Stantec Consulting Services, Inc.
400 Crown Colony Drive, Suite 200, Quincy, MA 02169

February 21, 2020
File: 195601892

Attention: US Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square – Suite 100 (OEP06-01)
Boston, Massachusetts 02109

Attn: Shelley Puleo
Shauna Little
EPA / OEP RGP Applications Coordinator

Reference: Remediation General Permit (RGP)
30 Penniman Road
Allston, Massachusetts

On behalf of our client, 30 Penn, LLC, Stantec Consulting Services, Inc. has prepared this submission for a National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) to facilitate off-site discharge of dewatering effluent generated during construction activities beneath 30 Penniman Road in Allston, Massachusetts (the Site, see Figure 1). The information presented herein has been prepared to follow requirements of the 2017 US Environmental Protection Agency (EPA) NPDES RGP. A copy of the completed Notice of Intent (NOI) form is enclosed as Appendix A.

Since the Site is a listed Massachusetts of Department of Environmental Protection (MassDEP) Massachusetts Contingency Plan (MCP) Disposal Site (discussed below), notification to the State is not required.

SITE HISTORY AND EXISTING CONDITIONS

The parcel associated with the Site consists of approximately 11,639 square feet of land with frontage along Penniman Road on the west side. The Site was part of a commercial property developed before 1925 by the Albany Carpet Cleaning Company. This company occupied the Site until around 1975 when the usage changed to commercial activities mainly associated with artist tenant rentals. The Site currently consists of a construction site which is being developed into a multi-story residential / commercial building. The Site associated with this NPDES RGP is delineated within the extent of the area of the parcel (see Figure 2).

The Albany Carpet Cleaning Company occupied 18 to 30 Penniman Road and was a carpet and upholstery cleaning business. A release at the former Albany Carpet Cleaning Company from former fuel oil USTs located in a courtyard adjacent to the north of the Site was managed under MassDEP Release Tracking Number (RTN) 3-16868. The majority of impacted soil was excavated from the accessible portions of the courtyard in early response actions. Some oil was not accessible since it had migrated as non-aqueous phase liquid (NAPL) beneath the former Site building and a former abutting building to the north. The abutting parcel to the north was redeveloped and underwent extensive excavation up to 10 feet below grade. The excavation extended up to the northern side of the Site. Subsequent assessment indicated that

the excavation at the abutting parcel eliminated the remaining petroleum NAPL beneath the former Site building.

A second DEP RTN 3-27600 was linked to the Albany Carpet Cleaning Company's Primary RTN 3-16868 for lead detected in soil samples collected beneath the former building. Similar lead impacts were observed within the excavated area of the abutting property. Subsequent evaluation indicated the presence of lead was likely the result of the placement of historic fill and not associated with a release.

Based upon the historic fill determination for the lead, and the elimination of the fuel oil and the waste oil NAPLs, the RTNs were closed with the submittal to MassDEP of a Permanent Solution Statement with No Conditions dated June 13, 2017.

NEW RELEASE NOTIFICATION

As part of soil characterization activities, Stantec collected soil samples across the Site on January 9, 2020. The samples were submitted to Phoenix Environmental Laboratory located in Manchester, Connecticut for waste characterization analyses. The analytical results indicate that mercury and zinc were detected is soil at concentrations that exceed the applicable MassDEP RCS-1 reportable concentrations. The impacts were limited to a surface fill layer. Accordingly, on February 3, 2020, 30 Penn, LLC notified the MassDEP and the RTN 3-36120 was issued. TCLP results for mercury were below the laboratory method detection limits (set below the EPA threshold) indicating the mercury is not likely to leach. This mercury and zinc-impacted fill material is scheduled for excavation and off-Site disposal prior to the start of dewatering activities.

PROPOSED CONSTRUCTION

The proposed project consists of excavating the footprint of the parcel for construction of footings and an elevator shaft for the proposed building. The excavation will extend up to 20 feet below the current grade (approximate EL = 30 feet above NGVD). Depth to groundwater ranges between 6 and 11 feet below grade indicating excavation activities will need to be conducted below the water table.

CURRENT GROUNDWATER QUALITY DATA

To evaluate groundwater quality at the Site, two observation wells (C4 and D1 on Figure 2) were installed via the direct push drilling methodology. Groundwater samples were collected from the wells on January 10, 2020 and submitted to Phoenix Environmental Laboratory for analysis of RGP parameters. pH and temperature readings were collected in the field.

Results of the analyses indicated cis-1,2-dichloroethene, tetrachloroethylene, trichloroethylene, and vinyl chloride were detected at concentrations that exceed the applicable DEP Method 1 RCGW-2 reportable concentrations (see Table 1). These contaminants are associated with a nearby disposal site and are not due to releases at the Site so did not warrant a new notification to DEP. The nearby disposal site is known as the former Sunshine Laundry site and it is currently an active Massachusetts Contingency Plan (MCP) site under DEP RTN 3-0506. Copies of the laboratory reports are included in Appendix B. All other detected analytes were below the RCGW-2 reportable concentrations.

Reference: **Remediation General Permit (RGP) 30 Penniman Road Allston, Massachusetts**

RECEIVING WATERS SAMPLING AND DILUTION FACTOR

On February 14, 2020, Stantec collected one surface water sample designated CHAR-SW from upstream of the proposed SDO037 outfall location into the Charles River. The sample was submitted to Phoenix for total metals, ammonia and hardness. pH and temperature readings were collected in the field. The analytical results indicate that ammonia (as nitrogen) was detected at 0.14 mg/L, hardness was 74.4 mg/L, and iron and zinc were detected in the sample at low concentrations (see Table 2). A copy of the laboratory report is included in Appendix B.

The seven-day-ten-year flow (7Q10) of the receiving water was established using the U.S. Geological Survey (USGS) StreamStats program and confirmed by Massachusetts Department of Environmental Protection (MassDEP) on February 12, 2020. We have additionally confirmed with the MassDEP that the dilution factor for the receiving waters is 22.81. The StreamStats Report, Dilution Factor calculations, and confirmation from MassDEP are included in Appendix C.

EFFLUENT CRITERIA DOCUMENTATION

Groundwater and Receiving Water data were input into the MALimitsBook calculation spreadsheet provided by EPA. Per a communication with Shauna Little at EPA, the “FreshwaterResults” tab of the downloadable spreadsheet is being reviewed by EPA and not available to calculate the effluent criteria for the Site. Ms. Little indicated these values will be provided by EPA during their review of the NOI. A copy of the “EnterData” tab of the spreadsheet is included in Appendix C.

DEWATERING SYSTEM AND OFF-SITE DISCHARGE

During construction activities, it will be necessary to perform temporary dewatering to control surface water runoff from groundwater seepage to enable construction in-the-dry. Construction and construction dewatering activities are currently anticipated to be required for a period of over 6 months. On average, we estimate effluent discharge rates of up to 250 gallons per minute (gpm) or less, with occasional peak flows of approximately 500 gpm during significant precipitation events. Temporary dewatering will be conducted from wells located around the foundation excavation. Construction dewatering will include piping and discharging to a storm drain in the vicinity of the Site (BWSC catch basin at the southern end of Penniman Road) that discharges into the Charles River through outfall SDO037 (see Figure 3). Prior to discharge to remove suspended solids and dissolved and undissolved chemical constituents, collected water will be routed through a fractionation tank, bag filters and other necessary treatment components (i.e., granular activated carbon, GAC vessels) as shown on Figure 4. A Notice of Change (NOC) will be submitted to EPA if additional treatment components need to be mobilized at the Site.

DOCUMENTATION OF NATIONAL HISTORIC PRESERVATION ACT ELIGIBILITY REQUIREMENTS

Based on a review of the resources provided by the U.S. National Register of Historic Places and a review of the Massachusetts Cultural Resource Information System (MACRIS), no historic properties have been established to be present at the project Site, and discharges and discharge-related activities are not considered to have the potential to affect historic properties. The discharge is considered to meet Criterion A. Documentation is included in Appendix D.

Reference: **Remediation General Permit (RGP) 30 Penniman Road Allston, Massachusetts**

DETERMINATION OF ENDANGERED SPECIES ACT ELIGIBILITY

According to the guidelines outlined in Appendix I of the 2017 NPDES RGP, a preliminary determination for the action area associated with this project was established using the U.S. Fish and Wildlife Service (FWS) Information for Planning and Consultation (IPaC) online system. A copy of the determination is attached in Appendix E. Based on the results of the determination, the project and action area are considered to meet FWS Criterion A as no listed species or critical habitat have been established to be present within the project action area.

SUPPLEMENTAL INFORMATION

An application for temporary Dewatering Discharge Permit Application is being submitted concurrently to the Boston Water and Sewer Commission. A copy this application is provided in Appendix F. Approval will be received prior to the start of discharge. The Department of Conservation and Recreation (DCR) has determined the stormwater system is not a DCR asset and does not require DCR permitting for its use (see Appendix F).

A Best Management Practices plan (BMP), which outlines the proposed discharge operations covered under the RGP, will be available at the site and the requirements are included in Appendix G.

OWNER AND OPERATOR INFORMATION

Owner and Operator:

30 Penn, LLC
675 VFW Pkwy #195
Chestnut Hill, Massachusetts 02467
Attn: Steve Ballas
T: 617-888-3424

Reference: **Remediation General Permit (RGP) 30 Penniman Road Allston, Massachusetts**

CLOSING

Thank you very much for your consideration. Please feel free to contact us at your convenience.

Regards,

Stantec Consulting Services, Inc.

Richard Learned, LSP
Senior Environmental Project Manager
Phone: 508.591.4351
Richard.Learned@stantec.com

Joseph Salvetti, LSP
Senior Associate
Phone: 508.591.4327
Joseph.Salvetti@stantec.com

Attachment: FIGURES
TABLES
APPENDIX A – COPY OF NOTICE OF INTENT
APPENDIX B – COPIES OF LABORATORY REPORTS
APPENDIX C – DILUTION FACTOR AND EFFLUENT LIMIT CALCULATIONS
APPENDIX D – NATIONAL REGISTER OF HISTORIC PLACES DOCUMENTATION
APPENDIX E – ENDANGERED SPECIES ACT DOCUMENTATION
APPENDIX F – COPIES OF BWSC PERMIT APPLICATION AND DCR CORRESPONDENCE
APPENDIX G – BEST MANAGEMENT PRACTICES PLAN (BMPP)

c. 30 Penn, LLC
MassDEP
Boston Water and Sewer Commission

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FIGURES

Stantec

30 PENNIMAN ROAD
ALLSTON, MA

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
FEBRUARY 2020

FIGURE 1

HANO

PENNIMAN ROAD PLAY AREA

PENNIMAN ROAD

#32
PENNIMAN ROAD
FMR BLDG

#30
PENNIMAN ROAD

RGP SITE

PROPOSED BLDG

10

RUG

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400 Crown Colony Drive, Suite 200
Quincy MA
www.stantec.com

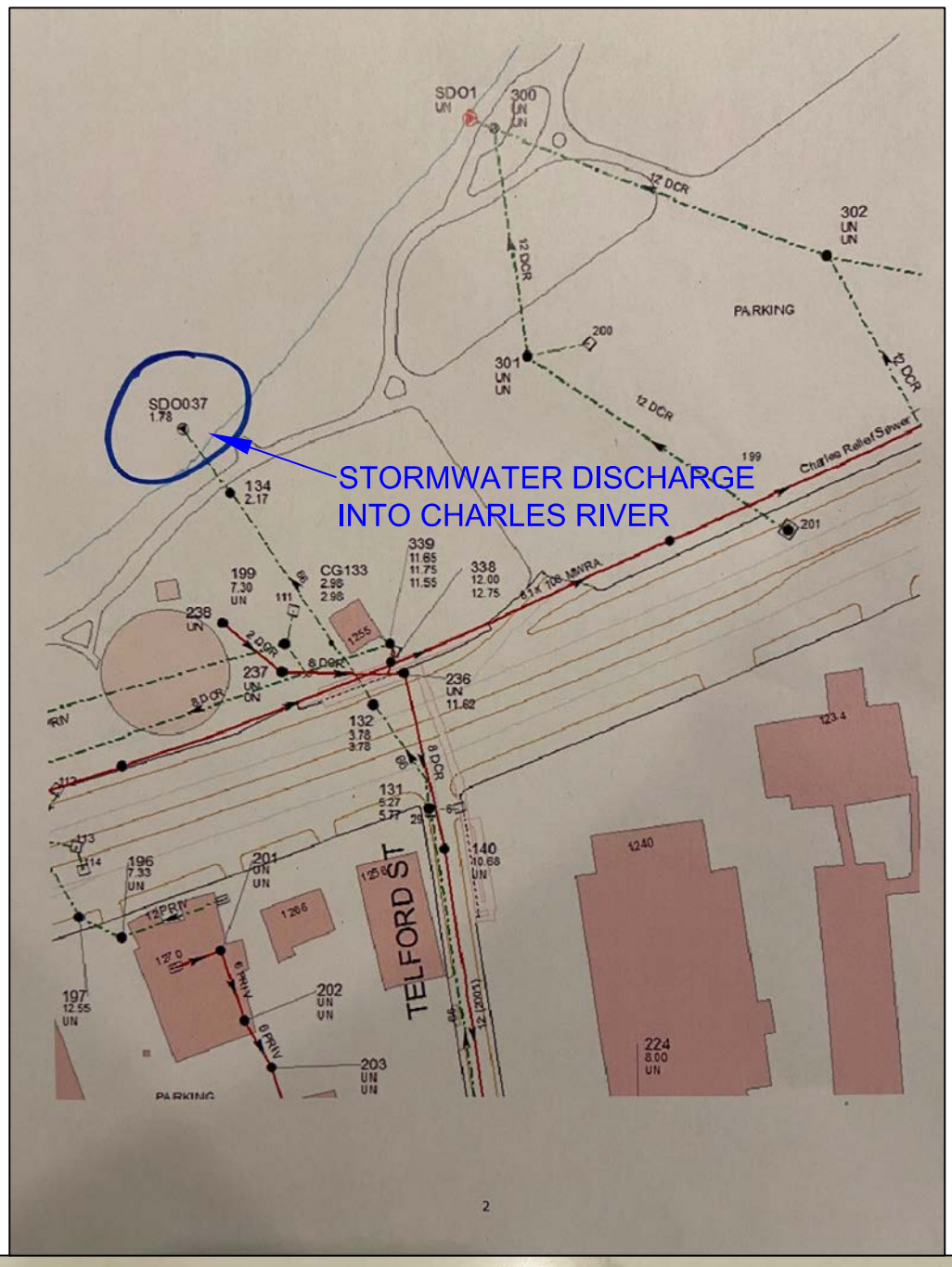
TITLE:
FIGURE 2
SITE PLAN
30 PENNIMAN ROAD
ALLSTON, MASSACHUSETTS

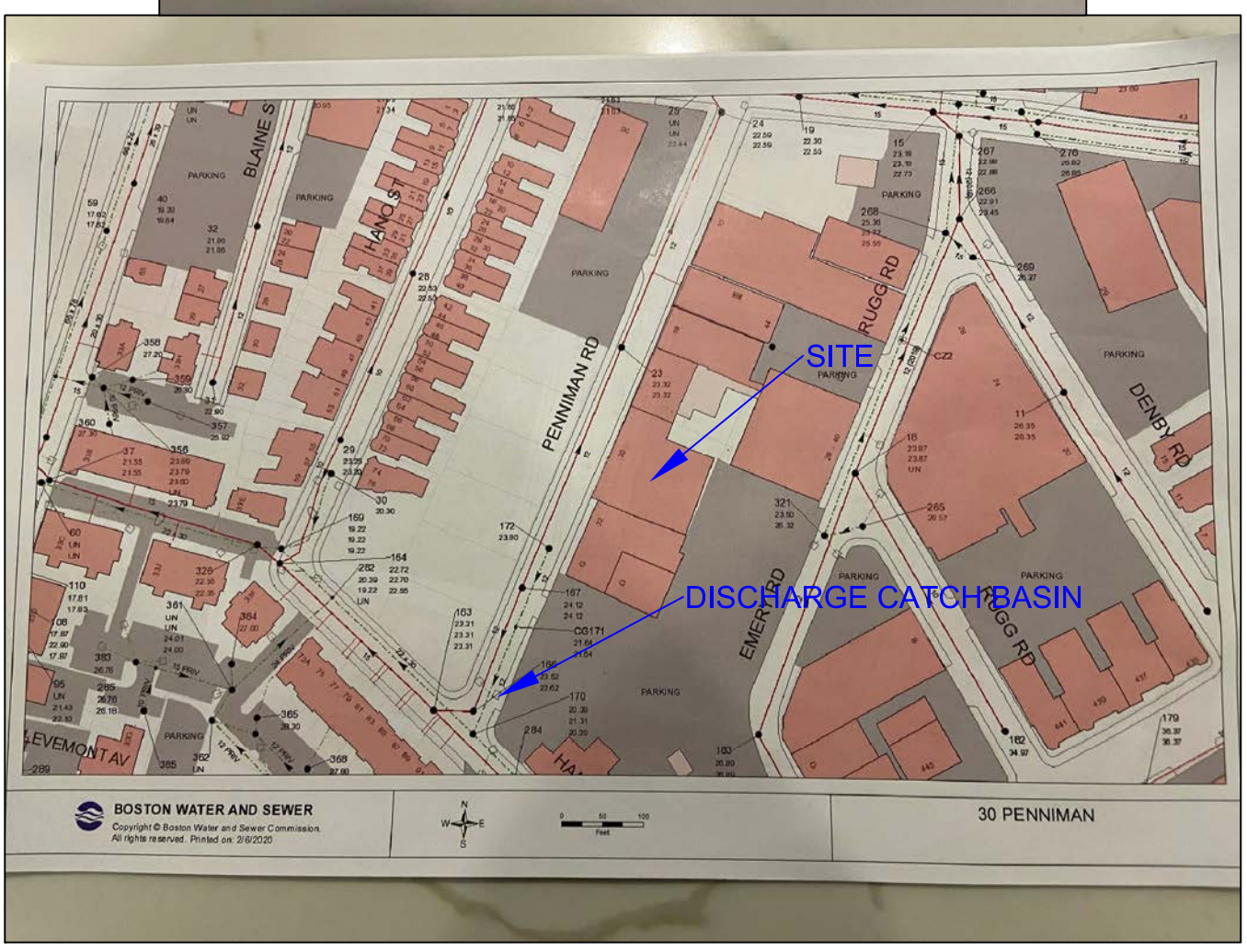
PREPARED FOR:
30 PENN, LLC
675 VFW PARKWAY #195
CHESTNUT HILL, MA

V:\1956\active\195601892\03_data\gis_cad\cad\Site Plan.dwg

SOURCE:
BASE MAP TAKEN FROM PLAN ENTITLED "VICINITY PLAN W/ GW CONTOURS (1/4/11)" BY ECS

CHECKED BY:	J.P.S.
EDITED BY:	R.B.L.
DATE:	FEB 2020
DWG SCALE:	1" = 30'
PROJECT NUMBER:	195601892
SHEET NO:	1 OF 1





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TITLE:
FIGURE 2
STORMWATER DISCHARGE PLAN
30 PENNIMAN ROAD
ALLSTON, MASSACHUSETTS

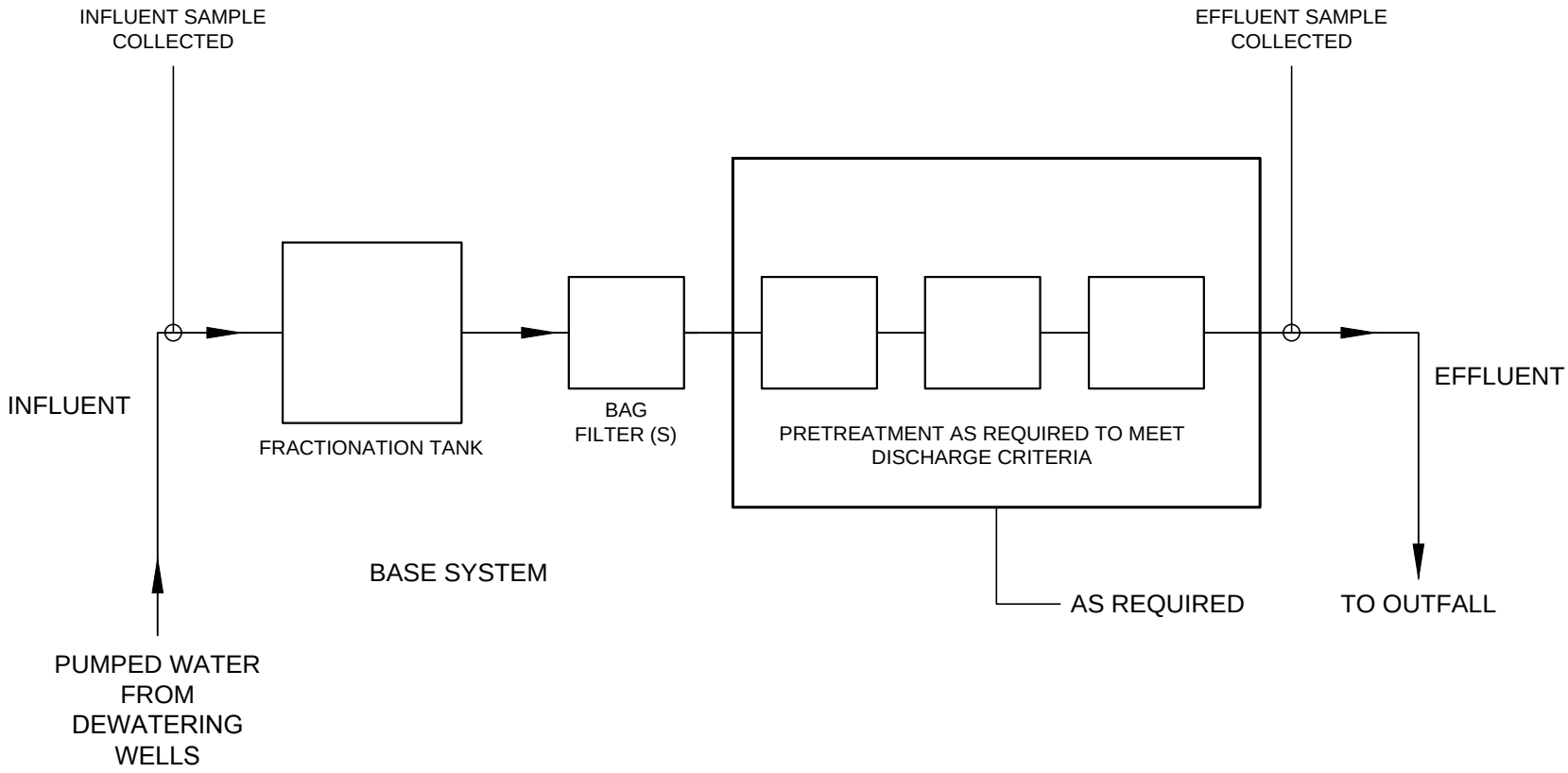
PREPARED FOR:
30 PENN, LLC
675 VFW PARKWAY #195
CHESTNUT HILL, MA

SOURCE:
PLANS FROM
BWSC FILES

CHECKED BY:	*J.P.S.*
EDITED BY:	*R.B.L.*
DATE:	*FEB 2020*
DWG SCALE:	*not to scale*

PROJECT NUMBER:
195601892

SHEET NO: 1 OF 1



LEGEND:

DIRECTION OF FLOW

NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

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30 PENNIMAN ROAD
ALLSTON, MASSACHUSETTS

PROJECT TREATMENT SYSTEM SCHEMATIC

FEBRUARY 2020

FIGURE 4

TABLES

Phoenix Environmental Laboratories, Inc Table 1 - Parameters in Groundwater for Remediation General Permit (RGP) Criteria

