April 3, 2020

US Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square – Suite 100 (OEP06-01)
Boston, Massachusetts 02109-3912
Attn: Ms. Shauna Little

RE: Chelsea Phase II Temporary Dewatering
250 Vale Street
Chelsea, Massachusetts
Remediation General Permit - Notice of Intent
Release Tracking Numbers (RTNs) 3-33662 and 3-21194

Dear Ms. Little,

In accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit for Dewatering Activities – Massachusetts General Permit, MAG910000, attached are the Notice of Intent (NOI) and applicable documentation as required by the US Environmental Protection Agency (USEPA) and Massachusetts Department of Environmental Protection (MassDEP) for construction site dewatering under the Remediation General Permit (RGP) for the property located at 255 Vale Street in Chelsea, Massachusetts (the Site).

Temporary dewatering is planned in support of remediation excavation activities and for the installation of subsurface utilities associated with redevelopment of the property by Fairfield Chelsea Phase II, LLC. Remediation activities will be conducted as part of a Release Abatement Measure (RAM) in accordance with the Massachusetts Contingency Plan (MCP) for the Disposal Sites identified as Release Tracking Numbers (RTNs) 3-33662 and 3-21194. The limits of the Dewatering Area are depicted on Figure 2.

Contact Information

Applicant:
Fairfield Chelsea Phase II LLC
1110 N. Gelebe Road, Suite 650
Arlington, VA 22201
Attention: Mr. Matthew Lynn
Tel: 703.474.8407

Representative of this Applicant:
The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189
Attention: Ms. Patrice Plante
Tel: 781.952.6000

Existing Site Conditions

The Site is located at the intersection of Vale Street and Carter Street in Chelsea, Massachusetts and includes 3.6 acres of land. The latitude and longitude of the Site are 42.39888 degrees north and -71.04222 degrees west. The Site is currently undeveloped. The location of the Site is shown on Figure 1, Site features and sample locations are shown on Figure 2.

Release History

Based on the available information, the release of oil and hazardous material (OHM) at the Site is related to historical urban fill and historical industrial and automotive repair operations on portions of the Site.

In 2001, lead was detected in soil and groundwater samples at concentrations exceeding MCP RCS-2 and RCGW-2 Reportable Concentrations (RCs). In addition, polynuclear aromatic hydrocarbons (PAHs) and petroleum hydrocarbons were detected in soil at concentrations exceeding the MCP RCS-2 RCs. The release was reported to the MassDEP and RTN 3-21194 was assigned. This Disposal Site associated with RTN 3-21194 includes approximately 3-acres of the Site.

In 2011, a Release Abatement Measure (RAM) Completion Report and Class C-2 Response Action Outcome (now classified as a Permanent Solution with Conditions) Report was submitted to the MassDEP. The report concluded that a condition of No Significant Risk exists for the approximately 3-acre Disposal Site. The condition of NSR was based on the results of the Method 3 Risk Assessment and implementation of an Activity and Use Limitation (AUL).

In 2015 and 2016, during due diligence activities completed on an approximately 0.6-acre portion of the Site (not included in the Disposal Site boundary for RTN 3-21194), volatile organic compounds (VOCs), heavy metals, PAHs, extractable petroleum hydrocarbon (EPH) fractions, volatile petroleum hydrocarbon (VPH) fractions, and polychlorinated biphenyls (PCBs) were detected in soil at concentrations exceeding the applicable MCP RCS-1 RCs. In addition, dissolved lead and dissolved zinc were detected in groundwater within the Disposal Site boundary for RTN 3-21194 at concentrations exceeding the applicable MCP RCGW-2 RCs.

Following the purchase of the Site by Fairfield Chelsea Phase II LLC , the release identified on the 0.6-acre portion of the Site was reported to MassDEP on July 1, 2016. The MassDEP assigned RTN 3-33662 to track the release. In July 2017, a Phase I Initial Site Investigation Report and Tier Classification was submitted to the MassDEP. The Site was classified as a Tier II Disposal Site.

Prior to the start of Site redevelopment, a RAM Plan was submitted to the MassDEP for RTNs 3-21194 and 3-33662 in April of 2018. RAM Activities include remedial response actions and earthwork activities associated with Site redevelopment. Dewatering activities are also included in the RAM Plan. Note, although the RAM Plan was submitted in April 2018, RAM activities did not commence until January 2020.

In August of 2019, RAM Status Report No. 3 and RAM Plan Modification were submitted to the MassDEP. The RAM Plan Modification modifies the boundaries of the RTN 3-33662 Disposal Site to include the entirety of land owned by Fairfield Chelsea Phase II LLC, including the limits of the RTN 3-21194 Disposal Site and the western portion of Vale Street (to the center line), the southern portion of Locust Street (to the center line), and the northern portion of Carter Street (to the center line). Vale, Locust, and Carter Streets are private roads, and the half portions of each road are owned by Fairfield Chelsea Phase II LLC.

Copies of available documentation associated with Site RTNs are publicly available on the MassDEP Searchable Sites Database[1].

Proposed Scope of Site Development

Current redevelopment plans for the Site include the construction of a multi-story residential building. The proposed redevelopment includes both pedestal and street-level parking, landscaped areas, walkways, stormwater controls, and new utilities.

As part of the Site work and as specified in the RAM Plan prepared by VERTEX, dated April 2018, approximately 50 CY of soil will be excavated for remedial purposes and up to 3,000 cubic yards of excess soil may be generated.

National Historic Preservation Act Eligibility – Surrounding Historical Places

A search for historic properties within the Site vicinity and immediate surrounding areas was performed on the National Register of Historic Places website. No listings were found for the Site property or within the vicinity of the Site.

Endangered Species Act Eligibility

The United States Fish and Wildlife (FWS) database of Federally-Listed Endangered and Threatened Species in Suffolk County, Massachusetts lists the Northern Long-eared Bat, Piping Plover, and Red Knot as threatened. The Piping Plover is found on coastal beaches in Revere and Winthrop; the Red Knot is found on coastal beaches, rocky shores, sand and mud flats; and the Northern Long-eared Bat is found statewide in mines and caves in the winter and in forested habitats in the summer. Based on the Site's location in a mixed-use commercial-industrial-residential area and not on a coastal beach or rocky shore, and the absence of mud flats, sand, caves, mines, and forested areas in the Site vicinity, the threatened species are not expected to be encountered on-site. Therefore, the threatened species are not in proximity of the discharge area.

[1] http://public.dep.state.ma.us/SearchableSites2/Search.aspx

A site-specific resource list was obtained from the U.S. FWS, as well. This list confirmed that no endangered species or fisheries are within the vicinity of the Site. The initial determination from the U.S. FWS is attached in Appendix B.

Since the proposed discharge is to a saltwater receiving water, the National Marine Fisheries Service (NMFS) list of threatened and endangered species was reviewed for critical habitats along Island End River and Mystic River. No species were listed with critical habitats in these water bodies.

Summary of Soil and Groundwater Analyses

Previous investigations indicate that soils underlying the Site consist of urban fill that is generally described as loose to dense, dark brown and gray coarse to fine sand with varying amounts of gravel, silt, ash, cinder, coal, wood, bricks and concrete. The urban fill generally ranges in thickness from 1 to 7+ feet. Underlying the urban fill is an organic deposit that is described as silty sand and peat. The thickness of the organic deposit ranges up to 9 feet. Beneath the organic deposit, the explorations encountered a thick marine sequence that consists of silty clay (locally known as the Boston Blue Clay) to depths of 98+ feet below grade surface (bgs). Underlying the clay in at least one location was a glacio-marine deposit consisting of medium dense gray clayey sand with gravel.

Between 2001 and 2002, subsurface investigations were completed within the limits of the portion of the Site identified as RTN 3-21194. Lead, TPH, and VOCs were detected in soil, and lead, VOCs, PAHs, and VPH were detected in groundwater at concentrations exceeding applicable MCP RCs.

In 2015 and 2016, VERTEX conducted subsurface investigations to assess impacts to soil and groundwater from historical operations at the Site. The investigations included collection and analysis of soil and groundwater samples for chemicals of potential concern (COPCs), and analysis of soil disposal characterization parameters. The sample results detected metals, VOCs, PCBs, semi-volatile organic compounds (SVOCs), EPH, and VPH in soil at concentrations exceeding MCP Method 1 standards. Dissolved lead and dissolved zinc were detected in groundwater at concentrations exceeding RCGW-2 standards.

Construction Site Dewatering and Treatment

The proposed dewatering will be conducted in support of excavation for the installation of subsurface utilities associated with redevelopment of the Site, and as part of the Site remediation activities. To treat the dewatered material, a groundwater treatment system will be used, likely consisting of a baffled frac tank with a blower/compressor for air/oxidation, optional pH adjustment, bag filters, and Granular Activated Carbon (GAC), as shown in Figure 3. The anticipated pump rates are less than 100 gallons per minute (gpm). The treatment system will contain the appropriate sample ports for influent and effluent sampling and a flow meter/totalizer to maintain the dewatering treatment system and the discharge. The dewatering treatment system is designed to meet the permit requirements for total suspended solids, pH, temperature, and other constituents (as required) in the effluent stream prior to discharge to the storm drain. Once operations begin, a licensed wastewater treatment plant operator will conduct system monitoring, as required.

The required sampling and testing of the dewatering effluent and flows will be reported as required by the permit. If necessary, adjustments to the treatment system and/or dewatering procedures, will be conducted to comply with the Permit Discharge Criteria.

Receiving Waters Information

The proposed discharge location for the RGP is the Island End River (IE-3), as shown on the "City of Chelsea, Massachusetts – Map of Existing Sewer and Drain System" included in Appendix C. The Island End River ultimately discharges to the Mystic River (MA71-03), which is classified as a SB (CSO) receiving water. As shown on the "Grading and Drainage Plans" included in Appendix D, effluent water will be discharged to existing catch basins located within the redevelopment project which connect to the Island End River/Mystic River.

Based on information generated using the USEPA's StreamStats database, a seven day-ten-year low flow (7Q10) for the receiving water was calculated to be 0.021 cubic feet per second (ft^3/s) or 0.0136 million gallons per day (MGD). Utilizing the formula provided in Appendix V of the RGP, a dilution factor (DF) of 1 was calculated for the effluent stream. Confirmation was received via email from Ms. Cathy Vakalopoulos with the MassDEP for this DF. A copy of this correspondence is included in Appendix E.

Analytical Testing and Applicable Standards

USEPA uses two standards to evaluate and calculate the effluent discharge standards. These are the technology-based effluent limitation (TBEL) and the water quality-based effluent limitation (WQBEL) and are published in the RGP. In order to identify the applicable criteria (TBEL or WQBEL), USEPA developed a calculator spreadsheet. The calculation evaluates the water quality of the receiving waters and the Site contaminants, the dewatering system effluent flow rate (50 GPM), and stream flow rate to select analyte specific criteria. A copy of this spreadsheet was submitted as an attachment to the electronic submittal for this proposed discharge, and was utilized to prepare the table summarizing the analytical results of the influent and effluent water samples.

Analytical testing of water was performed to aid in the design required for the treatment system to meet applicable discharge parameters. VERTEX collected and analyzed representative samples of Site groundwater representing treatment system influent levels, as well as a sample of the receiving water, which are summarized in the attached Table 1 – Summary of Groundwater/Receiving Water Analytical Results. Laboratory analytical reports are included as Appendix F. The samples of the dewatering influent (referred to as VTX-NPDES-1 and VTX-NPDES-2) were obtained from temporary groundwater monitoring wells installed within test pits excavated at the Site, and the receiving water sample (Island End Outlet) was obtained directly from the Island End River adjacent to the stormwater outfall. The samples were analyzed for the presence of analytes referenced in Table 2 – Chemical Specific Effluent Limitations and Monitor-Only Requirements outlined in the final RGP and compared to their applicable TBELs and WQBELs.

Laboratory analysis of sample VTX-NPDES-1 detected concentrations of Total Suspended Solids and cyanide at levels exceeding their applicable effluent limitations. Copper and lead were detected in each of the two influent samples as well as the receiving water sample at levels above the applicable TBEL and WQBELs. Additionally, acetone was detected in each of the two influent samples at concentrations above the applicable TBEL and WQBELs.

Ammonia, chloride, SVOCs, chromium, iron, nickel, zinc, toluene, and xylenes were also detected in the influent samples, but concentrations were below applicable standards. Ammonia and naphthalene were detected in the receiving water at concentrations below applicable standards as well.

The treatment system will be designed and operated in a manner which removes the detected contaminants from the influent groundwater to concentrations below allowable discharge levels.

A summary of the laboratory analytical data, the USEPA calculation sheets, and the laboratory analytical report are attached.

Best Management Practices Plan (BMPP)

BMPP will be developed by the treatment system operator prior to the start of work and maintained on-site during dewatering activities. Construction personnel will adhere to the procedures identified in the BMPP.

Summary and Conclusions

The purpose of this letter is to summarize Site environmental conditions and groundwater data to support a NOI to discharge under the RGP, for discharge of dewatered groundwater which will be encountered during the subsurface utility installation work and remediation activities for the property located at 255 Vale Street in Chelsea, Massachusetts. The groundwater testing results reported in this application have been provided to the Site owner.

Based on the results of the above referenced groundwater analysis, treatment of construction dewatering will be necessary to meet the effluent limits. The treatment system is designed to meet the permit requirements for suspended solids, pH, and other constituents (as required) in the effluent stream prior to discharge to catch basins located within the redevelopment project, which connect to the Island End River/Mystic River. In addition, should the effluent monitoring results identify concentrations of contaminants that are in excess of the limits established by the RGP, additional mitigative measures will be implemented to meet the allowable discharge limits.

Thank you very much for your consideration of this NOI. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely,

The Vertex Companies, Inc.

