BAYSIDE ENGINEERING

600 Unicorn Park Drive σ Woburn, MA 01801
Phone: 781-932-3201 σ Fax: 781-932-3413

MEMORANDUM

TO: Concord Housing Development Corporation
FROM: Kenneth P. Cram, P.E.
CC: David E. Hale
DATE: November 8, 2013
RE: Proposed Residential Development,
Winthrop Street, Concord, MA

This memorandum has been prepared to assess the traffic impact associated with the development of a parcel of land at the end of Winthrop Street in Concord, Massachusetts. This assessment has reviewed available traffic volume data, reviewed sight distances, developed trip generation projections and prepared a preliminary assessment of the potential project's impacts at the intersection of Commonwealth Avenue and Winthrop Street.

Project Description

The 12.8± acre parcel of land to be developed is located at the end of Winthrop Street. Currently the site consists of wooded land and disturbed ground.

The project consists of the development of the site as a residential use. Three development scenarios are under consideration:

1. 60 apartment units,
2. 110 apartment units, or
3. 83 units of assisted living.

Access to the site would be provided by way of Winthrop Street which intersects with Commonwealth Avenue.

Existing Conditions

Roadway Network

Commonwealth Avenue is functionally classified as an Urban Collector that runs in a general north/south direction and is under the jurisdiction of the Town of Concord. In the site vicinity, the roadway provides one travel lane per direction with shoulders. The existing roadway width is approximately 24 feet wide. Travel lanes are separated by a double yellow centerline. The posted speed limit is 30 miles per hour (mph). Illumination is provided by luminaries mounted on poles. Land use along Commonwealth Avenue in the vicinity of Winthrop Street consists primarily of

residential homes.

Winthrop Street will provide the sole access to the site. Winthrop Street is a town owned and controlled local road that runs in a general east/west direction from its western terminus at Commonwealth Avenue to its eastern, dead-end terminus at 56 Winthrop Street, a small office building. The roadway provides one travel lane per direction. There are no pavement markings on Winthrop Street. Land use consists of residential homes and the commercial properties at the east end of Winthrop Street.

Intersection

Commonwealth Avenue and Winthrop Street Winthrop Street intersects Commonwealth Avenue from the east to form this three-legged, unsignalized intersection. The Commonwealth Avenue approaches each consist of single lanes permitting left- or right-turn movements. The Winthrop Street approach consists of a single lane permitting left- or right-turn movements. The Winthrop Street approach currently operates under STOP-like control. A crosswalk exists along the Commonwealth Avenue north leg of the intersection. Land use in the area consists of residential homes.

Traffic Volumes

To establish base traffic conditions within the study area, manual turning movement counts were conducted at the intersection Commonwealth Avenue and Winthrop Street on Tuesday, October 29, 2013 from7:00 to 9:00 AM and 4:00 to 6:30 PM. Based on the peak period counts, the weekday morning peak hour occurs between 8:00 and 9:00 AM and the weekday evening peak hour occurs between 4:15 and 5:15 PM.

Automatic traffic recorder counts (ATR) were also conducted in October 2013 on Winthrop Street east of Commonwealth Avenue and on Commonwealth Avenue north of Winthrop Street. The traffic count worksheets are provided in the Appendix.

The traffic-volume data gathered as part of this study was collected during the month of October 2013. Data from the Massachusetts Department of Transportation (MassDOT) was reviewed to determine the monthly variations of the traffic volumes. The traffic data showed May volumes to be representative of average month conditions. The 2013 existing daily and peak-hour traffic volumes for average-month conditions are summarized below in Table 1. The existing intersection volumes are shown graphically in the Appendix.

TABLE 1
EXISTING TRAFFIC-VOLUME SUMMARY[a]

Location	Weekday Traffic Volume[b]	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
		Traffic Volume[c]	K Factor[d]	Directional Distribution[e]	Traffic Volume	K Factor	Directional Distribution
Winthrop Street east of Commonwealth Avenue	740	62	8.4	87.1% EB	50	6.8	64.0% WB
Commonwealth Avenue north of Winthrop Street	8,850	644	7.3	60.7% NB	894	10.1	72.5% NB

[a]Two-way traffic volume
[b]Daily traffic expressed in vehicles per day.
[c]Expressed in vehicles per hour.
[d]Percent of daily traffic volumes which occurs during the peak hour.
[e]Percent of peak-hour volume in the predominant direction of travel.
NB = northbound; SB = southbound.; EB = eastbound; WB = westbound.

Commonwealth Avenue was recorded to carry approximately 8,850 vehicles per day (vpd) during average month conditions. During the weekday morning peak hour, 644 vehicles per hour (vph) were recorded, and during the weekday evening peak hour, 894 vph were recorded.

Winthrop Street was recorded to carry approximately 740 vpd during average month conditions. During the weekday morning peak hour, 62 vph were recorded, and during the weekday evening peak hour, 50 vph were recorded.

Vehicle Speeds

Existing speed data for Commonwealth Avenue was also collected using the ATR. The posted speed limit on Commonwealth Avenue is 30 mph. The speed data is summarized in Table 2.

TABLE 2
COMMONWEALTH AVENUE VEHICLE SPEEDS

Direction	Posted Speed Limit (mph)	Average Observed Speed[a] (mph)	85th Percentile Speed (mph)
Commonwealth Avenue Northbound	30	33	37
Commonwealth Avenue Southbound	30	34	40

[a]Based on speed data compiled on October 29 and October 30, 2013.

As shown in Table 2, the average speed of vehicles travelling northbound or southbound was found to be 33 to 34 mph. The 85th percentile speed was found to be 37 mph for northbound vehicles and 40 mph for southbound vehicles. The 85th percentile speed is the speed at which sight distances are typically evaluated.

Existing Levels of Service

Level of service (LOS) is a quantitative measure used to describe the operation of an intersection or roadway segment. The level of service definition is described by the quality of traffic flow and is primarily defined in terms of traffic delays. The primary result of capacity analyses[1] is the assignment of a level of service to traffic intersections or roadway segments under various traffic-flow conditions. Six levels of service are defined for traffic intersections and roadway segments. Levels of service range from LOS A to LOS F. LOS A represents very good operating conditions and LOS F represents very poor operating conditions.

Level-of-service analyses were conducted for 2013 Existing conditions for the Commonwealth Avenue intersection with Winthrop Street. The results of the unsignalized results are summarized in Table 3. Detailed analysis sheets are presented in the Appendix.

[1]The capacity analysis methodology is based on procedures presented in the *Highway Capacity Manual;* Transportation Research Board; Washington, DC; 2010.

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TABLE 3
COMMONWEALTH AVENUE AND WINTHROP STREET
UNSIGNALIZED LEVEL-OF-SERVICE ANALYSIS SUMMARY

Critical Movement/ Peak Hour	2013 Existing			
	Demand[a]	V/C[b]	Delay[c]	LOS[d]
All Movements from Winthrop Street				
Weekday Morning	8	0.03	12.7	B
Weekday Evening	32	0.18	19.3	C

[a]Demand of critical movements in vehicles per hour.
[b]Volume-to-capacity ratio.
[c]Delay in seconds per vehicle.
[d]Level of service.

Commonwealth Avenue and Winthrop Street Under 2013 Existing, 2018 No-Build and 2018 Build conditions, the critical movements (all movements from Winthrop Street) at this unsignalized intersection are modeled to operate at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour. These results are confirmed by actual intersection operations during the peak periods.

Future Conditions

Traffic growth on area roadways is a function of the expected land development in the immediate area as well as the surrounding region. Traffic-volume data compiled by MassDOT from historic traffic counts in Concord were reviewed in order to determine traffic growth trends. Based on a review of this data, it was determined that traffic volumes within the study area have generally decreased over the past several years. Accordingly, a 1.0 percent per year compounded annual background traffic growth rate was used in order to account for potential future traffic growth external to the study area and presently unforeseen development. **In addition, traffic from the proposed Beharrell Street Redevelopment Project was included.**

The project consists of one of three possible development scenarios:

1. 60 apartment units,
2. 110 apartment units, or
3. 83 units of assisted living.

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Existing Site Traffic Generation

Trip-generation data published by the ITE *Trip Generation* manual[2] was reviewed. Trip generation data for Land Use Codes (LUC) 220 – Apartments and for LUC 254 – Assisted Living was reviewed to determine the trip generation for the proposed residential development. This data is summarized in Table 4.

TABLE 4
TRIP-GENERATION COMPARISON

	60 Apartment Units[a]	110 Apartment Units[b]	83 Assisted Living Units[c]
Average Weekday Daily Traffic	488	790	228
Weekday Morning Peak Hour:			
Entering	7	12	10
Exiting	26	46	5
Total	33	58	15
Weekday Evening Peak Hour:			
Entering	33	51	12
Exiting	18	27	12
Total	51	78	24

[a]Based on ITE LUC 220, Apartments; 60 units.
[b]Based on ITE LUC 220, Apartments; 110 units.
[c]Based on ITE LUC 254, Assisted Living; 83 Occupied Beds.

Depending on development scenario, the proposed project is expected to generate approximately 228 to 790 vehicle trips on an average weekday. During the weekday morning peak hour, the project is expected to generate approximately 15 to 58 vehicle trips. During the weekday evening peak hour, the project is expected to generate a total of 24 to 78 vehicle trips. The 110 apartment scenario represents the scenario with the largest traffic impact.

Trip Distribution

The directional distribution of the site-generated traffic was based on existing travel patterns to/from Winthrop Street.

[2]*Trip Generation*, Ninth Edition; Institute of Transportation Engineers; Washington, DC; 2012.

This pattern is summarized in Table 5.

TABLE 5
TRIP-DISTRIBUTION SUMMARY

Route	Direction To or From	Percent of Trips To/From
Commonwealth Avenue	North	38
Commonwealth Avenue	South	62
TOTAL		100

Future Build Conditions

Trips for each development scenario were then added and analyzed. The site-generated traffic was distributed within the study area according to the percentages summarized in Table 5. The site generated volumes were superimposed onto the projected No-Build traffic volumes to represent the 2018 Build traffic-volume conditions. These volumes were used as the basis for all analysis as well as to identify potential mitigation measures to ameliorate the project's impacts. The results are summarized in Table 6.

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TABLE 6
COMMONWEALTH AVENUE AND WINTHROP STREET
UNSIGNALIZED LEVEL-OF-SERVICE ANALYSIS SUMMARY

Critical Movement/ Peak Hour	Demand[a]	V/C[b]	Delay[c]	LOS[d]
	2018 Build – 60 Apartments			
All Movements from Winthrop Street				
Weekday Morning	34	0.12	15.0	C
Weekday Evening	50	0.33	24.8	C
	2018 Build – 110 Apartments			
All Movements from Winthrop Street				
Weekday Morning	54	0.20	16.3	C
Weekday Evening	59	0.40	27.4	D
	2018 Build – 83 Assisted Living Units			
All Movements from Winthrop Street				
Weekday Morning	13	0.05	13.8	B
Weekday Evening	44	0.28	22.7	C

[a]Demand of critical movements in vehicles per hour.
[b]Volume-to-capacity ratio.
[c]Delay in seconds per vehicle.
[d]Level of service.

Under 2013 Existing conditions, during the weekday morning peak hour, the critical movements (all movements from Winthrop Street) operate at LOS B and at LOS C during the weekday evening peak hour. Under future 2018 Build conditions, these critical movements are projected to continue to operate at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour for the 60 apartments scenario or the 83 assisted living units scenario. Under future 2018 Build conditions, with the 110 apartments scenario, the critical movements are projected to continue to operate at LOS C during the weekday morning peak hour and at LOS D during the weekday evening peak hour.

Based on the projected traffic flows north and south of Winthrop Street, the additional traffic generated by either development scenario is not expected to significantly impact operations at the intersections to the north

(Concord Rotary) or south (Laws Brook Road). At the intersection of Commonwealth Avenue and Laws Brook Road, using the highest traffic generator of the three potential scenarios (110 apartments), volume through the intersection would marginally increase through the intersection (approximately 3 percent increase). This increase will not significantly impact the level of service at this intersection.

Conclusion

A comparison of the level of service results for future build conditions as shown in Table 6 with those shown in Table 3 shows that only the 110 apartment scenario causes a drop in level of service during the peak hours. The critical movements are projected to operate at level of service D or better under the 110 apartments scenario which are acceptable for the intersection.

Williamson Environmental LLC

280 Ayer Road, Harvard, MA 01451 • Office: (978) 862-0110 • Fax: (978) 862-0111

September 1, 2009

Goldsmith, Prest & Ringwall, Inc.
Attn. Mr. Calvin Goldsmith
39 Main Street
Suite 301
Ayer, Massachusetts 01432

Re: Summary of Test Pit Excavation/Soil Sampling Activities
Portion of 965 Elm Street
Concord, Massachusetts

Dear Mr. Goldsmith:

At your request, Williamson Environmental LLC (Williamson Environmental) monitored the excavation of test pits, collected soil samples, and submitted said soil samples for laboratory analysis from a portion of the 965 Elm Street property located in Concord, Massachusetts. Test pit excavation, soil sampling, and laboratory analysis activities were initiated following the preparation and submittal of an *ASTM Phase I Environmental Site Assessment* (ESA) report for the aforementioned location by Williamson Environmental, dated February 26, 2009.

The portion of the property identified as 965 Elm Street in Concord, Massachusetts (herein referred to as "the site") is limited to approximately 12.7-acres of undeveloped land located at the southern portion of a larger parcel (965 Elm Street) which includes a total of 64-acres.

The portion of the 965 Elm Street property subject to ASTM assessment activities as documented in Williamson Environmental's February 2009 ESA is currently utilized for the storage of aggregate materials generated by the Town of Concord Department of Public Works Department. In addition, a portion of the site was previously utilized by the Massachusetts Correctional Institute (MCI) Concord facility for sewage disposal as evident by the presence of several former sewage disposal lagoons. The remainder of the site consists of undeveloped woodlands and/or wetlands.

On August 4, 2009, Williamson Environmental representative Joseph Resca monitored the excavation of three (3) test pits (identified as TP-A, TP-B, and TP-C) from select locations throughout a portion of the 965 Elm Street property. The three (3) test pit locations were selected by Goldsmith, Prest & Ringwall, Inc. (GPR) representative Douglas Miller, while actual test pit excavation activities were conducted by M. Halloran & Sons, Inc. of Shirley, Massachusetts. Test pits TP-A and TP-B were excavated southwest of the six (6) former septic lagoons located on the property, while test pit TP-C was excavated along the western property line. The approximate locations of the three (3) aforementioned test pit locations are illustrated on Figure 1.

Soil observed within test pit TP-A consisted of fine- to medium-grained sand to the maximum explored depth of 15-feet below grade (bg). Ground water was encountered in test pit TP-A at a depth of approximately 15-feet bg. Soil observed within test pit TP-B consisted of topsoil and vegetation to a depth of approximately 2-feet bg, followed by fine- to medium-grained sand to the maximum explored depth of 11-feet bg. Ground water was encountered in test pit TP-B at a depth of approximately 10-feet bg. Soil observed within test pit TP-C consisted of topsoil and vegetation to a depth of approximately 2-feet bg, followed by fine- to medium-grained sand to the maximum explored depth of 16-feet bg. Ground water was encountered in test pit TP-B at a depth of approximately 16-feet bg.

One (1) soil sample was collected from each of the three (3) test pits and screened with a portable Photovac™ photo ionization detector (PID) equipped with a 10.6 eV lamp and

calibrated to 100 parts per million volume (ppmv) isobutylene. PID screening results indicated a non-detect reading for each of the three (3) soil samples screened. The aforementioned three (3) soil samples were subsequently submitted to Spectrum Analytical, Inc. (Spectrum) of Agawam, Massachusetts for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), RCRA 13 metals, trivalent chromium, hexavalent chromium, and pH analyses.

The Massachusetts Contingency Plan (MCP) 310 CMR 40.0000 describes two (2) reporting categories for soil (identified as RCS-1 and RCS-2). In its current state, the reporting category that best describes soil on this portion of the 965 Elm Street property is RCS-2. However, should this portion of the 965 Elm Street property be developed for residential usage, the reporting category would change to RCS-1.

Laboratory analytical data of the three (3) soil samples collected from the three (3) test pits (TP-A, TP-B, and TP-C) excavated in August 2009 indicated that compounds analyzed for were detected below laboratory method detection limits and RCS-1 and/or RCS-2 standards. Soil analytical results are summarized on Table 1 and a copy of the laboratory analytical report is included in Attachment A.

Following the collection of soil samples from each of the three (3) test pits (TP-a, TP-B, and TP-C), each of the aforementioned test pits were backfilled to grade.

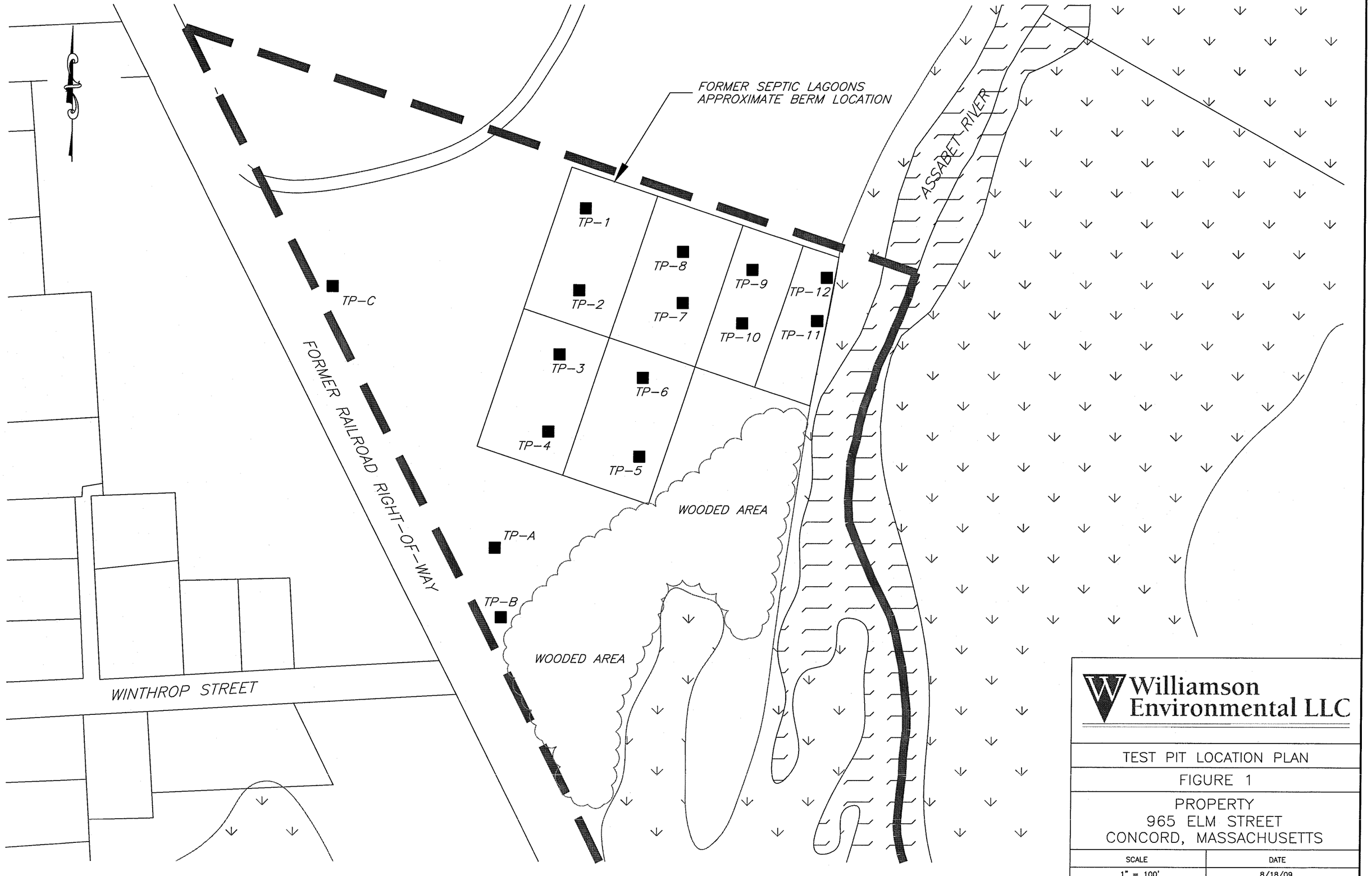
Please contact the undersigned should you have any questions or require additional information.

