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March 6, 2017

Conservation Commission
Town of Arlington
730 Mass Ave. Annex
Arlington, Massachusetts 02476

Subject: Surface Water and Wetlands Evaluation
Summer Street Landfill/McClennen Park

Dear Commissioners:

The following report summarizes the evaluation of the surface water and wetlands at McClennen Park, formerly known as the Summer Street Landfill in Arlington, Massachusetts. Iron flocculation has been identified by the Town of Arlington Conservation Commission (the Town) as a potential environmental concern on this site, specifically in the stormwater detention basin located in the northwest portion of McClennen Park (adjacent to the closed landfill). An evaluation of the existing site conditions has been conducted to better understand the source and potential risks of the iron flocculation. This report serves as a preliminary assessment of surface water, sediment and wetlands in the immediate vicinity of the closed landfill. In order to establish the source of the iron flocculation, it was originally determined that this evaluation should include sampling of groundwater, seeps, surface water and sediment. However, as discussed later this the report, groundwater and seeps were not available for sampling as part of the evaluation. Conclusions and recommendations are presented for guidance in maintaining the site's aesthetic, recreational and wildlife functions.

Site History and Background

The Summer Street Landfill, also known as the Reeds Brook Property or Reeds Brook Landfill, is a 20-acre parcel in northwestern Arlington, near the Lexington and Winchester borders. A Site Vicinity Map (Figure 1) is attached for reference. This property was once mined for peat, and during the 1960s was landfilled with municipal waste. The facility was closed to receipt of waste in 1969. The Town of Arlington purchased the property in 1994. The landfill is capped with a low-permeability soil cap. Environmental monitoring is currently not conducted at the site.

In 2001 the Massachusetts Department of Environmental Protection (MassDEP) approved site drainage improvements as follows:

- Re-grading of the landfill to prepare the site for eventual construction of a park;
- Construction of storm drainage pipes on and off the site;
- Construction of a storm water detention basin, which included a permanent pond and an area of wetland replication; and

- Maintenance dredging of Reed's Brook downstream of the site.

In 2003 the Massachusetts Department of Environmental Protection (MassDEP) approved a post-closure use for the construction of a park at the site. The park was constructed over the landfill, which includes multi-sport athletic fields, a "Little League" baseball field and a children's play area. This site is now known as McClennen Park.

Permitting Chronology

A detailed chronology for permitting and approvals pertaining to the closed landfill is provided below.

- May 31, 1993: The Arlington Redevelopment Board (ARB) submitted the Initial Site Assessment (ISA) and Landfill Closure Study to MassDEP [Prepared under joint venture between Geological Field Services, Inc. (GFS) and Decoulos & Company].
    - This was the first step in the process of closing and reusing the former landfill.
- May 1994: MassDEP responded to the ISA and requested additional information.
- September 30, 1994: ISA Supplementary Report submitted to MassDEP [Prepared by GFS].
    - This report did not include additional field work. The report documented existing utilities and storm drains in the area, gathered additional information from earlier test wells and surveyed abutting landowners regarding the extent of refuse (indicating that it extended onto properties on Thesda and Reed Streets).
- February 1995: "Scope of Work" for Comprehensive Site Assessment (CSA) submitted to MassDEP.
- April 1995: MassDEP accepted the ISA and approved the Scope of Work for the CSA.
- October 1995: GFS conducted the field work portion of the CSA, which included drilling additional monitoring wells and excavating at abutting resident properties to determine the extent of refuse. At this time GFS also began the six-month monitoring process as required by MassDEP (three rounds of monitoring test wells in three month intervals).
- July 1996: Draft Comprehensive Site Assessment (CSA) prepared by Metcalf & Eddy (M&E) and GFS. ARB submitted the draft CSA to MassDEP in August 1996.
    - The draft CSA described historical uses of the property and the site hydrogeology, summarized previous environmental studies of the site and provided new groundwater, soil, soil gas and sediment data.
- December 1996: MassDEP issued a Technical Comment Letter in response to the Draft CSA.
    - In addition to technical comments regarding the CSA, MassDEP also requested the submittal of a Corrective Action Alternative Analysis (CAAA), with guidance for what should be included in the CAAA. MassDEP also mandated that environmental monitoring continue in

accordance with applicable regulations and the approved CSA Scope, until otherwise approved by MassDEP.

- December 6, 1996: Draft CAAA for the Reeds Brook Property submitted to MassDEP [Prepared by M&E and GFS].
    - The draft CAAA provided various cap alternatives for closure of the landfill as well as proposed site drainage improvements.
- April 1997: Final CSA submitted to MassDEP [Prepared by M&E].
- December 1997: Major Landfill Modification Application submitted to MassDEP, for the Reeds Brook Property Drainage Rehabilitation [Prepared by M&E].
    - Proposed storm drainage improvements included: re-grading of the landfill to prepare the site for eventual construction of a park; construction of storm drainage pipes on and off the site; construction of a storm water detention basin, to include a permanent pond and an area of wetland replication; and maintenance dredging of Reed's Brook downstream of the site.
- May 1998: MassDEP issued a Notice of Technical Deficiency to request additional information for the Major Landfill Modification submittal ("Drainage Improvements")
- September 2000: MEPA decision regarding Environmental Notification Form (ENF) issued for the closed landfill. No further review required under MEPA. [EOEA Number 2295]
- May 2001: Response to Notice of Technical Deficiency submitted to MassDEP [Prepared by M&E].
- August 2001: MassDEP issued a Conceptual Approval of the proposed drainage improvements as part of the landfill modification and post-closure use for eventual construction of a park.
    - This conceptual approval was solely for the purpose of allowing the Town to proceed with financing of the park.
- April 2001: Quantitative Human Health Risk Evaluation prepared for the Reed's Brook Landfill.
- May 2001: Revised drawings submitted to MassDEP for Reeds Brook Drainage Improvements and Appurtenant Work.
    - Drawings submitted as part of the "Town of Arlington Information for Bidders" document.
- November 2001: MassDEP issued a Conceptual Approval for "Site Re-grading in Preparation for Modification of Post-Closure Use."
    - Following review of results and conclusions drawn from the CSA and other relevant documents, MassDEP determined that the presence of detected compounds did not constitute a "release" as defined at 310 CMR 40.0000 and therefore the landfill was not subject to remedy pursuant to the MCP.
    - MassDEP concluded that the Risk Assessment conducted for this project demonstrated that establishment of a park at this location would not incur excessive risk by the users of the park. Conditions are cited by the MassDEP in this Conceptual Approval, one being the

requirement of a Major Post-Closure Use Application to be submitted by the Town.

- March 2003: Documents submitted to MassDEP for "Reeds Brook Site Landfill Cap and Park Construction," including drawings, specifications and "General Information in Support of Application for Post-Closure Use Permit."
- June 2003: MassDEP issued a Conditional Approval for "Reed's Brook Landfill Post-Closure Use and Construction of Park."
    - MassDEP approved the post-closure use of the landfill and authorized the Town to proceed with construction of the park (subject to conditions and exceptions noted in this document).

Summary of Site Visit

Brown and Caldwell conducted a site visit on November 18, 2016 to identify potential groundwater seeps, existing monitoring wells, stressed vegetation, and areas of heavy iron flocculation that would be potential surface water/sediment sampling locations. Photos are included in Appendix A and additional notes are provided in Appendix B.

The following are general observations noted during the site visit:

- Three groundwater monitoring wells were observed. Upon review of existing site plans and other documentation, it is apparent that these wells are MW-7SA, MW-7RA and MW-1A. Wells were locked and not labeled. MW-7SA and MW-7RA are located adjacent to Reed Street (at northern end of property) and MW-1A is located at the northeast side of the basin.
- BC walked throughout the site and did not observe any groundwater seeps for potential sampling locations.
- Bordering vegetated wetland flags (orange) existing along limit of northern corner of existing basin.
- Concrete culverts observed at the downstream end of the basin/brook (larger pipe located above smaller pipe).
    - Water flowing into lower pipe (approx. 12-inch diameter); mostly clear, light flow; apparent sulfur odor; flows beneath Reed Street
- Wildlife observed in basin included ducks and geese.
- Large diameter concrete culvert with headwall observed at southern/upstream end of basin
    - The water was very clear at this location, flowing into the basin
    - Water appeared murky towards the middle of the basin
- Various pipes (unknown function) observed around the vicinity of the landfill.
- One potential soil gas probe identified along northern fence line (locked, no label).
- Areas of saturated soil (no vegetation) observed at the following locations:
    - Southeast slope of landfill, west of southern end of basin
    - Southwest toe of landfill slope, north of southern athletic field
    - Southeast slope of landfill, south of southern end of basin
    - Western limit of property adjacent to Summer Street parking lot, at toe of slope of athletic field
    - Northern end of northerly athletic field at toe of slope, west of walking path (west of basin); erosion noted in walking path

- Standing water apparent in existing grassed swale along toe of landfill slope at southern end of basin; on landfill side of path
    - Water appeared colorless and odorless

As a result of this site visit, it was determined that existing groundwater monitoring wells could be accessed by removing the existing locks. Surface water locations would be determined later, but it appeared that the iron flocculation at this time was concentrated in the middle of the basin. As noted, there were no seeps identified during this site visit.

The areas of saturated soil, where vegetation was minimal or bare, were observed as low points for drainage and it was apparent that the stressed vegetation was a result of erosion.

Wetland Evaluation

Wetlands Preservation Inc. (WPI) conducted a site review on December 15, 2016 to look for stressed vegetation, identify aquatic and upland invasive plant species, identify opportunities for improving the wetland and upland habitat for wildlife, and potentially identify steps related to the use of the adjacent upland resource area to include the natural vegetated upland.

A final report, titled "Site Survey Report, McClennen Park" (prepared by WPI) is included in Appendix C. This document provides observations of general site conditions and wetland resource areas at McClennen Park. WPI concluded that the site contains protected resource areas and that any future activity in those areas will require formal delineation and further review.

Surface Water and Sediment Sampling

Field sampling was conducted in the detention basin located at the northwestern end of McClennen Park by Brown and Caldwell on December 8, 2016 for laboratory analysis by Alpha Analytical (Alpha) of Westboro, Massachusetts. The laboratory analytical data sheets are included in Appendix D. Sampling locations are shown on the attached Site Plan (Figure 2).

Groundwater
Existing groundwater monitoring wells are located on the northern side of the basin, whereas the landfill is located on the south side of the basin. Therefore, it was determined that analysis of groundwater from these locations would not provide information regarding the impact of the landfill related to iron flocculation in the basin.

Seeps
There were no seeps identified on-site; therefore, this sampling was not conducted.

Surface Water
Surface water samples were collected from the stormwater detention basin to determine if surface water is impacted and if it is a potential pathway for contaminant migration off-site. Three surface water grab samples were collected from three separate locations in the existing detention basin: RB-SW-1, RB-SW-2 and RB-SW-3. Sample locations were chosen in collaboration with the Town; including an upstream location near the basin's inlet pipe, a location within the "detention area" of the basin and a location further downstream (at the approximate midpoint of the pond). The

samples were analyzed in the field for temperature, dissolved oxygen, conductivity, pH and turbidity. In addition, each of the samples was analyzed in the laboratory for volatile organic compounds (VOCs) via EPA Method 8260C, and total and dissolved landfill metals (RCRA 8 metals consisting of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver, plus copper, iron, manganese and zinc). The field parameters, laboratory analytical results and surface water standards are summarized in Table 1-1.

The only metals detected in the three surface water samples were barium, iron, and manganese. Iron exceeded the EPA National Recommended Water Quality Criteria/ Criterion Continuous Concentration (NRWQC/CCC) standard of 1.0 mg/l in all three samples. The only VOC detected in any of the three samples was chlorobenzene at a concentration of 0.95 ug/l in sample RB-SW-1 (0.95 ug/l). A trip blank was also collected with the samples and had no detections of VOCs.

Sediment

Sediment samples were collected from the detention basin (at the same three locations as the surface water samples) to determine if sediment concentrations have the potential to impact ecological receptors. Sediment samples were collected from the upper six inches of sediment and submitted to Alpha for laboratory analysis of the same parameters as were analyzed for the surface water. Samples were labeled RB-SED-1, RB-SED-2 and RB-SED-3. The laboratory analytical results and Massachusetts Freshwater Sediment Screening Benchmarks (MFSSB) are summarized in Table 1-2. The following metals were detected in all three sediment samples; arsenic, barium, chromium, copper, iron, lead, manganese, and zinc. None of the MFSSB were exceeded, however, there are no MFSSB for barium, iron and manganese. Iron concentrations ranged from 5,800 ug/kg to 14,000 ug.kg, and manganese concentrations ranged from 80 to 180 ug/kg. The only VOC detected was chlorobenzene in sample RB-SED-1 at a concentration of 160 ug/kg, which is well below the sediment screening benchmark.

Conclusions and Recommendations

Based on the results of the surface water and sediment sampling, the concentration of VOCs and metals that are present in the surface water and sediment do not appear to pose a threat to human health (due to the lack of an exposure pathway as a drinking water supply or consumption of aquatic life). However, it is not known at this time whether the elevated concentrations of iron and manganese detected in surface water and sediment could pose a potential ecological risk.

Due to the location of the existing landfill directly adjacent to the detention basin, it is not unusual to have detected elevated levels of iron and manganese. However, monitoring wells would need to be installed and sampled to confirm whether the adjacent landfill is the source of these impacts.