Chelsea Hatch, EIT
Environmental Engineer

Patrice A. Plante
Senior Project Manager

Sean E. Dinneen
Division Manager – Remediation

Attachments:

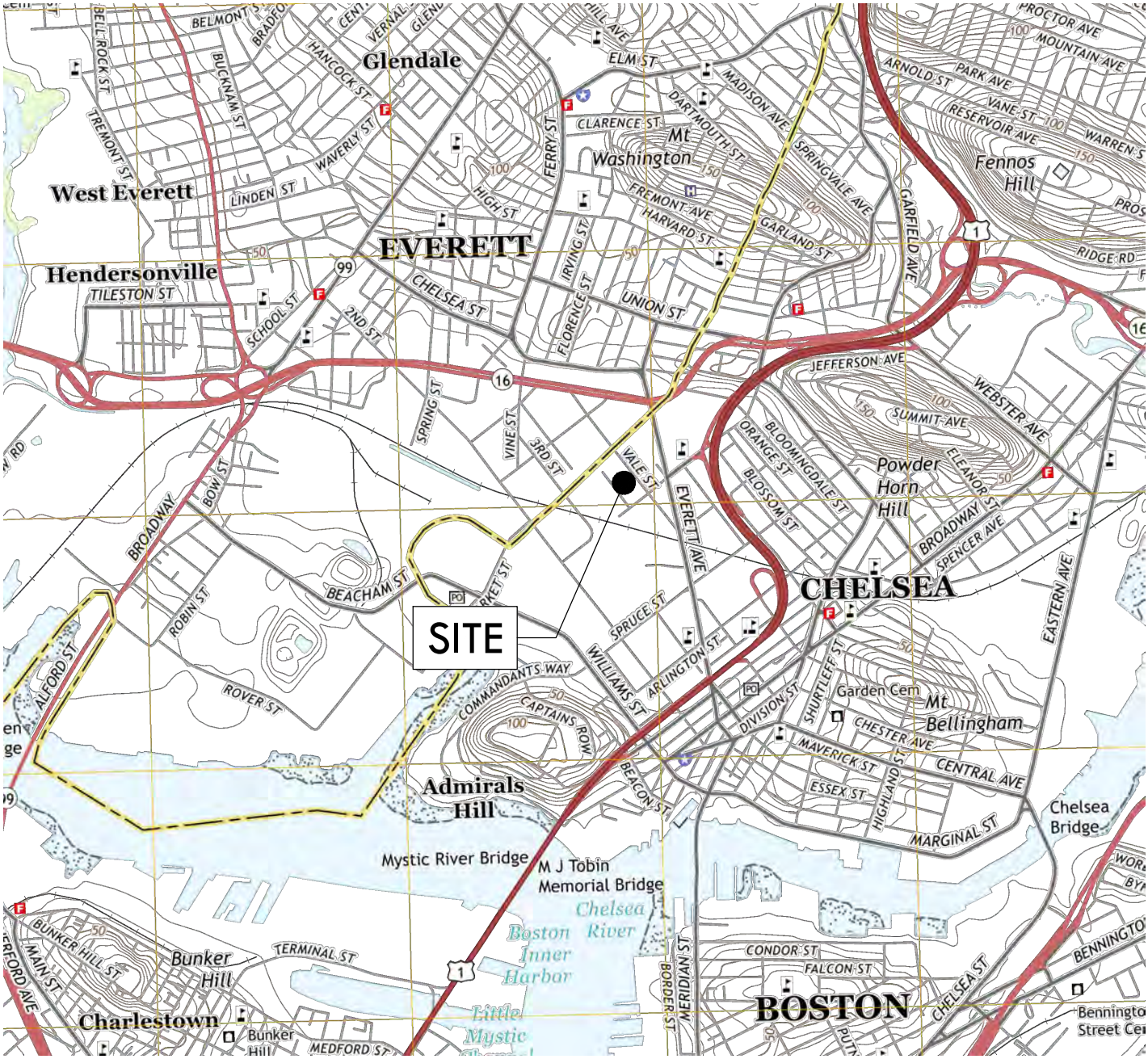
Figure 1: Site Locus
Figure 2: Site Schematic
Figure 3: Treatment System Design

Table 1: RGP Analytical Results
Table 2: USEPA WQBEL Calculation Sheet

Appendix A: National Historic Preservation Act Eligibility Documentation
Appendix B: Endangered Species Act Eligibility Documentation
Appendix C: City of Chelsea, MA – Map of Existing Sewer & Drain System
Appendix D: Utility Site Plans
Appendix E: MassDEP Dilution Factor Correspondence
Appendix F: Laboratory Analytical Report
Appendix G: Notice of Intent

cc: Massachusetts Department of Environmental Protection
City of Chelsea Public Works

FIGURES



SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP BOSTON, BOSTON NORTH QUADRANGLE, BOSTON NORTH, MA, 7.5 MINUTE SERIES (2015)

SCALE: 1" = 2000' When printed at 8X11

FIGURE 1 - SITE LOCUS MAP

FAIRFIELD CHELSEA PHASE II
250 VALE STREET
CHELSEA, MASSACHUSETTS

File No.:	42090
Date:	MARCH 20020
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FIGURE 1

VERTEX®

LEGEND:

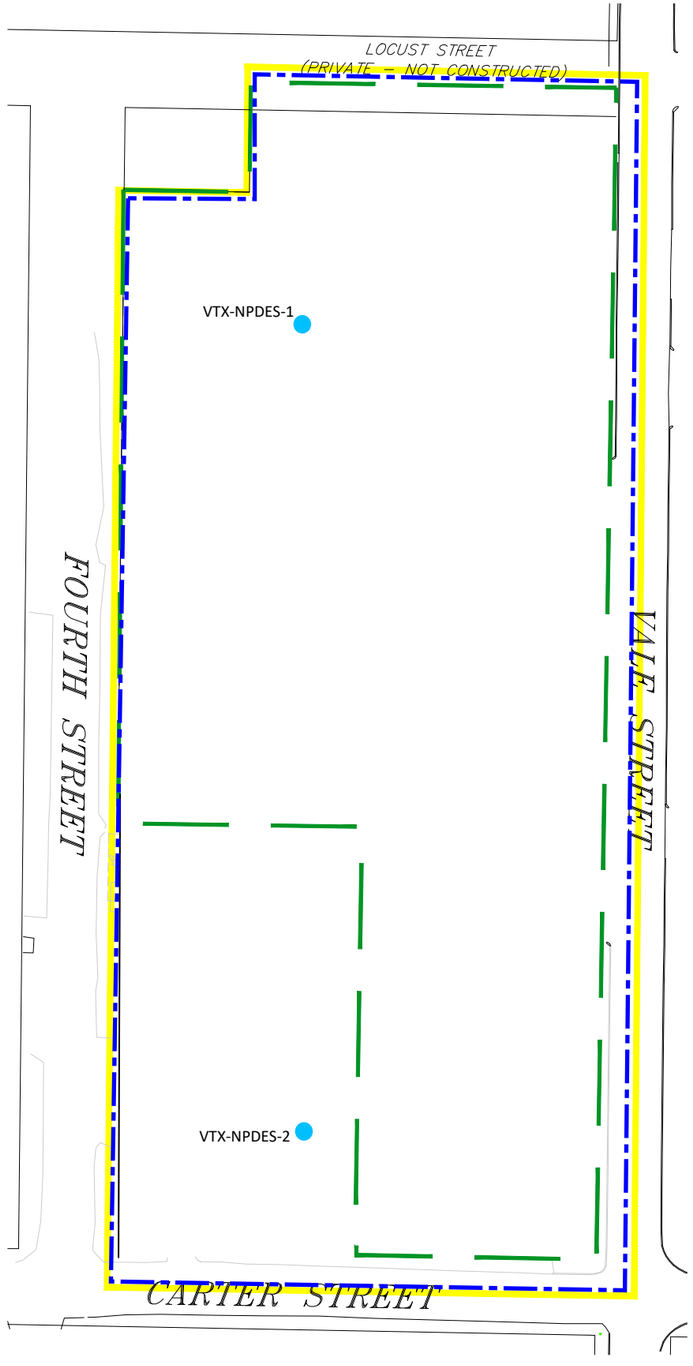
RAM /DEWATERING AREA

DISPOSAL SITE BOUNDARY RTN 3-33662

DISPOSAL SITE BOUNDARY RTN 3-21194

PARCEL LINE

VTX-NPDES-1 TEMPORARY MONITORING WELL (APPROXIMATE)



0' 80' 160' 240'

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VERTEX

REVISIONS

SITE LAYOUT

FAIRFIELD CHELSEA PHASE II
250 VALE STREET
CHELSEA, MASSACHUSETTS

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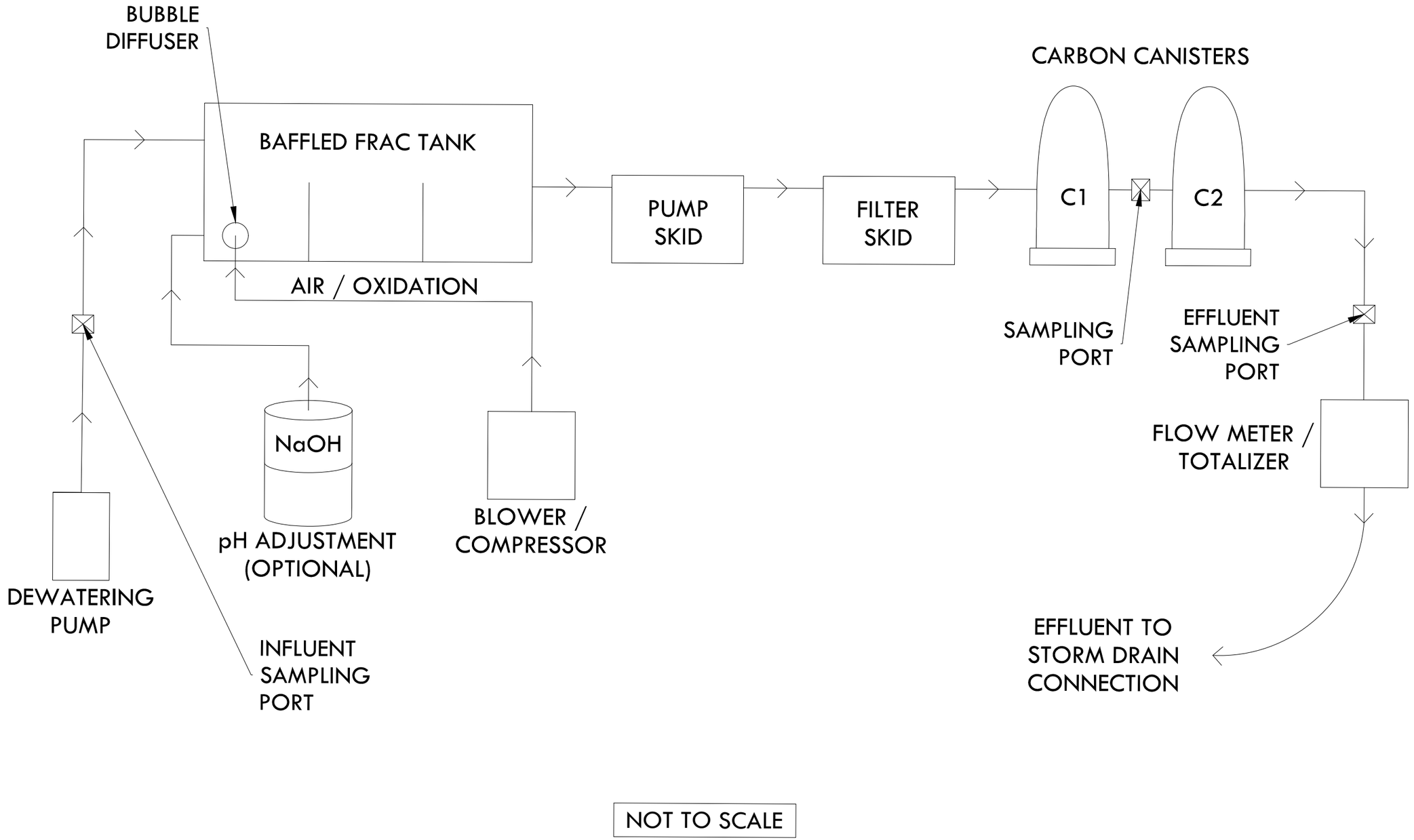
FIGURE 2



NOT TO SCALE

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FIGURE 3

TREATMENT SYSTEM DESIGN

FAIRFIELD CHELSEA PHASE II
255 VALE STREET
CHELSEA, MASSACHUSETTS

TABLES

TABLE 1 - SUMMARY OF GROUNDWATER/RECEIVING WATER ANALYTICAL RESULTS
200 VALE STREET
CHELSEA, MASSACHUSETTS
VERTEX PROJECT No. 42090

LOCATION					ISLAND END OUTLET	VTX-NPDES-1	VTX-NPDES-2
SAMPLING DATE					2/14/2020	2/13/2020	2/13/2020
LAB SAMPLE ID					L2006810-01	L2006633-02	L2006633-01
SAMPLE TYPE	USEPA RGP Effluent Limitations				WATER	WATER	WATER
SAMPLE DEPTH (ft.)							
				Units			
Anions by Ion Chromatography	TBEL	WQBEL	Compliance Level				
Chloride	Report			ug/l	15900000	435000	684000
General Chemistry							
Chromium, Trivalent	**323**	118.9		ug/l	ND(10)	ND(10)	ND(10)
Solids, Total Suspended	30000			ug/l	13000	200000	7400
Cyanide, Total	178000	1.2	**5**	ug/l	ND(5)	10	ND(5)
Chlorine, Total Residual	200	**8.9**	**50**	ug/l	ND(20)	ND(20)	ND(20)
Nitrogen, Ammonia	Report			ug/l	126	12800	4900
TPH, SGT-HEM	5000			ug/l	ND(4000)	ND(4000)	ND(4000)
Phenolics, Total	**1080**	357		ug/l	ND(30)	ND(30)	ND(30)
Chromium, Hexavalent	**323**	60		ug/l	ND(10)	ND(10)	ND(10)
Microextractables by GC							
1,2-Dibromoethane	NC	NC		ug/l	ND(0.01)	ND(0.01)	ND(0.01)
Polychlorinated Biphenyls by GC							
Aroclor 1016	NC	NC		ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Aroclor 1221	NC	NC		ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Aroclor 1232	NC	NC		ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Aroclor 1242	NC	NC		ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Aroclor 1248	NC	NC		ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Aroclor 1254	NC	NC		ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Aroclor 1260	NC	NC		ug/l	ND(0.2)	ND(0.2)	ND(0.2)
Total PCBs	0.000064		0.5	ug/l	ND(0.25)	ND(0.25)	ND(0.25)
Semivolatile Organics by GC/MS							
Bis(2-ethylhexyl)phthalate	NC	NC		ug/l	ND(2.2)	ND(2.2)	ND(2.2)
Butyl benzyl phthalate	NC	NC		ug/l	ND(5)	ND(5)	ND(5)
Di-n-butylphthalate	NC	NC		ug/l	ND(5)	ND(5)	ND(5)
Di-n-octylphthalate	NC	NC		ug/l	ND(5)	ND(5)	ND(5)
Diethyl phthalate	NC	NC		ug/l	ND(5)	ND(5)	ND(5)
Dimethyl phthalate	NC	NC		ug/l	ND(5)	ND(5)	ND(5)
Semivolatile Organics by GC/MS-SIM							
Acenaphthene	NC	NC		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Fluoranthene	NC	NC		ug/l	ND(0.1)	ND(0.1)	0.12
Naphthalene	20			ug/l	0.13	0.44	ND(0.1)
Benzo(a)anthracene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Benzo(a)pyrene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Benzo(b)fluoranthene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Benzo(k)fluoranthene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Chrysene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Acenaphthylene	NC	NC		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Anthracene	NC	NC		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Benzo(ghi)perylene	NC	NC		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Fluorene	NC	NC		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Phenanthrene	NC	NC		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Dibenzo(a,h)anthracene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Indeno(1,2,3-cd)pyrene	As Total Group I	0.0045		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Pyrene	NC	NC		ug/l	ND(0.1)	ND(0.1)	0.11
Pentachlorophenol	1			ug/l	ND(1)	ND(1)	ND(1)
Total Group I PAHs	1	As Individual		ug/l	ND(0.1)	ND(0.1)	ND(0.1)
Total Group II PAHs	100			ug/l	0.13	0.44	0.23
Total Metals							
Antimony, Total	**206**	761		ug/l	ND(40)	4.99	14.05
Arsenic, Total	**104**	43		ug/l	ND(10)	6.19	4.11
Cadmium, Total	**10.2**	10.5		ug/l	ND(2)	ND(0.2)	0.31
Chromium, Total	NC	NC		ug/l	ND(10)	1.79	ND(1)
Copper, Total	242	**3.7**		ug/l	21.12	67.79	64.13
Iron, Total	**5000**	NC		ug/l	1090	4520	438
Lead, Total	160	**8.5**		ug/l	29.12	23.07	20.36
Mercury, Total	**0.739**	1.31		ug/l	ND(0.2)	ND(0.2)	ND(0.2)
Nickel, Total	1450	**9.8**		ug/l	ND(20)	15.52	11.51
Selenium, Total	**235.8**	85		ug/l	ND(50)	ND(5)	ND(5)