Sincerely,
Williamson Environmental LLC

Joseph A. Resca
Project Manager

Attachments

Figure 1	Test Pit Location Plan
Table 1	Summary of Soil Analytical Data
Attachment A	Copy of Laboratory Report



Williamson Environmental LLC

TEST PIT LOCATION PLAN

FIGURE 1

PROPERTY
965 ELM STREET
CONCORD, MASSACHUSETTS

SCALE	DATE
1" = 100'	8/18/09

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA

Property
Portion of 965 Elm Street
Concord, Massachusetts

Compound	Sample Collection Date, ID, and Depth			MCP Reportable Standards	
	August 4, 2009				
	TP-A 15'	TP-B 11'	TP-C 16'	RCS-1 (mg/kg)	RCS-2 (mg/Kg)
PID Reading (ppmv)	<1	<1	<1	NA	NA
VOC (mg/Kg)					
Benzene	<0.05	<0.05	<0.05	2	200
Toluene	<0.05	<0.05	<0.05	30	1,000
Ethylbenzene	<0.05	<0.05	<0.05	40	1,000
Total Xylenes	<0.2	<0.2	<0.2	300	300
Naphthalene	<0.05	<0.05	<0.05	4	40
n-Butylbenzene	<0.05	<0.05	<0.05	NE	NE
sec-Butylbenzene	<0.05	<0.05	<0.05	NE	NE
Chlorobenzene	<0.05	<0.05	<0.05	1	3
1,2-Dichlorobenzene	<0.05	<0.05	<0.05	9	30
1,3-Dichlorobenzene	<0.05	<0.05	<0.05	1	40
1,4-Dichlorobenzene	<0.05	<0.05	<0.05	0.7	4
1,1-Dichloroethane	<0.05	<0.05	<0.05	0.4	5
cis-1,2-Dichloroethene	<0.05	<0.05	<0.05	0.3	0.4
Isopropylbenzene	<0.05	<0.05	<0.05	1,000	10,000
4-Isopropyltoluene	<0.05	<0.05	<0.05	NE	NE
n-Propylbenzene	<0.05	<0.05	<0.05	NE	NE
Tetrachloroethene	<0.05	<0.05	<0.05	1	10
1,2,4-Trichlorobenzene	<0.05	<0.05	<0.05	2	70
1,1,1-Trichloroethane	<0.05	<0.05	<0.05	30	600
Trichloroethene	<0.05	<0.05	<0.05	0.3	2
1,2,4-Trimethylbenzene	<0.05	<0.05	<0.05	1,000	10,000
1,3,5-Trimethylbenzene	<0.05	<0.05	<0.05	10	100
PCBs (mg/Kg)					
PCB 1016	<0.02	<0.02	<0.02	2	2
PCB 1221	<0.02	<0.02	<0.02	2	2
PCB 1232	<0.02	<0.02	<0.02	2	2
PCB 1242	<0.02	<0.02	<0.02	2	2
PCB 1248	<0.02	<0.02	<0.02	2	2
PCB 1254	<0.02	<0.02	<0.02	2	2
PCB 1260	<0.02	<0.02	<0.02	2	2
PCB 1262	<0.02	<0.02	<0.02	2	2
PCB 1268	<0.02	<0.02	<0.02	2	2
TPH (mg/Kg)					
Unidentified	<0.03	<0.03	<0.03	NE	NE
Total Petroleum Hydrocarbons	<0.03	<0.03	<0.03	1,000	3,000
RCRA 13 Metals (mg/Kg)					
Silver	<1.5	<1.4	<1.3	100	200
Arsenic	8	7	7	20	20
Beryllium	<0.5	<0.5	<0.5	100	200
Cadmium	<0.5	<0.5	<0.5	2	30
Chromium	13	13	13	30	200
Copper	7	6	6	1,000	10,000
Nickel	10	9	9	20	700
Lead	5	6	4	300	300
Antimony	<5	<5	<5	20	30
Selenium	<2	<1	<1	400	800
Thallium	<3	<3	<3	8	60
Zinc	17	16	14	2,500	3,000
Mercury	<0.03	0	<0.02	20	30
General Chemistry					
Percent Solids (%)	94	93	94	NE	NE
Trivalent Chromium	13	13	13	1,000	3000
Hexavalent Chromium	<1	<1	<1	30	200
pH (pH Units)	6.2	6.1	6.0	NE	NE

Notes:
PID is photoionization detector.
ppmv is parts per million volume.
VOC is volatile organic compounds.
mg/Kg is milligram per kilogram.
NE is not established.
Compound not listed were not detected above the laboratory reporting limit (RL).
Compound detected above MCP Reportable Concentrations are highlighted and in bold.
PCBs is polychlorinated biphenyls
TPH is total petroleum hydrocarbons

Williamson Environmental LLC

ATTACHMENT A

Williamson
Environmental LLC

Report Date:
19-Aug-09 13:34

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

RECEIVED AUG 1 9 2009

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Williamson Environmental, LLC
280 Ayer Road
Harvard, MA 01451
Attn: Joe Resca

Project: GPR Concord - Concord, MA
Project #: [none]

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA98808-01	TP-A 15'	Soil	05-Aug-09 08:45	05-Aug-09 15:55
SA98808-02	TP-B 11'	Soil	05-Aug-09 09:15	05-Aug-09 15:55
SA98808-03	TP-C 16'	Soil	05-Aug-09 09:40	05-Aug-09 15:55

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 3.6 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8082

Spikes:

9080529-MSD1 *Source: SA98808-01*

The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

Aroclor-1016

SW846 8260B

Laboratory Control Samples:

9080910-BSD1

The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

1,4-Dioxane

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Chloromethane
Trichlorofluoromethane (Freon 11)

Samples:

S907630-CCV1

Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria

Dichlorodifluoromethane (Freon12)

This affected the following samples:

TP-A 15'
TP-B 11'
TP-C 16'

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-A 15' SA98808-01	[none]	Soil	05-Aug-09 08:45	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
	VOC Extraction	Field extracted		N/A		1	VOC Soil Extraction	05-Aug-09	05-Aug-09	9080305	
Volatile Organic Compounds											
Prepared by method SW846 5030 Soil (high level)						Initial weight: 15.54 g					
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg dry	54.2	50	SW846 8260B	13-Aug-09	13-Aug-09	9080910	
67-64-1	Acetone	BRL		µg/kg dry	542	50	"	"	"	"	
107-13-1	Acrylonitrile	BRL		µg/kg dry	54.2	50	"	"	"	"	
71-43-2	Benzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-86-1	Bromobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-27-4	Bromodichloromethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-25-2	Bromoform	BRL		µg/kg dry	54.2	50	"	"	"	"	
74-83-9	Bromomethane	BRL		µg/kg dry	108	50	"	"	"	"	
78-93-3	2-Butanone (MEK)	BRL		µg/kg dry	542	50	"	"	"	"	
104-51-8	n-Butylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
135-98-8	sec-Butylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
98-06-6	tert-Butylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/kg dry	271	50	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-90-7	Chlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-00-3	Chloroethane	BRL		µg/kg dry	108	50	"	"	"	"	
67-66-3	Chloroform	BRL		µg/kg dry	54.2	50	"	"	"	"	
74-87-3	Chloromethane	BRL		µg/kg dry	108	50	"	"	"	"	
95-49-8	2-Chlorotoluene	BRL		µg/kg dry	54.2	50	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/kg dry	54.2	50	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/kg dry	108	50	"	"	"	"	
124-48-1	Dibromochloromethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/kg dry	54.2	50	"	"	"	"	
74-95-3	Dibromomethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/kg dry	108	50	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL		µg/kg dry	54.2	50	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL		µg/kg dry	54.2	50	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	BRL		µg/kg dry	54.2	50	"	"	"	"	
78-87-5	1,2-Dichloropropane	BRL		µg/kg dry	54.2	50	"	"	"	"	
142-28-9	1,3-Dichloropropane	BRL		µg/kg dry	54.2	50	"	"	"	"	
594-20-7	2,2-Dichloropropane	BRL		µg/kg dry	54.2	50	"	"	"	"	
563-58-6	1,1-Dichloropropene	BRL		µg/kg dry	54.2	50	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/kg dry	54.2	50	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/kg dry	54.2	50	"	"	"	"	
100-41-4	Ethylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	54.2	50	"	"	"	"	
591-78-6	2-Hexanone (MBK)	BRL		µg/kg dry	542	50	"	"	"	"	
98-82-8	Isopropylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
99-87-6	4-Isopropyltoluene	BRL		µg/kg dry	54.2	50	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/kg dry	542	50	"	"	"	"	
75-09-2	Methylene chloride	BRL		µg/kg dry	542	50	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/kg dry	54.2	50	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-A 15' SA98808-01	[none]	Soil	05-Aug-09 08:45	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds						Initial weight: 15.54 g					
Prepared by method SW846 5030 Soil (high level)											
103-65-1	n-Propylbenzene	BRL		µg/kg dry	54.2	50	SW846 8260B	13-Aug-09	13-Aug-09	9080910	
100-42-5	Styrene	BRL		µg/kg dry	54.2	50	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
127-18-4	Tetrachloroethene	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-88-3	Toluene	BRL		µg/kg dry	54.2	50	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL		µg/kg dry	54.2	50	"	"	"	"	
79-01-6	Trichloroethene	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/kg dry	54.2	50	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL		µg/kg dry	54.2	50	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-01-4	Vinyl chloride	BRL		µg/kg dry	54.2	50	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/kg dry	108	50	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/kg dry	54.2	50	"	"	"	"	
109-99-9	Tetrahydrofuran	BRL		µg/kg dry	542	50	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/kg dry	54.2	50	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/kg dry	54.2	50	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/kg dry	54.2	50	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/kg dry	54.2	50	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/kg dry	542	50	"	"	"	"	
123-91-1	1,4-Dioxane	BRL		µg/kg dry	1080	50	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/kg dry	271	50	"	"	"	"	
64-17-5	Ethanol	BRL		µg/kg dry	21700	50	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*92*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*79*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*86*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*78*		*70-130 %*			"	"	"	"	
Semivolatile Organic Compounds by GC											
Polychlorinated Biphenyls by SW846 8082											
Prepared by method SW846 3545A											
12674-11-2	Aroclor-1016	BRL		µg/kg dry	21.1	1	SW846 8082	10-Aug-09	13-Aug-09	9080529	
11104-28-2	Aroclor-1221	BRL		µg/kg dry	21.1	1	"	"	"	"	
11141-16-5	Aroclor-1232	BRL		µg/kg dry	21.1	1	"	"	"	"	
53469-21-9	Aroclor-1242	BRL		µg/kg dry	21.1	1	"	"	"	"	
12672-29-6	Aroclor-1248	BRL		µg/kg dry	21.1	1	"	"	"	"	
11097-69-1	Aroclor-1254	BRL		µg/kg dry	21.1	1	"	"	"	"	
11096-82-5	Aroclor-1260	BRL		µg/kg dry	21.1	1	"	"	"	"	
37324-23-5	Aroclor-1262	BRL		µg/kg dry	21.1	1	"	"	"	"	
11100-14-4	Aroclor-1268	BRL		µg/kg dry	21.1	1	"	"	"	"	
Surrogate recoveries:											
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*60*		*30-150 %*			"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*103*		*30-150 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-A 15' SA98808-01	[none]	Soil	05-Aug-09 08:45	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3545A											
8006-61-9	Gasoline	BRL		mg/kg dry	27.9	1	+SW846 8100Mod.	10-Aug-09	12-Aug-09	9080535	
68476-30-2	Fuel Oil #2	BRL		mg/kg dry	27.9	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/kg dry	27.9	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/kg dry	27.9	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/kg dry	27.9	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/kg dry	27.9	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/kg dry	27.9	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/kg dry	27.9	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/kg dry	27.9	1	"	"	"	"	
	Unidentified	BRL		mg/kg dry	27.9	1	"	"	"	"	
	Other Oil	BRL		mg/kg dry	27.9	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/kg dry	27.9	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*91*		*40-140 %*			"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods											
7440-22-4	Silver	BRL		mg/kg dry	1.48	1	SW846 6010B	12-Aug-09	14-Aug-09	9080359	
7440-38-2	Arsenic	7.93		mg/kg dry	1.48	1	"	"	"	"	
7440-41-7	Beryllium	BRL		mg/kg dry	0.495	1	"	"	"	"	
7440-43-9	Cadmium	BRL		mg/kg dry	0.495	1	"	"	"	"	
7440-47-3	Chromium	13.3		mg/kg dry	0.989	1	"	"	"	"	
7440-50-8	Copper	7.10		mg/kg dry	0.989	1	"	"	"	"	
7439-97-6	Mercury	BRL		mg/kg dry	0.0299	1	SW846 7471A	"	14-Aug-09	9080360	
7440-02-0	Nickel	9.59		mg/kg dry	0.989	1	SW846 6010B	"	14-Aug-09	9080359	
7439-92-1	Lead	4.68		mg/kg dry	1.48	1	"	"	"	"	
7440-36-0	Antimony	BRL		mg/kg dry	4.95	1	"	"	"	"	
7782-49-2	Selenium	BRL		mg/kg dry	1.48	1	"	"	"	"	
7440-28-0	Thallium	BRL		mg/kg dry	2.97	1	"	"	"	"	
7440-66-6	Zinc	17.1		mg/kg dry	0.989	1	"	"	"	"	
General Chemistry Parameters											
16065-83-1	Trivalent Chromium	13.3		mg/kg	1.00	1	Calculation	12-Aug-09	14-Aug-09	9080359	
	% Solids	94.3		%		1	SM2540 G Mod.	06-Aug-09	06-Aug-09	9080358	
18540-29-9	Hexavalent Chromium	BRL		mg/kg dry	1.02	1	SW846 7196A	17-Aug-09	18-Aug-09	9081320	
Toxicity Characteristics											
	pH	6.15	pH	pH Units		1	SW846 9045C	05-Aug-09 17:45	05-Aug-09 19:21	9080295	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-B 11' SA98808-02	[none]	Soil	05-Aug-09 09:15	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
	VOC Extraction	Field extracted		N/A		1	VOC Soil Extraction	05-Aug-09	05-Aug-09	9080305	
Volatile Organic Compounds						Initial weight: 15.27 g					
Prepared by method SW846 5030 Soil (high level)											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg dry	56.5	50	SW846 8260B	13-Aug-09	13-Aug-09	9080910	
67-64-1	Acetone	BRL		µg/kg dry	565	50	"	"	"	"	
107-13-1	Acrylonitrile	BRL		µg/kg dry	56.5	50	"	"	"	"	
71-43-2	Benzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-86-1	Bromobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-27-4	Bromodichloromethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-25-2	Bromoform	BRL		µg/kg dry	56.5	50	"	"	"	"	
74-83-9	Bromomethane	BRL		µg/kg dry	113	50	"	"	"	"	
78-93-3	2-Butanone (MEK)	BRL		µg/kg dry	565	50	"	"	"	"	
104-51-8	n-Butylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
135-98-8	sec-Butylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
98-06-6	tert-Butylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/kg dry	283	50	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-90-7	Chlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-00-3	Chloroethane	BRL		µg/kg dry	113	50	"	"	"	"	
67-66-3	Chloroform	BRL		µg/kg dry	56.5	50	"	"	"	"	
74-87-3	Chloromethane	BRL		µg/kg dry	113	50	"	"	"	"	
95-49-8	2-Chlorotoluene	BRL		µg/kg dry	56.5	50	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/kg dry	56.5	50	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/kg dry	113	50	"	"	"	"	
124-48-1	Dibromochloromethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/kg dry	56.5	50	"	"	"	"	
74-95-3	Dibromomethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/kg dry	113	50	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL		µg/kg dry	56.5	50	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL		µg/kg dry	56.5	50	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	BRL		µg/kg dry	56.5	50	"	"	"	"	
78-87-5	1,2-Dichloropropane	BRL		µg/kg dry	56.5	50	"	"	"	"	
142-28-9	1,3-Dichloropropane	BRL		µg/kg dry	56.5	50	"	"	"	"	
594-20-7	2,2-Dichloropropane	BRL		µg/kg dry	56.5	50	"	"	"	"	
563-58-6	1,1-Dichloropropene	BRL		µg/kg dry	56.5	50	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/kg dry	56.5	50	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/kg dry	56.5	50	"	"	"	"	
100-41-4	Ethylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	56.5	50	"	"	"	"	
591-78-6	2-Hexanone (MBK)	BRL		µg/kg dry	565	50	"	"	"	"	
98-82-8	Isopropylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
99-87-6	4-Isopropyltoluene	BRL		µg/kg dry	56.5	50	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/kg dry	565	50	"	"	"	"	
75-09-2	Methylene chloride	BRL		µg/kg dry	565	50	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/kg dry	56.5	50	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-B 11' SA98808-02	[none]	Soil	05-Aug-09 09:15	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds						Initial weight: 15.27 g					
Prepared by method SW846 5030 Soil (high level)											
103-65-1	n-Propylbenzene	BRL		µg/kg dry	56.5	50	SW846 8260B	13-Aug-09	13-Aug-09	9080910	
100-42-5	Styrene	BRL		µg/kg dry	56.5	50	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
127-18-4	Tetrachloroethene	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-88-3	Toluene	BRL		µg/kg dry	56.5	50	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL		µg/kg dry	56.5	50	"	"	"	"	
79-01-6	Trichloroethene	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/kg dry	56.5	50	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL		µg/kg dry	56.5	50	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-01-4	Vinyl chloride	BRL		µg/kg dry	56.5	50	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/kg dry	113	50	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/kg dry	56.5	50	"	"	"	"	
109-99-9	Tetrahydrofuran	BRL		µg/kg dry	565	50	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/kg dry	56.5	50	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/kg dry	56.5	50	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/kg dry	56.5	50	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/kg dry	56.5	50	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/kg dry	565	50	"	"	"	"	
123-91-1	1,4-Dioxane	BRL		µg/kg dry	1130	50	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/kg dry	283	50	"	"	"	"	
64-17-5	Ethanol	BRL		µg/kg dry	22600	50	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*89*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*77*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*85*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*79*		*70-130 %*			"	"	"	"	
Semivolatile Organic Compounds by GC											
Polychlorinated Biphenyls by SW846 8082											
Prepared by method SW846 3545A											
12674-11-2	Aroclor-1016	BRL		µg/kg dry	20.9	1	SW846 8082	10-Aug-09	13-Aug-09	9080529	
11104-28-2	Aroclor-1221	BRL		µg/kg dry	20.9	1	"	"	"	"	
11141-16-5	Aroclor-1232	BRL		µg/kg dry	20.9	1	"	"	"	"	
53469-21-9	Aroclor-1242	BRL		µg/kg dry	20.9	1	"	"	"	"	
12672-29-6	Aroclor-1248	BRL		µg/kg dry	20.9	1	"	"	"	"	
11097-69-1	Aroclor-1254	BRL		µg/kg dry	20.9	1	"	"	"	"	
11096-82-5	Aroclor-1260	BRL		µg/kg dry	20.9	1	"	"	"	"	
37324-23-5	Aroclor-1262	BRL		µg/kg dry	20.9	1	"	"	"	"	
11100-14-4	Aroclor-1268	BRL		µg/kg dry	20.9	1	"	"	"	"	
Surrogate recoveries:											
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*59*		*30-150 %*			"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*84*		*30-150 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-B 11' SA98808-02	[none]	Soil	05-Aug-09 09:15	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3545A											
8006-61-9	Gasoline	BRL		mg/kg dry	27.8	1	+SW846 8100Mod.	10-Aug-09	12-Aug-09	9080535	
68476-30-2	Fuel Oil #2	BRL		mg/kg dry	27.8	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/kg dry	27.8	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/kg dry	27.8	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/kg dry	27.8	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/kg dry	27.8	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/kg dry	27.8	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/kg dry	27.8	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/kg dry	27.8	1	"	"	"	"	
	Unidentified	BRL		mg/kg dry	27.8	1	"	"	"	"	
	Other Oil	BRL		mg/kg dry	27.8	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/kg dry	27.8	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*97*		*40-140 %*			"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods											
7440-22-4	Silver	BRL		mg/kg dry	1.36	1	SW846 6010B	12-Aug-09	14-Aug-09	9080359	
7440-38-2	Arsenic	7.23		mg/kg dry	1.36	1	"	"	"	"	
7440-41-7	Beryllium	BRL		mg/kg dry	0.454	1	"	"	"	"	
7440-43-9	Cadmium	BRL		mg/kg dry	0.454	1	"	"	"	"	
7440-47-3	Chromium	13.2		mg/kg dry	0.908	1	"	"	"	"	
7440-50-8	Copper	5.51		mg/kg dry	0.908	1	"	"	"	"	
7439-97-6	Mercury	0.0518		mg/kg dry	0.0308	1	SW846 7471A	"	14-Aug-09	9080360	
7440-02-0	Nickel	9.07		mg/kg dry	0.908	1	SW846 6010B	"	14-Aug-09	9080359	
7439-92-1	Lead	5.81		mg/kg dry	1.36	1	"	"	"	"	
7440-36-0	Antimony	BRL		mg/kg dry	4.54	1	"	"	"	"	
7782-49-2	Selenium	BRL		mg/kg dry	1.36	1	"	"	"	"	
7440-28-0	Thallium	BRL		mg/kg dry	2.72	1	"	"	"	"	
7440-66-6	Zinc	15.5		mg/kg dry	0.908	1	"	"	"	"	
General Chemistry Parameters											
16065-83-1	Trivalent Chromium	13.2		mg/kg	1.00	1	Calculation	12-Aug-09	14-Aug-09	9080359	
	% Solids	93.1		%		1	SM2540 G Mod.	06-Aug-09	06-Aug-09	9080358	
18540-29-9	Hexavalent Chromium	BRL		mg/kg dry	0.926	1	SW846 7196A	17-Aug-09	18-Aug-09	9081320	
Toxicity Characteristics											
	pH	6.18	pH	pH Units		1	SW846 9045C	05-Aug-09 17:45	05-Aug-09 19:25	9080295	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-C 16' SA98808-03	[none]	Soil	05-Aug-09 09:40	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
	VOC Extraction	Field extracted		N/A		1	VOC Soil Extraction	05-Aug-09	05-Aug-09	9080305	
Volatile Organic Compounds						Initial weight: 16.84 g					
Prepared by method SW846 5030 Soil (high level)											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg dry	50.9	50	SW846 8260B	13-Aug-09	13-Aug-09	9080910	
67-64-1	Acetone	BRL		µg/kg dry	509	50	"	"	"	"	
107-13-1	Acrylonitrile	BRL		µg/kg dry	50.9	50	"	"	"	"	
71-43-2	Benzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-86-1	Bromobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-27-4	Bromodichloromethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-25-2	Bromoform	BRL		µg/kg dry	50.9	50	"	"	"	"	
74-83-9	Bromomethane	BRL		µg/kg dry	102	50	"	"	"	"	
78-93-3	2-Butanone (MEK)	BRL		µg/kg dry	509	50	"	"	"	"	
104-51-8	n-Butylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
135-98-8	sec-Butylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
98-06-6	tert-Butylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/kg dry	254	50	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-90-7	Chlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-00-3	Chloroethane	BRL		µg/kg dry	102	50	"	"	"	"	
67-66-3	Chloroform	BRL		µg/kg dry	50.9	50	"	"	"	"	
74-87-3	Chloromethane	BRL		µg/kg dry	102	50	"	"	"	"	
95-49-8	2-Chlorotoluene	BRL		µg/kg dry	50.9	50	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/kg dry	50.9	50	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/kg dry	102	50	"	"	"	"	
124-48-1	Dibromochloromethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/kg dry	50.9	50	"	"	"	"	
74-95-3	Dibromomethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/kg dry	102	50	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL		µg/kg dry	50.9	50	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL		µg/kg dry	50.9	50	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	BRL		µg/kg dry	50.9	50	"	"	"	"	
78-87-5	1,2-Dichloropropane	BRL		µg/kg dry	50.9	50	"	"	"	"	
142-28-9	1,3-Dichloropropane	BRL		µg/kg dry	50.9	50	"	"	"	"	
594-20-7	2,2-Dichloropropane	BRL		µg/kg dry	50.9	50	"	"	"	"	
563-58-6	1,1-Dichloropropene	BRL		µg/kg dry	50.9	50	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/kg dry	50.9	50	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/kg dry	50.9	50	"	"	"	"	
100-41-4	Ethylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	50.9	50	"	"	"	"	
591-78-6	2-Hexanone (MBK)	BRL		µg/kg dry	509	50	"	"	"	"	
98-82-8	Isopropylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
99-87-6	4-Isopropyltoluene	BRL		µg/kg dry	50.9	50	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/kg dry	509	50	"	"	"	"	
75-09-2	Methylene chloride	BRL		µg/kg dry	509	50	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/kg dry	50.9	50	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-C 16' SA98808-03	[none]	Soil	05-Aug-09 09:40	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds						Initial weight: 16.84 g					
Prepared by method SW846 5030 Soil (high level)											
103-65-1	n-Propylbenzene	BRL		µg/kg dry	50.9	50	SW846 8260B	13-Aug-09	13-Aug-09	9080910	
100-42-5	Styrene	BRL		µg/kg dry	50.9	50	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
127-18-4	Tetrachloroethene	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-88-3	Toluene	BRL		µg/kg dry	50.9	50	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL		µg/kg dry	50.9	50	"	"	"	"	
79-01-6	Trichloroethene	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/kg dry	50.9	50	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL		µg/kg dry	50.9	50	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-01-4	Vinyl chloride	BRL		µg/kg dry	50.9	50	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/kg dry	102	50	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/kg dry	50.9	50	"	"	"	"	
109-99-9	Tetrahydrofuran	BRL		µg/kg dry	509	50	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/kg dry	50.9	50	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/kg dry	50.9	50	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/kg dry	50.9	50	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/kg dry	50.9	50	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/kg dry	509	50	"	"	"	"	
123-91-1	1,4-Dioxane	BRL		µg/kg dry	1020	50	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/kg dry	254	50	"	"	"	"	
64-17-5	Ethanol	BRL		µg/kg dry	20400	50	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*77*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*86*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*80*		*70-130 %*			"	"	"	"	
Semivolatile Organic Compounds by GC											
Polychlorinated Biphenyls by SW846 8082											
Prepared by method SW846 3545A											
12674-11-2	Aroclor-1016	BRL		µg/kg dry	20.5	1	SW846 8082	10-Aug-09	13-Aug-09	9080529	
11104-28-2	Aroclor-1221	BRL		µg/kg dry	20.5	1	"	"	"	"	
11141-16-5	Aroclor-1232	BRL		µg/kg dry	20.5	1	"	"	"	"	
53469-21-9	Aroclor-1242	BRL		µg/kg dry	20.5	1	"	"	"	"	
12672-29-6	Aroclor-1248	BRL		µg/kg dry	20.5	1	"	"	"	"	
11097-69-1	Aroclor-1254	BRL		µg/kg dry	20.5	1	"	"	"	"	
11096-82-5	Aroclor-1260	BRL		µg/kg dry	20.5	1	"	"	"	"	
37324-23-5	Aroclor-1262	BRL		µg/kg dry	20.5	1	"	"	"	"	
11100-14-4	Aroclor-1268	BRL		µg/kg dry	20.5	1	"	"	"	"	
Surrogate recoveries:											
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*52*		*30-150 %*			"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*76*		*30-150 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-C 16' SA98808-03	[none]	Soil	05-Aug-09 09:40	05-Aug-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3545A											
8006-61-9	Gasoline	BRL		mg/kg dry	27.4	1	+SW846 8100Mod.	10-Aug-09	12-Aug-09	9080535	
68476-30-2	Fuel Oil #2	BRL		mg/kg dry	27.4	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/kg dry	27.4	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/kg dry	27.4	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/kg dry	27.4	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/kg dry	27.4	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/kg dry	27.4	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/kg dry	27.4	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/kg dry	27.4	1	"	"	"	"	
	Unidentified	BRL		mg/kg dry	27.4	1	"	"	"	"	
	Other Oil	BRL		mg/kg dry	27.4	1	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL		mg/kg dry	27.4	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*84*		*40-140 %*			"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods											
7440-22-4	Silver	BRL		mg/kg dry	1.33	1	SW846 6010B	12-Aug-09	14-Aug-09	9080359	
7440-38-2	Arsenic	6.97		mg/kg dry	1.33	1	"	"	"	"	
7440-41-7	Beryllium	BRL		mg/kg dry	0.445	1	"	"	"	"	
7440-43-9	Cadmium	BRL		mg/kg dry	0.445	1	"	"	"	"	
7440-47-3	Chromium	12.6		mg/kg dry	0.890	1	"	"	"	"	
7440-50-8	Copper	5.78		mg/kg dry	0.890	1	"	"	"	"	
7439-97-6	Mercury	BRL		mg/kg dry	0.0284	1	SW846 7471A	"	14-Aug-09	9080360	
7440-02-0	Nickel	8.80		mg/kg dry	0.890	1	SW846 6010B	"	14-Aug-09	9080359	
7439-92-1	Lead	3.61		mg/kg dry	1.33	1	"	"	"	"	
7440-36-0	Antimony	BRL		mg/kg dry	4.45	1	"	"	"	"	
7782-49-2	Selenium	BRL		mg/kg dry	1.33	1	"	"	"	"	
7440-28-0	Thallium	BRL		mg/kg dry	2.67	1	"	"	"	"	
7440-66-6	Zinc	13.7		mg/kg dry	0.890	1	"	"	"	"	
General Chemistry Parameters											
16065-83-1	Trivalent Chromium	12.6		mg/kg	1.00	1	Calculation	12-Aug-09	14-Aug-09	9080359	
	% Solids	93.7		%		1	SM2540 G Mod.	06-Aug-09	06-Aug-09	9080358	
18540-29-9	Hexavalent Chromium	BRL		mg/kg dry	1.04	1	SW846 7196A	17-Aug-09	18-Aug-09	9081297	
Toxicity Characteristics											
	pH	6.06	pH	pH Units		1	SW846 9045C	05-Aug-09 17:45	05-Aug-09 19:26	9080295	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080910 - SW846 5030 Soil (high level)										
Blank (9080910-BLK1)										
Prepared & Analyzed: 13-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg wet	1.0						
Acetone	BRL		µg/kg wet	10.0						
Acrylonitrile	BRL		µg/kg wet	1.0						
Benzene	BRL		µg/kg wet	1.0						
Bromobenzene	BRL		µg/kg wet	1.0						
Bromochloromethane	BRL		µg/kg wet	1.0						
Bromodichloromethane	BRL		µg/kg wet	1.0						
Bromoform	BRL		µg/kg wet	1.0						
Bromomethane	BRL		µg/kg wet	2.0						
2-Butanone (MEK)	BRL		µg/kg wet	10.0						
n-Butylbenzene	BRL		µg/kg wet	1.0						
sec-Butylbenzene	BRL		µg/kg wet	1.0						
tert-Butylbenzene	BRL		µg/kg wet	1.0						
Carbon disulfide	BRL		µg/kg wet	5.0						
Carbon tetrachloride	BRL		µg/kg wet	1.0						
Chlorobenzene	BRL		µg/kg wet	1.0						
Chloroethane	BRL		µg/kg wet	2.0						
Chloroform	BRL		µg/kg wet	1.0						
Chloromethane	BRL		µg/kg wet	2.0						
2-Chlorotoluene	BRL		µg/kg wet	1.0						
4-Chlorotoluene	BRL		µg/kg wet	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/kg wet	2.0						
Dibromochloromethane	BRL		µg/kg wet	1.0						
1,2-Dibromoethane (EDB)	BRL		µg/kg wet	1.0						
Dibromomethane	BRL		µg/kg wet	1.0						
1,2-Dichlorobenzene	BRL		µg/kg wet	1.0						
1,3-Dichlorobenzene	BRL		µg/kg wet	1.0						
1,4-Dichlorobenzene	BRL		µg/kg wet	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/kg wet	2.0						
1,1-Dichloroethane	BRL		µg/kg wet	1.0						
1,2-Dichloroethane	BRL		µg/kg wet	1.0						
1,1-Dichloroethene	BRL		µg/kg wet	1.0						
cis-1,2-Dichloroethene	BRL		µg/kg wet	1.0						
trans-1,2-Dichloroethene	BRL		µg/kg wet	1.0						
1,2-Dichloropropane	BRL		µg/kg wet	1.0						
1,3-Dichloropropane	BRL		µg/kg wet	1.0						
2,2-Dichloropropane	BRL		µg/kg wet	1.0						
1,1-Dichloropropene	BRL		µg/kg wet	1.0						
cis-1,3-Dichloropropene	BRL		µg/kg wet	1.0						
trans-1,3-Dichloropropene	BRL		µg/kg wet	1.0						
Ethylbenzene	BRL		µg/kg wet	1.0						
Hexachlorobutadiene	BRL		µg/kg wet	1.0						
2-Hexanone (MBK)	BRL		µg/kg wet	10.0						
Isopropylbenzene	BRL		µg/kg wet	1.0						
4-Isopropyltoluene	BRL		µg/kg wet	1.0						
Methyl tert-butyl ether	BRL		µg/kg wet	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/kg wet	10.0						
Methylene chloride	BRL		µg/kg wet	10.0						
Naphthalene	BRL		µg/kg wet	1.0						

