



*Environmental Engineering, Civil Engineering
Forensic Engineering, Construction Services*

PHASE II ENVIRONMENTAL SITE ASSESSMENT

(ASTM E1903-11)

For property located at:

**39-41 Lincoln Street & 2-12 Prescott Street,
Reading, MA 01867**

Prepared for:

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1.0 EXECUTIVE SUMMARY

At the request of the client, FSL Associates, Inc. (FSL) conducted a Phase II Environmental Site Assessment, pursuant to ASTM E1903-11, at 39-41 Lincoln Street and 2-12 Prescott Street in Reading, Massachusetts 01867 (the "Site" or "Property"). The purpose of this practice is to assess the Property by means of environmental report reviews and intrusive subsurface investigations for contamination by a release of oil or hazardous material from on-Site or off-Site sources which, if present, could present an environmental liability under the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0000. This practice is intended for use in any situation in which a user desires to obtain sound, scientifically valid data concerning actual property conditions, whether or not such data relate to property conditions previously identified as recognized environmental conditions (RECs) or data gaps in Phase I Environmental Site Assessments (ESAs). Without attempting to define all such situations, this practice contemplates that users may seek such data to inform their evaluations, conclusions, and choices of action in connection with objectives that may include, without limitation, one or more of the following: Assess whether there has been a release of hazardous substances within the meaning of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), for purposes including landowner liability protections (i.e., innocent landowner, bona fide prospective purchaser, and contiguous property owner); Provide information relevant to identifying, defining and implementing landowner "continuing obligations," or the criteria established under CERCLA (e.g., taking reasonable steps to prevent or limit exposures to previously released hazardous substances) for maintaining the CERCLA landowner liability protections; Develop threshold knowledge of the presence of substances on properties within the scope of the CERCLA definition of a "Brownfield site" and as required for qualifying for brownfields remediation grants from the Environmental Protection Agency (EPA) Brownfields Program; Provide information relevant to identifying, defining and evaluating property conditions associated with target analytes that may pose risk to human health or the environment, or risk of bodily injury to persons on the property and thereby give rise to potential liability in tort; Provide information relevant to evaluating and allocating business environmental risk in transactional and contractual contexts, including transferring, financing and insuring properties, and due diligence relating thereto; and provide information to support disclosure of liability and contingent liability in financial statements and securities reporting.

FSL accomplished these tasks by: reviewing a Phase I Environmental Site Assessment completed for the subject Site in November, 2014; advancing soil borings along the subject Site border adjacent to a former gas filling station as well as other locations throughout the Property; sending soil and groundwater samples obtained from intrusive subsurface investigations to a Massachusetts State certified testing laboratory for analysis of target analytes as specified by FSL Associates, Inc. in the November, 2014 Phase I Environmental Site Assessment; preparing this report containing our procedures, findings, and recommendations.

Findings

A review of the Phase I Environmental Site Assessment completed for the subject Property by FSL Associates, Inc. in November, 2014, indicates that 39-41 Lincoln Street has historically been used for metals manufacturing, wood manufacturing, and retail, while 2-12 Prescott Street has historically been used for metals manufacturing, wood manufacturing, printing and storage. According to historical records and maps, a second building on the 2-12 Prescott Street property was taken down between 1918 and 1921. It was used as a shipping room and glass room on the first floor, and as a painting storage room on the second floor. However, during an inquiry to the Town of Reading Building Division, FSL personnel were not able to come up with any documentation/permits of the demolition of the building. The Town of Reading also had records of an Underground Storage Tank (UST) on the subject site that was removed, but the location of the former UST could not be verified.

The abutter to the north is Browns Auto at 35 Lincoln Street. Historically this site has been a machine shop, metallic brush shop, bicycle repair shop, and an auto supply shop that previously had a gasoline filling station with USTs. Records pertaining to current status and location of the UST are inconsistent. Within 0.056 mile to the northeast of the subject site, there is a dry cleaning business that is known to have previously used Perchloroethylene as part of their cleaning process.

Based on the following: that there was a permitted UST on the subject site that was removed from a suspected location at 2-12 Prescott Street; a structure was demolished without records of permits on the subject site; the northern abutter that was identified to have been a gasoline filling station with inconsistent tank records; and the proximity of a dry-cleaning facility that had a known history of using Perchloroethylene, FSL recommended intrusive subsurface investigations be conducted on the subject Property.

A total of seven (7) soil borings were advanced: three (3) of which were advanced along the subject site border adjacent with 35 Lincoln Street (Brown's Auto); one (1) of which was advanced near the northwest corner of the building at 39-41 Lincoln Street; two (2) of which were advanced on the sides of the large rectangular area of resealed pavement in the parking lot at the 2-12 Prescott Street property that FSL believed to be the location a removed UST from the Site, one (1) on the northeast side and one (1) on the southwest side; and one (1) which was advanced at the southwestern corner of the building at 2-12 Prescott Street.

There was no visual or olfactory evidence of petroleum contamination observed in any of the seven (7) soil borings at the depths of which ranged from 0 feet to 15 feet below the ground surface (bgs). Soil samples were relinquished to RI Analytical, Inc. of Warwick, RI to be analyzed for Resource Conservation and Recovery Act (RCRA) 8 metals; volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons/polycyclic aromatic hydrocarbons (EPH/PAH).

The soil samples from FSL-1 (0-5 ft range bgs), FSL-2 (0-5 ft range bgs) and FSL-4 (0-5 ft range bgs) contained levels of Lead at 220, 260 and 550 parts per million (ppm), respectively, all above the applicable reportable concentration of 200 ppm as per 310 CMR 40.1600. The soil sample from FSL-4 (0-5 ft bgs range) also contained levels of Arsenic at 24 ppm, above the applicable reportable concentration of 20 ppm. VPH and EPH/PAH analytes were detected below the applicable reportable concentrations in soil.

Groundwater samples were relinquished to RI Analytical, Inc. of Warwick, RI to be analyzed for Volatile Organic Compounds (VOCs); RCRA 8 metals; VPH; and EPH/PAH. VOC, VPH, EPH and PAH fractions were not detected above the laboratory detection limits in the groundwater samples. RCRA 8 Metals were not detected above laboratory limits with the exception of arsenic and barium, which were detected at maximum concentrations of 15 parts per billion (ppb) and 174 ppb, respectively. These are below the applicable reportable concentrations of 900 ppb and 50,000 ppb for arsenic and barium in groundwater, respectively.

Conclusion

Based on the analytical results, reportable concentrations of lead and arsenic were discovered in the site soil.

Recommendations

According to 310 CMR 40.0315(1), it is the Responsible Party's (RP's) responsibility to report the concentrations in the soil to the Massachusetts Department of Environmental Protection (MassDEP) within 120 days of obtaining knowledge of a release to the environment indicated by the measure of one or more hazardous materials in the soil in an amount equal to or greater than the reportable concentrations described in 310 CMR 40.0360 through 310 CMR 40.0369 and listed in 310 CMR 40.1600, which lists the reportable concentrations or quantities. FSL recommends that these applicable reportable concentrations be reported to MassDEP, in accordance with the 120-day notification requirements of the MCP as per 310 CMR 40.0315.

2.0 INTRODUCTION

FSL Associates, Inc. (FSL) conducted this Phase II Environmental Site Assessment, pursuant to ASTM E1903-11, at 39-41 Lincoln Street and 2-12 Prescott Street, Reading, Massachusetts 01867 (the “Site” or “Property”) for the Client to determine whether any conditions exist that would require a response under the requirements of Massachusetts General Law (M.G.L.) Chapter 21E for oil and hazardous materials. The determination included the evaluation of off- and on-Site sources to determine the occurrence of past or current releases which may have affected the Site and whether any such releases would be cause for concern and present a liability under Massachusetts Department of Environmental Protection (MassDEP) Regulations 310 CMR 40.0000 to the owner or its successors.

2.1 Reliance

The contents herein may be utilized by lenders and title insurance companies in granting mortgage monies and affirmative insurance coverage.

2.2 Use of Report

The use of this report is limited to the client and/or its designee. No part of this report may be reproduced without the expressed consent of the Client. FSL understands that this report is being used by the Client or its designee to evaluate possible environmental liability on the Site.

2.3 Regulatory Agency Reporting Requirements

According to the Massachusetts Contingency Plan (MCP) as embodied in 310 CMR 40.0000, the Responsible Party (RP) or Potentially Responsible Party (PRP) has a duty to notify MADEP if a release has occurred on the Site involving contaminants above Reportable Concentrations (RC) within two hours (if Imminent Hazard conditions are present), 72 hours or 120 days if the release is not able to be remediated beforehand under a Limited Removal Action (LRA).

3.0 Background

3.1 *Site Description and Features*

The Site is identified as 39-41 Lincoln Street and 2-12 Prescott Street, Reading, Massachusetts 01867. The Site is situated south of the intersection of Prescott Street and Lincoln Street in a mixed commercial and residential district in Reading, Massachusetts. Properties to the northeast and east are consisted of commercial use, while properties to the northwest, west and south consist of residential use.

The site is identified as 39-41 Lincoln Street (parcel ID: 16-226; 10,029 sq-ft) and 2-12 Prescott Street (parcel ID: 16-224; 26,035 sq-ft) in Reading, MA. The Universal Transverse Mercator (UTM) coordinates are Zone 19, Northing 326860.8 and Easting 4709597.0. The latitude and longitude coordinates are 42° 31' 16.68" N and 71° 6' 28.08" W, respectively. The Property boundaries and general site layout are presented on **Figure 2**.

3.2 *Physical Setting*

39-41 Lincoln Street is a 10,029 sq-ft lot improved with an asphalt paved parking lot, and a two (2) story building comprised of a concrete foundation and aluminum siding exterior. The parking lot is in fair condition with few noticeable cracks. There is a slight pitch from the parking lot entrance of the property to Lincoln Street. 2-12 Prescott Street is a 26,035 sq-ft lot improved with an asphalt paved parking lot improved with a three (3) story building comprised of a concrete foundation and clapboard siding exterior. There is a slight pitch from the parking lot entrance of the property to Prescott Street. Utilities to both properties include water, sewer, electricity, oil, telephone and internet. Both water and sewer service is provided by the Town of Reading.

3.3 *Site History and Land Use*

39-41 Lincoln Street was used for metals manufacturing, wood manufacturing, and retail. 2-12 Prescott Street was used for metals manufacturing, wood manufacturing, printing, and storage. According to the Sanborn maps and reviewed Town of Reading Engineering Department town grid plans, a second building at 2-12 Prescott Street was taken down between 1918 and 1921.

This building was a two story building that was connected by catwalk to the existing structure, and was used as a shipping room and glass room on the first floor, and as a painting storage room on the second floor.

The Site is located at approximately 32 m (104 ft) above mean sea level on relatively flat land. **Figure 1** presents the environmental setting of the location as superimposed on a portion of the Boston, Massachusetts Topographic map.

3.4 Adjacent Property Land Use

The adjoining properties consist of a variety of mixed commercial, retail, and residential land use. The abutter to the north is Browns Auto at 35 Lincoln Street. Historically this site has been a machine shop, metallic brush shop, bicycle repair shop, and an auto supply shop that previously had a gasoline filling station with USTs. To the northeast on the opposite side of Lincoln Street is the Massachusetts Bay Transportation Authority Reading Commuter Rail Station. Within 0.056 mile to the northeast of the subject site, there is a dry cleaning business that is known to previously use Perchloroethylene as part of their cleaning process. Surrounding the northwestern, western and southern property boundaries are residential properties.

3.5 Summary of Previous Site Assessments

FSL reviewed a Phase I Environmental Site Assessment completed for the subject Property in November, 2014 by FSL Associates, Inc. of 358 Chestnut Hill Avenue, Brighton, Massachusetts 02135.

The report findings indicated that:

1. Several reportable release/Mass DEP disposal sites were identified within ¼-mile radius of the Property. However, each of the sites had been closed or received A-1, A-3, or B-1 Response Action Outcomes (RAOs). A-1 and B-1 RAOs applies to sites where a permanent solution has been achieved and a level of no significant risk exists. A-3 RAOs applies to sites where a permanent solution has been achieved and an activity and use limitation (AUL) is required to maintain a level of no significant risk. FSL did not find these to be recognized environmental conditions in connection to the subject site.

2. 467 Main Street is an open MassDEP Disposal Site under RTN 3-24116 that has been classified as a Downgradient Property Status (DPS). Releases of Tetrachloroethylene and Trichloroethene were observed in monitoring wells located at 467 Main Street that exceeded MassDEP Reportable Concentrations (RCs). Reading Dry Cleaning and Tailoring, located at 525 Main Street, was identified as the source of the release. Chlorinated VOCs were noted to have been used during the dry cleaning process at the facility. Based on the proximity of 467 Main Street to the subject site and geographical conditions, FSL did not find this to present recognized environmental conditions in connection to the subject site.
3. There were several RCRA Generator sites that generate hazardous waste in close proximity of the subject site. Of particular concern was 35 Lincoln Street (Brown's Auto Body) and 41 High Street (Nick's Drycleaners). 35 Lincoln Street was historically used as a gasoline filling station. 41 High Street was formerly Luigi's Dry-cleaning and Shirt Service until 2004, and was listed as actively using Perchloroethylene (Perc). Based on the quantity of hazardous waste generated and accumulated and the proximity of the RCRA Gen sites, it was FSL's opinion that this could potentially be recognized environmental conditions in connection with the Property.
4. FSL personnel found inconsistent correspondence and permits for a potential 1,000 gallon UST removal between October 20, 1990 and October 22, 1991 at the subject site. A Town of Reading Tank Removal Permit receipt shows the completed tank removal occurred at 34 Lincoln Street. All other correspondents indicate that the tank was removed from 39-41 Lincoln Street. FSL personnel observed a large rectangular shape of resealed pavement in the parking lot at the 2-12 Prescott Street property; the dimensions were approximately 60" x 12'. As noted in the Phase I Environmental Site Assessment completed for the subject site, records for both 39-41 Lincoln Street and 2-12 Prescott Street were filled together under the 39-41 Lincoln Street address in several municipal departments.