TABLE 1 - SUMMARY OF GROUNDWATER/RECEIVING WATER ANALYTICAL RESULTS
200 VALE STREET
CHELSEA, MASSACHUSETTS
VERTEX PROJECT No. 42090

LOCATION					ISLAND END OUTLET	VTX-NPDES-1	VTX-NPDES-2
SAMPLING DATE					2/14/2020	2/13/2020	2/13/2020
LAB SAMPLE ID					L2006810-01	L2006633-02	L2006633-01
SAMPLE TYPE	USEPA RGP Effluent Limitations				WATER	WATER	WATER
SAMPLE DEPTH (ft.)							
				Units			
Silver, Total	**35.1**	2.7		ug/l	ND(4)	ND(0.4)	ND(0.4)
Zinc, Total	**420**	102		ug/l	ND(100)	27.84	94.86
Volatile Organics by GC/MS							
Methylene chloride	**4.6**			ug/l	ND(1)	ND(1)	ND(1)
1,1-Dichloroethane	**70**			ug/l	ND(1.5)	ND(1.5)	ND(1.5)
Carbon tetrachloride	**4.4**	1.9		ug/l	ND(1)	ND(1)	ND(1)
1,1,2-Trichloroethane	**5**			ug/l	ND(1.5)	ND(1.5)	ND(1.5)
Tetrachloroethene	**5**	3.9		ug/l	ND(1)	ND(1)	ND(1)
1,2-Dichloroethane	**5**			ug/l	ND(1.5)	ND(1.5)	ND(1.5)
1,1,1-Trichloroethane	**200**			ug/l	ND(2)	ND(2)	ND(2)
Benzene	**5**			ug/l	ND(1)	ND(1)	ND(1)
Toluene	NC	NC		ug/l	ND(1)	1.6	ND(1)
Ethylbenzene	NC	NC		ug/l	ND(1)	ND(1)	ND(1)
Vinyl chloride	**2**			ug/l	ND(1)	ND(1)	ND(1)
1,1-Dichloroethene	**3.2**			ug/l	ND(1)	ND(1)	ND(1)
cis-1,2-Dichloroethene	**70**			ug/l	ND(1)	ND(1)	ND(1)
Trichloroethene	**5**			ug/l	ND(1)	ND(1)	ND(1)
1,2-Dichlorobenzene	**600**			ug/l	ND(5)	ND(5)	ND(5)
1,3-Dichlorobenzene	**320**			ug/l	ND(5)	ND(5)	ND(5)
1,4-Dichlorobenzene	**5**			ug/l	ND(5)	ND(5)	ND(5)
p/m-Xylene	NC	NC		ug/l	ND(2)	4.6	ND(2)
o-xylene	NC	NC		ug/l	ND(1)	2.6	ND(1)
Xylenes, Total	NC	NC		ug/l	ND(1)	7.2	ND(1)
Acetone	7.97			ug/l	ND(10)	84	140
Methyl tert butyl ether	**70**	24		ug/l	ND(10)	ND(10)	ND(10)
Tert-Butyl Alcohol	120			ug/l	ND(100)	ND(100)	ND(100)
Tertiary-Amyl Methyl Ether	90			ug/l	ND(20)	ND(20)	ND(20)
Total BTEX	100			ug/l	ND	10.8	ND
Volatile Organics by GC/MS-SIM							
1,4-Dioxane	200			ug/l	ND(50)	ND(50)	ND(50)

Notes:

- ND = Not Detected above laboratory reporting limits shown in parenthesis
- NC = No applicable criteria
- - = Not Analyzed
- Full analytical results, including QA/QC information and data flags, are detailed in the laboratory analytical report
- Samples collected by The Vertex Companies, Inc.

Appendix A
National Historic Preservation Act Eligibility Documentation

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: 4th St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: Carter St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
CLS.1008	Atwood and McManus Box Company - Lumber Storehouse	115 Carter St	Chelsea	1909

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: Vale St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Appendix B
Endangered Species Act Eligibility Documentation

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Chelsea Parcel 2 Redevelopment

LOCATION

Middlesex and Suffolk counties, Massachusetts

DESCRIPTION

This project includes the remediation and redevelopment of the previously vacant parcel located at 200 Vale Street in Chelsea, MA. Approximately 3 acres will be disturbed over the course of the construction, and dewatering will be conducted under the NPDES Remediation General Permit.

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
American Oystercatcher Haematopus palliatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper Calidris subruficollis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere

Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Dunlin Calidris alpina arcticola This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
King Rail Rallus elegans This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Least Tern Sterna antillarum This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 20 to Sep 10
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl asio otus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds elsewhere
Nelson's Sparrow Ammodramus nelsoni This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Sep 5
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Purple Sandpiper Calidris maritima This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Red-throated Loon Gavia stellata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Seaside Sparrow Ammodramus maritimus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 20

Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Snowy Owl Bubo scandiacus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

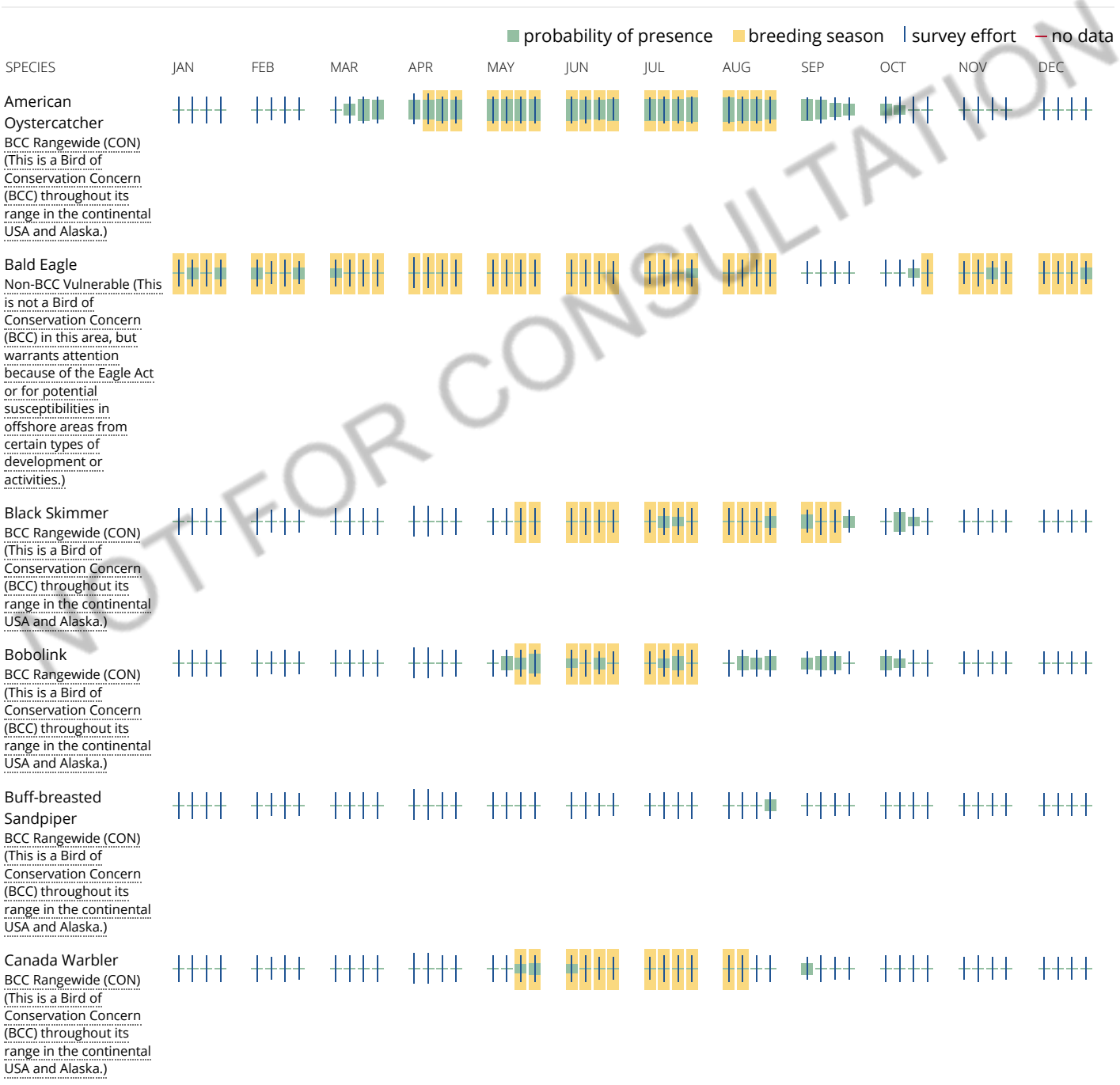
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

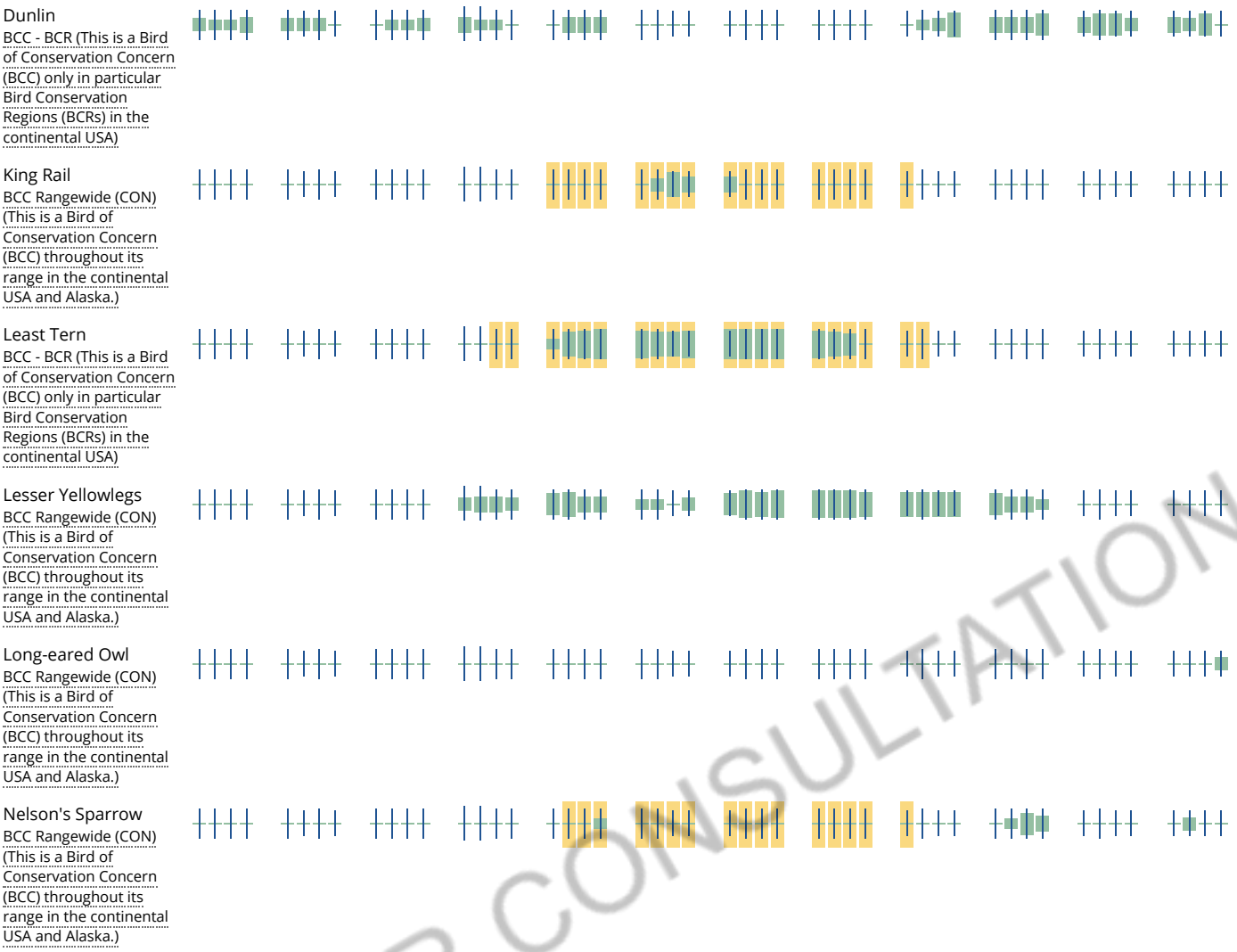
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

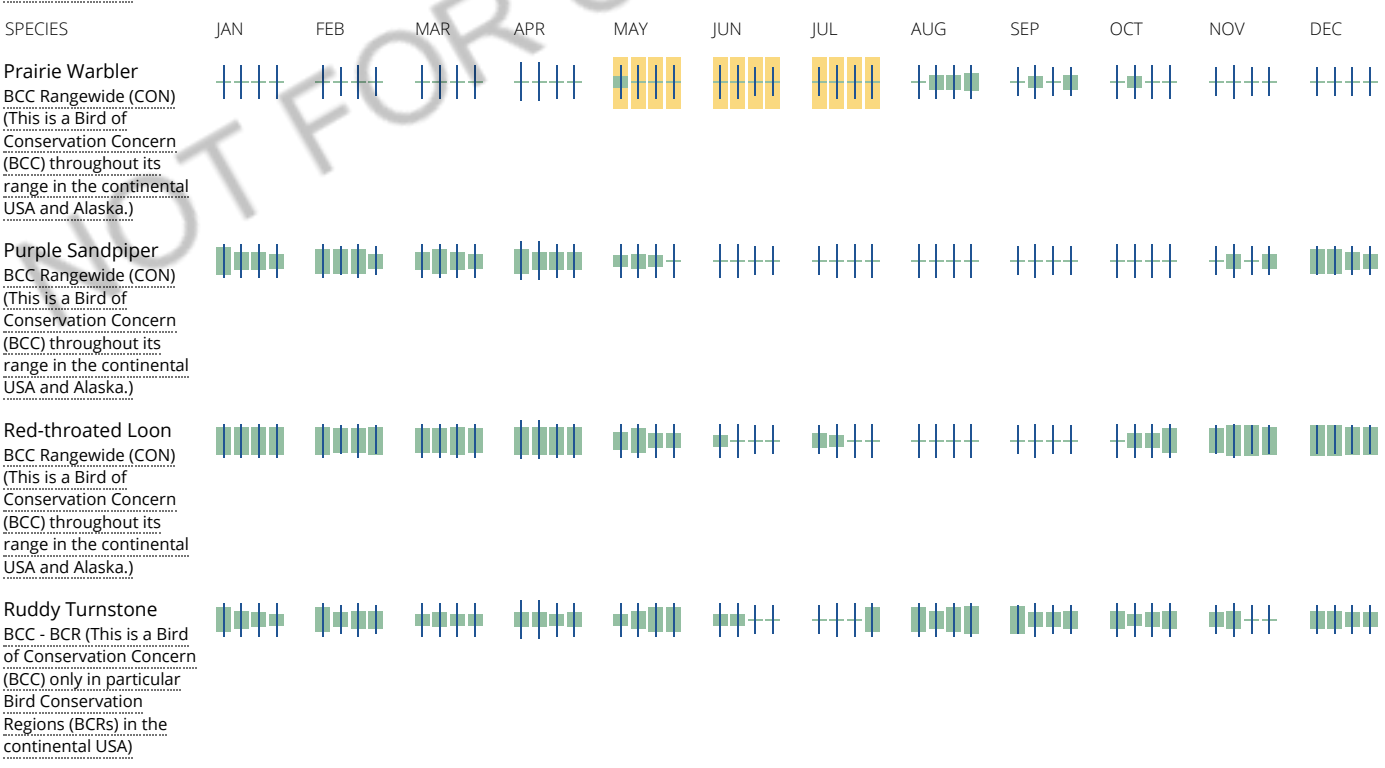
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