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080910 - SW846 5030 Soil (high level)										
Blank (9080910-BLK1)										
Prepared & Analyzed: 13-Aug-09										
n-Propylbenzene	BRL		µg/kg wet	1.0						
Styrene	BRL		µg/kg wet	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/kg wet	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/kg wet	1.0						
Tetrachloroethene	BRL		µg/kg wet	1.0						
Toluene	BRL		µg/kg wet	1.0						
1,2,3-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,2,4-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,3,5-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,1,1-Trichloroethane	BRL		µg/kg wet	1.0						
1,1,2-Trichloroethane	BRL		µg/kg wet	1.0						
Trichloroethene	BRL		µg/kg wet	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/kg wet	1.0						
1,2,3-Trichloropropane	BRL		µg/kg wet	1.0						
1,2,4-Trimethylbenzene	BRL		µg/kg wet	1.0						
1,3,5-Trimethylbenzene	BRL		µg/kg wet	1.0						
Vinyl chloride	BRL		µg/kg wet	1.0						
m,p-Xylene	BRL		µg/kg wet	2.0						
o-Xylene	BRL		µg/kg wet	1.0						
Tetrahydrofuran	BRL		µg/kg wet	10.0						
Ethyl ether	BRL		µg/kg wet	1.0						
Tert-amyl methyl ether	BRL		µg/kg wet	1.0						
Ethyl tert-butyl ether	BRL		µg/kg wet	1.0						
Di-isopropyl ether	BRL		µg/kg wet	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/kg wet	10.0						
1,4-Dioxane	BRL		µg/kg wet	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/kg wet	5.0						
Ethanol	BRL		µg/kg wet	400						
Surrogate: 4-Bromofluorobenzene	*28.5*		µg/kg wet		*30.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*30.9*		µg/kg wet		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.2*		µg/kg wet		*30.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*27.7*		µg/kg wet		*30.0*		*92*	*70-130*		
LCS (9080910-BS1)										
Prepared & Analyzed: 13-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	18.4		µg/kg wet		20.0		92	70-130		
Acetone	16.7		µg/kg wet		20.0		84	40-136		
Acrylonitrile	22.2		µg/kg wet		20.0		111	70-130		
Benzene	20.4		µg/kg wet		20.0		102	70-130		
Bromobenzene	23.3		µg/kg wet		20.0		116	70-130		
Bromochloromethane	21.2		µg/kg wet		20.0		106	70-130		
Bromodichloromethane	24.1		µg/kg wet		20.0		120	70-130		
Bromoform	19.8		µg/kg wet		20.0		99	70-130		
Bromomethane	19.4		µg/kg wet		20.0		97	61-151		
2-Butanone (MEK)	22.6		µg/kg wet		20.0		113	61.5-132		
n-Butylbenzene	19.7		µg/kg wet		20.0		99	70-130		
sec-Butylbenzene	22.8		µg/kg wet		20.0		114	70-130		
tert-Butylbenzene	22.5		µg/kg wet		20.0		113	70-130		
Carbon disulfide	21.4		µg/kg wet		20.0		107	70-130		
Carbon tetrachloride	18.1		µg/kg wet		20.0		90	70-130		
Chlorobenzene	23.1		µg/kg wet		20.0		115	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080910 - SW846 5030 Soil (high level)										
LCS (9080910-BS1)										
Prepared & Analyzed: 13-Aug-09										
Chloroethane	17.0		µg/kg wet		20.0		85	66-130		
Chloroform	20.2		µg/kg wet		20.0		101	70-130		
Chloromethane	15.8		µg/kg wet		20.0		79	70-130		
2-Chlorotoluene	24.6		µg/kg wet		20.0		123	70-130		
4-Chlorotoluene	24.0		µg/kg wet		20.0		120	70-130		
1,2-Dibromo-3-chloropropane	18.0		µg/kg wet		20.0		90	70-130		
Dibromochloromethane	23.1		µg/kg wet		20.0		116	64.6-130		
1,2-Dibromoethane (EDB)	23.7		µg/kg wet		20.0		118	70-130		
Dibromomethane	21.5		µg/kg wet		20.0		107	70-130		
1,2-Dichlorobenzene	24.5		µg/kg wet		20.0		123	70-130		
1,3-Dichlorobenzene	23.6		µg/kg wet		20.0		118	70-130		
1,4-Dichlorobenzene	21.5		µg/kg wet		20.0		107	70-130		
Dichlorodifluoromethane (Freon12)	12.8		µg/kg wet		20.0		64	51.9-130		
1,1-Dichloroethane	20.4		µg/kg wet		20.0		102	70-130		
1,2-Dichloroethane	20.0		µg/kg wet		20.0		100	70-130		
1,1-Dichloroethene	19.2		µg/kg wet		20.0		96	70-130		
cis-1,2-Dichloroethene	22.0		µg/kg wet		20.0		110	70-130		
trans-1,2-Dichloroethene	19.0		µg/kg wet		20.0		95	70-130		
1,2-Dichloropropane	23.3		µg/kg wet		20.0		116	70-130		
1,3-Dichloropropane	21.6		µg/kg wet		20.0		108	70-130		
2,2-Dichloropropane	18.9		µg/kg wet		20.0		94	70-130		
1,1-Dichloropropene	20.0		µg/kg wet		20.0		100	70-130		
cis-1,3-Dichloropropene	19.6		µg/kg wet		20.0		98	70-130		
trans-1,3-Dichloropropene	18.3		µg/kg wet		20.0		92	70-130		
Ethylbenzene	23.6		µg/kg wet		20.0		118	70-130		
Hexachlorobutadiene	20.8		µg/kg wet		20.0		104	70-133		
2-Hexanone (MBK)	17.9		µg/kg wet		20.0		90	70-130		
Isopropylbenzene	19.4		µg/kg wet		20.0		97	70-130		
4-Isopropyltoluene	20.7		µg/kg wet		20.0		103	70-130		
Methyl tert-butyl ether	20.3		µg/kg wet		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	22.3		µg/kg wet		20.0		112	50.3-133		
Methylene chloride	18.6		µg/kg wet		20.0		93	70-130		
Naphthalene	18.7		µg/kg wet		20.0		94	70-130		
n-Propylbenzene	21.2		µg/kg wet		20.0		106	70-130		
Styrene	22.0		µg/kg wet		20.0		110	70-130		
1,1,1,2-Tetrachloroethane	22.4		µg/kg wet		20.0		112	70-130		
1,1,2,2-Tetrachloroethane	21.3		µg/kg wet		20.0		106	70-130		
Tetrachloroethene	22.6		µg/kg wet		20.0		113	70-130		
Toluene	22.8		µg/kg wet		20.0		114	70-130		
1,2,3-Trichlorobenzene	20.9		µg/kg wet		20.0		105	70-130		
1,2,4-Trichlorobenzene	18.8		µg/kg wet		20.0		94	70-130		
1,3,5-Trichlorobenzene	23.6		µg/kg wet		20.0		118	70-130		
1,1,1-Trichloroethane	18.9		µg/kg wet		20.0		94	70-130		
1,1,2-Trichloroethane	23.3		µg/kg wet		20.0		117	70-130		
Trichloroethene	23.3		µg/kg wet		20.0		117	70-130		
Trichlorofluoromethane (Freon 11)	16.8		µg/kg wet		20.0		84	70-147		
1,2,3-Trichloropropane	22.4		µg/kg wet		20.0		112	70-130		
1,2,4-Trimethylbenzene	22.8		µg/kg wet		20.0		114	70-130		
1,3,5-Trimethylbenzene	22.6		µg/kg wet		20.0		113	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080910 - SW846 5030 Soil (high level)										
LCS (9080910-BS1)										
Prepared & Analyzed: 13-Aug-09										
Vinyl chloride	19.8		µg/kg wet		20.0		99	70-130		
m,p-Xylene	47.5		µg/kg wet		40.0		119	70-130		
o-Xylene	24.9		µg/kg wet		20.0		125	70-130		
Tetrahydrofuran	22.5		µg/kg wet		20.0		112	70-130		
Ethyl ether	20.6		µg/kg wet		20.0		103	70-130		
Tert-amyl methyl ether	21.6		µg/kg wet		20.0		108	70-130		
Ethyl tert-butyl ether	20.3		µg/kg wet		20.0		101	70-130		
Di-isopropyl ether	20.4		µg/kg wet		20.0		102	70-130		
Tert-Butanol / butyl alcohol	205		µg/kg wet		200		102	70-130		
1,4-Dioxane	213		µg/kg wet		200		107	60-146		
trans-1,4-Dichloro-2-butene	18.5		µg/kg wet		20.0		93	70-130		
Ethanol	439		µg/kg wet		400		110	70-130		
Surrogate: 4-Bromofluorobenzene	*30.6*		µg/kg wet		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*33.0*		µg/kg wet		*30.0*		*110*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.4*		µg/kg wet		*30.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*28.1*		µg/kg wet		*30.0*		*94*	*70-130*		
LCS Dup (9080910-BSD1)										
Prepared & Analyzed: 13-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	15.2		µg/kg wet		20.0		76	70-130	19	25
Acetone	12.0		µg/kg wet		20.0		60	40-136	33	50
Acrylonitrile	17.4		µg/kg wet		20.0		87	70-130	24	25
Benzene	16.6		µg/kg wet		20.0		83	70-130	21	25
Bromobenzene	22.5		µg/kg wet		20.0		113	70-130	3	25
Bromochloromethane	17.1		µg/kg wet		20.0		86	70-130	21	25
Bromodichloromethane	19.6		µg/kg wet		20.0		98	70-130	20	25
Bromoform	19.8		µg/kg wet		20.0		99	70-130	0.05	25
Bromomethane	15.4		µg/kg wet		20.0		77	61-151	23	50
2-Butanone (MEK)	19.4		µg/kg wet		20.0		97	61.5-132	15	50
n-Butylbenzene	18.4		µg/kg wet		20.0		92	70-130	7	25
sec-Butylbenzene	22.2		µg/kg wet		20.0		111	70-130	3	25
tert-Butylbenzene	22.2		µg/kg wet		20.0		111	70-130	1	25
Carbon disulfide	17.0		µg/kg wet		20.0		85	70-130	23	25
Carbon tetrachloride	14.3		µg/kg wet		20.0		71	70-130	23	25
Chlorobenzene	21.8		µg/kg wet		20.0		109	70-130	6	25
Chloroethane	13.3		µg/kg wet		20.0		67	66-130	24	50
Chloroform	16.3		µg/kg wet		20.0		81	70-130	22	25
Chloromethane	13.1	QM9	µg/kg wet		20.0		65	70-130	19	25
2-Chlorotoluene	25.6		µg/kg wet		20.0		128	70-130	4	25
4-Chlorotoluene	24.5		µg/kg wet		20.0		122	70-130	2	25
1,2-Dibromo-3-chloropropane	17.7		µg/kg wet		20.0		88	70-130	2	25
Dibromochloromethane	18.3		µg/kg wet		20.0		91	64.6-130	23	50
1,2-Dibromoethane (EDB)	18.9		µg/kg wet		20.0		94	70-130	22	25
Dibromomethane	17.6		µg/kg wet		20.0		88	70-130	20	25
1,2-Dichlorobenzene	22.9		µg/kg wet		20.0		114	70-130	7	25
1,3-Dichlorobenzene	23.8		µg/kg wet		20.0		119	70-130	0.8	25
1,4-Dichlorobenzene	20.9		µg/kg wet		20.0		104	70-130	3	25
Dichlorodifluoromethane (Freon12)	10.7		µg/kg wet		20.0		53	51.9-130	18	50
1,1-Dichloroethane	16.4		µg/kg wet		20.0		82	70-130	21	25
1,2-Dichloroethane	15.9		µg/kg wet		20.0		79	70-130	23	25
1,1-Dichloroethene	15.3		µg/kg wet		20.0		77	70-130	23	25