587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040
(860) 645-1102

Project: 30 PENNIMAN	Lab Sample Id / Collection Date / Client Id / Matrix / CAS	Units	RCGW-2	CF10994 01/10/2020 C4 GW Result	CF10995 01/10/2020 D1 GW Result	CF11044 01/13/2020 TRIP BLANK WATER Result
Miscellaneous/Inorganics						
1,2-Dibromoethane (EDB)	106-93-4	ug/L	2		< 0.02	
Ammonia as Nitrogen	7664-41-7	mg/L	10		0.7	
Chloride	16887-00-6	mg/L			291	
Chlorine Residual	7782-50-5	mg/L			< 0.02	
Ethanol	64-17-5	ug/L	10000		< 400	
O&G, Non-polar Material	PHNX - OIL-GREASE-NP	mg/L			< 1.4	
Total Cyanide	57-12-5	mg/L	0.03		< 0.010	
Total Suspended Solids	PHNX - TOTSUSPENDSOL	mg/L			56	
pH	field	pH Units		6.7	6.6	
Hardness	PHNX - HARDNESS	mg/L		567	470	
Metals Total						
Antimony	7440-36-0	mg/L	8	< 0.005	< 0.005	
Arsenic	7440-38-2	mg/L	0.9	< 0.004	0.011	
Cadmium	7440-43-9	mg/L	0.004	< 0.001	< 0.001	
Chromium	7440-47-3	mg/L	0.3	0.009	0.007	
Chromium, Trivalent	16065-83-1	mg/L	0.6		0.007	
Chromium, Hexavalent	18540-29-9	mg/L	0.3		< 0.01	
Copper	7440-50-8	mg/L	100		0.005	
Iron	7439-89-6	mg/L			10	
Lead	7439-92-1	mg/L	0.01	0.006	0.009	
Mercury	7439-97-6	mg/L	0.02	< 0.0002	< 0.0002	
Nickel	7440-02-0	mg/L	0.2	0.008	0.011	
Selenium	7782-49-2	mg/L	0.1	< 0.010	< 0.010	
Silver	7440-22-4	mg/L	0.007	< 0.001	< 0.001	
Zinc	7440-66-6	mg/L	0.9	0.013	0.034	
Polychlorinated Biphenyls - SW8082A						
PCB-1016	12674-11-2	ug/L	5		< 0.048	
PCB-1221	11104-28-2	ug/L	5		< 0.048	
PCB-1232	11141-16-5	ug/L	5		< 0.048	
PCB-1242	53469-21-9	ug/L	5		< 0.048	
PCB-1248	12672-29-6	ug/L	5		< 0.048	
PCB-1254	11097-69-1	ug/L	5		< 0.048	
PCB-1260	11096-82-5	ug/L	5		< 0.048	
PCB-1262	37324-23-5	ug/L			< 0.048	
PCB-1268	11100-14-4	ug/L			< 0.048	
TOTAL PCBs					0	
MA Volatile Petroleum Hydrocarbons (VPH) - MA VPH 5/2004						
C5-C8 Aliphatic Hydrocarbons *1,2	PHNX - C5-C8	ug/L	3000	< 100		
C9-C12 Aliphatic Hydrocarbons *1,3	PHNX - C9-C12	ug/L	5000	< 100		
C9-C10 Aromatic Hydrocarbons *1	PHNX - C9-C10	ug/L	4000	< 100		
Benzene	71-43-2	ug/L	1000	< 1.0		
Ethyl Benzene	100-41-4	ug/L	20000	< 1.0		
m,p-Xylenes	179601-23-1	ug/L		< 2.0		
MTBE	1634-04-4	ug/L	50000	< 1.0		
Naphthalene	91-20-3	ug/L	700	< 5.0		
o-Xylene	95-47-6	ug/L		< 1.0		
Toluene	108-88-3	ug/L	50000	< 1.0		
TOTAL XYLENES			3000	0		
TOTAL BTEX				0		

Phoenix Environmental Laboratories, Inc Table 1 - Parameters in Groundwater for Remediation General Permit (RGP) Cri

587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040
(860) 645-1102

Project: 30 PENNIMAN	Lab Sample Id / Collection Date / Client Id / Matrix / CAS	Units	RCGW-2	CF10994 01/10/2020 C4 GW Result	CF10995 01/10/2020 D1 GW Result
MA EPH Aliphatic/Aromatic Ranges - MAEPH 5/2004					
C9-C18 Aliphatic Hydrocarbons 1*	PHNX - C9-C18	ug/L	5000	< 190	
C19-C36 Aliphatic Hydrocarbons 1*	PHNX - C19-C36	ug/L	50000	< 190	
C11-C22 Aromatic Hydrocarbons 1,2*	PHNX - C11-C22	ug/L	5000	< 190	
Total TPH 1,2*	PHNX - EPH	ug/L		< 190	
Semivolatiles (SIM) - SW8270D (SIM)					
Acenaphthene	83-32-9	ug/L	6000	0.64	< 0.48
Acenaphthylene	208-96-8	ug/L	40	0.13	< 0.10
Anthracene	120-12-7	ug/L	30	< 0.09	< 0.09
Benz(a)anthracene	56-55-3	ug/L	1000	< 0.09	< 0.10
Benzo(a)pyrene	50-32-8	ug/L	500	< 0.19	< 0.19
Benzo(b)fluoranthene	205-99-2	ug/L	400	< 0.09	< 0.10
Benzo(ghi)perylene	191-24-2	ug/L	20	< 0.02	< 0.02
Benzo(k)fluoranthene	207-08-9	ug/L	100	< 0.09	< 0.10
Chrysene	218-01-9	ug/L	70	< 0.05	< 0.05
Dibenz(a,h)anthracene	53-70-3	ug/L	40	< 0.02	< 0.02
Fluoranthene	206-44-0	ug/L	200	< 0.47	< 0.48
Fluorene	86-73-7	ug/L	40	1.1	< 0.10
Hexachlorobenzene	118-74-1	ug/L	1		< 0.48
Hexachlorobutadiene	87-68-3	ug/L	1		< 0.48
Hexachlorocyclopentadiene	77-47-4	ug/L	5000		< 0.48
Indeno(1,2,3-cd)pyrene	193-39-5	ug/L	100	< 0.09	< 0.10
N-Nitrosodimethylamine	62-75-9	ug/L	5000		< 0.48
2-Methylnaphthalene	91-57-6	ug/L	2000	< 0.47	< 0.48
Naphthalene	91-20-3	ug/L	700	< 0.47	0.59
Nitrobenzene	98-95-3	ug/L	50000		< 0.48
Pentachlorophenol	87-86-5	ug/L	200		< 0.48
Phenanthrene	85-01-8	ug/L	10000	< 0.47	< 0.48
Pyrene	129-00-0	ug/L	20	0.1	< 0.07
Pyridine	110-86-1	ug/L	50000		< 1.9
TOTAL GROUP 1 PAHs				0	0
Semivolatiles - SW8270D					
1,2,4,5-Tetrachlorobenzene	95-94-3	ug/L	100000		< 3.3
1,2,4-Trichlorobenzene	120-82-1	ug/L	200		< 4.8
1,2-Dichlorobenzene	95-50-1	ug/L	2000		< 2.4
1,2-Diphenylhydrazine	122-66-7	ug/L	5000		< 4.8
1,3-Dichlorobenzene	541-73-1	ug/L	2000		< 2.4
1,4-Dichlorobenzene	106-46-7	ug/L	200		< 2.4
2,4,5-Trichlorophenol	95-95-4	ug/L	3000		< 0.95
2,4,6-Trichlorophenol	88-06-2	ug/L	500		< 0.95
2,4-Dichlorophenol	120-83-2	ug/L	2000		< 0.95
2,4-Dimethylphenol	105-67-9	ug/L	40000		< 0.95
2,4-Dinitrophenol	51-28-5	ug/L	20000		< 0.95
2,4-Dinitrotoluene	121-14-2	ug/L	20000		< 4.8
2,6-Dinitrotoluene	606-20-2	ug/L	2000		< 4.8
2-Chloronaphthalene	91-58-7	ug/L	100000		< 4.8
2-Chlorophenol	95-57-8	ug/L	7000		< 0.95
2-Methylphenol (o-cresol)	95-48-7	ug/L	50000		< 0.95
2-Nitroaniline	88-74-4	ug/L			< 4.8
2-Nitrophenol	88-75-5	ug/L	10000		< 0.95
3&4-Methylphenol (m&p-cresol)	PHNX - M&P CRESOL	ug/L			< 9.5
3,3'-Dichlorobenzidine	91-94-1	ug/L	2000		< 4.8
3-Nitroaniline	99-09-2	ug/L			< 4.8
4,6-Dinitro-2-methylphenol	534-52-1	ug/L	5000		< 0.95
4-Bromophenyl phenyl ether	101-55-3	ug/L	10000		< 4.8
4-Chloro-3-methylphenol	59-50-7	ug/L	100000		< 0.95
4-Chloroaniline	106-47-8	ug/L	300		< 4.8
4-Chlorophenyl phenyl ether	7005-72-3	ug/L	100000		< 0.95
4-Nitroaniline	100-01-6	ug/L	100000		< 4.8
4-Nitrophenol	100-02-7	ug/L	10000		< 0.95
Acetophenone	98-86-2	ug/L	100000		< 4.8
Aniline	62-53-3	ug/L	100000		< 4.8
Benzidine	92-87-5	ug/L	1000		< 4.8
Benzoic acid	65-85-0	ug/L	100000		< 48
Benzyl butyl phthalate	85-68-7	ug/L	10000		< 4.8
Bis(2-chloroethoxy)methane	111-91-1	ug/L	50000		< 4.8
Bis(2-chloroethyl)ether	111-44-4	ug/L	30		< 0.95
Bis(2-chloroisopropyl)ether	39638-32-9	ug/L	100		< 4.8
Bis(2-ethylhexyl)phthalate	117-81-7	ug/L	50000		< 0.95
Carbazole	86-74-8	ug/L			< 4.8
Di-n-butylphthalate	84-74-2	ug/L	5000		< 4.8
Di-n-octylphthalate	117-84-0	ug/L	100000		< 4.8
Dibenzofuran	132-64-9	ug/L	10000		< 4.8
Diethyl phthalate	84-66-2	ug/L	9000		< 4.8
Dimethylphthalate	131-11-3	ug/L	50000		< 4.8
Hexachloroethane	67-72-1	ug/L	100		< 0.95
Isophorone	78-59-1	ug/L	10000		< 4.8
N-Nitrosodi-n-propylamine	621-64-7	ug/L	5000		< 4.8
N-Nitrosodiphenylamine	86-30-6	ug/L	10000		< 4.8
Pentachloronitrobenzene	82-68-8	ug/L	10000		< 2.4
Phenol	108-95-2	ug/L	2000		< 0.95
TOTAL SVOCs					0

Phoenix Environmental Laboratories, Inc. Table 1 - Parameters in Groundwater for Remediation General Permit (RGP) Crit

587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040
(860) 645-1102

Project: 30 PENNIMAN	Lab Sample Id Collection Date Client Id Matrix CAS	Units	RCGW-2	CF10994 01/10/2020 C4 GW Result	CF10995 01/10/2020 D1 GW Result
Volatiles - SW8260C					
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	10	< 1.0	< 1.0
1,1,1-Trichloroethane	71-55-6	ug/L	4000	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	79-34-5	ug/L	9	< 0.50	< 0.50
1,1,2-Trichloroethane	79-00-5	ug/L	900	< 1.0	< 1.0
1,1-Dichloroethane	75-34-3	ug/L	2000	< 1.0	< 1.0
1,1-Dichloroethene	75-35-4	ug/L	80	< 1.0	< 1.0
1,1-Dichloropropene	563-58-6	ug/L		< 1.0	< 1.0
1,2,3-Trichlorobenzene	87-61-6	ug/L		< 1.0	< 1.0
1,2,3-Trichloropropane	96-18-4	ug/L	10000	< 1.0	< 1.0
1,2,4-Trichlorobenzene	120-82-1	ug/L	200	< 1.0	< 1.0
1,2,4-Trimethylbenzene	95-63-6	ug/L	100000	< 1.0	4.7
1,2-Dibromo-3-chloropropane	96-12-8	ug/L	1000	< 1.0	< 1.0
1,2-Dibromoethane	106-93-4	ug/L	2	< 0.50	< 0.50
1,2-Dichlorobenzene	95-50-1	ug/L	2000	< 1.0	< 1.0
1,2-Dichloroethane	107-06-2	ug/L	5	< 0.60	< 0.60
1,2-Dichloropropane	78-87-5	ug/L	3	< 1.0	< 1.0
1,3,5-Trimethylbenzene	108-67-8	ug/L	1000	< 1.0	< 1.0
1,3-Dichlorobenzene	541-73-1	ug/L	2000	< 1.0	< 1.0
1,3-Dichloropropane	142-28-9	ug/L	50000	< 1.0	< 1.0
1,4-Dichlorobenzene	106-46-7	ug/L	200	< 1.0	< 1.0
2,2-Dichloropropane	594-20-7	ug/L		< 1.0	< 1.0
2-Chlorotoluene	95-49-8	ug/L	10000	< 1.0	< 1.0
2-Hexanone	591-78-6	ug/L	10000	< 5.0	< 5.0
2-Isopropyltoluene	527-84-4	ug/L		1.1	< 1.0
4-Chlorotoluene	106-43-4	ug/L		< 1.0	< 1.0
4-Methyl-2-pentanone	108-10-1	ug/L	50000	< 5.0	< 5.0
Acetone	67-64-1	ug/L	50000	< 25	< 25
Acrylonitrile	107-13-1	ug/L	10000	< 1.0	< 1.0
Benzene	71-43-2	ug/L	1000	< 0.70	< 0.70
Bromobenzene	108-86-1	ug/L	10000	< 1.0	< 1.0
Bromochloromethane	74-97-5	ug/L		< 1.0	< 1.0
Bromodichloromethane	75-27-4	ug/L	6	< 0.50	< 0.50
Bromoform	75-25-2	ug/L	700	< 1.0	< 1.0
Bromomethane	74-83-9	ug/L	7	< 1.0	< 1.0
Carbon Disulfide	75-15-0	ug/L	10000	< 5.0	< 5.0
Carbon tetrachloride	56-23-5	ug/L	2	< 1.0	< 1.0
Chlorobenzene	108-90-7	ug/L	200	< 1.0	< 1.0
Chloroethane	75-00-3	ug/L	10000	< 1.0	< 1.0
Chloroform	67-66-3	ug/L	50	< 1.0	< 1.0
Chloromethane	74-87-3	ug/L	10000	< 1.0	< 1.0
cis-1,2-Dichloroethene	156-59-2	ug/L	20	24	< 1.0
cis-1,3-Dichloropropene	10061-01-5	ug/L	5	< 0.40	< 0.40
Dibromochloromethane	124-48-1	ug/L	20	< 0.50	< 0.50
Dibromomethane	74-95-3	ug/L	50000	< 1.0	< 1.0
Dichlorodifluoromethane	75-71-8	ug/L	100000	< 1.0	< 1.0
Ethylbenzene	100-41-4	ug/L	5000	< 1.0	1
Hexachlorobutadiene	87-68-3	ug/L	1	< 0.40	< 0.40
Isopropylbenzene	98-82-8	ug/L	100000	2	1.9
m&p-Xylene	179601-23-1	ug/L		< 1.0	2.8
Methyl ethyl ketone	78-93-3	ug/L	5000	< 5.0	< 5.0
Methyl t-butyl ether (MTBE)	1634-04-4	ug/L	5000	< 1.0	< 1.0
Methylene chloride	75-09-2	ug/L	2000	< 1.0	< 1.0
n-Butylbenzene	104-51-8	ug/L		< 1.0	< 1.0
n-Propylbenzene	103-65-1	ug/L	10000	1.8	1.7
Naphthalene	91-20-3	ug/L	700	< 1.0	< 1.0
o-Xylene	95-47-6	ug/L	6000	< 1.0	< 1.0
p-Isopropyltoluene	99-87-6	ug/L	10000	< 1.0	< 1.0
sec-Butylbenzene	135-98-8	ug/L		1.6	1
Styrene	100-42-5	ug/L	100	< 1.0	< 1.0
tert-Butylbenzene	98-06-6	ug/L	10000	< 1.0	< 1.0
Tetrachloroethene	127-18-4	ug/L	50	100	< 1.0
Tetrahydrofuran (THF)	109-99-9	ug/L	50000	< 2.5	< 2.5
Toluene	108-88-3	ug/L	40000	< 1.0	< 1.0
Total Xylenes	1330-20-7	ug/L	500	< 1.0	2.8
trans-1,2-Dichloroethene	156-60-5	ug/L	80	5.4	< 1.0
trans-1,3-Dichloropropene	10061-02-6	ug/L	5	< 0.40	< 0.40
trans-1,4-dichloro-2-butene	110-57-6	ug/L	1000	< 5.0	< 5.0
Trichloroethene	79-01-6	ug/L	5	67	< 1.0
Trichlorofluoromethane	75-69-4	ug/L	100000	< 1.0	< 1.0
Trichlorotrifluoroethane	76-13-1	ug/L		< 1.0	< 1.0
Vinyl chloride	75-01-4	ug/L	2	10	< 1.0
TOTAL VOCs				212.9	15.9
TOTAL BTEX				0	3.8
1,4-dioxane - SW8270DSIM					
1,4-dioxane	123-91-1	ug/l	6000		< 0.20
Oxygenates & Dioxane - SW8260C (OXY)					
1,4-Dioxane	123-91-1	ug/L	6000	< 50	< 50
Di-isopropyl ether	108-20-3	ug/L	10000	< 1.0	< 1.0
Diethyl ether	60-29-7	ug/L	10000	< 1.0	< 1.0
Ethyl tert-butyl ether	637-92-3	ug/L		< 1.0	< 1.0
tert-amyl methyl ether	994-05-8	ug/L		< 1.0	< 1.0

Result Detected
Result Exceeds Criteria

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040
(860) 645-1102

Project Id : CHARLES RIVER

Table 2 - Parameters in Surface Water for Remediation General Permit (RGP) Criteria

	Lab Sample Id		CF32691	
	Collection Date		2/14/2020	
	Client Id		CHARLES RIVER	
	Matrix		Surface Water	
	CAS	Units	Result	RL
Miscellaneous/Inorganics				
Ammonia as Nitrogen	7664-41-7	mg/L	0.14	0.05
pH	PHNX - PH	pH Units	7.31	1.00
Salinity	7647-14-5	ppt	0.5	0.5
Hardness (CaCO3)	PHNX - HARDNESS	mg/L	74.4	0.1
Metals, Total				
Antimony	7440-36-0	mg/L	< 0.005	0.005
Arsenic	7440-38-2	mg/L	< 0.004	0.004
Cadmium	7440-43-9	mg/L	< 0.001	0.001
Chromium	7440-47-3	mg/L	< 0.001	0.001
Chromium, Trivalent	16065-83-1	mg/L	< 0.01	0.01
Chromium, Hexavalent	18540-29-9	mg/L	< 0.01	0.01
Copper	7440-50-8	mg/L	< 0.005	0.005
Iron	7439-89-6	mg/L	0.494	0.010
Lead	7439-92-1	mg/L	< 0.002	0.002
Mercury	7439-97-6	mg/L	< 0.0002	0.0002
Nickel	7440-02-0	mg/L	< 0.001	0.001
Selenium	7782-49-2	mg/L	< 0.010	0.010
Silver	7440-22-4	mg/L	< 0.001	0.001
Zinc	7440-66-6	mg/L	0.009	0.004

Notes
RL - laboratory reporting limit

Result Detected

APPENDIX A

COPY OF 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:
COMMERCIAL / RESIDENTIAL PROPERTY</td><td colspan="3">Site address: 30 PENNIMAN ROAD
Street:</td></tr>
<tr><td>City: ALLSTON</td><td>State: MA</td><td>Zip: 02134</td></tr>
<tr><td rowspan="4">2. Site owner
30 PENN, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: STEPHEN BALLAS</td></tr>
<tr><td colspan="2">Telephone: 617.888.3424</td><td>Email: STEVE@BALLASGROUP.COM</td></tr>
<tr><td colspan="3">Mailing address: 675 VFW PKWY #195
Street:</td></tr>
<tr><td>City: CHESTNUT HILL</td><td>State: MA</td><td>Zip: 02467</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
NA</td><td colspan="3">Contact Person: STEPHEN BALLAS</td></tr>
<tr><td colspan="2">Telephone: 617.888.3424</td><td>Email: STEVE@BALLASGROUP.COM</td></tr>
<tr><td colspan="3">Mailing address:
Street: SAME</td></tr>
<tr><td>City: SAME</td><td>State:</td><td>Zip:</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
NA

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): 3-36120

☐ 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):
CHARLES RIVER	MA72-36	CLASS B

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. The Charles River at the outfall is listed as Category 5. There are two approved TMDLs for pathogens and phosphorus.

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.	15.70 MGD
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.	22.81

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: February 12, 2020

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: PETROLEUM, METALS, VOCS, SVOCS	
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): SDO037	Outfall location(s): (Latitude, Longitude) 42.36527, -71.13859
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: ☐ 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: BWSC permit being submitted concurrently. Approval will be obtained prior to start of discharge. 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): March 2020 to August 2020 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		✓	1	E350.1	250	700	700	Report mg/L	---
Chloride		✓	1	4500CLE	15000	291000	291000	Report µg/l	---
Total Residual Chlorine	✓		1	4500-CI-G	20	0	0	0.2 mg/L	
Total Suspended Solids		✓	1	2540D-11	10000	56000	56000	30 mg/L	---
Antimony	✓		2	6010D	5	0	0	206 µg/L	
Arsenic		✓	2	6010D	4	11	11	104 µg/L	
Cadmium		✓	2	6010D	1	0	0	10.2 µg/L	
Chromium III		✓	2	CALC	1	9	9	323 µg/L	
Chromium VI	✓		1	6010D	10	0	0	323 µg/L	
Copper		✓	1	6010D	5	5	5	242 µg/L	
Iron		✓	1	6010D	10	10000	10000	5,000 µg/L	
Lead		✓	2	6010D	2	9	9	160 µg/L	
Mercury	✓		2	7470A	0.2	0	0	0.739 µg/L	
Nickel		✓	2	6010D	1	11	11	1,450 µg/L	
Selenium	✓		2	6010D	10	0	0	235.8 µg/L	
Silver	✓		2	6010D	1	0	0	35.1 µg/L	
Zinc		✓	2	6010D	4	34	34	420 µg/L	
Cyanide	✓		1	9010C/SW	10	0	0	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✓		2	8260C	1	3.8	3.8	100 µg/L	---
Benzene	✓		2	8260C	0.7	0	0	5.0 µg/L	---
1,4 Dioxane	✓		2	8260C	0.2	0	0	200 µg/L	---
Acetone	✓		2	8260C	25	0	0	7.97 mg/L	---
Phenol	✓		1	8260C	0.95	0	0	1,080 µg/L	

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	0	0	4.4 µg/L	
1,2 Dichlorobenzene	✓		2	8260C	1	0	0	600 µg/L	---
1,3 Dichlorobenzene	✓		2	8260C	1	0	0	320 µg/L	---
1,4 Dichlorobenzene	✓		2	8260C	1	0	0	5.0 µg/L	---
Total dichlorobenzene	✓		2	8260C	1	0	0	763 µg/L in NH	---
1,1 Dichloroethane	✓		2	8260C	1	0	0	70 µg/L	---
1,2 Dichloroethane	✓		2	8260C	0.5	0	0	5.0 µg/L	---
1,1 Dichloroethylene	✓		2	8260C	1	0	0	3.2 µg/L	---
Ethylene Dibromide	✓		1	8260C	0.02	0	0	0.05 µg/L	---
Methylene Chloride	✓		2	8260C	1	0	0	4.6 µg/L	---
1,1,1 Trichloroethane	✓		2	8260C	1	0	0	200 µg/L	---
1,1,2 Trichloroethane	✓		2	8260C	1	0	0	5.0 µg/L	---
Trichloroethylene		✓	2	8260C	10	67	67	5.0 µg/L	---
Tetrachloroethylene		✓	2	8260C	10	100	100	5.0 µg/L	
cis-1,2 Dichloroethylene		✓	2	8260C	10	24	24	70 µg/L	---
Vinyl Chloride		✓	2	8260C	1	10	10	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		1	8270D	4.8	0	0	190 µg/L	
Diethylhexyl phthalate	✓		1	8270D	4.8	0	0	101 µg/L	
Total Group I PAHs	✓		1	8270D	0.48	0	0	1.0 µg/L	---
Benzo(a)anthracene	✓		2	8270D	0.09	0	0	As Total PAHs	
Benzo(a)pyrene	✓		2	8270D	0.19	0	0		
Benzo(b)fluoranthene	✓		2	8270D	0.09	0	0		
Benzo(k)fluoranthene	✓		2	8270D	0.09	0	0		
Chrysene	✓		2	8270D	0.05	0	0		
Dibenzo(a,h)anthracene	✓		2	8270D	0.02	0	0		
Indeno(1,2,3-cd)pyrene	✓		2	8270D	0.09	0	0		

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	8270D	VARIES	0	0	100 µg/L	---
Naphthalene	✓		2	8270D	0.47	0	0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		1	8082A	0.048	0	0	0.000064 µg/L	---
Pentachlorophenol	✓		1	8270D	0.048	0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✓		2	E1664A	0.0014	0	0	5.0 mg/L	---
Ethanol	✓		1	8260C	400	0	0	Report mg/L	---
Methyl-tert-Butyl Ether	✓		2	8260C	1	0	0	70 µg/L	
tert-Butyl Alcohol	✓		1	8260C	1	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	8260C	1	0	0	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:									
pH		✓	1	field		6.6	6.6		
Hardness (mg/L)		✓	1	Lab		567	567		
Temperature (deg C)		✓	1	field		7.7	7.7		
Salinity (ppt)	✓		1	field		0.5	0.5		

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.