Based on the available UST records and FSL's physical observations of the subject site, it was FSL's opinion that the addresses were erroneously entered on the permits and correspondence from both 34 Lincoln Street and 39-41 Lincoln Street, and that the removed UST likely came from the property at 2-12 Prescott. Therefore, the inconsistent records and

- unknown location of the removed UST could potentially be recognized environmental conditions in connection with the Property.
5. Available records for USTs/ASTs on abutting sites of concern were inconsistent. Particularly of concern was the current unknown status of the UST located at the adjacent property at 35 Lincoln Street. 35 Lincoln Street was historically used as a gasoline filling station. Based on the available information, it was FSL's opinion that this could potentially be recognized environmental conditions in connection with the Property.
 6. FSL observed solid waste during the inspection at the 2-12 Prescott Street property. There was a dumpster located at the southeast corner of the building at 2-12 Prescott Street. There was also scrap metal and other various items stored along the southern boundary of the property at 2-12 Prescott Street. FSL did not find these to be recognized environmental conditions in connection to the subject site.
 7. There are aboveground heating oil tanks located at both properties in the Site; 2-12 Prescott Street's tank is located in a shed attached to the southern section of the building; 39-41 Lincoln Street's heating oil tank is in a shed attached to the northwestern corner of the building. FSL did observe stained concrete at 39-41 Lincoln Street located at the northwestern corner of the building, next to the heating oil tank shed. Origins of the stains are unknown. FSL observed the storage of 2 (2) 5-gallon gasoline carboys used by the tenants underneath trailers stored along the southern boundary of the property. Based on the current and historical OHM (Oil and Hazardous Material) used on site, and the various stains throughout the subject site, it was FSL's opinion that this could potentially be recognized environmental conditions in connection with the Property.
 8. FSL noticed three (3) unmarked 55-gallon steel drums on the southwestern side of the building at 2-12 Prescott Street. The tops and bases of each drum were rusting. Two of the drums had substantial amounts of liquid in them; the drum in the middle was nearly empty. The contents were unknown at the time of inspection. Based on the unknown hazardous associated with the three steel drums, it was FSL's opinion that this could potentially be recognized environmental conditions in connection with the Property.

4.0 Work Performed and Rationale

4.1 *Scope of Assessment*

The client retained FSL Associates, Inc. to conduct a subsurface investigation on the subject Property to determine if the former use of the subject Site or the abutting properties has had an adverse environmental impact on the subject Property.

The investigation was to take place at specified locations throughout the Site. A total of seven (7) soil borings were advanced: three (3) of which were advanced along the subject site border adjacent with 35 Lincoln Street (Brown's Auto); one (1) of which was advanced near the northwest corner of the building at 39-41 Lincoln Street; two (2) of which were advanced on the sides of the large rectangular area of resealed pavement in the parking lot at the 2-12 Prescott Street property that FSL believed to be the location a removed UST from the Site, one (1) on the northeast side and one (1) on the southwest; and one (1) which was advanced at the southwestern corner of the building at 2-12 Prescott Street.

Soil samples were relinquished to RI Analytical, Inc. of Warwick, RI to be analyzed for RCRA 8 metals by EPA Method 6010; VPH EPH/PAH via MassDEP methods VPH and EPH/PAH.

Groundwater samples were relinquished to RI Analytical, Inc. of Warwick, RI to be analyzed for RCRA 8 metals by EPA Method 6010; VOCs via EPA Method 8260; VPH and EPH/PAH via MassDEP methods VPH,EPH/PAH.

4.2 *Exploration, Sampling and Test Screening Methods*

On October 20, 2014, FSL personnel began conducting the subsurface investigations at the site. FSL personnel supervised drilling operations performed by Eastern Analytical, Inc. utilizing a track mounted geoprobe providing direct push to conduct test borings. Soil borings at the Site were identified as FSL-1, FSL-2, FSL-3, FSL-4, FSL-5, FSL-6, and FSL-7. Refer to **Figure 2** for the location of soil borings.

One (1) inch diameter groundwater monitoring wells were installed in advanced soil borings FSL-1, FSL-2, FSL-3 and FSL-6. These wells were identified as FSL-MW1, FSL-MW2, FSL-MW3 and FSL-MW4 respectively.

FSL-1 was advanced to a depth of approximately 15 ft below the ground surface (bgs). The soil profile from 0-5 ft bgs consisted of a layer of asphalt with urban fill with light brown sand to light brown sand. The soil profile from 5-10 ft consisted of a layer of concrete and light to dark brown sand with some silt. The soil profile from 10-15 ft bgs consisted of a gravel/sand mix. There was no visual or olfactory evidence of petroleum contamination observed. Groundwater was encountered at a depth of approximately 13 ft bgs.

FSL-2 was advanced to a depth of approximately 15 ft bgs. The soil profile from 0-10 ft bgs consisted of a layer of asphalt with a mix of dark brown urban fill and lighter brown sand to dark brown sand/ gravel. The soil profile from 10-15 ft bgs consisted of brown sand mixed with gravel. There was no visual or olfactory evidence of petroleum contamination observed. Groundwater was encountered at a depth of approximately 13 ft bgs.

FSL-3 was advanced to a depth of approximately 15 ft bgs. The soil profile from 0-10 ft bgs consisted of urban fill and dark brown silty sand and gravel to light brown sand and gravel. The soil profile from 10-15 ft bgs consisted of brown sand mixed with gravel. There was no visual or olfactory evidence of petroleum contamination observed. Groundwater was encountered at a depth of approximately 13 ft bgs.

FSL-4 was advanced to a depth of approximately 10 ft bgs. The soil profile from 0-5 ft bgs consisted of light brown sand and little gravel with a layer of coal ash. The soil profile from 5-10 ft bgs consisted of light and dark brown sand with gravel. There was no visual or olfactory evidence of petroleum contamination observed.

FSL-5 was advanced to a depth of approximately 15 ft bgs. The soil profile from 0-10 ft bgs consisted of light brown sand and a sand/gravel mix. The soil profile from 10-15 ft bgs consisted of light and dark brown sand with gravel. There was no visual or olfactory evidence of petroleum contamination observed. Groundwater was encountered at a depth of approximately 13 ft bgs.

FSL-6 was advanced to a depth of approximately 15 ft bgs. The soil profile from 0-10 ft bgs consisted of urban fill with light brown sand and a sand/gravel mix. The soil profile from 10-15 ft bgs consisted of light and dark brown sand with gravel. There was no visual or olfactory evidence of petroleum contamination observed. Groundwater was encountered at a depth of approximately 13 ft bgs.

FSL-7 was advanced to a depth of approximately 10 ft bgs. The soil profile from 0-5 ft bgs consisted of light brown sand and a sand/gravel mix. The soil profile from 5-10 ft bgs consisted of light brown sand/gravel mixture. There was no visual or olfactory evidence of petroleum contamination observed.

Field screening for total VOCs was conducted at 5 ft intervals using a Photovac 2020 Photoionization Detector (PID), calibrated to a span gas cylinder containing 100 parts per million (ppm) Isobutylene. Field screening was carried out in accordance with the Massachusetts jar headspace analytical procedure. Each field screening analysis consisted of half-filling a clean 8 ounce jar with soil which was then covered with a sheet of clean aluminum foil and covered with the jar lid. The jar was then shaken vigorously to release volatiles and allowed to stand for a short period of time to allow for further release of volatiles and the sample to reach room temperature. The jar lid was then removed and the foil seal was punctured with the PID probe to provide readings, after the highest of which the probe was removed and the highest reading recorded. Refer to the following table for a summary of readings from the PID screening.

Table 1 Field Screening Results

Sample Location	FSL-1	FSL-2	FSL-3	FSL-4	FSL-5	FSL-6	FSL-7
Date	10/20/14						
Sample Depth (ft)							
0	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	BDL	BDL	BDL	BDL	BDL	BDL	BDL

All units in parts-per-million (ppm).

-- = Not Analyzed

BDL: Below Instrument Detection Limit.

Boring logs are provided in **Appendix C**.

4.3 Chemical Analytical Methods

Soil samples were relinquished to RI Analytical, Inc. of Warwick, RI to be analyzed for RCRA 8 metals, VPH and EPH/PAH. On October 20, 2014, soil samples were collected at the following locations for the listed analysis:

Table 2 Soil Sample Location and Analysis

Boring Location I.D.	Sample Depth (ft-bgs)	Sample Analysis
FSL-1	0'-5'	RCRA-8
FSL-2	0'-5'	RCRA-8
FSL-3	0'-5'	RCRA-8
FSL-4	0'-5'	RCRA-8; EPH/PAH
FSL-5	0'-5'	RCRA-8; VPH
	10'-15'	RCRA-8
FSL-6	5'-10'	RCRA-8; VPH; EPH/PAH
FSL-7	5'-10'	RCRA-8

On October 23, 2014, FSL personnel purged monitoring wells FSL-MW1, FSL-MW2, FSL-MW3, and FSL-MW4 utilizing low flow peristaltic pump techniques prior to sampling. Each well was purged a minimum of three well volumes, after which time groundwater samples were collected from each well using dedicated tubing. Groundwater was encountered at depths ranging from approximately 7.17 to 8.60 feet below grade. Groundwater samples were relinquished to RI Analytical, Inc. of Warwick, RI to be analyzed for RCRA 8 metals, VOCs, VPH and EPH/PAH.

5 Presentation and Evaluation of Results

5.1 Subsurface Conditions

Soil borings ranged in depth from 10 to 15 feet below bgs. Urban fill, natural strata, and un-natural fill materials were observed in soil borings. Coal ash was observed in the 0-5' soil boring from FSL-4. A layer of concrete was observed in the 5-10 ft soil boring from FSL-1. There was no visual or olfactory evidence of petroleum contamination observed in any of the soil borings.

Groundwater was encountered at a depth of approximately 7.17 to 8.60 ft bgs throughout the Site.

5.2 Analytical Results

5.2.1 Soil Analytical

Soil samples from FSL-1 (0-5 ft range bgs), FSL-2 (0-5 ft range bgs) and FSL-4 (0-5 ft range bgs) had levels of Lead at 220 ppm, 260 ppm and 550 ppm, respectively, above the applicable reportable concentration of 200 ppm for soil samples that are codified in the MCP at 310 CMR 40.1600. The soil sample from FSL-4 (0-5 ft bgs range) had a concentration of Arsenic of 24 ppm, above the applicable reportable concentration of 20 ppm for soil samples. VPH and EPH/PAH analytes were detected below the applicable reportable concentrations in soil.

Refer to **Table 2** in **Appendix A** for a summary of soil analytical data compared to reportable concentrations.

5.2.2 Groundwater Analytical

VOC, VPH, EPH and PAH fractions were not detected above the laboratory detection limits in the groundwater samples. RCRA 8 Metals were not detected above laboratory detection limits with the exception of arsenic and barium, which were detected at maximum concentrations of 15 parts per billion (ppb) and 174 ppb, respectively. These are below the applicable reportable concentrations of 900 ppb and 50,000 ppb for arsenic and barium in groundwater, respectively. Refer to **Table 3** in **Appendix A** for a summary of groundwater analytical data compared to reportable concentrations.

6 Interpretation and Conclusions

6.1 Recognized Environmental Condition / Potential Release Area

Following receipt of the analytical results from the laboratory as part of this ASTM E1903-11 Phase II Environmental Site Assessment, FSL has identified reportable concentrations of lead and in site soil.

The locations soil borings FSL-1 and FSL-2 were advanced along the 2-12 Prescott Street eastern property boundary adjacent to 35 Lincoln Street (Browns Auto). FSL-1 was advanced at the northwestern corner of the 2-12 Prescott Street property, adjacent to Prescott Street and the abutting property 35 Lincoln Street (Brown's Auto). FSL-2 was advanced where the 2-12 Prescott Street and 39-41 Lincoln Street properties meet, adjacent to the Southwestern corner of the 35 Lincoln Street Property. These soil borings were advanced along the property boundary adjacent to 35 Lincoln Street due to the environmental concerns raised over the 35 Lincoln Street property listed in the Phase I Environmental Site Assessment.

Soil boring FSL-4 was advanced at the Northwestern corner of the building at the 39-41 Lincoln Street property due to the environmental concern in the Phase I Environmental Site Assessment. These concerns were raised from the staining on the asphalt and concrete and the proximity to a 275 gallon AST located at the Northwestern corner of the 39-41 Lincoln Street property.

6.2 Conceptual Model Validation / Adequacy of Investigations

The model of subsurface investigation chosen, which included the advancement of seven (7) soil borings and installation of four (4) groundwater monitoring wells to allow for collection of soil groundwater samples to analyze for RCRA 8 Metals, VOC, VPH, and EPH/PAH, adhered to visual and identifiable subject Site boundaries with the northern abutter at 35 Lincoln Street which was used as a gasoline filling station with a UST onsite, as well as the current and historical use of OHM on the subject site. This investigation was carried out in accordance with ASTM Standard E1903-11, "Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process."

6.3 Absence, Presence, Degree, Extent of Target Analytes

Soil samples from FSL-1 (0-5 ft range bgs), FSL-2 (0-5 ft range bgs) and FSL-4 (0-5 ft range bgs) had levels of Lead at 220 ppm, 260 ppm and 550 ppm, respectively, above the applicable reportable concentration of 200 ppm for soil samples that are codified in the MCP at 310 CMR 40.1600. The soil sample from FSL-4 (0-5 ft bgs range) had a concentration of Arsenic of 24

ppm, above the applicable reportable concentration of 20 ppm for soil samples. VPH and EPH/PAH analytes were detected below the applicable reportable concentrations in soil. Refer to **Table 2** in **Appendix A** for a summary of soil analytical data compared to reportable concentrations.

VOC, VPH, EPH and PAH fractions were not detected above the laboratory detection limits in the groundwater samples. RCRA 8 Metals were not detected above laboratory limits with the exception of arsenic and barium, which were detected at maximum concentrations of 15 parts per billion (ppb) and 174 ppb, respectively. These are below the applicable reportable concentrations of 900 ppb and 50,000 ppb for arsenic and barium in groundwater, respectively. Refer to **Table 3** in **Appendix A** for a summary of groundwater analytical data compared to reportable concentrations.

Refer to **Appendix A** for a summary of target analytes detected in soil and groundwater and **Appendix B** for a copy of the analytical data.

6.4 *Qualifications of Environmental Professionals*

Refer to **Appendix E** for copies of the environmental professional qualifications.

6.5 *Conclusions / Objectives Met*

FSL performed a Phase II Environmental Site Assessment, pursuant to ASTM Standard E1903-11, "Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process," at the site identified as 39-41 Lincoln Street and 2-12 Prescott Street, Reading, Massachusetts 01867, to determine whether the Site has been contaminated by a release of oil or hazardous material from on-Site or off-Site sources. The subsurface investigation conducted as part of this Phase II Environmental Site Assessment included the advancement of test borings; field screening; installation of groundwater monitoring wells; soil and groundwater sampling; and laboratory analysis of soil and groundwater samples for VOC, VPH, EPH/PAH and RCRA 8 metals.

The subsurface investigation was conducted to address the following environmental conditions identified in the Phase I Environmental Site Assessment completed for the subject site in November 2014: that there was a permitted UST on the subject site that was removed from a suspected location at 2-12 Prescott Street; a structure was demolished without records of permits on the subject site; the northern abutter that was identified to have been a gasoline filling station with inconsistent tank records; and the proximity of a dry-cleaning facility that had a known history of using Perchloroethylene. Based on the analytical results:

- Reportable concentrations of Arsenic and Lead were discovered in the Site soil likely attributable to contaminated fill.
- No analytical evidence of contamination from the suspected UST location on the subject site at 2-12 Prescott Street.
- No analytical evidence of contamination from the demolished structure on the subject site at 2-12 Prescott Street.
- No analytical evidence of contamination from business operations conducted at the northern abutter at 35 Lincoln Street that was identified to have been a gasoline filling station.
- No analytical evidence of contamination from the business operations conducted at the dry-cleaning facility located at 41 High Street.

The objectives of this investigation were met in that: this investigation was conducted in accordance with ASTM Standard E1903-11; FSL personnel were able to conduct the subsurface investigation in accordance with the scope of work outlined in section 4.1; soil and groundwater samples were able to be collected, relinquished, and the results analyzed to determine if oil and/or hazardous materials have adversely impacted the subject Property.