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080910 - SW846 5030 Soil (high level)										
LCS Dup (9080910-BSD1)										
Prepared & Analyzed: 13-Aug-09										
cis-1,2-Dichloroethene	17.6		µg/kg wet		20.0		88	70-130	22	25
trans-1,2-Dichloroethene	15.3		µg/kg wet		20.0		77	70-130	21	25
1,2-Dichloropropane	18.7		µg/kg wet		20.0		93	70-130	22	25
1,3-Dichloropropane	17.7		µg/kg wet		20.0		88	70-130	20	25
2,2-Dichloropropane	15.5		µg/kg wet		20.0		77	70-130	20	25
1,1-Dichloropropene	16.3		µg/kg wet		20.0		81	70-130	20	25
cis-1,3-Dichloropropene	15.7		µg/kg wet		20.0		79	70-130	22	25
trans-1,3-Dichloropropene	15.2		µg/kg wet		20.0		76	70-130	19	25
Ethylbenzene	23.4		µg/kg wet		20.0		117	70-130	1	25
Hexachlorobutadiene	20.0		µg/kg wet		20.0		100	70-133	4	50
2-Hexanone (MBK)	16.1		µg/kg wet		20.0		80	70-130	11	25
Isopropylbenzene	19.4		µg/kg wet		20.0		97	70-130	0.1	25
4-Isopropyltoluene	19.1		µg/kg wet		20.0		95	70-130	8	25
Methyl tert-butyl ether	16.6		µg/kg wet		20.0		83	70-130	20	25
4-Methyl-2-pentanone (MIBK)	18.6		µg/kg wet		20.0		93	50.3-133	18	50
Methylene chloride	14.9		µg/kg wet		20.0		74	70-130	22	25
Naphthalene	17.0		µg/kg wet		20.0		85	70-130	10	25
n-Propylbenzene	20.2		µg/kg wet		20.0		101	70-130	5	25
Styrene	21.6		µg/kg wet		20.0		108	70-130	2	25
1,1,1,2-Tetrachloroethane	21.6		µg/kg wet		20.0		108	70-130	4	25
1,1,2,2-Tetrachloroethane	20.8		µg/kg wet		20.0		104	70-130	2	25
Tetrachloroethene	18.0		µg/kg wet		20.0		90	70-130	23	25
Toluene	17.8		µg/kg wet		20.0		89	70-130	25	25
1,2,3-Trichlorobenzene	20.6		µg/kg wet		20.0		103	70-130	1	25
1,2,4-Trichlorobenzene	18.2		µg/kg wet		20.0		91	70-130	3	25
1,3,5-Trichlorobenzene	22.0		µg/kg wet		20.0		110	70-130	7	25
1,1,1-Trichloroethane	15.4		µg/kg wet		20.0		77	70-130	20	25
1,1,2-Trichloroethane	18.7		µg/kg wet		20.0		94	70-130	22	25
Trichloroethene	18.8		µg/kg wet		20.0		94	70-130	22	25
Trichlorofluoromethane (Freon 11)	13.7	QM9	µg/kg wet		20.0		69	70-147	20	50
1,2,3-Trichloropropane	22.1		µg/kg wet		20.0		111	70-130	1	25
1,2,4-Trimethylbenzene	22.2		µg/kg wet		20.0		111	70-130	3	25
1,3,5-Trimethylbenzene	21.6		µg/kg wet		20.0		108	70-130	5	25
Vinyl chloride	17.3		µg/kg wet		20.0		87	70-130	13	25
m,p-Xylene	47.0		µg/kg wet		40.0		118	70-130	1	25
o-Xylene	25.2		µg/kg wet		20.0		126	70-130	1	25
Tetrahydrofuran	18.2		µg/kg wet		20.0		91	70-130	21	25
Ethyl ether	16.7		µg/kg wet		20.0		83	70-130	21	50
Tert-amyl methyl ether	19.2		µg/kg wet		20.0		96	70-130	12	25
Ethyl tert-butyl ether	16.7		µg/kg wet		20.0		84	70-130	19	25
Di-isopropyl ether	16.8		µg/kg wet		20.0		84	70-130	20	25
Tert-Butanol / butyl alcohol	162		µg/kg wet		200		81	70-130	23	25
1,4-Dioxane	158	QR2	µg/kg wet		200		79	60-146	30	25
trans-1,4-Dichloro-2-butene	18.9		µg/kg wet		20.0		94	70-130	2	25
Ethanol	367		µg/kg wet		400		92	70-130	18	30
Surrogate: 4-Bromofluorobenzene	*31.7*		µg/kg wet		*30.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*27.1*		µg/kg wet		*30.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*23.1*		µg/kg wet		*30.0*		*77*	*70-130*		
Surrogate: Dibromofluoromethane	*23.9*		µg/kg wet		*30.0*		*80*	*70-130*		

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080529 - SW846 3545A										
Blank (9080529-BLK1)										
Prepared: 10-Aug-09 Analyzed: 11-Aug-09										
Aroclor-1016	BRL		µg/kg wet	20.0						
Aroclor-1016 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1221	BRL		µg/kg wet	20.0						
Aroclor-1221 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1232	BRL		µg/kg wet	20.0						
Aroclor-1232 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1242	BRL		µg/kg wet	20.0						
Aroclor-1242 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1248	BRL		µg/kg wet	20.0						
Aroclor-1248 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1254	BRL		µg/kg wet	20.0						
Aroclor-1254 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1260	BRL		µg/kg wet	20.0						
Aroclor-1260 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1262	BRL		µg/kg wet	20.0						
Aroclor-1262 [2C]	BRL		µg/kg wet	20.0						
Aroclor-1268	BRL		µg/kg wet	20.0						
Aroclor-1268 [2C]	BRL		µg/kg wet	20.0						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*12.8*		µg/kg wet		*20.0*		*64*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*12.0*		µg/kg wet		*20.0*		*60*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*21.4*		µg/kg wet		*20.0*		*107*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.8*		µg/kg wet		*20.0*		*89*	*30-150*		
LCS (9080529-BS1)										
Prepared: 10-Aug-09 Analyzed: 11-Aug-09										
Aroclor-1016	232		µg/kg wet	20.0	250		93	50-140		
Aroclor-1016 [2C]	226		µg/kg wet	20.0	250		90	50-140		
Aroclor-1260	276		µg/kg wet	20.0	250		110	50-140		
Aroclor-1260 [2C]	232		µg/kg wet	20.0	250		93	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*12.5*		µg/kg wet		*20.0*		*62*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*11.7*		µg/kg wet		*20.0*		*58*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*23.2*		µg/kg wet		*20.0*		*116*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.1*		µg/kg wet		*20.0*		*86*	*30-150*		
LCS Dup (9080529-BSD1)										
Prepared: 10-Aug-09 Analyzed: 11-Aug-09										
Aroclor-1016	230		µg/kg wet	20.0	250		92	50-140	0.9	30
Aroclor-1016 [2C]	231		µg/kg wet	20.0	250		92	50-140	2	30
Aroclor-1260	274		µg/kg wet	20.0	250		110	50-140	0.7	30
Aroclor-1260 [2C]	231		µg/kg wet	20.0	250		92	50-140	0.6	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.0*		µg/kg wet		*20.0*		*65*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*12.1*		µg/kg wet		*20.0*		*60*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*22.8*		µg/kg wet		*20.0*		*114*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.1*		µg/kg wet		*20.0*		*86*	*30-150*		
Duplicate (9080529-DUP1) **Source: SA98808-01**										
Prepared: 10-Aug-09 Analyzed: 13-Aug-09										
Aroclor-1016	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1016 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1221	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1221 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1232	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1232 [2C]	BRL		µg/kg dry	21.1		BRL				40

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080529 - SW846 3545A										
Duplicate (9080529-DUP1) **Source: SA98808-01**										
Prepared: 10-Aug-09 Analyzed: 13-Aug-09										
Aroclor-1242	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1242 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1248	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1248 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1254	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1254 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1260	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1260 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1262	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1262 [2C]	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1268	BRL		µg/kg dry	21.1		BRL				40
Aroclor-1268 [2C]	BRL		µg/kg dry	21.1		BRL				40
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.7*		µg/kg dry		*21.1*		*65*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*15.7*		µg/kg dry		*21.1*		*75*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*21.2*		µg/kg dry		*21.1*		*101*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*21.0*		µg/kg dry		*21.1*		*100*	*30-150*		
Matrix Spike (9080529-MS1) **Source: SA98808-01**										
Prepared: 10-Aug-09 Analyzed: 13-Aug-09										
Aroclor-1016	262		µg/kg dry	20.4	255	BRL	103	40-135		
Aroclor-1016 [2C]	241		µg/kg dry	20.4	255	BRL	95	40-135		
Aroclor-1260	241		µg/kg dry	20.4	255	BRL	95	40-135		
Aroclor-1260 [2C]	245		µg/kg dry	20.4	255	BRL	96	40-135		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*11.4*		µg/kg dry		*20.4*		*56*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*15.7*		µg/kg dry		*20.4*		*77*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*17.6*		µg/kg dry		*20.4*		*87*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.5*		µg/kg dry		*20.4*		*86*	*30-150*		
Matrix Spike Dup (9080529-MSD1) **Source: SA98808-01**										
Prepared: 10-Aug-09 Analyzed: 13-Aug-09										
Aroclor-1016	206	QR2	µg/kg dry	20.0	250	BRL	83	40-135	22	15
Aroclor-1016 [2C]	206		µg/kg dry	20.0	250	BRL	82	40-135	14	15
Aroclor-1260	231		µg/kg dry	20.0	250	BRL	93	40-135	2	20
Aroclor-1260 [2C]	225		µg/kg dry	20.0	250	BRL	90	40-135	6	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*9.88*		µg/kg dry		*20.0*		*49*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*13.7*		µg/kg dry		*20.0*		*68*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*16.8*		µg/kg dry		*20.0*		*84*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*15.5*		µg/kg dry		*20.0*		*77*	*30-150*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080535 - SW846 3545A										
Blank (9080535-BLK1)										
Prepared: 10-Aug-09 Analyzed: 11-Aug-09										
Gasoline	BRL		mg/kg wet	13.3						
Fuel Oil #2	BRL		mg/kg wet	13.3						
Fuel Oil #4	BRL		mg/kg wet	13.3						
Fuel Oil #6	BRL		mg/kg wet	13.3						
Motor Oil	BRL		mg/kg wet	13.3						
Ligroin	BRL		mg/kg wet	13.3						
Aviation Fuel	BRL		mg/kg wet	13.3						
Hydraulic Oil	BRL		mg/kg wet	13.3						
Dielectric Fluid	BRL		mg/kg wet	13.3						
Unidentified	BRL		mg/kg wet	13.3						
Other Oil	BRL		mg/kg wet	13.3						
Total Petroleum Hydrocarbons	BRL		mg/kg wet	13.3						
Surrogate: 1-Chlorooctadecane	*3.01*		mg/kg wet		*3.33*		*90*	*40-140*		
LCS (9080535-BS2)										
Prepared: 10-Aug-09 Analyzed: 11-Aug-09										
Fuel Oil #2	619		mg/kg wet	13.3	667		93	40-140		
Surrogate: 1-Chlorooctadecane	*3.15*		mg/kg wet		*3.33*		*94*	*40-140*		

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080359 - SW846 3050B										
Blank (9080359-BLK1)										
Prepared: 12-Aug-09 Analyzed: 14-Aug-09										
Nickel	BRL		mg/kg wet	0.946						
Selenium	BRL		mg/kg wet	1.42						
Thallium	BRL		mg/kg wet	2.84						
Zinc	BRL		mg/kg wet	0.946						
Lead	BRL		mg/kg wet	1.42						
Antimony	BRL		mg/kg wet	4.73						
Cadmium	BRL		mg/kg wet	0.473						
Beryllium	BRL		mg/kg wet	0.473						
Copper	BRL		mg/kg wet	0.946						
Silver	BRL		mg/kg wet	1.42						
Arsenic	BRL		mg/kg wet	1.42						
Chromium	BRL		mg/kg wet	0.946						
Reference (9080359-SRM1)										
Prepared: 12-Aug-09 Analyzed: 14-Aug-09										
Selenium	91.0		mg/kg wet	1.50	97.2		94	80.2-119.8		
Zinc	140		mg/kg wet	1.00	173		81	79.1-120.9		
Thallium	114		mg/kg wet	3.00	125		91	79.4-120.2		
Nickel	92.2		mg/kg wet	1.00	101		91	81-118.5		
Antimony	31.2		mg/kg wet	5.00	53.1		59	50.2-150.5		
Lead	54.4		mg/kg wet	1.50	52.6		103	79-121.2		
Silver	37.3		mg/kg wet	1.50	38.7		96	66.2-133.5		
Beryllium	27.5		mg/kg wet	0.500	29.4		93	83.3-116.8		
Arsenic	42.2		mg/kg wet	1.50	44.7		95	78.1-122.3		
Chromium	68.4		mg/kg wet	1.00	72.9		94	80.6-119.4		
Copper	119		mg/kg wet	1.00	120		99	83.5-116		
Cadmium	41.7		mg/kg wet	0.500	46.0		90	81.4-118.7		
Reference (9080359-SRM2)										
Prepared: 12-Aug-09 Analyzed: 14-Aug-09										
Selenium	94.7		mg/kg wet	1.50	97.0		98	80.2-119.8		
Nickel	97.9		mg/kg wet	1.00	101		97	81-118.5		
Lead	49.1		mg/kg wet	1.50	52.5		93	79-121.2		
Thallium	122		mg/kg wet	3.00	125		98	79.4-120.2		
Zinc	148		mg/kg wet	1.00	172		86	79.1-120.9		
Antimony	32.2		mg/kg wet	5.00	53.0		61	50.2-150.5		
Copper	121		mg/kg wet	1.00	120		101	83.5-116		
Beryllium	28.2		mg/kg wet	0.500	29.4		96	83.3-116.8		
Cadmium	44.3		mg/kg wet	0.500	46.0		96	81.4-118.7		
Arsenic	43.4		mg/kg wet	1.50	44.6		97	78.1-122.3		
Chromium	70.5		mg/kg wet	1.00	72.7		97	80.6-119.4		
Silver	38.0		mg/kg wet	1.50	38.6		98	66.2-133.5		
Batch 9080360 - EPA200/SW7000 Series										
Blank (9080360-BLK1)										
Prepared: 12-Aug-09 Analyzed: 14-Aug-09										
Mercury	BRL		mg/kg wet	0.0288						
Reference (9080360-SRM1)										
Prepared: 12-Aug-09 Analyzed: 14-Aug-09										
Mercury	1.85		mg/kg wet	0.0300	1.78		104	71.8-128.2		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9081297 - General Preparation										
Blank (9081297-BLK1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	BRL		mg/kg wet	1.00						
LCS (9081297-BS1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.5		mg/kg wet	1.00	20.0		92	90-110		
Calibration Blank (9081297-CCB1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.003		mg/kg wet							
Calibration Blank (9081297-CCB2)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Blank (9081297-CCB3)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Blank (9081297-CCB4)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Blank (9081297-CCB5)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Check (9081297-CCV1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.7		mg/kg wet		20.0		94	90-110		
Calibration Check (9081297-CCV2)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.8		mg/kg wet		20.0		94	90-110		
Calibration Check (9081297-CCV3)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	19.2		mg/kg wet		20.0		96	90-110		
Calibration Check (9081297-CCV4)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	19.6		mg/kg wet		20.0		98	90-110		
Calibration Check (9081297-CCV5)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	19.6		mg/kg wet		20.0		98	90-110		
Duplicate (9081297-DUP2) **Source: SA98808-03**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	BRL		mg/kg dry	1.06		BRL				35
Matrix Spike (9081297-MS2) **Source: SA98808-03**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	20.8		mg/kg dry	1.07	21.4	BRL	97	75-125		
Matrix Spike Dup (9081297-MSD2) **Source: SA98808-03**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	20.3		mg/kg dry	1.05	21.1	BRL	96	75-125	2	35

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9081297 - General Preparation										
Post Spike (9081297-PS2) **Source: SA98808-03**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.495		mg/kg dry		0.500	BRL	99	75-125		
Reference (9081297-SRM1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	89.3		mg/kg wet	10.5	120		74	23.3-143		
Batch 9081320 - General Preparation										
Blank (9081320-BLK1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	BRL		mg/kg wet	1.00						
LCS (9081320-BS1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.8		mg/kg wet	1.00	20.0		94	90-110		
Calibration Blank (9081320-CCB1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Blank (9081320-CCB2)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Blank (9081320-CCB3)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.002		mg/kg wet							
Calibration Check (9081320-CCV1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	19.0		mg/kg wet		20.0		95	90-110		
Calibration Check (9081320-CCV2)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.7		mg/kg wet		20.0		94	90-110		
Calibration Check (9081320-CCV3)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.8		mg/kg wet		20.0		94	90-110		
Duplicate (9081320-DUP1) **Source: SA98808-01**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	BRL		mg/kg dry	1.05		BRL				35
Matrix Spike (9081320-MS1) **Source: SA98808-01**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.7		mg/kg dry	1.06	21.1	BRL	88	75-125		
Matrix Spike Dup (9081320-MSD1) **Source: SA98808-01**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	18.7		mg/kg dry	1.05	21.0	BRL	89	75-125	0.1	35
Post Spike (9081320-PS1) **Source: SA98808-01**										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	0.507		mg/kg dry		0.500	0.002	101	75-125		
Reference (9081320-SRM1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										
Hexavalent Chromium	92.9		mg/kg wet	9.88	120		77	23.3-143		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9081320 - General Preparation										
Reference (9081320-SRM1)										
Prepared: 17-Aug-09 Analyzed: 18-Aug-09										

Toxicity Characteristics - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080295 - General Preparation										
Duplicate (9080295-DUP1)	**Source: SA98808-01**									
Prepared & Analyzed: 05-Aug-09										
pH	6.21		pH Units			6.15			1	5
Reference (9080295-SRM1)										
Prepared & Analyzed: 05-Aug-09										
pH	6.00		pH Units		6.00		100	97.5-102.5		
Reference (9080295-SRM2)										
Prepared & Analyzed: 05-Aug-09										
pH	6.00		pH Units		6.00		100	97.5-102.5		

Notes and Definitions

CAL2	Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as *TPH (Calculated as).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk
Nicole Leja

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: [none]
Project Location: GPR Concord - Concord, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA98808-01 through SA98808-03

Sample matrices:	Soil				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☑ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☑ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☑ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes ☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes ☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes ☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes ☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ Yes ☑ No

All negative responses are addressed in a case narrative on the cover page of this report.

