: 34 Dudley St.
Project Location: Arlington, MA
Project Number: 74303
Project Manager: Chris Barbeo
Bill to: 74303
PO#: 74303
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	SVOCs	PCBs	VOCs	RCRA Metals	TPH	Total Number of Bottles
1	12/19/21	1405	~~GRAB~~	GW	V-MW-2	X	X	X	X	X	7
2	12/19/21	1535	~~GRAB~~	GW	V-MW-3	X	X	X	X	X	7
3	12/19/21	1630	GRAB	GW	V-MW-1	X	X	X	X	X	7

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

	AG	AG	V	P	AG															
Container Volume:	1	6	2	5	6															

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: Tyler Phillips.

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only

Cooler Temperature (°C): 2.5
Ice

Comments: * Please specify "Other" preservative and containers types in this space

All RCRA 8 metals field filtered prior to sampling.

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	12/20/21	12:48			12/20/21	15:23	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Chris Carleo
The Vertex Companies
100 North Washington Street Suite 302
Boston, MA 02114

RE: 24 Dudley St Arlington MA (74303)
ESS Laboratory Work Order Number: 22A0168

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:27 pm, Jan 17, 2022

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

SAMPLE RECEIPT

The following samples were received on January 10, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for SVOC were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
22A0168-01	MW-3-20220108	Ground Water	8270D

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

PROJECT NARRATIVE

8270D Semi-Volatile Organic Compounds

D2A0155-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (114% @ 80-120%)
D2A0156-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (126% @ 80-120%), Pentachlorophenol (109% @ 80-120%)
D2A0156-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).**
	2,4-Dinitrophenol (26% @ 20%)
D2A0156-CCV1	**Initial Calibration Verification recovery is below lower control limit (ICV-).**
	Aniline
DA21010-BS1	**Blank Spike recovery is above upper control limit (B+).**
	2,4-Dinitrophenol (131% @ 30-130%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22A0168-01**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

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

Signature: Laurel Stoddard Date: January 14, 2022

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA
Client Sample ID: MW-3-20220108
Date Sampled: 01/08/22 10:00
Percent Solids: N/A
Initial Volume: 980
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 22A0168
ESS Laboratory Sample ID: 22A0168-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: TJ
Prepared: 1/11/22 10:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Pyrene	ND (10.2)		8270D		1	01/12/22 12:01	D2A0155	DA21010