7 Recommendations

According to 310 CMR 40.0315(1), it is the Responsible Party's (RP's) responsibility to report the concentrations in the soil to the Massachusetts Department of Environmental Protection (MassDEP) within 120 days of obtaining knowledge of a release to the environment indicated by the measure of one or more hazardous materials in the soil in an amount equal to or greater than the reportable concentrations described in 310 CMR 40.0360 through 310 CMR 40.0369 and listed in 310 CMR 40.1600, which lists the reportable concentrations or quantities. FSL recommends that these applicable reportable concentrations be reported to MassDEP in accordance with the 120-day notification requirements of the MCP as per 310 CMR 40.0315.

8 Signature of Environmental Professionals

"We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312" and

"This Phase II Environmental Site Assessment was prepared in accordance with ASTM Standard E1903-11, "Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process."

Prepared by:



Andrew Pieroni, E.I.T.

Environmental Consultant

Reviewed by:



Ronald Tiberi, PE

Vice President

9 REFERENCES

ASTM Designation: E1903-11, "Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process," 2011

Phase I Environmental Site Assessment, 39-41 Lincoln Street and 2-12 Prescott Street, November 20, 2014, FSL Associates, Inc., 358 Chestnut Hill Avenue, Brighton, MA 02135

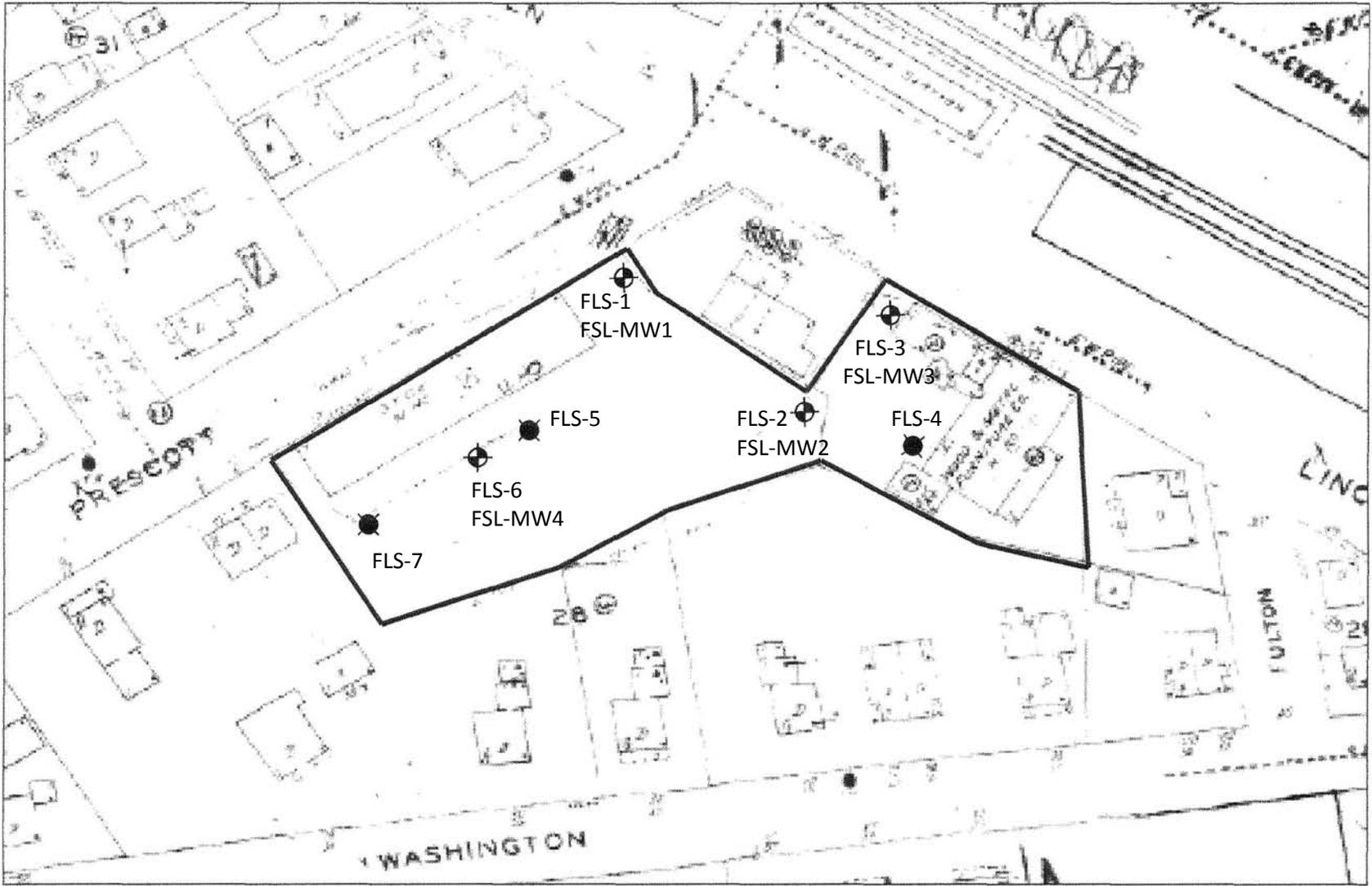
Massachusetts Contingency Plan, 310 CMR 40.0000, April 25, 2014

Massachusetts Department of Environmental Protection, Database of Reportable Release Sites:
<http://db.state.ma.us/dep/cleanup/sites/search.asp>

Topographic Map, Massachusetts, Boston South Quadrangle 42071-C1-TM-025

FIGURES

- Figure 1. USGS Topographic Map
- Figure 2. Site Plan with Boring Locations
- Figure 3. Numerical Ranking System Map



MassDEP - Bureau of Waste Site Cleanup

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

Site Information:

2-12 PRESCOTT STREET READING, MA

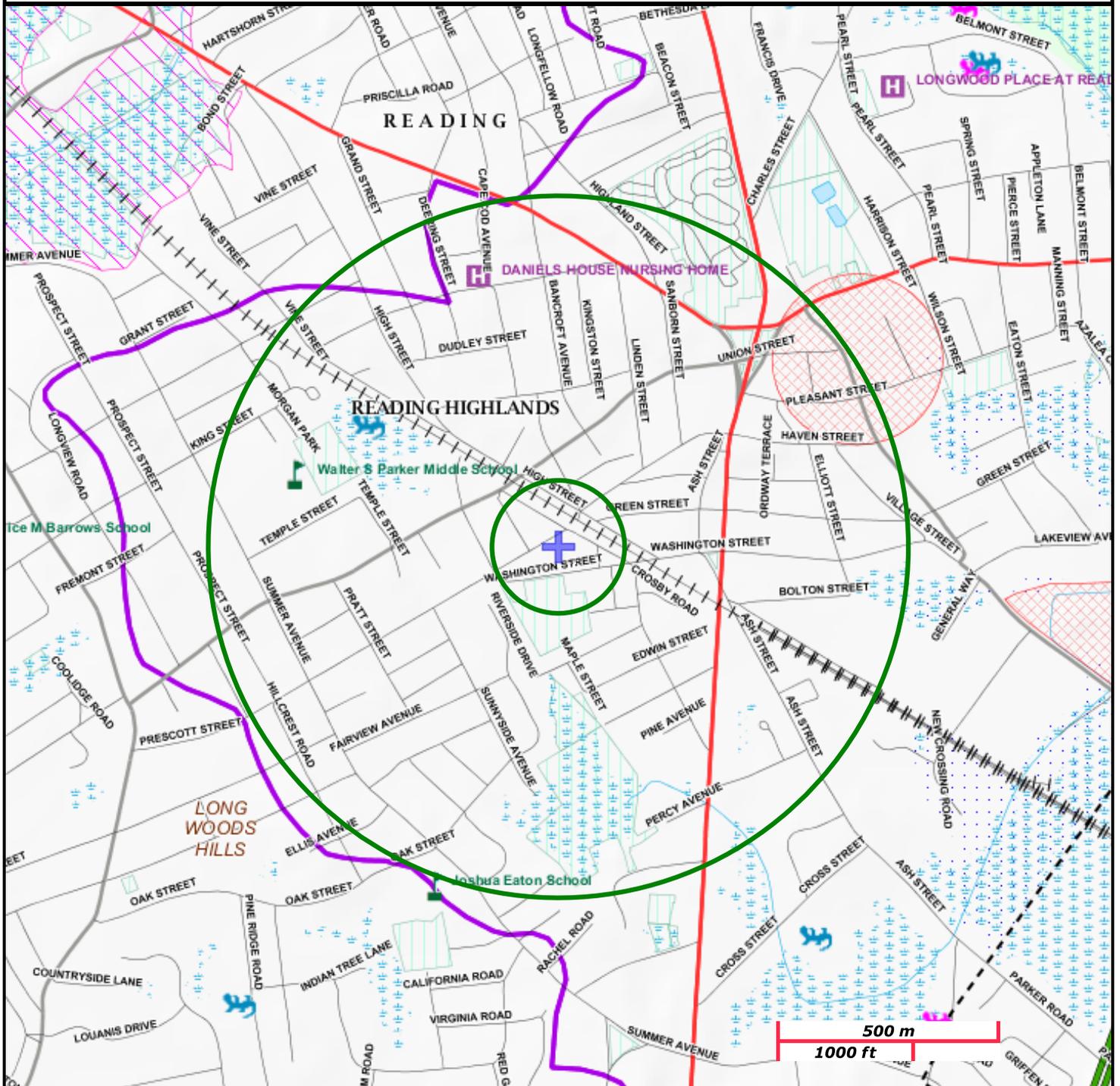
NAD83 UTM Meters:
4709801mN , 326865mE (Zone: 19)
October 21, 2014

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

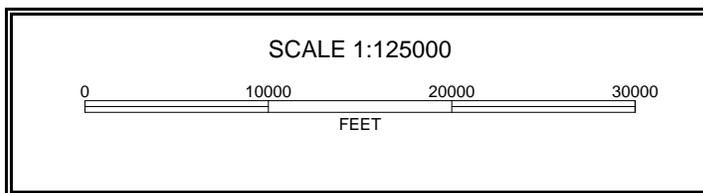
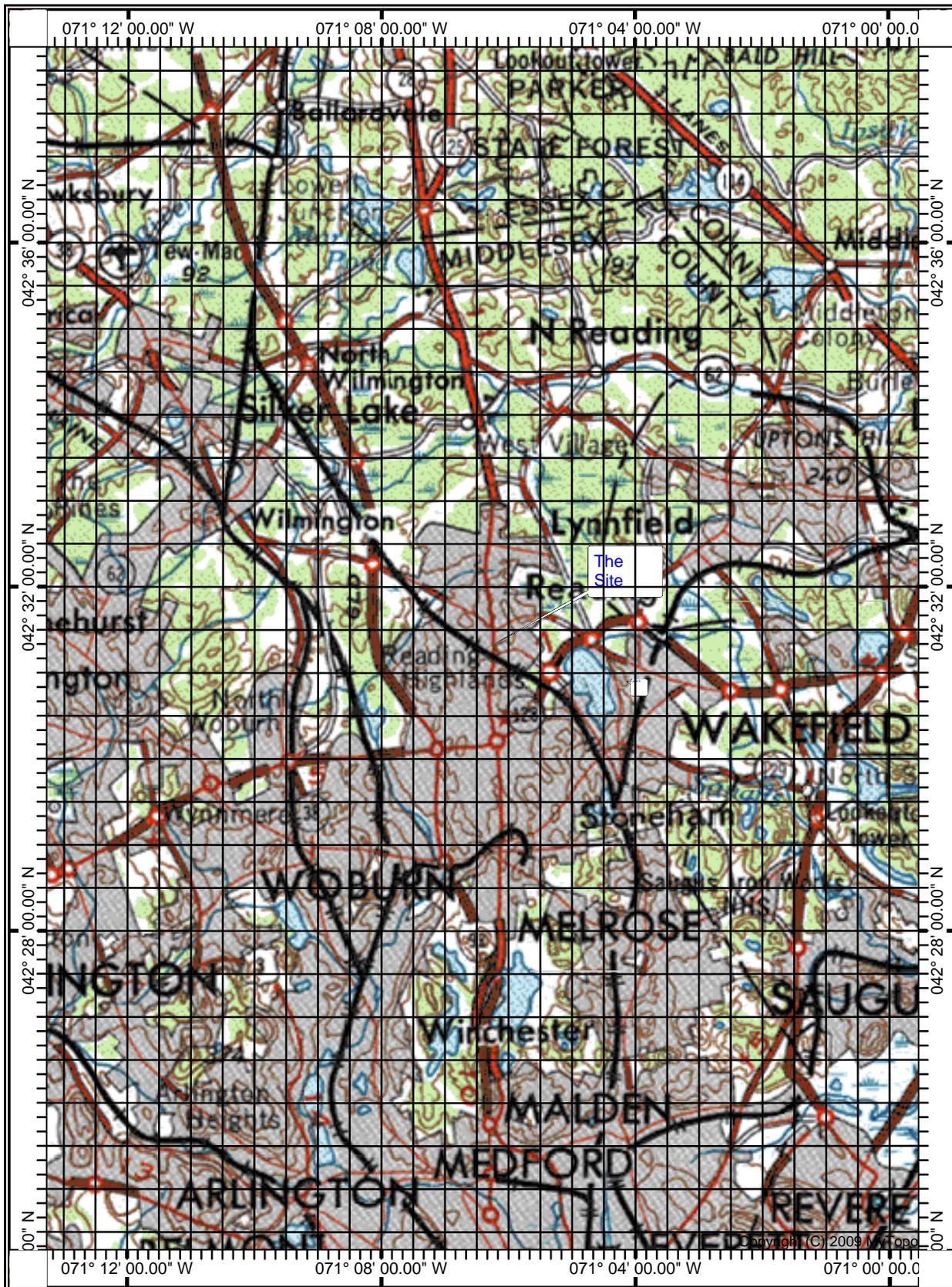


MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, IWPA, Zone A		
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat		
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog		
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain; Protected Open Space; ACEC		
Non Potential Drinking Water Source Area: Medium, High (Yield)	Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential		
	Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.		



APPENDIX A: TABLES

Table 1 Field Screening Results

Sample Location	FSL-1	FSL-2	FSL-3	FSL-4	FSL-5	FSL-6	FSL-7
Date	10/20/14						
Sample Depth (ft)							
0	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	BDL	BDL	BDL	BDL	BDL	BDL	BDL

All units in parts-per-million (ppm).

-- = Not Analyzed

BDL: Below Instrument Detection Limit.

Boring logs are provided in **Appendix C**.