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

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 8/19/2009

SA98808 BM

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☒ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: ______
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: WILLIAMSON ENVIRONMENTAL, 780 HYDE ROAD, HANWARD, MA

Invoice To: SAME

Project Mgr.: JOE NESCA

P.O. No.: ______ RQN: ______

Project No.: ______

Site Name: GPR CONCORD

Location: CONCORD State: MA

Sampler(s): J. NESCA

1=Na2S2O3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=ICE 10=______

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=______ X2=______ X3=______

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8260	pH	8100	PCBs	RCRA 13 METALS	~~ASBESTOS~~	TRIVALENT CHROMIUM	HEXAVALENT CHROMIUM
98808-01	TP-A 15'	8-5-09	845	G	SO	7/9	2	3			✓	✓	✓	✓	✓		✓	✓
-02	TP-B 11'	↓	915	G	SO	7/9	2	3			✓	✓	✓	✓	✓		✓	✓
-03	TP-C 16'	↓	940	G	SO	7/9	2	3			✓	✓	✓	✓	✓		✓	✓

QA Reporting Notes: (check if needed)

- ☒ Provide MA DEP MCP CAM Report
- ☐ Provide CT DPH RCP Report

QA/QC Reporting Level: ☒ Standard ☐ No QC ☐ Other ______

State specific reporting standards: ______

☐ Fax results when available to (___) ______

☒ E-mail to LABDATA@WILLIAMSONENV.COM

EDD Format ______

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 3.6

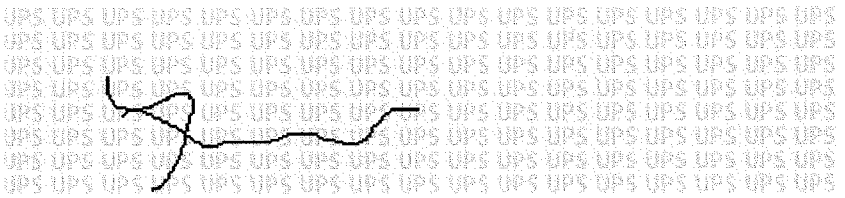
Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	8-5-09	12:00
[signature]	[signature]	8/5/09	1555

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number:	1Z1VW0710297473619
Reference Number(s):	GPR CONCORD, 965, SUMMARY OF TEST PITS LETTER 9/01/09
Service:	2ND DAY AIR
Shipped/Billed On:	09/01/2009
Delivered On:	09/02/2009 11:37 A.M.
Delivered To:	39 MAIN ST 301 AYER, MA, US 01432
Signed By:	GOLDSMITH



Location:	RECEIVER

Thank you for giving us this opportunity to serve you.

Sincerely,

UPS

Tracking results provided by UPS: 09/03/2009 2:45 P.M. ET

ENSTRAT®
STRATEGIC ENVIRONMENTAL SERVICES

Limited Subsurface Evaluation
of

Lot off Winthrop Street
(aka a portion of 965 Elm Street)
Concord, Massachusetts

Prepared for: Concord Housing Development Corporation
Mr. David Hale
P.O. Box 195
Concord, Massachusetts 01742

ENSTRAT Project Number 2013-139

November 11, 2013

28 Lord Road • Suite 205 • Marlborough, Massachusetts 01752 • (508) 460-6100 Fax (508) 460-8115

ENSTRAT®
STRATEGIC ENVIRONMENTAL SERVICES

November 11, 2013

Concord Housing Development Corporation
Mr. David Hale
P.O. Box 195
Concord, Massachusetts 01742

Dear Mr. Hale,

ENSTRAT, Inc. (ENSTRAT) is pleased to submit the following Limited Subsurface Evaluation of the property off Winthrop Street in Concord, Massachusetts (the Site). The Summary and Conclusions of this report are included as Section 3.0.

Please contact our office if you have any questions regarding this report.

Sincerely,
ENSTRAT, INC.

Thomas P. Luby, PG, LSP
Principal/Technical Manager

28 Lord Road • Suite 205 • Marlborough, Massachusetts 01752 • (508) 460-6100 Fax (508) 460-8115

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TABLE OF CONTENTS

1.0 Introduction

At the request of Concord Housing Development Corporation, ENSTRAT has performed a Limited Subsurface Evaluation of the property off Winthrop Street in Concord, Massachusetts, hereafter referred to as the Site. It should be noted that this lot is part of a larger parcel associated with the state prison known as 965 Elm Street. The Limited Subsurface Evaluation was performed in order to evaluate the potential impact to soil and/or groundwater from on-Site former sewage lagoons, miscellaneous contractor storage and from a western abutting factory building. The activities conducted to complete this project are discussed in Section 1.2 of this report.

1.1 Previous Environmental Assessments

ENSTRAT, Inc. (ENSTRAT) reviewed a Phase I Environmental Site Assessment (ESA) report and a Summary of Test Pit Excavations/Soil Sampling Activities letter for the property off Winthrop Street (a.k.a. southern portion of the 965 Elm Street parcel) in Concord, Massachusetts (the Site), completed by Williamson Environmental LLC (Williamson) dated February 26, 2009 and September 1, 2009 respectively.

Based upon the findings presented in the reports, ENSTRAT was authorized to conduct a limited subsurface evaluation of soil and groundwater conditions focusing on identified concerns at the Site. The specific findings of the 2009 Williamson reports are summarized as follows:

The Site consists of 12.7 acres of undeveloped land located at the southern portion of a larger parcel (965 Elm Street) which includes a total of 64-acres. According to Williamson, at the time of the assessment, a portion of the Site was utilized for storage of aggregate materials generated by the Concord Department of Public Works and others. Additionally, a portion of the Site was previously utilized by the Massachusetts Correctional Institute (MCI) Concord facility for sewage disposal. The remainder of the Site historically consisted of undeveloped woodlands and/or wetlands and abuts the Assabet River to the west.

Williamson conducted subsurface activities including the excavation of two test pits in each of the six former sewage lagoons. Soil samples were reportedly collected from a depth of 4 to 6 feet and laboratory analyzed for volatile organic compounds (VOCs),

total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), RCRA 13 total metals, and pH. Concentrations of compounds were not detected above the applicable MCP RCS-2 reportable concentrations. Williamson stated "in its present use, the soil at the Site is considered RCS-2, and therefore chromium concentrations detected within these soil samples does not constitute a reportable condition in accordance with MCP 310 CMR 40.0361." However, Williamson also indicated that if the Site was used for residential purposes in the future, the soil would be considered soil category RCS-1 and concentrations of total chromium detected in four of the soil samples exceeded RCS-1 reportable concentrations. A notification condition would have therefore been created when the use of the property changed to residential.

In August 2009 Williamson oversaw additional subsurface investigations including the excavation of three test pits close to the western boundary of the Site. One soil sample was collected from each of the test pits and field screened for VOCs; which were not detected. These three soil samples were also laboratory analyzed for VOCs, TPH, PCBs, RCRA 13 total metals, trivalent chromium, hexavalent chromium, and pH. All compounds that were detected were below RCS-1 reportable concentrations. Additional assessment activities were not conducted.

1.2 Purpose and Scope

The purpose of this Limited Subsurface Evaluation is to assess for the presence of chromium in soil and to assess soil and groundwater at the Site.

The activities conducted to complete this investigation included:

1) Preparing a Health and Safety Plan;
2) The completion of six (6) soil borings;
3) The installation of four (4) groundwater monitoring wells in four of the soil borings;
4) Collecting soil samples from the soil borings and field screening the samples for the presence of total volatile organic compounds (VOCs);
5) Collection and laboratory analysis of seven (7) soil samples for total chromium and hexavalent/trivalent chromium;
6) Collection of four (4) groundwater samples for extractable petroleum hydrocarbons (EPH) and VOCs;
7) Collection of one (1) additional groundwater sample from an area of the former sewage lagoon for MCP 13 dissolved metals;

8) Gauging and surveying groundwater levels; and
9) The preparation of this report.

The conclusions and any recommendations herein are based upon any reports reviewed and referenced herein, the information and data obtained to complete this Limited Subsurface Evaluation, and the Project Limitations included in the Appendices. This report was prepared for the exclusive use of Concord Housing Development Corporation under the terms and conditions of the contract dated October 18, 2013. Other warranties are not expressed or implied.

1.3 Pre-Drilling Activities and Metal Detector Survey

DigSafe was notified of the intent to conduct subsurface activities at the Site. Officials at DigSafe indicated utility companies within the DigSafe program would be notified to designate the location of their respective underground utility lines. The Site and surrounding streets and sidewalks were inspected for the utility line markings prior to the boring and monitoring well installations.

2.0 Subsurface Evaluation

2.1 Soil Boring & Monitoring Well Installations

On October 21, 2013, Soil Tech Environmental, LLC of Gardner, Massachusetts installed four groundwater monitoring wells (EN-1 through EN-4) and completed two additional soil borings (SB-1 and SB-2). The locations of the borings and monitoring wells are illustrated on Figure 2 in the Appendices. The monitoring wells were installed according to the standard protocols presented in the Appendices.

Well EN-1 was set at a depth of 20 feet below the ground surface (bgs) and is situated downgradient of the former railroad line and an off-Site factory. Well EN-2 was set at a depth of 20 feet bgs and was situated on the northwestern portion of the Site used for contractor storage. Wells EN-3 and EN-4 were set at a depth of 20 feet bgs and were situated within the former sewage lagoons. Soil borings SB-1 and SB-2 were advanced to a depth of 15 feet bgs and were situated in the former sewage lagoons. It should be noted that the monitoring wells and soil borings situated within the sewage lagoons

were approximately positioned to re-assess the highest concentrations of total chromium detected in 2009 by Williamson Environmental LLC (Williamson).

The monitoring wells were constructed with two-inch-diameter, Schedule 40 polyvinyl chloride (PVC) casing and 0.010-inch slotted PVC screen. The screened portions of the wells were positioned to span the top of the water table to detect the presence of floating product. The annular space around the well was backfilled with silica sand to approximately one-half foot to three feet above the screened interval, at which point an approximately one-foot-thick bentonite seal was placed. The monitoring wells were completed two feet above the ground surface and protected by locked standpipes. The tops of the well casings were capped with an expansion plug. Soil boring logs, including the monitoring well construction diagrams, are included in the Appendices for further reference.

2.3 Soil Sampling, Analyses, and Results

Subsurface materials encountered generally consisted of fine to coarse sand with some gravel and fill material (brick and wood). Groundwater was encountered between 13 feet to 15 feet below grade. Soil samples obtained during drilling activities were screened for total volatile organic vapors using a Thermo Environmental Instruments, Inc. 580S Organic Vapor Meter (OVM) photoionization detector (PID). This PID is equipped with a 10.6 electron-volt lamp and was calibrated to an isobutylene standard and adjusted with a response factor to benzene prior to screening. The sensitivity of the instrument to VOCs other than the calibration gas varies. However, most priority pollutant VOCs ionize at this potential and generate a response on the instrument. The samples were tested via the headspace scan technique; an outline of this method is included in the Appendices. The soil samples did not exhibit significant total volatile organic vapors (see boring logs in Appendices). Additionally, visual and/or olfactory indications of hazardous substances and/or petroleum products were not observed by ENSTRAT personnel.

Soil samples previously collected in 2009 by Williamson in the area of the sewage lagoons were at a depth of 4 to 6 feet bgs. However, current Site observations indicate that portions of the former sewage lagoons were filled to approximately five feet above their former conditions. It could not be determined if the area was filled at the time of the 2009 assessments. Therefore, in order to re-create testing by Williamson, ENSTRAT

collected soil samples within the former sewage lagoons from 4 to 6 feet below the current ground surface and at 9 to 11 feet below the former ground surface from EN-3, SB-1, and SB-2. The sewage lagoon where EN-4 is situated appears to be unchanged since 2009 and only one soil sample from 4 to 6 feet was collected from this boring. These seven soil samples were placed into appropriate glassware and cooled upon delivery to Alpha Analytical Laboratories on October 22, 2013. The samples were laboratory analyzed for hexavalent and trivalent chromium and total chromium.

Soil results indicate that total chromium was detected in all soil samples below MCP RCS-1 reportable concentrations, with the exception of soil from SB-1 (4'-6'), EN-3 (9'-11'), and EN-4 (4'-6'). However, based on the trivalent/hexavalent chromium analysis conducted on all of these soil samples, the total chromium concentrations represent the less toxic trivalent chromium, which is likely naturally occurring. A very low concentration of hexavalent chromium was detected in only one sample (EN-3/9'-11') at 0.87 mg/kg, which is well below MCP RCS-1 reportable concentration (30 mg/kg).

2.4 Groundwater Sampling, Analyses, and Results

Prior to groundwater sampling activities on October 28, 2013, at least three well volumes of groundwater were removed from the monitoring wells according to the Protocols included in the Appendices. Groundwater samples from all four monitoring wells did not exhibit significant olfactory or visual indications of hazardous substances and petroleum products. The groundwater samples were subsequently placed in appropriate containers and cooled prior to delivery to Alpha on October 28, 2013. It should be noted that groundwater from EN-4 was field filtered prior to collecting the sample for dissolved metals.

All four groundwater samples were laboratory analyzed for VOCs and EPH. Groundwater from EN-4 was also laboratory analyzed for MCP 14 dissolved metals. Laboratory Certificates of Analysis for these samples are included in the Appendices. Based upon a review of Massachusetts GIS 21E Map, the Site is not located within a Sole Source or potentially active Aquifer, a Zone II drinking water resource area, or within 500 feet of a private drinking water well. Therefore, groundwater at the Site is categorized as RCGW-2 for MADEP notification purposes.

Concentrations of VOCs and EPH were not detected in the groundwater samples above laboratory detection limits, with the exception of chloroform detected in groundwater from EN-1 well below the applicable RCGW-2 reportable concentration. Dissolved metals were not detected in groundwater with the exception of antimony, barium, and zinc detected in groundwater from EN-4. However, these concentrations were below the applicable RCGW-2 reportable concentrations. See Appendices for the laboratory certificate of analysis.

2.5 Groundwater Flow Direction

Water level measurements were obtained from the monitoring wells on October 28, 2013. The measurements were obtained from the top of the PVC well casing. The wells were gauged with a Solinst electronic interface probe to record depth to water measurements and to evaluate the presence of floating product. Free product was not detected in the monitoring wells.

ENSTRAT personnel surveyed the relative elevations of four of the monitoring wells on October 28, 2013. The elevations were based on an assumed elevation of 100.00 feet established on the well casing of EN-1. Groundwater elevations were estimated by subtracting the depth to groundwater measurements from the corresponding monitoring well casing elevations (see Table 1 in the Appendices). Based upon these and other data, groundwater on the Site appears to be flowing southeasterly toward Assabet River.

3.0 Summary, Conclusions and Recommendations

ENSTRAT conducted a Limited Subsurface Evaluation for the property at a Lot off Winthrop Street (a.k.a southern portion of 965 Elm Street parcel) in Concord, Massachusetts (the Site). After completing the evaluation, the following summary and conclusions are presented:

- Six soil boring were completed and four groundwater monitoring wells (EN-1 through EN-4) were installed as part of this project. The borings and wells were placed in accessible areas to assess the historical presence of sewage lagoons, use of the site for contractor storage, and downgradient of an abutting factory.

- Soil samples obtained during drilling activities were field-screened for VOCs; which were not detected. Soil samples did not exhibit visual or olfactory indications of hazardous substances and/or petroleum products. Soil samples from the area of the former sewage lagoons were laboratory analyzed for hexavalent/trivalent chromium and total chromium.

- Soil results indicate that total chromium was detected in all soil samples below MCP RCS-1 reportable concentrations, with the exception of soil from SB-1 (4'-6'), EN-3 (9'-11'), and EN-4 (4'-6'), which was detected above RCS-1 reportable concentrations. However, based on the trivalent/hexavalent chromium analysis that was also conducted on all of these soil samples, the total chromium concentrations represent trivalent chromium was is naturally occurring. Hexavalent chromium was detected in only one sample (EN-3/9'-11') at 0.87 mg/kg, which is well below MCP RCS-1 reportable concentrations.

- Groundwater samples from all four monitoring wells were laboratory analyzed for EPH and VOCs. Groundwater from well EN-4 (within former sewage lagoon area) was also analyzed for MCP 13 dissolved metals. Concentrations of VOCs, EPH, and dissolved metals were not detected in the groundwater samples above laboratory detection limits.

Conclusions and Recommendations

Based upon the results of this limited subsurface evaluation, conditions in soil and groundwater testing on the property are considered acceptable for residential development. ENSTRAT does not recommend additional assessment activities at this time.

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Site Figures

MassDEP - Bureau of Waste Site Cleanup

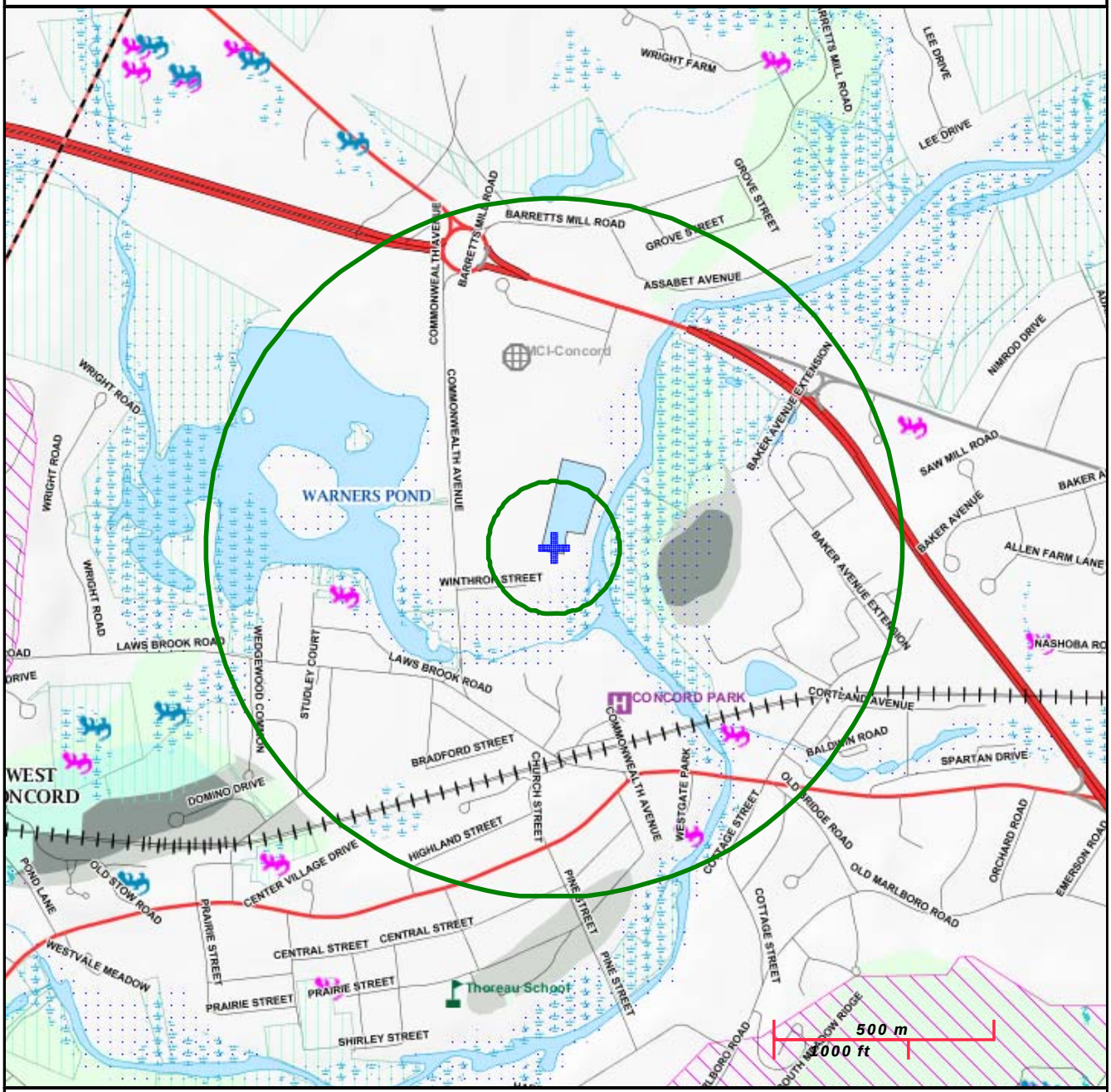
Site Information: MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

956 ELM STREET CONCORD, MA

NAD83 UTM Meters:
4703756mN , 303115mE (Zone: 19)
November 5, 2013

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

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PROJECT NUMBER:	LOCATION:	NORTH:	APPROX. SCALE:
2013-139	Property on Off Winthrop Street Concord, Massachusetts		Not To Scale
FIGURE NUMBER:	**FIGURE NAME:**	**DESIGNED BY:**	**DATE:**
2	Site Plan and Surrounding Properties	SP	October 2013

28 Lord Road • Suite 205 • Marlborough, Massachusetts 01752 • (508) 460-6100 Fax (508) 460-8115

Middlesex Registry of Deeds,
Southern District
Cambridge, Massachusetts
Plan No. 71 of 2013
Rec'd 1.31 2013
at 12 H 24 M P M

Attest
Register

FOR REGISTRY USE ONLY

ZONING INFORMATION

INDUSTRIAL PARK
MINIMUM AREA: 4 ACRES
MINIMUM LOT FRONTAGE: 50' OR 200'
MINIMUM FRONT YARD: 20' OR 100'
CORNER CLEARANCE: 10'
MAXIMUM HEIGHT: 40'
MAXIMUM LOT COVERAGE: 50%

LEGEND

MAP, BLOCK – ASSESSORS INFORMATION
– STONE OR CONCRETE BOUND
– IRON PIPE
– DRILL HOLE
– PROPERTY LINE
– ABUTTER PROPERTY LINE (±)
– EASEMENT LINE
– STONE WALL
– CONTOUR
100 – INDEX CONTOUR
– RIVERBANK
– WETLAND LINE
– WETLAND FLAG
– SIGN

GENERAL NOTES

1.) THIS PLAN SHOWS A PROPOSED CONVEYANCE AND THE LOT CREATED, PARCEL "A", IS NOT A BUILDING LOT.