Brown and Caldwell recommends that an ecological risk assessment be conducted to determine whether there is a potential ecological risk at the site. This assessment will, in part, be dependent on the thickness and areal extent of the iron flocculation. The assessment will also be dependent on the results of additional sampling and evaluation. If the ecological risk assessment demonstrates that the site does not pose an ecological risk, then the Town will need to determine whether or not they would like

to address the aesthetic concern with iron flocculation in the basin. If an ecological risk is identified, then it is recommended that monitoring wells be installed between the landfill and detention basin to confirm whether the adjacent landfill is the source of the impacts.

Very truly yours,

BROWN AND CALDWELL

Lindsey Roberts
Project Manager

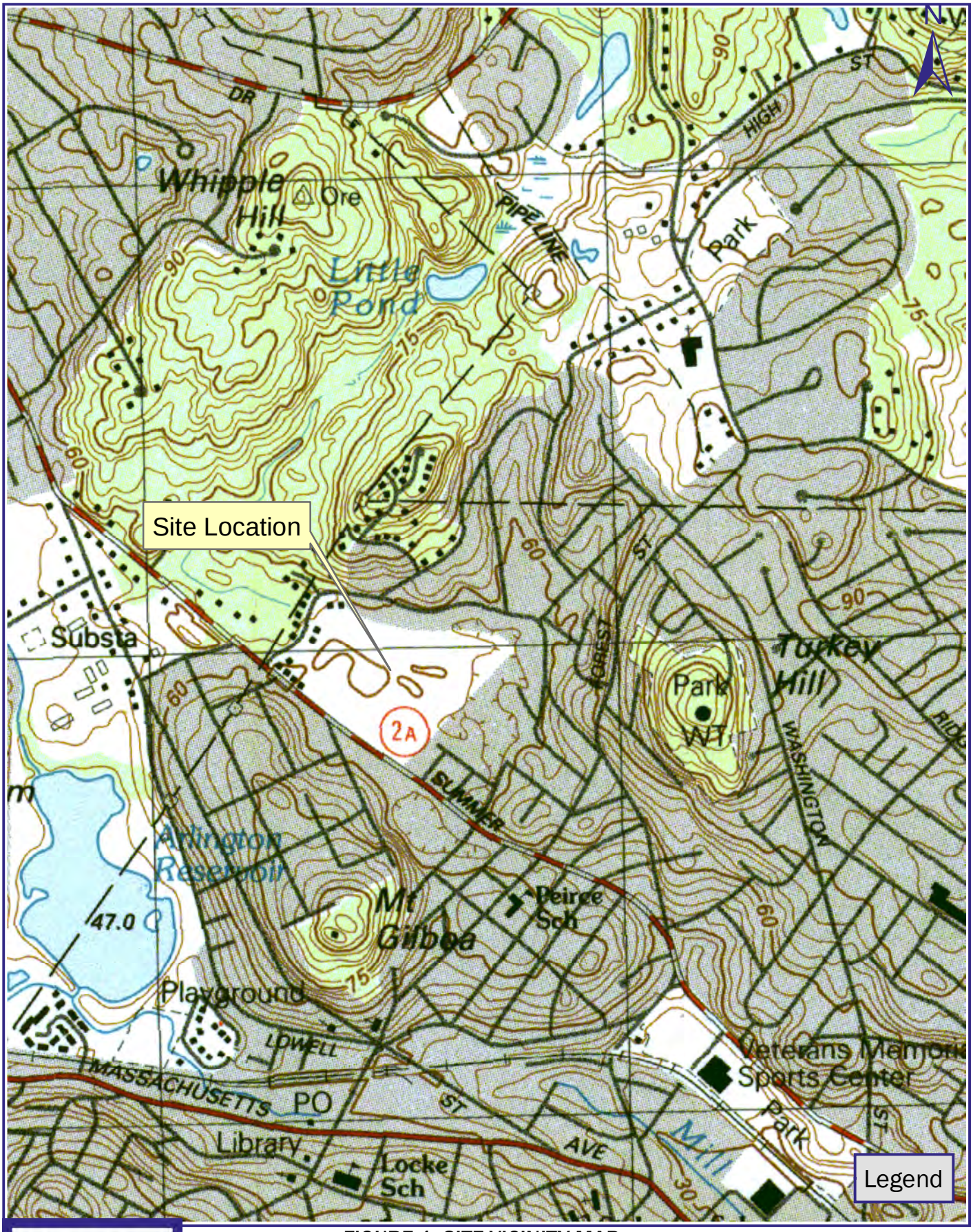
Anthony J. Wespiser, PE
Managing Engineer

Attachments:

Figure 1 – Site Vicinity Map
Figure 2 – Site Plan
Table 1-1 – Surface Water Data Results
Table 1-2 – Sediment Data Results

Appendix A – Photographs
Appendix B – Site Visit Notes
Appendix C – Site Survey Report (WPI)
Appendix D – Laboratory Data

FIGURES



Author: zmidwood Path: \\bctaufp01\projects\Arlington, Town of\149935_Arlington LF Surface Water Eval\GIS\McClennen Park Site Loco Map.mxd

3/3/2017

Brown AND Caldwell

FIGURE 1- SITE VICINITY MAP
MCCLENNEN PARK
SUMMER STREET
ARLINGTON, MASSACHUSETTS

Source Citation

0 750 1,500

Feet

FIGURE 2 - SITE PLAN

Imagery ©2017 Google, Map data ©2017 Google

TABLES

Table 1-1
Surface Water Data Results
Reeds Brook Landfill
Arlington, MA

Parameter	Surface Water Standards (NRWQC or MSWQS)	Surface Water			
		RB-SW-1	RB-SW-2	RB-SW-3	Trip Blank
Date		12/8/2016	12/8/2016	12/8/2016	12/8/2016
Field Parameters					
Temperature (°C)	<28.3 MSWQS	8.33	3.14	4.06	NA
Dissolved Oxygen (mg/L)	>5.0 MSWQS	7.5	17.06	6.49	NA
Conductivity (uS/cm)		1233	686	1196	NA
pH (S.U.)	6.5-9 CCC	7.12	7.67	7.39	NA
Turbidity (NTU)		6	12	23	NA
Total Metals (mg/L)					
Arsenic	0.340 CMC, 0.150 CCC	<0.005	<0.005	<0.005	NA
Barium		0.089	0.021	0.073	NA
Cadmium		<0.005	<0.005	<0.005	NA
Chromium		<0.01	<0.01	<0.01	NA
Copper		<0.01	<0.01	<0.01	NA
Iron	1.0 CCC	**7.6**	**2.3**	**4.4**	NA
Lead		<0.01	<0.01	<0.01	NA
Manganese		0.226	0.101	0.241	NA
Mercury	0.0014 CMC, 0.00077 CCC	<0.0002	<0.0002	<0.0002	NA
Selenium	0.005 CCC	<0.01	<0.01	<0.01	NA
Silver		<0.007	<0.007	<0.007	NA
Zinc		0.055	<0.05	<0.05	NA
Dissolved Metals (mg/L)					
Arsenic		<0.005	<0.005	<0.005	NA
Barium		0.085	0.018	0.07	NA
Cadmium		<0.005	<0.005	<0.005	NA
Chromium		<0.01	<0.01	<0.01	NA
Copper		<0.01	<0.01	<0.01	NA
Iron		4.4	0.8	0.23	NA
Lead		<0.01	<0.01	<0.01	NA
Manganese		0.216	0.082	0.238	NA
Mercury		<0.0002	<0.0002	<0.0002	NA
Selenium		<0.01	<0.01	<0.01	NA
Silver		<0.007	<0.007	<0.007	NA
Zinc		<0.05	<0.05	<0.05	NA
Volatile Organic Compounds (ug/L)					
Chlorobenzene		0.95	<0.5	<0.5	<0.5
All other VOCs		ND	ND	ND	ND

NOTES:
NRWQC - EPA National Recommended Water Quality Criteria (2009)
MSWQS - Massachusetts Surface Water Quality Standards (2007)
CMC - NRWQC Criteria Maximum Concentration
CCC - NRWQC Criterion Continuous Concentration
ND - Not Detected
Concentrations in **bold** exceed surface water quality criteria.
< - Less than detection limit. Reported concentration is the detection limit.
NM - Not measured
NA - Not Analyzed
S.U. - Standard Unit
NTU - Nephelometric Turbidity Units
uS/cm - microSiemens/centimeter
ug/L - micrograms per Liter
mg/L - millgrams per Liter
°C - degrees Celcius

Table 1-2
Sediment Data Results
Reeds Brook Landfill
Arlington, MA

Parameter	Sediment Screening Benchmarks (SSB)	Sediment		
		RB-SED-1	RB-SED-2	RB-SED-3
Date		12/8/2016	12/8/2016	12/8/2016
Total Metals (mg/kg)				
Arsenic	33	3.3	1.9	2.9
Barium		18	15	22
Cadmium	5	<0.58	<0.5	<0.66
Chromium	110	17	6	13
Copper	150	28	10	13
Iron		12,000	5,800	14,000
Lead	130	25	34	39
Manganese		130	80	180
Mercury	0.18	<0.1	<0.08	<0.11
Selenium		<1.2	<1.0	<1.3
Silver		<0.58	<0.5	<0.66
Zinc	460	160	40	51
General Chemistry				
Total Solids %		67.3	76.1	59.7
Volatile Organic Compounds (ug/kg)				
Chlorobenzene	417 SCV	160	<2.4	<2.3
All other VOCs		ND	ND	ND

NOTES:

SSB - Mass. Freshwater Sediment Screening Benchmarks

Concentrations in **bold** exceed relevant benchmark.

< - Less than detection limit. Reported concentration is the detection limit.

ug/kg - micrograms per kilogram

mg/kg - millgrams per kilogram

ND - Not Detected

SCV = Secondary Chronic Value

APPENDIX A

Photographs

Arlington Summer St Landfill/ McClennen Park
Site Visit Photographs

Eastern end of detention basin, facing northeast

Eastern end of detention basin (facing inlet)

Arlington Summer St Landfill/ McClennen Park
Site Visit Photographs

Western end of detention basin (facing east, at bridge adjacent to Reed Street)

Arlington Summer St Landfill/ McClennen Park
Site Visit Photographs

Eastern end of detention basin (facing west, at inlet/headwall)

Existing groundwater monitoring wells, adjacent to Reed Street (north side of basin)

Arlington Summer St Landfill/ McClennen Park
Site Visit Photographs

Existing groundwater monitoring well, north of detention basin (facing southeast)

Arlington Summer St Landfill/ McClennen Park
Site Visit Photographs

Area of apparent erosion at western portion of property, adjacent to Summer Street parking lot

APPENDIX B

Site Visit Notes

Site Visit – November 18, 2016

Summer St Landfill/ McClennen Park

- L. Roberts onsite at McClennen Park 11/18/16 at 11:40
- Observations
    - BVW flags (orange) along limit of northern corner of existing pond
        - "LEC Resource Area Boundary B - #"
    - Drain manhole at northern corner of site, south of existing footbridge (over brook)
        - Appears to be slightly lifted out of ground
    - Two monitoring wells observed adjacent to Reed St., at northern end of site
        - MW-7S and MW-7R (per 1996 GW contour plan)
            - Assumed to be replacement wells MW-7SA & 7RA, from more recent documents
        - Both locked with master locks; no labels
        - Original well depths:
            - MW7-S: 13' [total depth: 15.48' from top of riser to bottom of BH]
            - MW-7R: 27' [total depth: 28.3' from top of riser to bottom of BH]
    - Concrete culverts observed at downstream end of pond/brook (larger pipe above smaller pipe)
        - Water flowing into lower pipe (~12" dia.); light flow; apparent odor (sulfur?)
        - Flows underneath Reed St., flow is mostly clear
        - Grate observed at ground level slightly downstream of culverts
    - Third well observed at northeast side of pond
        - MW-1 (per 1996 GW contour plan)
            - Assumed to be replacement well MW-1A, from more recent documents
        - Locked with master lock, no label
        - Original well depth:
            - MW-1: 15' [total depth: 16.62' from top of riser to bottom of BH]
    - Wildlife observed in pond
        - Geese, ducks
    - At southern end of pond, large dia. concrete culvert with headwall, inflow to pond
        - Water very clear at this location
        - Water appears murky towards middle of pond
    - Well observed ~150' south of pond adjacent to walking path (east of athletic field)
        - Soil gas probe?
        - Neighbor adjacent to this probe stopped to talk; he said that he has dug up trash before on his property, adjacent to fence
    - Wetlands observed all along southern end of the site; a few blue flags observed
        - Walking path extends all around landfill along this area
    - Small (drain?) MH with grate observed along southern portion of walking path; blue pipe into wetlands to west of MH
    - To west, PVC pipe observed with flange, sticking up out of landfill (on inside edge of walking path)
        - Another PVC pipe found adjacent to exit to Berkley Street (are these abandoned wells? Appears to be filled with gravel)
    - Capped PVC pipe, flush with ground surface observed east of skate park, on east side of walking path
        - Hole in cap observed
    - Narrow grates observed north of athletic field (southern end of site) – this appears to be a drainage feature of the park

- At southeast slope of landfill, west of southern end of pond, the soil was exposed and no vegetation existed; soil was also saturated (not heavily)
- Also, another saturated area at southwest toe of LF slope, north of southern athletic field (no vegetation)
- Another area at southeast slope of LF south of southern end of pond
    - No vegetation, slightly saturated
- 2nd cracked PVC cap on pipe flush with ground at eastern end of southern athletic field (adjacent to goal post north of field)
- Western limit of site adjacent to Summer St parking lot, at toe of slope of athletic field
    - Bare spot, saturated; apparent low point here to drainage
- Ground saturated south of baseball field, between field fence and walking path
- Ground saturated at northern end of northern athletic field at toe of slope west of walking path (west of pond)
    - Erosion noted in path
- Water observed along toe of LF slope at southern end of pond, on LF side of path (apparent low point)
    - Standing water in “swale”; appears clear, no odor

APPENDIX C

Site Survey Report (Wetlands Preservation Inc.)