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*84 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*97 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*81 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*90 %*		*30-130*
Surrogate: 2-Fluorophenol	*73 %*		*15-110*
Surrogate: Nitrobenzene-d5	*83 %*		*30-130*
Surrogate: Phenol-d6	*85 %*		*15-110*
Surrogate: p-Terphenyl-d14	*90 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DA21010 - 3520C										
Blank										
1,2,4-Trichlorobenzene	ND	10.0	ug/L							
1,2-Dichlorobenzene	ND	10.0	ug/L							
1,3-Dichlorobenzene	ND	10.0	ug/L							
1,4-Dichlorobenzene	ND	10.0	ug/L							
2,4,5-Trichlorophenol	ND	10.0	ug/L							
2,4,6-Trichlorophenol	ND	10.0	ug/L							
2,4-Dichlorophenol	ND	10.0	ug/L							
2,4-Dimethylphenol	ND	50.0	ug/L							
2,4-Dinitrophenol	ND	50.0	ug/L							
2,4-Dinitrotoluene	ND	10.0	ug/L							
2,6-Dinitrotoluene	ND	10.0	ug/L							
2-Chloronaphthalene	ND	10.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylnaphthalene	ND	10.0	ug/L							
2-Methylphenol	ND	10.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3,3´-Dichlorobenzidine	ND	20.0	ug/L							
3+4-Methylphenol	ND	20.0	ug/L							
4-Bromophenyl-phenylether	ND	10.0	ug/L							
4-Chloroaniline	ND	20.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
Acenaphthene	ND	10.0	ug/L							
Acenaphthylene	ND	10.0	ug/L							
Acetophenone	ND	10.0	ug/L							
Aniline	ND	10.0	ug/L							
Anthracene	ND	10.0	ug/L							
Azobenzene	ND	20.0	ug/L							
Benzo(a)anthracene	ND	10.0	ug/L							
Benzo(a)pyrene	ND	10.0	ug/L							
Benzo(b)fluoranthene	ND	10.0	ug/L							
Benzo(g,h,i)perylene	ND	10.0	ug/L							
Benzo(k)fluoranthene	ND	10.0	ug/L							
bis(2-Chloroethoxy)methane	ND	10.0	ug/L							
bis(2-Chloroethyl)ether	ND	10.0	ug/L							
bis(2-chloroisopropyl)Ether	ND	10.0	ug/L							
bis(2-Ethylhexyl)phthalate	ND	6.0	ug/L							
Butylbenzylphthalate	ND	10.0	ug/L							
Chrysene	ND	10.0	ug/L							
Dibenzo(a,h)Anthracene	ND	10.0	ug/L							
Dibenzofuran	ND	10.0	ug/L							
Diethylphthalate	ND	10.0	ug/L							
Dimethylphthalate	ND	10.0	ug/L							
Di-n-butylphthalate	ND	10.0	ug/L							
Di-n-octylphthalate	ND	10.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DA21010 - 3520C										
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	10.0	ug/L							
Hexachlorobenzene	ND	10.0	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							
Hexachloroethane	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	10.0	ug/L							
Isophorone	ND	10.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Nitrobenzene	ND	10.0	ug/L							
N-Nitrosodimethylamine	ND	10.0	ug/L							
Pentachlorophenol	ND	50.0	ug/L							
Phenanthrene	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Pyrene	ND	10.0	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*95.8*		ug/L	*100.0*		*96*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*151*		ug/L	*150.0*		*101*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*155*		ug/L	*150.0*		*104*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*99.7*		ug/L	*100.0*		*100*	*30-130*			
Surrogate: 2-Fluorophenol	*151*		ug/L	*150.0*		*101*	*15-110*			
Surrogate: Nitrobenzene-d5	*104*		ug/L	*100.0*		*104*	*30-130*			
Surrogate: Phenol-d6	*156*		ug/L	*150.0*		*104*	*15-110*			
Surrogate: p-Terphenyl-d14	*118*		ug/L	*100.0*		*118*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	82.9	10.0	ug/L	100.0		83	40-140			
1,2-Dichlorobenzene	79.4	10.0	ug/L	100.0		79	40-140			
1,3-Dichlorobenzene	76.3	10.0	ug/L	100.0		76	40-140			
1,4-Dichlorobenzene	77.9	10.0	ug/L	100.0		78	40-140			
2,4,5-Trichlorophenol	89.4	10.0	ug/L	100.0		89	30-130			
2,4,6-Trichlorophenol	87.2	10.0	ug/L	100.0		87	30-130			
2,4-Dichlorophenol	90.2	10.0	ug/L	100.0		90	30-130			
2,4-Dimethylphenol	78.2	50.0	ug/L	100.0		78	30-130			
2,4-Dinitrophenol	131	50.0	ug/L	100.0		131	30-130			B+
2,4-Dinitrotoluene	86.9	10.0	ug/L	100.0		87	40-140			
2,6-Dinitrotoluene	86.3	10.0	ug/L	100.0		86	40-140			
2-Chloronaphthalene	85.1	10.0	ug/L	100.0		85	40-140			
2-Chlorophenol	87.4	10.0	ug/L	100.0		87	30-130			
2-Methylnaphthalene	83.9	10.0	ug/L	100.0		84	40-140			
2-Methylphenol	91.4	10.0	ug/L	100.0		91	30-130			
2-Nitrophenol	89.8	10.0	ug/L	100.0		90	30-130			
3,3´-Dichlorobenzidine	66.2	20.0	ug/L	100.0		66	40-140			
3+4-Methylphenol	188	20.0	ug/L	200.0		94	30-130			
4-Bromophenyl-phenylether	88.7	10.0	ug/L	100.0		89	40-140			
4-Chloroaniline	58.1	20.0	ug/L	100.0		58	40-140			
4-Nitrophenol	81.3	50.0	ug/L	100.0		81	30-130			
Acenaphthene	86.6	10.0	ug/L	100.0		87	40-140			