2.) PARCEL "A" IS TO BE CONVEYED TO THE CONCORD HOUSING DEVELOPMENT CORPORATION.

3.) FIELD SURVEY WAS COMPLETED BY TOTAL STATION/EDM.

4.) THE HORIZONTAL (NAD 83) AND VERTICAL (NAVD 88) DATUMS WERE DERIVED FROM GPS OBSERVATIONS AND ARE BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM.

5.) ALL UNDERGROUND UTILITY INFORMATION SHOWN HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ALL SITE WORK. CALL DIGSAFE AT 1-800-322-4844 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.

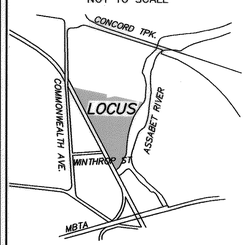
6.) ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) MAPS, THE MAJOR IMPROVEMENTS ON THIS SITE ARE DESIGNATED "ZONE X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. COMMUNITY PANEL 359 OF 656, MAP NUMBER 25017C0359E, EFFECTIVE DATE: JUNE 4, 2010.

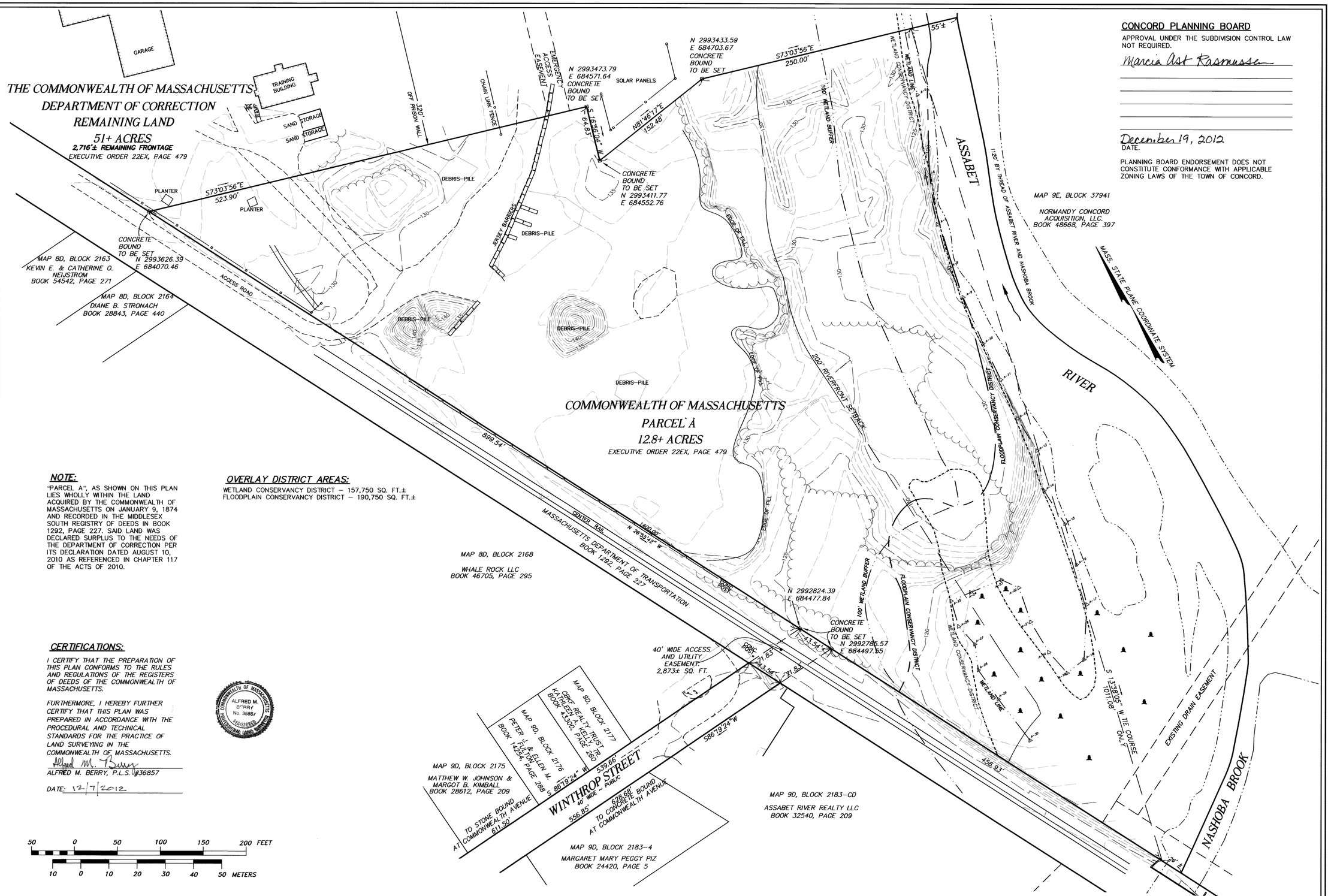
LOCUS REFERENCE

ASSESSOR'S MAP REFERENCE:
MAP 8D, BLOCK 2013
OWNER:
COMMONWEALTH OF MASSACHUSETTS.
EXECUTIVE ORDER 22EX, PAGE 479
BOOK 1292, PAGE 227

LOCATION MAP

NOT TO SCALE





NOTE:

"PARCEL A", AS SHOWN ON THIS PLAN LIES WHOLLY WITHIN THE LAND ACQUIRED BY THE COMMONWEALTH OF MASSACHUSETTS ON JANUARY 9, 1874 AND RECORDED IN THE MIDDLESEX SOUTH REGISTRY OF DEEDS IN BOOK 1292, PAGE 227. SAID LAND WAS DECLARED SURPLUS TO THE NEEDS OF THE DEPARTMENT OF CORRECTION PER ITS DECLARATION DATED AUGUST 10, 2010 AS REFERENCED IN CHAPTER 117 OF THE ACTS OF 2010.

OVERLAY DISTRICT AREAS:

WETLAND CONSERVANCY DISTRICT – 157,750 SQ. FT.±
FLOODPLAIN CONSERVANCY DISTRICT – 190,750 SQ. FT.±

CERTIFICATIONS:

I CERTIFY THAT THE PREPARATION OF THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

FURTHERMORE, I HEREBY FURTHER CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

ALFRED M. BERRY, P.L.S. #36857

DATE: 12/7/2012

COMMONWEALTH OF MASSACHUSETTS – ALFRED M. BERRY – No. 36857 – REGISTERED PROFESSIONAL LAND SURVEYOR

50 0 50 100 150 200 FEET
10 0 10 20 30 40 50 METERS

CONCORD PLANNING BOARD

APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED.

Marcia Ast Rasmussen

December 19, 2012
DATE.

PLANNING BOARD ENDORSEMENT DOES NOT CONSTITUTE CONFORMANCE WITH APPLICABLE ZONING LAWS OF THE TOWN OF CONCORD.

SHEET NO. 1 OF 1	PLAN OF LAND IN CONCORD, MA PREPARED FOR THE COMMONWEALTH OF MASSACHUSETTS DIVISION OF CAPITAL ASSET MANAGEMENT AND MAINTENANCE ON BEHALF OF THE DEPARTMENT OF CORRECTION	SURVEYOR: AMB DRAFTING: AMB FIELD WORK: JEG, BC PROJECT NO. 11-6002 DRAWING NAME: 6002CHDC	ENGINEER: N/A DESIGN: N/A HORIZ SCALE: 1"=50' VERT SCALE: N/A DATE: NOVEMBER 9, 2012

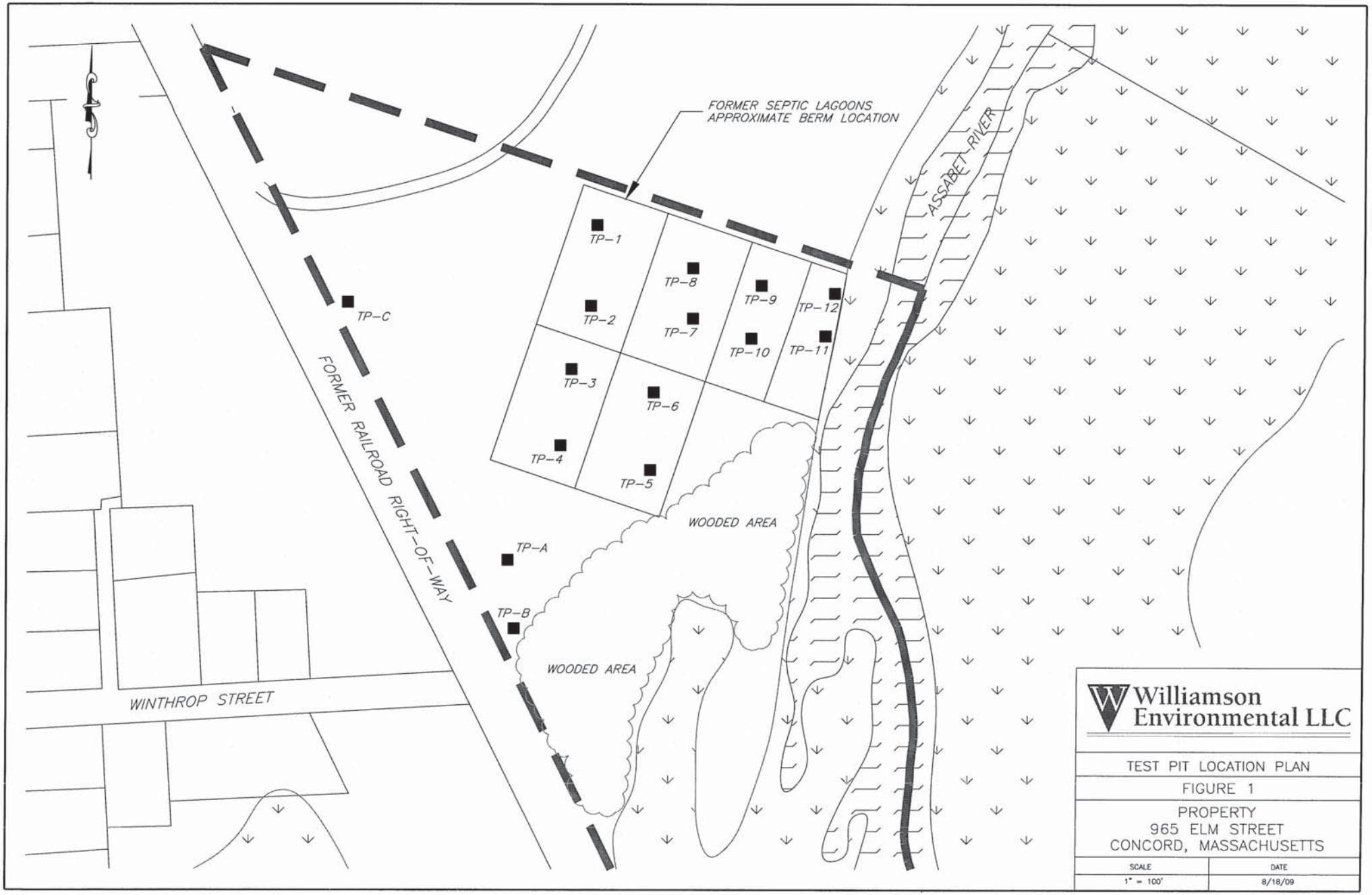
REVISIONS

APPROVAL NOT REQUIRED

Places Associates, Inc.
Planning, Landscape Architecture, Civil Engineering, Surveying
510 KING STREET, SUITE 9
LITTLETON, MA 01460
978.486.0334 Fax
978.486.0447
EMAIL places@verizon.net

12:24 PM
1/31/13
PL: 71

71


FORMER SEPTIC LAGOONS
APPROXIMATE BERM LOCATION
ASSABET RIVER
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
TP-10
TP-11
TP-12
TP-A
TP-B
TP-C
WOODED AREA
WOODED AREA
FORMER RAILROAD RIGHT-OF-WAY
WINTHROP STREET
Williamson Environmental LLC
TEST PIT LOCATION PLAN
FIGURE 1
PROPERTY
965 ELM STREET
CONCORD, MASSACHUSETTS
SCALE
1" = 100'
DATE
8/18/09

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Tables

ENSTRAT®
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Table 1 Groundwater Survey Data – October 28, 2013

Well I.D.	Elevation of Well Roadbox[1] (feet)	Depth to Ground Water (feet)	Groundwater Elevation (feet)
EN-1	100.0	18.0	82.00
EN-2	98.42	16.08	82.34
EN-3	99.92	18.50	81.42
EN-4	97.64	16.36	81.28

1 - Measured relative to an assumed elevation of 100.00 feet established on the well casing of EN-1.

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Protocols

ENSTRAT®
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DECONTAMINATION PROCEDURES FOR NON-DISPOSABLE SAMPLING AND FIELD EQUIPMENT

1. The following decontamination procedures apply to equipment used by ENSTRAT for sampling soil, ground water, and other environmental media and do not apply to equipment not used for these specific purposes. However, non-sampling equipment may be decontaminated using the following procedures, if desired, or as necessary.

2. Decontamination procedures outlined herein are conducted by ENSTRAT personnel who have read and understand the decontamination process.

3. Non-disposable sampling and field equipment is decontaminated prior to and after sample collection.

4. The following decontamination procedures are followed for non-disposable soil and ground-water sampling equipment:

   A. Wash equipment with Alconox* detergent or equivalent and clean water (*Alconox is a registered trade name)

   B. Rinse equipment thoroughly with clean water

   C. As applicable, rinse equipment with reagent-grade methanol

   D. Give equipment a final rinse with clean water

5. If steam cleaning equipment is available at the work site, steam cleaning of the sampling equipment may be substituted for steps A and B above.

6. In some cases, heavily contaminated equipment may require soaking for an extended period of time in a detergent solution. After, soaking, procedure 3 is followed prior to returning the equipment to use.

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SOIL BORINGS

1. Soil borings are advanced by drill rig, vibratory probe, vacuum extraction, hand auger, or by other means available and applicable for the desired results (i.e. "drilling"). The term "drill rig" refers to mechanical drilling devices.

2. Drilling operations are observed by ENSTRAT personnel who have read and understand the particular drilling program in accordance with the following proper procedures and guidelines. ENSTRAT personnel may modify the program when certain unforeseen field conditions or events so dictate. ENSTRAT personnel are responsible for compiling field notes, documenting field conditions and keeping a boring log independent of the driller.

3. Drilling equipment is used, cleaned, and decontaminated in accordance with ENSTRAT's Decontamination Procedures for Non-Disposable Sampling and Field Equipment. The split spoon or probe sampler is cleaned between samples. The working end of the drill rig and all drilling equipment is clean upon arrival at the Site. The drill rig is generally observed by ENSTRAT personnel for potential contamination and malfunctioning equipment (i.e., gasoline, diesel fuel and/or hydraulic fluid leaks) before entering the Site. Potentially contaminated or malfunctioning equipment is satisfactorily remedied prior to the commencement of any boring at the Site.

4. Soil samples are collected from the surface and at subsequent five-foot intervals, unless otherwise specified. Soil samples may also be collected at any observed change in strata.

5. Soil samples collected from the boring are screened in the field for volatile organic compounds with a portable photoionization detector (PID) in accordance with ENSTRAT's Field Screening Procedure for Volatile Organic Compounds in Soil.

6. Unless otherwise specified, excavated material brought to the surface by the boring installation is left on-Site. If a ground-water monitoring well is installed in the boring, then excavated material is used to backfill the annular space above the bentonite seal (if applicable). If no ground-water monitoring well is installed in the boring, the entire boring is backfilled with the excavated material. Additional fill, if required, consists of clean fill, washed sand, or concrete, and is used to return the land to a level grade.

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GROUNDWATER SAMPLING

1. Ground-water sampling is completed by ENSTRAT personnel who have read and understand the particular sampling program for accordance with the proper procedures and guidelines as follows. ENSTRAT personnel may modify the program as required by field conditions. ENSTRAT personnel document field conditions as necessary. Unless otherwise stated, groundwater samples are obtained from monitoring wells constructed in accordance with ENSTRAT's Monitoring Well Construction protocol.

2. Depth to water is determined in the monitoring well in accordance with ENSTRAT's Establishing Vertical Control protocol. Measurement of groundwater depth in the monitoring well is gauged with an electronic interface probe. Using the known or measured depth of the bottom of the well, the fluid volume in the well is calculated.

3. ENSTRAT primarily collects groundwater samples with a low-flow rate Geotech–Geopump 2 peristaltic pump. Low-flow refers to the velocity of water entering the pump intake. The Geopump is fitted with dedicated and disposable tubing consisting of ¼-inch O.D./0.17-inch I.D flexible silicon at the pump connected to high-density polyethylene inserted into the monitoring well. During the sampling process the water level in the well is monitored with the electronic interface probe and the pump flow rate is adjusted to minimize drawdown of the water level in the well. The objective is to minimize disturbance of solids in the bottom of the well and the surrounding aquifer.

4. An alternative method of sampling involves the use of a dedicated disposable polyethylene bailer. Sampling via a disposable bailer involves lowering the bailer into the water table, retrieval and emptying of the bailer into the collection bucket and repeating this procedure.

5. At least three well volumes of water are removed from each well in order to induce recharge into the well from the adjacent aquifer materials for representative groundwater sample collection. The initial water purged from the well is observed for general water quality conditions such as color and clarity and indications of a petroleum product or sheen.

6. Sample bottles are filled directly from the Geopump tubing or the disposable bailer. Care is taken to minimize disturbance of the sample during transfer. Volatile organic analysis (VOA) bottles are filled with no air spaces. Following sample collection, all sample bottles are clearly labeled and stored in a chilled cooler during delivery to the laboratory under appropriate chain-of-custody procedures.

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MONITORING WELL CONSTRUCTION

1. Ground-water monitoring well constructions on the Site are observed by ENSTRAT personnel who have read and understand the particular ground-water monitoring program for accordance with proper construction procedures and guidelines as follows. ENSTRAT personnel are responsible for compiling field notes, documenting field conditions and keeping a well construction log independent of the driller.

2. Unless otherwise specified, well materials are threaded, one- or two-inch-diameter, flush jointed, schedule 40, polyvinyl chloride (PVC). Well screen length is ten feet and screen slot width is .010-inch. No PVC solvents or glues are used at any point during the monitoring well construction.

3. Well borings are typically advanced five feet below the water table or to refusal. If ground water is encountered at or near refusal, attempts may be made to advance the boring several feet into the refusal using specialized drilling methods. Unless otherwise specified, all well borings are advanced in accordance with ENSTRAT's Soil Borings protocol.

4. The well screen is set to intercept the water table surface. The top of the well screen is set above the highest anticipated seasonal water table, while the bottom of the well screen is set at the base of the boring.

5. The annular space around the well screen is backfilled with clean silica sand to approximately one foot above the top of the well screen. As necessary and if possible, a bentonite seal (typically one-foot-thick) is placed above the silica sand. The remaining annular space around the well casing is backfilled with native material to approximately six-twelve inches below grade. A protective roadbox is installed at the top of the well casing flush with the ground surface. The remaining annular space is filled with concrete to a level flush with the ground surface. Protective standpipes or other well finishing techniques are sometimes used in lieu of the standard roadboxes for Site specific purposes.

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FIELD SCREENING PROCEDURE FOR VOLATILE ORGANIC COMPOUNDS (VOCS) IN SOIL

The following procedures are utilized when conducting field screening of soils utilizing a portable photoionization detector (PID). A Thermo Environmental Instruments Organic Vapor Meter (OVM) model 580B or 580S, or equivalent, is utilized. The PID uses a 10.6 eV or 11.8 eV lamp referenced to an isobutylene standard and the PID may be adjusted for a response factor, as necessary (e.g. Benzene – 0.5). Results are shown in real time as total ionizable compounds in parts per million by volume (ppmv or just ppm).

1. Half-fill a clean glass jar with the sample to be analyzed. Quickly cover the open top with a clean sheet of aluminum foil and apply screw cap to tightly seal the jar.

2. Allow headspace to develop (typically 10 minutes). Vigorously shake jars both at the beginning and end of the headspace development period. Where ambient temperatures are below 32F (0C) headspace development is done within a heated space.

3. After headspace development, remove screw lid and expose foil seal. Quickly puncture foil seal with instrument sampling probe, to a point about one-half of the headspace depth. Exercise care to avoid uptake of water droplets or soil particulates.

4. Record highest meter response as the jar headspace concentration. Erratic meter response may occur at high organic vapor concentration or conditions of elevated headspace moisture.

5. Operation, maintenance and calibration of the instrument is performed in accordance with the manufacturer's specifications. Instrument calibration is checked and recalibrated, as necessary.

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ESTABLISHING VERTICAL CONTROL

1. Vertical control on-Site is established by ENSTRAT personnel who are responsible for keeping adequate field notes and electronically checking final elevations.

2. A benchmark is established on-Site using an assumed elevation of 100.00 feet Establishment of the benchmark is completely arbitrary with no intended correlation to mean sea level or national geodetic vertical datum; the benchmark is used solely for the purposes of comparing elevations between and relative to the monitoring wells and other environmental sampling locations at the Site. All monitoring well elevations are established with respect to this benchmark.

3. Elevations are established to points on the monitoring wells as determined by field conditions. Elevations are checked by the "level loop" method or other suitable purposes. Acceptable level loop closure error is dependant upon Site conditions, but typically on the order of 0.02 feet.