Site Survey Report
McClennen Park
664 Summer Street
Arlington, Massachusetts 02474

Prepared for:

Brown and Caldwell
101 Industrial Park Road, Suite 205
Taunton, MA 02780

Prepared by:

Wetlands Preservation, Inc.
47 Newton Road
Plaistow, NH 03865

WPI Job #2855.0

December 21, 2016

Site Survey Report
McClennen Park
664 Summer Street
Arlington, Massachusetts

Introduction

The following report describes the general site conditions and wetlands at McClennan Park following a site review conducted by Wetlands Preservation, Inc. on December 15, 2016. During this site review, WPI inspected the wetlands associated with Reeds Brook located along the northern boundary running east to west. General observations of the buffer zone and wetlands on or adjacent to the park were noted. The location of the estimated wetlands is provided on Figure 1.

Site Description

McClennen Park is located at 664 Summer Street in Arlington, MA. The site consists of a recreational park with managed playing fields, specimen trees and naturalized areas of trees, shrubs and herbaceous vegetation around Reeds Brook and along the walking path. The southern slope within the 100' buffer to Reeds Brook to the south is dominated by invasive species that include common reed (Phragmites australus) and black locust (*Robinia pseudoacacia*). The parcel is bound by residential development to the north, east, and west and Summer Street to the south.

Resource Areas

Wetland areas classified as Bordering Vegetated Wetlands and Bank jurisdictional under the Massachusetts Wetlands Protection Regulations ("MWPR") 310 CMR 10.00 and Arlington Wetlands Protection Bylaw are associated with this section of Reeds Brook in McClennen Park. This portion of the brook is a large open water area that flows through McClennen Park from the east daylighting from a

culverted portion of the brook, flowing west to a culvert at Reed Street feeding into Munroe Brook and eventually entering the Arlington Reservoir. A photographic log is attached for reference.

The BVW observed above the bank of the brook is vegetated in the tree or sapling layer with red maple, (*Acer rubrum*) and European black alder (*Alnus glutinosa*); in the shrub layer willow (Salix sp.), red maple, European black alder and brambles (Rubus sp.); in the herbaceous layer golden rod (*Solidago sp.*), blue vervain (*Verbena Hasta*), purple loosestrife (*Lythrum salicaria*), soft rush (*Juncus effusus*) in the herbaceous layer wetland grasses, sedges and rushes; and in the liana layer grape vine (*Vitis sp.*). An emergent marsh is also present around the perimeter of the brook and is vegetated with cattail (*Typha latifolia*). The BVW to the east on Figure 1 includes a common reed marsh and red maple swamp. Water levels at the time of the site review were at bank full conditions with areas of ice cover and open water areas. A flocculent material was observed in areas below the ice in open water areas at the mouth of the culvert to the east.

The buffer zone areas observed within 100' of the estimated edge of wetlands is dominated by herbaceous cover consisting of managed lawn with naturalized areas of tree, shrub and herbaceous vegetation. The typical vegetation observed included red maple, black locust, white pine (*Pinus strobus*), common reed, golden rod and brambles, Japanese knotweed (*Fallopia japonica*), multiflora rose (*Rosa multiflora*) and a variety of upland grasses and forbs.

Generally, the wetlands in the park provide the basic functions of flood storage, flood damage control, pollution filtration, and groundwater recharge. They also provide wildlife habitat for many birds, mammals, insects, amphibians and potentially fish. Wildlife observed include chickadees (*Poecile* sp.) and mallards *(Anas platyrhynchos)*. Wildlife habitat features observed included burrow holes and undercut banks.

Conclusion

The site contains areas of BVW and Bank jurisdictional under the MWPR based on the initial general observations. Any future proposed activity within the jurisdictional resource areas listed above, or their buffer zones, will require a formal delineation of the site and further review as to other potential local, state and federal jurisdictional resource areas.

Figure 1

McClennen Park
664 Summer Street
Arlington, MA 02474

Estimated Wetland Boundary (December 15, 2016)

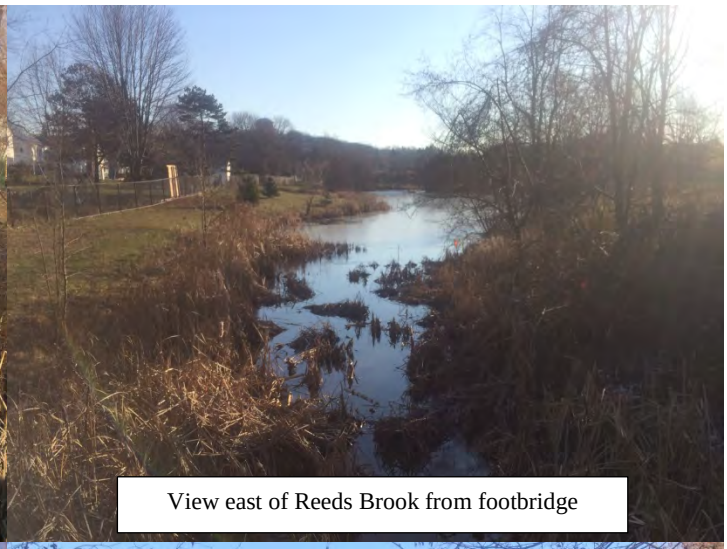
North

PHOTOGRAPHIC LOG

McClennen Park
664 Summer Street
Arlington, MA

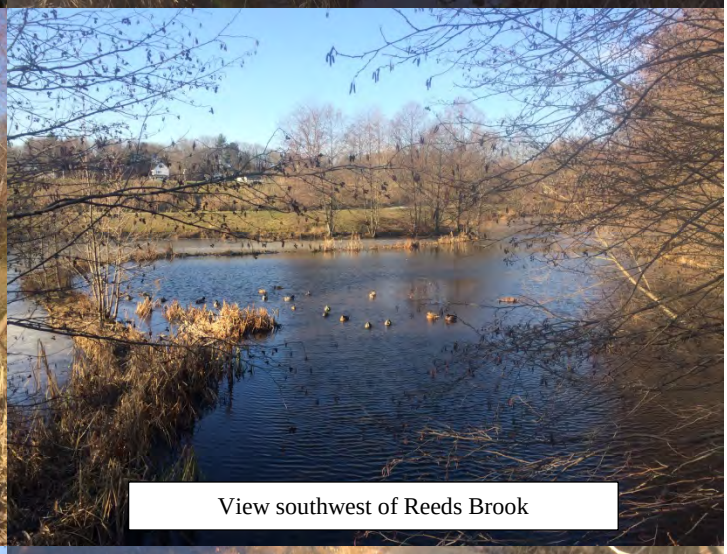
McClennen Park
664 Summer Street -Arlington, MA 02474
Photographed 12/15/16

View west of Reeds Brook from footbridge

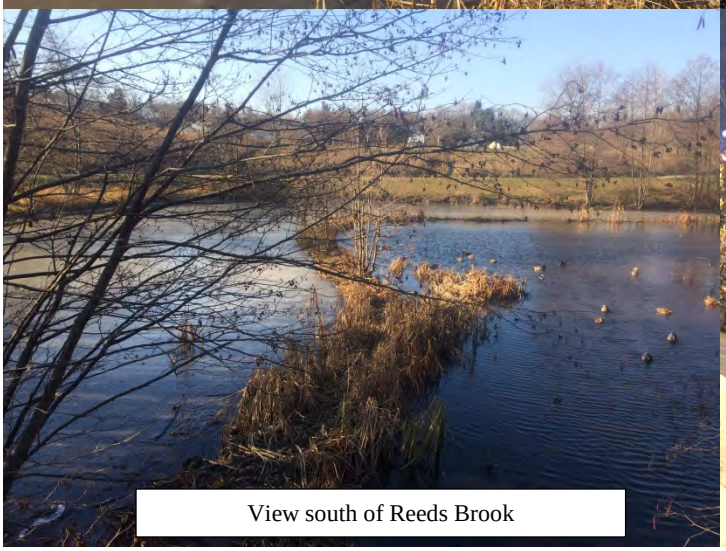


View east of Reeds Brook from footbridge

View west toward footbridge



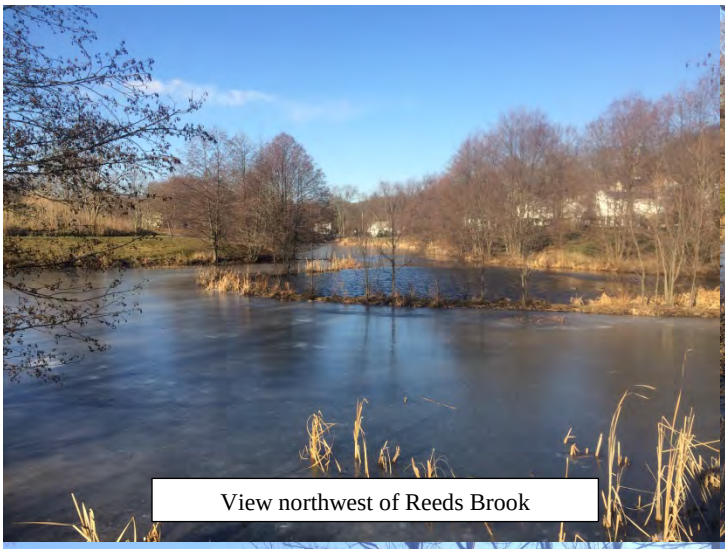
View southwest of Reeds Brook



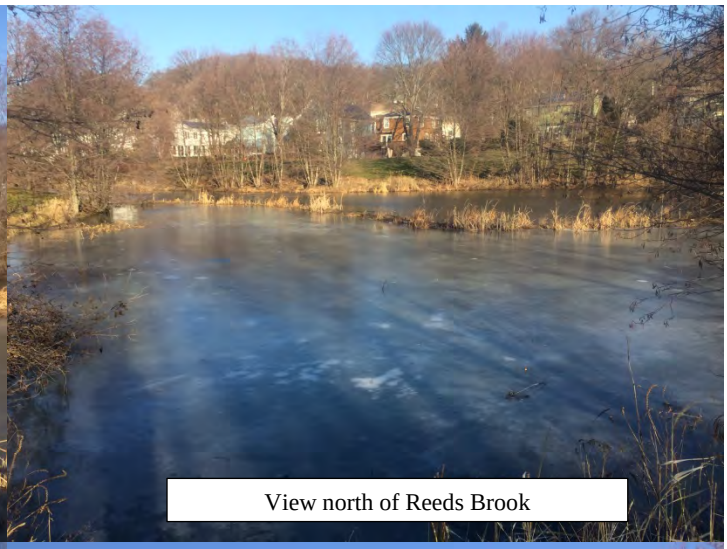
View south of Reeds Brook

Aerial view of culvert entering from the east

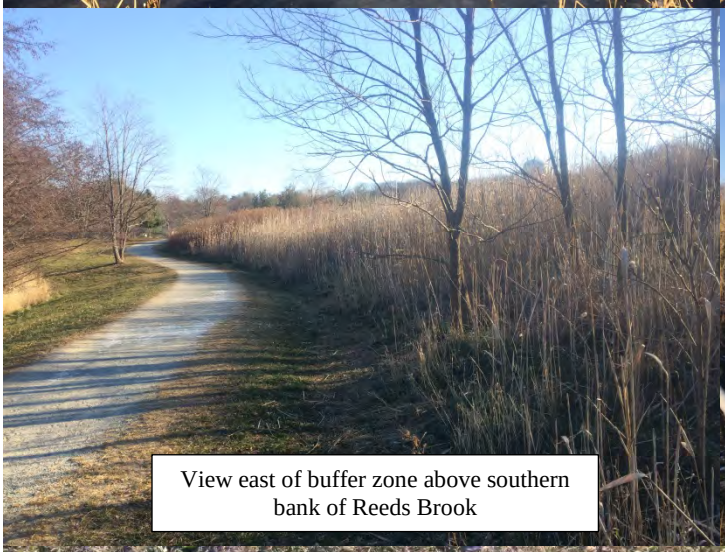
McClennen Park
664 Summer Street -Arlington, MA 02474
Photographed 12/15/16