Table 2 Soil Sample Location and Analysis

Boring Location I.D.	Sample Depth (ft-bgs)	Sample Analysis
FSL-1	0'-5'	RCRA-8
FSL-2	0'-5'	RCRA-8
FSL-3	0'-5'	RCRA-8
FSL-4	0'-5'	RCRA-8; EPH/PAH
FSL-5	0'-5'	RCRA-8; VPH
	10'-15'	RCRA-8
FSL-6	5'-10'	RCRA-8; VPH; EPH/PAH
FSL-7	5'-10'	RCRA-8

Table #3. Analytical Results - Soil
39-41 Lincoln Street and 2-12 Prescott Street

Sample Identification Depth Sample Date Units	MADEP Reportable Concentrations ¹		MCP Method 1 Soil Standards ²		FSL-1	FSL-2	FSL-3	FSL-4	FSL-5	FSL-5	FSL-6	FSL-7
	RCS-1	RCS-2	S1/GW-1	S1/GW-2	0-5'	0-5'	0-5'	0-5'	0-5'	10-15'	5-10'	5-10'
	mg/kg	mg/kg	mg/kg	mg/kg	10/20/14	10/20/14	10/20/14	10/20/14	10/20/14	10/20/14	10/20/14	10/20/14
VPH												
Methyl-tert-butylether (MTBE)	0.1	100	0.1	100					<0.1		<0.05	
Benzene	2	200	2	40					<0.5		<0.26	
Toluene	30	1,000	30	500					<0.5		<0.26	
Ethylbenzene	40	1,000	40	500					<0.5		<0.26	
m,p-Xylene	100	100	400	100					<0.5		<0.26	
o-Xylene	100	100	400	100					<0.5		<0.26	
Naphthalene	4	40	4	20					<0.5		<0.26	
C5-C8 Aliphatics	100	500	100	100					<9.9		<5.1	
C9-C12 Aliphatics	1,000	3,000	1,000	1,000					<9.9		<5.1	
C9-C10 Aromatics	100	500	100	100					<9.9		<5.1	
EPH/PAH												
C9-C18 Aliphatics	1,000	3,000	1000	1000				<30			<20	
C19-C36 Aliphatics	3,000	5,000	3000	3000				55			<20	
C11-C22 Aromatics	1,000	3,000	1000	1000				51			<20	
Naphthalene	4	40	4	20				<0.4			<0.4	
2-Methylnaphthalene	0.7	80	0.7	80				0.4			<0.4	
Acenaphthylene	1	10	1	600				<0.4			<0.4	
Acenaphthene	4	3,000	4	1000				<0.4			<0.4	
Fluorene	1,000	3,000	1000	1000				<0.4			<0.4	
Phenanthrene	10	1,000	10	500				2.8			<0.4	
Anthracene	1,000	3,000	1000	1000				0.6			<0.4	
Fluoranthene	1,000	3,000	1000	1000				3.1			<0.4	
Pyrene	1,000	3,000	1000	1000				2.6			<0.4	
Benzo(a)anthracene	7	40	7	7				1.3			<0.4	
Chrysene	70	400	70	70				1.5			<0.4	
Benzo(b)fluoranthene	7	40	7	7				0.9			<0.4	
Benzo(k)fluoranthene	70	400	70	70				1.4			<0.4	
Benzo(a)pyrene	2	7	2	2				1.3			<0.4	
Indeno(1,2,3-cd)pyrene	7	40	7	7				0.8			<0.4	
Dibenzo(a,h)anthracene	0.7	4	0.7	0.7				<0.4			<0.4	
Benzo(g,h,i)perylene	1,000	3,000	1000	1000				0.7			<0.4	
RCRA 8 Metals												
Arsenic	20	20	20	20	12	10	13	24	7.1	5.5	7.1	10
Barium	1,000	3,000	1,000	1,000	200	87	42	220	19	21	56	19
Cadmium	70	100	70	70	1.5	1.5	0.32	1.9	<0.31	<0.27	0.54	<0.26
Chromium (Total)	100	200	100	100	12	58	16	15	11	23	49	25
Lead	200	600	200	200	220	260	55	550	16	10	7.2	12
Mercury	20	30	20	20	0.18	4.1	0.15	0.68	<0.12	<0.11	0.093	<0.093
Selenium	400	700	400	400	<0.6	<6.1	<5.5	<6.4	<6.2	<5.5	<5.1	<5.2
Silver	100	200	100	100	4.7	2.3	1.2	3.3	<1.2	<1.1	1.5	<1.0

Prepared by A. Pieroni

Values in **bold** exceed applicable MCP Method 1 Soil Standard for S-2/GW-2

-- Not Analyzed

NS No Standard

NA Not Applicable

ND Non Detect

Non-Detect (ND) analytes have not been included in this table

1 = The Massachusetts Contingency Plan, 310 CMR 40.1600, April 25, 2014

2 = The Massachusetts Contingency Plan, 310 CMR 40.0975(6)(a): Table 3, April 25, 2014

Table #4 - Analytical Results - Groundwater
39-41 Lincoln Street and 2-12 Prescott Street

Sample Location Sample Date Groundwater Category	MADEP Reportable Concentrations ¹		MADEP Method 1 GW Standards ²		FSL-MW1	FSL-MW2	FSL-MW3	FSL-MW4
	RC GW-2	GW-2	GW-3	10/23/14	10/23/14	10/23/14	10/23/14	
	µg/L	µg/L	µg/L	GW-2/GW-3	GW-2/GW-3	GW-2/GW-3	GW-2/GW-3	
PHH								
Methyl-tert-butylether	5000	50000	50000	<5	<5	<5	<5	
Benzene	4000	1000	10000	<5	<5	<5	<5	
Toluene	40000	50000	40000	<5	<5	<5	<5	
Ethylbenzene	5000	20000	5000	<5	<5	<5	<5	
m,p-Xylene	3000	3000	5000	<5	<5	<5	<5	
o-Xylene	3000	3000	5000	<5	<5	<5	<5	
Naphthalene	1000	700	20000	<5	<5	<5	<5	
Adjusted C5-C8 Aliphatics (FID)	3000	3000	50000	<100	<100	<100	<100	
Adjusted C9-C12 Aliphatics (FID)	5000	5000	50000	<100	<100	<100	<100	
C9-C10 Aromatics (PID)	4000	4000	50000	<100	<100	<100	<100	
EPH/PAH								
C9-C18 Aliphatics	5000	5000	50000	<100	<100	<100	<100	
C19-C36 Aliphatics	50000	NA	50000	<100	<100	<100	<100	
C11-C22 Aromatics	5000	50000	5000	<100	<100	<100	<100	
Naphthalene	1000	700	20000	<1.0	<1.0	<1.0	<1.0	
2-Methylnaphthalene	2000	2000	20000	<1.0	<1.0	<1.0	<1.0	
Acenaphthylene	40	10000	40	<1.0	<1.0	<1.0	<1.0	
Acenaphthene	10000	NA	10000	<1.0	<1.0	<1.0	<1.0	
Fluorene	40	NA	40	<1.0	<1.0	<1.0	<1.0	
Phenanthrene	10000	NA	10000	<1.0	<1.0	<1.0	<1.0	
Anthracene	30	NA	30	<1.0	<1.0	<1.0	<1.0	
Fluoranthene	200	NA	200	<1.0	<1.0	<1.0	<1.0	
Pyrene	20	NA	20	<1.0	<1.0	<1.0	<1.0	
Benzo(a)anthracene	1000	NA	1000	<0.2	<0.2	<0.2	<0.2	
Chrysene	70	NA	70	<0.2	<0.2	<0.2	<0.2	
Benzo(b)fluoranthene	400	NA	400	<0.2	<0.2	<0.2	<0.2	
Benzo(k)fluoranthene	100	NA	200	<0.2	<0.2	<0.2	<0.2	
Benzo(a)pyrene	500	NA	500	<0.1	<0.1	<0.1	<0.1	
Indeno(1,2,3-cd)pyrene	100	NA	100	<0.1	<0.1	<0.1	<0.1	
Dibenzo(a,h)anthracene	40	NA	40	<0.1	<0.1	<0.1	<0.1	
Benzo(g,h)perylene	20	NA	20	<0.1	<0.1	<0.1	<0.1	
MTCA								
Acetone	50000	50000	50000	<10	<10	<10	<10	
Tertiary Amyl Methyl Ether				<5	<5	<5	<5	
Benzene	1000	1000	10000	<1	<1	<1	<1	
Bromobenzene	10000			<1	<1	<1	<1	
Bromochloromethane				<1	<1	<1	<1	
Bromodichloromethane	6	6	50000	<1	<1	<1	<1	
Bromotrichloromethane	700	700	50000	<1	<1	<1	<1	
Bromomethane	7	7	800	<1	<1	<1	<1	
n-Butylbenzene				<1	<1	<1	<1	
Sec-butylbenzene				<1	<1	<1	<1	
tert-Butylbenzene	10000			<1	<1	<1	<1	
Carbon Disulfide	10000			<5	<5	<5	<5	
Carbon Tetrachloride	2	2	5000	<1	<1	<1	<1	
Chlorobenzene	200	200	1000	<1	<1	<1	<1	
Dibromochloromethane	20	20	50000	<1	<1	<1	<1	
Chloroethane	10000			<5	<5	<5	<5	
Chloroform	50	50	20000	<1	<1	<1	<1	
2-Chlorotoluene	10000			<5	<5	<5	<5	
4-Chlorotoluene	10000			<1	<1	<1	<1	
1,2-Dibromo-3-Chloropropane	1000			<1	<1	<1	<1	
1,2-Dibromoethane (EDB)	2			<2	<2	<2	<2	
Dibromomethane	50000			<1	<1	<1	<1	
1,3-Dichlorobenzene	6000	6000	50000	<2	<2	<2	<2	
1,2-Dichlorobenzene	2000	8000	2000	<1	<1	<1	<1	
1,4-Dichlorobenzene	60	60	8000	<1	<1	<1	<1	
n-Propylbenzene	10000			<1	<1	<1	<1	
Dichlorodifluoromethane	100000			<1	<1	<1	<1	
1,1-Dichloroethane	2000	2000	20000	<5	<5	<5	<5	
1,2-Dichloroethane	5	5	20000	<1	<1	<1	<1	
1,1-Dichloroethene	80	80	30000	<1	<1	<1	<1	
cis-1,2-Dichloroethene	20	20	50000	<1	<1	<1	<1	
trans-1,2-Dichloroethene	80	80	50000	<1	<1	<1	<1	
1,2-Dichloropropane	3	0.1	100	<2	<2	<2	<2	
1,3-Dichloropropane	50000	0.4	20	<1	<1	<1	<1	
1,1-Dichloropropane	50000			<1	<1	<1	<1	
cis-1,3-Dichloropropene	5	10	200	<1	<1	<1	<1	
trans-1,3-Dichloropropene	10	10	200	<0.4	<0.4	<0.4	<0.4	
Diethyl ether	10000			<5	<5	<5	<5	
Diisopropyl ether (DIPE)	10000			<5	<5	<5	<5	
1,4-Dioxane	200	6000	50000	<5	<5	<5	<5	
Ethyl Tertiary Butyl Ether				<100	<100	<100	<100	
Ethylbenzene	5000	20000	5000	<5	<5	<5	<5	
Hexachlorobutadiene	50	50	3000	<1	<1	<1	<1	
2-Hexanone	10000			<0.5	<0.5	<0.5	<0.5	
Isopropylbenzene	100000			<10	<10	<10	<10	
p-Isopropyltoluene				<1	<1	<1	<1	
2-Butanone (MEK)	50000			<1	<1	<1	<1	
4-Methyl-2-pentanone (MIBK)	50000			<10	<10	<10	<10	
MTBE	5000	50000	50000	<10	<10	<10	<10	
Methylene Chloride	10000			<2	<2	<2	<2	
Naphthalene	1000	700	20000	<5	<5	<5	<5	
1,1,2-Trichloroethane	900	900	50000	<1	<1	<1	<1	
Styrene	100	100	6000	<1	<1	<1	<1	
1,1,1,2-Tetrachloroethane	9	10	50000	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	9	9	50000	<1	<1	<1	<1	
Tetrachloroethylene	50	50	30000	<1	<1	<1	<1	
Tetrahydrofuran	50000			<1	<1	<1	<1	
Toluene	40000	50000	40000	<10	<10	<10	<10	
1,2,4-Trichlorobenzene	200	200	50000	<1	<1	<1	<1	
1,2,3-Trichlorobenzene				<1	<1	<1	<1	
1,1,1-Trichloroethane	4000	4000	20000	<1	<1	<1	<1	
Trichloroethylene	5	5	5000	<1	<1	<1	<1	
Trichlorofluoromethane	100000			<1	<1	<1	<1	
1,2,3-Trichloropropane	10000			<1	<1	<1	<1	
1,2,4-Trimethylbenzene	100000			<2	<2	<2	<2	
1,3,5-Trimethylbenzene	1000			<1	<1	<1	<1	
Vinyl Chloride	2	2	50000	<1	<1	<1	<1	
o-Xylene	3000	3000	5000	<1	<1	<1	<1	
m,p-Xylene	3000	3000	5000	<1	<1	<1	<1	
WC 3.14 Metals								
Arsenic	900	NA	900	1.5	<1.0	<1.0	<1.0	
Lead	10	NA	10	<1.0	<1.0	<1.0	<1.0	
Selenium	100	N	100	<2.0	<2.0	<2.0	4	
Barium	50000	NA	50000	165	174	129	86	
Thallium	3000	NA	3000	--	--	--	--	
Beryllium	200	NA	200	--	--	--	--	
Cadmium	4	NA	4	<5	<5	<5	<5	
Chromium Total	300	NA	300	<50	<50	<50	<50	
Chromium VI	300	NA	300	--	--	--	--	
Chromium III	600	NA	600	--	--	--	--	
Copper	100000	NS	NS	--	--	--	--	
Mercury	20	NA	20	<0.5	<0.5	<0.5	<0.5	
Nickel	200	NA	200	--	--	--	--	
Silver	7	NA	7	<20	<20	<20	<20	
Zinc	900	NA	900	--	--	--	--	

Prepared by J. Cournoyer
All results in µg/L
Values in bold exceed applicable MADEP Method 1 GW Standards
-- = Not Analyzed
NS = No Standard
NA = Not Applicable
1 = The Massachusetts Contingency Plan, 310 CMR 40.1600, April 25, 2014
2 = The Massachusetts Contingency Plan, 310 CMR 40.0974(2); Table 1, April 25, 2014

APPENDIX B: ANALYTICAL DATA



CERTIFICATE OF ANALYSIS

FSL Associates, Inc.
Attn: Andrew Pieroni
358 Chestnut Hill Avenue
Brighton, MA 02135

Date Received: 10/23/14
Date Reported: 10/30/14
P.O. #:
Work Order #: 1410-23954

DESCRIPTION: 39 LINCOLN ST, READING MA

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA and Massachusetts Contingency Plan (MCP) approved methodologies where applicable. The specific methodologies are listed in the methods column of the Certificate of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015
NH 2537, NY 11726

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

Data Reporting

enc: Chain of Custody

Work Order #: 1410-23954

MassDEP Analytical Protocol Certification Form		
Laboratory Name: R.I. Analytical Laboratories	Work Order #: 1410-23954	
Project / Location: 39 LINCOLN ST, READING MA	RTN :	
This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 1410-23954-001 through 1410-23954-008		

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	MassDEP VPH CAM IV A <input checked="" type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide /PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM V111 B <input type="checkbox"/>	

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

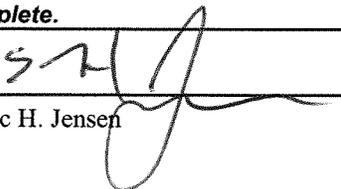
A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the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

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
<small>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</small>		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹ All negative responses must be addressed in an attached laboratory narrative.