Groundwater pumped from a ring of extraction wells will be pumped to dewater the excavation for construction of building footings and elevator shaft. The pumped water will be collected in a Frac tank, pumped through sediment filters then through granular activated carbon (GAC) vessels prior to discharge into the Boston Waster and Sewer Commission (BWSC) stormwater system at a catch basin located at the southern end of Penniman Road in Allston, MA. This system discharges to the Charles River at outfall SDO037.

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: GAC vessels

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: Treatment system Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	500
Provide the proposed maximum effluent flow in gpm.	500
Provide the average effluent flow in gpm.	250
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

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.

A BMP PLAN WILL BE IMPLEMENTED PRIOR TO START OF DISCHARGE

BMPP certification statement:

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: Stephen Ballas, Manager Date: 02/21/2020

Print Name and Title: Stephen Ballas, Manager

APPENDIX B

COPIES OF LABORATORY REPORTS

PHOENIX
Environmental Laboratories, Inc.

Tuesday, January 21, 2020

Attn: Mr Richard Learned
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Project ID: **30 PENNIMAN**
SDG ID: **GCF10994**
Sample ID#s: CF10994

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

January 21, 2020

SDG I.D.: GCF10994

8260 Analysis:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 21, 2020

SDG I.D.: GCF10994

Project ID: 30 PENNIMAN

Client Id	Lab Id	Matrix
C4	CF10994	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 21, 2020

FOR: Attn: Mr Richard Learned
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		01/10/20	13:00
Location Code:	STANTECMA	Received by:	CP	01/13/20	13:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	195601892				

Laboratory Data

SDG ID: GCF10994
Phoenix ID: CF10994

Project ID: 30 PENNIMAN
Client ID: C4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	01/15/20	EK	SW6010D
Arsenic	< 0.004	0.004	mg/L	1	01/15/20	EK	SW6010D
Barium	0.094	0.002	mg/L	1	01/15/20	EK	SW6010D
Beryllium	< 0.001	0.001	mg/L	1	01/15/20	EK	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	01/15/20	EK	SW6010D
Chromium	0.009	0.001	mg/L	1	01/15/20	EK	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	01/15/20	RS	SW7470A
Nickel	0.008	0.001	mg/L	1	01/15/20	EK	SW6010D
Lead	0.006	0.002	mg/L	1	01/15/20	EK	SW6010D
Antimony	< 0.005	0.005	mg/L	1	01/15/20	EK	SW6010D
Selenium	< 0.010	0.010	mg/L	1	01/15/20	EK	SW6010D
Thallium	< 0.0005	0.0005	mg/L	5	01/14/20	CPP	SW6020B
Vanadium	0.019	0.002	mg/L	1	01/15/20	EK	SW6010D
Zinc	0.013	0.004	mg/L	1	01/15/20	EK	SW6010D
Mercury Digestion	Completed				01/15/20	Q/Q	SW7470A
EPH Extraction	Completed				01/17/20	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				01/13/20		MADEP EPH-04
Semi-Volatile Extraction	Completed				01/13/20	P/AK	SW3520C
Total Metals Digestion	Completed				01/14/20	AG	
Total Metals Digestion MS	Completed				01/13/20	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				01/13/20	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	01/14/20	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C

Project ID: 30 PENNIMAN
Client ID: C4

Phoenix I.D.: CF10994

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1-Dichloroethene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	01/14/20	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	01/14/20	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	01/14/20	MH	SW8260C
2-Isopropyltoluene	1.1	1.0	ug/L	1	01/14/20	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	01/14/20	MH	SW8260C
Acetone	ND	25	ug/L	1	01/14/20	MH	SW8260C
Acrylonitrile	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Benzene	ND	0.70	ug/L	1	01/14/20	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	01/14/20	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	01/14/20	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
cis-1,2-Dichloroethene	24	10	ug/L	10	01/15/20	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	01/14/20	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	01/14/20	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	01/14/20	MH	SW8260C
Isopropylbenzene	2.0	1.0	ug/L	1	01/14/20	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	01/14/20	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
n-Propylbenzene	1.8	1.0	ug/L	1	01/14/20	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
sec-Butylbenzene	1.6	1.0	ug/L	1	01/14/20	MH	SW8260C
Styrene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Tetrachloroethene	100	10	ug/L	10	01/15/20	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	01/14/20	MH	SW8260C
Toluene	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
trans-1,2-Dichloroethene	5.4	1.0	ug/L	1	01/14/20	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	01/14/20	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	01/14/20	MH	SW8260C
Trichloroethene	67	10	ug/L	10	01/15/20	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	01/14/20	MH	SW8260C
Vinyl chloride	10	1.0	ug/L	1	01/14/20	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	01/14/20	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	01/14/20	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	01/14/20	MH	70 - 130 %
% Toluene-d8	114		%	1	01/14/20	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (10x)	95		%	10	01/15/20	MH	70 - 130 %
% Bromofluorobenzene (10x)	95		%	10	01/15/20	MH	70 - 130 %
% Dibromofluoromethane (10x)	102		%	10	01/15/20	MH	70 - 130 %
% Toluene-d8 (10x)	98		%	10	01/15/20	MH	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	50	ug/L	1	01/14/20	MH	SW8260C (OXY)
Diethyl ether	ND	1.0	ug/L	1	01/14/20	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	01/14/20	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	01/14/20	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	01/14/20	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Acenaphthene	0.64	0.47	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Acenaphthylene	0.13	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Benz(a)anthracene	ND	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Fluorene	1.1	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	01/14/20	KCA	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	01/14/20	KCA	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Phenanthrene	ND	0.47	ug/L	1	01/14/20	KCA	SW8270D (SIM)	
Pyrene	0.10	0.07	ug/L	1	01/14/20	KCA	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	47		%	1	01/14/20	KCA	40 - 140 %	
% Nitrobenzene-d5	42		%	1	01/14/20	KCA	40 - 140 %	
% Terphenyl-d14	36		%	1	01/14/20	KCA	40 - 140 %	3

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	01/17/20	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	01/17/20	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	01/18/20	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	01/18/20	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	01/17/20	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	22		%	1	01/18/20	AW	40 - 140 %	3
% 2-Bromonaphthalene (Fractionation)	71		%	1	01/17/20	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	74		%	1	01/17/20	AW	40 - 140 %	
% o-terphenyl (aromatic)	40		%	1	01/17/20	AW	40 - 140 %	

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	01/13/20	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	01/13/20	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	01/13/20	RM	MA VPH 5/2004	
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	01/13/20	RM	MA VPH 5/2004	
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	01/13/20	RM	MA VPH 5/2004	
Benzene	ND	1.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
Ethyl Benzene	ND	1.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
MTBE	ND	1.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
Naphthalene	ND	5.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
Toluene	ND	1.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
m,p-Xylenes	ND	2.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
o-Xylene	ND	1.0	ug/L	1	01/13/20	RM	MA VPH 5/2004	
QA/QC Surrogates								
% 2,5-Dibromotoluene (FID)	105		%	1	01/13/20	RM	70 - 130 %	
% 2,5-Dibromotoluene (PID)	101		%	1	01/13/20	RM	70 - 130 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

EPH Comment
Poor Surrogate recovery. Insufficient sample for rextraction.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 21, 2020

Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 21, 2020

QA/QC Data

SDG I.D.: GCF10994

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 514110 (mg/L), QC Sample No: CF11603 (CF10994)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	110			103			75 - 125	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 514163 (mg/L), QC Sample No: CF10467 (CF10994)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	<0.005	<0.005	NC	102	104	1.9	114			75 - 125	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	96.4	99.1	2.8	109			75 - 125	20
Barium	BRL	0.002	0.127	0.126	0.80	98.9	103	4.1	96.4			75 - 125	20
Beryllium	BRL	0.001	<0.001	<0.001	NC	98.6	101	2.4	96.8			75 - 125	20
Cadmium	BRL	0.001	0.004	0.004	NC	97.7	101	3.3	90.6			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	97.9	101	3.1	94.5			75 - 125	20
Lead	BRL	0.002	0.003	0.003	NC	94.1	96.9	2.9	88.4			75 - 125	20
Nickel	BRL	0.001	0.100	0.100	0	100	103	3.0	91.4			75 - 125	20
Selenium	BRL	0.010	0.012	0.012	NC	94.0	96.1	2.2	101			75 - 125	20
Silver	BRL	0.001	<0.001	0.002	NC	95.0	97.8	2.9	112			75 - 125	20
Vanadium	BRL	0.002	0.091	0.092	1.10	96.6	99.2	2.7	94.9			75 - 125	20
Zinc	BRL	0.004	0.292	0.292	0	96.9	100	3.1	104			75 - 125	20
QA/QC Batch 513984 (mg/L), QC Sample No: CF10473 5X (CF10994)													
ICP MS Metals - Aqueous													
Thallium	BRL	0.0005	<0.0005	<0.0005	NC	105	107	1.9	103			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 21, 2020

QA/QC Data

SDG I.D.: GCF10994

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 514708 (ug/L), QC Sample No: CF10994 (CF10994)										
MAEPH - Ground Water										
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	61	53	14.0				40 - 140	25
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	70	63	10.5				40 - 140	25
C11-C22 Aromatic Hydrocarbons 1	ND	100	64	60	6.5				40 - 140	25
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25
Total TPH 1,2*	ND	100	66	58	12.9				40 - 140	25
C9 - Nonane	ND	10	43	36	17.7				40 - 140	25
C-10 Decane	ND	10	54	46	16.0				40 - 140	25
C12 - Dodecane	ND	10	54	48	11.8				40 - 140	25
C14 - Tetradecane	ND	10	61	55	10.3				40 - 140	25
C16 - Hexadecane	ND	10	74	64	14.5				40 - 140	25
C18 - Octadecane	ND	10	79	69	13.5				40 - 140	25
C19 - Nonadecane	ND	10	77	67	13.9				40 - 140	25
C20 - Eicosane	ND	10	77	67	13.9				40 - 140	25
C22 - Docosane	ND	10	75	65	14.3				40 - 140	25
C24 - Tetracosane	ND	10	77	67	13.9				40 - 140	25
C26 - Hexacosane	ND	10	76	66	14.1				40 - 140	25
C28 - Octacosane	ND	10	75	66	12.8				40 - 140	25
C30 - Tricotane	ND	10	82	79	3.7				40 - 140	25
C36 - Hexatriacontane	ND	10	23	25	8.3				40 - 140	25
% 1-chlorooctadecane (aliphatic)	45	%	57	55	3.6				40 - 140	25
% o-terphenyl (aromatic)	60	%	59	58	1.7				40 - 140	25
% 2-Fluorobiphenyl (Fractionation)	71	%	73	78	6.6				40 - 140	25
% 2-Bromonaphthalene (Fractionati	68	%	73	81	10.4				40 - 140	25
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5	
% Naphthalene BT		%	0	0	NC				0 - 5	
Comment:										
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%										
QA/QC Batch 513953 (ug/L), QC Sample No: CF10994 (CF10994)										
Semivolatiles by SIM, PAH - Ground Water										
2-Methylnaphthalene	ND	0.50	59	54	8.8				40 - 140	20
Acenaphthene	ND	0.50	65	63	3.1				40 - 140	20
Acenaphthylene	ND	0.10	66	62	6.3				40 - 140	20
Anthracene	ND	0.10	87	86	1.2				40 - 140	20
Benz(a)anthracene	ND	0.02	92	88	4.4				40 - 140	20
Benzo(a)pyrene	ND	0.02	85	78	8.6				40 - 140	20
Benzo(b)fluoranthene	ND	0.02	81	74	9.0				40 - 140	20
Benzo(ghi)perylene	ND	0.02	77	71	8.1				40 - 140	20
Benzo(k)fluoranthene	ND	0.02	85	78	8.6				40 - 140	20
Chrysene	ND	0.02	82	79	3.7				40 - 140	20
Dibenz(a,h)anthracene	ND	0.02	81	75	7.7				40 - 140	20

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Fluoranthene	ND	0.50	80	78	2.5				40 - 140	20
Fluorene	ND	0.10	71	70	1.4				40 - 140	20
Indeno(1,2,3-cd)pyrene	ND	0.02	75	70	6.9				40 - 140	20
Naphthalene	ND	0.50	48	45	6.5				40 - 140	20
Phenanthrene	ND	0.50	82	81	1.2				40 - 140	20
Pyrene	ND	0.07	83	81	2.4				40 - 140	20
% 2-Fluorobiphenyl	57	%	54	51	5.7				40 - 140	20
% Nitrobenzene-d5	48	%	47	43	8.9				40 - 140	20
% Terphenyl-d14	67	%	69	65	6.0				40 - 140	20

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 514113 (ug/L), QC Sample No: CF10770 (CF10994)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	101	107	5.8	106	106	0.0	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	96	105	9.0	105	105	0.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	100	108	7.7	105	105	0.0	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	97	104	7.0	94	96	2.1	70 - 130	30
1,1-Dichloroethane	ND	1.0	97	104	7.0	102	102	0.0	70 - 130	30
1,1-Dichloroethene	ND	1.0	101	111	9.4	112	112	0.0	70 - 130	30
1,1-Dichloropropene	ND	1.0	95	102	7.1	112	108	3.6	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	78	101	25.7	88	108	20.4	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	91	95	4.3	90	95	5.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	86	104	18.9	97	109	11.7	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	96	104	8.0	103	100	3.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	93	110	16.7	101	114	12.1	70 - 130	30
1,2-Dibromoethane	ND	1.0	99	103	4.0	100	102	2.0	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	96	103	7.0	100	101	1.0	70 - 130	30
1,2-Dichloroethane	ND	1.0	98	104	5.9	101	102	1.0	70 - 130	30
1,2-Dichloropropane	ND	1.0	96	103	7.0	107	106	0.9	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	96	104	8.0	104	102	1.9	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	95	101	6.1	100	100	0.0	70 - 130	30
1,3-Dichloropropane	ND	1.0	97	103	6.0	96	97	1.0	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	93	103	10.2	100	101	1.0	70 - 130	30
1,4-dioxane	ND	100	106	114	7.3	105	101	3.9	40 - 160	30
2,2-Dichloropropane	ND	1.0	90	100	10.5	90	90	0.0	70 - 130	30
2-Chlorotoluene	ND	1.0	98	105	6.9	104	104	0.0	70 - 130	30
2-Hexanone	ND	5.0	85	95	11.1	89	94	5.5	40 - 160	30
2-Isopropyltoluene	ND	1.0	99	108	8.7	108	107	0.9	70 - 130	30
4-Chlorotoluene	ND	1.0	93	101	8.2	100	99	1.0	70 - 130	30
4-Methyl-2-pentanone	ND	5.0	89	97	8.6	46	47	2.2	40 - 160	30
Acetone	ND	5.0	105	96	9.0	93	107	14.0	40 - 160	30
Acrylonitrile	ND	5.0	99	106	6.8	99	107	7.8	70 - 130	30
Benzene	ND	0.70	95	102	7.1	108	106	1.9	70 - 130	30
Bromobenzene	ND	1.0	99	104	4.9	102	103	1.0	70 - 130	30
Bromochloromethane	ND	1.0	99	108	8.7	103	102	1.0	70 - 130	30
Bromodichloromethane	ND	0.50	98	106	7.8	106	106	0.0	70 - 130	30
Bromoform	ND	1.0	97	103	6.0	98	100	2.0	70 - 130	30
Bromomethane	ND	1.0	100	113	12.2	80	87	8.4	40 - 160	30
Carbon Disulfide	ND	1.0	92	101	9.3	99	101	2.0	70 - 130	30
Carbon tetrachloride	ND	1.0	105	114	8.2	110	114	3.6	70 - 130	30
Chlorobenzene	ND	1.0	97	103	6.0	102	101	1.0	70 - 130	30

QA/QC Data

SDG I.D.: GCF10994

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Chloroethane	ND	1.0	98	108	9.7	100	98	2.0	70 - 130	30	
Chloroform	ND	1.0	98	106	7.8	102	103	1.0	70 - 130	30	
Chloromethane	ND	1.0	96	104	8.0	88	91	3.4	40 - 160	30	
cis-1,3-Dichloropropene	ND	0.40	96	104	8.0	104	106	1.9	70 - 130	30	
Dibromochloromethane	ND	0.50	101	108	6.7	122	125	2.4	70 - 130	30	
Dibromomethane	ND	1.0	96	100	4.1	101	103	2.0	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	110	117	6.2	96	91	5.3	40 - 160	30	
Ethyl ether	ND	1.0	100	108	7.7	98	99	1.0	70 - 130	30	
Ethylbenzene	ND	1.0	97	104	7.0	105	103	1.9	70 - 130	30	
Hexachlorobutadiene	ND	0.40	97	109	11.7	110	112	1.8	70 - 130	30	
Isopropylbenzene	ND	1.0	96	105	9.0	107	106	0.9	70 - 130	30	
m&p-Xylene	ND	1.0	96	103	7.0	103	102	1.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	88	97	9.7	90	98	8.5	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	93	99	6.3	95	101	6.1	70 - 130	30	
Methylene chloride	ND	1.0	90	96	6.5	91	93	2.2	70 - 130	30	
Naphthalene	ND	1.0	76	104	31.1	103	118	13.6	70 - 130	30	r
n-Butylbenzene	ND	1.0	95	106	10.9	108	109	0.9	70 - 130	30	
n-Propylbenzene	ND	1.0	97	105	7.9	105	104	1.0	70 - 130	30	
o-Xylene	ND	1.0	98	107	8.8	106	105	0.9	70 - 130	30	
p-Isopropyltoluene	ND	1.0	96	105	9.0	107	106	0.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	101	110	8.5	114	112	1.8	70 - 130	30	
Styrene	ND	1.0	98	104	5.9	102	103	1.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	97	105	7.9	107	105	1.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	91	97	6.4	92	100	8.3	70 - 130	30	
Toluene	ND	1.0	98	105	6.9	111	108	2.7	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	96	105	9.0	107	106	0.9	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	95	102	7.1	72	72	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	97	111	13.5	87	104	17.8	70 - 130	30	
Trichlorofluoromethane	ND	1.0	101	107	5.8	104	102	1.9	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	108	116	7.1	114	108	5.4	70 - 130	30	
Vinyl chloride	ND	1.0	92	101	9.3	92	90	2.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	94	%	102	100	2.0	102	103	1.0	70 - 130	30	
% Bromofluorobenzene	94	%	99	100	1.0	99	100	1.0	70 - 130	30	
% Dibromofluoromethane	103	%	103	104	1.0	100	106	5.8	70 - 130	30	
% Toluene-d8	93	%	102	102	0.0	105	103	1.9	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 514336 (ug/L), QC Sample No: CF12269 (CF10994 (10X))

Volatiles - Ground Water

cis-1,2-Dichloroethene	ND	1.0	90	97	7.5				70 - 130	30	
Tetrachloroethene	ND	1.0	93	99	6.3				70 - 130	30	
Trichloroethene	ND	1.0	91	96	5.3				70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%	99	101	2.0				70 - 130	30	
% Bromofluorobenzene	93	%	94	96	2.1				70 - 130	30	
% Dibromofluoromethane	106	%	99	101	2.0				70 - 130	30	
% Toluene-d8	94	%	103	103	0.0				70 - 130	30	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Data

SDG I.D.: GCF10994

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 514152 (ug/L), QC Sample No: CF10994 (CF10994)											
Volatile Petroleum Hydrocarbons - Ground Water											
Unadjusted C5-C8 Aliphatics (*1)	ND	100	100	103	3.0	95	98	3.1	70 - 130	20	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	103	106	2.9	77	83	7.5	70 - 130	20	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	100	103	3.0	92	95	3.2	70 - 130	20	
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	103	106	2.9	66	72	8.7	70 - 130	20	m
C9-C10 Aromatic Hydrocarbons *1	ND	100	96	99	3.1	93	94	1.1	70 - 130	20	
Benzene	ND	1.0	87	90	3.4	90	90	0.0	70 - 130	20	
Ethyl Benzene	ND	1.0	93	95	2.1	96	95	1.0	70 - 130	20	
MTBE	ND	1.0	93	95	2.1	97	95	2.1	70 - 130	20	
Naphthalene	ND	5.0	91	92	1.1	87	92	5.6	70 - 130	20	
Toluene	ND	1.0	93	95	2.1	96	95	1.0	70 - 130	20	
m,p-Xylenes	ND	2.0	94	97	3.1	96	96	0.0	70 - 130	20	
o-Xylene	ND	1.0	92	94	2.2	94	94	0.0	70 - 130	20	
% 2,5-Dibromotoluene (PID)	101	%	103	98	5.0	104	90	14.4	70 - 130	20	

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
January 21, 2020

Tuesday, January 21, 2020

Criteria: MA: CAM, GW1

State: MA

Sample Criteria Exceedances Report

GCF10994 - STANTECMA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CF10994	$8260GWR	trans-1,4-dichloro-2-butene	MA / CAM Protocol / VOA AQ RL	ND	5.0		2	ug/L
CF10994	$8260GWR	Acetone	MA / CAM Protocol / VOA AQ RL	ND	25		10	ug/L
CF10994	$8260GWR	Carbon Disulfide	MA / CAM Protocol / VOA AQ RL	ND	5.0		2	ug/L
CF10994	$8260GWR	Tetrahydrofuran (THF)	MA / CAM Protocol / VOA AQ RL	ND	2.5		2	ug/L
CF10994	$8260GWR	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	10	1.0	2	2	ug/L
CF10994	$8260GWR	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	67	10	5	5	ug/L
CF10994	$8260GWR	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	10	1.0	2	2	ug/L
CF10994	$8260GWR	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CF10994	$8260GWR	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	10	5	5	ug/L
CF10994	$8260GWR	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	24	10	20	20	ug/L
CF10994	$8260GWR	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	67	10	5	5	ug/L
CF10994	$8260GWR	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	10	1.0	2	2	ug/L
CF10994	$8260GWR	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CF10994	$8260GWR	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	100	10	5	5	ug/L
CF10994	$MCPADD-WM	1,4-Dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CF10994	$MCPADD-WM	1,4-Dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.3	0.3	ug/L

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 30 PENNIMAN **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CF10994

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

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

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

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: EPH, VOA, VPH Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No

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

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

Authorized Signature: Rashmi Makol

Date: Tuesday, January 21, 2020

Printed Name: Rashmi Makol

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

January 21, 2020

SDG I.D.: GCF10994

SDG Comments

8260 Analysis:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.

1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 514708 (Samples: CF10994): -----

One or more analytes is below the method criteria. A low bias for these analytes is possible. (C36 - Hexatriacontane)

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (C9 - Nonane)

Instrument:

AU-FID3 01/17/20-1 Adam Werner, Chemist 01/17/20

CF10994

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0102BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 01/17/20-1 Adam Werner, Chemist 01/17/20

CF10994

The initial calibration (ALN25BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 514708 (CF10994)

CF10994

All LCS recoveries were within 40 - 140 with the following exceptions: C36 - Hexatriacontane(23%)
All LCSD recoveries were within 40 - 140 with the following exceptions: C36 - Hexatriacontane(25%), C9 - Nonane(36%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

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

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

January 21, 2020

SDG I.D.: GCF10994

Mercury Narration

MERLIN 01/15/20 07:38 Rick Schweitzer, Chemist 01/15/20

CF10994

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 514110 (CF11603)

CF10994

All LCS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 01/14/20 08:53 Emily Kolominskaya, Chemist 01/14/20

CF10994

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 514163 (CF10467)

CF10994

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

ICPMS Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Certification Report

January 21, 2020

SDG I.D.: GCF10994

ICPMS Metals Narration

ICPMS 01/14/20 13:52 Cindy Pearce, Chemist 01/14/20

CF10994

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following samples did not meet internal standard criteria: None.