4. Ground-water depths are gauged using an electronic interface probe. Gauging is done with respect to the points on the monitoring wells as established in step 3 of this protocol.

5. Final ground-water elevations are then calculated with respect to the benchmark established in step 1 of this protocol.

6. The benchmark and individual monitoring well elevations are periodically checked using similar procedures as discussed above. In addition, new survey points are added to the referenced elevations using similar methods.

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Soil Boring Logs

ENSTRAT, INC
Strategic Environmental Services

BORING LOG

Drill Rig:	Geoprobe	Date Drilled:	10/21/2013	Logged By:
Boring Dia:	4 Inches	Boring Number:	SB-1	SP

Sample	Blow Counts	Completion	PID (ppm)	Depth Feet	Lithology	Description
	NA		<1			brown medium to coarse sand and gravel
	NA		<1	5		dark brown fine to medium sand tan medium to coarse sand and gravel
	NA		<1	10		wet tan medium to corse sand and gravel
				15		
				20		
				25		
				30		
				35		

Completion Notes:

Groundwater observed at about 15' feet bgs

Site:

Off Winthrop Street
Concord, MA 01742

Project No.: 2013-139 | Page 1

ENSTRAT, INC
Strategic Environmental Services

BORING LOG

Drill Rig:	Geoprobe	Date Drilled:	10/21/2013	Logged By:
Boring Dia:	4 Inches	Boring Number:	EN-4	SP

Sample	Blow Counts	Completion	PID (ppm)	Depth Feet	Lithology	Description
	NA		<1			brown loam
						tan medium to coarse sand
				5		
	NA		<1			tan medium to corse sand and gravel
				10		
						tan medium to coarse sand with some fill material (brick and wood)
	NA		<1			
						wet tan medium to coarse sand and gravel
				15		
				20		
				25		
				30		
				35		

Completion Notes:

Groundwater observed at about 13 feet bgs

Site:

Off Winthrop Street
Concord, MA 01742

Project No.: 2013-139 | Page 1

ENSTRAT, INC
Strategic Environmental Services

BORING LOG

Drill Rig:	Geoprobe	Date Drilled:	10/21/2013	Logged By:
Boring Dia:	4 Inches	Boring Number:	EN-3	SP

Sample	Blow Counts	Completion	PID (ppm)	Depth Feet	Lithology	Description
	NA		<1			tan medium to coarse sand
	NA		<1	5		tan medium to coarse sand
	NA		<1	10		tan medium to corse sand and gravel
				15		wet tan medium to coarse sand and gravel
				20		
				25		
				30		
				35		

Completion Notes:

Groundwater observed at about 14' feet bgs

Site:

Off Winthrop Street
Concord, MA 01742

Project No.: 2013-139

ENSTRAT, INC
Strategic Environmental Services

BORING LOG

Drill Rig:	Geoprobe	Date Drilled:	10/21/2013	Logged By:
Boring Dia:	4 Inches	Boring Number:	EN-2	SP

Sample	Blow Counts	Completion	PID (ppm)	Depth Feet	Lithology	Description
	NA		<1			tan medium to coarse sand
	NA		<1	5		tan medium to coarse sand
	NA		<1	10		tan medium to corse sand and gravel
				15		wet tan medium to coarse sand and gravel
				20		
				25		
				30		
				35		

Completion Notes:

Groundwater observed at about 14' feet bgs

Site:

Off Winthrop Street
Concord, MA 01742

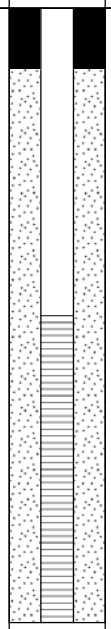
Project No.: 2013-139

BORING LOG

ENSTRAT, INC
Strategic Environmental Services

Drill Rig:	Geoprobe	Date Drilled:	10/21/2013	Logged By:
Boring Dia:	4 Inches	Boring Number:	EN-1	SP

Sample	Blow Counts	Completion	PID (ppm)	Depth Feet	Lithology	Description
	NA		<1			tan medium to coarse sand
	NA		<1	5		tan medium to coarse sand
	NA		<1	10		tan medium to corse sand and gravel
	NA		<1	15		wet tan medium to coarse sand
				20		wet tan fine sand
				25		
				30		
				35		



Completion Notes:

Groundwater observed at about 15' feet bgs

Site:

Off Winthrop Street
Concord, MA 01742

Project No.: 2013-139 Page 1

ENSTRAT, INC
Strategic Environmental Services

BORING LOG

Drill Rig:	Geoprobe	Date Drilled:	10/21/2013	Logged By:
Boring Dia:	4 Inches	Boring Number:	SB-2	SP

Sample	Blow Counts	Completion	PID (ppm)	Depth Feet	Lithology	Description
	NA		<1			brown medium to coarse sand and gravel
	NA		<1	5		dark brown fine to medium sand tan medium to coarse sand and gravel
	NA		<1	10		wet tan medium to corse sand and gravel
				15		
				20		
				25		
				30		
				35		

Completion Notes:

Groundwater observed at about 15' feet bgs

Site:

Off Winthrop Street
Concord, MA 01742

Project No.: 2013-139 | Page 1

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Laboratory Data

ANALYTICAL REPORT

Lab Number:	L1321248
Client:	Enstrat 28 Lord Road Suite 205 Marlboro, MA 01752
ATTN:	Stacy Paquette
Phone:	(508) 460-6100
Project Name:	OFF WINTHROP STREET
Project Number:	2013-139
Report Date:	10/30/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: OFF WINTHROP STREET
Project Number: 2013-139

Lab Number: L1321248
Report Date: 10/30/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1321248-01	SB-1 (4'-6')	CONCORD, MA	10/21/13 12:00
L1321248-02	SB-1 (9'-11')	CONCORD, MA	10/21/13 12:00
L1321248-03	SB-2 (4'-6')	CONCORD, MA	10/21/13 13:00
L1321248-04	SB-2 (9'-11')	CONCORD, MA	10/21/13 13:00
L1321248-05	EN-3 (4'-6')	CONCORD, MA	10/21/13 14:00
L1321248-06	EN-3 (9'-11')	CONCORD, MA	10/21/13 14:00
L1321248-07	EN-4 (4'-6')	CONCORD, MA	10/21/13 15:00

Project Name: OFF WINTHROP STREET **Lab Number:** L1321248

Project Number: 2013-139 **Report Date:** 10/30/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: OFF WINTHROP STREET **Lab Number:** L1321248
Project Number: 2013-139 **Report Date:** 10/30/13

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for 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:	OFF WINTHROP STREET	**Lab Number:**	L1321248
Project Number:	2013-139	**Report Date:**	10/30/13

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analyses of Total Metals and Hexavalent Chromium.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

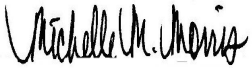
Chromium, Hexavalent

LCS/LCSD SRM Lot#: ERA D081-921

In reference to question A:

The analyses of pH and ORP were performed beyond the required 24hr holding time specified per the Sample Collection, Preservation, and Handling Procedures for Hexavalent Chromium (Cr(VI)) by WSC-CAM-VI B.

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:  Michelle M. Morris

Title: Technical Director/Representative Date: 10/30/13

METALS

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-01
Client ID: SB-1 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 93%

Date Collected: 10/21/13 12:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	60		mg/kg	0.42	--	1	10/25/13 11:35	10/28/13 20:30	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-02
Client ID: SB-1 (9'-11')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 92%

Date Collected: 10/21/13 12:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	23		mg/kg	0.42	--	1	10/25/13 11:35	10/28/13 20:33	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-03
Client ID: SB-2 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 90%

Date Collected: 10/21/13 13:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	17		mg/kg	0.42	--	1	10/25/13 11:35	10/28/13 20:37	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-04
Client ID: SB-2 (9'-11')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 92%

Date Collected: 10/21/13 13:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	22		mg/kg	0.41	--	1	10/25/13 11:35	10/28/13 20:40	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-05
Client ID: EN-3 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 97%

Date Collected: 10/21/13 14:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	28		mg/kg	0.38	--	1	10/25/13 11:35	10/28/13 20:44	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-06
Client ID: EN-3 (9'-11')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 96%

Date Collected: 10/21/13 14:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	34		mg/kg	0.41	--	1	10/25/13 11:35	10/28/13 20:47	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Lab Number: L1321248
Project Number: 2013-139
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-07
Client ID: EN-4 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil
Percent Solids: 98%

Date Collected: 10/21/13 15:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Chromium, Total	46		mg/kg	0.39	--	1	10/25/13 11:35	10/28/13 20:51	EPA 3050B	97,6010C	TT

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01-07 Batch: WG646999-1										
Chromium, Total	ND		mg/kg	0.40	--	1	10/25/13 11:35	10/28/13 19:51	97,6010C	TT

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321248

Report Date: 10/30/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associated sample(s): 01-07 Batch: WG646999-2 WG646999-3 SRM Lot Number: 0518-10-02								
Chromium, Total	92		92		80-119	0		30

INORGANICS
&
MISCELLANEOUS

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-01
Client ID: SB-1 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil
Date Collected: 10/21/13 12:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.86	--	1	10/23/13 15:00	10/24/13 15:36	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	60		mg/kg	0.86	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	92.9		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	7.7		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	220		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-02
Client ID: SB-1 (9'-11')
Sample Location: CONCORD, MA
Matrix: Soil

Date Collected: 10/21/13 12:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.87	--	1	10/23/13 15:00	10/24/13 15:36	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	23		mg/kg	0.87	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	91.5		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	8.4		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	180		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-03
Client ID: SB-2 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil

Date Collected: 10/21/13 13:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.89	--	1	10/23/13 15:00	10/24/13 15:37	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	17		mg/kg	0.89	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	89.6		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	8.3		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	180		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-04
Client ID: SB-2 (9'-11')
Sample Location: CONCORD, MA
Matrix: Soil

Date Collected: 10/21/13 13:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.87	--	1	10/23/13 15:00	10/24/13 15:37	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	22		mg/kg	0.87	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	92.3		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	7.7		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	200		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-05
Client ID: EN-3 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil
Date Collected: 10/21/13 14:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.82	--	1	10/23/13 15:00	10/24/13 15:38	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	28		mg/kg	0.82	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	97.1		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	4.5		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	360		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-06
Client ID: EN-3 (9'-11')
Sample Location: CONCORD, MA
Matrix: Soil

Date Collected: 10/21/13 14:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	0.87		mg/kg	0.83	--	1	10/23/13 15:00	10/24/13 15:38	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	33		mg/kg	0.83	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	96.1		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	4.3		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	360		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

SAMPLE RESULTS

Lab ID: L1321248-07
Client ID: EN-4 (4'-6')
Sample Location: CONCORD, MA
Matrix: Soil

Date Collected: 10/21/13 15:00
Date Received: 10/22/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/kg	0.82	--	1	10/23/13 15:00	10/24/13 15:39	97,7196A	ST
General Chemistry - Westborough Lab										
Chromium, Trivalent	46		mg/kg	0.82	--	1	-	10/29/13 10:08	107,-	JO
Solids, Total	97.8		%	0.100	NA	1	-	10/24/13 00:48	30,2540G	RT
pH (H)	6.8		SU	-	NA	1	-	10/23/13 13:30	1,9045D	ML
Oxidation/Reduction Potential	300		mv	-	NA	1	-	10/23/13 13:30	68,1498	ML

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321248
Report Date: 10/30/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab for sample(s): 01-07 Batch: WG646428-1										
Chromium, Hexavalent	ND		mg/kg	0.80	--	1	10/23/13 15:00	10/24/13 15:19	97,7196A	ST

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321248

Report Date: 10/30/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07 Batch: WG646362-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-07 Batch: WG646364-1								
Oxidation/Reduction Potential	102		-		90-110	-		20
MCP General Chemistry - Westborough Lab Associated sample(s): 01-07 Batch: WG646428-2 WG646428-3								
Chromium, Hexavalent	93		88		70-129	6		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: OFF WINTHROP STREET
Project Number: 2013-139

Lab Number: L1321248
Report Date: 10/30/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07 QC Batch ID: WG646362-2 QC Sample: L1321248-01 Client ID: SB-1 (4'-6')						
pH (H)	7.7	7.6	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01-07 QC Batch ID: WG646364-2 QC Sample: L1321248-01 Client ID: SB-1 (4'-6')						
Oxidation/Reduction Potential	220	220	mv	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-07 QC Batch ID: WG646498-1 QC Sample: L1321089-01 Client ID: DUP Sample						
Solids, Total	75.4	77.1	%	2		20

Project Name: OFF WINTHROP STREET
Project Number: 2013-139

Lab Number: L1321248
Report Date: 10/30/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1321248-01A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)
L1321248-02A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)
L1321248-03A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)
L1321248-04A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)
L1321248-05A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)
L1321248-06A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)
L1321248-07A	Amber 250ml unpreserved	A	N/A	4.1	Y	Absent	MCP-CR-6010T-10(180),ORP-9045(1),MCP-HEXCR7196-10(30),TRICR-CALC(30),TS(7),PH-9045(1)

*Values in parentheses indicate holding time in days

Project Name:	OFF WINTHROP STREET	**Lab Number:**	L1321248
Project Number:	2013-139	**Report Date:**	10/30/13

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.
NI	- Not Ignitable.
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.

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

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.
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.

Report Format: Data Usability Report

Project Name:	OFF WINTHROP STREET	**Lab Number:**	L1321248
Project Number:	2013-139	**Report Date:**	10/30/13

Data Qualifiers

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:	OFF WINTHROP STREET	**Lab Number:**	L1321248
Project Number:	2013-139	**Report Date:**	10/30/13

REFERENCES

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

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

68 Annual Book of ASTM (American Society for Testing and Materials) Standards following extraction by SW-846 EPA Method 9045C under the requirements of MADEP BWSC, WSC-CAM-VIB. August 2004.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

107 Alpha Analytical - In-house calculation method.

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.

Certificate/Approval Program Summary

Last revised October 1, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: 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-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. ***NELAP Accredited.***
Drinking Water (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

Non-Potable Water (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

Solid & Chemical Materials (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310C, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, 4500SO4-E, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 5030C, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5030C, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330A, 8082A, EPA 3510C, 5030B, 5030C, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330A, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C,

4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

CHAIN OF CUSTODY

PAGE 1 OF 2

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

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

Date Rec'd in Lab: 10/22/13

ALPHA Job #: L1321248

Client Information

Client: ENSTRAT INC
Address: 28 Lord Rd, Suite 205
Marlboro, MA 01752
Phone: 508 460 6100
Email: SPAQUETTE@ENSTRAT.NET

Project Information

Project Name: Off Winthrop Street
Project Location: Concord, MA
Project #: 2013-139
Project Manager: Stacy Paquette
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 10/29/13

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:

* analyze for Hexavalent / trivalent Chromium first then total Chromium (only 1 container)

ANALYSIS

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

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	Sample Comments	TOTAL # BOTTLES
21248.01	SB-1 (4'-6')	10/21/13	1200				1
.02	SB-1 (9'-11')	10/21/13	1200				1
.03	SB-2 (4'-6')		1300				1
.04	SB-2 (9'-11')		1300				1
.05	EN-3 (4'-6')		1400				1
.06	EN-3 (9'-11')		1400				1
.07	EN-4 (4'-6')	" "	1500				1

Container Type	A	A
Preservative	A	A

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Stacy N Paquette	10		
	10/22/13 1600		10/22/13 15:40
			10/22/13 16:00

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

ANALYTICAL REPORT

Lab Number:	L1321719
Client:	Enstrat 28 Lord Road Suite 205 Marlboro, MA 01752
ATTN:	Stacy Paquette
Phone:	(508) 460-6100
Project Name:	OFF WINTHROP STREET
Project Number:	2013-139
Report Date:	11/04/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: OFF WINTHROP STREET
Project Number: 2013-139

Lab Number: L1321719
Report Date: 11/04/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1321719-01	EN-1	CONCORD, MA	10/28/13 10:30
L1321719-02	EN-2	CONCORD, MA	10/28/13 11:30
L1321719-03	EN-3	CONCORD, MA	10/28/13 12:30
L1321719-04	EN-4	CONCORD, MA	10/28/13 13:00

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719
Project Number: 2013-139 **Report Date:** 11/04/13

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for 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: OFF WINTHROP STREET **Lab Number:** L1321719
Project Number: 2013-139 **Report Date:** 11/04/13

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

The sample L1321719-04 was field filtered for Dissolved Metals.

Volatile Organics

In reference to question H:

The initial calibration, associated with L1321719-01 through -04, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.09797), 1,4-dioxane (0.00162), 4-methyl-2-pentanone (0.06504), as well as the average response factor for acetone, 1,4-dioxane, and 4-methyl-2-pentanone.

The continuing calibration standard, associated with L1321719-01 through -04, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

EPH

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

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: Cynthia McQueen

Title: Technical Director/Representative Date: 11/04/13

ORGANICS

VOLATILES

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-01	Date Collected:	10/28/13 10:30
Client ID:	EN-1	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	97,8260C		
Analytical Date:	11/01/13 14:38		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	1.2		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-01 Date Collected: 10/28/13 10:30

Client ID: EN-1 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-01 Date Collected: 10/28/13 10:30

Client ID: EN-1 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	99		70-130

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-02	Date Collected:	10/28/13 11:30
Client ID:	EN-2	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	97,8260C		
Analytical Date:	11/01/13 15:10		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-02 Date Collected: 10/28/13 11:30

Client ID: EN-2 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-02 Date Collected: 10/28/13 11:30

Client ID: EN-2 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-03	Date Collected:	10/28/13 12:30
Client ID:	EN-3	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	97,8260C		
Analytical Date:	11/01/13 15:41		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-03 Date Collected: 10/28/13 12:30

Client ID: EN-3 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-03 Date Collected: 10/28/13 12:30

Client ID: EN-3 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,4-Dioxane	ND		ug/l	250	--	1

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

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-04	Date Collected:	10/28/13 13:00
Client ID:	EN-4	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	97,8260C		
Analytical Date:	11/01/13 16:13		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-04 Date Collected: 10/28/13 13:00

Client ID: EN-4 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-04 Date Collected: 10/28/13 13:00

Client ID: EN-4 Date Received: 10/28/13

Sample Location: CONCORD, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/01/13 12:32
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG648829-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/01/13 12:32
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG648829-3					
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/01/13 12:32
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG648829-3					
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

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

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG648829-1 WG648829-2								
Methylene chloride	100		104		70-130	4		20
1,1-Dichloroethane	97		105		70-130	8		20
Chloroform	97		105		70-130	8		20
Carbon tetrachloride	**69**	Q	79		70-130	14		20
1,2-Dichloropropane	99		105		70-130	6		20
Dibromochloromethane	103		110		70-130	7		20
1,1,2-Trichloroethane	108		113		70-130	5		20
Tetrachloroethene	102		111		70-130	8		20
Chlorobenzene	101		109		70-130	8		20
Trichlorofluoromethane	94		103		70-130	9		20
1,2-Dichloroethane	100		105		70-130	5		20
1,1,1-Trichloroethane	95		104		70-130	9		20
Bromodichloromethane	95		102		70-130	7		20
trans-1,3-Dichloropropene	104		111		70-130	7		20
cis-1,3-Dichloropropene	101		107		70-130	6		20
1,1-Dichloropropene	97		106		70-130	9		20
Bromoform	101		106		70-130	5		20
1,1,2,2-Tetrachloroethane	110		116		70-130	5		20
Benzene	98		106		70-130	8		20
Toluene	101		109		70-130	8		20
Ethylbenzene	101		110		70-130	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG648829-1 WG648829-2								
Chloromethane	111		120		70-130	8		20
Bromomethane	95		103		70-130	8		20
Vinyl chloride	98		110		70-130	12		20
Chloroethane	99		107		70-130	8		20
1,1-Dichloroethene	100		110		70-130	10		20
trans-1,2-Dichloroethene	98		106		70-130	8		20
Trichloroethene	98		105		70-130	7		20
1,2-Dichlorobenzene	106		111		70-130	5		20
1,3-Dichlorobenzene	104		108		70-130	4		20
1,4-Dichlorobenzene	104		108		70-130	4		20
Methyl tert butyl ether	81		86		70-130	6		20
p/m-Xylene	102		109		70-130	7		20
o-Xylene	104		110		70-130	6		20
cis-1,2-Dichloroethene	99		103		70-130	4		20
Dibromomethane	105		108		70-130	3		20
1,2,3-Trichloropropane	108		114		70-130	5		20
Styrene	105		111		70-130	6		20
Dichlorodifluoromethane	96		106		70-130	10		20
Acetone	**151**	Q	**161**	Q	70-130	6		20
Carbon disulfide	92		101		70-130	9		20
2-Butanone	**136**	Q	**139**	Q	70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG648829-1 WG648829-2								
4-Methyl-2-pentanone	106		117		70-130	10		20
2-Hexanone	126		127		70-130	1		20
Bromochloromethane	102		107		70-130	5		20
Tetrahydrofuran	114		120		70-130	5		20
2,2-Dichloropropane	83		90		70-130	8		20
1,2-Dibromoethane	109		116		70-130	6		20
1,3-Dichloropropane	107		113		70-130	5		20
1,1,1,2-Tetrachloroethane	96		105		70-130	9		20
Bromobenzene	104		109		70-130	5		20
n-Butylbenzene	101		106		70-130	5		20
sec-Butylbenzene	102		109		70-130	7		20
tert-Butylbenzene	101		108		70-130	7		20
o-Chlorotoluene	99		105		70-130	6		20
p-Chlorotoluene	100		106		70-130	6		20
1,2-Dibromo-3-chloropropane	115		118		70-130	3		20
Hexachlorobutadiene	98		104		70-130	6		20
Isopropylbenzene	103		111		70-130	7		20
p-Isopropyltoluene	104		109		70-130	5		20
Naphthalene	111		115		70-130	4		20
n-Propylbenzene	101		107		70-130	6		20
1,2,3-Trichlorobenzene	111		118		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG648829-1 WG648829-2								
1,2,4-Trichlorobenzene	108		115		70-130	6		20
1,3,5-Trimethylbenzene	102		108		70-130	6		20
1,2,4-Trimethylbenzene	101		107		70-130	6		20
Ethyl ether	106		111		70-130	5		20
Isopropyl Ether	100		106		70-130	6		20
Ethyl-Tert-Butyl-Ether	97		103		70-130	6		20
Tertiary-Amyl Methyl Ether	102		107		70-130	5		20
1,4-Dioxane	114		111		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	103		101		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	101		99		70-130