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

Signature: 

Printed Name: Eric H. Jensen

Position: Laboratory Director

Date: 10-30-14

Case Narrative

Date: 10/30/2014

FSL Associates, Inc.
Attn: Andrew Pieroni
358 Chestnut Hill Avenue
Brighton, MA 02135

Project: 39 LINCOLN ST, READING MA

Work Order #: 1410-23954

All QA/QC procedures required by the EPH Method were followed. All performance/acceptance standards for the required QA/QC procedures were achieved or otherwise stated in this case narrative. A fractionation check was performed on the silica gel lot associated with this sample and found to pass the method criteria unless otherwise stated here. The data reported for this sample was not corrected for instrument/solvent baseline effects. No significant modifications were made to the EPH Method.

All QA/QC procedures required by the VPH Method were followed. All Performance/Acceptance Standards for the required QA/QC procedures were achieved or otherwise stated. No significant modifications were made to the VPH Method.

The following exceptions were noted for this Work Order:

Total Metals by 6010

Question H - No MS/MSD requested for Soil/Sediment sample in this work order.

Question I - Per the client's request, only a subset of the MCP analyte list for SW-846 Method 6010 Total Metals is reported.

There were no additional exceptions or analytical issues to discuss concerning the testing requirements for the project.

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 001

SAMPLE DESCRIPTION: FSL-1, 0-5'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	12	3.0	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
Barium	200	0.60	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
Cadmium	1.5	0.30	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
Chromium	12	1.8	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
Lead	220	2.4	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
Mercury	0.18	0.11	mg/kg dry	SW-846 7471B	10/28/14 12:59	JRW
Selenium	<6.0	6.0	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
Silver	4.7	1.2	mg/kg dry	SW-846 6010C	10/28/14 12:17	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC
Moisture	18.6		%	SM2540 G.	10/28/14 8:05	AK

Sample # 002

SAMPLE DESCRIPTION: FSL-2, 0-5'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	10	3.0	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
Barium	87	0.61	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
Cadmium	1.5	0.30	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
Chromium	58	1.8	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
Lead	260	2.4	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
Mercury	4.1	1.1	mg/kg dry	SW-846 7471B	10/28/14 14:10	JRW
Selenium	<6.1	6.1	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
Silver	2.3	1.2	mg/kg dry	SW-846 6010C	10/28/14 12:21	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC
Moisture	19.8		%	SM2540 G.	10/28/14 8:05	AK

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FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 003

SAMPLE DESCRIPTION: FSL-3, 0-5'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	13	2.7	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
Barium	42	0.55	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
Cadmium	0.32	0.27	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
Chromium	16	1.6	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
Lead	55	2.2	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
Mercury	0.15	0.10	mg/kg dry	SW-846 7471B	10/28/14 13:02	JRW
Selenium	<5.5	5.5	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
Silver	1.2	1.1	mg/kg dry	SW-846 6010C	10/28/14 12:31	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC
Moisture	11.5		%	SM2540 G.	10/28/14 8:05	AK

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 004

SAMPLE DESCRIPTION: FSL-4, 0-5'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
EPH/PAH						
C9-C18 Aliphatics	<30	30	mg/kg dry	MADEP	10/28/14 13:53	KD
C19-C36 Aliphatics	55	30	mg/kg dry	MADEP	10/28/14 13:53	KD
Unadj. C11-C22 Aromatics	69	30	mg/kg dry	MADEP	10/28/14 13:53	KD
Adj. C11-C22 Aromatics	51	30	mg/kg dry	MADEP	10/28/14 13:53	KD
Target PAH Analytes						
Naphthalene	<0.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
2-Methylnaphthalene	0.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Acenaphthylene	<0.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Acenaphthene	<0.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Fluorene	<0.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Phenanthrene	2.8	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Anthracene	0.6	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Fluoranthene	3.1	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Pyrene	2.6	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Benzo(a)anthracene	1.3	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Chrysene	1.5	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Benzo(b)fluoranthene	0.9	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Benzo(k)fluoranthene	1.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Benzo(a)pyrene	1.3	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Indeno(1,2,3-cd)pyrene	0.8	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Dibenzo(a,h)anthracene	<0.4	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Benzo(g,h,i)perylene	0.7	0.4	mg/kg dry	MADEP	10/28/14 13:53	KD
Moisture	21.7		%	SM2540 G.	10/28/14 8:05	AK
Extraction Surrogates			RANGE			
5-alpha-Androstane	44		40-140%	MADEP	10/28/14 13:53	KD
Ortho-terphenyl	58		40-140%	MADEP	10/28/14 13:53	KD
Fractionation Surrogates			RANGE			
2-Fluorobiphenyl	106		40-140%	MADEP	10/28/14 13:53	KD
2-Bromonaphthalene	108		40-140%	MADEP	10/28/14 13:53	KD
Extraction date				MADEP	10/27/14 8:45	JM
Total Metals						
Arsenic	24	3.2	mg/kg dry	SW-846 6010C	10/29/14 10:00	JRW
Barium	220	0.64	mg/kg dry	SW-846 6010C	10/29/14 10:00	JRW
Cadmium	1.9	0.32	mg/kg dry	SW-846 6010C	10/29/14 10:00	JRW
Chromium	15	1.9	mg/kg dry	SW-846 6010C	10/29/14 10:00	JRW

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FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 004

SAMPLE DESCRIPTION: FSL-4, 0-5'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Lead	550	2.5	mg/kg dry	SW-846 6010C	10/29/14	10:00	JRW
Mercury	0.68	0.11	mg/kg dry	SW-846 7471B	10/28/14	13:06	JRW
Selenium	<6.4	6.4	mg/kg dry	SW-846 6010C	10/29/14	10:00	JRW
Silver	3.3	1.3	mg/kg dry	SW-846 6010C	10/29/14	10:04	JRW
ICP Digestion				SW-846 3050	10/28/14	10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14	10:51	OMC

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Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 005

SAMPLE DESCRIPTION: FSL-5, 0-5'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
VPH						
Unadjusted C5-C8 Aliphatics(FID)	<9.9	9.9	mg/kg dry	MADEP	10/27/14 11:31	KAC
Unadjusted C9-C12 Aliphatics (FID)	<9.9	9.9	mg/kg dry	MADEP	10/27/14 11:31	KAC
Methyl-tert-butylether	<0.10	0.10	mg/kg dry	MADEP	10/27/14 11:31	KAC
Benzene	<0.50	0.50	mg/kg dry	MADEP	10/27/14 11:31	KAC
Toluene	<0.50	0.50	mg/kg dry	MADEP	10/27/14 11:31	KAC
Ethylbenzene	<0.50	0.50	mg/kg dry	MADEP	10/27/14 11:31	KAC
m,p-Xylene	<0.50	0.50	mg/kg dry	MADEP	10/27/14 11:31	KAC
o-Xylene	<0.50	0.50	mg/kg dry	MADEP	10/27/14 11:31	KAC
Naphthalene	<0.50	0.50	mg/kg dry	MADEP	10/27/14 11:31	KAC
Adjusted C5-C8 Aliphatics(FID)	<9.9	9.9	mg/kg dry	MADEP	10/27/14 11:31	KAC
Adjusted C9-C12 Aliphatics(FID)	<9.9	9.9	mg/kg dry	MADEP	10/27/14 11:31	KAC
C9-C10 Aromatics(PID)	<9.9	9.9	mg/kg dry	MADEP	10/27/14 11:31	KAC
Moisture	19.9		%	SM2540 G.	10/28/14 8:05	AK
Surrogate			RANGE		10/27/14 11:31	KAC
2,5-Dibromotoluene(PID)	77		70-130%	MADEP	10/27/14 11:31	KAC
2,5-Dibromotoluene(FID)	85		70-130%	MADEP	10/27/14 11:31	KAC
Total Metals						
Arsenic	7.1	3.1	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
Barium	19	0.62	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
Cadmium	<0.31	0.31	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
Chromium	11	1.8	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
Lead	16	2.5	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
Mercury	<0.12	0.12	mg/kg dry	SW-846 7471B	10/28/14 13:08	JRW
Selenium	<6.2	6.2	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
Silver	<1.2	1.2	mg/kg dry	SW-846 6010C	10/28/14 12:49	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC

R.I. Analytical Laboratories, Inc.
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FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 006

SAMPLE DESCRIPTION: FSL-5, 10-15'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	5.5	2.7	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
Barium	21	0.55	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
Cadmium	<0.27	0.27	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
Chromium	23	1.6	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
Lead	10	2.2	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
Mercury	<0.11	0.11	mg/kg dry	SW-846 7471B	10/28/14 13:12	JRW
Selenium	<5.5	5.5	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
Silver	<1.1	1.1	mg/kg dry	SW-846 6010C	10/28/14 12:53	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC
Moisture	9.0		%	SM2540 G.	10/28/14 8:05	AK

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FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 007

SAMPLE DESCRIPTION: FSL-6, 5-10'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
VPH						
Unadjusted C5-C8 Aliphatics(FID)	<5.1	5.1	mg/kg dry	MADEP	10/27/14 12:12	KAC
Unadjusted C9-C12 Aliphatics (FID)	<5.1	5.1	mg/kg dry	MADEP	10/27/14 12:12	KAC
Methyl-tert-butylether	<0.05	0.05	mg/kg dry	MADEP	10/27/14 12:12	KAC
Benzene	<0.26	0.26	mg/kg dry	MADEP	10/27/14 12:12	KAC
Toluene	<0.26	0.26	mg/kg dry	MADEP	10/27/14 12:12	KAC
Ethylbenzene	<0.26	0.26	mg/kg dry	MADEP	10/27/14 12:12	KAC
m,p-Xylene	<0.26	0.26	mg/kg dry	MADEP	10/27/14 12:12	KAC
o-Xylene	<0.26	0.26	mg/kg dry	MADEP	10/27/14 12:12	KAC
Naphthalene	<0.26	0.26	mg/kg dry	MADEP	10/27/14 12:12	KAC
Adjusted C5-C8 Aliphatics(FID)	<5.1	5.1	mg/kg dry	MADEP	10/27/14 12:12	KAC
Adjusted C9-C12 Aliphatics(FID)	<5.1	5.1	mg/kg dry	MADEP	10/27/14 12:12	KAC
C9-C10 Aromatics(PID)	<5.1	5.1	mg/kg dry	MADEP	10/27/14 12:12	KAC
Moisture	4.2		%	SM2540 G.	10/28/14 8:05	AK
Surrogate			RANGE		10/27/14 12:12	KAC
2,5-Dibromotoluene(PID)	97		70-130%	MADEP	10/27/14 12:12	KAC
2,5-Dibromotoluene(FID)	105		70-130%	MADEP	10/27/14 12:12	KAC
EPH/PAH						
C9-C18 Aliphatics	<20	20	mg/kg dry	MADEP	10/27/14 18:53	KD
C19-C36 Aliphatics	<20	20	mg/kg dry	MADEP	10/27/14 18:53	KD
Unadj. C11-C22 Aromatics	<20	20	mg/kg dry	MADEP	10/27/14 18:53	KD
Adj. C11-C22 Aromatics	<20	20	mg/kg dry	MADEP	10/27/14 18:53	KD
Target PAH Analytes						
Naphthalene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
2-Methylnaphthalene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Acenaphthylene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Acenaphthene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Fluorene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Phenanthrene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Anthracene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Fluoranthene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Pyrene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Benzo(a)anthracene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Chrysene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Benzo(b)fluoranthene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Benzo(k)fluoranthene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD

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FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 007

SAMPLE DESCRIPTION: FSL-6, 5-10'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Benzo(a)pyrene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Indeno(1,2,3-cd)pyrene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Dibenzo(a,h)anthracene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Benzo(g,h,i)perylene	<0.4	0.4	mg/kg dry	MADEP	10/27/14 18:53	KD
Moisture	4.2		%	SM2540 G.	10/28/14 8:05	AK
Extraction Surrogates			RANGE			
5-alpha-Androstane	46		40-140%	MADEP	10/27/14 18:53	KD
Ortho-terphenyl	54		40-140%	MADEP	10/27/14 18:53	KD
Fractionation Surrogates			RANGE			
2-Fluorobiphenyl	76		40-140%	MADEP	10/27/14 18:53	KD
2-Bromonaphthalene	75		40-140%	MADEP	10/27/14 18:53	KD
Extraction date				MADEP	10/27/14 8:45	JM
Total Metals						
Arsenic	7.1	2.6	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
Barium	56	0.51	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
Cadmium	0.54	0.26	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
Chromium	49	1.5	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
Lead	7.2	2.1	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
Mercury	<0.093	0.093	mg/kg dry	SW-846 7471B	10/28/14 13:14	JRW
Selenium	<5.1	5.1	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
Silver	1.5	1.0	mg/kg dry	SW-846 6010C	10/28/14 12:58	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC

R.I. Analytical Laboratories, Inc.
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FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23954

39 LINCOLN ST, READING MA

Sample # 008

SAMPLE DESCRIPTION: FSL-7, 5-10'

SAMPLE TYPE: COMPOSITE

SAMPLE DATE/TIME: 10/20/2014

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	10	2.6	mg/kg dry	SW-846 6010C	10/28/14 13:02	JRW
Barium	19	0.52	mg/kg dry	SW-846 6010C	10/28/14 13:02	JRW
Cadmium	<0.26	0.26	mg/kg dry	SW-846 6010C	10/28/14 13:02	JRW
Chromium	25	1.6	mg/kg dry	SW-846 6010C	10/28/14 13:07	JRW
Lead	12	2.1	mg/kg dry	SW-846 6010C	10/28/14 13:02	JRW
Mercury	<0.093	0.093	mg/kg dry	SW-846 7471B	10/28/14 13:20	JRW
Selenium	<5.2	5.2	mg/kg dry	SW-846 6010C	10/28/14 13:02	JRW
Silver	<1.0	1.0	mg/kg dry	SW-846 6010C	10/28/14 13:02	JRW
ICP Digestion				SW-846 3050	10/28/14 10:40	OMC
Mercury Digestion				SW-846 7471B	10/28/14 10:51	OMC
Moisture	7.4		%	SM2540 G.	10/28/14 8:05	AK

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23954

Date: 10/30/2014

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
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Extractable Petroleum Hydrocarbons with PAH

C9-C18 Aliphatics	mg/kg dry	<20	10/27/2014
C19-C36 Aliphatics	mg/kg dry	<20	10/27/2014
Unadj. C11-C22 Aromatics	mg/kg dry	<20	10/27/2014
Adj. C11-C22 Aromatics	mg/kg dry	<20	10/27/2014