QC (Batch Specific):

Batch 513984 (CF10473)

CF10994

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM27 01/14/20-1 Wes Bryon, Chemist 01/14/20

CF10994

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_SIM18_0103):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0114_03-27_SIM18_0103) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
97% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 513953 (CF10994)

CF10994

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

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MCP Certification Report

January 21, 2020

SDG I.D.: GCF10994

SVOASIM Narration

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

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 514113 (Samples: CF10994): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (Naphthalene)

Instrument:

CHEM17 01/13/20-2 Michael Hahn, Chemist 01/13/20

CF10994

Initial Calibration Evaluation (CHEM17/VT-S011220):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), trans-1,4-dichloro-2-butene 32% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.035 (0.05), 2-Hexanone 0.087 (0.1), Acetone 0.052 (0.1), Bromoform 0.094 (0.1), Methyl ethyl ketone 0.078 (0.1), Tetrahydrofuran (THF) 0.046 (0.05), trans-1,4-dichloro-2-butene 0.041 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0113_30-VT-S011220) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.032 (0.05), 2-Hexanone 0.077 (0.1), Acetone 0.058 (0.1), Bromoform 0.092 (0.1), Methyl ethyl ketone 0.070 (0.1), Tetrahydrofuran (THF) 0.043 (0.05), trans-1,4-dichloro-2-butene 0.031 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM17 01/14/20-2 Michael Hahn, Chemist 01/14/20

CF10994

Initial Calibration Evaluation (CHEM17/VT-S011220):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0114_31-VT-S011220) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

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MCP Certification Report

January 21, 2020

SDG I.D.: GCF10994

VOA Narration

QC (Batch Specific):

Batch 514113 (CF10770) CHEM17 1/13/2020-2

CF10994

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: Naphthalene(31.1%)
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 514336 (CF12269) CHEM17 1/14/2020-2

CF10994

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

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

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 514152 (Samples: CF10994): -----

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is likely. (C9-C12 Aliphatic Hydrocarbons *1,3)

Instrument:

PIDFID 01/13/20-2 Raman Makol, Chemist 01/13/20

CF10994

QC (Batch Specific):

Batch 514152 (CF10994)

CF10994

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

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

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1°8 Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[✓] Email:

Customer: Stantec
Address: Quincy, MA

Project: 30 Perrimon
Report to: Richard Leonard
Invoice to:
QUOTE #

Project P.O: 1956018 92

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 1/10/20

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	EPH	VPH	VOC	MCP Metals	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] HCl	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
10994	C4	GW	1/10	1:00	X	X	X	X					6	2			2			

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	1/13/20	8:30
	[signature]	1:13:20	1330

Comments, Special Requirements or Regulations:
*Hold C4 Diss (filtered in field) for dissolved metals until told to run

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[✓] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[✓] MCP Certification
[✓] GW-1 [ ] MWRA eSMART
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[✓] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[✓] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, January 23, 2020

Attn: Mr Richard Learned
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Project ID: **30 PENNIMAN**
SDG ID: **GCF10995**
Sample ID#s: CF10995, CF11044

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

January 23, 2020

SDG I.D.: GCF10995

8260 Analysis:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.
Sample CF10995 was received past hold time for Chromium, Hexavalent (SM3500CRB).

Environmental Laboratories, Inc.
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Sample Id Cross Reference

January 23, 2020

SDG I.D.: GCF10995

Project ID: 30 PENNIMAN

Client Id	Lab Id	Matrix
D1	CF10995	GROUND WATER
TRIP BLANK	CF11044	WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 23, 2020

FOR: Attn: Mr Richard Learned
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		01/10/20	12:00
Location Code:	STANTECMA	Received by:	CP	01/13/20	13:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	195601892				

Laboratory Data

SDG ID: GCF10995
Phoenix ID: CF10995

Project ID: 30 PENNIMAN
Client ID: D1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	01/15/20	EK	SW6010D
Arsenic	0.011	0.004	mg/L	1	01/15/20	EK	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	01/15/20	EK	SW6010D
Chromium	0.007	0.001	mg/L	1	01/15/20	EK	SW6010D
Copper	0.005	0.005	mg/L	1	01/15/20	EK	SW6010D
Iron	10.0	0.010	mg/L	1	01/15/20	EK	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	01/15/20	RS	SW7470A
Nickel	0.011	0.001	mg/L	1	01/15/20	EK	SW6010D
Lead	0.009	0.002	mg/L	1	01/15/20	EK	SW6010D
Antimony	< 0.005	0.005	mg/L	1	01/15/20	EK	SW6010D
Selenium	< 0.010	0.010	mg/L	1	01/15/20	EK	SW6010D
Trivalent Chromium	0.007	0.001	mg/L	1	01/15/20		Calculation
Zinc	0.034	0.004	mg/L	1	01/15/20	EK	SW6010D
Chloride	291	15.0	mg/L	5	01/13/20	TB	SM4500CLE-11
Chlorine Residual	< 0.02	0.02	mg/L	1	01/13/20 18:33	O	SM4500Cl-G-00
Chromium, Hexavalent	< 0.01	0.01	mg/L	1	01/13/20 18:17	O	SM3500CRB-11
Ammonia as Nitrogen	0.70	0.25	mg/L	5	01/16/20	KDB	E350.1
Total Cyanide	< 0.010	0.010	mg/L	1	01/16/20	O/GD	SW9010C/SW9012B
O&G, Non-polar Material	< 1.4	1.4	mg/L	1	01/16/20	MSF	E1664A
Total Suspended Solids	56	10	mg/L	2	01/14/20	ARG	SM 2540D-11
Mercury Digestion	Completed				01/15/20	Q/Q	SW7470A
PCB Extraction (LDL)	Completed				01/14/20	AT	SW3510C
Semi-Volatile Extraction	Completed				01/13/20	P/AK	SW3520C
Total Metals Digestion	Completed				01/14/20	AG	

Polychlorinated Biphenyls

PCB-1016	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1221	ND	0.048	ug/L	1	01/15/20	SC	SW8082A

Ver 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1232	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1242	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1248	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1254	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1260	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1262	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
PCB-1268	ND	0.048	ug/L	1	01/15/20	SC	SW8082A
QA/QC Surrogates							
% DCBP (Surrogate Rec)	53		%	1	01/15/20	SC	30 - 150 %
% DCBP (Surrogate Rec) (Confirmation)	56		%	1	01/15/20	SC	30 - 150 %
% TCMX (Surrogate Rec)	66		%	1	01/15/20	SC	30 - 150 %
% TCMX (Surrogate Rec) (Confirmation)	71		%	1	01/15/20	SC	30 - 150 %
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	1	01/16/20	CG	SW8011
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	01/15/20	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2,4-Trimethylbenzene	4.7	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	01/15/20	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	01/15/20	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	01/15/20	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	01/15/20	MH	SW8260C
Acetone	ND	25	ug/L	1	01/15/20	MH	SW8260C
Acrylonitrile	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Benzene	ND	0.70	ug/L	1	01/15/20	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	01/15/20	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C

Project ID: 30 PENNIMAN
Client ID: D1

Phoenix I.D.: CF10995

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.0	ug/L	1	01/15/20	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	01/15/20	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	01/15/20	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Ethylbenzene	1.0	1.0	ug/L	1	01/15/20	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	01/15/20	MH	SW8260C
Isopropylbenzene	1.9	1.0	ug/L	1	01/15/20	MH	SW8260C
m&p-Xylene	2.8	1.0	ug/L	1	01/15/20	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	01/15/20	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
n-Propylbenzene	1.7	1.0	ug/L	1	01/15/20	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
sec-Butylbenzene	1.0	1.0	ug/L	1	01/15/20	MH	SW8260C
Styrene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	01/15/20	MH	SW8260C
Toluene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Total Xylenes	2.8	1.0	ug/L	1	01/15/20	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	01/15/20	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	01/15/20	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	01/15/20	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	01/15/20	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	01/15/20	MH	70 - 130 %
% Dibromofluoromethane	104		%	1	01/15/20	MH	70 - 130 %
% Toluene-d8	96		%	1	01/15/20	MH	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	50	ug/L	1	01/15/20	MH	SW8260C (OXY)
Diethyl ether	ND	1.0	ug/L	1	01/15/20	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	01/15/20	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	01/15/20	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	01/15/20	MH	SW8260C (OXY)

Project ID: 30 PENNIMAN
Client ID: D1

Phoenix I.D.: CF10995

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ethanol	ND	400	ug/L	1	01/15/20	MH	SW8260C

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	3.3	ug/L	1	01/15/20	WB	SW8270D
1,2,4-Trichlorobenzene	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
1,2-Dichlorobenzene	ND	2.4	ug/L	1	01/15/20	WB	SW8270D
1,2-Diphenylhydrazine	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
1,3-Dichlorobenzene	ND	2.4	ug/L	1	01/15/20	WB	SW8270D
1,4-Dichlorobenzene	ND	2.4	ug/L	1	01/15/20	WB	SW8270D
2,4,5-Trichlorophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2,4,6-Trichlorophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2,4-Dichlorophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2,4-Dimethylphenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2,4-Dinitrophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2,4-Dinitrotoluene	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
2,6-Dinitrotoluene	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
2-Chloronaphthalene	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
2-Chlorophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2-Methylphenol (o-cresol)	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
2-Nitroaniline	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
2-Nitrophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	9.5	ug/L	1	01/15/20	WB	SW8270D
3,3'-Dichlorobenzidine	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
3-Nitroaniline	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
4-Bromophenyl phenyl ether	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
4-Chloro-3-methylphenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
4-Chloroaniline	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
4-Nitroaniline	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
4-Nitrophenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
Acetophenone	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Aniline	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Benzidine	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Benzoic acid	ND	48	ug/L	1	01/15/20	WB	SW8270D
Benzyl butyl phthalate	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Bis(2-chloroethyl)ether	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
Carbazole	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Dibenzofuran	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Diethyl phthalate	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Dimethylphthalate	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Di-n-butylphthalate	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Di-n-octylphthalate	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
Hexachloroethane	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
Isophorone	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	4.8	ug/L	1	01/15/20	WB	SW8270D
N-Nitrosodiphenylamine	ND	4.8	ug/L	1	01/15/20	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Pentachloronitrobenzene	ND	2.4	ug/L	1	01/15/20	WB	SW8270D
Phenol	ND	0.95	ug/L	1	01/15/20	WB	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	82		%	1	01/15/20	WB	15 - 110 %
% 2-Fluorobiphenyl	70		%	1	01/15/20	WB	30 - 130 %
% 2-Fluorophenol	46		%	1	01/15/20	WB	15 - 110 %
% Nitrobenzene-d5	60		%	1	01/15/20	WB	30 - 130 %
% Phenol-d5	52		%	1	01/15/20	WB	15 - 110 %
% Terphenyl-d14	71		%	1	01/15/20	WB	30 - 130 %
Semivolatiles (SIM)							
2-Methylnaphthalene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Acenaphthene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	01/15/20	PS	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	01/15/20	PS	SW8270D (SIM)
Benz(a)anthracene	ND	0.10	ug/L	1	01/15/20	PS	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	01/15/20	PS	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.10	ug/L	1	01/15/20	PS	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	01/15/20	PS	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.10	ug/L	1	01/15/20	PS	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	01/15/20	PS	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	01/15/20	PS	SW8270D (SIM)
Fluoranthene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	01/15/20	PS	SW8270D (SIM)
Hexachlorobenzene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Hexachlorobutadiene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	01/15/20	PS	SW8270D (SIM)
Naphthalene	0.59	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Nitrobenzene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
N-Nitrosodimethylamine	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Pentachlorophenol	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Phenanthrene	ND	0.48	ug/L	1	01/15/20	PS	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	01/15/20	PS	SW8270D (SIM)
Pyridine	ND	1.9	ug/L	1	01/15/20	PS	SW8270D (SIM)
QA/QC Surrogates							
% 2,4,6-Tribromophenol	79		%	1	01/15/20	PS	15 - 110 %
% 2-Fluorobiphenyl	67		%	1	01/15/20	PS	40 - 140 %
% 2-Fluorophenol	47		%	1	01/15/20	PS	15 - 110 %
% Nitrobenzene-d5	56		%	1	01/15/20	PS	40 - 140 %
% Phenol-d5	56		%	1	01/15/20	PS	15 - 110 %
% Terphenyl-d14	61		%	1	01/15/20	PS	40 - 140 %
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	01/15/20	AW	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	81		%	1	01/15/20	AW	30 - 130 %
Extraction for 1,4-Dioxane	Completed				01/14/20	S/S	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

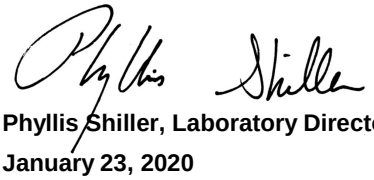
Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

January 23, 2020

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 23, 2020

FOR: Attn: Mr Joseph Salvetti
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		01/13/20	14:51
Location Code:	STANTECMA	Received by:	SW	01/13/20	13:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCF10995
Phoenix ID: CF11044

Project ID: 30 PENNIMAN
Client ID: TRIP BLANK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	01/13/20	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	01/13/20	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	01/13/20	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	01/13/20	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	01/13/20	MH	SW8260C

Project ID: 30 PENNIMAN
Client ID: TRIP BLANK

Phoenix I.D.: CF11044

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	01/13/20	MH	SW8260C
Acrylonitrile	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Benzene	ND	0.70	ug/L	1	01/13/20	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	01/13/20	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	01/13/20	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	01/13/20	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	01/13/20	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	01/13/20	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	01/13/20	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Styrene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	01/13/20	MH	SW8260C
Toluene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	01/13/20	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	01/13/20	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	01/13/20	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	01/13/20	MH	70 - 130 %
% Bromofluorobenzene	92		%	1	01/13/20	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	01/13/20	MH	70 - 130 %

Project ID: 30 PENNIMAN
Client ID: TRIP BLANK

Phoenix I.D.: CF11044

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	92		%	1	01/13/20	MH	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	50	ug/L	1	01/13/20	MH	SW8260C (OXY)
Diethyl ether	ND	1.0	ug/L	1	01/13/20	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	01/13/20	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	01/13/20	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	01/13/20	MH	SW8260C (OXY)

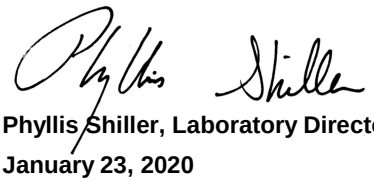
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
January 23, 2020
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 23, 2020

QA/QC Data

SDG I.D.: GCF10995

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 514110 (mg/L), QC Sample No: CF11603 (CF10995)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	110			103			75 - 125	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 514163 (mg/L), QC Sample No: CF10467 (CF10995)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	<0.005	<0.005	NC	102	104	1.9	114			75 - 125	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	96.4	99.1	2.8	109			75 - 125	20
Cadmium	BRL	0.001	0.004	0.004	NC	97.7	101	3.3	90.6			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	97.9	101	3.1	94.5			75 - 125	20
Copper	BRL	0.005	<0.005	<0.005	NC	98.3	102	3.7	109			75 - 125	20
Iron	BRL	0.010	<0.010	<0.010	NC	104	104	0.0	95.7			75 - 125	20
Lead	BRL	0.002	0.003	0.003	NC	94.1	96.9	2.9	88.4			75 - 125	20
Nickel	BRL	0.001	0.100	0.100	0	100	103	3.0	91.4			75 - 125	20
Selenium	BRL	0.010	0.012	0.012	NC	94.0	96.1	2.2	101			75 - 125	20
Silver	BRL	0.001	<0.001	0.002	NC	95.0	97.8	2.9	112			75 - 125	20
Zinc	BRL	0.004	0.292	0.292	0	96.9	100	3.1	104			75 - 125	20

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QA/QC Report

January 23, 2020

QA/QC Data

SDG I.D.: GCF10995

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 514435 (mg/L), QC Sample No: CF10215 (CF10995)													
Total Cyanide	BRL	0.010	<0.010	<0.010	NC	90.4			97.5			90 - 110	30
Comment:													
Additional soil criteria LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 514080 (mg/L), QC Sample No: CF10779 (CF10995)													
Total Suspended Solids	BRL	2.5	17	14	NC	104						85 - 115	
QA/QC Batch 514509 (mg/L), QC Sample No: CF11778 (CF10995)													
O&G, Non-polar Material	BRL	1.4	<1.4	<1.4	NC	93.0			89.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 513988 (mg/L), QC Sample No: CF11334 (CF10995)													
Chromium, Hexavalent	BRL	0.01	<0.01	<0.01	NC	103			109			90 - 110	30
Comment:													
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.													
QA/QC Batch 514023 (mg/L), QC Sample No: CF10330 (CF10995)													
Chloride	BRL	3.0	19.3	19.9	3.10	102			105			90 - 110	20
QA/QC Batch 514457 (mg/L), QC Sample No: CF10393 (CF10995)													
Ammonia as Nitrogen	BRL	0.05	<0.10	<0.10	NC	101			98.0			90 - 110	20
QA/QC Batch 514000 (mg/L), QC Sample No: CF11334 (CF10995)													
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	97.1							

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QA/QC Report

January 23, 2020

QA/QC Data

SDG I.D.: GCF10995

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 514515 (ug/L), QC Sample No: CF13729 (CF10995)										
EDB and DBCP Analysis - Ground Water										
1,2-Dibromoethane (EDB)	ND	0.01	98	96	2.1	103	106	2.9	70 - 130	25
QA/QC Batch 514154 (ug/L), QC Sample No: CF10995 (CF10995)										
Polychlorinated Biphenyls - Ground Water										
PCB-1016	ND	0.050	99	98	1.0				40 - 140	20
PCB-1221	ND	0.050							40 - 140	20
PCB-1232	ND	0.050							40 - 140	20
PCB-1242	ND	0.050							40 - 140	20
PCB-1248	ND	0.050							40 - 140	20
PCB-1254	ND	0.050							40 - 140	20
PCB-1260	ND	0.050	98	110	11.5				40 - 140	20
PCB-1262	ND	0.050							40 - 140	20
PCB-1268	ND	0.050							40 - 140	20
% DCBP (Surrogate Rec)	71	%	96	101	5.1				30 - 150	20
% DCBP (Surrogate Rec) (Confirm	72	%	98	106	7.8				30 - 150	20
% TCMX (Surrogate Rec)	64	%	91	94	3.2				30 - 150	20
% TCMX (Surrogate Rec) (Confirm	64	%	94	104	10.1				30 - 150	20
Comment:										
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.										
QA/QC Batch 513952 (ug/L), QC Sample No: CF10667 (CF10995)										
Semivolatiles - Ground Water										
1,2,4,5-Tetrachlorobenzene	ND	3.5	78						40 - 140	20
1,2,4-Trichlorobenzene	ND	3.5	65						40 - 140	20
1,2-Dichlorobenzene	ND	1.0	53						40 - 140	20
1,2-Diphenylhydrazine	ND	1.6	75						40 - 140	20
1,3-Dichlorobenzene	ND	1.0	49						40 - 140	20
1,4-Dichlorobenzene	ND	1.0	50						40 - 140	20
2,4,5-Trichlorophenol	ND	1.0	94						30 - 130	20
2,4,6-Trichlorophenol	ND	1.0	91						30 - 130	20
2,4-Dichlorophenol	ND	1.0	82						30 - 130	20
2,4-Dimethylphenol	ND	1.0	85						30 - 130	20
2,4-Dinitrophenol	ND	1.0	71						30 - 130	20
2,4-Dinitrotoluene	ND	3.5	105						40 - 140	20
2,6-Dinitrotoluene	ND	3.5	102						40 - 140	20
2-Chloronaphthalene	ND	3.5	71						40 - 140	20
2-Chlorophenol	ND	1.0	59						30 - 130	20
2-Methylphenol (o-cresol)	ND	1.0	75						30 - 130	20
2-Nitroaniline	ND	3.5	107						40 - 140	20
2-Nitrophenol	ND	1.0	71						30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	1.0	78						30 - 130	20
3,3'-Dichlorobenzidine	ND	5.0	79						40 - 140	20

QA/QC Data

SDG I.D.: GCF10995

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
3-Nitroaniline	ND	5.0	106						40 - 140	20
4,6-Dinitro-2-methylphenol	ND	1.0	78						30 - 130	20
4-Bromophenyl phenyl ether	ND	3.5	94						40 - 140	20
4-Chloro-3-methylphenol	ND	1.0	96						30 - 130	20
4-Chloroaniline	ND	3.5	77						40 - 140	20
4-Chlorophenyl phenyl ether	ND	1.0	85						40 - 140	20
4-Nitroaniline	ND	5.0	90						40 - 140	20
4-Nitrophenol	ND	1.0	98						30 - 130	20
Acetophenone	ND	3.5	67						40 - 140	20
Aniline	ND	3.5	62						40 - 140	20
Benzidine	ND	4.5	104						40 - 140	20
Benzoic acid	ND	10	52						30 - 130	20
Benzyl butyl phthalate	ND	1.5	90						40 - 140	20
Bis(2-chloroethoxy)methane	ND	3.5	68						40 - 140	20
Bis(2-chloroethyl)ether	ND	1.0	48						40 - 140	20
Bis(2-chloroisopropyl)ether	ND	1.0	50						40 - 140	20
Bis(2-ethylhexyl)phthalate	ND	1.5	93						40 - 140	20
Carbazole	ND	5.0	87						40 - 140	20
Dibenzofuran	ND	3.5	76						40 - 140	20
Diethyl phthalate	ND	1.5	87						40 - 140	20
Dimethylphthalate	ND	1.5	88						40 - 140	20
Di-n-butylphthalate	ND	1.5	94						40 - 140	20
Di-n-octylphthalate	ND	1.5	99						40 - 140	20
Hexachloroethane	ND	3.5	49						40 - 140	20
Isophorone	ND	3.5	72						40 - 140	20
N-Nitrosodi-n-propylamine	ND	3.5	76						40 - 140	20
N-Nitrosodiphenylamine	ND	3.5	85						40 - 140	20
Pentachloronitrobenzene	ND	5.0	96						40 - 140	20
Phenol	ND	1.0	51						30 - 130	20
% 2,4,6-Tribromophenol	75	%	82						15 - 110	20
% 2-Fluorobiphenyl	60	%	66						30 - 130	20
% 2-Fluorophenol	33	%	39						15 - 110	20
% Nitrobenzene-d5	45	%	63						30 - 130	20
% Phenol-d5	19	%	49						15 - 110	20
% Terphenyl-d14	77	%	83						30 - 130	20