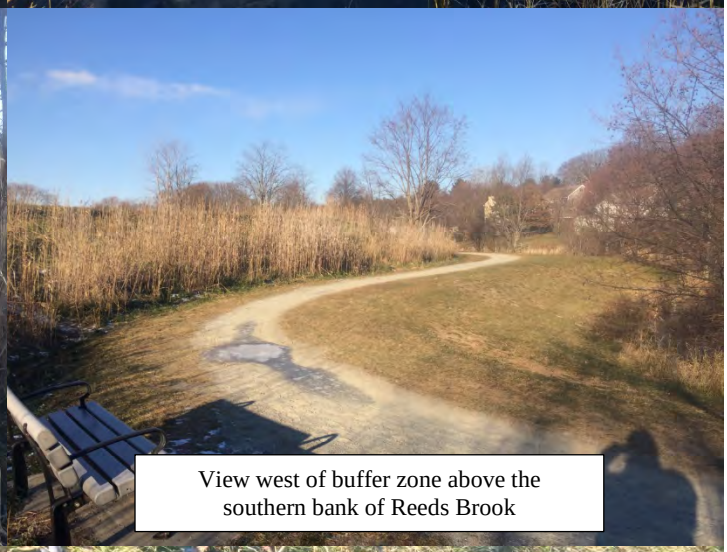
View northwest of Reeds Brook



View north of Reeds Brook



View east of buffer zone above southern bank of Reeds Brook

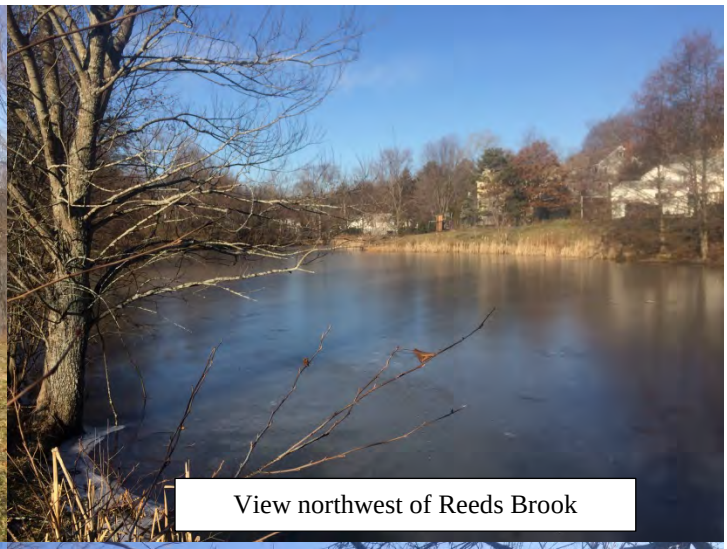


View west of buffer zone above the southern bank of Reeds Brook

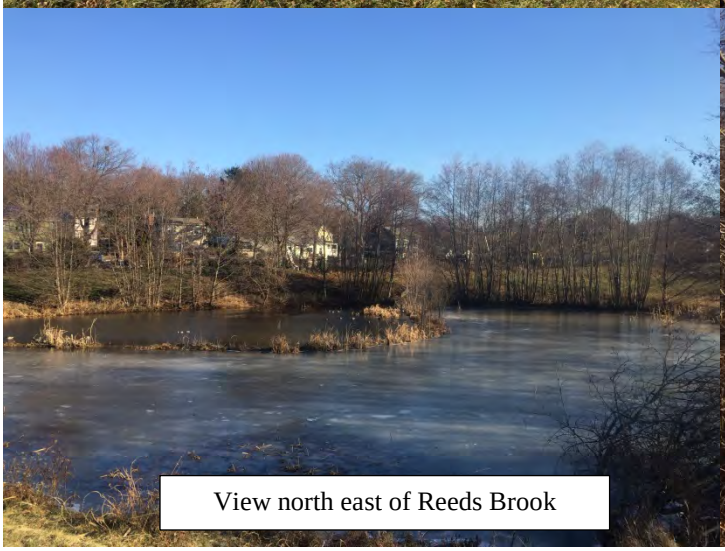
Burrow holes above the southern bank.

McClennen Park
664 Summer Street -Arlington, MA 02474
Photographed 12/15/16

View of the buffer zone along the southern bank



View northwest of Reeds Brook



View north east of Reeds Brook

View of common reed wetland east of the park

APPENDIX D

Laboratory Data

ANALYTICAL REPORT

Lab Number:	L1639942
Client:	Brown & Caldwell One Tech Drive Suite 310 Andover, MA 01810
ATTN:	Lindsay Roberts
Phone:	(978) 794-0534
Project Name:	REEDS BROOK LF
Project Number:	Not Specified
Report Date:	01/16/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1639942-01	RB-SW-1	WATER	ARLINGTON, MA	12/08/16 10:00	12/08/16
L1639942-02	RB-SW-2	WATER	ARLINGTON, MA	12/08/16 11:00	12/08/16
L1639942-03	RB-SW-3	WATER	ARLINGTON, MA	12/08/16 11:30	12/08/16
L1639942-04	RB-SED-1	SOIL	ARLINGTON, MA	12/08/16 10:00	12/08/16
L1639942-05	RB-SED-2	SOIL	ARLINGTON, MA	12/08/16 11:00	12/08/16
L1639942-06	RB-SED-3	SOIL	ARLINGTON, MA	12/08/16 11:30	12/08/16
L1639942-07	TRIP BLANK	WATER	ARLINGTON, MA	12/06/16 00:00	12/08/16
L1639942-08	TRIP BLANK-2	SOIL	ARLINGTON, MA	12/06/16 00:00	12/08/16

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	REEDS BROOK LF	**Lab Number:**	L1639942
Project Number:	Not Specified	**Report Date:**	01/16/17

Case Narrative (continued)

Report Submission

This report replaces the report issued December 15, 2016. The Metals element lists were amended for samples L1639942-01 through -06 to include copper, iron, manganese, and zinc.

Sample Receipt

L1639942-08: A Trip Blank was received in the laboratory, but not listed on the Chain of Custody, and was not analyzed.

Volatile Organics

L1639942-04: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

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

Authorized Signature: Lisa Westerlind

Title: Technical Director/Representative Date: 01/16/17

ORGANICS

VOLATILES

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-01
Client ID: RB-SW-1
Sample Location: ARLINGTON, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/16 12:27
Analyst: PK

Date Collected: 12/08/16 10:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	0.95		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-01 Date Collected: 12/08/16 10:00

Client ID: RB-SW-1 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-01 Date Collected: 12/08/16 10:00

Client ID: RB-SW-1 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-02
Client ID: RB-SW-2
Sample Location: ARLINGTON, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/16 12:50
Analyst: PK

Date Collected: 12/08/16 11:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-02 Date Collected: 12/08/16 11:00

Client ID: RB-SW-2 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-02 Date Collected: 12/08/16 11:00

Client ID: RB-SW-2 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	105		70-130

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-03
Client ID: RB-SW-3
Sample Location: ARLINGTON, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/16 13:13
Analyst: PK

Date Collected: 12/08/16 11:30
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-03 Date Collected: 12/08/16 11:30

Client ID: RB-SW-3 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-03 Date Collected: 12/08/16 11:30

Client ID: RB-SW-3 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-04
Client ID: RB-SED-1
Sample Location: ARLINGTON, MA
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/14/16 15:04
Analyst: JC
Percent Solids: 67%

Date Collected: 12/08/16 10:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	1000	--	1
1,1-Dichloroethane	ND		ug/kg	160	--	1
Chloroform	ND		ug/kg	160	--	1
Carbon tetrachloride	ND		ug/kg	100	--	1
1,2-Dichloropropane	ND		ug/kg	370	--	1
Dibromochloromethane	ND		ug/kg	100	--	1
1,1,2-Trichloroethane	ND		ug/kg	160	--	1
Tetrachloroethene	ND		ug/kg	100	--	1
Chlorobenzene	160		ug/kg	100	--	1
Trichlorofluoromethane	ND		ug/kg	530	--	1
1,2-Dichloroethane	ND		ug/kg	100	--	1
1,1,1-Trichloroethane	ND		ug/kg	100	--	1
Bromodichloromethane	ND		ug/kg	100	--	1
trans-1,3-Dichloropropene	ND		ug/kg	100	--	1
cis-1,3-Dichloropropene	ND		ug/kg	100	--	1
1,3-Dichloropropene, Total	ND		ug/kg	100	--	1
1,1-Dichloropropene	ND		ug/kg	530	--	1
Bromoform	ND		ug/kg	420	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	100	--	1
Benzene	ND		ug/kg	100	--	1
Toluene	ND		ug/kg	160	--	1
Ethylbenzene	ND		ug/kg	100	--	1
Chloromethane	ND		ug/kg	530	--	1
Bromomethane	ND		ug/kg	210	--	1
Vinyl chloride	ND		ug/kg	210	--	1
Chloroethane	ND		ug/kg	210	--	1
1,1-Dichloroethene	ND		ug/kg	100	--	1
trans-1,2-Dichloroethene	ND		ug/kg	160	--	1
Trichloroethene	ND		ug/kg	100	--	1
1,2-Dichlorobenzene	ND		ug/kg	530	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-04 Date Collected: 12/08/16 10:00

Client ID: RB-SED-1 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	530	--	1
1,4-Dichlorobenzene	ND		ug/kg	530	--	1
Methyl tert butyl ether	ND		ug/kg	210	--	1
p/m-Xylene	ND		ug/kg	210	--	1
o-Xylene	ND		ug/kg	210	--	1
Xylenes, Total	ND		ug/kg	210	--	1
cis-1,2-Dichloroethene	ND		ug/kg	100	--	1
1,2-Dichloroethene, Total	ND		ug/kg	100	--	1
Dibromomethane	ND		ug/kg	1000	--	1
1,4-Dichlorobutane	ND		ug/kg	1000	--	1
1,2,3-Trichloropropane	ND		ug/kg	1000	--	1
Styrene	ND		ug/kg	210	--	1
Dichlorodifluoromethane	ND		ug/kg	1000	--	1
Acetone	ND		ug/kg	3800	--	1
Carbon disulfide	ND		ug/kg	1000	--	1
2-Butanone	ND		ug/kg	1000	--	1
Vinyl acetate	ND		ug/kg	1000	--	1
4-Methyl-2-pentanone	ND		ug/kg	1000	--	1
2-Hexanone	ND		ug/kg	1000	--	1
Ethyl methacrylate	ND		ug/kg	1000	--	1
Acrylonitrile	ND		ug/kg	420	--	1
Bromochloromethane	ND		ug/kg	530	--	1
Tetrahydrofuran	ND		ug/kg	2100	--	1
2,2-Dichloropropane	ND		ug/kg	530	--	1
1,2-Dibromoethane	ND		ug/kg	420	--	1
1,3-Dichloropropane	ND		ug/kg	530	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	100	--	1
Bromobenzene	ND		ug/kg	530	--	1
n-Butylbenzene	ND		ug/kg	100	--	1
sec-Butylbenzene	ND		ug/kg	100	--	1
tert-Butylbenzene	ND		ug/kg	530	--	1
o-Chlorotoluene	ND		ug/kg	530	--	1
p-Chlorotoluene	ND		ug/kg	530	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	530	--	1
Hexachlorobutadiene	ND		ug/kg	530	--	1
Isopropylbenzene	ND		ug/kg	100	--	1
p-Isopropyltoluene	ND		ug/kg	100	--	1
Naphthalene	ND		ug/kg	530	--	1
n-Propylbenzene	ND		ug/kg	100	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-04 Date Collected: 12/08/16 10:00

Client ID: RB-SED-1 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	530	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	530	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	530	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	530	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	530	--	1
Ethyl ether	ND		ug/kg	530	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-05
Client ID: RB-SED-2
Sample Location: ARLINGTON, MA
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/14/16 20:46
Analyst: MV
Percent Solids: 76%

Date Collected: 12/08/16 11:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	24	--	1
1,1-Dichloroethane	ND		ug/kg	3.6	--	1
Chloroform	ND		ug/kg	3.6	--	1
Carbon tetrachloride	ND		ug/kg	2.4	--	1
1,2-Dichloropropane	ND		ug/kg	8.5	--	1
Dibromochloromethane	ND		ug/kg	2.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	3.6	--	1
Tetrachloroethene	ND		ug/kg	2.4	--	1
Chlorobenzene	ND		ug/kg	2.4	--	1
Trichlorofluoromethane	ND		ug/kg	12	--	1
1,2-Dichloroethane	ND		ug/kg	2.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	2.4	--	1
Bromodichloromethane	ND		ug/kg	2.4	--	1
trans-1,3-Dichloropropene	ND		ug/kg	2.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	2.4	--	1
1,3-Dichloropropene, Total	ND		ug/kg	2.4	--	1
1,1-Dichloropropene	ND		ug/kg	12	--	1
Bromoform	ND		ug/kg	9.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	2.4	--	1
Benzene	ND		ug/kg	2.4	--	1
Toluene	ND		ug/kg	3.6	--	1
Ethylbenzene	ND		ug/kg	2.4	--	1
Chloromethane	ND		ug/kg	12	--	1
Bromomethane	ND		ug/kg	4.9	--	1
Vinyl chloride	ND		ug/kg	4.9	--	1
Chloroethane	ND		ug/kg	4.9	--	1
1,1-Dichloroethene	ND		ug/kg	2.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	3.6	--	1
Trichloroethene	ND		ug/kg	2.4	--	1
1,2-Dichlorobenzene	ND		ug/kg	12	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-05 Date Collected: 12/08/16 11:00