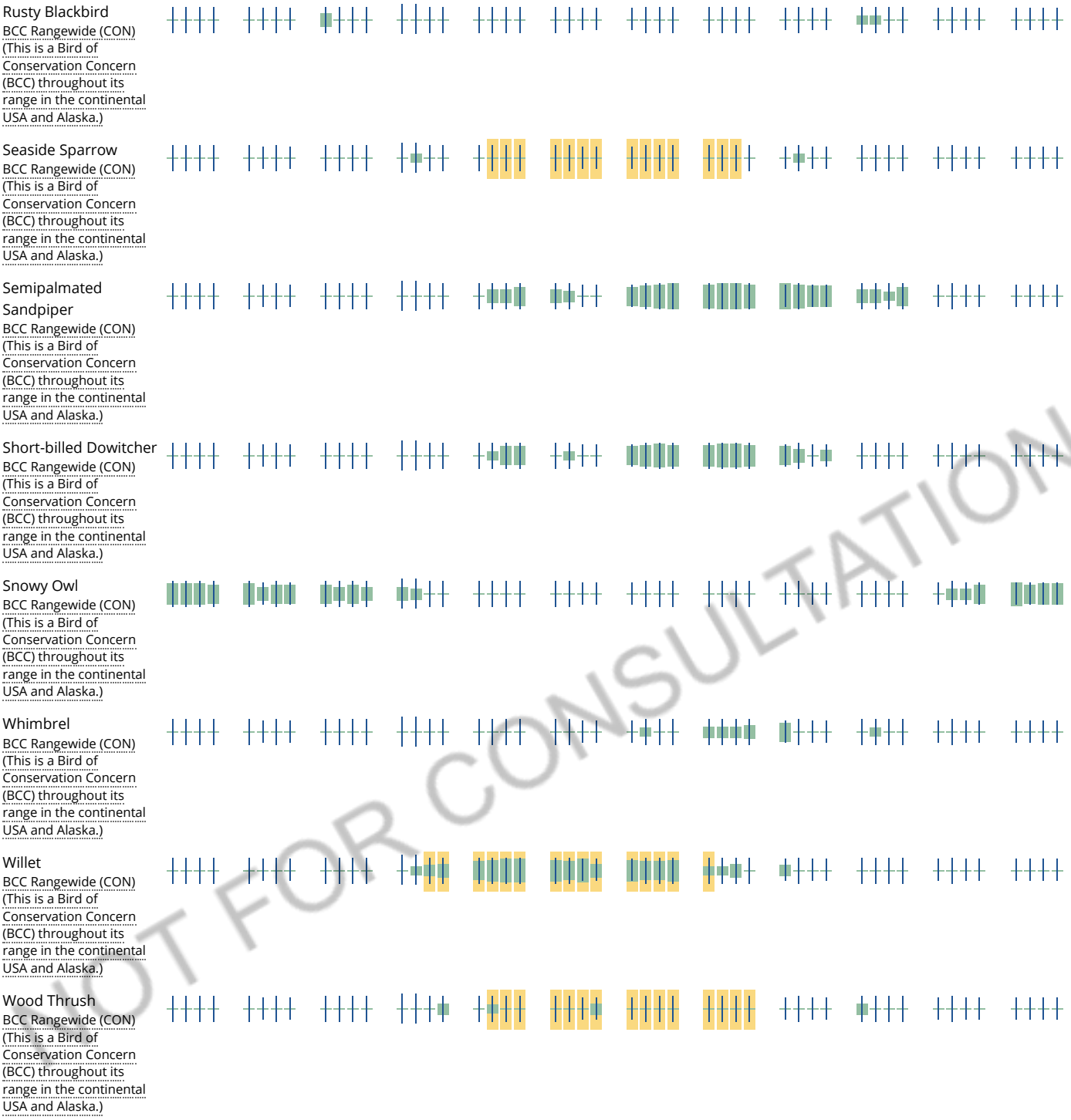
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.









Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

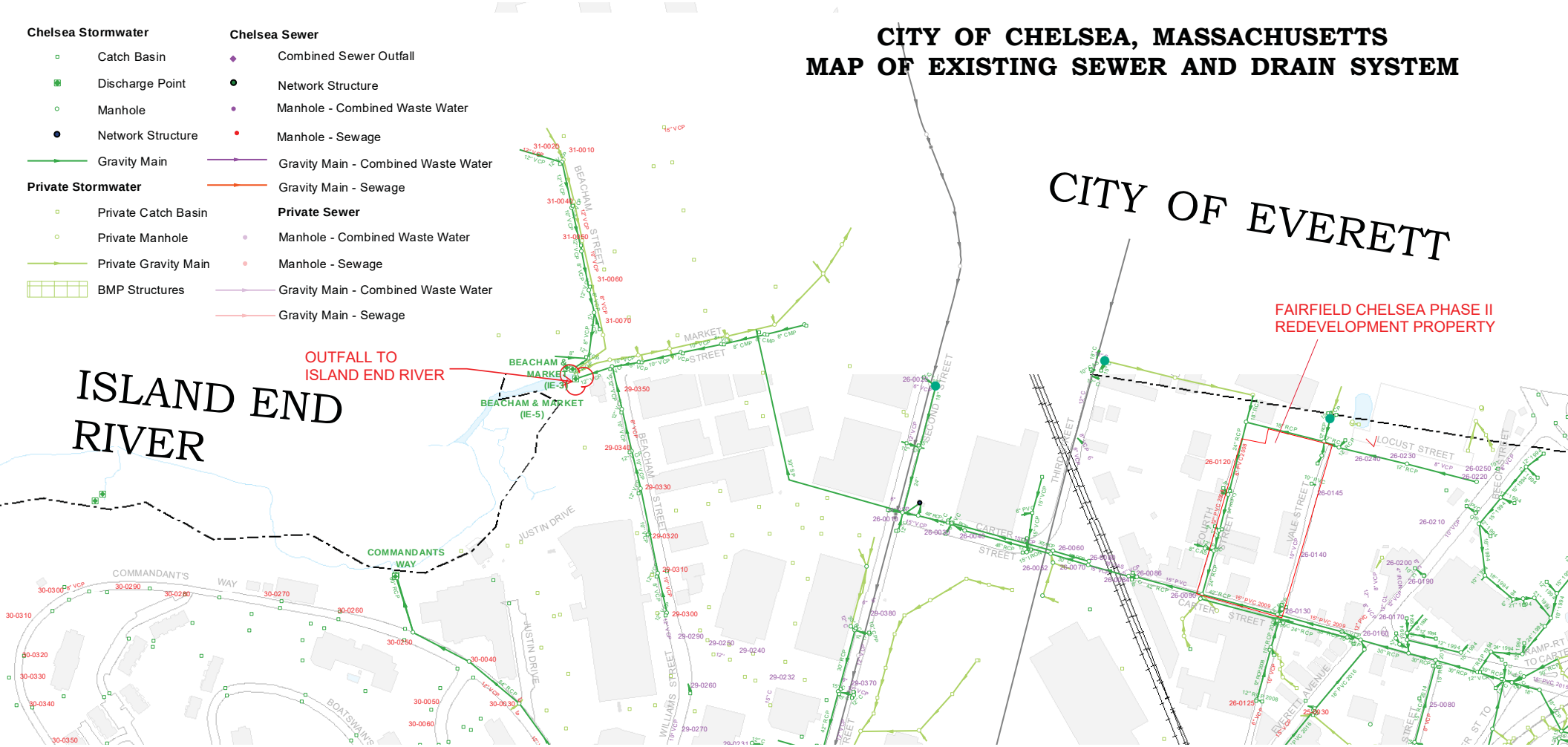
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C
City of Chelsea, MA – Map of Existing Sewer & Drain System

CITY OF CHELSEA, MASSACHUSETTS
MAP OF EXISTING SEWER AND DRAIN SYSTEM



Appendix D
Utility Site Plans

vhb.com
vhb
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770

= PROPOSED CATCHBASIN WITHIN ROW DISCHARGING TO MUNCIPAL DRANAGE SYSTEM

= PROPOSED CATCHBASIN ON-SITE, DISCHARGING TO MUNCIPAL DRAINAGE SYSTEM

Fairfield Chelsea
Phase II

DRAINAGE CONNECTION TO BE COORDINATED WITH RECONSTRUCTION OF LOCUST AVENUE. CONNECTIONS TO PROPOSED LOCUST AVE INFRASTRUCTURE TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION (TYP)

GRAVITY BLOCK RETAINING WALL: CONSTRUCTION TO BE COORDINATED WITH ABUTTER

MATCH LINE

LOCUST STREET

VALE STREET

FOURTH STREET

CARTER STREET

EXISTING CARTER STREET DRAINAGE TO REMAIN

CONNECTION TO MUNCIPAL DRAINAGE

FLOOD GATE

DELIVERIES ONLY

CONNECTION TO EXISTING CARTER STREET DRAINAGE TO BE FIELD VERIFIED (TYP)

DRAINAGE CONNECTION TO BE CONFIRMED WITH CITY

ACCESS OPENING (TYP)

SUBSURFACE DETENTION SYSTEM #2
STORMTRAP SINGLE TRAP 4-6 UNITS OR EQUIVALENT
(7,770 CF OF STORAGE - 90'L X 21.8'W X 5.0'H)
SYSTEM INVERT = -2.9

PHASE II RESIDENTIAL
114,337 SF
5 STORIES
256 UNITS
FFE = 5.8

EXIST CATCH BASINS ALONG PROPOSED 4TH AVE CURB LINE TO BE REPLACED WITH CURB INLET CATCH BASINS (TYP)

INV=-1.1
DRAINAGE CONNECTIONS TO FOURTH STREET INFRASTRUCTURE TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION (TYP)

INV=-0.9

INV=-0.7

MUNCIPAL DRAINAGE SYSTEM CONTINES EAST, DOWN CARTER STREET EVENTUALLY DISCHARGING TO ISLAND END RIVER AT MARKET AND BECHAM STREETS

0 10 20 40 Feet

Fairfield at Chelsea
Vale Street
Chelsea, Massachusetts

No.	Revision	Date	Appvd.
1	Issued for DPW Stormwater Approval	8/17/2017	CPN

Designed by JRM | Checked by CPN

Issued for: Local Approvals | Date: August 3, 2017

Not Approved for Construction

Drawing Title: Grading and Drainage Plan

Drawing Number: C-4.2

Sheet 6 of 12

Project Number: 13332.01

Appendix E
MassDEP Dilution Factor Correspondence

Ben Sivonen--Vertex

From: Vakalopoulos, Catherine (DEP) <Catherine.Vakalopoulos@MassMail.State.MA.US>
Sent: Friday, October 06, 2017 6:23 PM
To: Elizabeth Phelps -- Vertex
Subject: RE: NPDES permit for Chelsea, MA

Hi Liz,
Your calculations are correct but you need to use the formula in Appendix V to calculate the dilution factor.
My DF calc is: (0.0136 + 0.36)/0.36 = 1.04
If this were for a discharge to an open marine harbor, no dilution would be granted unless there were modeling or dye study data showing dilution. In this case, Island End River is tidally influenced but it looks like there is some freshwater input and StreamStats is able to calculate a 7Q10. So you can go ahead and use the 1.04 DF (even though it's only a tiny amount of dilution).

As for the rest of the spreadsheet, EPA will review it when you submit the NOI.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026

From: Elizabeth Phelps -- Vertex [mailto:ephelps@vertexeng.com]
Sent: Friday, October 06, 2017 10:45 AM
To: Vakalopoulos, Catherine (DEP)
Subject: NPDES permit for Chelsea, MA

Good morning Catherine,
I'm working on a NOI submittal for dewatering that will be required during remediation of a site in Chelsea, MA. Our discharge will be to the Island End River. From the information I found online, this waterbody is saltwater. Our treatment system will operate at a maximum of 250 gallons per minute.

I used the streamstats application to calculate the 7Q10, which is attached. From that I calculated the following:

0.021 f3/s
=0.0136 MGD

I attached the WBEL calculator spreadsheet with 0.136 MGD entered in the appropriate places. Can you please take a look at this to verify if it is correct?