Comment:

This batch consists of a Blank and LCS

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 514189 (ug/l), QC Sample No: CF12265 (CF10995)

1,4dioxane - Ground Water

1,4-dioxane	ND	0.20	82	83	1.2				30 - 130	20
% 1,4-dioxane-d8	83	%	83	81	2.4				30 - 130	20

QA/QC Batch 513952 (ug/L), QC Sample No: CF10667 (CF10995)

Semivolatiles (SIM) - Ground Water

2-Methylnaphthalene	ND	0.50	78						40 - 140	20
Acenaphthene	ND	0.50	81						40 - 140	20
Acenaphthylene	ND	0.50	79						40 - 140	20
Anthracene	ND	0.50	96						40 - 140	20
Benz(a)anthracene	ND	0.50	97						40 - 140	20
Benzo(a)pyrene	ND	0.50	94						40 - 140	20

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(b)fluoranthene	ND	0.50	94						40 - 140	20	
Benzo(ghi)perylene	ND	0.50	94						40 - 140	20	
Benzo(k)fluoranthene	ND	0.50	97						40 - 140	20	
Chrysene	ND	0.50	96						40 - 140	20	
Dibenz(a,h)anthracene	ND	0.50	99						40 - 140	20	
Fluoranthene	ND	0.50	92						40 - 140	20	
Fluorene	ND	0.50	85						40 - 140	20	
Hexachlorobenzene	ND	0.50	87						40 - 140	20	
Hexachlorobutadiene	ND	0.50	66						40 - 140	20	
Hexachlorocyclopentadiene	ND	0.50	33						40 - 140	20	I
Indeno(1,2,3-cd)pyrene	ND	0.50	87						40 - 140	20	
Naphthalene	ND	0.50	73						40 - 140	20	
Nitrobenzene	ND	0.50	57						40 - 140	20	
N-Nitrosodimethylamine	ND	0.05	64						40 - 140	20	
Pentachlorophenol	ND	0.50	112						40 - 140	20	
Phenanthrene	ND	0.50	94						40 - 140	20	
Pyrene	ND	0.50	95						40 - 140	20	
Pyridine	ND	0.50	45						40 - 140	20	
% 2,4,6-Tribromophenol	61	%	82						15 - 110	20	
% 2-Fluorobiphenyl	55	%	73						40 - 140	20	
% 2-Fluorophenol	32	%	41						15 - 110	20	
% Nitrobenzene-d5	35	%	52						40 - 140	20	s
% Phenol-d5	18	%	52						15 - 110	20	
% Terphenyl-d14	64	%	81						40 - 140	20	

Comment:

This batch consists of a Blank and LCS

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 514113 (ug/L), QC Sample No: CF10770 (CF11044)

Volatiles - Water

1,1,1,2-Tetrachloroethane	ND	1.0	101	107	5.8	106	106	0.0	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	96	105	9.0	105	105	0.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	100	108	7.7	105	105	0.0	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	97	104	7.0	94	96	2.1	70 - 130	30
1,1-Dichloroethane	ND	1.0	97	104	7.0	102	102	0.0	70 - 130	30
1,1-Dichloroethene	ND	1.0	101	111	9.4	112	112	0.0	70 - 130	30
1,1-Dichloropropene	ND	1.0	95	102	7.1	112	108	3.6	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	78	101	25.7	88	108	20.4	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	91	95	4.3	90	95	5.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	86	104	18.9	97	109	11.7	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	96	104	8.0	103	100	3.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	93	110	16.7	101	114	12.1	70 - 130	30
1,2-Dibromoethane	ND	1.0	99	103	4.0	100	102	2.0	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	96	103	7.0	100	101	1.0	70 - 130	30
1,2-Dichloroethane	ND	1.0	98	104	5.9	101	102	1.0	70 - 130	30
1,2-Dichloropropane	ND	1.0	96	103	7.0	107	106	0.9	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	96	104	8.0	104	102	1.9	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	95	101	6.1	100	100	0.0	70 - 130	30
1,3-Dichloropropane	ND	1.0	97	103	6.0	96	97	1.0	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	93	103	10.2	100	101	1.0	70 - 130	30
1,4-dioxane	ND	100	106	114	7.3	105	101	3.9	40 - 160	30
2,2-Dichloropropane	ND	1.0	90	100	10.5	90	90	0.0	70 - 130	30

QA/QC Data

SDG I.D.: GCF10995

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Chlorotoluene	ND	1.0	98	105	6.9	104	104	0.0	70 - 130	30	
2-Hexanone	ND	5.0	85	95	11.1	89	94	5.5	40 - 160	30	
2-Isopropyltoluene	ND	1.0	99	108	8.7	108	107	0.9	70 - 130	30	
4-Chlorotoluene	ND	1.0	93	101	8.2	100	99	1.0	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	89	97	8.6	46	47	2.2	40 - 160	30	
Acetone	ND	5.0	105	96	9.0	93	107	14.0	40 - 160	30	
Acrylonitrile	ND	5.0	99	106	6.8	99	107	7.8	70 - 130	30	
Benzene	ND	0.70	95	102	7.1	108	106	1.9	70 - 130	30	
Bromobenzene	ND	1.0	99	104	4.9	102	103	1.0	70 - 130	30	
Bromochloromethane	ND	1.0	99	108	8.7	103	102	1.0	70 - 130	30	
Bromodichloromethane	ND	0.50	98	106	7.8	106	106	0.0	70 - 130	30	
Bromoform	ND	1.0	97	103	6.0	98	100	2.0	70 - 130	30	
Bromomethane	ND	1.0	100	113	12.2	80	87	8.4	40 - 160	30	
Carbon Disulfide	ND	1.0	92	101	9.3	99	101	2.0	70 - 130	30	
Carbon tetrachloride	ND	1.0	105	114	8.2	110	114	3.6	70 - 130	30	
Chlorobenzene	ND	1.0	97	103	6.0	102	101	1.0	70 - 130	30	
Chloroethane	ND	1.0	98	108	9.7	100	98	2.0	70 - 130	30	
Chloroform	ND	1.0	98	106	7.8	102	103	1.0	70 - 130	30	
Chloromethane	ND	1.0	96	104	8.0	88	91	3.4	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	97	104	7.0	NC	NC	NC	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	96	104	8.0	104	106	1.9	70 - 130	30	
Dibromochloromethane	ND	0.50	101	108	6.7	122	125	2.4	70 - 130	30	
Dibromomethane	ND	1.0	96	100	4.1	101	103	2.0	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	110	117	6.2	96	91	5.3	40 - 160	30	
Ethyl ether	ND	1.0	100	108	7.7	98	99	1.0	70 - 130	30	
Ethylbenzene	ND	1.0	97	104	7.0	105	103	1.9	70 - 130	30	
Hexachlorobutadiene	ND	0.40	97	109	11.7	110	112	1.8	70 - 130	30	
Isopropylbenzene	ND	1.0	96	105	9.0	107	106	0.9	70 - 130	30	
m&p-Xylene	ND	1.0	96	103	7.0	103	102	1.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	88	97	9.7	90	98	8.5	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	93	99	6.3	95	101	6.1	70 - 130	30	
Methylene chloride	ND	1.0	90	96	6.5	91	93	2.2	70 - 130	30	
Naphthalene	ND	1.0	76	104	31.1	103	118	13.6	70 - 130	30	r
n-Butylbenzene	ND	1.0	95	106	10.9	108	109	0.9	70 - 130	30	
n-Propylbenzene	ND	1.0	97	105	7.9	105	104	1.0	70 - 130	30	
o-Xylene	ND	1.0	98	107	8.8	106	105	0.9	70 - 130	30	
p-Isopropyltoluene	ND	1.0	96	105	9.0	107	106	0.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	101	110	8.5	114	112	1.8	70 - 130	30	
Styrene	ND	1.0	98	104	5.9	102	103	1.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	97	105	7.9	107	105	1.9	70 - 130	30	
Tetrachloroethene	ND	1.0	97	104	7.0	NC	NC	NC	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	91	97	6.4	92	100	8.3	70 - 130	30	
Toluene	ND	1.0	98	105	6.9	111	108	2.7	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	96	105	9.0	107	106	0.9	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	95	102	7.1	72	72	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	97	111	13.5	87	104	17.8	70 - 130	30	
Trichloroethene	ND	1.0	94	102	8.2	108	104	3.8	70 - 130	30	
Trichlorofluoromethane	ND	1.0	101	107	5.8	104	102	1.9	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	108	116	7.1	114	108	5.4	70 - 130	30	
Vinyl chloride	ND	1.0	92	101	9.3	92	90	2.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	94	%	102	100	2.0	102	103	1.0	70 - 130	30	
% Bromofluorobenzene	94	%	99	100	1.0	99	100	1.0	70 - 130	30	
% Dibromofluoromethane	103	%	103	104	1.0	100	106	5.8	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% Toluene-d8	93	%	102	102	0.0	105	103	1.9	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 514336 (ug/L), QC Sample No: CF12269 (CF10995)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	90	97	7.5				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	88	93	5.5				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	91	103	12.4				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	82	100	19.8				70 - 130	30
1,1-Dichloroethane	ND	1.0	88	95	7.7				70 - 130	30
1,1-Dichloroethene	ND	1.0	103	106	2.9				70 - 130	30
1,1-Dichloropropene	ND	1.0	93	96	3.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	82	95	14.7				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	86	88	2.3				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	85	98	14.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	92	95	3.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	96	109	12.7				70 - 130	30
1,2-Dibromoethane	ND	1.0	87	98	11.9				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	88	95	7.7				70 - 130	30
1,2-Dichloroethane	ND	1.0	82	93	12.6				70 - 130	30
1,2-Dichloropropane	ND	1.0	89	97	8.6				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	94	95	1.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	89	94	5.5				70 - 130	30
1,3-Dichloropropane	ND	1.0	85	95	11.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	88	94	6.6				70 - 130	30
1,4-dioxane	ND	100	97	108	10.7				40 - 160	30
2,2-Dichloropropane	ND	1.0	86	92	6.7				70 - 130	30
2-Chlorotoluene	ND	1.0	97	98	1.0				70 - 130	30
2-Hexanone	ND	5.0	73	90	20.9				40 - 160	30
2-Isopropyltoluene	ND	1.0	95	98	3.1				70 - 130	30
4-Chlorotoluene	ND	1.0	90	93	3.3				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	73	92	23.0				40 - 160	30
Acetone	ND	5.0	83	92	10.3				40 - 160	30
Acrylonitrile	ND	5.0	85	101	17.2				70 - 130	30
Benzene	ND	0.70	92	97	5.3				70 - 130	30
Bromobenzene	ND	1.0	92	97	5.3				70 - 130	30
Bromochloromethane	ND	1.0	85	97	13.2				70 - 130	30
Bromodichloromethane	ND	0.50	86	98	13.0				70 - 130	30
Bromoform	ND	1.0	83	95	13.5				70 - 130	30
Bromomethane	ND	1.0	112	115	2.6				40 - 160	30
Carbon Disulfide	ND	1.0	96	99	3.1				70 - 130	30
Carbon tetrachloride	ND	1.0	94	101	7.2				70 - 130	30
Chlorobenzene	ND	1.0	91	95	4.3				70 - 130	30
Chloroethane	ND	1.0	93	98	5.2				70 - 130	30
Chloroform	ND	1.0	78	96	20.7				70 - 130	30
Chloromethane	ND	1.0	87	94	7.7				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	90	97	7.5				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	88	99	11.8				70 - 130	30
Dibromochloromethane	ND	0.50	88	99	11.8				70 - 130	30
Dibromomethane	ND	1.0	85	95	11.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	101	106	4.8				40 - 160	30
Ethyl ether	ND	1.0	82	96	15.7				70 - 130	30

QA/QC Data

SDG I.D.: GCF10995

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Ethylbenzene	ND	1.0	93	95	2.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	110	103	6.6				70 - 130	30
Isopropylbenzene	ND	1.0	96	99	3.1				70 - 130	30
m&p-Xylene	ND	1.0	91	94	3.2				70 - 130	30
Methyl ethyl ketone	ND	5.0	67	86	24.8				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	76	92	19.0				70 - 130	30
Methylene chloride	ND	1.0	83	91	9.2				70 - 130	30
Naphthalene	ND	1.0	89	103	14.6				70 - 130	30
n-Butylbenzene	ND	1.0	94	97	3.1				70 - 130	30
n-Propylbenzene	ND	1.0	95	96	1.0				70 - 130	30
o-Xylene	ND	1.0	93	96	3.2				70 - 130	30
p-Isopropyltoluene	ND	1.0	94	97	3.1				70 - 130	30
sec-Butylbenzene	ND	1.0	98	101	3.0				70 - 130	30
Styrene	ND	1.0	89	95	6.5				70 - 130	30
tert-Butylbenzene	ND	1.0	93	95	2.1				70 - 130	30
Tetrachloroethene	ND	1.0	93	99	6.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	71	87	20.3				70 - 130	30
Toluene	ND	1.0	94	99	5.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	93	98	5.2				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	85	99	15.2				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	97	127	26.8				70 - 130	30
Trichloroethene	ND	1.0	91	96	5.3				70 - 130	30
Trichlorofluoromethane	ND	1.0	97	101	4.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	100	108	7.7				70 - 130	30
Vinyl chloride	ND	1.0	104	109	4.7				70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	93	%	94	96	2.1				70 - 130	30
% Dibromofluoromethane	106	%	99	101	2.0				70 - 130	30
% Toluene-d8	94	%	103	103	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 514382 (ug/L), QC Sample No: CF10995 (CF10995)

Oxygenates - Ground Water

Ethanol	106	115	8.1	89	109	20.2	70 - 130	30

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.
s = This parameter is outside laboratory Blank Surrogate specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
January 23, 2020

Thursday, January 23, 2020

Criteria: MA: CAM, GW1

State: MA

Sample Criteria Exceedances Report

GCF10995 - STANTECMA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CF10995	$8260GWR	Acetone	MA / CAM Protocol / VOA AQ RL	ND	25		10	ug/L
CF10995	$8260GWR	Carbon Disulfide	MA / CAM Protocol / VOA AQ RL	ND	5.0		2	ug/L
CF10995	$8260GWR	Tetrahydrofuran (THF)	MA / CAM Protocol / VOA AQ RL	ND	2.5		2	ug/L
CF10995	$8260GWR	trans-1,4-dichloro-2-butene	MA / CAM Protocol / VOA AQ RL	ND	5.0		2	ug/L
CF10995	$8260GWR	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CF10995	$8260GWR	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CF10995	$8270-SIMFSR	Benzoic acid	MA / CAM Protocol / SVOA AQ RL	ND	48		10	ug/L
CF10995	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.011	0.004	0.01	0.01	mg/L
CF10995	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.011	0.004	0.01	0.01	mg/L
CF11044	$8260GWR	Acetone	MA / CAM Protocol / VOA AQ RL	ND	25		10	ug/L
CF11044	$8260GWR	Carbon Disulfide	MA / CAM Protocol / VOA AQ RL	ND	5.0		2	ug/L
CF11044	$8260GWR	Tetrahydrofuran (THF)	MA / CAM Protocol / VOA AQ RL	ND	2.5		2	ug/L
CF11044	$8260GWR	trans-1,4-dichloro-2-butene	MA / CAM Protocol / VOA AQ RL	ND	5.0		2	ug/L
CF11044	$8260GWR	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CF11044	$8260GWR	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CF11044	$MCPADD-WM	1,4-Dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CF11044	$MCPADD-WM	1,4-Dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.3	0.3	ug/L

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 30 PENNIMAN **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CF10995, CF11044

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: WATER, W

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

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

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

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: SVOASIM Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

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

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

Authorized Signature: Rashmi Makol

Date: Thursday, January 23, 2020

Printed Name: Rashmi Makol

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

SDG Comments

Metals Analysis:
The client requested a site specific list of elements which is shorter than the 6010 MCP list.

8260 Analysis:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.

1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

504.1

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM35 01/16/20-1 Chelsey Guerette, Chemist 01/16/20

CF10995 (1X)

The initial calibration (CHEM35/504tcp_0116): RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 514515 (CF13729)

CF10995

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.

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

Cyanide Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 01/16/20-2 Eric Geyer, Greg Danielewski, Chemist 01/16/20

CF10995

The samples were distilled in accordance with the method.
The initial calibration met criteria.

The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequencey of one per ten samples.
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.

The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

QC (Batch Specific):

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MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

Cyanide Narration

Batch 514435 (CF10215)

CF10995

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional soil criteria LCS acceptance range is 80-120% MS acceptance range 75-125%.

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

Hexavalent Chromium (Aqueous)

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 01/13/20-1 Dustin Harrison, Chemist 01/13/20

CF10995

The initial calibration met all criteria including a standard run at the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.

QC (Batch Specific):

Batch 513988 (CF11334)

CF10995

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.

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

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 01/15/20 07:38 Rick Schweitzer, Chemist 01/15/20

CF10995

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

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Certification Report

January 23, 2020

SDG I.D.: GCF10995

Mercury Narration

Batch 514110 (CF11603)

CF10995

All LCS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 01/14/20 08:53 Emily Kolominskaya, Chemist 01/14/20

CF10995

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 514163 (CF10467)

CF10995

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

LACHAT

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 01/13/20-1 Thomas Budz, Chemist 01/13/20

CF10995

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 514023 (CF10330)

CF10995

All LCS recoveries were within 90 - 110 with the following exceptions: None.

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MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

LACHAT

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

NITROGEN

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 01/16/20-1 Kandi Della Bella, Chemist 01/16/20

CF10995

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 514457 (CF10393)

CF10995

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.

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

PCB Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-ECD24 01/15/20-1 Saadia Chudary, Chemist 01/15/20

CF10995 (1X)

The initial calibration (PC1125AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC1125BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 514154 (CF10995)

CF10995

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

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

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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NY # 11301

MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

SVOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM06 01/15/20-1 Wes Bryon, Chemist 01/15/20

CF10995 (1X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_SPLIT_0108):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.076 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/0115_03-6_SPLIT_0108) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.079 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 513952 (CF10667)

CF10995

All LCS recoveries were within 40 - 140 with the following exceptions: None.
This batch consists of a Blank and LCS
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

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

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 01/15/20-1 Adam Werner, Chemist 01/15/20

CF10995 (1X)

Initial Calibration Evaluation (CHEM22/DIOX_0110):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

SVOA-Dioxane

Continuing Calibration Verification (CHEM22/0115_05-DIOX_0110) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 514189 (CF12265)

CF10995

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

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

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 513952 (Samples: CF10995): -----

The blank surrogate was below criteria. (% Nitrobenzene-d5(CF10667))

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Hexachlorocyclopentadiene)

Instrument:

CHEM27 01/15/20-2 Wes Bryon, Chemist 01/15/20

CF10995 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_SIM18_0103):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0115_11-27_SIM18_0103) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

SVOASIM Narration

QC (Batch Specific):

Batch 513952 (CF10667)

CF10995

All LCS recoveries were within 40 - 140 with the following exceptions: Hexachlorocyclopentadiene(33%)
This batch consists of a Blank and LCS
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

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

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM17 01/13/20-2 Michael Hahn, Chemist 01/13/20

CF11044 (1X)

Initial Calibration Evaluation (CHEM17/VT-S011220):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), trans-1,4-dichloro-2-butene 32% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.035 (0.05), 2-Hexanone 0.087 (0.1), Acetone 0.052 (0.1), Bromoform 0.094 (0.1), Methyl ethyl ketone 0.078 (0.1), Tetrahydrofuran (THF) 0.046 (0.05), trans-1,4-dichloro-2-butene 0.041 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0113_30-VT-S011220) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.032 (0.05), 2-Hexanone 0.077 (0.1), Acetone 0.058 (0.1), Bromoform 0.092 (0.1), Methyl ethyl ketone 0.070 (0.1), Tetrahydrofuran (THF) 0.043 (0.05), trans-1,4-dichloro-2-butene 0.031 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM17 01/14/20-2 Michael Hahn, Chemist 01/14/20

CF10995 (1X)

Initial Calibration Evaluation (CHEM17/VT-S011220):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), trans-1,4-dichloro-2-butene 32% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.035 (0.05), 2-Hexanone 0.087 (0.1), Acetone 0.052 (0.1), Bromoform 0.094 (0.1), Methyl ethyl ketone 0.078 (0.1), Tetrahydrofuran (THF) 0.046 (0.05), trans-1,4-dichloro-2-butene 0.041 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0114_31-VT-S011220) (MCP Compliance):

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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

VOA Narration

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.033 (0.05), 2-Hexanone 0.075 (0.1), Acetone 0.041 (0.1), Bromoform 0.089 (0.1), Methyl ethyl ketone 0.063 (0.1), Tetrahydrofuran (THF) 0.040 (0.05), trans-1,4-dichloro-2-butene 0.043 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 514113 (CF10770) CHEM17 1/13/2020-2

CF11044

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: Naphthalene(31.1%)
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 514336 (CF12269) CHEM17 1/14/2020-2

CF10995

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

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

VOA-OXY Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM17 01/15/20-1 Michael Hahn, Chemist 01/15/20

CF10995 (1X)

Initial Calibration Evaluation (CHEM17/OXY010720):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0115_05-OXY010720) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

January 23, 2020

SDG I.D.: GCF10995

VOA-OXY Narration

The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 514382 (CF10995) CHEM17 1/15/2020-1

CF10995

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

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

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.8 °C Pg of

Data Delivery/Contact Options:
- [ ] Fax:
- [ ] Phone:
- [x] Email: Richard.Leonard@stantec.com

Customer: Stantec
Address: Quincy, MA

Project: 30 Penniman Rd
Report to: Richard Leonard
Invoice to:
QUOTE # ST121819BA

Project P.O: 195601892

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 1/10/20

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
B=Bulk L=Liquid X = ____________(Other)

Analysis Request: RGP, See Attached

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	RGP, See Attached	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
10995	D1	GW	1/10	12:00	X												
10996	D1 Diss*	GW	1/10	12:00	X												
11044	TB																

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	1/13/20	9:30
[signature]	[signature]	1/13/20	1330

Comments, Special Requirements or Regulations:
*D1 Diss = Filtered in Field, hold until told to run

Turnaround Time:
- [ ] 1 Day*
- [ ] 2 Days*
- [ ] 3 Days*
- [x] Standard
- [ ] Other

* SURCHARGE APPLIES

RI
- [ ] (Residential) Direct Exposure
- [ ] (Comm/Industrial) Direct Exposure
- [ ] GA Leachability
- [ ] GB Leachability
- [ ] GA-GW Objectives
- [ ] GB-GW Objectives

CT
- [ ] RCP Cert
- [ ] GW Protection
- [ ] SW Protection
- [ ] GA Mobility
- [ ] GB Mobility
- [ ] Residential DEC
- [ ] I/C DEC
- [ ] Other

MA
- [x] MCP Certification
- [x] GW-1
- [ ] MWRA eSMART
- [ ] GW-2
- [ ] GW-3
- [ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
- [ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
- [ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
- [ ] SW Protection

State where samples were collected: MA

Data Format
- [x] Excel
- [x] PDF
- [ ] GIS/Key
- [ ] EQuIS
- [ ] Other

Data Package
- [ ] Tier II Checklist
- [ ] Full Data Package*
- [x] Phoenix Std Report
- [ ] Other

* SURCHARGE APPLIES

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
Manchester, CT 06040
(860) 812-0086
Please call Lisa with any questions

Container Order

Company: **Stantec - Quincy, MA**

Project: RGP
Contact: Ryan Willis
Date: 1/8/20

Ground Water

# Per Set	Sets	Total	Container	Preservative	Parameter
1	1	1	250ml Plastic	H2SO4	Ammonia
1	1	1	500ml Plastic	AS IS	Chloride, Chlorine, TSS, Hex Cr, Tri Cr
1	1	1	250ml Plastic	HNO3	Sb, As, Cd, Cu, Fe, Pb, Hg, Ni, Se, Ag, Zn
1	1	1	250ml Plastic	NAOH	Cyanide
3	1	3	40ml Vials	HCL	VOC
1	1	1	8oz Amber	NAHSO4	1,4 Dioxane
2	1	2	Liter Amber	AS IS	SVOC
1	1	1	Liter Amber	AS IS	PCB
1	1	1	Liter Amber	H2SO4	TPH 1164
2	1	2	40ml Vials	AS IS	Alcohols
2	1	2	40ml Vials	TSP	Oxygenates
2	1	2	40ml Vials	AS IS	EDB

Also Included:

CT Chain, Labels
2 HCL Vials with Reagent Water wrapped = Trip Blank

Makrina Nolan

Subject: GCF10995

From: Learned, Richard [mailto:Richard.Learned@stantec.com]
Sent: Tuesday, January 14, 2020 11:10 AM
To: Makrina Nolan
Subject: Re: Samples received yesterday

Yes please run. This sample is labeled D1.