Target PAH Analytes

Naphthalene	mg/kg dry	<0.4	10/27/2014
2-Methylnaphthalene	mg/kg dry	<0.4	10/27/2014
Acenaphthylene	mg/kg dry	<0.4	10/27/2014
Acenaphthene	mg/kg dry	<0.4	10/27/2014
Fluorene	mg/kg dry	<0.4	10/27/2014
Phenanthrene	mg/kg dry	<0.4	10/27/2014
Anthracene	mg/kg dry	<0.4	10/27/2014
Fluoranthene	mg/kg dry	<0.4	10/27/2014
Pyrene	mg/kg dry	<0.4	10/27/2014
Benzo(a)anthracene	mg/kg dry	<0.4	10/27/2014
Chrysene	mg/kg dry	<0.4	10/27/2014
Benzo(b)fluoranthene	mg/kg dry	<0.4	10/27/2014
Benzo(k)fluoranthene	mg/kg dry	<0.4	10/27/2014
Benzo(a)pyrene	mg/kg dry	<0.4	10/27/2014
Indeno(1,2,3-cd)pyrene	mg/kg dry	<0.4	10/27/2014
Dibenzo(a,h)anthracene	mg/kg dry	<0.4	10/27/2014
Benzo(g,h,i)perylene	mg/kg dry	<0.4	10/27/2014

Extraction Surrogates**RANGE**

5-alpha-Androstane	40-140%	69	10/27/2014
Ortho-terphenyl	40-140%	79	10/27/2014

Fractionation Surrogates**RANGE**

2-Fluorobiphenyl	40-140%	79	10/27/2014
2-Bromonaphthalene	40-140%	78	10/27/2014

Volatile Petroleum Hydrocarbons

Unadj C5-C8 Aliphatics(FID)	mg/kg dry	<5.0	10/27/2014
Unadj C9-C12 Aliphatic(FID)	mg/kg dry	<5.0	10/27/2014
Methyl-tert-butylether	mg/kg dry	<0.05	10/27/2014
Benzene	mg/kg dry	<0.25	10/27/2014
Toluene	mg/kg dry	<0.25	10/27/2014
Ethylbenzene	mg/kg dry	<0.25	10/27/2014
m,p-Xylene	mg/kg dry	<0.25	10/27/2014
o-Xylene	mg/kg dry	<0.25	10/27/2014
Naphthalene	mg/kg dry	<0.25	10/27/2014
Adj C5-C8 Aliphatics(FID)	mg/kg dry	<5.0	10/27/2014

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23954

Date: 10/30/2014

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
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Volatile Petroleum Hydrocarbons (cont'd)

Adj C9-C12 Aliphatics(FID)	mg/kg dry	<5.0	10/27/2014
C9-C10 Aromatics(PID)	mg/kg dry	<5.0	10/27/2014
Surrogate	RANGE		
2,5-Dibromotoluene(PID)	70-130%	80	10/27/2014
2,5-Dibromotoluene(FID)	70-130%	88	10/27/2014

Total Metals

Arsenic	mg/kg dry	<2.5	10/28/2014
Barium	mg/kg dry	<0.50	10/28/2014
Cadmium	mg/kg dry	<0.25	10/28/2014
Chromium	mg/kg dry	<1.5	10/28/2014
Lead	mg/kg dry	<2.0	10/28/2014
Mercury	mg/kg dry	<0.10	10/28/2014
Selenium	mg/kg dry	<5.0	10/28/2014
Silver	mg/kg dry	<1.0	10/28/2014

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
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Extractable Petroleum Hydrocarbons with PAH**Target PAH Analytes**

Naphthalene	3.33	1.97	59	1.91	57	3	10/28/2014
2-Methylnaphthalene	3.33	2.04	61	2.00	60	2	10/28/2014
Acenaphthylene	3.33	2.26	68	2.16	65	5	10/28/2014
Acenaphthene	3.33	2.20	66	2.19	66	0	10/28/2014
Fluorene	3.33	2.44	73	2.43	73	0	10/28/2014
Phenanthrene	3.33	2.71	81	2.68	80	1	10/28/2014
Anthracene	3.33	2.60	78	2.64	79	2	10/28/2014
Fluoranthene	3.33	2.91	87	2.93	88	1	10/28/2014
Pyrene	3.33	2.90	87	2.91	87	0	10/28/2014
Benzo(a)anthracene	3.33	2.90	87	3.18	95	9	10/28/2014
Chrysene	3.33	2.89	87	3.06	92	6	10/28/2014
Benzo(b)fluoranthene	3.33	2.84	85	3.27	98	14	10/28/2014
Benzo(k)fluoranthene	3.33	2.80	84	2.89	87	3	10/28/2014
Benzo(a)pyrene	3.33	2.68	80	3.06	92	13	10/28/2014
Indeno(1,2,3-cd)pyrene	3.33	2.75	83	3.09	93	12	10/28/2014
Dibenzo(a,h)anthracene	3.33	2.79	84	3.11	93	11	10/28/2014
Benzo(g,h,i)perylene	3.33	2.70	81	3.02	91	11	10/28/2014

Aliphatic Analytes

n-Nonane	3.33	1.06	32	1.20	36	12	10/28/2014
n-Decane	3.33	1.58	47	1.75	53	10	10/28/2014
n-Dodecane	3.33	1.95	59	2.10	63	7	10/28/2014
n-Tetradecane	3.33	2.19	66	2.36	71	7	10/28/2014
n-Hexadecane	3.33	2.48	74	2.48	74	0	10/28/2014
n-Octadecane	3.33	2.75	83	2.74	82	0	10/28/2014
n-Nonadecane	3.33	2.72	82	2.69	81	1	10/28/2014
n-Eicosane	3.33	2.81	84	2.81	84	0	10/28/2014
n-Docosane	3.33	2.75	83	2.73	82	1	10/28/2014
n-Tetracosane	3.33	2.70	81	2.67	80	1	10/28/2014
n-Hexacosane	3.33	2.73	82	2.61	78	4	10/28/2014
n-Octacosane	3.33	2.71	81	2.57	77	5	10/28/2014
n-Triacontane	3.33	2.66	80	2.53	76	5	10/28/2014
n-Hexatriacontane	3.33	2.53	76	2.47	74	2	10/28/2014

Extraction Surrogates

5-alpha-Androstane		81		79			10/28/2014
Ortho-terphenyl		88		83			10/28/2014

Fractionation Surrogates

2-Fluorobiphenyl		85		79			10/28/2014
2-Bromonaphthalene		83		76			10/28/2014

Breakthrough Analytes

Naphthalene-		0		0			10/28/2014
2-Methylnaphthalene-		0		1			10/28/2014

Volatile Petroleum Hydrocarbons

Methyl-tert-butylether	2.5	2.4	96	2.5	100	4	10/27/2014
Benzene	2.5	2.4	96	2.4	96	0	10/27/2014
Toluene	2.5	2.4	96	2.3	92	4	10/27/2014
Ethylbenzene	2.5	2.4	96	2.4	96	0	10/27/2014
m,p-Xylene	5.0	4.8	96	4.7	94	2	10/27/2014
o-Xylene	2.5	2.5	100	2.4	96	4	10/27/2014

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23954

Date: 10/30/2014

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Petroleum Hydrocarbons (cont'd)								
Naphthalene		2.5	2.4	96	2.3	92	4	10/27/2014
Adj C5-C8 Aliphatics(FID)		7.5	8.0	107	8.0	107	0	10/27/2014
Adj C9-C12 Aliphatics(FID)		5.0	4.9	98	4.7	94	4	10/27/2014
C9-C10 Aromatics(PID)		2.5	2.5	100	2.3	92	8	10/27/2014
Surrogate								
2,5-Dibromotoluene(PID)			94		91			10/27/2014
2,5-Dibromotoluene(FID)			104		99			10/27/2014
Total Metals								
Arsenic	71-129%	52.3	50	96	60	115	18	10/29/2014
Barium	73-126%	145	160	110	160	110	0	10/29/2014
Cadmium	73-127%	71.6	64	89	62	87	3	10/29/2014
Chromium	70-130%	88.5	96	108	91	103	5	10/29/2014
Lead	70-130%	77.8	67	86	76	98	13	10/29/2014
Selenium	66-134%	81.1	64	0	85	105	0	10/29/2014
Silver	42-158%	114	130	114	170	149	27	10/28/2014
Mercury	52-149%	9.7	11	113	11	113	0	10/28/2014

CERTIFICATE OF ANALYSIS

FSL Associates, Inc.
Attn: Andrew Pieroni
358 Chestnut Hill Avenue
Brighton, MA 02135

Date Received: 10/23/14
Date Reported: 10/31/14
P.O. #:
Work Order #: 1410-23949

DESCRIPTION: 39 LINCOLN ST, READING MA

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA and Massachusetts Contingency Plan (MCP) approved methodologies where applicable. The specific methodologies are listed in the methods column of the Certificate of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015
NH 2537, NY 11726

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:



Data Reporting

enc: Chain of Custody

Customer Name : FSL Associates, Inc.

Work Order #: 1410-23949

MassDEP Analytical Protocol Certification Form			
Laboratory Name: R.I. Analytical Laboratories	Work Order #: 1410-23949		
Project / Location: 39 LINCOLN ST, READING MA	RTN :		
This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 1410-23949-001 through 1410-23949-004			

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	MassDEP VPH CAM IV A <input checked="" type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input checked="" type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide /PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM V111 B <input type="checkbox"/>	

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

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

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
<small>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.</small>		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹ All negative responses must be addressed in an attached laboratory narrative.

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

Signature _____

Position: Laboratory Director

Printed Name: Eric H. Jensen

Date: 10-31-14

Case Narrative

Date: 10/31/2014

FSL Associates, Inc.
Attn: Andrew Pieroni
358 Chestnut Hill Avenue
Brighton, MA 02135

Project: 39 LINCOLN ST, READING MA

Work Order #: 1410-23949

All QA/QC procedures required by the EPH Method were followed. All performance/acceptance standards for the required QA/QC procedures were achieved or otherwise stated in this case narrative. A fractionation check was performed on the silica gel lot associated with this sample and found to pass the method criteria unless otherwise stated here. The data reported for this sample was not corrected for instrument/solvent baseline effects. No significant modifications were made to the EPH Method.

All QA/QC procedures required by the VPH Method were followed. All Performance/Acceptance Standards for the required QA/QC procedures were achieved or otherwise stated. No significant modifications were made to the VPH Method.

The following exceptions were noted for this Work Order:

Volatile Organics by 8260

Question H - Laboratory control sample (10/24/14) / laboratory control sample duplicate (10/24/14) had analytes outside the 70%-130% QC acceptance limits. Up to 10% of the analytes are allowed to be out. The specific outliers include, (1,4-Dioxane 160%, 160%). These analytes were not detected in the associated samples

Dissolved Metals by 6010, 6020

Question I - Per the client's request, only a subset of the MCP analyte list for SW-846 Method 6010, 6020 Dissolved Metals is reported.

There were no additional exceptions or analytical issues to discuss concerning the testing requirements for the project.

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 001

SAMPLE DESCRIPTION: FSL-MW1

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
VPH						
Unadjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 11:50	KAC
Unadjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 11:50	KAC
Methyl-tert-butylether	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
Benzene	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
Toluene	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
Ethylbenzene	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
m,p-Xylene	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
o-Xylene	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
Naphthalene	<5	5	ug/l	MADEP	10/24/14 11:50	KAC
Adjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 11:50	KAC
Adjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 11:50	KAC
C9-C10 Aromatics(PID)	<100	100	ug/l	MADEP	10/24/14 11:50	KAC
Surrogate			RANGE		10/24/14 11:50	KAC
2,5-Dibromotoluene(PID)	79		70-130%	MADEP	10/24/14 11:50	KAC
2,5-Dibromotoluene(FID)	87		70-130%	MADEP	10/24/14 11:50	KAC
EPH						
C9-C18 Aliphatics	<100	100	ug/l	MADEP	10/27/14 13:21	KD
C19-C36 Aliphatics	<100	100	ug/l	MADEP	10/27/14 13:21	KD
Unadj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/27/14 13:21	KD
Adj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/27/14 13:21	KD
Extraction Surrogates			RANGE			
5-alpha-Androstane	47		40-140%	MADEP	10/27/14 13:21	KD
Ortho-terphenyl	82		40-140%	MADEP	10/27/14 13:21	KD
Fractionation Surrogates			RANGE			
2-Fluorobiphenyl	71		40-140%	MADEP	10/27/14 13:21	KD
2-Bromonaphthalene	69		40-140%	MADEP	10/27/14 13:21	KD
Extraction Date	Extracted			MADEP	10/23/14 21:15	JPB
Target PAH analytes						
Naphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
2-Methylnaphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Acenaphthylene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Acenaphthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Fluorene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Phenanthrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Anthracene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 001

SAMPLE DESCRIPTION: FSL-MW1

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Fluoranthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Pyrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Benzo(a)anthracene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Chrysene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Benzo(b)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Benzo(k)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Benzo(a)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Indeno(1,2,3-cd)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Dibenzo(a,h)anthracene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Benzo(g,h,i)perylene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 13:38	MLC
Extraction Surrogates			RANGE		10/30/14 13:38	MLC
Ortho-terphenyl	65		40-140%	GC/MS-SIM	10/30/14 13:38	MLC
Volatile Organic Compounds						
Acetone	<10	10	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Benzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Bromoform	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Bromomethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Chloroethane	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Chloroform	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Chloromethane	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 001

SAMPLE DESCRIPTION: FSL-MW1

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 15:21	KAC
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Diethyl ether	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/24/14 15:21	KAC
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/24/14 15:21	KAC
MTBE	<2	2	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Naphthalene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Styrene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Toluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 001

SAMPLE DESCRIPTION: FSL-MW1

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
o-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
m,p-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 15:21	KAC
Surrogates			RANGE	SW-846 8260C	10/24/14 15:21	KAC
Dibromofluoromethane	102		86-118%	SW-846 8260C	10/24/14 15:21	KAC
Toluene-d8	98		88-110%	SW-846 8260C	10/24/14 15:21	KAC
4-Bromofluorobenzene	104		86-115%	SW-846 8260C	10/24/14 15:21	KAC
1,2 Dichloroethane-d4	100		80-120%	SW-846 8260C	10/24/14 15:21	KAC
Dissolved Metals Analyzed by ICPMS						
Arsenic	0.0015	0.001	mg/l	SW-846 6020A	10/28/14 15:27	PJC
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:27	PJC
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/28/14 15:27	PJC
Dissolved Metals						
Barium	0.165	0.050	mg/l	SW-846 6010C	10/29/14 11:50	JRW
Cadmium	<0.005	0.005	mg/l	SW-846 6010C	10/29/14 11:50	JRW
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/29/14 11:50	JRW
Mercury	<0.0005	0.0005	mg/l	SW-846 7471B	10/27/14 11:56	JRW
Silver	<0.020	0.020	mg/l	SW-846 6010C	10/29/14 11:50	JRW
Extraction Date				MADEP	10/23/14 21:15	JPB

The samples for EPH analysis were collected in non-preserved amber glass containers; the pH was adjusted to <2 by the laboratory during the extraction process.