Thanks, Liz

~~~~~~

Elizabeth M. Phelps
Assistant Project Manager
THE VERTEX COMPANIES, INC.
398 Libbey Industrial Pkwy | Weymouth, MA 02189 | USA
OFFICE 781.952.6000 | **DIRECT** 781.952.6065 | **MOBILE** 781.974.6283
Website | LinkedIn
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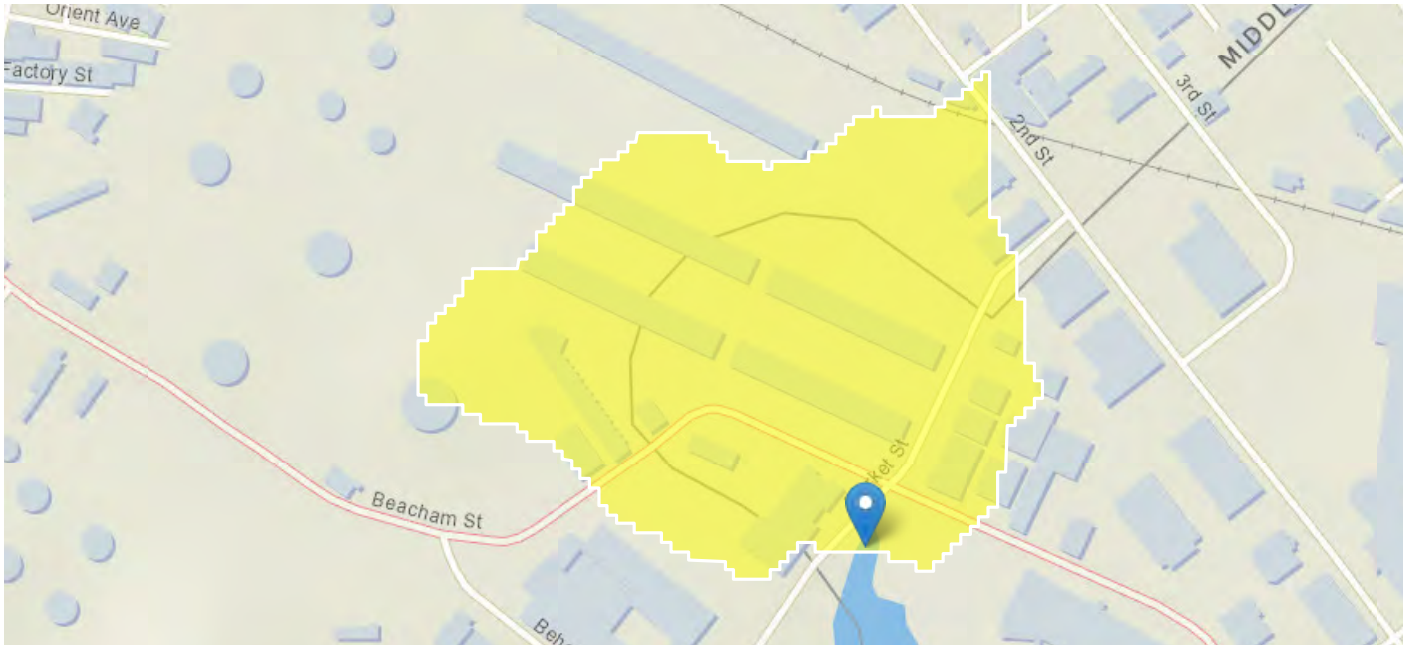
If you are not an intended recipient of confidential and privileged information in this email, please delete it, notify us immediately at info@vertexeng.com, and do not use or disseminate such information.

Island End River Stream Stats

Region ID: MA
Workspace ID: MA20200303182531951000
Clicked Point (Latitude, Longitude): 42.39424, -71.04994
Time: 2020-03-03 13:25:47 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.095	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	0.371	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	5.02	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Low-Flow Statistics Parameters[Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.095	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	0.371	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	5.02	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errorsOne or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0375	ft^3/s
7 Day 10 Year Low Flow	0.021	ft^3/s

Low-Flow Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Application Version: 4.3.11

Appendix F
Laboratory Analytical Report

ANALYTICAL REPORT

Lab Number:	L2006633
Client:	Vertex Environmental Services, Inc. 400 Libbey Industrial Parkway Weymouth, MA 02189
ATTN:	Patty Plante
Phone:	(781) 952-6000
Project Name:	CHELSEA PHASE II
Project Number:	42090
Report Date:	02/26/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2006633-01	VTX-NPDES-2	WATER	CHELSEA, MA	02/13/20 11:30	02/13/20
L2006633-02	VTX-NPDES-1	WATER	CHELSEA, MA	02/13/20 12:45	02/13/20

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

Case Narrative (continued)

Report Submission

February 26, 2020: This final report includes the results of all requested analyses.

February 20, 2020: This is a preliminary report.

The analysis of Ethanol was subcontracted. A copy of the laboratory report is included as an addendum.

Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

The analyses performed were specified by the client.

Volatile Organics by Method 624

L2006633-01 and -02: Due to the matrix of the sample (foam generation during purging/analysis), the laboratory used Anti-Foam solution in the sample and associated QC.

Volatile Organics by SIM

L2006633-01: The surrogate recovery is above the acceptance criteria for 4-bromofluorobenzene (142%). Since the sample was non-detect for all target analytes, re-analysis was not required.

L2006633-02: The surrogate recovery is above the acceptance criteria for 4-bromofluorobenzene (147%). Since the sample was non-detect for all target analytes, re-analysis was not required.

Total Metals

The WG1342263-2 LCS recovery, associated with L2006633-01 and -02, is above the acceptance criteria for selenium (120%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

Chlorine, Total Residual

The WG1340610-4 MS recovery (0%), performed on L2006633-02, is outside the acceptance criteria;

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

Case Narrative (continued)

however, the associated LCS recovery is within criteria. No further action was taken.

Nitrogen, Ammonia

The WG1341223-4 MS recovery (55%), performed on L2006633-02, is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 02/26/20

ORGANICS

VOLATILES

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA
Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 02/14/20 20:17
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	140		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	10	--	1
Tert-Butyl Alcohol	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	1

Project Name: CHELSEA PHASE II **Lab Number:** L2006633

Project Number: 42090 **Report Date:** 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01 Date Collected: 02/13/20 11:30

Client ID: VTX-NPDES-2 Date Received: 02/13/20

Sample Location: CHELSEA, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	99		60-140
Fluorobenzene	96		60-140
4-Bromofluorobenzene	79		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 02/14/20 18:33
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	110		60-140
4-Bromofluorobenzene	**142**	Q	60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 02/17/20 17:08
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 02/17/20 11:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA
Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 02/14/20 20:54
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	1.6		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	4.6		ug/l	2.0	--	1
o-xylene	2.6		ug/l	1.0	--	1
Xylenes, Total	7.2		ug/l	1.0	--	1
Acetone	84		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	10	--	1
Tert-Butyl Alcohol	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	1

Project Name: CHELSEA PHASE II **Lab Number:** L2006633

Project Number: 42090 **Report Date:** 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02 Date Collected: 02/13/20 12:45

Client ID: VTX-NPDES-1 Date Received: 02/13/20

Sample Location: CHELSEA, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		60-140
Fluorobenzene	96		60-140
4-Bromofluorobenzene	78		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 02/14/20 19:05
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	112		60-140
4-Bromofluorobenzene	**147**	Q	60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 02/17/20 17:24
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 02/17/20 11:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 02/14/20 17:28
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1341364-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	110		60-140
4-Bromofluorobenzene	106		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 02/17/20 14:03
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 02/17/20 11:01

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-02 Batch: WG1341450-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/14/20 11:33
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1341494-4					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/14/20 11:33
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1341494-4					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	95		60-140
Fluorobenzene	96		60-140
4-Bromofluorobenzene	81		60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1341364-3								
1,4-Dioxane	100		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	109				60-140
4-Bromofluorobenzene	105				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-02		Batch: WG1341450-2						
1,2-Dibromoethane	90		-		80-120	-			A

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1341494-3								
Methylene chloride	90		-		60-140	-		28
1,1-Dichloroethane	85		-		50-150	-		49
Carbon tetrachloride	90		-		70-130	-		41
1,1,2-Trichloroethane	100		-		70-130	-		45
Tetrachloroethene	90		-		70-130	-		39
1,2-Dichloroethane	100		-		70-130	-		49
1,1,1-Trichloroethane	95		-		70-130	-		36
Benzene	90		-		65-135	-		61
Toluene	95		-		70-130	-		41
Ethylbenzene	85		-		60-140	-		63
Vinyl chloride	90		-		5-195	-		66
1,1-Dichloroethene	90		-		50-150	-		32
cis-1,2-Dichloroethene	90		-		60-140	-		30
Trichloroethene	90		-		65-135	-		48
1,2-Dichlorobenzene	85		-		65-135	-		57
1,3-Dichlorobenzene	80		-		70-130	-		43
1,4-Dichlorobenzene	80		-		65-135	-		57
p/m-Xylene	88		-		60-140	-		30
o-xylene	80		-		60-140	-		30
Acetone	132		-		40-160	-		30
Methyl tert butyl ether	105		-		60-140	-		30
Tert-Butyl Alcohol	130		-		60-140	-		30
Tertiary-Amyl Methyl Ether	90		-		60-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1341494-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	96				60-140
Fluorobenzene	96				60-140
4-Bromofluorobenzene	83				60-140

Matrix Spike Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341450-3 QC Sample: L2006140-02 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.249	0.225	90		-	-		80-120	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.249	0.233	94		-	-		80-120	-		20	A
1,2,3-Trichloropropane	ND	0.249	0.238	96		-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 02/19/20 16:12
Analyst: JG

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		42-122
2-Fluorobiphenyl	61		46-121
4-Terphenyl-d14	57		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 12:15
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	0.12		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	0.11		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		25-87
Phenol-d6	45		16-65
Nitrobenzene-d5	92		42-122
2-Fluorobiphenyl	68		46-121
2,4,6-Tribromophenol	76		45-128
4-Terphenyl-d14	59		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 02/19/20 15:48
Analyst: JG

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		42-122
2-Fluorobiphenyl	72		46-121
4-Terphenyl-d14	80		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 12:32
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	0.44		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		25-87
Phenol-d6	42		16-65
Nitrobenzene-d5	87		42-122
2-Fluorobiphenyl	66		46-121
2,4,6-Tribromophenol	58		45-128
4-Terphenyl-d14	58		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 02/19/20 13:51
Analyst: JG

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:26

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1341281-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		42-122
2-Fluorobiphenyl	82		46-121
4-Terphenyl-d14	79		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 11:58
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1341283-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-87
Phenol-d6	50		16-65
Nitrobenzene-d5	98		42-122
2-Fluorobiphenyl	76		46-121
2,4,6-Tribromophenol	70		45-128
4-Terphenyl-d14	85		47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1341281-2								
Bis(2-ethylhexyl)phthalate	103		-		29-137	-		82
Butyl benzyl phthalate	108		-		1-140	-		60
Di-n-butylphthalate	93		-		8-120	-		47
Di-n-octylphthalate	95		-		19-132	-		69
Diethyl phthalate	94		-		1-120	-		100
Dimethyl phthalate	90		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	85				42-122
2-Fluorobiphenyl	79				46-121
4-Terphenyl-d14	104				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1341283-2								
Acenaphthene	88		-		60-132	-		30
Fluoranthene	93		-		43-121	-		30
Naphthalene	82		-		36-120	-		30
Benzo(a)anthracene	99		-		42-133	-		30
Benzo(a)pyrene	101		-		32-148	-		30
Benzo(b)fluoranthene	103		-		42-140	-		30
Benzo(k)fluoranthene	94		-		25-146	-		30
Chrysene	90		-		44-140	-		30
Acenaphthylene	76		-		54-126	-		30
Anthracene	100		-		43-120	-		30
Benzo(ghi)perylene	94		-		1-195	-		30
Fluorene	87		-		70-120	-		30
Phenanthrene	95		-		65-120	-		30
Dibenzo(a,h)anthracene	96		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	98		-		1-151	-		30
Pyrene	91		-		70-120	-		30
Pentachlorophenol	88		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1341283-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64				25-87
Phenol-d6	53				16-65
Nitrobenzene-d5	103				42-122
2-Fluorobiphenyl	72				46-121
2,4,6-Tribromophenol	81				45-128
4-Terphenyl-d14	83				47-138

PCBS

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 02/18/20 05:45
Analyst: AWS

Extraction Method: EPA 608.3
Extraction Date: 02/15/20 08:29
Cleanup Method: EPA 3665A
Cleanup Date: 02/16/20
Cleanup Method: EPA 3660B
Cleanup Date: 02/16/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		37-123	B
Decachlorobiphenyl	44		38-114	B
2,4,5,6-Tetrachloro-m-xylene	78		37-123	A
Decachlorobiphenyl	**35**	Q	38-114	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 02/18/20 05:57
Analyst: AWS

Extraction Method: EPA 608.3
Extraction Date: 02/15/20 08:29
Cleanup Method: EPA 3665A
Cleanup Date: 02/16/20
Cleanup Method: EPA 3660B
Cleanup Date: 02/16/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		37-123	B
Decachlorobiphenyl	56		38-114	B
2,4,5,6-Tetrachloro-m-xylene	80		37-123	A
Decachlorobiphenyl	46		38-114	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 02/15/20 01:27
Analyst: HT

Extraction Method: EPA 608.3
Extraction Date: 02/14/20 08:49
Cleanup Method: EPA 3665A
Cleanup Date: 02/14/20
Cleanup Method: EPA 3660B
Cleanup Date: 02/14/20

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-02 Batch: WG1340748-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		37-123	B
Decachlorobiphenyl	55		38-114	B
2,4,5,6-Tetrachloro-m-xylene	67		37-123	A
Decachlorobiphenyl	52		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG1340748-2									
Aroclor 1016	78		-		50-140	-		36	A
Aroclor 1260	65		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78				37-123	B
Decachlorobiphenyl	68				38-114	B
2,4,5,6-Tetrachloro-m-xylene	79				37-123	A
Decachlorobiphenyl	68				38-114	A

METALS

Project Name: CHELSEA PHASE II
Lab Number: L2006633
Project Number: 42090
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA
Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.01405		mg/l	0.00400	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00411		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00031		mg/l	0.00020	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Copper, Total	0.06413		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Iron, Total	0.438		mg/l	0.050	--	1	02/19/20 12:00	02/19/20 17:06	EPA 3005A	19,200.7	LC
Lead, Total	0.02036		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/19/20 15:36	02/19/20 19:47	EPA 245.1	3,245.1	AL
Nickel, Total	0.01151		mg/l	0.00200	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
Zinc, Total	0.09486		mg/l	0.01000	--	1	02/19/20 12:00	02/19/20 16:44	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/19/20 16:44	NA	107,-	

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA
Sample Depth:
Matrix: Water

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.00499		mg/l	0.00400	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00619		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Chromium, Total	0.00179		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Copper, Total	0.06779		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Iron, Total	4.52		mg/l	0.050	--	1	02/19/20 12:00	02/19/20 17:10	EPA 3005A	19,200.7	LC
Lead, Total	0.02307		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/19/20 15:36	02/19/20 19:53	EPA 245.1	3,245.1	AL
Nickel, Total	0.01552		mg/l	0.00200	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
Zinc, Total	0.02784		mg/l	0.01000	--	1	02/19/20 12:00	02/19/20 16:48	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/19/20 16:48	NA	107,-	

Project Name: CHELSEA PHASE II **Lab Number:** L2006633

Project Number: 42090 **Report Date:** 02/26/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1341571-1										
Mercury, Total	ND		mg/l	0.0002	--	1	02/19/20 15:36	02/19/20 19:18	3,245.1	AL

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1341840-1										
Iron, Total	ND		mg/l	0.050	--	1	02/19/20 12:00	02/19/20 16:35	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1342263-1										
Antimony, Total	ND		mg/l	0.00400	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/19/20 12:00	02/19/20 16:17	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1341571-2								
Mercury, Total	95		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1341840-2								
Iron, Total	102		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1342263-2								
Antimony, Total	89		-		85-115	-		
Arsenic, Total	108		-		85-115	-		
Cadmium, Total	109		-		85-115	-		
Chromium, Total	104		-		85-115	-		
Copper, Total	101		-		85-115	-		
Lead, Total	106		-		85-115	-		
Nickel, Total	107		-		85-115	-		
Selenium, Total	**120**	Q	-		85-115	-		
Silver, Total	101		-		85-115	-		
Zinc, Total	113		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1341571-3 QC Sample: L2006519-01 Client ID: MS Sample												
Mercury, Total	0.0025	0.005	0.0075	100		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1341571-5 QC Sample: L2006519-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0044	88		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1341840-3 QC Sample: L2006547-01 Client ID: MS Sample												
Iron, Total	ND	1	1.05	105		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1342263-3 QC Sample: L2006547-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.4297	86		-	-		70-130	-		20
Arsenic, Total	0.00197	0.12	0.1313	108		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05725	112		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2099	105		-	-		70-130	-		20
Copper, Total	0.0201	0.25	0.2704	100		-	-		70-130	-		20
Lead, Total	0.00110	0.51	0.5553	109		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.5332	107		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1498	125		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05107	102		-	-		70-130	-		20
Zinc, Total	0.01840	0.5	0.5913	114		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1341571-4 QC Sample: L2006519-01 Client ID: DUP Sample						
Mercury, Total	0.0025	0.0027	mg/l	6		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1341571-6 QC Sample: L2006519-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1341840-4 QC Sample: L2006547-01 Client ID: DUP Sample						