Richard Learned LSP
Senior Environmental Project Manager
Direct: 508 591-4351
Cell: 508 326-9913
Richard.Learned@stantec.com

Stantec
146 Main Street Unit 3
Hyannis MA 02601-3128 US

From: Makrina Nolan <Makrina@phoenixlabs.com>
Sent: Tuesday, January 14, 2020 11:05 AM
To: Learned, Richard <Richard.Learned@stantec.com>
Subject: Samples received yesterday

Good morning,

We received your samples yesterday, with regards to the attached chain. Unfortunately, the first sample "DI" was received past hold for HexChrome.

Please let me know if you would like to run HexChrome past hold for this sample.

Thank you,

Makrina Nolan
Client Service –Project Manager
Drinking Water Specialist
Phoenix Environmental Labs
587 Middle Turnpike East
Manchester, CT
Direct Line: 860-645-3219
Website: www.phoenixlabs.com

PHOENIX
Environmental Laboratories, Inc.

Friday, February 21, 2020

Attn: Mr Joseph Salvetti
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Project ID: 195601892
SDG ID: GCF32692
Sample ID#s: CF32700 - CF32703, CF32712 - CF32713

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

February 21, 2020

SDG I.D.: GCF32692

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

February 21, 2020

SDG I.D.: GCF32692

Project ID: 195601892

Client Id	Lab Id	Matrix
B1	CF32700	SOIL
B2	CF32701	SOIL
B3	CF32702	SOIL
B4	CF32703	SOIL
C4	CF32712	WATER
D1	CF32713	WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

February 21, 2020

FOR: Attn: Mr Joseph Salvetti
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		02/14/20	13:30
Location Code:	STANTECMA	Received by:	LB	02/14/20	17:16
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCF32692
Phoenix ID: CF32712

Project ID: 195601892
Client ID: C4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Calcium	168	0.10	mg/L	10	02/18/20	CPP	SW6010D/E200.7
Hardness (CaCO3)	567	0.1	mg/L	1	02/18/20		E200.7
Magnesium	35.7	0.010	mg/L	1	02/18/20	MGH	SW6010D/E200.7
Total Metals Digestion	Completed				02/17/20	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
February 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

February 21, 2020

FOR: Attn: Mr Joseph Salvetti
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		02/14/20	13:45
Location Code:	STANTECMA	Received by:	LB	02/14/20	17:16
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCF32692
Phoenix ID: CF32713

Project ID: 195601892
Client ID: D1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Calcium	140	0.010	mg/L	1	02/18/20	MGH	SW6010D/E200.7
Hardness (CaCO3)	470	0.1	mg/L	1	02/18/20		E200.7
Magnesium	29.2	0.010	mg/L	1	02/18/20	MGH	SW6010D/E200.7
Total Metals Digestion	Completed				02/17/20	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
February 21, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

February 21, 2020

QA/QC Data

SDG I.D.: GCF32692

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 518723 (mg/kg), QC Sample No: CF32178 2X (CF32700, CF32701, CF32702, CF32703)													
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	110	97.6	11.9	94.7	94.5	0.2	75 - 125	20
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 519031 (mg/L), QC Sample No: CF33257 (CF32703)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	111			117			75 - 125	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 518805 (mg/L), QC Sample No: CF31592 (CF32712, CF32713)													
ICP Metals - Aqueous													
Calcium	BRL	0.010	0.153	0.149	2.60	105	105	0.0	105			80 - 120	20
Magnesium	BRL	0.010	0.043	0.042	NC	104	104	0.0	105			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

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QA/QC Report

February 21, 2020

QA/QC Data

SDG I.D.: GCF32692

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 518767H (mg/Kg), QC Sample No: CF31429 50X (CF32703 (50X))											
Volatiles - Soil (High Level)											
Tetrachloroethene	ND	0.25	117	119	1.7	118	112	5.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	101	102	1.0	101	100	1.0	70 - 130	30	
% Bromofluorobenzene	96	%	99	100	1.0	100	101	1.0	70 - 130	30	
% Dibromofluoromethane	95	%	97	96	1.0	94	92	2.2	70 - 130	30	
% Toluene-d8	97	%	99	99	0.0	98	99	1.0	70 - 130	30	
Comment:											
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.											
QA/QC Batch 518756 (mg/Kg), QC Sample No: CF31907 (CF32700, CF32703)											
Volatiles - Soil (Low Level)											
1,1,1,2-Tetrachloroethane	ND	0.005	105	110	4.7	92	97	5.3	70 - 130	30	
1,1,1-Trichloroethane	ND	0.005	96	98	2.1	91	94	3.2	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.003	105	110	4.7	82	84	2.4	70 - 130	30	
1,1,2-Trichloroethane	ND	0.005	102	105	2.9	88	92	4.4	70 - 130	30	
1,1-Dichloroethane	ND	0.005	96	99	3.1	91	97	6.4	70 - 130	30	
1,1-Dichloroethene	ND	0.005	103	102	1.0	93	100	7.3	70 - 130	30	
1,1-Dichloropropene	ND	0.005	101	100	1.0	90	92	2.2	70 - 130	30	
1,2,3-Trichlorobenzene	ND	0.005	117	121	3.4	41	40	2.5	70 - 130	30	m
1,2,3-Trichloropropane	ND	0.005	105	111	5.6	84	86	2.4	70 - 130	30	
1,2,4-Trichlorobenzene	ND	0.005	116	117	0.9	45	44	2.2	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	0.001	108	109	0.9	74	78	5.3	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	0.005	106	118	10.7	73	77	5.3	70 - 130	30	
1,2-Dibromoethane	ND	0.005	104	108	3.8	84	88	4.7	70 - 130	30	
1,2-Dichlorobenzene	ND	0.005	102	105	2.9	56	62	10.2	70 - 130	30	m
1,2-Dichloroethane	ND	0.005	99	102	3.0	90	93	3.3	70 - 130	30	
1,2-Dichloropropane	ND	0.005	100	102	2.0	91	94	3.2	70 - 130	30	
1,3,5-Trimethylbenzene	ND	0.001	107	109	1.9	82	85	3.6	70 - 130	30	
1,3-Dichlorobenzene	ND	0.005	105	106	0.9	66	67	1.5	70 - 130	30	m
1,3-Dichloropropane	ND	0.005	103	107	3.8	89	93	4.4	70 - 130	30	
1,4-Dichlorobenzene	ND	0.005	102	104	1.9	62	64	3.2	70 - 130	30	m
1,4-dioxane	ND	0.1	120	115	4.3	103	102	1.0	40 - 160	30	
2,2-Dichloropropane	ND	0.005	100	95	5.1	90	89	1.1	70 - 130	30	
2-Chlorotoluene	ND	0.005	103	106	2.9	69	77	11.0	70 - 130	30	m
2-Hexanone	ND	0.025	95	102	7.1	73	81	10.4	40 - 160	30	
2-Isopropyltoluene	ND	0.005	104	105	1.0	74	78	5.3	70 - 130	30	
4-Chlorotoluene	ND	0.005	102	103	1.0	69	73	5.6	70 - 130	30	m
4-Methyl-2-pentanone	ND	0.025	99	103	4.0	88	93	5.5	40 - 160	30	
Acetone	ND	0.01	72	81	11.8	57	65	13.1	40 - 160	30	
Acrylonitrile	ND	0.005	93	97	4.2	76	86	12.3	70 - 130	30	
Benzene	ND	0.001	105	105	0.0	95	97	2.1	70 - 130	30	
Bromobenzene	ND	0.005	105	109	3.7	75	77	2.6	70 - 130	30	

QA/QC Data

SDG I.D.: GCF32692

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bromochloromethane	ND	0.005	99	104	4.9	89	90	1.1	70 - 130	30	
Bromodichloromethane	ND	0.005	105	107	1.9	92	95	3.2	70 - 130	30	
Bromoform	ND	0.005	108	116	7.1	78	86	9.8	70 - 130	30	
Bromomethane	ND	0.005	112	111	0.9	108	110	1.8	40 - 160	30	
Carbon Disulfide	ND	0.005	103	105	1.9	88	93	5.5	70 - 130	30	
Carbon tetrachloride	ND	0.005	101	102	1.0	89	95	6.5	70 - 130	30	
Chlorobenzene	ND	0.005	104	107	2.8	82	86	4.8	70 - 130	30	
Chloroethane	ND	0.005	92	93	1.1	89	87	2.3	70 - 130	30	
Chloroform	ND	0.005	96	100	4.1	89	95	6.5	70 - 130	30	
Chloromethane	ND	0.005	83	84	1.2	76	80	5.1	40 - 160	30	
cis-1,2-Dichloroethene	ND	0.005	104	95	9.0	87	84	3.5	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.005	104	107	2.8	83	88	5.8	70 - 130	30	
Dibromochloromethane	ND	0.003	113	119	5.2	91	98	7.4	70 - 130	30	
Dibromomethane	ND	0.005	101	105	3.9	84	88	4.7	70 - 130	30	
Dichlorodifluoromethane	ND	0.005	83	83	0.0	78	83	6.2	40 - 160	30	
Diethyl ether	ND	0.005	86	92	6.7	104	108	3.8	70 - 130	30	
Di-isopropyl ether	ND	0.005	88	93	5.5	87	93	6.7	70 - 130	30	
Ethyl tert-butyl ether	ND	0.005	92	98	6.3	91	97	6.4	70 - 130	30	
Ethylbenzene	ND	0.001	108	109	0.9	88	93	5.5	70 - 130	30	
Hexachlorobutadiene	ND	0.005	114	110	3.6	55	58	5.3	70 - 130	30	m
Isopropylbenzene	ND	0.001	106	108	1.9	86	89	3.4	70 - 130	30	
m&p-Xylene	ND	0.002	108	108	0.0	84	91	8.0	70 - 130	30	
Methyl ethyl ketone	ND	0.005	82	86	4.8	72	79	9.3	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	0.001	94	100	6.2	92	99	7.3	70 - 130	30	
Methylene chloride	ND	0.005	87	92	5.6	84	89	5.8	70 - 130	30	
Naphthalene	ND	0.005	126	132	4.7	<10	34	NC	70 - 130	30	l,m
n-Butylbenzene	ND	0.001	114	110	3.6	70	74	5.6	70 - 130	30	
n-Propylbenzene	ND	0.001	108	106	1.9	79	83	4.9	70 - 130	30	
o-Xylene	ND	0.002	107	109	1.9	82	89	8.2	70 - 130	30	
p-Isopropyltoluene	ND	0.001	112	111	0.9	78	81	3.8	70 - 130	30	
sec-Butylbenzene	ND	0.001	114	114	0.0	79	84	6.1	70 - 130	30	
Styrene	ND	0.005	108	111	2.7	62	75	19.0	70 - 130	30	m
tert-amyl methyl ether	ND	0.005	97	102	5.0	95	98	3.1	70 - 130	30	
tert-Butylbenzene	ND	0.001	107	107	0.0	81	84	3.6	70 - 130	30	
Tetrachloroethene	ND	0.005	106	105	0.9	91	91	0.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	0.005	88	95	7.7	79	87	9.6	70 - 130	30	
Toluene	ND	0.001	106	106	0.0	90	94	4.3	70 - 130	30	
trans-1,2-Dichloroethene	ND	0.005	102	104	1.9	90	96	6.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.005	105	107	1.9	77	81	5.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	0.005	106	111	4.6	71	74	4.1	70 - 130	30	
Trichloroethene	ND	0.005	102	101	1.0	92	95	3.2	70 - 130	30	
Trichlorofluoromethane	ND	0.005	96	96	0.0	92	97	5.3	70 - 130	30	
Trichlorotrifluoroethane	ND	0.005	106	105	0.9	97	103	6.0	70 - 130	30	
Vinyl chloride	ND	0.005	94	95	1.1	89	93	4.4	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	100	101	1.0	99	100	1.0	70 - 130	30	
% Bromofluorobenzene	97	%	101	102	1.0	99	101	2.0	70 - 130	30	
% Dibromofluoromethane	96	%	97	96	1.0	94	98	4.2	70 - 130	30	
% Toluene-d8	99	%	100	99	1.0	99	99	0.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Data

SDG I.D.: GCF32692

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 518756H (mg/Kg), QC Sample No: CF31907 50X (CF32701 (50X) , CF32702 (50X))											
Volatiles - Soil (High Level)											
1,1,1,2-Tetrachloroethane	ND	0.25	115	118	2.6	113	117	3.5	70 - 130	30	
1,1,1-Trichloroethane	ND	0.25	108	105	2.8	108	107	0.9	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.25	116	121	4.2	119	120	0.8	70 - 130	30	
1,1,2-Trichloroethane	ND	0.25	110	112	1.8	108	111	2.7	70 - 130	30	
1,1-Dichloroethane	ND	0.25	107	107	0.0	110	108	1.8	70 - 130	30	
1,1-Dichloroethene	ND	0.25	103	103	0.0	103	101	2.0	70 - 130	30	
1,1-Dichloropropene	ND	0.25	114	111	2.7	112	113	0.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	0.25	136	135	0.7	157	149	5.2	70 - 130	30	l,m
1,2,3-Trichloropropane	ND	0.25	118	122	3.3	113	114	0.9	70 - 130	30	
1,2,4-Trichlorobenzene	ND	0.25	140	139	0.7	154	145	6.0	70 - 130	30	l,m
1,2,4-Trimethylbenzene	ND	0.25	121	119	1.7	123	125	1.6	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	0.25	125	129	3.1	118	121	2.5	70 - 130	30	
1,2-Dibromoethane	ND	0.25	115	117	1.7	115	116	0.9	70 - 130	30	
1,2-Dichlorobenzene	ND	0.25	119	118	0.8	119	120	0.8	70 - 130	30	
1,2-Dichloroethane	ND	0.25	106	107	0.9	110	110	0.0	70 - 130	30	
1,2-Dichloropropane	ND	0.25	108	108	0.0	109	110	0.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	0.25	121	120	0.8	123	125	1.6	70 - 130	30	
1,3-Dichlorobenzene	ND	0.25	121	120	0.8	120	123	2.5	70 - 130	30	
1,3-Dichloropropane	ND	0.25	115	116	0.9	116	116	0.0	70 - 130	30	
1,4-Dichlorobenzene	ND	0.25	121	118	2.5	120	120	0.0	70 - 130	30	
1,4-dioxane	ND	5	128	125	2.4	122	129	5.6	40 - 160	30	
2,2-Dichloropropane	ND	0.25	110	103	6.6	100	101	1.0	70 - 130	30	
2-Chlorotoluene	ND	0.25	117	118	0.9	118	121	2.5	70 - 130	30	
2-Hexanone	ND	1.3	105	109	3.7	110	107	2.8	40 - 160	30	
2-Isopropyltoluene	ND	0.25	118	117	0.9	118	119	0.8	70 - 130	30	
4-Chlorotoluene	ND	0.25	116	114	1.7	118	120	1.7	70 - 130	30	
4-Methyl-2-pentanone	ND	1.3	106	107	0.9	110	109	0.9	40 - 160	30	
Acetone	ND	0.5	71	73	2.8	75	75	0.0	40 - 160	30	
Acrylonitrile	ND	0.25	101	107	5.8	110	101	8.5	70 - 130	30	
Benzene	ND	0.25	117	116	0.9	116	118	1.7	70 - 130	30	
Bromobenzene	ND	0.25	117	116	0.9	116	120	3.4	70 - 130	30	
Bromochloromethane	ND	0.25	107	110	2.8	99	110	10.5	70 - 130	30	
Bromodichloromethane	ND	0.25	110	109	0.9	108	110	1.8	70 - 130	30	
Bromoform	ND	0.25	113	117	3.5	102	107	4.8	70 - 130	30	
Bromomethane	ND	0.25	89	93	4.4	89	94	5.5	40 - 160	30	
Carbon Disulfide	ND	0.25	106	105	0.9	103	103	0.0	70 - 130	30	
Carbon tetrachloride	ND	0.25	109	107	1.9	103	106	2.9	70 - 130	30	
Chlorobenzene	ND	0.25	120	119	0.8	118	120	1.7	70 - 130	30	
Chloroethane	ND	0.25	31	31	0.0	35	34	2.9	70 - 130	30	l,m
Chloroform	ND	0.25	105	105	0.0	107	107	0.0	70 - 130	30	
Chloromethane	ND	0.25	95	92	3.2	94	92	2.2	40 - 160	30	
cis-1,2-Dichloroethene	ND	0.25	95	96	1.0	97	96	1.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.25	112	112	0.0	110	111	0.9	70 - 130	30	
Dibromochloromethane	ND	0.15	120	122	1.7	113	119	5.2	70 - 130	30	
Dibromomethane	ND	0.25	107	108	0.9	109	111	1.8	70 - 130	30	
Dichlorodifluoromethane	ND	0.25	87	88	1.1	90	91	1.1	40 - 160	30	
Diethyl ether	ND	0.25	57	57	0.0	61	60	1.7	70 - 130	30	l,m
Di-isopropyl ether	ND	0.25	95	98	3.1	104	101	2.9	70 - 130	30	
Ethyl tert-butyl ether	ND	0.25	98	100	2.0	103	101	2.0	70 - 130	30	
Ethylbenzene	ND	0.25	125	124	0.8	123	125	1.6	70 - 130	30	

QA/QC Data

SDG I.D.: GCF32692

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Hexachlorobutadiene	ND	0.25	141	137	2.9	137	139	1.4	70 - 130	30	l,m
Isopropylbenzene	ND	0.25	121	119	1.7	119	123	3.3	70 - 130	30	
m&p-Xylene	ND	0.25	124	124	0.0	123	125	1.6	70 - 130	30	
Methyl ethyl ketone	ND	0.25	97	99	2.0	97	96	1.0	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	0.25	102	104	1.9	107	105	1.9	70 - 130	30	
Methylene chloride	ND	0.25	95	97	2.1	99	97	2.0	70 - 130	30	
Naphthalene	ND	0.25	146	147	0.7	175	161	8.3	70 - 130	30	l,m
n-Butylbenzene	ND	0.25	135	133	1.5	133	134	0.7	70 - 130	30	l,m
n-Propylbenzene	ND	0.25	121	120	0.8	121	123	1.6	70 - 130	30	
o-Xylene	ND	0.25	122	123	0.8	121	124	2.4	70 - 130	30	
p-Isopropyltoluene	ND	0.25	128	127	0.8	127	130	2.3	70 - 130	30	
sec-Butylbenzene	ND	0.25	131	129	1.5	130	133	2.3	70 - 130	30	l,m
Styrene	ND	0.25	123	123	0.0	123	123	0.0	70 - 130	30	
tert-amyl methyl ether	ND	0.25	105	106	0.9	106	107	0.9	70 - 130	30	
tert-Butylbenzene	ND	0.25	119	119	0.0	120	122	1.7	70 - 130	30	
Tetrachloroethene	ND	0.25	122	120	1.7	120	119	0.8	70 - 130	30	
Tetrahydrofuran (THF)	ND	0.25	98	100	2.0	104	100	3.9	70 - 130	30	
Toluene	ND	0.25	119	117	1.7	117	119	1.7	70 - 130	30	
trans-1,2-Dichloroethene	ND	0.25	115	116	0.9	119	117	1.7	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.25	112	111	0.9	109	109	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	0.25	117	120	2.5	111	114	2.7	70 - 130	30	
Trichloroethene	ND	0.25	116	115	0.9	113	114	0.9	70 - 130	30	
Trichlorofluoromethane	ND	0.25	27	27	0.0	29	29	0.0	70 - 130	30	l,m
Trichlorotrifluoroethane	ND	0.25	107	107	0.0	106	104	1.9	70 - 130	30	
Vinyl chloride	ND	0.25	104	105	1.0	105	106	0.9	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	100	100	0.0	99	99	0.0	70 - 130	30	
% Bromofluorobenzene	96	%	101	101	0.0	101	101	0.0	70 - 130	30	
% Dibromofluoromethane	92	%	94	93	1.1	94	96	2.1	70 - 130	30	
% Toluene-d8	97	%	99	98	1.0	98	98	0.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
February 21, 2020

Friday, February 21, 2020

Criteria: MA: CAM, S1

State: MA

Sample Criteria Exceedances Report

GCF32692 - STANTECMA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CF32701	$8260MAR	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	100	10	10	ug/Kg
CF32701	$8260MAR	Dibromochloromethane	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	100	5	5	ug/Kg
CF32701	$8260MAR	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	100	10	10	ug/Kg
CF32701	$8260MAR	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	100	5	5	ug/Kg
CF32701	$8260MAR	Dibromochloromethane	MA / SOIL S-1 STANDARDS / S-1 Soil & GW-1	ND	100	5	5	ug/Kg
CF32701	$8260MAR	1,1,2,2-Tetrachloroethane	MA / SOIL S-1 STANDARDS / S-1 Soil & GW-1	ND	100	5	5	ug/Kg
CF32702	$8260MAR	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	92	10	10	ug/Kg
CF32702	$8260MAR	Dibromochloromethane	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	92	5	5	ug/Kg
CF32702	$8260MAR	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	92	10	10	ug/Kg
CF32702	$8260MAR	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / S1 (mg/kg)	ND	92	5	5	ug/Kg
CF32702	$8260MAR	Dibromochloromethane	MA / SOIL S-1 STANDARDS / S-1 Soil & GW-1	ND	92	5	5	ug/Kg
CF32702	$8260MAR	1,1,2,2-Tetrachloroethane	MA / SOIL S-1 STANDARDS / S-1 Soil & GW-1	ND	92	5	5	ug/Kg
CF32703	$8260MAR	Tetrachloroethene	MA / CMR 310.40.1600 / S1 (mg/kg)	2500	280	1000	1000	ug/Kg
CF32703	$8260MAR	Tetrachloroethene	MA / SOIL S-1 STANDARDS / S-1 Soil & GW-1	2500	280	1000	1000	ug/Kg

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 195601892 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CF32700, CF32701, CF32702, CF32703

Matrices: ☐ Groundwater/Surface Water ☑ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: WATER

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

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

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

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: VOA Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

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

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

Authorized Signature: Rashmi Makol

Date: Friday, February 21, 2020

Printed Name: Rashmi Makol

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

February 21, 2020

SDG I.D.: GCF32692

SDG Comments

Metals Analysis:
The client requested a site specific list of elements which is shorter than the 6010 MCP list.