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 002

SAMPLE DESCRIPTION: FSL-MW2

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:47

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
VPH						
Unadjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 12:31	KAC
Unadjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 12:31	KAC
Methyl-tert-butylether	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
Benzene	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
Toluene	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
Ethylbenzene	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
m,p-Xylene	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
o-Xylene	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
Naphthalene	<5	5	ug/l	MADEP	10/24/14 12:31	KAC
Adjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 12:31	KAC
Adjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 12:31	KAC
C9-C10 Aromatics(PID)	<100	100	ug/l	MADEP	10/24/14 12:31	KAC
Surrogate			RANGE		10/24/14 12:31	KAC
2,5-Dibromotoluene(PID)	74		70-130%	MADEP	10/24/14 12:31	KAC
2,5-Dibromotoluene(FID)	82		70-130%	MADEP	10/24/14 12:31	KAC
EPH						
C9-C18 Aliphatics	<100	100	ug/l	MADEP	10/27/14 14:03	KD
C19-C36 Aliphatics	<100	100	ug/l	MADEP	10/27/14 14:03	KD
Unadj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/27/14 14:03	KD
Adj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/27/14 14:03	KD
Extraction Surrogates			RANGE			
5-alpha-Androstane	51		40-140%	MADEP	10/27/14 14:03	KD
Ortho-terphenyl	85		40-140%	MADEP	10/27/14 14:03	KD
Fractionation Surrogates			RANGE			
2-Fluorobiphenyl	83		40-140%	MADEP	10/27/14 14:03	KD
2-Bromonaphthalene	79		40-140%	MADEP	10/27/14 14:03	KD
Extraction Date	Extracted			MADEP	10/23/14 21:15	JPB
Target PAH analytes						
Naphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
2-Methylnaphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Acenaphthylene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Acenaphthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Fluorene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Phenanthrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Anthracene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 002

SAMPLE DESCRIPTION: FSL-MW2

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:47

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Fluoranthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Pyrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Benzo(a)anthracene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Chrysene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Benzo(b)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Benzo(k)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Benzo(a)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Indeno(1,2,3-cd)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Dibenzo(a,h)anthracene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Benzo(g,h,i)perylene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:10	MLC
Extraction Surrogates			RANGE		10/30/14 14:10	MLC
Ortho-terphenyl	67		40-140%	GC/MS-SIM	10/30/14 14:10	MLC
Volatile Organic Compounds						
Acetone	<10	10	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Benzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Bromoform	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Bromomethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Chloroethane	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Chloroform	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Chloromethane	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 002

SAMPLE DESCRIPTION: FSL-MW2

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:47

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 15:48	KAC
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Diethyl ether	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/24/14 15:48	KAC
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/24/14 15:48	KAC
MTBE	<2	2	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Naphthalene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Styrene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Toluene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 002

SAMPLE DESCRIPTION: FSL-MW2

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:47

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
o-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
m,p-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 15:48	KAC
Surrogates			RANGE	SW-846 8260C	10/24/14 15:48	KAC
Dibromofluoromethane	102		86-118%	SW-846 8260C	10/24/14 15:48	KAC
Toluene-d8	96		88-110%	SW-846 8260C	10/24/14 15:48	KAC
4-Bromofluorobenzene	102		86-115%	SW-846 8260C	10/24/14 15:48	KAC
1,2 Dichloroethane-d4	100		80-120%	SW-846 8260C	10/24/14 15:48	KAC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:31	PJC
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:31	PJC
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/28/14 15:31	PJC
Dissolved Metals						
Barium	0.174	0.050	mg/l	SW-846 6010C	10/29/14 11:54	JRW
Cadmium	<0.005	0.005	mg/l	SW-846 6010C	10/29/14 11:54	JRW
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/29/14 11:54	JRW
Mercury	<0.0005	0.0005	mg/l	SW-846 7471B	10/27/14 11:57	JRW
Silver	<0.020	0.020	mg/l	SW-846 6010C	10/29/14 11:54	JRW
Extraction Date				MADEP	10/23/14 21:15	JPB

The samples for EPH analysis were collected in non-preserved amber glass containers; the pH was adjusted to <2 by the laboratory during the extraction process.

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 003

SAMPLE DESCRIPTION: FSL-MW3

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:17

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
VPH						
Unadjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:13	KAC
Unadjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:13	KAC
Methyl-tert-butylether	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
Benzene	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
Toluene	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
Ethylbenzene	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
m,p-Xylene	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
o-Xylene	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
Naphthalene	<5	5	ug/l	MADEP	10/24/14 13:13	KAC
Adjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:13	KAC
Adjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:13	KAC
C9-C10 Aromatics(PID)	<100	100	ug/l	MADEP	10/24/14 13:13	KAC
Surrogate			RANGE		10/24/14 13:13	KAC
2,5-Dibromotoluene(PID)	78		70-130%	MADEP	10/24/14 13:13	KAC
2,5-Dibromotoluene(FID)	85		70-130%	MADEP	10/24/14 13:13	KAC
EPH						
C9-C18 Aliphatics	<100	100	ug/l	MADEP	10/27/14 14:44	KD
C19-C36 Aliphatics	<100	100	ug/l	MADEP	10/27/14 14:44	KD
Unadj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/27/14 14:44	KD
Adj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/27/14 14:44	KD
Extraction Surrogates			RANGE			
5-alpha-Androstane	44		40-140%	MADEP	10/27/14 14:44	KD
Ortho-terphenyl	85		40-140%	MADEP	10/27/14 14:44	KD
Fractionation Surrogates			RANGE			
2-Fluorobiphenyl	86		40-140%	MADEP	10/27/14 14:44	KD
2-Bromonaphthalene	79		40-140%	MADEP	10/27/14 14:44	KD
Extraction Date	Extracted			MADEP	10/23/14 21:15	JPB
Target PAH analytes						
Naphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
2-Methylnaphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Acenaphthylene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Acenaphthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Fluorene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Phenanthrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Anthracene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 003

SAMPLE DESCRIPTION: FSL-MW3

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:17

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Fluoranthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Pyrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Benzo(a)anthracene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Chrysene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Benzo(b)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Benzo(k)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Benzo(a)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Indeno(1,2,3-cd)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Dibenzo(a,h)anthracene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Benzo(g,h,i)perylene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 14:41	MLC
Extraction Surrogates			RANGE		10/30/14 14:41	MLC
Ortho-terphenyl	69		40-140%	GC/MS-SIM	10/30/14 14:41	MLC
Volatile Organic Compounds						
Acetone	<10	10	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Benzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Bromoform	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Bromomethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Chloroethane	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Chloroform	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Chloromethane	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 003

SAMPLE DESCRIPTION: FSL-MW3

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 12:17

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 16:15	KAC
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Diethyl ether	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/24/14 16:15	KAC
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/24/14 16:15	KAC
MTBE	<2	2	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Naphthalene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Styrene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Toluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 003

SAMPLE DESCRIPTION: FSL-MW3**SAMPLE TYPE:** GRAB**SAMPLE DATE/TIME:** 10/22/2014 @ 12:17

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
o-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
m,p-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 16:15	KAC
Surrogates			RANGE	SW-846 8260C	10/24/14 16:15	KAC
Dibromofluoromethane	101		86-118%	SW-846 8260C	10/24/14 16:15	KAC
Toluene-d8	96		88-110%	SW-846 8260C	10/24/14 16:15	KAC
4-Bromofluorobenzene	101		86-115%	SW-846 8260C	10/24/14 16:15	KAC
1,2 Dichloroethane-d4	100		80-120%	SW-846 8260C	10/24/14 16:15	KAC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:36	PJC
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:36	PJC
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/28/14 15:36	PJC
Dissolved Metals						
Barium	0.129	0.050	mg/l	SW-846 6010C	10/29/14 11:59	JRW
Cadmium	<0.005	0.005	mg/l	SW-846 6010C	10/29/14 11:59	JRW
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/29/14 11:59	JRW
Mercury	<0.0005	0.0005	mg/l	SW-846 7471B	10/27/14 11:59	JRW
Silver	<0.020	0.020	mg/l	SW-846 6010C	10/29/14 11:59	JRW
Extraction Date				MADEP	10/23/14 21:15	JPB

The samples for EPH analysis were collected in non-preserved amber glass containers; the pH was adjusted to <2 by the laboratory during the extraction process.

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 004

SAMPLE DESCRIPTION: FSL-MW4

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 13:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
VPH						
Unadjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:54	KAC
Unadjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:54	KAC
Methyl-tert-butylether	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
Benzene	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
Toluene	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
Ethylbenzene	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
m,p-Xylene	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
o-Xylene	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
Naphthalene	<5	5	ug/l	MADEP	10/24/14 13:54	KAC
Adjusted C5-C8 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:54	KAC
Adjusted C9-C12 Aliphatics(FID)	<100	100	ug/l	MADEP	10/24/14 13:54	KAC
C9-C10 Aromatics(PID)	<100	100	ug/l	MADEP	10/24/14 13:54	KAC
Surrogate			RANGE		10/24/14 13:54	KAC
2,5-Dibromotoluene(PID)	76		70-130%	MADEP	10/24/14 13:54	KAC
2,5-Dibromotoluene(FID)	81		70-130%	MADEP	10/24/14 13:54	KAC
EPH						
C9-C18 Aliphatics	<100	100	ug/l	MADEP	10/29/14 11:12	KD
C19-C36 Aliphatics	<100	100	ug/l	MADEP	10/29/14 11:12	KD
Unadj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/29/14 11:12	KD
Adj. C11-C22 Aromatics	<100	100	ug/l	MADEP	10/29/14 11:12	KD
Extraction Surrogates			RANGE			
5-alpha-Androstane	44		40-140%	MADEP	10/29/14 11:12	KD
Ortho-terphenyl	91		40-140%	MADEP	10/29/14 11:12	KD
Fractionation Surrogates			RANGE			
2-Fluorobiphenyl	88		40-140%	MADEP	10/29/14 11:12	KD
2-Bromonaphthalene	83		40-140%	MADEP	10/29/14 11:12	KD
Extraction Date	Extracted			MADEP	10/23/14 21:15	JPB
Target PAH analytes						
Naphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
2-Methylnaphthalene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Acenaphthylene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Acenaphthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Fluorene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Phenanthrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Anthracene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 004

SAMPLE DESCRIPTION: FSL-MW4

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 13:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Fluoranthene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Pyrene	<1.0	1.0	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Benzo(a)anthracene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Chrysene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Benzo(b)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Benzo(k)fluoranthene	<0.2	0.2	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Benzo(a)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Indeno(1,2,3-cd)pyrene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Dibenzo(a,h)anthracene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Benzo(g,h,i)perylene	<0.1	0.1	ug/l	GC/MS-SIM	10/30/14 15:13	MLC
Extraction Surrogates			RANGE		10/30/14 15:13	MLC
Ortho-terphenyl	60		40-140%	GC/MS-SIM	10/30/14 15:13	MLC
Volatile Organic Compounds						
Acetone	<10	10	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Benzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Bromoform	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Bromomethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Chloroethane	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Chloroform	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Chloromethane	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 004

SAMPLE DESCRIPTION: FSL-MW4

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 13:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 16:42	KAC
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Diethyl ether	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/24/14 16:42	KAC
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/24/14 16:42	KAC
MTBE	<2	2	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Naphthalene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Styrene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Toluene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

FSL Associates, Inc.

Date Received: 10/23/14

Work Order #: 1410-23949

39 LINCOLN ST, READING MA

Sample # 004

SAMPLE DESCRIPTION: FSL-MW4

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/22/2014 @ 13:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
o-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
m,p-Xylene	<1	1	ug/l	SW-846 8260C	10/24/14 16:42	KAC
Surrogates			RANGE	SW-846 8260C	10/24/14 16:42	KAC
Dibromofluoromethane	101		86-118%	SW-846 8260C	10/24/14 16:42	KAC
Toluene-d8	96		88-110%	SW-846 8260C	10/24/14 16:42	KAC
4-Bromofluorobenzene	103		86-115%	SW-846 8260C	10/24/14 16:42	KAC
1,2 Dichloroethane-d4	98		80-120%	SW-846 8260C	10/24/14 16:42	KAC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:40	PJC
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/28/14 15:40	PJC
Selenium	0.004	0.002	mg/l	SW-846 6020A	10/28/14 15:40	PJC
Dissolved Metals						
Barium	0.086	0.050	mg/l	SW-846 6010C	10/29/14 12:03	JRW
Cadmium	<0.005	0.005	mg/l	SW-846 6010C	10/29/14 12:03	JRW
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/29/14 12:03	JRW
Mercury	<0.0005	0.0005	mg/l	SW-846 7471B	10/27/14 12:00	JRW
Silver	<0.020	0.020	mg/l	SW-846 6010C	10/29/14 12:03	JRW
Extraction Date				MADEP	10/23/14 21:15	JPB

The samples for EPH analysis were collected in non-preserved amber glass containers; the pH was adjusted to <2 by the laboratory during the extraction process.

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23949

Date: 10/31/2014

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
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Extractable Petroleum Hydrocarbons

C9-C18 Aliphatics	ug/l	<100	10/27/2014
C19-C36 Aliphatics	ug/l	<100	10/27/2014
Unadj. C11-C22 Aromatics	ug/l	<100	10/27/2014
Adj. C11-C22 Aromatics	ug/l	<100	10/27/2014

Extraction Surrogates**RANGE**

5-alpha-Androstane	40-140%	58	10/27/2014
Ortho-terphenyl	40-140%	83	10/27/2014

Fractionation Surrogates**RANGE**

2-Fluorobiphenyl	40-140%	83	10/27/2014
2-Bromonaphthalene	40-140%	77	10/27/2014

Volatile Petroleum Hydrocarbons

Unadj C5-C8 Aliphatics(FID)	ug/l	<100	10/24/2014
Unadj C9-C12 Aliphatic(FID)	ug/l	<100	10/24/2014
Methyl-tert-butylether	ug/l	<5	10/24/2014
Benzene	ug/l	<5	10/24/2014
Toluene	ug/l	<5	10/24/2014
Ethylbenzene	ug/l	<5	10/24/2014
m,p-Xylene	ug/l	<5	10/24/2014
o-Xylene	ug/l	<5	10/24/2014
Naphthalene	ug/l	<5	10/24/2014
Adj C5-C8 Aliphatics(FID)	ug/l	<100	10/24/2014
Adj C9-C12 Aliphatics(FID)	ug/l	<100	10/24/2014
C9-C10 Aromatics(PID)	ug/l	<100	10/24/2014

Surrogate**RANGE**

2,5-Dibromotoluene(PID)	70-130%	83	10/24/2014
2,5-Dibromotoluene(FID)	70-130%	90	10/24/2014

Volatile Organics by Method 8260

Acetone	ug/l	<10	10/24/2014
Tertiary Amyl Methyl Ether	ug/l	<5	10/24/2014
Benzene	ug/l	<1	10/24/2014
Bromobenzene	ug/l	<1	10/24/2014
Bromochloromethane	ug/l	<1	10/24/2014
Bromodichloromethane	ug/l	<1	10/24/2014
Bromoform	ug/l	<1	10/24/2014
Bromomethane	ug/l	<1	10/24/2014
n-Butylbenzene	ug/l	<1	10/24/2014
Sec-butylbenzene	ug/l	<1	10/24/2014
tert-Butylbenzene	ug/l	<1	10/24/2014
Carbon Disulfide	ug/l	<5	10/24/2014