Iron, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1342263-4 QC Sample: L2006547-01 Client ID: DUP Sample						
Arsenic, Total	0.00197	0.00199	mg/l	1		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Lead, Total	0.00110	0.00115	mg/l	5		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.01840	0.01988	mg/l	8		20

INORGANICS
&
MISCELLANEOUS

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-01
Client ID: VTX-NPDES-2
Sample Location: CHELSEA, MA
Sample Depth:
Matrix: Water

Date Collected: 02/13/20 11:30
Date Received: 02/13/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	7.4		mg/l	5.0	NA	1	-	02/14/20 09:26	121,2540D	EM
Cyanide, Total	ND		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 14:19	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/13/20 23:58	121,4500CL-D	AS
Nitrogen, Ammonia	4.90		mg/l	0.075	--	1	02/16/20 13:58	02/17/20 20:01	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 09:43	4,420.1	MV
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/13/20 22:45	02/13/20 23:19	1,7196A	CB
Anions by Ion Chromatography - Westborough Lab										
Chloride	684.		mg/l	25.0	--	50	-	02/14/20 19:22	44,300.0	AT

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006633-02
Client ID: VTX-NPDES-1
Sample Location: CHELSEA, MA
Sample Depth:
Matrix: Water

Date Collected: 02/13/20 12:45
Date Received: 02/13/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	200		mg/l	20	NA	4	-	02/14/20 09:26	121,2540D	EM
Cyanide, Total	0.010		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 14:20	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/13/20 23:58	121,4500CL-D	AS
Nitrogen, Ammonia	12.8		mg/l	0.075	--	1	02/16/20 13:58	02/17/20 20:02	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 10:17	4,420.1	MV
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/13/20 22:45	02/13/20 23:21	1,7196A	CB
Anions by Ion Chromatography - Westborough Lab										
Chloride	435.		mg/l	25.0	--	50	-	02/14/20 19:33	44,300.0	AT

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1340598-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/13/20 22:45	02/13/20 23:18	1,7196A	CB
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1340610-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/13/20 23:58	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1340691-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	02/14/20 09:26	121,2540D	EM
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-02 Batch: WG1341009-1										
Chloride	ND		mg/l	0.500	--	1	-	02/14/20 17:11	44,300.0	AT
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1341223-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	02/16/20 13:58	02/17/20 19:59	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1341245-1										
Cyanide, Total	ND		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 14:14	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1341553-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1341666-1										
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 09:39	4,420.1	MV

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006633

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1340598-2								
Chromium, Hexavalent	100		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1340610-2								
Chlorine, Total Residual	100		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 Batch: WG1341009-2								
Chloride	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1341223-2								
Nitrogen, Ammonia	100		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1341245-2								
Cyanide, Total	99		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1341553-2								
TPH	90		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1341666-2								
Phenolics, Total	81		-		70-130	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006633
Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1340598-4 QC Sample: L2006633-02 Client ID: VTX-NPDES-1												
Chromium, Hexavalent	ND	0.1	0.102	102		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1340610-4 QC Sample: L2006633-02 Client ID: VTX-NPDES-1												
Chlorine, Total Residual	ND	0.25	ND	**0**	Q	-	-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341009-3 QC Sample: L2006713-04 Client ID: MS Sample												
Chloride	17.9	4	21.2	**83**	Q	-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341223-4 QC Sample: L2006633-02 Client ID: VTX-NPDES-1												
Nitrogen, Ammonia	12.8	4	15.0	**55**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341245-4 QC Sample: L2006740-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.201	100		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341553-4 QC Sample: L2006633-02 Client ID: VTX-NPDES-1												
TPH	ND	20	16.3	82		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341666-4 QC Sample: L2006971-01 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.38	94		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1340598-3 QC Sample: L2006633-01 Client ID: VTX-NPDES-2						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1340610-3 QC Sample: L2006633-01 Client ID: VTX-NPDES-2						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1340691-2 QC Sample: L2006454-02 Client ID: DUP Sample						
Solids, Total Suspended	320	320	mg/l	0		29
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341009-4 QC Sample: L2006713-04 Client ID: DUP Sample						
Chloride	17.9	17.9	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341223-3 QC Sample: L2006633-02 Client ID: VTX-NPDES-1						
Nitrogen, Ammonia	12.8	12.8	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341245-3 QC Sample: L2006740-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341553-3 QC Sample: L2006633-01 Client ID: VTX-NPDES-2						
TPH, SGT-HEM	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1341666-3 QC Sample: L2006971-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2006633-01A	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-01A1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-01B	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-01B1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-01C	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-01C1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-01D	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		504(14)
L2006633-01D1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		504(14)
L2006633-01E	Vial unpreserved	A	NA		3.5	Y	Absent		SUB-ETHANOL(14)
L2006633-01E1	Vial unpreserved	A	NA		3.5	Y	Absent		SUB-ETHANOL(14)
L2006633-01E2	Vial unpreserved	A	NA		3.5	Y	Absent		SUB-ETHANOL(14)
L2006633-01F	Amber 120ml unpreserved	A	7	7	3.5	Y	Absent		ARCHIVE()
L2006633-01G	Plastic 250ml HNO3 preserved	A	<2	<2	3.5	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),FE-UI(180),CU-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),AG-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2006633-01H	Plastic 250ml NaOH preserved	A	>12	>12	3.5	Y	Absent		TCN-4500(14)
L2006633-01I	Plastic 500ml H2SO4 preserved	A	<2	<2	3.5	Y	Absent		NH3-4500(28)
L2006633-01J	Amber 950ml H2SO4 preserved	A	<2	<2	3.5	Y	Absent		TPHENOL-420(28)
L2006633-01K	Plastic 950ml unpreserved	A	7	7	3.5	Y	Absent		HEXCR-7196(1),CL-300(28),TRC-4500(1)
L2006633-01L	Plastic 950ml unpreserved	A	7	7	3.5	Y	Absent		TSS-2540(7)
L2006633-01M	Amber 1000ml HCl preserved	A	NA		3.5	Y	Absent		TPH-1664(28)
L2006633-01N	Amber 1000ml HCl preserved	A	NA		3.5	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2006633-01P	Amber 1000ml unpreserved	A	7	7	3.5	Y	Absent		ARCHIVE()
L2006633-01Q	Amber 1000ml unpreserved	A	7	7	3.5	Y	Absent		ARCHIVE()
L2006633-01R	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		PCB-608.3(7)
L2006633-01S	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		PCB-608.3(7)
L2006633-01T	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-RGP(7)
L2006633-01U	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-RGP(7)
L2006633-01V	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-SIM-RGP(7)
L2006633-01W	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-SIM-RGP(7)
L2006633-02A	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-02A1	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-02B	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-02C	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-02C1	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7)
L2006633-02D	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		504(14)
L2006633-02D1	Vial Na2S2O3 preserved	B	NA		2.9	Y	Absent		504(14)
L2006633-02E	Vial unpreserved	B	NA		2.9	Y	Absent		SUB-ETHANOL(14)
L2006633-02E1	Vial unpreserved	B	NA		2.9	Y	Absent		SUB-ETHANOL(14)
L2006633-02E2	Vial unpreserved	B	NA		2.9	Y	Absent		SUB-ETHANOL(14)
L2006633-02F	Amber 120ml unpreserved	B	7	7	2.9	Y	Absent		ARCHIVE()
L2006633-02G	Plastic 250ml HNO3 preserved	B	<2	<2	2.9	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AS-2008T(180),SE-2008T(180),HG-U(28),AG-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2006633-02H	Plastic 250ml NaOH preserved	B	>12	>12	2.9	Y	Absent		TCN-4500(14)
L2006633-02I	Plastic 500ml H2SO4 preserved	B	<2	<2	2.9	Y	Absent		NH3-4500(28)
L2006633-02J	Amber 950ml H2SO4 preserved	B	<2	<2	2.9	Y	Absent		TPHENOL-420(28)
L2006633-02K	Plastic 950ml unpreserved	B	7	7	2.9	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1)
L2006633-02L	Plastic 950ml unpreserved	B	7	7	2.9	Y	Absent		TSS-2540(7)
L2006633-02M	Amber 1000ml HCl preserved	B	NA		2.9	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006633
Report Date: 02/26/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2006633-02N	Amber 1000ml HCl preserved	B	NA		2.9	Y	Absent		TPH-1664(28)
L2006633-02P	Amber 1000ml unpreserved	B	7	7	2.9	Y	Absent		ARCHIVE()
L2006633-02Q	Amber 1000ml unpreserved	B	7	7	2.9	Y	Absent		ARCHIVE()
L2006633-02R	Amber 1000ml Na2S2O3	B	7	7	2.9	Y	Absent		PCB-608.3(7)
L2006633-02S	Amber 1000ml Na2S2O3	B	7	7	2.9	Y	Absent		PCB-608.3(7)
L2006633-02T	Amber 1000ml Na2S2O3	B	7	7	2.9	Y	Absent		625.1-RGP(7)
L2006633-02U	Amber 1000ml Na2S2O3	B	7	7	2.9	Y	Absent		625.1-RGP(7)
L2006633-02V	Amber 1000ml Na2S2O3	B	7	7	2.9	Y	Absent		625.1-SIM-RGP(7)
L2006633-02W	Amber 1000ml Na2S2O3	B	7	7	2.9	Y	Absent		625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006633
Project Number:	42090	**Report Date:**	02/26/20

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 2/13/20

ALPHA Job #: L2006633

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: VERTEX

Address: 400 Libbey Industrial Pkwy
Weymouth, MA 02189

Phone: 781-452-6000

Email: pplante@vertexeng.com

Project Information

Project Name: Chelsea Phase II

Project Location: Chelsea, MA

Project #: 42090

Project Manager: Patrice Plante

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 5-DAY

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #: 42090

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods

☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)

☒ Yes ☐ No NPDES RGP

☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

NPDES RGP Parameters

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☒ 8260 ☐ 624 ☐ 524.2 (Low Level)	SVOC: ☒ ABN ☐ PAH (Low Level)	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☒ PCB ☐ PEST 8082A	TPH: ☐ Quant Only ☐ Fingerprint	TPH - (GC/FID)	Total Metals 6020A	TPH SW-846 Modified 8015	TCN	EDB	HexCr, TRC, Cl, Total Cyanide	SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
06633-01	VTX-NPDES-2	2/13/20	11:30	GW	TP	X	X					X		X	X	X	X	X	X			17
02	VTX-NPDES-1	2/13/20	12:45	GW	TP	X	X					X		X	X	X	X	X	X			17
Container Type						V	A					A		A	P	P	P	V	P			
Preservative						B	A					H		B	C	A	E	H	A			

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
TGAAL	2/13/20 19:35	TGAAL	2-13-20 1735
TGAAL	2-13-20 1735		2-13-20 1735

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2006633

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2006633

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	VTX-NPDES-2	02-13-20 11:30	WATER	Ethanol by EPA 1671 Revision A	
	VTX-NPDES-1	02-13-20 12:45	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/17/20		
Form No: AL_subcoc				

February 25, 2020

Melissa Gulli
Alpha Analytical
145 Flanders Road
Westborough, MA 01581
TEL: (603) 319-5010
FAX:

RE: L2006633 **WorkOrder:** 20020981

Dear Melissa Gulli:

TEKLAB, INC received 2 samples on 2/18/2020 9:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling II

Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006633

Work Order: 20020981
Report Date: 25-Feb-2020

This reporting package includes the following:

Teklab, Inc. Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 20020981

Client Project: L2006633 **Report Date:** 25-Feb-2020

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
C -	RL shown is a Client Requested Quantitation Limit	E -	Value above quantitation range
H -	Holding times exceeded	I -	Associated internal standard was outside method criteria
J -	Analyte detected below quantitation limits	M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits	T -	TIC(Tentatively identified compound)
X -	Value exceeds Maximum Contaminant Level		

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006633

Work Order: 20020981
Report Date: 25-Feb-2020

Cooler Receipt Temp: 3.2 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020981
Client Project: L2006633
Report Date: 25-Feb-2020

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	3/3/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2020	Collinsville
Arkansas	ADEQ	88-0966		3/14/2021	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Tennessee	TDEC	04905		3/3/2020	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020981
Client Project: L2006633
Report Date: 25-Feb-2020
Lab ID: 20020981-001
Client Sample ID: VTX-NPDES-2
Matrix: AQUEOUS
Collection Date: 02/13/2020 11:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	02/19/2020 12:03	R273169

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020981
Client Project: L2006633
Report Date: 25-Feb-2020
Lab ID: 20020981-002
Client Sample ID: VTX-NPDES-1
Matrix: AQUEOUS
Collection Date: 02/13/2020 12:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	02/19/2020 12:40	R273169

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006633

Work Order: 20020981
Report Date: 25-Feb-2020

EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORG

Batch R273169 **SampType:** MBLK Units **mg/L**
SampID: MBLK-021920

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**ND**						02/19/2020

Batch R273169 **SampType:** LCS Units **mg/L**
SampID: LCS-021920

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**220**	250.0	0	87.2	70	132	02/19/2020

Batch R273169 **SampType:** MS Units **mg/L**
SampID: 20020982-002AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**240**	250.0	0	95.8	70	132	02/19/2020

Batch R273169 **SampType:** MSD Units **mg/L** RPD Limit **30**
SampID: 20020982-002AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethanol	20		**240**	250.0	0	94.5	239.5	1.37	02/19/2020

Teklab, Inc. Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006633

Work Order: 20020981
Report Date: 25-Feb-2020

Carrier: UPS

Received By: AH

Completed by: Amber M. Dilallo
On: 18-Feb-2020

Reviewed by: Elizabeth A. Hurley
On: 18-Feb-2020

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 3.2
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2006633

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2006633

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
L2006633 -001	VTX-NPDES-2	02-13-20 11:30	WATER	Ethanol by EPA 1671 Revision A	
-002	VTX-NPDES-1	02-13-20 12:45	WATER	Ethanol by EPA 1671 Revision A	

3.2°C CLT63 ice
@1145 2/18/20

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/17/20	UPS	2/18/20 0920
Form No: AL_subcoc				

ANALYTICAL REPORT

Lab Number:	L2006810
Client:	Vertex Environmental Services, Inc. 400 Libbey Industrial Parkway Weymouth, MA 02189
ATTN:	Patty Plante
Phone:	(781) 952-6000
Project Name:	CHELSEA PHASE II
Project Number:	42090
Report Date:	02/26/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006810
Report Date: 02/26/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2006810-01	ISLAND END OUTLET	WATER	CHELSEA, MA	02/14/20 12:00	02/14/20

Project Name:	CHELSEA PHASE II	**Lab Number:**	L2006810
Project Number:	42090	**Report Date:**	02/26/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: CHELSEA PHASE II **Lab Number:** L2006810
Project Number: 42090 **Report Date:** 02/26/20

Case Narrative (continued)

Report Submission

February 26, 2020: This final report includes the results of all requested analyses.

February 21, 2020: This is a preliminary report.

The analysis of Ethanol was subcontracted. A copy of the laboratory report is included as an addendum.

Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

The analyses performed were specified by the client.

Volatile Organics by Method 624

The WG1340935-7 LCS recoveries, associated with L2006810-01, are above the acceptance criteria for carbon tetrachloride (155%) and tertiary-amyl methyl ether (160%); however, the associated sample is non-detect to the RL for these target analytes. The results of the original analysis are reported.

Total Metals