Client ID: RB-SED-2 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	12	--	1
1,4-Dichlorobenzene	ND		ug/kg	12	--	1
Methyl tert butyl ether	ND		ug/kg	4.9	--	1
p/m-Xylene	ND		ug/kg	4.9	--	1
o-Xylene	ND		ug/kg	4.9	--	1
Xylenes, Total	ND		ug/kg	4.9	--	1
cis-1,2-Dichloroethene	ND		ug/kg	2.4	--	1
1,2-Dichloroethene, Total	ND		ug/kg	2.4	--	1
Dibromomethane	ND		ug/kg	24	--	1
1,4-Dichlorobutane	ND		ug/kg	24	--	1
1,2,3-Trichloropropane	ND		ug/kg	24	--	1
Styrene	ND		ug/kg	4.9	--	1
Dichlorodifluoromethane	ND		ug/kg	24	--	1
Acetone	ND		ug/kg	88	--	1
Carbon disulfide	ND		ug/kg	24	--	1
2-Butanone	ND		ug/kg	24	--	1
Vinyl acetate	ND		ug/kg	24	--	1
4-Methyl-2-pentanone	ND		ug/kg	24	--	1
2-Hexanone	ND		ug/kg	24	--	1
Ethyl methacrylate	ND		ug/kg	24	--	1
Acrylonitrile	ND		ug/kg	9.7	--	1
Bromochloromethane	ND		ug/kg	12	--	1
Tetrahydrofuran	ND		ug/kg	49	--	1
2,2-Dichloropropane	ND		ug/kg	12	--	1
1,2-Dibromoethane	ND		ug/kg	9.7	--	1
1,3-Dichloropropane	ND		ug/kg	12	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	2.4	--	1
Bromobenzene	ND		ug/kg	12	--	1
n-Butylbenzene	ND		ug/kg	2.4	--	1
sec-Butylbenzene	ND		ug/kg	2.4	--	1
tert-Butylbenzene	ND		ug/kg	12	--	1
o-Chlorotoluene	ND		ug/kg	12	--	1
p-Chlorotoluene	ND		ug/kg	12	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	12	--	1
Hexachlorobutadiene	ND		ug/kg	12	--	1
Isopropylbenzene	ND		ug/kg	2.4	--	1
p-Isopropyltoluene	ND		ug/kg	2.4	--	1
Naphthalene	ND		ug/kg	12	--	1
n-Propylbenzene	ND		ug/kg	2.4	--	1

Project Name: REEDS BROOK LF
Lab Number: L1639942
Project Number: Not Specified
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-05
Client ID: RB-SED-2
Sample Location: ARLINGTON, MA
Date Collected: 12/08/16 11:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	12	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	12	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	12	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	12	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	12	--	1
Ethyl ether	ND		ug/kg	12	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	95		70-130

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-06
Client ID: RB-SED-3
Sample Location: ARLINGTON, MA
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/14/16 21:11
Analyst: MV
Percent Solids: 60%

Date Collected: 12/08/16 11:30
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	23	--	1
1,1-Dichloroethane	ND		ug/kg	3.4	--	1
Chloroform	ND		ug/kg	3.4	--	1
Carbon tetrachloride	ND		ug/kg	2.3	--	1
1,2-Dichloropropane	ND		ug/kg	7.9	--	1
Dibromochloromethane	ND		ug/kg	2.3	--	1
1,1,2-Trichloroethane	ND		ug/kg	3.4	--	1
Tetrachloroethene	ND		ug/kg	2.3	--	1
Chlorobenzene	ND		ug/kg	2.3	--	1
Trichlorofluoromethane	ND		ug/kg	11	--	1
1,2-Dichloroethane	ND		ug/kg	2.3	--	1
1,1,1-Trichloroethane	ND		ug/kg	2.3	--	1
Bromodichloromethane	ND		ug/kg	2.3	--	1
trans-1,3-Dichloropropene	ND		ug/kg	2.3	--	1
cis-1,3-Dichloropropene	ND		ug/kg	2.3	--	1
1,3-Dichloropropene, Total	ND		ug/kg	2.3	--	1
1,1-Dichloropropene	ND		ug/kg	11	--	1
Bromoform	ND		ug/kg	9.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	2.3	--	1
Benzene	ND		ug/kg	2.3	--	1
Toluene	ND		ug/kg	3.4	--	1
Ethylbenzene	ND		ug/kg	2.3	--	1
Chloromethane	ND		ug/kg	11	--	1
Bromomethane	ND		ug/kg	4.5	--	1
Vinyl chloride	ND		ug/kg	4.5	--	1
Chloroethane	ND		ug/kg	4.5	--	1
1,1-Dichloroethene	ND		ug/kg	2.3	--	1
trans-1,2-Dichloroethene	ND		ug/kg	3.4	--	1
Trichloroethene	ND		ug/kg	2.3	--	1
1,2-Dichlorobenzene	ND		ug/kg	11	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-06 Date Collected: 12/08/16 11:30

Client ID: RB-SED-3 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	11	--	1
1,4-Dichlorobenzene	ND		ug/kg	11	--	1
Methyl tert butyl ether	ND		ug/kg	4.5	--	1
p/m-Xylene	ND		ug/kg	4.5	--	1
o-Xylene	ND		ug/kg	4.5	--	1
Xylenes, Total	ND		ug/kg	4.5	--	1
cis-1,2-Dichloroethene	ND		ug/kg	2.3	--	1
1,2-Dichloroethene, Total	ND		ug/kg	2.3	--	1
Dibromomethane	ND		ug/kg	23	--	1
1,4-Dichlorobutane	ND		ug/kg	23	--	1
1,2,3-Trichloropropane	ND		ug/kg	23	--	1
Styrene	ND		ug/kg	4.5	--	1
Dichlorodifluoromethane	ND		ug/kg	23	--	1
Acetone	ND		ug/kg	81	--	1
Carbon disulfide	ND		ug/kg	23	--	1
2-Butanone	ND		ug/kg	23	--	1
Vinyl acetate	ND		ug/kg	23	--	1
4-Methyl-2-pentanone	ND		ug/kg	23	--	1
2-Hexanone	ND		ug/kg	23	--	1
Ethyl methacrylate	ND		ug/kg	23	--	1
Acrylonitrile	ND		ug/kg	9.0	--	1
Bromochloromethane	ND		ug/kg	11	--	1
Tetrahydrofuran	ND		ug/kg	45	--	1
2,2-Dichloropropane	ND		ug/kg	11	--	1
1,2-Dibromoethane	ND		ug/kg	9.0	--	1
1,3-Dichloropropane	ND		ug/kg	11	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	2.3	--	1
Bromobenzene	ND		ug/kg	11	--	1
n-Butylbenzene	ND		ug/kg	2.3	--	1
sec-Butylbenzene	ND		ug/kg	2.3	--	1
tert-Butylbenzene	ND		ug/kg	11	--	1
o-Chlorotoluene	ND		ug/kg	11	--	1
p-Chlorotoluene	ND		ug/kg	11	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	11	--	1
Hexachlorobutadiene	ND		ug/kg	11	--	1
Isopropylbenzene	ND		ug/kg	2.3	--	1
p-Isopropyltoluene	ND		ug/kg	2.3	--	1
Naphthalene	ND		ug/kg	11	--	1
n-Propylbenzene	ND		ug/kg	2.3	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-06 Date Collected: 12/08/16 11:30

Client ID: RB-SED-3 Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	11	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	11	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	11	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	11	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	11	--	1
Ethyl ether	ND		ug/kg	11	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	98		70-130

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-07
Client ID: TRIP BLANK
Sample Location: ARLINGTON, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/16 12:04
Analyst: PK

Date Collected: 12/06/16 00:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-07 Date Collected: 12/06/16 00:00

Client ID: TRIP BLANK Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-07 Date Collected: 12/06/16 00:00

Client ID: TRIP BLANK Date Received: 12/08/16

Sample Location: ARLINGTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	103		70-130

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 08:52
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04 Batch: WG961116-5					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	250	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	250	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	250	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 08:52
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04 Batch: WG961116-5					
Trichloroethene	ND		ug/kg	50	--
1,2-Dichlorobenzene	ND		ug/kg	250	--
1,3-Dichlorobenzene	ND		ug/kg	250	--
1,4-Dichlorobenzene	ND		ug/kg	250	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	500	--
1,4-Dichlorobutane	ND		ug/kg	500	--
1,2,3-Trichloropropane	ND		ug/kg	500	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	500	--
2-Butanone	ND		ug/kg	500	--
Vinyl acetate	ND		ug/kg	500	--
4-Methyl-2-pentanone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Ethyl methacrylate	ND		ug/kg	500	--
Acrolein	ND		ug/kg	1200	--
Acrylonitrile	ND		ug/kg	200	--
Bromochloromethane	ND		ug/kg	250	--
Tetrahydrofuran	ND		ug/kg	1000	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	250	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 08:52
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04 Batch: WG961116-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	250	--
1,3,5-Trichlorobenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	250	--
p-Chlorotoluene	ND		ug/kg	250	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	250	--
Hexachlorobutadiene	ND		ug/kg	250	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	250	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	250	--
1,2,4-Trichlorobenzene	ND		ug/kg	250	--
1,3,5-Trimethylbenzene	ND		ug/kg	250	--
1,2,4-Trimethylbenzene	ND		ug/kg	250	--
trans-1,4-Dichloro-2-butene	ND		ug/kg	250	--
Ethyl ether	ND		ug/kg	250	--
Methyl Acetate	ND		ug/kg	1000	--
Ethyl Acetate	ND		ug/kg	1000	--
Isopropyl Ether	ND		ug/kg	200	--
Cyclohexane	ND		ug/kg	1000	--
Tert-Butyl Alcohol	ND		ug/kg	5000	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	5000	--
Methyl cyclohexane	ND		ug/kg	200	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 08:52
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04 Batch: WG961116-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	1000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 09:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,07 Batch: WG961283-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 09:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,07 Batch: WG961283-5					
1,2-Dichloroethene, Total	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
Iodomethane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrolein	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 09:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,07 Batch: WG961283-5					
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Halothane	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Methyl Acetate	ND		ug/l	10	--
Ethyl Acetate	ND		ug/l	10	--
Isopropyl Ether	ND		ug/l	2.0	--
Cyclohexane	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 09:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,07 Batch: WG961283-5					
1,4-Dioxane	ND		ug/l	250	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	--
Methyl cyclohexane	ND		ug/l	10	--
p-Diethylbenzene	ND		ug/l	2.0	--
4-Ethyltoluene	ND		ug/l	2.0	--
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 19:55
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 05-06 Batch: WG961458-5					
Methylene chloride	ND		ug/kg	10	--
1,1-Dichloroethane	ND		ug/kg	1.5	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	3.5	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.5	--
2-Chloroethylvinyl ether	ND		ug/kg	20	--
Tetrachloroethene	ND		ug/kg	1.0	--
Chlorobenzene	ND		ug/kg	1.0	--
Trichlorofluoromethane	ND		ug/kg	5.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	1.0	--
Bromodichloromethane	ND		ug/kg	1.0	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--
1,3-Dichloropropene, Total	ND		ug/kg	1.0	--
1,1-Dichloropropene	ND		ug/kg	5.0	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--
Benzene	ND		ug/kg	1.0	--
Toluene	ND		ug/kg	1.5	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	5.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	2.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 19:55
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 05-06 Batch: WG961458-5					
Trichloroethene	ND		ug/kg	1.0	--
1,2-Dichlorobenzene	ND		ug/kg	5.0	--
1,3-Dichlorobenzene	ND		ug/kg	5.0	--
1,4-Dichlorobenzene	ND		ug/kg	5.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	2.0	--
Xylenes, Total	ND		ug/kg	2.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	10	--
1,4-Dichlorobutane	ND		ug/kg	10	--
1,2,3-Trichloropropane	ND		ug/kg	10	--
Styrene	ND		ug/kg	2.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	36	--
Carbon disulfide	ND		ug/kg	10	--
2-Butanone	ND		ug/kg	10	--
Vinyl acetate	ND		ug/kg	10	--
4-Methyl-2-pentanone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Ethyl methacrylate	ND		ug/kg	10	--
Acrolein	ND		ug/kg	25	--
Acrylonitrile	ND		ug/kg	4.0	--
Bromochloromethane	ND		ug/kg	5.0	--
Tetrahydrofuran	ND		ug/kg	20	--
2,2-Dichloropropane	ND		ug/kg	5.0	--
1,2-Dibromoethane	ND		ug/kg	4.0	--
1,3-Dichloropropane	ND		ug/kg	5.0	--

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 19:55
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 05-06 Batch: WG961458-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--
Bromobenzene	ND		ug/kg	5.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	5.0	--
1,3,5-Trichlorobenzene	ND		ug/kg	4.0	--
o-Chlorotoluene	ND		ug/kg	5.0	--
p-Chlorotoluene	ND		ug/kg	5.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	--
Hexachlorobutadiene	ND		ug/kg	5.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	5.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	--
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	--
Ethyl ether	ND		ug/kg	5.0	--
Methyl Acetate	ND		ug/kg	20	--
Ethyl Acetate	ND		ug/kg	20	--
Isopropyl Ether	ND		ug/kg	4.0	--
Cyclohexane	ND		ug/kg	20	--
Tert-Butyl Alcohol	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.0	--
1,4-Dioxane	ND		ug/kg	100	--
Methyl cyclohexane	ND		ug/kg	4.0	--