Volatile Comment: (CF32701, CF32702)
The client provided low level could not be analyzed due to physical interference from too much soil. The high level preserved vial requires a dilution resulting in elevated reporting levels.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 02/17/20 09:49 Rick Schweitzer, Chemist 02/17/20

CF32700, CF32701, CF32702, CF32703

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

MERLIN 02/19/20 14:12 Rick Schweitzer, Chemist 02/19/20

CF32703

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 518723 (CF32178)

CF32700, CF32701, CF32702, CF32703

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

Batch 519031 (CF33257)

CF32703

All LCS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

ICP Metals Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Certification Report

February 21, 2020

SDG I.D.: GCF32692

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 02/17/20 13:55 Cindy Pearce, Mike Hornak, Chemist 02/17/20

CF32712, CF32713

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 02/18/20 08:31 Cindy Pearce, Mike Hornak, Chemist 02/18/20

CF32712

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 518805 (CF31592)

CF32712, CF32713

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

VOA Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

February 21, 2020

SDG I.D.: GCF32692

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 518756 (Samples: CF32700, CF32703): -----

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (Naphthalene)

QC Batch 518756H: -----

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (Chloroethane, Diethyl ether, Trichlorofluoromethane)

The QC recovery for one or more analytes is above the upper range but were not reported in the sample(s), therefore no significant bias is suspected. (1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Hexachlorobutadiene, Naphthalene, n-Butylbenzene, sec-Butylbenzene)

Instrument:

CHEM31 02/14/20-2 Jane Li, Chemist 02/14/20

CF32700 (1X), CF32701 (50X), CF32702 (50X), CF32703 (1X)

Initial Calibration Evaluation (CHEM31/VT-L021220P):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 32% (20%), Bromoform 22% (20%), Chloroethane 21% (20%), Naphthalene 27% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.094 (0.1), Bromoform 0.097 (0.1), Tetrachloroethene 0.177 (0.2)
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM31/0214_34-VT-L021220P) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
86% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.064 (0.1), Bromoform 0.091 (0.1), Tetrachloroethene 0.155 (0.2), Trichloroethene 0.197 (0.2)
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM31 02/16/20-1 Jane Li, Chemist 02/16/20

CF32703 (50X)

Initial Calibration Evaluation (CHEM31/VT-L021220P):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: Tetrachloroethene 0.177 (0.2)
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM31/0216_03-VT-L021220P) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: Tetrachloroethene 0.184 (0.2)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

February 21, 2020

SDG I.D.: GCF32692

VOA Narration

The following compounds did not meet the minimum MCP response factor of 0.05: None.

QC (Batch Specific):

Batch 518756 (CF31907) CHEM31 2/14/2020-2

CF32700(1X), CF32703(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: Naphthalene(132%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 518756H (CF31907) CHEM31 2/14/2020-2

CF32701(50X), CF32702(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(136%), 1,2,4-Trichlorobenzene(140%), Chloroethane(31%), Diethyl ether(57%), Hexachlorobutadiene(141%), Naphthalene(146%), n-Butylbenzene(135%), sec-Butylbenzene(131%), Trichlorofluoromethane(27%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(135%), 1,2,4-Trichlorobenzene(139%), Chloroethane(31%), Diethyl ether(57%), Hexachlorobutadiene(137%), Naphthalene(147%), n-Butylbenzene(133%), Trichlorofluoromethane(27%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 518767H (CF31429) CHEM31 2/16/2020-1

CF32703(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

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

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [X] No [ ]
Temp 1.7 °C Pg 1 of 2

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD 1 of 2

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: joseph.salvetti@stantec.com

Customer: Stantec Consulting
Address: 4160 Crown Colony Drive, Quincy, MA

Project: 195601892
Report to: Joe Salvetti
Invoice to:
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 2-14-20

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Mercury	VOCs 8260	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [X] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container (4)oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ]250ml [ ]500ml [ ]1000ml	PL As is [ ]250ml [ ]250ml [ ]500ml	PL H2SO4 [ ]250ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
321692	A1	S	2-14-20	0950	X					1									
321693	A2	S		1005	X					1									
321694	A3	S		1020	X					1									
321695	A4	S		1030	X					1									
321696	AB1	S		1105	X					1									
321697	AB2	S		1055	X					1									
321698	AB3	S		1045	X					1									
321699	AB4	S		1040	X					1									
327700	B1	S		~~1006~~ 1225	X	X			2	1									
327701	B2	S		1220	X	X			2	1									
327702	B3	S		1215	X	X			2	1									
327703	B4	S	↓	1205	X	X			2	1									

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	2-14-20	15:15
[signature]	[signature]	2.14.20	1714

Comments, Special Requirements or Regulations: 24 Hr TAT
* Only Test B1, B2, B3, and B4
* Hold all other samples *

Turnaround Time:
[X] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[ ] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[X] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2
[ ] GW-3 RCS-1
[X] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

Coolant: IPK [X] ICE [ ] Cooler: Yes [X] No [ ] No [ ]

Temp 1.7 °C Pg 2 of 2

CHAIN OF CUSTODY RECORD

2 of 2

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
- [ ] Fax:
- [ ] Phone:
- [X] Email: joseph.salvetti@stantec.com

Customer: Stantec Consulting
Address: 400 Crown Colony Drive
Quincy, MA

Project: 195601892
Report to: Joe Salvetti
Invoice to:
QUOTE #
Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature ______ Date: ______

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = ______(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Mercury	~~metals~~ *	Hardness	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container (4) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
32704	BC1	S	2-14-26	1205	X					X									
32705	BC2	S	[same date]	1155	X					X									
32706	BC3	S	[same date]	1145	X					X									
32707	BC4	S	[same date]	1135	X					X									
32708	C1	S	[same date]	1110	X					X									
31709	C2	S	[same date]	1120	X					X									
32710	C3	S	[same date]	1130	X					X									
32711	C4	S	[same date]	1140	X					X									
32712	C4	GW	[same date]	1330			X									1			
32713	D1	GW	[same date]	1345			X									1			

Relinquished by:	Accepted by:	Date:	Time:
[signature] / Stantec	[signature]	2-14-26	15:15
[signature]	[signature]	2-14-26	17:14

Comments, Special Requirements or Regulations: * 24 HR TAT
* All Samples on Hold except B1, B2, B3, B4
~~[struck-out text]~~

Turnaround Time:
- [X] 1 Day*
- [ ] 2 Days*
- [ ] 3 Days*
- [ ] Standard
- [ ] Other

* SURCHARGE APPLIES

RI
- [ ] (Residential) Direct Exposure
- [ ] (Comm/Industrial) Direct Exposure
- [ ] GA Leachability
- [ ] GB Leachability
- [ ] GA-GW Objectives
- [ ] GB-GW Objectives

CT
- [ ] RCP Cert
- [ ] GW Protection
- [ ] SW Protection
- [ ] GA Mobility
- [ ] GB Mobility
- [ ] Residential DEC
- [ ] I/C DEC
- [ ] Other

MA
- [X] MCP Certification
- [ ] GW-1 [ ] MWRA eSMART
- [ ] GW-2 [X] RCS-1
- [ ] GW-3
- [X] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
- [ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
- [ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
- [ ] SW Protection

State where samples were collected: MA

Data Format
- [X] Excel
- [ ] PDF
- [ ] GIS/Key
- [ ] EQuIS
- [ ] Other

Data Package
- [ ] Tier II Checklist
- [ ] Full Data Package*
- [X] Phoenix Std Report
- [ ] Other

* SURCHARGE APPLIES

Bobbi Aloisa

From: Learned, Richard <Richard.Learned@stantec.com>
Sent: Monday, February 17, 2020 3:31 PM
To: Salvetti, Joseph; Bobbi Aloisa
Cc: Hanna, Ritta
Subject: Re: Rush -Allston

Also, run the hardness for the GW samples C4 and D1.

Richard Learned LSP
Senior Environmental Project Manager
Direct: 508 591-4351
Cell: 508 326-9913
Richard.Learned@stantec.com

Stantec
146 Main Street Unit 3
Hyannis MA 02601-3128 US

From: Learned, Richard <Richard.Learned@stantec.com>
Sent: Monday, February 17, 2020 3:28 PM
To: Salvetti, Joseph <Joseph.Salvetti@stantec.com>; Bobbi Aloisa <bobbi@phoenixlabs.com>
Cc: Hanna, Ritta <Ritta.Hanna@stantec.com>
Subject: Re: Rush -Allston

Yes just mercury for soil samples B1-B4.

Richard Learned LSP
Senior Environmental Project Manager
Direct: 508 591-4351
Cell: 508 326-9913
Richard.Learned@stantec.com

Stantec
146 Main Street Unit 3
Hyannis MA 02601-3128 US

From: Salvetti, Joseph <Joseph.Salvetti@stantec.com>
Sent: Monday, February 17, 2020 3:25 PM
To: Bobbi Aloisa <bobbi@phoenixlabs.com>
Cc: Hanna, Ritta <Ritta.Hanna@stantec.com>; Learned, Richard <Richard.Learned@stantec.com>
Subject: RE: Rush -Allston

So sorry

I saw that just now
Thank you

Joseph Salvetti LSP
Senior Associate

Direct: 508 591-4327
Mobile: 508 509-7393
Fax: 617 786-7962
Joseph.Salvetti@stantec.com

Stantec
400 Crown Colony Drive Suite 200
Quincy MA 02169-0982

From: Bobbi Aloisa <bobbi@phoenixlabs.com>
Sent: Monday, February 17, 2020 3:22 PM
To: Salvetti, Joseph <Joseph.Salvetti@stantec.com>
Cc: Hanna, Ritta <Ritta.Hanna@stantec.com>; Learned, Richard <Richard.Learned@stantec.com>
Subject: RE: Rush -Allston

Hg and VOCs are both checked off on the chain that was sent with results.

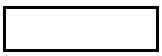
From: Salvetti, Joseph [mailto:Joseph.Salvetti@stantec.com]
Sent: Monday, February 17, 2020 3:21 PM
To: Bobbi Aloisa
Cc: Hanna, Ritta; Learned, Richard
Subject: RE: Rush -Allston

Hi Bobbi
All we wanted was Hg?
Is that correct Rich?
Joe

Joseph Salvetti LSP
Senior Associate

Direct: 508 591-4327
Mobile: 508 509-7393
Fax: 617 786-7962
Joseph.Salvetti@stantec.com

Stantec
400 Crown Colony Drive Suite 200
Quincy MA 02169-0982



From: Bobbi Aloisa <bobbi@phoenixlabs.com>
Sent: Monday, February 17, 2020 12:56 PM
To: Salvetti, Joseph <Joseph.Salvetti@stantec.com>
Subject: Rush

Bobbi Aloisa
Vice President | Director of Client Services
Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike | Manchester, CT 06040
Direct Line: (860)-645-8728
www.phoenixlabs.com

Bobbi Aloisa

From: Bobbi Aloisa
Sent: Tuesday, February 18, 2020 1:43 PM
To: Learned, Richard
Cc: Bobbi Aloisa
Subject: RE: Rush

Will do, on 32703 Phoenix ID

From: Learned, Richard [mailto:Richard.Learned@stantec.com]
Sent: Tuesday, February 18, 2020 9:16 AM
To: Bobbi Aloisa
Subject: Re: Rush

Bobbi,

As we discussed, please run TCLP for mercury on the B4 sample. One day TAT.

Richard Learned LSP
Senior Environmental Project Manager
Direct: 508 591-4351
Cell: 508 326-9913
Richard.Learned@stantec.com

Stantec
146 Main Street Unit 3
Hyannis MA 02601-3128 US

From: Bobbi Aloisa <bobbi@phoenixlabs.com>
Sent: Monday, February 17, 2020 4:11 PM
To: Learned, Richard <Richard.Learned@stantec.com>
Subject: FW: Rush

From: Bobbi Aloisa
Sent: Monday, February 17, 2020 12:56 PM
To: Salvetti, Joseph (Joseph.Salvetti@stantec.com)
Subject: Rush

Bobbi Aloisa
Vice President | Director of Client Services
Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike | Manchester, CT 06040

Direct Line: (860)-645-8728
www.phoenixlabs.com

PHOENIX
Environmental Laboratories, Inc.

Tuesday, February 18, 2020

Attn: Mr Joseph Salvetti
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Project ID: CHARLES RIVER
SDG ID: GCF32691
Sample ID#s: CF32691

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

February 18, 2020

SDG I.D.: GCF32691

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

February 18, 2020

SDG I.D.: GCF32691

Project ID: CHARLES RIVER

Client Id	Lab Id	Matrix
CHARLES SW	CF32691	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

February 18, 2020

FOR: Attn: Mr Joseph Salvetti
Stantec
400 Crown Colony Drive
Suite 200
Quincy MA 02169

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		02/14/20	14:20
Location Code:	STANTECMA	Received by:	LB	02/14/20	17:16
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCF32691
Phoenix ID: CF32691

Project ID: CHARLES RIVER
Client ID: CHARLES SW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	02/15/20	CPP	SW6010D
Arsenic	< 0.004	0.004	mg/L	1	02/15/20	CPP	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	02/15/20	CPP	SW6010D
Chromium	< 0.001	0.001	mg/L	1	02/15/20	CPP	SW6010D
Copper	< 0.005	0.005	mg/L	1	02/15/20	CPP	SW6010D
Iron	0.494	0.010	mg/L	1	02/15/20	CPP	E200.7
Hardness (CaCO3)	74.4	0.1	mg/L	1	02/15/20		E200.7
Mercury	< 0.0002	0.0002	mg/L	1	02/17/20	RS	SW7470A
Nickel	< 0.001	0.001	mg/L	1	02/15/20	CPP	SW6010D
Lead	< 0.002	0.002	mg/L	1	02/15/20	CPP	SW6010D
Antimony	< 0.005	0.005	mg/L	1	02/15/20	CPP	SW6010D
Selenium	< 0.010	0.010	mg/L	1	02/15/20	CPP	SW6010D
Trivalent Chromium	< 0.01	0.01	mg/L	1	02/17/20	BA	Calculation
Zinc	0.009	0.004	mg/L	1	02/15/20	CPP	SW6010D
Chromium, Hexavalent	< 0.01	0.01	mg/L	1	02/14/20 18:24	O	SM3500CRB-11
Ammonia as Nitrogen	0.14	0.05	mg/L	1	02/15/20	KDB	E350.1
pH	7.31	1.00	pH Units	1	02/14/20 22:08	AP	SM4500-H B-11
Salinity	0.5	0.5	ppt	1	02/14/20	AP	SM2520B-10
Mercury Digestion	Completed				02/17/20	LS/LS	SW7470A
Total Metals Digestion	Completed				02/14/20	AG	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

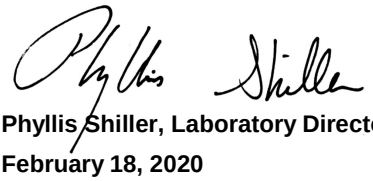
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Ammonia:
This sample was received with a pH>2 The EPA requires preservation at time of sampling to a pH of <2. A sample bias can not be ruled out.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
February 18, 2020
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

February 18, 2020

QA/QC Data

SDG I.D.: GCF32691

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 518741 (mg/L), QC Sample No: CF32303 (CF32691)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	117			120			75 - 125	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 518646 (mg/L), QC Sample No: CF32121 (CF32691)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	<0.005	<0.005	NC	99.0	99.1	0.1	98.7	98.9	0.2	80 - 120	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	95.1	95.5	0.4	95.6	96.5	0.9	80 - 120	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	95.9	97.2	1.3	95.4	95.9	0.5	80 - 120	20
Chromium	BRL	0.001	0.001	0.001	NC	95.9	97.0	1.1	96.0	96.6	0.6	80 - 120	20
Copper	BRL	0.005	<0.005	<0.005	NC	99.6	100	0.4	101	101	0.0	80 - 120	20
Iron	BRL	0.010	0.072	0.073	1.40	97.5	99.1	1.6	97.7	98.4	0.7	80 - 120	20
Lead	BRL	0.002	<0.002	<0.002	NC	90.9	91.8	1.0	90.4	91.4	1.1	80 - 120	20
Nickel	BRL	0.001	0.002	0.001	NC	95.9	97.0	1.1	95.6	96.0	0.4	80 - 120	20
Selenium	BRL	0.010	<0.010	<0.010	NC	93.7	94.7	1.1	94.4	94.8	0.4	80 - 120	20
Silver	BRL	0.001	<0.001	<0.001	NC	98.7	99.8	1.1	99.8	101	1.2	80 - 120	20
Zinc	BRL	0.004	0.062	0.062	0	96.0	97.0	1.0	96.6	97.0	0.4	80 - 120	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

February 18, 2020

QA/QC Data

SDG I.D.: GCF32691

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 518705 (PH), QC Sample No: CF32686 (CF32691)													
pH at 25C - Soil			7.92	7.90	0.30	100						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 518677 (mg/L), QC Sample No: CF32635 (CF32691)													
Chromium, Hexavalent	BRL	0.01	<0.01	<0.01	NC	101			114			90 - 110	30
Comment:													
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.													
QA/QC Batch 518644 (mg/L), QC Sample No: CF31644 (CF32691)													
Ammonia as Nitrogen	BRL	0.05	25.6	25.0	2.40	100			107			90 - 110	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
February 18, 2020

Tuesday, February 18, 2020

Criteria: MA: CAM, GW1

State: MA

Sample Criteria Exceedances Report

GCF32691 - STANTECMA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: CHARLES RIVER **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CF32691

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

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

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

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes ☐ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

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

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

Authorized Signature: Rashmi Makol

Date: Tuesday, February 18, 2020

Printed Name: Rashmi Makol

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

February 18, 2020

SDG I.D.: GCF32691

SDG Comments

Metals Analysis:
The client requested a site specific list of elements which is shorter than the 6010 MCP list.

Hexavalent Chromium (Aqueous)

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 02/14/20-1 Dustin Harrison, Chemist 02/14/20

CF32691

The initial calibration met all criteria including a standard run at the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.

QC (Batch Specific):

Batch 518677 (CF32635)

CF32691

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.

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

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 02/17/20 09:49 Rick Schweitzer, Chemist 02/17/20

CF32691

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 518741 (CF32303)

CF32691

All LCS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

February 18, 2020

SDG I.D.: GCF32691

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 02/15/20 08:02 Cindy Pearce, Chemist 02/15/20

CF32691

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 518646 (CF32121)

CF32691

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

NITROGEN

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 02/15/20-1 Kandi Della Bella, Chemist 02/15/20

CF32691

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 518644 (CF31644)

CF32691

All LCS recoveries were within 85 - 115 with the following exceptions: None.
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.

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

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp (1°C) Pg of

CHAIN OF CUSTODY RECORD

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: Joseph.Salvetti@Stantec.com

Customer: Stantec Consulting
Address: 400 Crown Colony Drive
Quincy, MA

Project: Charles River
Report to: Joe Salvetti
Invoice to:
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 2-14-20

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request: Hardness, metals, Salinity, pH, Hex Chrom, Tri Chrom

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Hardness	metals	Salinity	pH	Hex Chrom	Tri Chrom	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
32491	CharlesSW	SW	2-14-20	1420	X	X	X										2		1			

Relinquished by: [signature] / Stantec
Accepted by: [signature] 2/14/20 17:16
Date: 2-14-20 **Time:** 15:15

Comments, Special Requirements or Regulations: * 7 day TAT (Antimony, Arsenic, Cadmium, Copper, Iron, Lead, Mercury, Nickel, Silicium, Silver, Zinc, Ammonia) -> TEST

Turnaround Time:
[X] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[ ] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[X] MCP Certification
[X] GW-1 [ ] MWRA eSMART
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

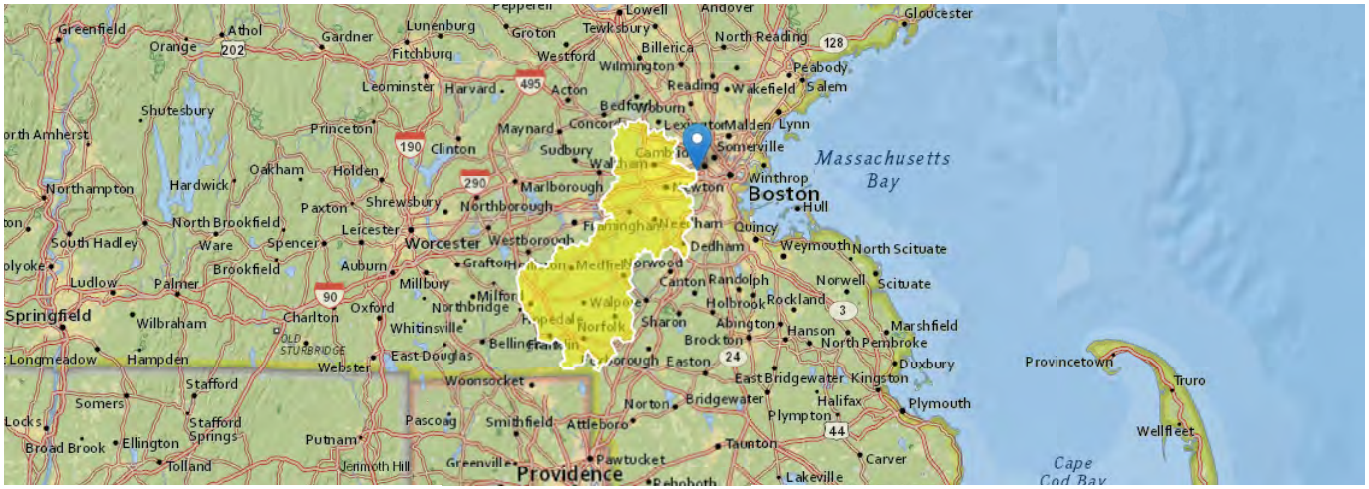
Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

APPENDIX C

STREAMSTATS 7Q10 FLOW REPORT, DILUTION FACTOR CALCULATIONS AND COPY OF MALIMITSBOOKREV1.XLSX

StreamStats Report - 30 Penniman Road, Allston, MA

Region ID:	MA
Workspace ID:	MA20200207160439676000
Clicked Point (Latitude, Longitude):	42.36527, -71.13859
Time:	2020-02-07 11:04:57 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	279	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.342	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	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	279	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.342	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.23	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 errors

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	48.9	ft^3/s
7 Day 10 Year Low Flow	24.3	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

STANTEC CONSULTING SERVICES, INC.		**CALCULATIONS**	PROJECT NO.	195601892	
			SHEET	1 of	1
CLIENT	30 Penn, LLC		DATE	February 2020	
PROJECT	30 Penniman Road Redevelopment		COMPUTED BY	RBL	
SUBJECT	Dilution Factor Calculations				

PURPOSE: Calculate Dilution Factor (DF) for project based on 7 Day 10 Year (7Q10) Low Flow values.