L2006810-01: The sample has elevated detection limits for all elements, with the exception of iron and mercury, due to the dilution required by the high concentrations of non-target elements.

The WG1342361-2 LCS recovery, associated with L2006810-01, is above the acceptance criteria for selenium (119%); however, the associated sample is non-detect to the RL for this target analyte. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 02/26/20

ORGANICS

VOLATILES

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA
Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 02/17/20 15:00
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	10	--	1
Tert-Butyl Alcohol	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	1

Project Name: CHELSEA PHASE II **Lab Number:** L2006810

Project Number: 42090 **Report Date:** 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01 Date Collected: 02/14/20 12:00

Client ID: ISLAND END OUTLET Date Received: 02/14/20

Sample Location: CHELSEA, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	103		60-140
Fluorobenzene	85		60-140
4-Bromofluorobenzene	89		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA
Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 02/17/20 15:00
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	116		60-140
4-Bromofluorobenzene	111		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA

Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 02/18/20 19:33
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 02/18/20 15:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/17/20 11:51
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1340935-8					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/17/20 11:51
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1340935-8					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	101		60-140
Fluorobenzene	82		60-140
4-Bromofluorobenzene	93		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 02/17/20 11:51
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1341885-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	114		60-140
4-Bromofluorobenzene	127		60-140

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 02/18/20 17:53
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 02/18/20 15:38

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1341946-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006810
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1340935-7								
Methylene chloride	85		-		60-140	-		28
1,1-Dichloroethane	90		-		50-150	-		49
Carbon tetrachloride	**155**	Q	-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	90		-		70-130	-		39
1,2-Dichloroethane	90		-		70-130	-		49
1,1,1-Trichloroethane	100		-		70-130	-		36
Benzene	85		-		65-135	-		61
Toluene	95		-		70-130	-		41
Ethylbenzene	80		-		60-140	-		63
Vinyl chloride	95		-		5-195	-		66
1,1-Dichloroethene	105		-		50-150	-		32
cis-1,2-Dichloroethene	100		-		60-140	-		30
Trichloroethene	80		-		65-135	-		48
1,2-Dichlorobenzene	85		-		65-135	-		57
1,3-Dichlorobenzene	80		-		70-130	-		43
1,4-Dichlorobenzene	80		-		65-135	-		57
p/m-Xylene	88		-		60-140	-		30
o-xylene	80		-		60-140	-		30
Acetone	108		-		40-160	-		30
Methyl tert butyl ether	85		-		60-140	-		30
Tert-Butyl Alcohol	120		-		60-140	-		30
Tertiary-Amyl Methyl Ether	**160**	Q	-		60-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006810
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1340935-7								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	104				60-140
Fluorobenzene	85				60-140
4-Bromofluorobenzene	95				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1341885-3								
1,4-Dioxane	130		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	114				60-140
4-Bromofluorobenzene	128				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG1341946-2						
1,2-Dibromoethane	84		-		80-120	-			A

Matrix Spike Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341946-3 QC Sample: L2006565-01 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.248	0.219	88		-	-		80-120	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.248	0.232	94		-	-		80-120	-		20	A
1,2,3-Trichloropropane	ND	0.248	0.228	92		-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA

Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 02/20/20 14:26
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 08:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		42-122
2-Fluorobiphenyl	71		46-121
4-Terphenyl-d14	80		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA

Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 14:13
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 08:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	0.13		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		25-87
Phenol-d6	51		16-65
Nitrobenzene-d5	76		42-122
2-Fluorobiphenyl	60		46-121
2,4,6-Tribromophenol	70		45-128
4-Terphenyl-d14	75		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 02/19/20 13:51
Analyst: JG

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:26

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1341281-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		42-122
2-Fluorobiphenyl	82		46-121
4-Terphenyl-d14	79		47-138

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 11:58
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1341283-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-87
Phenol-d6	50		16-65
Nitrobenzene-d5	98		42-122
2-Fluorobiphenyl	76		46-121
2,4,6-Tribromophenol	70		45-128
4-Terphenyl-d14	85		47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1341281-2								
Bis(2-ethylhexyl)phthalate	103		-		29-137	-		82
Butyl benzyl phthalate	108		-		1-140	-		60
Di-n-butylphthalate	93		-		8-120	-		47
Di-n-octylphthalate	95		-		19-132	-		69
Diethyl phthalate	94		-		1-120	-		100
Dimethyl phthalate	90		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	85				42-122
2-Fluorobiphenyl	79				46-121
4-Terphenyl-d14	104				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006810
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1341283-2								
Acenaphthene	88		-		60-132	-		30
Fluoranthene	93		-		43-121	-		30
Naphthalene	82		-		36-120	-		30
Benzo(a)anthracene	99		-		42-133	-		30
Benzo(a)pyrene	101		-		32-148	-		30
Benzo(b)fluoranthene	103		-		42-140	-		30
Benzo(k)fluoranthene	94		-		25-146	-		30
Chrysene	90		-		44-140	-		30
Acenaphthylene	76		-		54-126	-		30
Anthracene	100		-		43-120	-		30
Benzo(ghi)perylene	94		-		1-195	-		30
Fluorene	87		-		70-120	-		30
Phenanthrene	95		-		65-120	-		30
Dibenzo(a,h)anthracene	96		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	98		-		1-151	-		30
Pyrene	91		-		70-120	-		30
Pentachlorophenol	88		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1341283-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64				25-87
Phenol-d6	53				16-65
Nitrobenzene-d5	103				42-122
2-Fluorobiphenyl	72				46-121
2,4,6-Tribromophenol	81				45-128
4-Terphenyl-d14	83				47-138

PCBS

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA

Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 02/19/20 11:20
Analyst: AWS

Extraction Method: EPA 608.3
Extraction Date: 02/18/20 12:14
Cleanup Method: EPA 3665A
Cleanup Date: 02/19/20
Cleanup Method: EPA 3660B
Cleanup Date: 02/19/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		37-123	B
Decachlorobiphenyl	64		38-114	B
2,4,5,6-Tetrachloro-m-xylene	67		37-123	A
Decachlorobiphenyl	66		38-114	A

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 02/18/20 06:21
Analyst: AWS

Extraction Method: EPA 608.3
Extraction Date: 02/17/20 19:27
Cleanup Method: EPA 3665A
Cleanup Date: 02/18/20
Cleanup Method: EPA 3660B
Cleanup Date: 02/18/20

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1341584-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		37-123	B
Decachlorobiphenyl	88		38-114	B
2,4,5,6-Tetrachloro-m-xylene	75		37-123	A
Decachlorobiphenyl	72		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1341584-2									
Aroclor 1016	78		-		50-140	-		36	A
Aroclor 1260	71		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82				37-123	B
Decachlorobiphenyl	86				38-114	B
2,4,5,6-Tetrachloro-m-xylene	78				37-123	A
Decachlorobiphenyl	72				38-114	A

METALS

Project Name: CHELSEA PHASE II
Lab Number: L2006810
Project Number: 42090
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA
Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.04000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.01000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00200	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.01000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Copper, Total	0.02112		mg/l	0.01000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Iron, Total	1.09		mg/l	0.050	--	1	02/19/20 22:56	02/20/20 12:26	EPA 3005A	19,200.7	PS
Lead, Total	0.02912		mg/l	0.01000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/20/20 15:30	02/20/20 18:20	EPA 245.1	3,245.1	AL
Nickel, Total	ND		mg/l	0.02000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.05000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00400	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.1000	--	10	02/19/20 22:56	02/20/20 13:09	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/20/20 13:09	NA	107,-	

Project Name: CHELSEA PHASE II **Lab Number:** L2006810

Project Number: 42090 **Report Date:** 02/26/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1342361-1										
Antimony, Total	ND		mg/l	0.00400	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/19/20 22:56	02/20/20 12:37	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1342363-1										
Iron, Total	ND		mg/l	0.050	--	1	02/19/20 22:56	02/20/20 12:04	19,200.7	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1342663-1										
Mercury, Total	ND		mg/l	0.0002	--	1	02/20/20 15:30	02/20/20 17:56	3,245.1	AL

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: CHELSEA PHASE II

Project Number: 42090

Lab Number: L2006810

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1342361-2								
Antimony, Total	91		-		85-115	-		
Arsenic, Total	109		-		85-115	-		
Cadmium, Total	111		-		85-115	-		
Chromium, Total	104		-		85-115	-		
Copper, Total	101		-		85-115	-		
Lead, Total	108		-		85-115	-		
Nickel, Total	105		-		85-115	-		
Selenium, Total	**119**	Q	-		85-115	-		
Silver, Total	105		-		85-115	-		
Zinc, Total	113		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1342363-2								
Iron, Total	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1342663-2								
Mercury, Total	101		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342361-3 QC Sample: L2006810-01 Client ID: ISLAND END OUTLET												
Antimony, Total	ND	0.5	0.5410	108		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1143	95		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.04698	92		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2106	105		-	-		70-130	-		20
Copper, Total	0.02112	0.25	0.2476	90		-	-		70-130	-		20
Lead, Total	0.02912	0.51	0.5988	112		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4698	94		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.09512	79		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04859	97		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.4664	93		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342363-3 QC Sample: L2006810-01 Client ID: ISLAND END OUTLET												
Iron, Total	1.09	1	2.15	106		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342363-7 QC Sample: L2006860-01 Client ID: MS Sample												
Iron, Total	2.95	1	3.90	95		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342663-3 QC Sample: L2007374-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0051	102		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342663-5 QC Sample: L2006612-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0051	102		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

Lab Number: L2006810
Report Date: 02/26/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342361-4 QC Sample: L2006810-01 Client ID: ISLAND END OUTLET						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.02112	0.02197	mg/l	4		20
Lead, Total	0.02912	0.02998	mg/l	3		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342363-4 QC Sample: L2006810-01 Client ID: ISLAND END OUTLET						
Iron, Total	1.09	1.23	mg/l	12		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342363-8 QC Sample: L2006860-01 Client ID: DUP Sample						
Iron, Total	2.95	2.85	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342663-4 QC Sample: L2007374-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342663-6 QC Sample: L2006612-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: CHELSEA PHASE II
Project Number: 42090
Lab Number: L2006810
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006810-01
Client ID: ISLAND END OUTLET
Sample Location: CHELSEA, MA
Sample Depth:
Matrix: Water

Date Collected: 02/14/20 12:00
Date Received: 02/14/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	13.		mg/l	5.0	NA	1	-	02/17/20 10:23	121,2540D	EM
Cyanide, Total	ND		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 15:47	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/15/20 09:00	121,4500CL-D	MA
Nitrogen, Ammonia	0.126		mg/l	0.075	--	1	02/17/20 12:37	02/17/20 21:54	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 09:45	4,420.1	MV
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/14/20 20:30	02/14/20 21:27	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab										
Chloride	15900		mg/l	250	--	500	-	02/20/20 20:12	44,300.0	AT

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Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341002-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/14/20 20:30	02/14/20 21:26	1,7196A	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341099-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/15/20 09:00	121,4500CL-D	MA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341245-1										
Cyanide, Total	ND		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 14:14	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341314-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	02/17/20 10:23	121,2540D	EM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341390-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	02/17/20 12:37	02/17/20 21:21	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341553-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341666-1										
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 09:39	4,420.1	MV
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1342951-1										
Chloride	ND		mg/l	0.500	--	1	-	02/20/20 17:17	44,300.0	AT

Lab Control Sample Analysis

Batch Quality Control

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341002-2								
Chromium, Hexavalent	97		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341099-2								
Chlorine, Total Residual	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341245-2								
Cyanide, Total	99		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341390-2								
Nitrogen, Ammonia	98		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341553-2								
TPH	90		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341666-2								
Phenolics, Total	81		-		70-130	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1342951-2								
Chloride	104		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
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Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341002-4 QC Sample: L2006810-01 Client ID: ISLAND END OUTLET												
Chromium, Hexavalent	ND	0.1	0.100	100		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341099-4 QC Sample: L2006765-02 Client ID: MS Sample												
Chlorine, Total Residual	ND	0.25	0.23	92		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341245-4 QC Sample: L2006740-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.201	100		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341390-4 QC Sample: L2006618-01 Client ID: MS Sample												
Nitrogen, Ammonia	ND	4	3.62	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341553-4 QC Sample: L2006633-02 Client ID: MS Sample												
TPH	ND	20	16.3	82		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341666-4 QC Sample: L2006971-01 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.38	94		-	-		70-130	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1342951-3 QC Sample: L2007071-01 Client ID: MS Sample												
Chloride	104	40	145	103		-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: CHELSEA PHASE II
Project Number: 42090

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Report Date: 02/26/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341002-3 QC Sample: L2006810-01 Client ID: ISLAND END OUTLET						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341099-3 QC Sample: L2006765-01 Client ID: DUP Sample						
Chlorine, Total Residual	0.73	0.72	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341245-3 QC Sample: L2006740-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341314-2 QC Sample: L2006908-01 Client ID: DUP Sample						
Solids, Total Suspended	110	100	mg/l	10		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341390-3 QC Sample: L2006618-01 Client ID: DUP Sample						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341553-3 QC Sample: L2006633-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341666-3 QC Sample: L2006971-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1342951-4 QC Sample: L2007071-01 Client ID: DUP Sample						