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DA21010 - 3520C										
Acenaphthylene	76.3	10.0	ug/L	100.0		76	40-140			
Acetophenone	92.6	10.0	ug/L	100.0		93	40-140			
Aniline	75.0	10.0	ug/L	100.0		75	40-140			
Anthracene	87.0	10.0	ug/L	100.0		87	40-140			
Azobenzene	90.0	20.0	ug/L	100.0		90	40-140			
Benzo(a)anthracene	93.6	10.0	ug/L	100.0		94	40-140			
Benzo(a)pyrene	80.9	10.0	ug/L	100.0		81	40-140			
Benzo(b)fluoranthene	90.7	10.0	ug/L	100.0		91	40-140			
Benzo(g,h,i)perylene	91.8	10.0	ug/L	100.0		92	40-140			
Benzo(k)fluoranthene	89.7	10.0	ug/L	100.0		90	40-140			
bis(2-Chloroethoxy)methane	91.7	10.0	ug/L	100.0		92	40-140			
bis(2-Chloroethyl)ether	97.8	10.0	ug/L	100.0		98	40-140			
bis(2-chloroisopropyl)Ether	86.6	10.0	ug/L	100.0		87	40-140			
bis(2-Ethylhexyl)phthalate	82.4	6.0	ug/L	100.0		82	40-140			
Butylbenzylphthalate	81.5	10.0	ug/L	100.0		81	40-140			
Chrysene	91.9	10.0	ug/L	100.0		92	40-140			
Dibenzo(a,h)Anthracene	92.4	10.0	ug/L	100.0		92	40-140			
Dibenzofuran	87.4	10.0	ug/L	100.0		87	40-140			
Diethylphthalate	84.4	10.0	ug/L	100.0		84	40-140			
Dimethylphthalate	86.9	10.0	ug/L	100.0		87	40-140			
Di-n-butylphthalate	90.0	10.0	ug/L	100.0		90	40-140			
Di-n-octylphthalate	80.1	10.0	ug/L	100.0		80	40-140			
Fluoranthene	92.0	10.0	ug/L	100.0		92	40-140			
Fluorene	92.2	10.0	ug/L	100.0		92	40-140			
Hexachlorobenzene	87.5	10.0	ug/L	100.0		88	40-140			
Hexachlorobutadiene	74.8	10.0	ug/L	100.0		75	40-140			
Hexachloroethane	75.5	5.0	ug/L	100.0		75	40-140			
Indeno(1,2,3-cd)Pyrene	91.6	10.0	ug/L	100.0		92	40-140			
Isophorone	86.0	10.0	ug/L	100.0		86	40-140			
Naphthalene	84.9	10.0	ug/L	100.0		85	40-140			
Nitrobenzene	87.8	10.0	ug/L	100.0		88	40-140			
N-Nitrosodimethylamine	68.8	10.0	ug/L	100.0		69	40-140			
Pentachlorophenol	103	50.0	ug/L	100.0		103	30-130			
Phenanthrene	87.3	10.0	ug/L	100.0		87	40-140			
Phenol	93.8	10.0	ug/L	100.0		94	30-130			
Pyrene	86.5	10.0	ug/L	100.0		87	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*91.0*		ug/L	*100.0*		*91*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*147*		ug/L	*150.0*		*98*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*144*		ug/L	*150.0*		*96*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*97.6*		ug/L	*100.0*		*98*	*30-130*			
Surrogate: 2-Fluorophenol	*144*		ug/L	*150.0*		*96*	*15-110*			
Surrogate: Nitrobenzene-d5	*101*		ug/L	*100.0*		*101*	*30-130*			
Surrogate: Phenol-d6	*157*		ug/L	*150.0*		*104*	*15-110*			
Surrogate: p-Terphenyl-d14	*101*		ug/L	*100.0*		*101*	*30-130*			
LCS Dup										