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/16 19:55
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 05-06 Batch: WG961458-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	20	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04 Batch: WG961116-3 WG961116-4								
Methylene chloride	105		102		70-130	3		30
1,1-Dichloroethane	106		101		70-130	5		30
Chloroform	105		104		70-130	1		30
Carbon tetrachloride	104		95		70-130	9		30
1,2-Dichloropropane	110		104		70-130	6		30
Dibromochloromethane	94		94		70-130	0		30
1,1,2-Trichloroethane	101		99		70-130	2		30
2-Chloroethylvinyl ether	110		106		70-130	4		30
Tetrachloroethene	101		94		70-130	7		30
Chlorobenzene	98		97		70-130	1		30
Trichlorofluoromethane	100		89		70-139	12		30
1,2-Dichloroethane	101		101		70-130	0		30
1,1,1-Trichloroethane	102		96		70-130	6		30
Bromodichloromethane	99		99		70-130	0		30
trans-1,3-Dichloropropene	99		98		70-130	1		30
cis-1,3-Dichloropropene	109		106		70-130	3		30
1,1-Dichloropropene	106		99		70-130	7		30
Bromoform	94		91		70-130	3		30
1,1,2,2-Tetrachloroethane	94		96		70-130	2		30
Benzene	108		105		70-130	3		30
Toluene	99		96		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04 Batch: WG961116-3 WG961116-4								
Ethylbenzene	100		96		70-130	4		30
Chloromethane	86		80		52-130	7		30
Bromomethane	103		92		57-147	11		30
Vinyl chloride	96		92		67-130	4		30
Chloroethane	107		95		50-151	12		30
1,1-Dichloroethene	106		98		65-135	8		30
trans-1,2-Dichloroethene	108		101		70-130	7		30
Trichloroethene	106		101		70-130	5		30
1,2-Dichlorobenzene	95		93		70-130	2		30
1,3-Dichlorobenzene	97		95		70-130	2		30
1,4-Dichlorobenzene	96		95		70-130	1		30
Methyl tert butyl ether	106		103		66-130	3		30
p/m-Xylene	102		98		70-130	4		30
o-Xylene	101		98		70-130	3		30
cis-1,2-Dichloroethene	108		105		70-130	3		30
Dibromomethane	104		105		70-130	1		30
1,4-Dichlorobutane	94		93		70-130	1		30
1,2,3-Trichloropropane	94		94		68-130	0		30
Styrene	102		100		70-130	2		30
Dichlorodifluoromethane	74		66		30-146	11		30
Acetone	116		112		54-140	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04 Batch: WG961116-3 WG961116-4								
Carbon disulfide	97		91		59-130	6		30
2-Butanone	102		100		70-130	2		30
Vinyl acetate	105		100		70-130	5		30
4-Methyl-2-pentanone	97		94		70-130	3		30
2-Hexanone	89		87		70-130	2		30
Ethyl methacrylate	99		97		70-130	2		30
Acrolein	104		114		70-130	9		30
Acrylonitrile	104		101		70-130	3		30
Bromochloromethane	113		106		70-130	6		30
Tetrahydrofuran	104		96		66-130	8		30
2,2-Dichloropropane	105		99		70-130	6		30
1,2-Dibromoethane	97		97		70-130	0		30
1,3-Dichloropropane	100		98		69-130	2		30
1,1,1,2-Tetrachloroethane	96		95		70-130	1		30
Bromobenzene	95		93		70-130	2		30
n-Butylbenzene	99		93		70-130	6		30
sec-Butylbenzene	99		93		70-130	6		30
tert-Butylbenzene	96		92		70-130	4		30
1,3,5-Trichlorobenzene	98		96		70-139	2		30
o-Chlorotoluene	98		93		70-130	5		30
p-Chlorotoluene	97		95		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04 Batch: WG961116-3 WG961116-4								
1,2-Dibromo-3-chloropropane	89		89		68-130	0		30
Hexachlorobutadiene	93		88		67-130	6		30
Isopropylbenzene	99		93		70-130	6		30
p-Isopropyltoluene	98		93		70-130	5		30
Naphthalene	91		89		70-130	2		30
n-Propylbenzene	99		94		70-130	5		30
1,2,3-Trichlorobenzene	94		93		70-130	1		30
1,2,4-Trichlorobenzene	98		95		70-130	3		30
1,3,5-Trimethylbenzene	98		95		70-130	3		30
1,2,4-Trimethylbenzene	98		94		70-130	4		30
trans-1,4-Dichloro-2-butene	91		90		70-130	1		30
Halothane	112		102		70-130	9		20
Ethyl ether	108		107		67-130	1		30
Methyl Acetate	99		101		65-130	2		30
Ethyl Acetate	103		100		70-130	3		30
Isopropyl Ether	103		102		66-130	1		30
Cyclohexane	107		98		70-130	9		30
Tert-Butyl Alcohol	96		100		70-130	4		30
Ethyl-Tert-Butyl-Ether	106		104		70-130	2		30
Tertiary-Amyl Methyl Ether	107		104		70-130	3		30
1,4-Dioxane	104		113		65-136	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04 Batch: WG961116-3 WG961116-4								
Methyl cyclohexane	108		98		70-130	10		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	104		93		70-130	11		30
1,4-Diethylbenzene	98		94		70-130	4		30
4-Ethyltoluene	98		94		70-130	4		30
1,2,4,5-Tetramethylbenzene	97		94		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		92		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	101		101		70-130
Dibromofluoromethane	99		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,07 Batch: WG961283-3 WG961283-4								
Methylene chloride	94		90		70-130	4		20
1,1-Dichloroethane	94		92		70-130	2		20
Chloroform	95		91		70-130	4		20
Carbon tetrachloride	98		95		63-132	3		20
1,2-Dichloropropane	89		87		70-130	2		20
Dibromochloromethane	90		87		63-130	3		20
1,1,2-Trichloroethane	84		84		70-130	0		20
2-Chloroethylvinyl ether	**38**	Q	**40**	Q	70-130	5		20
Tetrachloroethene	97		93		70-130	4		20
Chlorobenzene	92		88		75-130	4		25
Trichlorofluoromethane	94		90		62-150	4		20
1,2-Dichloroethane	95		92		70-130	3		20
1,1,1-Trichloroethane	98		96		67-130	2		20
Bromodichloromethane	92		90		67-130	2		20
trans-1,3-Dichloropropene	81		79		70-130	3		20
cis-1,3-Dichloropropene	92		90		70-130	2		20
1,1-Dichloropropene	97		95		70-130	2		20
Bromoform	84		81		54-136	4		20
1,1,2,2-Tetrachloroethane	84		82		67-130	2		20
Benzene	95		92		70-130	3		25
Toluene	92		89		70-130	3		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,07 Batch: WG961283-3 WG961283-4								
Ethylbenzene	96		92		70-130	4		20
Chloromethane	84		77		64-130	9		20
Bromomethane	64		69		39-139	8		20
Vinyl chloride	90		85		55-140	6		20
Chloroethane	100		95		55-138	5		20
1,1-Dichloroethene	97		94		61-145	3		25
trans-1,2-Dichloroethene	96		93		70-130	3		20
Trichloroethene	94		91		70-130	3		25
1,2-Dichlorobenzene	91		88		70-130	3		20
1,3-Dichlorobenzene	93		90		70-130	3		20
1,4-Dichlorobenzene	91		87		70-130	4		20
Methyl tert butyl ether	95		93		63-130	2		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	95		92		70-130	3		20
Dibromomethane	90		88		70-130	2		20
1,4-Dichlorobutane	86		84		70-130	2		20
Iodomethane	**41**	Q	**45**	Q	70-130	9		20
1,2,3-Trichloropropane	88		85		64-130	3		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	98		96		36-147	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,07 Batch: WG961283-3 WG961283-4								
Acetone	100		81		58-148	**21**	Q	20
Carbon disulfide	98		93		51-130	5		20
2-Butanone	87		80		63-138	8		20
Vinyl acetate	91		89		70-130	2		20
4-Methyl-2-pentanone	70		70		59-130	0		20
2-Hexanone	65		63		57-130	3		20
Ethyl methacrylate	71		73		70-130	3		20
Acrolein	81		80		70-130	1		20
Acrylonitrile	86		86		70-130	0		20
Bromochloromethane	95		93		70-130	2		20
Tetrahydrofuran	84		81		58-130	4		20
2,2-Dichloropropane	110		100		63-133	10		20
1,2-Dibromoethane	89		88		70-130	1		20
1,3-Dichloropropane	89		87		70-130	2		20
1,1,1,2-Tetrachloroethane	93		88		64-130	6		20
Bromobenzene	92		89		70-130	3		20
n-Butylbenzene	99		93		53-136	6		20
sec-Butylbenzene	100		97		70-130	3		20
tert-Butylbenzene	99		94		70-130	5		20
o-Chlorotoluene	98		81		70-130	19		20
p-Chlorotoluene	97		92		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,07 Batch: WG961283-3 WG961283-4								
1,2-Dibromo-3-chloropropane	68		69		41-144	1		20
Hexachlorobutadiene	96		91		63-130	5		20
Isopropylbenzene	100		98		70-130	2		20
p-Isopropyltoluene	91		86		70-130	6		20
Naphthalene	**62**	Q	**66**	Q	70-130	6		20
n-Propylbenzene	100		98		69-130	2		20
1,2,3-Trichlorobenzene	74		78		70-130	5		20
1,2,4-Trichlorobenzene	82		82		70-130	0		20
1,3,5-Trimethylbenzene	100		95		64-130	5		20
1,3,5-Trichlorobenzene	96		92		70-130	4		20
1,2,4-Trimethylbenzene	100		96		70-130	4		20
trans-1,4-Dichloro-2-butene	**68**	Q	**66**	Q	70-130	3		20
Halothane	92		89		70-130	3		20
Ethyl ether	89		86		59-134	3		20
Methyl Acetate	84		85		70-130	1		20
Ethyl Acetate	87		90		70-130	3		20
Isopropyl Ether	96		94		70-130	2		20
Cyclohexane	100		99		70-130	1		20
Tert-Butyl Alcohol	90		96		70-130	6		20
Ethyl-Tert-Butyl-Ether	98		97		70-130	1		20
Tertiary-Amyl Methyl Ether	88		87		66-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,07 Batch: WG961283-3 WG961283-4								
1,4-Dioxane	98		114		56-162	15		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	100		100		70-130	0		20
Methyl cyclohexane	99		96		70-130	3		20
p-Diethylbenzene	99		92		70-130	7		20
4-Ethyltoluene	110		100		70-130	10		20
1,2,4,5-Tetramethylbenzene	95		91		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		104		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	100		101		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 05-06 Batch: WG961458-3 WG961458-4								
Methylene chloride	88		87		70-130	1		30
1,1-Dichloroethane	85		81		70-130	5		30
Chloroform	87		84		70-130	4		30
Carbon tetrachloride	87		81		70-130	7		30
1,2-Dichloropropane	84		85		70-130	1		30
Dibromochloromethane	96		96		70-130	0		30
1,1,2-Trichloroethane	97		98		70-130	1		30
2-Chloroethylvinyl ether	79		85		70-130	7		30
Tetrachloroethene	111		106		70-130	5		30
Chlorobenzene	103		99		70-130	4		30
Trichlorofluoromethane	86		81		70-139	6		30
1,2-Dichloroethane	79		79		70-130	0		30
1,1,1-Trichloroethane	87		82		70-130	6		30
Bromodichloromethane	81		82		70-130	1		30
trans-1,3-Dichloropropene	90		89		70-130	1		30
cis-1,3-Dichloropropene	85		83		70-130	2		30
1,1-Dichloropropene	88		83		70-130	6		30
Bromoform	99		104		70-130	5		30
1,1,2,2-Tetrachloroethane	94		96		70-130	2		30
Benzene	90		87		70-130	3		30
Toluene	99		96		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 05-06 Batch: WG961458-3 WG961458-4								
Ethylbenzene	98		94		70-130	4		30
Chloromethane	80		76		52-130	5		30
Bromomethane	92		87		57-147	6		30
Vinyl chloride	81		79		67-130	3		30
Chloroethane	90		87		50-151	3		30
1,1-Dichloroethene	94		91		65-135	3		30
trans-1,2-Dichloroethene	94		92		70-130	2		30
Trichloroethene	90		86		70-130	5		30
1,2-Dichlorobenzene	106		103		70-130	3		30
1,3-Dichlorobenzene	108		104		70-130	4		30
1,4-Dichlorobenzene	107		103		70-130	4		30
Methyl tert butyl ether	84		85		66-130	1		30
p/m-Xylene	105		100		70-130	5		30
o-Xylene	104		99		70-130	5		30
cis-1,2-Dichloroethene	94		93		70-130	1		30
Dibromomethane	87		88		70-130	1		30
1,4-Dichlorobutane	87		86		70-130	1		30
1,2,3-Trichloropropane	91		89		68-130	2		30
Styrene	103		99		70-130	4		30
Dichlorodifluoromethane	74		66		30-146	11		30
Acetone	70		74		54-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 05-06 Batch: WG961458-3 WG961458-4								
Carbon disulfide	79		78		59-130	1		30
2-Butanone	70		72		70-130	3		30
Vinyl acetate	74		75		70-130	1		30
4-Methyl-2-pentanone	81		87		70-130	7		30
2-Hexanone	73		75		70-130	3		30
Ethyl methacrylate	89		90		70-130	1		30
Acrolein	75		85		70-130	13		30
Acrylonitrile	80		84		70-130	5		30
Bromochloromethane	99		102		70-130	3		30
Tetrahydrofuran	77		80		66-130	4		30
2,2-Dichloropropane	84		79		70-130	6		30
1,2-Dibromoethane	98		100		70-130	2		30
1,3-Dichloropropane	94		95		69-130	1		30
1,1,1,2-Tetrachloroethane	99		98		70-130	1		30
Bromobenzene	107		104		70-130	3		30
n-Butylbenzene	99		92		70-130	7		30
sec-Butylbenzene	103		96		70-130	7		30
tert-Butylbenzene	103		97		70-130	6		30
1,3,5-Trichlorobenzene	112		104		70-139	7		30
o-Chlorotoluene	99		92		70-130	7		30
p-Chlorotoluene	98		91		70-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 05-06 Batch: WG961458-3 WG961458-4								
1,2-Dibromo-3-chloropropane	95		97		68-130	2		30
Hexachlorobutadiene	108		101		67-130	7		30
Isopropylbenzene	102		95		70-130	7		30
p-Isopropyltoluene	105		98		70-130	7		30
Naphthalene	104		104		70-130	0		30
n-Propylbenzene	99		92		70-130	7		30
1,2,3-Trichlorobenzene	113		109		70-130	4		30
1,2,4-Trichlorobenzene	113		108		70-130	5		30
1,3,5-Trimethylbenzene	104		96		70-130	8		30
1,2,4-Trimethylbenzene	102		95		70-130	7		30
trans-1,4-Dichloro-2-butene	71		81		70-130	13		30
Halothane	99		95		70-130	4		20
Ethyl ether	86		88		67-130	2		30
Methyl Acetate	73		77		65-130	5		30
Ethyl Acetate	72		76		70-130	5		30
Isopropyl Ether	78		75		66-130	4		30
Cyclohexane	87		82		70-130	6		30
Tert-Butyl Alcohol	74		81		70-130	9		30
Ethyl-Tert-Butyl-Ether	83		82		70-130	1		30
Tertiary-Amyl Methyl Ether	85		86		70-130	1		30
1,4-Dioxane	89		97		65-136	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: REEDS BROOK LF