Chloride	104	107	mg/l	3		18

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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2006810-01A	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006810-01A1	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006810-01B	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006810-01B1	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006810-01C	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006810-01C1	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006810-01D	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		504(14)
L2006810-01E	Vial Na2S2O3 preserved	A	NA		5.2	Y	Absent		504(14)
L2006810-01F	Vial unpreserved	A	NA		5.2	Y	Absent		SUB-ETHANOL(14)
L2006810-01G	Vial unpreserved	A	NA		5.2	Y	Absent		SUB-ETHANOL(14)
L2006810-01H	Vial unpreserved	A	NA		5.2	Y	Absent		SUB-ETHANOL(14)
L2006810-01J	Plastic 250ml HNO3 preserved	A	<2	<2	5.2	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),HG-U(28),SE-2008T(180),AS-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2006810-01K	Plastic 250ml NaOH preserved	A	>12	>12	5.2	Y	Absent		TCN-4500(14)
L2006810-01L	Plastic 500ml H2SO4 preserved	A	<2	<2	5.2	Y	Absent		NH3-4500(28)
L2006810-01M	Plastic 950ml unpreserved	A	7	7	5.2	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1)
L2006810-01N	Plastic 950ml unpreserved	A	7	7	5.2	Y	Absent		TSS-2540(7)
L2006810-01P	Amber 950ml H2SO4 preserved	A	<2	<2	5.2	Y	Absent		TPHENOL-420(28)
L2006810-01Q	Amber 1000ml Na2S2O3	A	7	7	5.2	Y	Absent		PCB-608.3(7)
L2006810-01R	Amber 1000ml Na2S2O3	A	7	7	5.2	Y	Absent		PCB-608.3(7)
L2006810-01S	Amber 1000ml Na2S2O3	A	7	7	5.2	Y	Absent		625.1-RGP(7)
L2006810-01T	Amber 1000ml Na2S2O3	A	7	7	5.2	Y	Absent		625.1-RGP(7)

*Values in parentheses indicate holding time in days

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Report Date: 02/26/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2006810-01U	Amber 1000ml Na2S2O3	A	7	7	5.2	Y	Absent		625.1-SIM-RGP(7)
L2006810-01V	Amber 1000ml Na2S2O3	A	7	7	5.2	Y	Absent		625.1-SIM-RGP(7)
L2006810-01W	Amber 1000ml HCl preserved	A	NA		5.2	Y	Absent		TPH-1664(28)
L2006810-01X	Amber 1000ml HCl preserved	A	NA		5.2	Y	Absent		TPH-1664(28)
L2006810-01Z	Amber 120ml unpreserved	A	7	7	5.2	Y	Absent		ARCHIVE()
L2006810-01Z1	Amber 1000ml unpreserved	A	7	7	5.2	Y	Absent		ARCHIVE()
L2006810-01Z2	Amber 1000ml unpreserved	A	7	7	5.2	Y	Absent		ARCHIVE()

*Values in parentheses indicate holding time in days

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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

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1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less

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Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 2/14/20

ALPHA Job #: L2006810

ALPHA
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: VERTEX

Address: 400 Libbey Industrial Pkwy, Weymouth MA 02189

Phone: 781-952-6000

Email: pplante@vertexeng.com

Project Information

Project Name: Chelsea Phase II

Project Location: Chelsea, MA

Project #: 42090

Project Manager: Patrice Plante

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☐ Same as Client Info PO #: 42090

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods

☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)

☒ Yes ☐ No NPDES RGP

☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 5-DAY TAT

Additional Project Information:

NPDES RGP Parameters

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2

SVOC: ☐ ABN ☐ PAH

METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15

METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13

EPH: ☐ Ranges & Targets ☐ Ranges Only

VPH: ☐ Ranges & Targets ☐ Ranges Only

☒ PCB ☐ PEST

TPH: ☐ Quant Only ☐ Fingerprint

TPH - 1664

Total Metals 6020A

Total Suspended Solids

TCLP

EPS

Hexcr, TRC, Cl, Total Cyanide

SAMPLE INFO

Filtration
☐ Field
☐ Lab to do

Preservation
☐ Lab to do

Sample Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	TPH - 1664	Total Metals 6020A	Total Suspended Solids	TCLP	EPS	Hexcr, TRC, Cl, Total Cyanide	Sample Comments	TOTAL # BOTTLES
06810-01	Island End Outlet	2/13/20	12.00	GW	TP	X	X					X		X	X	X	X	X	X		17
Container Type						V	A					A		A	P	P	P	V	P		
Preservative						B	A					14		B	C	A	E	H	A		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	2/14/20 1314	AAL	2/14/20 1314
AAL	2/14 1830	BAR	2/14/20 1830

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2006810

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 603.319.5010 Email: mgulli@alphalab.com	Project Location: MA Project Manager: Melissa Gulli **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2006810

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	ISLAND END OUTLET	02-14-20 12:00	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/n/20		
Form No: AL_subcoc				

February 25, 2020

Melissa Gulli
Alpha Analytical
145 Flanders Road
Westborough, MA 01581
TEL: (603) 319-5010
FAX:

RE: L2006810 **WorkOrder:** 20020980

Dear Melissa Gulli:

TEKLAB, INC received 1 sample on 2/18/2020 9:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling II

Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020980
Client Project: L2006810
Report Date: 25-Feb-2020

This reporting package includes the following:

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 20020980

Client Project: L2006810 **Report Date:** 25-Feb-2020

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
C -	RL shown is a Client Requested Quantitation Limit	E -	Value above quantitation range
H -	Holding times exceeded	I -	Associated internal standard was outside method criteria
J -	Analyte detected below quantitation limits	M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits	T -	TIC(Tentatively identified compound)
X -	Value exceeds Maximum Contaminant Level		

Teklab, Inc. Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: Alpha Analytical

Client Project: L2006810

Work Order: 20020980

Report Date: 25-Feb-2020

Cooler Receipt Temp: 2.8 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020980
Client Project: L2006810
Report Date: 25-Feb-2020

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	3/3/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2020	Collinsville
Arkansas	ADEQ	88-0966		3/14/2021	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Tennessee	TDEC	04905		3/3/2020	Collinsville

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020980
Client Project: L2006810
Report Date: 25-Feb-2020
Lab ID: 20020980-001
Client Sample ID: Island End Outlet
Matrix: AQUEOUS
Collection Date: 02/14/2020 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	02/19/2020 13:56	R273169

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006810

Work Order: 20020980
Report Date: 25-Feb-2020

EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORG

Batch R273169 **SampType:** MBLK Units **mg/L**
SampID: MBLK-021920

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**ND**						02/19/2020

Batch R273169 **SampType:** LCS Units **mg/L**
SampID: LCS-021920

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**220**	250.0	0	87.2	70	132	02/19/2020

Batch R273169 **SampType:** MS Units **mg/L**
SampID: 20020982-002AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**240**	250.0	0	95.8	70	132	02/19/2020

Batch R273169 **SampType:** MSD Units **mg/L** RPD Limit **30**
SampID: 20020982-002AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethanol	20		**240**	250.0	0	94.5	239.5	1.37	02/19/2020

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006810

Work Order: 20020980
Report Date: 25-Feb-2020

Carrier: UPS

Received By: AH

Completed by: Amanda R. Ham
On: 18-Feb-2020

Reviewed by: Elizabeth A. Hurley
On: 18-Feb-2020

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C **2.8**
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2006810

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2006810

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
L2006810-001	ISLAND END OUTLET	02-14-20 12:00	WATER	Ethanol by EPA 1671 Revision A	

2.8°C UGG is ok
DHS 2/18/20

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/18/20	UPS	2/19/20 0920
Form No: AL_subcoc				

VK 2/19/20

Appendix G
Notice of Intent

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Chelsea Phase II</td><td colspan="3">Site address:
Street: 250 Vale Street</td></tr>
<tr><td>City: Chelsea</td><td>State: MA</td><td>Zip: 02150</td></tr>
<tr><td rowspan="4">2. Site owner
Fairfield Chelsea Phase II LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Matthew Lynn</td></tr>
<tr><td colspan="2">Telephone: 703.474.8407</td><td>Email: mlynn@ffres.com</td></tr>
<tr><td colspan="3">Mailing address: 3811 N. Fairfax Drive, Suite 750
Street:</td></tr>
<tr><td>City: Arlington</td><td>State: VA</td><td>Zip: 22203</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
James T. Lynch Construction
77 Lowell Junction Road
Andover, MA 01810</td><td colspan="3">Contact Person: Patrice Plante - The Vertex Companies, Inc.</td></tr>
<tr><td colspan="2">Telephone: 781.952.6000</td><td>Email: pplante@vertexeng.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 400 Libbey Parkway</td></tr>
<tr><td>City: Weymouth</td><td>State: MA</td><td>Zip: 02189</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
N/A

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
3-21194, 3-33662
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Mystic River	MA71-03	SB (CSO)

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. Category 5 (ammonia, fecal coliform, foam/flocs/scum/oil slicks, other, DO, PCBs in fish tissue, pet. hydrocarbons, sediment screening value, taste/odor

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	0.021 Ft^3/S
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1.00

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: Yes. March 3, 2020 - correspondence attached.

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: MTBE, Lead, Benzene, Toluene, Naphthalene, 2-Methylnaphthalene, VPH, Zinc	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): IE-3 (Island End River)	Outfall location(s): (Latitude, Longitude) 42°23'39.82" N ° 71 02'58.86" W
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge to the City of Chelsea, MA catch basin(s) and eventually Island End River, which flows into Mystic River. Storm water system is solely storm wa ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ■ No	
Provide the expected start and end dates of discharge(s) (month/year): April 2020-April 2021 Indicate if the discharge is expected to occur over a duration of: ☐ less than 12 months ■ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>■ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

■ A. Inorganics
■ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
■ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
■ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	2	4500NH3	75	12800	8850	Report mg/L	---
Chloride		✔	2	44,300.0	25000	684000	559500	Report µg/l	---
Total Residual Chlorine	✔		2	121,4500C	20	<20	<20	0.2 mg/L	8.9
Total Suspended Solids		✔	2	121,2540D	5000	200000	103700	30 mg/L	---
Antimony		✔	2	6020A	4	14.05	9.52	206 µg/L	761
Arsenic		✔	2	6010C	1	6.19	5.15	104 µg/L	43
Cadmium		✔	2	6010C	0.2	0.31	0.255	10.2 µg/L	10.5
Chromium III	✔		2	6010C	10	<10	<10	323 µg/L	118.9
Chromium VI	✔		2	6010C	10	<10	<10	323 µg/L	60
Copper		✔	2	3,200.8	1	67.79	65.96	242 µg/L	3.7
Iron		✔	2	19,200.7	50	4520	2479	5,000 µg/L	--
Lead		✔	2	6010C	1	23.07	21.715	160 µg/L	8.5
Mercury	✔		2	7471A	0.2	<0.2	<0.2	0.739 µg/L	1.13
Nickel		✔	2	6020A	2	15.52	13.515	1,450 µg/L	9.8
Selenium	✔		2	6010C	5	<5	<5	235.8 µg/L	85
Silver	✔		2	6020A	0.4	<0.4	<0.4	35.1 µg/L	2.7
Zinc		✔	2	3,200.8	10	94.86	61.35	420 µg/L	102
Cyanide		✔	2	121,4500C	5	10	7.5	178 mg/L	1.2
B. Non-Halogenated VOCs									
Total BTEX	✔		2	8260C	<1	10.8	5.9	100 µg/L	---
Benzene	✔		2	8260C	1	<1	<1	5.0 µg/L	---
1,4 Dioxane	✔		2	8260C	50	<50	<50	200 µg/L	---
Acetone		✔	2	8260C	10	140	112	7.97 mg/L	---
Phenol	✔		2	8270D	30	<30	<30	1,080 µg/L	357

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		2	8260C	1	<1	<1	4.4 µg/L	1.9
1,2 Dichlorobenzene	✔		2	8260C	5	<5	<5	600 µg/L	---
1,3 Dichlorobenzene	✔		2	8260C	5	<5	<5	320 µg/L	---
1,4 Dichlorobenzene	✔		2	8260C	5	<5	<5	5.0 µg/L	---
Total dichlorobenzene	✔		2	8260C	5	<5	<5	763 µg/L in NH	---
1,1 Dichloroethane	✔		2	8260C	1.5	<1.5	<1.5	70 µg/L	---
1,2 Dichloroethane	✔		2	8260C	1.5	<1.5	<1.5	5.0 µg/L	---
1,1 Dichloroethylene	✔		2	8260C	1	<1	<1	3.2 µg/L	---
Ethylene Dibromide	✔		2	8260C	0.01	<0.01	<0.01	0.05 µg/L	---
Methylene Chloride	✔		2	8260C	1	<1	<1	4.6 µg/L	---
1,1,1 Trichloroethane	✔		2	8260C	2	<2	<2	200 µg/L	---
1,1,2 Trichloroethane	✔		2	8260C	1.5	<1.5	<1.5	5.0 µg/L	---
Trichloroethylene	✔		2	8260C	1	<1	<1	5.0 µg/L	---
Tetrachloroethylene	✔		2	8260C	1	<1	<1	5.0 µg/L	3.9
cis-1,2 Dichloroethylene	✔		2	8260C	1	<1	<1	70 µg/L	---
Vinyl Chloride	✔		2	8260C	1	<1	<1	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		2	8270D	5	<5	<5	190 µg/L	--
Diethylhexyl phthalate	✔		2	8270D	2.2	<2.2	<2.2	101 µg/L	2.6
Total Group I PAHs		✔	2	EPA-04-1	0.1	0.11	0.105	1.0 µg/L	---
Benzo(a)anthracene	✔		2	EPA-04-1	0.1	<0.1	<0.1	As Total PAHs	0.0045
Benzo(a)pyrene	✔		2	EPA-04-1	0.1	<0.1	<0.1		0.0045
Benzo(b)fluoranthene	✔		2	EPA-04-1	0.1	<0.1	<0.1		0.0045
Benzo(k)fluoranthene	✔		2	EPA-04-1	0.1	<0.1	<0.1		0.0045
Chrysene	✔		2	EPA-04-1	0.1	<0.1	<0.1		0.0045
Dibenzo(a,h)anthracene	✔		2	EPA-04-1	0.1	<0.1	<0.1		0.0045
Indeno(1,2,3-cd)pyrene	✔		2	EPA-04-1	0.1	<0.1	<0.1		0.0045

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	2	EPA-04-1	0.1	0.12	0.11	100 µg/L	---
Naphthalene		✔	2	EPA-04-1	0.1	0.44	0.27	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs			2	8082A	0.25	<0.25	<0.25	0.000064 µg/L	---
Pentachlorophenol	✔		2	8082A	1	<1	<1	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		2	EPH-04-1	4000	<4000	<4000	5.0 mg/L	---
Ethanol	✔		2	8260C	20000	<20000	<20000	Report mg/L	---
Methyl-tert-Butyl Ether	✔		2	8260C	10	<10	<10	70 µg/L	24
tert-Butyl Alcohol	✔		2	8260C	100	<100	<100	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		2	8260C	20	<20	<20	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
1,2-Dibromoethane	✔		2	14,504.1	0.010	<0.010	<0.010		
pH		✔	2	Field		9.43	8.365		
Temperature		✔	2	Field		6.39	5.59		
Salinity		✔	2	Fied		1.72	1.385		

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ■ Advanced Oxidation Processes ☐ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
☐ Ion Exchange ■ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

The treatment system will consist of a construction dewatering pump that will pump water to a baffled frac tank with bubbler for oxidation of dissolved metals and with optional pH adjustment. The water then be pumped through a bag filter and granular activated carbon vessels. Untreated water may be stored in holding tanks to provide adequate storage while waiting for discharge. Treated water will be pumped to a storm water drain located in Vale Street which is connected to a subsurface drainage structure that discharges to the Island End River outfall. The maximum combined design flow capacity will not exceed 100 gallons per minute (gpm).

Identify each major treatment component (check any that apply):

■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ■ Media filter
■ Chemical feed tank ☐ Air stripping unit ■ Bag filter ■ Other; if so, specify: Aeration/Oxidation

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: sedimentation removal Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50 gpm
Provide the proposed maximum effluent flow in gpm.	50 gpm
Provide the average effluent flow in gpm.	25 gpm
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ■ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ■ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ■ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:
To be implemented as necessary, dependent on final treatment system design.

2. Provide the following information for each chemical/additive, using attachments, if necessary:
Chemical/Additive information will be provided as necessary depending on treatment system design.
a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ■ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive?
(check one): ■ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☐ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

■ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ■ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ■ Yes ☐ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes ☐ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement:	A BMPP meeting the requirements of this general permit will be developed and implemented upon the initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ■
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■ No ☐ NA ■
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ■ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ■ No ☐ NA ■
Signature: Matthew Lynn	Date: 4/2/2020
Print Name and Title: MATTHEW LYNN PROJECT MANAGER	