APPROACH: Calculate DF based on EPA formula $(Q_S + Q_D)/Q_D$, where Q_S is 7Q10 in million gallons per day (MGD) and Q_D is discharge flow in MGD.

ASSUMPTIONS:
1. 7Q10 is 24.3 cfs (from StreamStats 4.0)
2. A conversion of 7.48 is used to convert cubic feet to gallons
3. A discharge flowrate of 500 gpm is assumed

CALCULATIONS:

7Q10 Low Flow Value (Q_S)

$$Q_S = \frac{24.3\ ft^3}{sec} \times \frac{7.48\ gallons}{ft^3} \times \frac{86{,}400\ sec}{day} \times \frac{1\ MG}{1{,}000{,}000\ gallons}$$

Q_S = 15.70 MGD

Discharge Flowrate (Q_D)

$$Q_D = \frac{500\ gallons}{min} \times \frac{1{,}440\ min}{day} \times \frac{1\ MG}{1{,}000{,}000\ gallons}$$

Q_D = 0.72 MGD

Dilution Factor (DF)

$$DF = \frac{Q_S + Q_D}{QD} = \frac{15.70\ MGD + 0.72\ MGD}{0.72\ MGD} = 22.81$$

CONCLUSION The dilution factor for this project is calculated to be 22.81 based on the provided 7Q10 low flow value and discharge flowrate.

RE: Allston RGP 7Q10 and Dilution Factor

Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>

Wed 2/12/2020 3:31 PM

To: Learned, Richard <Richard.Learned@stantec.com>
Cc: Salvetti, Joseph <Joseph.Salvetti@stantec.com>

Hi Rich,
Yes, nice speaking with you today. I can confirm that your dilution factor calculation (22.81) for this proposed discharge from 30 Penniman Rd. in Allston to a storm drain that discharges to the Charles River near the Artesani Playground is correct.

To assist you with filling out the NOI, this segment of the Charles River is identified as MA72-36, is classified as Class B, is not an Outstanding Resource Water, and there are two approved TMDLs for pathogens and phosphorus. To see the causes of impairments, go to: https://www.mass.gov/doc/final-massachusetts-year-2016-integrated-list-of-waters/download and search for "MA72-36".

As we discussed, since this is a *current* MCP site, you do not have to submit a transmittal form and $500 fee (https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent). You can cc me on the NOI but please don't send me a paper copy.

Feel free to contact me if you have any additional questions.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026
Please consider the environment before printing this e-mail

From: Learned, Richard [mailto:Richard.Learned@stantec.com]
Sent: Wednesday, February 12, 2020 2:50 PM
To: Vakalopoulos, Catherine (DEP)
Cc: Salvetti, Joseph
Subject: Allston RGP 7Q10 and Dilution Factor

Cathy,

It was a pleasure to speak with you today.

Attached please find the StreamStats 7Q10 flow report and dilution calcs for a dewatering project we are planning in Allston, MA. The site is located at 30 Penniman Road. Excavation below the water table is necessary to construct the building foundation. We are using extraction wells located around the excavation to dewater. Groundwater from the wells will be pumped into a Frac tank, through filtration and through granular activated carbon (GAC) before discharge into a BWSC stormwater catch basin in Penniman Road (#172). The stormwater system discharges into the Charles River at outfall SDO037 (see plan).

We are using a maximum flow rate of 500 gpm with an expected average rate of 250 gpm.

Please verify our 7Q10 flow and dilution calcs consistent with Appendix V of the RGP NOI.

Please let me know if you need any other information.

Richard Learned LSP
Senior Environmental Project Manager
Direct: 508 591-4351
Cell: 508 326-9913
Richard.Learned@stantec.com

Stantec
146 Main Street Unit 3
Hyannis MA 02601-3128 US

Stantec

Enter number values in green boxes based on the instructions to the right

Notes: Revised 1-24-20

Enter values in the units specified

↓		
15.7	Q_R = Enter upstream flow in **MGD**	Freshwater: leave 0 unless 7Q10 or alternate Q_R AND a dilution factor >1 approved by the State; Saltwater (estuarine and marine): leave 0 unless QR approved by the State
0.36	Q_P = Enter discharge flow in **MGD**	Enter the design flow or 1 MGD, whichever is less (100 gpm design flow = 0.144 MGD and is entered by default)
0	Downstream 7Q10	Leave 0 unless Q_R approved by the State

Enter a dilution factor for saltwater receiving water (this box does not apply to freshwater receiving waters)

↓	
0	Freshwater: leave 0 Saltwater (estuarine and marine): leave 0 unless DF approved by the State

Enter values in the units specified

↓		
567	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Applies to freshwater receiving waters only
74.4	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

Enter **receiving water** concentrations in the units specified

↓		Impaired for metals? ↓	
7.31	pH in **Standard Units**		pH, temperature, and ammonia required for all discharges
12	Temperature in **°C**		Hardness required for freshwater
0.14	Ammonia in **mg/L**		Salinity required for saltwater (estuarine and marine)
74.4	Hardness in **mg/L** $CaCO_3$		Metals required for all discharges if detected in the influent and if dilution factor approved by State
0.5	Salinity in **ppt**		Enter 0 if non-detect or testing not required
<5	Antimony in **µg/L**	no	If receiving water is not listed as impaired for metals in State 303(d) List, change to "no" using dropdown
<4	Arsenic in **µg/L**	no	
<1	Cadmium in **µg/L**	yes	
<10	Chromium III in **µg/L**	yes	
<10	Chromium VI in **µg/L**	yes	
<5	Copper in **µg/L**	yes	
494	Iron in **µg/L**	yes	
<2	Lead in **µg/L**	yes	
<0.2	Mercury in **µg/L**	yes	
<1	Nickel in **µg/L**	yes	
<10	Selenium in **µg/L**	yes	
<1	Silver in **µg/L**	yes	
<9	Zinc in **µg/L**	yes	

Enter **influent** concentrations in the units specified

↓		
0	TRC in **µg/L**	if >1 sample, enter maximum influent measurement
0.7	Ammonia in **mg/L**	if >10 samples, may enter 95th percentile of influent measurements using
0	Antimony in **µg/L**	EPA's *Technical Support Document for Water Quality-based Toxics Control*
11	Arsenic in **µg/L**	Enter 0 if non-detect or testing not required
0	Cadmium in **µg/L**	
9	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
5	Copper in **µg/L**	
10000	Iron in **µg/L**	
9	Lead in **µg/L**	
0	Mercury in **µg/L**	
11	Nickel in **µg/L**	
0	Selenium in **µg/L**	
0	Silver in **µg/L**	
34	Zinc in **µg/L**	
0	Cyanide in **µg/L**	
0	Phenol in **µg/L**	
0	Carbon Tetrachloride in **µg/L**	
100	Tetrachloroethylene in **µg/L**	
0	Total Phthalates in **µg/L**	
0	Diethylhexylphthalate in **µg/L**	
0	Benzo(a)anthracene in **µg/L**	
0	Benzo(a)pyrene in **µg/L**	
0	Benzo(b)fluoranthene in **µg/L**	
0	Benzo(k)fluoranthene in **µg/L**	
0	Chrysene in **µg/L**	
0	Dibenzo(a,h)anthracene in **µg/L**	
0	Indeno(1,2,3-cd)pyrene in **µg/L**	
0	Methyl-tert butyl ether in **µg/L**	

APPENDIX D

NATIONAL REGISTER OF HISTORIC PLACES DOCUMENTATION

National Register of Historic Places

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Data last updated in April, 2014.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Allston; Street No: 30; Street Name: PENNIMAN; Resource Type(s): Building;

Inv. No.	Property Name	Street	Town	Year

APPENDIX E

ENDANGERED SPECIES ACT DOCUMENTATION

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

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.

Location

Suffolk County, Massachusetts

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. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. 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.)
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-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
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
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
Cerulean Warbler *Dendroica cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
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
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
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

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
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Red-throated Loon Gavia stellata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	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
Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	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
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.

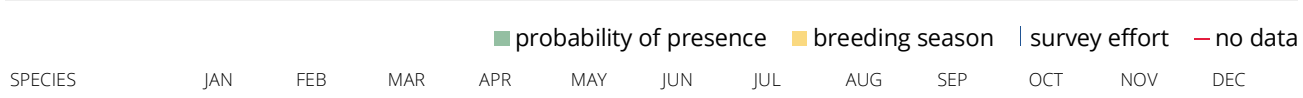
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

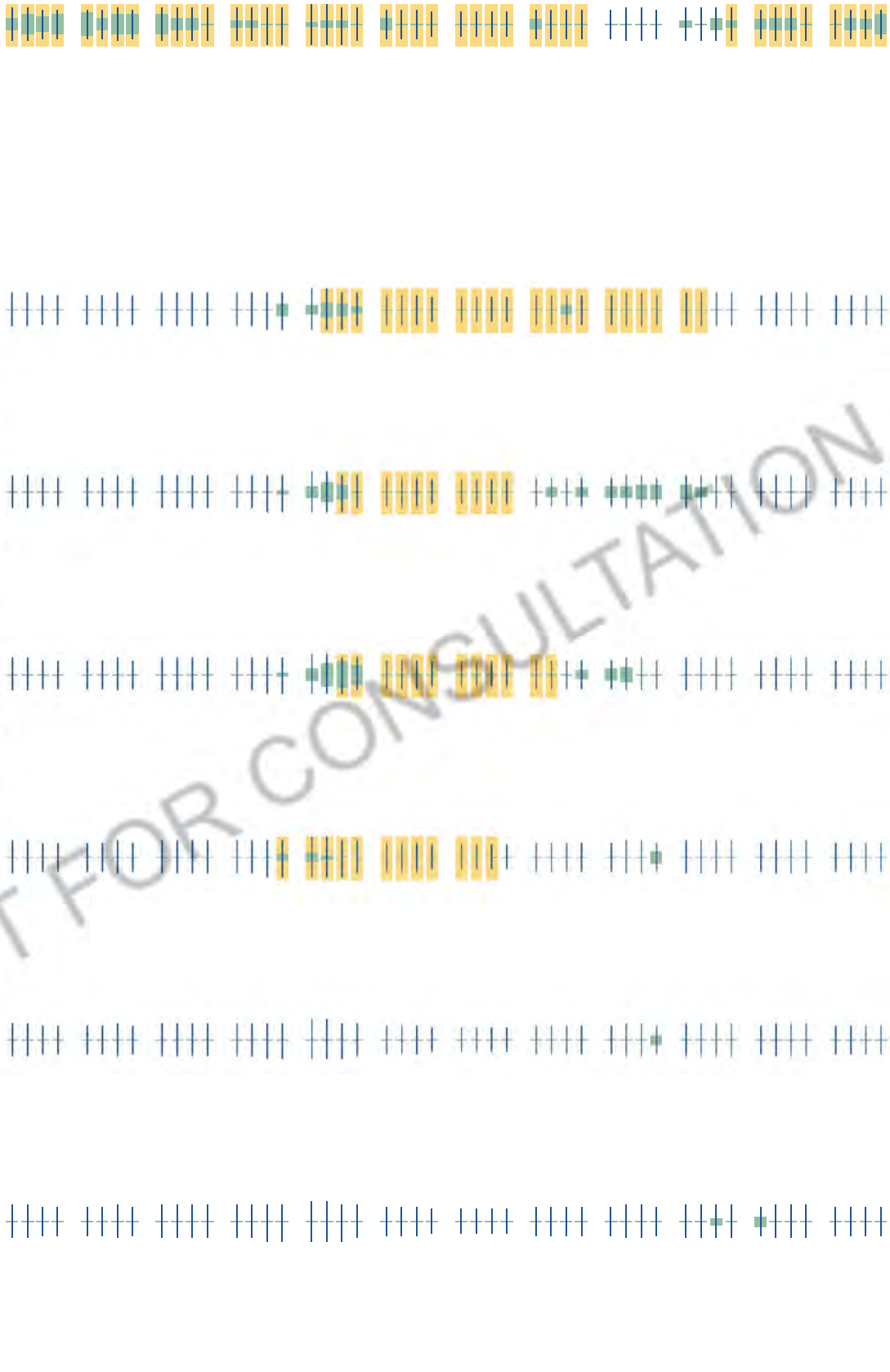
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.





Bald Eagle
Non-BCC Vulnerable (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.)

Black-billed Cuckoo
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

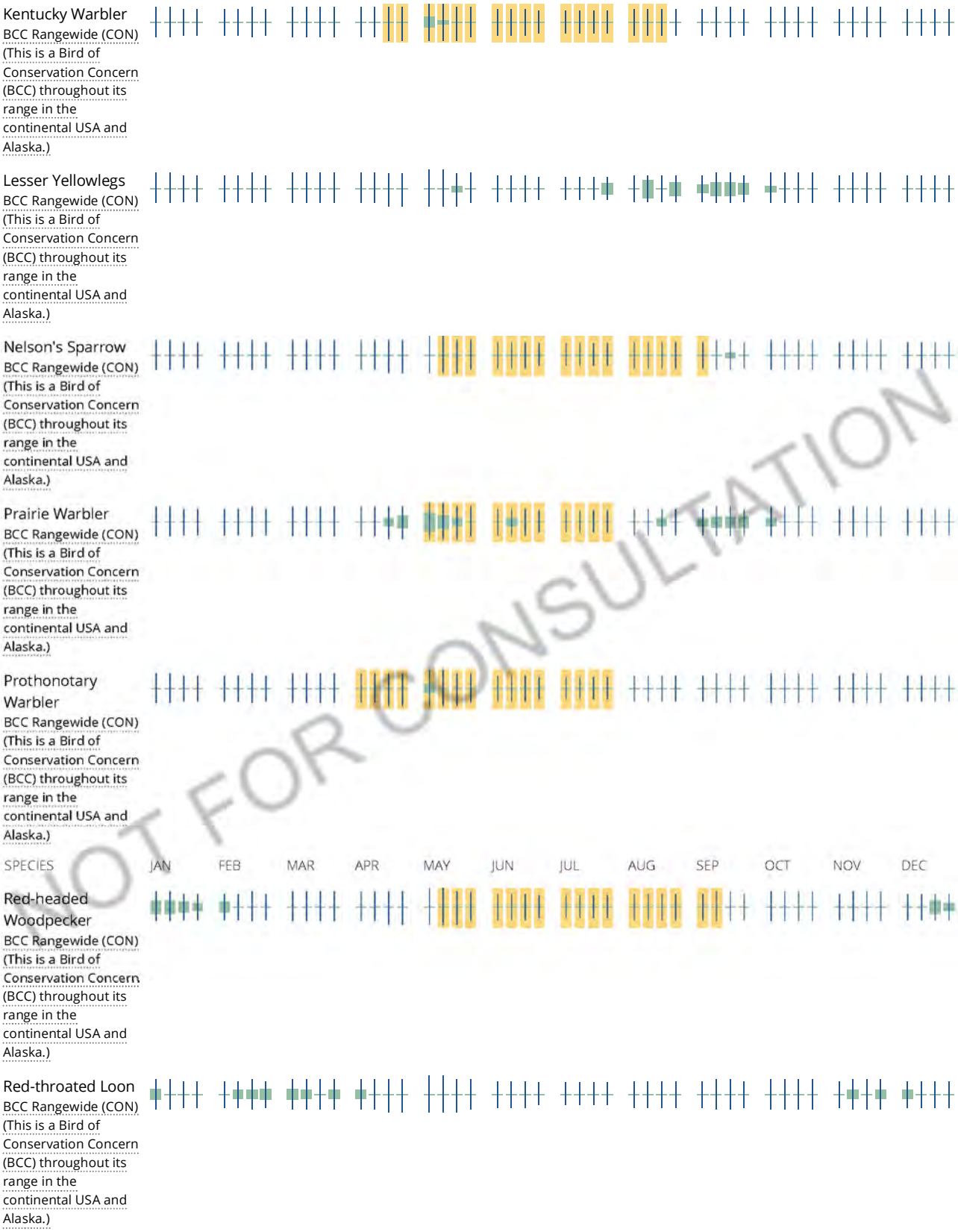
Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

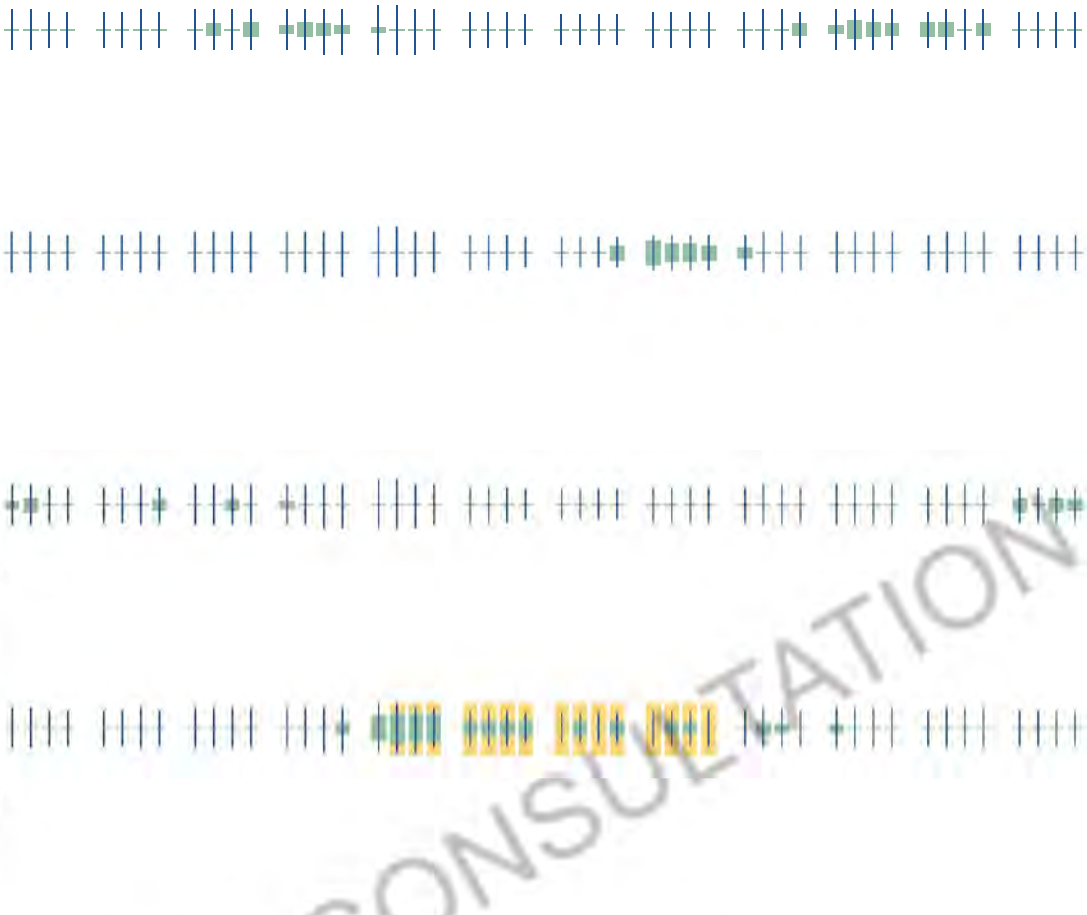
Canada Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Cerulean Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Dunlin
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Evening Grosbeak
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)





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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R2UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

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 F

COPIES OF BWSC PERMIT APPLICATIONS AND DCR CORRESPONDENCE

Boston Water and Sewer Commission
980 Harrison Avenue
Boston, MA 02119-2540

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: 30 PENN, LLC Address: 30 PENNIMAN ROAD

Phone Number: (617) 888-3424 Fax number: _____

Contact person name: STEVE BALLAS Title: MANAGER

Cell number: _____ Email address: STEVE@BALLASGROUP.COM

Permit Request (check one): ☑ New Application ☐ Permit Extension ☐ Other (Specify): _____

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 30 PENNIMAN ROAD Neighborhood ALLSTON

Discharge is to a: ☐ Sanitary Sewer ☐ Combined Sewer ☑ Storm Drain ☐ Other (specify): _____

Describe Proposed Pre-Treatment System(s): FRAC TANK, FILTRATION AND GRANULAR ACTIVATED CARBON

BWSC Outfall No. SDO037 Receiving Waters CHARLES RIVER

Temporary Discharges (Provide Anticipated Dates of Discharge): From 03/01/2020 To 08/30/2021

☐ Groundwater Remediation	☐ Tank Removal/Installation	☑ Foundation Excavation
☐ Utility/Manhole Pumping	☐ Test Pipe	☐ Trench Excavation
☐ Accumulated Surface Water	☐ Hydrogeologic Testing	☐ Other _____

Permanent Discharges

☐ Foundation Drainage	☐ Crawl Space/Footing Drain
☐ Accumulated Surface Water	☐ Non-contact/Uncontaminated Cooling
☐ Non-contact/Uncontaminated Process	☐ Other; _____

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1. Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). Include meter type, meter number, size, make and start reading. Note. All discharges to the Commission's sewer system will be assessed current sewer charges.
2. If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application.
3. If discharging to a separate storm drain, attach a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information.
4. Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.

Submit Completed Application to: Boston Water and Sewer Commission
Engineering Customer Services
980 Harrison Avenue, Boston, MA 02119
Attn: Jodi Dobay, Engineering Customer Service
E-mail: beginj@bwsc.org
Phone: 617-989-7259 Fax: 617-989-7716

Signature of Authorized Representative for Property Owner: Stephen Ballas, Manager Date: 02/21/2020

RE: Allston Outfall

Casey, Sean (DCR) <sean.casey@state.ma.us>
Wed 2/12/2020 9:58 AM
To: Learned, Richard <Richard.Learned@stantec.com>

Thanks Rich. It is confirmed that this is not a DCR asset and does not require DCR permitting for its use.

Thanks,
Sean

From: Learned, Richard <Richard.Learned@stantec.com>
Sent: Wednesday, February 12, 2020 9:41 AM
To: Casey, Sean (DCR) <Sean.Casey@mass.gov>
Subject: Re: Allston Outfall

Sean,

See attached.

Richard Learned LSP
Senior Environmental Project Manager
Direct: 508 591-4351
Cell: 508 326-9913
Richard.Learned@stantec.com

Stantec
146 Main Street Unit 3
Hyannis MA 02601-3128 US

Stantec

From: Casey, Sean (DCR) <sean.casey@state.ma.us>
Sent: Wednesday, February 12, 2020 9:39 AM
To: Learned, Richard <Richard.Learned@stantec.com>
Subject: Allston Outfall

Rich,

Thank you for your voicemail and I have inquired with the DCR Stormwater team. Unfortunately the number you provided is not how DCR labels their outfalls. They have asked if you could send a

map/plan/google image, so that we can better determine if the outfall is DCR's and whether you will need a permit.

Thanks,

SEAN CASEY
Director- Construction/Access Permits & Accident Recovery
Department of Conservation and Recreation
251 Causeway St, Suite 700
Boston, MA 02114
617-626-1444

APPENDIX G

BEST MANAGEMENT PRACTICES PLAN (BMPP)

Consistent with Section 2.5(2)(d) of the NPDES NOI, a Pollutant Minimization BMP has been prepared for the proposed discharge. The BMP includes:

i. Identification and assessment of the type and quantity of pollutants, including their potential to impact receiving water quality;
ii. Water quality control measures that ensure dilution is not used as a form of treatment, or as a means to achieve the limitations and requirements in the RGP general permit; and
iii. Selection, design, installation and proper operation and maintenance of pollution control technologies necessary to meet the limitations and requirements in the RGP general permit. The treatment technologies may include, but are not limited to any combination of the following:

1) Adsorption/Absorption
2) Granulated Activated Carbon (GAC)/Liquid Phase Carbon Adsorption
3) Precipitation/Coagulation/Flocculation
4) Separation/Filtration

The BMP will be available on-Site during the period of dewatering.