Project Number: Not Specified

Lab Number: L1639942

Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 05-06 Batch: WG961458-3 WG961458-4								
Methyl cyclohexane	93		88		70-130	6		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	94		89		70-130	5		30
1,4-Diethylbenzene	104		98		70-130	6		30
4-Ethyltoluene	104		95		70-130	9		30
1,2,4,5-Tetramethylbenzene	103		96		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	83		85		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	92		91		70-130
Dibromofluoromethane	95		99		70-130

METALS

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-01
Client ID: RB-SW-1
Sample Location: ARLINGTON, MA
Matrix: Water
Date Collected: 12/08/16 10:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Barium, Total	0.089		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Chromium, Total	ND		mg/l	0.01	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Copper, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Iron, Total	7.6		mg/l	0.05	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Manganese, Total	0.226		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Mercury, Total	ND		mg/l	0.00020	--	1	12/12/16 10:59	12/14/16 20:07	EPA 7470A	1,7470A	EA
Selenium, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Silver, Total	ND		mg/l	0.007	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Zinc, Total	0.055		mg/l	0.050	--	1	12/13/16 13:53	12/14/16 16:22	EPA 3005A	1,6010C	PS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Barium, Dissolved	0.085		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Copper, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Iron, Dissolved	4.4		mg/l	0.05	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Manganese, Dissolved	0.216		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Mercury, Dissolved	ND		mg/l	0.00020	--	1	12/09/16 17:02	12/13/16 12:20	EPA 245.1	1,7470A	BV
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Silver, Dissolved	ND		mg/l	0.007	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/14/16 12:55	12/14/16 21:56	EPA 3005A	1,6010C	PS

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-02
Client ID: RB-SW-2
Sample Location: ARLINGTON, MA
Matrix: Water
Date Collected: 12/08/16 11:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Barium, Total	0.021		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Chromium, Total	ND		mg/l	0.01	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Copper, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Iron, Total	2.3		mg/l	0.05	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Manganese, Total	0.101		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Mercury, Total	ND		mg/l	0.00020	--	1	12/12/16 10:59	12/14/16 20:09	EPA 7470A	1,7470A	EA
Selenium, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Silver, Total	ND		mg/l	0.007	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Zinc, Total	ND		mg/l	0.050	--	1	12/13/16 13:53	12/14/16 16:38	EPA 3005A	1,6010C	PS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Barium, Dissolved	0.018		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Copper, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Iron, Dissolved	0.80		mg/l	0.05	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Manganese, Dissolved	0.082		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Mercury, Dissolved	ND		mg/l	0.00020	--	1	12/09/16 17:02	12/13/16 12:25	EPA 245.1	1,7470A	BV
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Silver, Dissolved	ND		mg/l	0.007	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/14/16 12:55	12/14/16 22:00	EPA 3005A	1,6010C	PS

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-03
Client ID: RB-SW-3
Sample Location: ARLINGTON, MA
Matrix: Water
Date Collected: 12/08/16 11:30
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Barium, Total	0.073		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Chromium, Total	ND		mg/l	0.01	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Copper, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Iron, Total	4.4		mg/l	0.05	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Manganese, Total	0.241		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Mercury, Total	ND		mg/l	0.00020	--	1	12/12/16 10:59	12/14/16 20:11	EPA 7470A	1,7470A	EA
Selenium, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Silver, Total	ND		mg/l	0.007	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Zinc, Total	ND		mg/l	0.050	--	1	12/13/16 13:53	12/14/16 16:42	EPA 3005A	1,6010C	PS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Barium, Dissolved	0.070		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Copper, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Iron, Dissolved	0.23		mg/l	0.05	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Manganese, Dissolved	0.238		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Mercury, Dissolved	ND		mg/l	0.00020	--	1	12/09/16 17:02	12/13/16 12:27	EPA 245.1	1,7470A	BV
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Silver, Dissolved	ND		mg/l	0.007	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/14/16 12:55	12/14/16 22:05	EPA 3005A	1,6010C	PS

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-04
Client ID: RB-SED-1
Sample Location: ARLINGTON, MA
Matrix: Soil
Percent Solids: 67%

Date Collected: 12/08/16 10:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	3.3		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Barium, Total	18		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Chromium, Total	17		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Copper, Total	28		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Iron, Total	12000		mg/kg	2.9	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Lead, Total	25		mg/kg	2.9	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Manganese, Total	130		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Mercury, Total	ND		mg/kg	0.10	--	1	12/10/16 10:30	12/13/16 00:39	EPA 7471B	1,7471B	EA
Selenium, Total	ND		mg/kg	1.2	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.58	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB
Zinc, Total	160		mg/kg	2.9	--	1	12/09/16 19:00	12/12/16 16:03	EPA 3050B	1,6010C	AB

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-05
Client ID: RB-SED-2
Sample Location: ARLINGTON, MA
Matrix: Soil
Percent Solids: 76%

Date Collected: 12/08/16 11:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.9		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Barium, Total	15		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Chromium, Total	6.0		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Copper, Total	10		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Iron, Total	5800		mg/kg	2.5	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Lead, Total	34		mg/kg	2.5	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Manganese, Total	80		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Mercury, Total	ND		mg/kg	0.08	--	1	12/10/16 10:30	12/13/16 00:41	EPA 7471B	1,7471B	EA
Selenium, Total	ND		mg/kg	1.0	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.50	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB
Zinc, Total	40		mg/kg	2.5	--	1	12/09/16 19:00	12/12/16 16:07	EPA 3050B	1,6010C	AB

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-06
Client ID: RB-SED-3
Sample Location: ARLINGTON, MA
Matrix: Soil
Percent Solids: 60%

Date Collected: 12/08/16 11:30
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.9		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Barium, Total	22		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Chromium, Total	13		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Copper, Total	13		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Iron, Total	14000		mg/kg	3.3	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Lead, Total	39		mg/kg	3.3	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Manganese, Total	180		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Mercury, Total	ND		mg/kg	0.11	--	1	12/10/16 10:30	12/13/16 00:43	EPA 7471B	1,7471B	EA
Selenium, Total	ND		mg/kg	1.3	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.66	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB
Zinc, Total	51		mg/kg	3.3	--	1	12/09/16 19:00	12/12/16 16:11	EPA 3050B	1,6010C	AB

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG959776-1										
Mercury, Dissolved	ND		mg/l	0.00020	--	1	12/09/16 17:02	12/13/16 11:51	1,7470A	BV

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 04-06 Batch: WG959803-1										
Arsenic, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Barium, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Chromium, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Copper, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Iron, Total	ND		mg/kg	2.0	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Lead, Total	ND		mg/kg	2.0	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Manganese, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Selenium, Total	ND		mg/kg	0.80	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Silver, Total	ND		mg/kg	0.40	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS
Zinc, Total	ND		mg/kg	2.0	--	1	12/09/16 19:00	12/12/16 13:56	1,6010C	PS

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 04-06 Batch: WG959901-1										
Mercury, Total	ND		mg/kg	0.08	--	1	12/10/16 10:30	12/13/16 00:07	1,7471B	EA

Prep Information

Digestion Method: EPA 7471B

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG960278-1										
Mercury, Total	ND		mg/l	0.00020	--	1	12/12/16 10:59	12/14/16 19:37	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG960712-1										
Arsenic, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Barium, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Chromium, Total	ND		mg/l	0.01	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Copper, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Iron, Total	ND		mg/l	0.05	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Lead, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Manganese, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Selenium, Total	ND		mg/l	0.010	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Silver, Total	ND		mg/l	0.007	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS
Zinc, Total	ND		mg/l	0.050	--	1	12/13/16 13:53	12/14/16 15:53	1,6010C	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG961134-1										
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Barium, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.005	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Copper, Dissolved	ND		mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Iron, Dissolved	ND		mg/l	0.05	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS

Project Name: REEDS BROOK LF
Project Number: Not Specified
Lab Number: L1639942
Report Date: 01/16/17

Method Blank Analysis
Batch Quality Control

Lead, Dissolved	ND	mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Manganese, Dissolved	ND	mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Selenium, Dissolved	ND	mg/l	0.010	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Silver, Dissolved	ND	mg/l	0.007	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS
Zinc, Dissolved	ND	mg/l	0.050	--	1	12/14/16 12:55	12/14/16 21:00	1,6010C	PS

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: REEDS BROOK LF

Project Number: Not Specified

Lab Number: L1639942

Report Date: 01/16/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG959776-2								
Mercury, Dissolved	105		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 04-06 Batch: WG959803-2 SRM Lot Number: D091-540								
Arsenic, Total	90		-		80-121	-		
Barium, Total	96		-		84-117	-		
Cadmium, Total	87		-		83-117	-		
Chromium, Total	98		-		80-119	-		
Copper, Total	104		-		82-117	-		
Iron, Total	107		-		47-154	-		
Lead, Total	89		-		82-118	-		
Manganese, Total	104		-		82-118	-		
Selenium, Total	90		-		79-121	-		
Silver, Total	96		-		75-124	-		
Zinc, Total	93		-		82-118	-		
Total Metals - Mansfield Lab Associated sample(s): 04-06 Batch: WG959901-2 SRM Lot Number: D091-540								
Mercury, Total	98		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG960278-2								
Mercury, Total	112		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: REEDS BROOK LF

Project Number: Not Specified

Lab Number: L1639942

Report Date: 01/16/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG960712-2					
Arsenic, Total	110	-	80-120	-	
Barium, Total	99	-	80-120	-	
Cadmium, Total	109	-	80-120	-	
Chromium, Total	100	-	80-120	-	
Copper, Total	101	-	80-120	-	
Iron, Total	95	-	80-120	-	
Lead, Total	107	-	80-120	-	
Manganese, Total	101	-	80-120	-	
Selenium, Total	115	-	80-120	-	
Silver, Total	104	-	80-120	-	
Zinc, Total	105	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: REEDS BROOK LF