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DA21010 - 3520C										
1,2,4-Trichlorobenzene	79.1	10.0	ug/L	100.0		79	40-140	5	20	
1,2-Dichlorobenzene	77.8	10.0	ug/L	100.0		78	40-140	2	20	
1,3-Dichlorobenzene	75.4	10.0	ug/L	100.0		75	40-140	1	20	
1,4-Dichlorobenzene	76.3	10.0	ug/L	100.0		76	40-140	2	20	
2,4,5-Trichlorophenol	85.7	10.0	ug/L	100.0		86	30-130	4	20	
2,4,6-Trichlorophenol	81.9	10.0	ug/L	100.0		82	30-130	6	20	
2,4-Dichlorophenol	86.2	10.0	ug/L	100.0		86	30-130	5	20	
2,4-Dimethylphenol	74.1	50.0	ug/L	100.0		74	30-130	5	20	
2,4-Dinitrophenol	128	50.0	ug/L	100.0		128	30-130	2	20	
2,4-Dinitrotoluene	82.2	10.0	ug/L	100.0		82	40-140	6	20	
2,6-Dinitrotoluene	81.9	10.0	ug/L	100.0		82	40-140	5	20	
2-Chloronaphthalene	80.4	10.0	ug/L	100.0		80	40-140	6	20	
2-Chlorophenol	84.2	10.0	ug/L	100.0		84	30-130	4	20	
2-Methylnaphthalene	80.6	10.0	ug/L	100.0		81	40-140	4	20	
2-Methylphenol	87.6	10.0	ug/L	100.0		88	30-130	4	20	
2-Nitrophenol	85.1	10.0	ug/L	100.0		85	30-130	5	20	
3,3´-Dichlorobenzidine	69.4	20.0	ug/L	100.0		69	40-140	5	20	
3+4-Methylphenol	183	20.0	ug/L	200.0		92	30-130	2	20	
4-Bromophenyl-phenylether	86.0	10.0	ug/L	100.0		86	40-140	3	20	
4-Chloroaniline	60.4	20.0	ug/L	100.0		60	40-140	4	20	
4-Nitrophenol	77.9	50.0	ug/L	100.0		78	30-130	4	20	
Acenaphthene	81.8	10.0	ug/L	100.0		82	40-140	6	20	
Acenaphthylene	71.8	10.0	ug/L	100.0		72	40-140	6	20	
Acetophenone	88.5	10.0	ug/L	100.0		88	40-140	5	20	
Aniline	73.9	10.0	ug/L	100.0		74	40-140	1	20	
Anthracene	83.4	10.0	ug/L	100.0		83	40-140	4	20	
Azobenzene	86.8	20.0	ug/L	100.0		87	40-140	4	20	
Benzo(a)anthracene	93.1	10.0	ug/L	100.0		93	40-140	0.4	20	
Benzo(a)pyrene	79.7	10.0	ug/L	100.0		80	40-140	2	20	
Benzo(b)fluoranthene	88.7	10.0	ug/L	100.0		89	40-140	2	20	
Benzo(g,h,i)perylene	91.3	10.0	ug/L	100.0		91	40-140	0.5	20	
Benzo(k)fluoranthene	87.5	10.0	ug/L	100.0		87	40-140	3	20	
bis(2-Chloroethoxy)methane	87.3	10.0	ug/L	100.0		87	40-140	5	20	
bis(2-Chloroethyl)ether	93.6	10.0	ug/L	100.0		94	40-140	4	20	
bis(2-chloroisopropyl)Ether	82.5	10.0	ug/L	100.0		83	40-140	5	20	
bis(2-Ethylhexyl)phthalate	81.1	6.0	ug/L	100.0		81	40-140	2	20	
Butylbenzylphthalate	79.8	10.0	ug/L	100.0		80	40-140	2	20	
Chrysene	90.9	10.0	ug/L	100.0		91	40-140	1	20	
Dibenzo(a,h)Anthracene	92.4	10.0	ug/L	100.0		92	40-140	0.003	20	
Dibenzofuran	82.7	10.0	ug/L	100.0		83	40-140	6	20	
Diethylphthalate	79.6	10.0	ug/L	100.0		80	40-140	6	20	
Dimethylphthalate	82.7	10.0	ug/L	100.0		83	40-140	5	20	
Di-n-butylphthalate	85.6	10.0	ug/L	100.0		86	40-140	5	20	
Di-n-octylphthalate	77.2	10.0	ug/L	100.0		77	40-140	4	20	
Fluoranthene	87.1	10.0	ug/L	100.0		87	40-140	5	20	