PETROLEUM HYDROCARBONS

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-01	Date Collected:	10/28/13 10:30
Client ID:	EN-1	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	10/29/13 22:38
Analytical Date:	10/31/13 21:02	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	10/30/13

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	71		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	74		40-140

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-02	Date Collected:	10/28/13 11:30
Client ID:	EN-2	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	10/29/13 22:38
Analytical Date:	11/01/13 08:14	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	10/30/13

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	41		40-140
o-Terphenyl	63		40-140
2-Fluorobiphenyl	66		40-140
2-Bromonaphthalene	66		40-140

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-03	Date Collected:	10/28/13 12:30
Client ID:	EN-3	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	10/29/13 22:38
Analytical Date:	11/01/13 08:59	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	10/30/13

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	67		40-140
2-Bromonaphthalene	68		40-140

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

SAMPLE RESULTS

Lab ID:	L1321719-04	Date Collected:	10/28/13 13:00
Client ID:	EN-4	Date Received:	10/28/13
Sample Location:	CONCORD, MA	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	10/29/13 22:38
Analytical Date:	11/01/13 09:44	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	10/30/13

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	68		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	73		40-140

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 10/31/13 15:48
Analyst: SR

Extraction Method: EPA 3510C
Extraction Date: 10/29/13 22:38
Cleanup Method1: EPH-04-1
Cleanup Date1: 10/30/13

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-04 Batch: WG647931-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	73		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	73		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG647931-2 WG647931-3								
C9-C18 Aliphatics	55		58		40-140	5		25
C19-C36 Aliphatics	67		71		40-140	6		25
C11-C22 Aromatics	78		78		40-140	0		25
Naphthalene	64		66		40-140	3		25
2-Methylnaphthalene	71		73		40-140	3		25
Acenaphthylene	65		68		40-140	5		25
Acenaphthene	72		74		40-140	3		25
Fluorene	74		75		40-140	1		25
Phenanthrene	77		78		40-140	1		25
Anthracene	74		75		40-140	1		25
Fluoranthene	79		79		40-140	0		25
Pyrene	80		81		40-140	1		25
Benzo(a)anthracene	75		75		40-140	0		25
Chrysene	76		76		40-140	0		25
Benzo(b)fluoranthene	76		79		40-140	4		25
Benzo(k)fluoranthene	81		76		40-140	6		25
Benzo(a)pyrene	73		75		40-140	3		25
Indeno(1,2,3-cd)Pyrene	77		76		40-140	1		25
Dibenzo(a,h)anthracene	58		57		40-140	2		25
Benzo(ghi)perylene	74		73		40-140	1		25
Nonane (C9)	40		42		30-140	5		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG647931-2 WG647931-3								
Decane (C10)	49		52		40-140	6		25
Dodecane (C12)	59		62		40-140	5		25
Tetradecane (C14)	64		67		40-140	5		25
Hexadecane (C16)	67		71		40-140	6		25
Octadecane (C18)	71		75		40-140	5		25
Nonadecane (C19)	71		76		40-140	7		25
Eicosane (C20)	71		76		40-140	7		25
Docosane (C22)	71		76		40-140	7		25
Tetracosane (C24)	70		74		40-140	6		25
Hexacosane (C26)	69		73		40-140	6		25
Octacosane (C28)	67		70		40-140	4		25
Triacontane (C30)	68		71		40-140	4		25
Hexatriacontane (C36)	64		67		40-140	5		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	56		61		40-140
o-Terphenyl	73		72		40-140
2-Fluorobiphenyl	70		74		40-140
2-Bromonaphthalene	70		74		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

METALS

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

SAMPLE RESULTS

Lab ID: L1321719-04
Client ID: EN-4
Sample Location: CONCORD, MA
Matrix: Water
Date Collected: 10/28/13 13:00
Date Received: 10/28/13
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.0017		mg/l	0.0010	--	1	10/30/13 13:03	11/04/13 16:29	NA	97,6020A	BM
Arsenic, Dissolved	ND		mg/l	0.005	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Barium, Dissolved	0.10		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Beryllium, Dissolved	ND		mg/l	0.005	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Cadmium, Dissolved	ND		mg/l	0.004	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Chromium, Dissolved	ND		mg/l	0.01	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Lead, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Mercury, Dissolved	ND		mg/l	0.0002	--	1	11/01/13 12:15	11/01/13 21:28	EPA 7470A	97,7470A	DR
Nickel, Dissolved	ND		mg/l	0.025	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Selenium, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Silver, Dissolved	ND		mg/l	0.007	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Thallium, Dissolved	ND		mg/l	0.0005	--	1	10/30/13 13:03	11/04/13 16:29	NA	97,6020A	BM
Vanadium, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH
Zinc, Dissolved	0.099		mg/l	0.050	--	1	10/30/13 13:03	11/03/13 13:45	EPA 3005A	97,6010C	JH

Project Name: OFF WINTHROP STREET **Lab Number:** L1321719

Project Number: 2013-139 **Report Date:** 11/04/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 04 Batch: WG648125-1										
Arsenic, Dissolved	ND		mg/l	0.005	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Barium, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Beryllium, Dissolved	ND		mg/l	0.005	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Cadmium, Dissolved	ND		mg/l	0.004	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Chromium, Dissolved	ND		mg/l	0.01	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Lead, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Nickel, Dissolved	ND		mg/l	0.025	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Selenium, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Silver, Dissolved	ND		mg/l	0.007	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Vanadium, Dissolved	ND		mg/l	0.010	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH
Zinc, Dissolved	ND		mg/l	0.050	--	1	10/30/13 13:03	11/03/13 13:33	97,6010C	JH

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 04 Batch: WG648746-1										
Mercury, Dissolved	ND		mg/l	0.0002	--	1	11/01/13 12:15	11/01/13 21:01	97,7470A	DR

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 04 Batch: WG649221-1										
Antimony, Dissolved	ND		mg/l	0.0010	--	1	10/30/13 13:03	11/04/13 16:10	97,6020A	BM
Thallium, Dissolved	ND		mg/l	0.0005	--	1	10/30/13 13:03	11/04/13 16:10	97,6020A	BM

Project Name: OFF WINTHROP STREET
Project Number: 2013-139
Lab Number: L1321719
Report Date: 11/04/13

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: NA

Lab Control Sample Analysis

Batch Quality Control

Project Name: OFF WINTHROP STREET

Project Number: 2013-139

Lab Number: L1321719

Report Date: 11/04/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 04 Batch: WG648125-2 WG648125-3								
Arsenic, Dissolved	100		101		80-120	1		20
Barium, Dissolved	96		95		80-120	1		20
Beryllium, Dissolved	97		98		80-120	1		20
Cadmium, Dissolved	99		100		80-120	1		20
Chromium, Dissolved	95		100		80-120	5		20
Lead, Dissolved	100		102		80-120	2		20
Nickel, Dissolved	94		95		80-120	1		20
Selenium, Dissolved	103		103		80-120	0		20
Silver, Dissolved	101		101		80-120	0		20
Vanadium, Dissolved	99		100		80-120	1		20
Zinc, Dissolved	97		98		80-120	1		20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 04 Batch: WG648746-2 WG648746-3								
Mercury, Dissolved	108		108		80-120	0		20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 04 Batch: WG649221-2 WG649221-3								
Antimony, Dissolved	82		85		80-120	4		20
Thallium, Dissolved	96		97		80-120	1		20

Project Name: OFF WINTHROP STREET
Project Number: 2013-139

Lab Number: L1321719
Report Date: 11/04/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1321719-01A	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-01B	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-01C	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-01D	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-01E	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-02A	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-02B	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-02C	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-02D	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-02E	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-03A	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-03B	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-03C	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-03D	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-03E	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-04A	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-04B	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-04C	Vial HCl preserved	A	N/A	2.2	Y	Absent	MCP-8260-10(14)
L1321719-04D	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)
L1321719-04E	Amber 1000ml HCl preserved	A	<2	2.2	Y	Absent	EPH-10(14)

*Values in parentheses indicate holding time in days

Project Name: OFF WINTHROP STREET
Project Number: 2013-139

Lab Number: L1321719
Report Date: 11/04/13

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1321719-04F	Plastic 250ml HNO3 preserved	A	<2	2.2	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)

Container Comments

L1321719-04F

*Values in parentheses indicate holding time in days

Project Name:	OFF WINTHROP STREET	**Lab Number:**	L1321719
Project Number:	2013-139	**Report Date:**	11/04/13

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.

NI - Not Ignitable.

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.

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

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.

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.

Report Format: Data Usability Report

Project Name:	OFF WINTHROP STREET	**Lab Number:**	L1321719
Project Number:	2013-139	**Report Date:**	11/04/13

Data Qualifiers

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:	OFF WINTHROP STREET	**Lab Number:**	L1321719
Project Number:	2013-139	**Report Date:**	11/04/13

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

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.

Certificate/Approval Program Summary

Last revised October 1, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: 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-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. ***NELAP Accredited.***
Drinking Water (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

Non-Potable Water (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

Solid & Chemical Materials (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310C, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, 4500SO4-E, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 5030C, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5030C, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330A, 8082A, EPA 3510C, 5030B, 5030C, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330A, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C,

4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

CHAIN OF CUSTODY

PAGE 1 OF 1

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

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

Date Rec'd in Lab: 10/28/13

ALPHA Job #: L1321719

Client Information

Client: ENSTRAT, INC
Address: 28 Lord Rd, Suite 205
Marlboro, MA 01752
Phone: 508 460 6100
Email: SPAQUETTE@ENSTRAT.NET

Project Information

Project Name: Off Winthrop St
Project Location: Concord, MA
Project #: 2013-139
Project Manager: Stacy Paquette
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 11/4/13

Additional Project Information:

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 _____

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☑ 8260 ☐ 624	SVOC: ☐ 524.2 ☐ ABN	METALS: ☐ PAH ☐ MCP 13	METALS: ☑ MCP 14 ☐ RCP 15 ☐ RCRA5 ☐ RCRA8	EPH: ☐ PP13 ☐ Ranges & Targets ☑ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Sample Comments	TOTAL # BOTTLES
21719-01	EN-1	10/28/13	1030	GW	SP	✓				✓					5
02	EN-2	"	1130	"	"	✓				✓					5
03	EN-3	"	1230	"	"	✓				✓					5
04	EN-4	"	100	"	"	✓		✓		✓					6
Container Type						✓		P		A					
Preservative						B		C		B					

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

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
Stacy Paquette	10/28/13 2400	[signature]	10/28/13 15:50
[signature]	10/28/13 1630	William McAlender	10/28/13 1630

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

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

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1321719

Instrument ID: Quimby.i Calibration Date: 01-NOV-2013 Time: 10:57

Lab File ID: 1101A02 Init. Calib. Date(s): 30-OCT-2 30-OCT-2

Sample No: 8260 CCAL Init. Calib. Times : 19:37 22:46

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.38912	.37205	.1	4	20	
chloromethane	.3589	.39964	.1	-11	20	
vinyl chloride	.35814	.35027	.1	2	20	
bromomethane	100	94.895	.1	5	20	
chloroethane	.24039	.23742	.1	1	20	
trichlorofluoromethane	.62467	.58625	.1	6	20	
ethyl ether	.15706	.16573	.05	-6	20	
acetone	.09054	.13638	.1	-51	20	F
1,1,-dichloroethene	.32663	.32635	.1	0	20	
methylene chloride	.36869	.36871	.1	0	20	
carbon disulfide	.94159	.86208	.1	8	20	
methyl tert butyl ether	.66306	.53823	.1	19	20	
trans-1,2-dichloroethene	.36067	.35506	.1	2	20	
Diisopropyl Ether	1.2948	1.3009	.05	0	20	
1,1-dichloroethane	.69768	.67983	.2	3	20	
Ethyl-Tert-Butyl-Ether	.96721	.94229	.05	3	20	
2-butanone	.11094	.15059	.1	-36	20	F
2,2-dichloropropane	.48885	.40669	.05	17	20	
cis-1,2-dichloroethene	.39491	.38955	.1	1	20	
chloroform	.70176	.68314	.2	3	20	
bromochloromethane	.18322	.18742	.05	-2	20	
tetrahydrofuran	.06104	.06969	.05	-14	20	
1,1,1-trichloroethane	.64485	.61194	.1	5	20	
1,1-dichloropropene	.54015	.52546	.05	3	20	
carbontetrachloride	.55352	.38228	.1	31	20	F
Tertiary-Amyl Methyl Ether	.67505	.68592	.05	-2	20	
1,2-dichloroethane	.50656	.50902	.1	0	20	
benzene	1.4567	1.4250	.5	2	20	
trichloroethene	.38505	.37639	.2	2	20	
1,2-dichloropropane	.36382	.36122	.1	1	20	
bromodichloromethane	.50651	.48212	.2	5	20	
1,4-dioxane	.00183	.00207	.05	-14	20	F
dibromomethane	.17693	.1862	.05	-5	20	
4-methyl-2-pentanone	.0791	.08354	.1	-6	20	F
cis-1,3-dichloropropene	.52481	.53138	.2	-1	20	
toluene	1.1136	1.1231	.4	-1	20	
trans-1,3-dichloropropene	.4923	.51065	.1	-4	20	
1,1,2-trichloroethane	.22353	.24257	.1	-9	20	

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7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1321719

Instrument ID: Quimby.i Calibration Date: 01-NOV-2013 Time: 10:57

Lab File ID: 1101A02 Init. Calib. Date(s): 30-OCT-2 30-OCT-2

Sample No: 8260 CCAL Init. Calib. Times : 19:37 22:46

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
2-hexanone	.17037	.21417	.1	-26	20	F
1,3-dichloropropane	.51093	.54676	.05	-7	20	
tetrachloroethene	.58435	.59323	.2	-2	20	
chlorodibromomethane	.40272	.41412	.1	-3	20	
1,2-dibromoethane	.2999	.32592	.1	-9	20	
chlorobenzene	1.3393	1.3591	.5	-1	20	
1,1,1,2-tetrachloroethane	.46998	.45242	.05	4	20	
ethyl benzene	2.3086	2.3386	.1	-1	20	
p/m xylene	.94444	.96417	.1	-2	20	
o xylene	.89455	.9278	.3	-4	20	
styrene	1.4316	1.5067	.31	-5	20	
isopropylbenzene	2.5468	2.6131	.1	-3	20	
bromoform	.39163	.39681	.1	-1	20	
1,1,2,2,-tetrachloroethane	.50803	.55791	.3	-10	20	
1,2,3-trichloropropane	.42695	.46357	.05	-9	20	
n-propylbenzene	4.3048	4.3506	.05	-1	20	
bromobenzene	1.0024	1.0418	.05	-4	20	
1,3,5-trimethybenzene	3.5420	3.5976	.05	-2	20	
2-chlorotoluene	3.0682	3.0477	.05	1	20	
4-chorotoluene	2.8547	2.8658	.05	0	20	
tert-butylbenzene	3.1452	3.1867	.05	-1	20	
1,2,4-trimethylbenzene	3.3033	3.3428	.05	-1	20	
sec-butylbenzene	4.4457	4.5137	.05	-2	20	
p-isopropyltoluene	3.7677	3.9049	.05	-4	20	
1,3-dichlorobenzene	2.0081	2.0859	.6	-4	20	
1,4-dichlorobenzene	1.9667	2.0360	.5	-4	20	
n-butylbenzene	3.5219	3.5702	.05	-1	20	
1,2-dichlorobenzene	1.754	1.8697	.4	-7	20	
1,2-dibromo-3-chloropropane	.08292	.09556	.05	-15	20	
1,2,4-trichlorobenzene	.92005	.99904	.2	-9	20	
hexachlorobutadiene	.49988	.49251	.05	1	20	
naphthalene	1.4274	1.5859	.05	-11	20	
1,2,3-trichlorobenzene	.73187	.81576	.05	-11	20	
dibromofluoromethane	.26669	.27019	.05	-1	20	
1,2-dichloroethane-d4	.29247	.29754	.05	-2	20	
toluene-d8	1.1303	1.1599	.05	-3	20	
4-bromofluorobenzene	.81021	.78715	.05	3	20	

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Project Limitations

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PROJECT LIMITATIONS

1. This report assessed physical characteristics in regards to the presence of specific hazardous substances or petroleum products in the environment. Compliance of past or present owners or operators with any federal, state, or local laws and regulations was not verified.
2. Observations described in this assessment were made under the conditions stated within this report. The conclusions presented were based solely upon the services described and not upon scientific procedures which were beyond the scope of this assessment or the budgetary and time constraints imposed by the Client. Where access to portions of the Site were unavailable, limited, or obscured by ground cover conditions, such as snow, ice, or other obstructions, ENSTRAT, Inc. renders no opinion as to the presence of oil or hazardous materials in these areas. ENSTRAT, Inc. reserves the right to modify the conclusions of this report should further information become available.
3. Certain information provided by state and local officials, as well as other parties herein referenced, was used to develop this report. The accuracy or completeness of the information provided by these sources was not independently verified.
4. Present and past ownership information may have been obtained through a review of a land title records provided to ENSTRAT, Inc. by others. Ownership deed searches conducted by ENSTRAT, Inc. personnel do not constitute a certified title search or include extensive research for information concerning pending litigation and court orders imposing limits on usage of the Site.
5. Groundwater flow may have been estimated from a review of the USGS topographic map that includes the Site. However, ground-water flow directions interpreted from this source are only meant to be a regional estimate and should not be confused with a Site specific estimate that requires installing and surveying monitoring wells at the Site.
6. Variations in types and concentrations of contaminants and fluctuations in their flow paths may occur due to seasonal water table changes, past disposal practices, time, and other factors. Contaminant concentrations and groundwater-level measurements detected in test pits, borings, and observation wells were made at the time and under the conditions cited in the report. In the event additional chemical data becomes available, the conclusions and recommendations of this report may need modification.
7. Some elements of this report may be based on preliminary "screening" data obtained in the field. A quantitative analysis may be required in the event more specific information is necessary to evaluate conditions.
8. Some projects may contain conclusions based upon data obtained from a limited number of soil and water samples taken from widely - spaced subsurface explorations. The nature and extent of variations in the soil and water between these explorations may not become evident until further exploration is completed. Should variations or other latent conditions appear evident, a reevaluation of the conclusions and recommendations may be required.
9. No other quantitative laboratory testing was performed other than that specified in the report. Where an outside laboratory has conducted such analyses, an independent evaluation to ascertain the reliability of this data has not been conducted.
10. Testing and analysis to determine the presence or concentration of asbestos-containing materials, radon, mold, lead paint, and UFFI were not within the scope of this assessment and were not conducted unless specifically included in scope of services. Air quality sampling, property boundary surveys, evaluation of septic system compliance, and PCB analyses were not conducted as part of this project.
11. Chemical analyses were performed for specific constituents only as cited in this report and were based upon the information available at the time of this study. Chemical constituents not cited and outside the scope of this assessment may be present in the soil, ground water or surface water.
12. The direction of groundwater flow in bedrock fractures and joints is not reliably estimated from surface topography. Therefore, the impact of oil or hazardous materials on the Site from abutting and surrounding properties via bedrock fractures cannot be evaluated without the installation of deep bedrock monitoring wells.
13. Reports and other materials resulting from ENSTRAT, Inc.'s efforts on this project and Site are not intended or represented to be suitable for reuse by the Client or others on extensions or modifications of this project or for any other projects or sites. Such reuse by the Client or others, without the adaptation of ENSTRAT, Inc. for the specific purpose intended, shall be at the user's sole risk, without liability on the part of ENSTRAT, Inc. Copies of this report will not be provided by ENSTRAT, Inc. to any other party unless required by law.
14. This report is not compliant with and is not intended to be compliant with All Appropriate Inquiry (AAI) under ASTM 1527-05, and should not be relied upon as such.

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Quality Assurance/Quality Control

The following persons have reviewed this report as part of the Quality Assurance and Quality Control protocols of ENSTRAT, Inc.:

Thomas P. Luby, PG, LSP
President/Technical Manager

Stacy A. Paquette
Environmental Scientist