Project Number: Not Specified

Lab Number: L1639942

Report Date: 01/16/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG961134-2					
Arsenic, Dissolved	107	-	80-120	-	
Barium, Dissolved	96	-	80-120	-	
Cadmium, Dissolved	109	-	80-120	-	
Chromium, Dissolved	100	-	80-120	-	
Copper, Dissolved	99	-	80-120	-	
Iron, Dissolved	93	-	80-120	-	
Lead, Dissolved	105	-	80-120	-	
Manganese, Dissolved	100	-	80-120	-	
Selenium, Dissolved	108	-	80-120	-	
Silver, Dissolved	106	-	80-120	-	
Zinc, Dissolved	104	-	80-120	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG959776-3 WG959776-4 QC Sample: L1600012-71 Client ID: MS Sample												
Mercury, Dissolved	ND	0.005	ND	**0**	Q	ND	**0**	Q	75-125	NC		20
Total Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG959803-3 QC Sample: L1639866-01 Client ID: MS Sample												
Arsenic, Total	12	17.4	29	98		-	-		75-125	-		20
Barium, Total	31	290	240	**72**	Q	-	-		75-125	-		20
Cadmium, Total	ND	7.4	5.6	76		-	-		75-125	-		20
Chromium, Total	30	29	52	76		-	-		75-125	-		20
Copper, Total	14	36.2	45	86		-	-		75-125	-		20
Iron, Total	31000	145	34000	**2070**	Q	-	-		75-125	-		20
Lead, Total	11	74	70	80		-	-		75-125	-		20
Manganese, Total	460	72.5	520	83		-	-		75-125	-		20
Selenium, Total	ND	17.4	15	86		-	-		75-125	-		20
Silver, Total	ND	43.5	36	83		-	-		75-125	-		20
Zinc, Total	62	72.5	110	**66**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG959901-3 QC Sample: L1639991-01 Client ID: MS Sample												
Mercury, Total	0.19	0.152	0.39	**131**	Q	-	-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG960278-3 QC Sample: L1639866-04 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00504	101		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG961134-3 WG961134-4 QC Sample: L1639930-11 Client ID: MS Sample									
Arsenic, Dissolved	ND	0.12	0.132	110	0.134	112	75-125	2	20
Barium, Dissolved	0.012	2	1.95	97	1.97	98	75-125	1	20
Cadmium, Dissolved	ND	0.051	0.054	106	0.055	108	75-125	2	20
Chromium, Dissolved	ND	0.2	0.20	100	0.20	100	75-125	0	20
Copper, Dissolved	ND	0.25	0.248	99	0.252	101	75-125	2	20
Iron, Dissolved	4.7	1	5.7	100	5.7	100	75-125	0	20
Lead, Dissolved	ND	0.51	0.524	103	0.533	104	75-125	2	20
Manganese, Dissolved	0.383	0.5	0.866	97	0.870	97	75-125	0	20
Selenium, Dissolved	ND	0.12	0.129	108	0.134	112	75-125	4	20
Silver, Dissolved	ND	0.05	0.052	103	0.053	105	75-125	2	20
Zinc, Dissolved	ND	0.5	0.508	102	0.521	104	75-125	3	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG959803-4 QC Sample: L1639866-01 Client ID: DUP Sample						
Arsenic, Total	12	14	mg/kg	15		20
Barium, Total	31	31	mg/kg	0		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Chromium, Total	30	29	mg/kg	3		20
Copper, Total	14	13	mg/kg	7		20
Iron, Total	31000	32000	mg/kg	3		20
Lead, Total	11	12	mg/kg	9		20
Manganese, Total	460	470	mg/kg	2		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Zinc, Total	62	62	mg/kg	0		20
Total Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG959901-4 QC Sample: L1639991-01 Client ID: DUP Sample						
Mercury, Total	0.19	0.19	mg/kg	0		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG960278-4 QC Sample: L1639866-04 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-04
Client ID: RB-SED-1
Sample Location: ARLINGTON, MA
Matrix: Soil

Date Collected: 12/08/16 10:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	67.3		%	0.100	NA	1	-	12/09/16 13:32	121,2540G	RI

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-05
Client ID: RB-SED-2
Sample Location: ARLINGTON, MA
Matrix: Soil

Date Collected: 12/08/16 11:00
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.1		%	0.100	NA	1	-	12/09/16 13:32	121,2540G	RI

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

SAMPLE RESULTS

Lab ID: L1639942-06
Client ID: RB-SED-3
Sample Location: ARLINGTON, MA
Matrix: Soil

Date Collected: 12/08/16 11:30
Date Received: 12/08/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	59.7		%	0.100	NA	1	-	12/09/16 13:32	121,2540G	RI

Lab Duplicate Analysis
Batch Quality Control

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04-06 QC Batch ID: WG959657-1 QC Sample: L1639979-01 Client ID: DUP Sample						
Solids, Total	72.4	74.1	%	2		20

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 12/09/2016 08:26

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1639942-01A	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-01B	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-01C	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-01D	Plastic 250ml HNO3 preserved Fil	A	<2	2.5	Y	Absent	PB-SI(180),FE-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CU-SI(180),MN-SI(180),CD-SI(180),CR-SI(180),HG-S(28),SE-SI(180),ZN-SI(180)
L1639942-01E	Plastic 250ml HNO3 preserved	A	<2	2.5	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),FE-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1639942-01F	Plastic 250ml unpreserved	A	7	2.5	Y	Absent	-
L1639942-02A	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-02B	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-02C	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-02D	Plastic 250ml HNO3 preserved Fil	A	<2	2.5	Y	Absent	PB-SI(180),FE-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CU-SI(180),MN-SI(180),CD-SI(180),CR-SI(180),HG-S(28),SE-SI(180),ZN-SI(180)
L1639942-02E	Plastic 250ml HNO3 preserved	A	<2	2.5	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),FE-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1639942-02F	Plastic 250ml unpreserved	A	7	2.5	Y	Absent	-
L1639942-03A	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-03B	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-03C	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)

*Values in parentheses indicate holding time in days

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1639942-03D	Plastic 250ml HNO3 preserved Fil	A	<2	2.5	Y	Absent	PB-SI(180),FE-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CU-SI(180),MN-SI(180),CD-SI(180),CR-SI(180),HG-S(28),SE-SI(180),ZN-SI(180)
L1639942-03E	Plastic 250ml HNO3 preserved	A	<2	2.5	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),FE-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1639942-03F	Plastic 250ml unpreserved	A	7	2.5	Y	Absent	-
L1639942-04A	Vial MeOH preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-04B	Vial water preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-04C	Vial water preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-04D	Plastic 2oz unpreserved for TS	A	N/A	2.5	Y	Absent	TS(7)
L1639942-04E	Metals Only - Glass 60mL/2oz unp	A	N/A	2.5	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),FE-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1639942-04F	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-04G	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-04H	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-05A	Vial MeOH preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-05B	Vial water preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-05C	Vial water preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-05D	Plastic 2oz unpreserved for TS	A	N/A	2.5	Y	Absent	TS(7)
L1639942-05E	Metals Only - Glass 60mL/2oz unp	A	N/A	2.5	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),FE-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1639942-05F	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-05G	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-05H	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-06A	Vial MeOH preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-06B	Vial water preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-06C	Vial water preserved	A	N/A	2.5	Y	Absent	8260HLW(14)
L1639942-06D	Plastic 2oz unpreserved for TS	A	N/A	2.5	Y	Absent	TS(7)

*Values in parentheses indicate holding time in days

Project Name: REEDS BROOK LF
Project Number: Not Specified

Lab Number: L1639942
Report Date: 01/16/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1639942-06E	Metals Only - Glass 60mL/2oz unp	A	N/A	2.5	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),FE-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1639942-06F	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-06G	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-06H	Glass 250ml/8oz unpreserved	A	N/A	2.5	Y	Absent	HOLD-EPH(14)
L1639942-07A	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-07B	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-07C	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-07D	Vial HCl preserved	A	N/A	2.5	Y	Absent	8260(14)
L1639942-08A	Vial MeOH preserved	A	N/A	2.5	Y	Absent	HOLD-8260(14)
L1639942-08B	Vial water preserved	A	N/A	2.5	Y	Absent	HOLD-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	REEDS BROOK LF	**Lab Number:**	L1639942
Project Number:	Not Specified	**Report Date:**	01/16/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: Data Usability Report

Project Name: REEDS BROOK LF **Lab Number:** L1639942

Project Number: Not Specified **Report Date:** 01/16/17

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	REEDS BROOK LF	**Lab Number:**	L1639942
Project Number:	Not Specified	**Report Date:**	01/16/17

REFERENCES

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT**.

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 12/8/16

ALPHA Job #: L1639942

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

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

Client Information

Client: Brown Cald well
Address: 1 tech Drive
Andover MA
Phone: 508 8191424
Email: LRoberts@BrownCald.com

Project Information

Project Name: Reeds Brook LF
Project Location: Arlington MA
Project #:
Project Manager: Lindsey Roberts
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:
Sw samples to be analyzed for diss and total metals
Lab to filter

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☑ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13	METALS: ☐ MCP 14 ☐ RCP 15 ☒ RCRA5 ☐ RCRA8	EPH: ☐ PP13 ☐ Ranges Only ☐ Ranges & Targets	VPH: ☐ Ranges Only ☐ Ranges & Targets	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	SAMPLE INFO: Filtration ☐ Field ☑ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
39942-01	RB-Sw-1	12/8	1000	Sw	SPW	X			X							
-02	RB-Sw-2		1100	Sw	SPW	X			X							
-03	RB-Sw-3		1130	Sw	SPW	X			X							
-04	RB-SED-1		1000	Solid	SPW	X			X							
-05	RB-SED-2		1100	Solid	SPW	X			X							
-06	RB-SED-3		1130	Solid	SPW	X			X							
-07	Trip Blank	—	—	W	—	X									Only 1	

Container Type																
Preservative																

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
[signature] AAC	12/8/16	[signature] AAC	12-8-16 15:49
[signature] AAC	12-8-16 17:10	[signature]	12/8/16 17:10

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

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

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 12/8/16

ALPHA Job #: L1639942

ALPHA ANALYTICAL
World Class Chemistry
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220
320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Reeds Brook LF
Project Location: Arlington MA
Project #:
Project Manager: Lindsey Roberts
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: Brown Cald well
Address: 1 tech Drive
Andover MA
Phone: 508 8191424
Email: LRoberts@BrownCald.com

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:
Sw samples to be analyzed for diss and total metals
Lab to filter

ANALYSIS

VOC: ☑ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☒ RCRA8
EPH: ☐ Ranges & Targets ☐ Ranges Only ☐ PP13
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☑ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	Sample Comments	TOTAL # BOTTLES
39942-01	RB-Sw-1	12/8	1000	Sw	SPW	X			X						
-02	RB-Sw-2		1100	Sw	SPW	X			X						
-03	RB-Sw-3		1130	Sw	SPW	X			X						
-04	RB-SED-1		1000	Solid	SPW	X			X						
-05	RB-SED-2		1100	Solid	SPW	X			X						
-06	RB-SED-3		1130	Solid	SPW	X			X						
-07	Trip Blank	—	—	W	—	X								Only 1	

Container Type															
Preservative															

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
[signature] AAC	12/8/16	[signature] AAC	12-8-16 15:49
[signature] AAC	12-8-16 17:10	[signature]	12/8/16 17:10

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

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

Bottle Order Request

Bottle Order # 233426

DEC-06-16 09:46:43

Acctnum : BROWN
Company : Brown & Caldwell
Contact Name : Lindsey Roberts
Projectnum :
Projectname :
Request date : 12/06/16
Status : NEED
Sample delivery date :
Order taken by : Caitlin Walukevich
Linked Call :
Frequency :
Completed by :
Delivery method : Courier
Date Completed :

Matrix : Groundwater **# Samples :** 3 — 1

Analytes : Volatile Organics - EPA 8260C
Dissolved RCRA8 Metals - EPA 6020A (ug/l)

1 Trip Blanks

Container	Quantity	Analyte Label
Plastic 250ml unpreserved	1	Dissolved Metals Dissolved Hg
Vial HCl preserved	3	8260

Matrix : Surface Water **# Samples :** 4 — 2

Analytes : Volatile Organics - EPA 8260C
Total RCRA8 Metals - EPA 6020A/7470 (ug/l)

1 Trip Blanks

Container	Quantity	Analyte Label
Plastic 250ml HNO3 preserved	1	Total Hg Total Metals
Vial HCl preserved	3	8260

Matrix : Sediment **# Samples :** 3 — 3

Analytes : MCP 5035/8260C VOCs - High/Low Level
Total Solids - SM 2540
MCP 6010C/7470A - Total RCRA 8 Metals

1 Trip Blanks

Container	Quantity	Analyte Label
Glass 60mL/2oz unpreserved	1	Total Hg Total Metals
Glass 250ml/8oz unpreserved	3	Total Hg A2-PREP-3050:1T A2-PREP-3050:2T
Plastic 2oz unpreserved for TS	1	TS
Vial MeOH preserved	1	MCP-8260HLW-10
Vial water preserved	2	MCP-8260HLW-10

COPY

Bottle Quantity Summary:

Glass 250ml/8oz unpreserved	9
Glass 60mL/2oz unpreserved	3
Plastic 250ml HNO3 preserved	4
Plastic 250ml unpreserved	3

PLEASE PUT SAMPLES ON ICE
EXCEPT CANISTER OR BAG SAMPLES

Serial_No:01161711:23

Bottle Order Request

Bottle Order # 233426

DEC-06-16 09:46:43

Acctnum : *BROWN*
Contact Name : *Lindsey Roberts*
Projectnum :

Company : *Brown & Caldwell*

Projectname :

Request date : *12/06/16*
Order taken by : *Caitlin Walukevich*

Status : *NEED*

Linked Call :

Sample delivery date :

Completed by :

Delivery method : *Courier*

Plastic 2oz unpreserved for TS	*3*
Vial HCl preserved	*21*
Vial MeOH preserved	*3*
Vial water preserved	*6*
Trip Blanks:	
Vial MeOH preserved	*1*
Vial water preserved	*1*
Vial HCl preserved	*4*

Pending Shipping Date(s)
12/07/16

Special Shipping Requirements

Cooler [X] Dangerous Certified NJ Courier

PLEASE PUT SAMPLES ON ICE
EXCEPT CANISTER OR BAG SAMPLES

Serial_No:01161711:23