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DA21010 - 3520C										
Fluorene	87.4	10.0	ug/L	100.0		87	40-140	5	20	
Hexachlorobenzene	84.5	10.0	ug/L	100.0		84	40-140	4	20	
Hexachlorobutadiene	71.4	10.0	ug/L	100.0		71	40-140	5	20	
Hexachloroethane	74.8	5.0	ug/L	100.0		75	40-140	0.9	20	
Indeno(1,2,3-cd)Pyrene	91.1	10.0	ug/L	100.0		91	40-140	0.6	20	
Isophorone	81.4	10.0	ug/L	100.0		81	40-140	5	20	
Naphthalene	80.8	10.0	ug/L	100.0		81	40-140	5	20	
Nitrobenzene	82.9	10.0	ug/L	100.0		83	40-140	6	20	
N-Nitrosodimethylamine	65.6	10.0	ug/L	100.0		66	40-140	5	20	
Pentachlorophenol	99.7	50.0	ug/L	100.0		100	30-130	4	20	
Phenanthrene	83.4	10.0	ug/L	100.0		83	40-140	5	20	
Phenol	89.9	10.0	ug/L	100.0		90	30-130	4	20	
Pyrene	86.7	10.0	ug/L	100.0		87	40-140	0.2	20	
Surrogate: 1,2-Dichlorobenzene-d4	*84.2*		ug/L	*100.0*		*84*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*139*		ug/L	*150.0*		*93*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*137*		ug/L	*150.0*		*91*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*89.8*		ug/L	*100.0*		*90*	*30-130*			
Surrogate: 2-Fluorophenol	*135*		ug/L	*150.0*		*90*	*15-110*			
Surrogate: Nitrobenzene-d5	*94.0*		ug/L	*100.0*		*94*	*30-130*			
Surrogate: Phenol-d6	*148*		ug/L	*150.0*		*99*	*15-110*			
Surrogate: p-Terphenyl-d14	*98.3*		ug/L	*100.0*		*98*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ICV-	Initial Calibration Verification recovery is below lower control limit (ICV-).
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
B+	Blank Spike recovery is above upper control limit (B+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: The Vertex Companies
Client Project ID: 24 Dudley St Arlington MA

ESS Laboratory Work Order: 22A0168

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: The Vertex Companies - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 22A0168
Date Received: 1/10/2022
Project Due Date: 1/17/2022
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.7 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	248132	Yes	N/A	Yes	1L Amber	NP	
1	248133	Yes	N/A	Yes	1L Amber	NP	

2nd Review
Were all containers scanned into storage/lab? Initials KL
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 1.10.22 16:38
Reviewed By: Date & Time: 1/11/22 1049

22A0168

ESS

Pace Analytical

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Page 1 of 1

Company Name: Vertex Companies
Address: 100 N. Washington St
Phone:
Project Name: Dudley St
Project Location: Arlington MA
Project Number: 74303I
Project Manager: Chris Corleo
Pace Quote Name/Number:
Invoice Recipient:
Sampled By: SAmsel

Requested Turnaround Time
7-Day [X] 10-Day [ ]
PFAS 10-Day (std) [ ] Due Date:

Rush-Approval Required
1-Day [ ] 3-Day [ ]
2-Day [ ] 4-Day [ ]

Data Delivery
Format: PDF [X] EXCEL [X]
Other:
CLP Like Data Pkg Required: [ ]
Email To: ccorleo@vertexeng.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET [ ]
NON SOXHLET [ ]

ANALYSIS REQUESTED

*Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB *	Matrix Code [1]	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	* SVOCs 8270
1	MW-3-20220108	1/8/22	10:00	Grab	GW	U		2				X

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1/10/22 11:50	Client Comments: *Report ONLY Pyrine (hdm 1/13/22)
Received by: (signature)	Date/Time: 1/10/22 11:50	
Relinquished by: (signature)	Date/Time: 1/10/22 16:16	
Received by: (signature)	Date/Time: 1.10.22 16:16	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
[X] MA MCP Required
MCP Certification Form Required
[ ] CT RCP Required
RCP Certification Form Required
[ ] MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government [ ] Municipality [ ] MWRA [ ] WRTA [ ]
Federal [ ] 21 J [ ] School [ ]
City [ ] Brownfield [ ] MBTA [ ]

Other
[ ] Chromatogram
[ ] AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.