QA/QC Report

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WO #: 1410-23949

Date: 10/31/2014

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
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Volatile Organics by Method 8260 (cont'd)

Carbon Tetrachloride	ug/l	<1	10/24/2014
Chlorobenzene	ug/l	<1	10/24/2014
Dibromochloromethane	ug/l	<1	10/24/2014
Chloroethane	ug/l	<5	10/24/2014
Chloroform	ug/l	<1	10/24/2014
Chloromethane	ug/l	<5	10/24/2014
2-Chlorotoluene	ug/l	<1	10/24/2014
4-Chlorotoluene	ug/l	<1	10/24/2014
1,2-Dibromo-3-Chloropropane	ug/l	<2	10/24/2014
1,2-Dibromoethane(EDB)	ug/l	<1	10/24/2014
Dibromomethane	ug/l	<2	10/24/2014
1,3-Dichlorobenzene	ug/l	<1	10/24/2014
1,2-Dichlorobenzene	ug/l	<1	10/24/2014
1,4-Dichlorobenzene	ug/l	<1	10/24/2014
n-Propylbenzene	ug/l	<1	10/24/2014
Dichlorodifluoromethane	ug/l	<5	10/24/2014
1,1-Dichloroethane	ug/l	<1	10/24/2014
1,2-Dichloroethane	ug/l	<1	10/24/2014
1,1-Dichloroethene	ug/l	<1	10/24/2014
cis-1,2-Dichloroethene	ug/l	<1	10/24/2014
trans-1,2-Dichloroethylene	ug/l	<2	10/24/2014
1,2-Dichloropropane	ug/l	<1	10/24/2014
1,3-Dichloropropane	ug/l	<1	10/24/2014
2,2-Dichloropropane	ug/l	<1	10/24/2014
1,1-Dichloropropene	ug/l	<1	10/24/2014
cis-1,3-Dichloropropene	ug/l	<0.4	10/24/2014
Diethyl ether	ug/l	<5	10/24/2014
Diisopropyl ether (DIPE)	ug/l	<5	10/24/2014
1,4-Dioxane	ug/l	<100	10/24/2014
Ethyl Tertiary Butyl Ether	ug/l	<5	10/24/2014
Ethylbenzene	ug/l	<1	10/24/2014
Hexachlorobutadiene	ug/l	<0.5	10/24/2014
2-Hexanone	ug/l	<10	10/24/2014
Isopropylbenzene	ug/l	<1	10/24/2014
p-Isopropyltoluene	ug/l	<1	10/24/2014
2-Butanone(MEK)	ug/l	<10	10/24/2014
4-Methyl-2-pentanone(MIBK)	ug/l	<10	10/24/2014
MTBE	ug/l	<2	10/24/2014
Methylene Chloride	ug/l	<5	10/24/2014
Naphthalene	ug/l	<1	10/24/2014

QA/QC Report

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WO #: 1410-23949

Date: 10/31/2014

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
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Volatile Organics by Method 8260 (cont'd)

1,1,2-Trichloroethane	ug/l	<1	10/24/2014
Styrene	ug/l	<1	10/24/2014
1,1,1,2-Tetrachloroethane	ug/l	<1	10/24/2014
1,1,2,2-Tetrachloroethane	ug/l	<1	10/24/2014
Tetrachloroethene	ug/l	<1	10/24/2014
Tetrahydrofuran	ug/l	<10	10/24/2014
Toluene	ug/l	<1	10/24/2014
1,2,4-Trichlorobenzene	ug/l	<1	10/24/2014
1,2,3-Trichlorobenzene	ug/l	<1	10/24/2014
1,1,1-Trichloroethane	ug/l	<1	10/24/2014
Trichloroethene	ug/l	<1	10/24/2014
Trichlorofluoromethane	ug/l	<1	10/24/2014
1,2,3-Trichloropropane	ug/l	<2	10/24/2014
1,2,4-Trimethylbenzene	ug/l	<1	10/24/2014
1,3,5-Trimethylbenzene	ug/l	<1	10/24/2014
Vinyl Chloride	ug/l	<1	10/24/2014
o-Xylene	ug/l	<1	10/24/2014
m,p-Xylene	ug/l	<1	10/24/2014
trans-1,3-Dichloropropylene	ug/l	<0.4	10/24/2014
Surrogates	RANGE		10/24/2014
Dibromofluoromethane	86-118%	103	10/24/2014
Toluene-d8	88-110%	96	10/24/2014
4-Bromofluorobenzene	86-115%	100	10/24/2014
1,2 Dichloroethane-d4	80-120%	100	10/24/2014

Aromatic Analytes

Naphthalene	ug/l	<1.0	10/30/2014
2-Methylnaphthalene	ug/l	<1.0	10/30/2014
Acenaphthylene	ug/l	<1.0	10/30/2014
Acenaphthene	ug/l	<1.0	10/30/2014
Fluorene	ug/l	<1.0	10/30/2014
Phenanthrene	ug/l	<1.0	10/30/2014
Anthracene	ug/l	<1.0	10/30/2014
Fluoranthene	ug/l	<1.0	10/30/2014
Pyrene	ug/l	<0.2	10/30/2014
Benzo(a)anthracene	ug/l	<0.2	10/30/2014
Chrysene	ug/l	<0.2	10/30/2014
Benzo(b)fluoranthene	ug/l	<0.2	10/30/2014
Benzo(k)fluoranthene	ug/l	<0.2	10/30/2014
Benzo(a)pyrene	ug/l	<0.1	10/30/2014

QA/QC Report

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WO #: 1410-23949

Date: 10/31/2014

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Aromatic Analytes (cont'd)			
Indeno(1,2,3-cd)pyrene	ug/l	<0.1	10/30/2014
Dibenzo(a,h)anthracene	ug/l	<0.1	10/30/2014
Benzo(g,h,i)perylene	ug/l	<0.1	10/30/2014
Extraction Surrogates	RANGE		10/30/2014
Ortho-terphenyl	40-140%	68	10/30/2014
Dissolved Metals			
Cadmium	mg/l	<0.005	10/29/2014
Chromium	mg/l	<0.050	10/29/2014
Mercury	mg/l	<0.0005	10/27/2014
Silver	mg/l	<0.020	10/29/2014
Barium	mg/l	<0.050	10/29/2014
Dissolved Metals			
Arsenic (mg/l)	mg/l	<0.001	10/28/2014
Lead (mg/l)	mg/l	<0.001	10/28/2014
Selenium (mg/l)	mg/l	<0.002	10/28/2014

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Petroleum Hydrocarbons								
Methyl-tert-butylether		50	49	98	49	98	0	10/24/2014
Benzene		50	47	94	45	90	4	10/24/2014
Toluene		50	47	94	45	90	4	10/24/2014
Ethylbenzene		50	48	96	46	92	4	10/24/2014
m,p-Xylene		100	95	95	92	92	3	10/24/2014
o-Xylene		50	48	96	47	94	2	10/24/2014
Naphthalene		50	46	92	47	94	2	10/24/2014
Adj C5-C8 Aliphatics(FID)		150	160	107	150	100	6	10/24/2014
Adj C9-C12 Aliphatics(FID)		100	96	96	91	91	5	10/24/2014
C9-C10 Aromatics(PID)		50	48	96	46	92	4	10/24/2014
Surrogate								
2,5-Dibromotoluene(PID)			85		87			10/24/2014
2,5-Dibromotoluene(FID)			93		95			10/24/2014
Volatile Organics by Method 8260								
Acetone		500	490	98	480	96	2	10/24/2014
Tertiary Amyl Methyl Ether		50	54	108	52	104	4	10/24/2014
Benzene		50	55	110	51	102	8	10/24/2014
Bromobenzene		50	54	108	52	104	4	10/24/2014
Bromochloromethane		50	56	112	53	106	6	10/24/2014
Bromodichloromethane		50	53	106	50	100	6	10/24/2014
Bromoform		50	49	98	48	96	2	10/24/2014
Bromomethane		50	53	106	50	100	6	10/24/2014
n-Butylbenzene		50	55	110	51	102	8	10/24/2014
Sec-butylbenzene		50	57	114	53	106	7	10/24/2014
tert-Butylbenzene		50	55	110	52	104	6	10/24/2014
Carbon Disulfide		50	54	108	50	100	8	10/24/2014
Carbon Tetrachloride		50	52	104	48	96	8	10/24/2014
Chlorobenzene		50	52	104	50	100	4	10/24/2014
Dibromochloromethane		50	51	102	49	98	4	10/24/2014
Chloroethane		50	65	130	58	116	11	10/24/2014
Chloroform		50	53	106	50	100	6	10/24/2014
Chloromethane		50	53	106	47	94	12	10/24/2014
2-Chlorotoluene		50	55	110	51	102	8	10/24/2014
4-Chlorotoluene		50	54	108	51	102	6	10/24/2014
1,2-Dibromo-3-Chloropropane		50	52	104	53	106	2	10/24/2014
1,2-Dibromoethane(EDB)		50	51	102	50	100	2	10/24/2014
Dibromomethane		50	53	106	52	104	2	10/24/2014
1,3-Dichlorobenzene		50	51	102	50	100	2	10/24/2014
1,2-Dichlorobenzene		50	52	104	51	102	2	10/24/2014
1,4-Dichlorobenzene		50	51	102	49	98	4	10/24/2014
n-Propylbenzene		50	56	112	52	104	7	10/24/2014
Dichlorodifluoromethane		50	50	100	46	92	8	10/24/2014
1,1-Dichloroethane		50	56	112	53	106	6	10/24/2014
1,2-Dichloroethane		50	54	108	51	102	6	10/24/2014
1,1-Dichloroethene		50	52	104	49	98	6	10/24/2014
cis-1,2-Dichloroethene		50	53	106	50	100	6	10/24/2014
trans-1,2-Dichloroethylene		50	52	104	49	98	6	10/24/2014
1,2-Dichloropropane		50	56	112	53	106	6	10/24/2014
1,3-Dichloropropane		50	53	106	51	102	4	10/24/2014

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23949

Date: 10/31/2014

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Organics by Method 8260 (cont'd)								
2,2-Dichloropropane		50	59	118	55	110	7	10/24/2014
1,1-Dichloropropene		50	55	110	52	104	6	10/24/2014
cis-1,3-Dichloropropene		50	55	110	52	104	6	10/24/2014
Diethyl ether		500	560	112	540	108	4	10/24/2014
Diisopropyl ether (DIPE)		50	55	110	52	104	6	10/24/2014
1,4-Dioxane		1000	1600	160	1600	160	0	10/24/2014
Ethyl Tertiary Butyl Ether		50	54	108	52	104	4	10/24/2014
Ethylbenzene		50	53	106	51	102	4	10/24/2014
Hexachlorobutadiene		50	51	102	50	100	2	10/24/2014
2-Hexanone		500	530	106	500	100	6	10/24/2014
Isopropylbenzene		50	55	110	52	104	6	10/24/2014
p-Isopropyltoluene		50	57	114	53	106	7	10/24/2014
2-Butanone(MEK)		500	520	104	520	104	0	10/24/2014
4-Methyl-2-pentanone(MIBK)		500	540	108	520	104	4	10/24/2014
MTBE		50	54	108	52	104	4	10/24/2014
Methylene Chloride		50	50	100	48	96	4	10/24/2014
Naphthalene		50	52	104	53	106	2	10/24/2014
1,1,2-Trichloroethane		50	53	106	51	102	4	10/24/2014
Styrene		50	54	108	51	102	6	10/24/2014
1,1,1,2-Tetrachloroethane		50	53	106	51	102	4	10/24/2014
1,1,2,2-Tetrachloroethane		50	58	116	55	110	5	10/24/2014
Tetrachloroethene		50	50	100	47	94	6	10/24/2014
Tetrahydrofuran		500	540	108	510	102	6	10/24/2014
Toluene		50	53	106	50	100	6	10/24/2014
1,2,4-Trichlorobenzene		50	50	100	51	102	2	10/24/2014
1,2,3-Trichlorobenzene		50	51	102	52	104	2	10/24/2014
1,1,1-Trichloroethane		50	54	108	50	100	8	10/24/2014
Trichloroethene		50	52	104	49	98	6	10/24/2014
Trichlorofluoromethane		50	55	110	51	102	8	10/24/2014
1,2,3-Trichloropropane		50	54	108	52	104	4	10/24/2014
1,2,4-Trimethylbenzene		50	56	112	53	106	6	10/24/2014
1,3,5-Trimethylbenzene		50	55	110	52	104	6	10/24/2014
Vinyl Chloride		50	56	112	50	100	11	10/24/2014
o-Xylene		50	54	108	52	104	4	10/24/2014
m,p-Xylene		100	110	110	100	100	10	10/24/2014
trans-1,3-Dichloropropylene		50	54	108	51	102	6	10/24/2014
Surrogates								
Dibromofluoromethane			99		99			
Toluene-d8			101		100			
4-Bromofluorobenzene			102		101			
1,2 Dichloroethane-d4			102		100			

Extractable Petroleum Hydrocarbons

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23949

Date: 10/31/2014

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
-----------	--------------------------	---------------	-------------	--------------	-----------------	------------------	-------	---------------

Extractable Petroleum Hydrocarbons (cont'd)

Aliphatic Analytes

n-Nonane	50	17.1	34	17.5	35	2	10/27/2014
n-Decane	50	24.4	49	24.9	50	2	10/27/2014
n-Dodecane	50	30.5	61	31.5	63	3	10/27/2014
n-Tetradecane	50	34.3	69	35.6	71	4	10/27/2014
n-Hexadecane	50	38.0	76	39.6	79	4	10/27/2014
n-Octadecane	50	38.2	76	43.5	87	13	10/27/2014
n-Nonadecane	50	38.3	77	44.3	89	15	10/27/2014
n-Eicosane	50	38.5	77	44.6	89	15	10/27/2014
n-Docasane	50	37.8	76	43.7	87	14	10/27/2014
n-Tetracosane	50	37.3	75	42.2	84	12	10/27/2014
n-Hexacosane	50	37.4	75	43.1	86	14	10/27/2014
n-Octacosane	50	37.4	75	43.5	87	15	10/27/2014
n-Triacontane	50	37.2	74	43.0	86	14	10/27/2014
n-Hexatriacontane	50	38.2	76	41.4	83	8	10/27/2014

Extraction Surrogates

5-alpha-Androstane	56	66	10/27/2014
Ortho-terphenyl	89	90	10/27/2014

Fractionation Surrogates

2-Fluorobiphenyl	86	83	10/27/2014
2-Bromonaphthalene	82	83	10/27/2014

Breakthrough Analytes

Naphthalene	0	0	10/27/2014
2-Methylnaphthalene	0	0	10/27/2014

Aliphatic Analytes

n-Nonane	50	18.6	37	15.1	30	21	10/29/2014
n-Decane	50	27.4	55	23.4	47	16	10/29/2014
n-Dodecane	50	33.4	67	29.7	59	12	10/29/2014
n-Tetradecane	50	38.0	76	35.9	72	6	10/29/2014
n-Hexadecane	50	42.1	84	40.5	81	4	10/29/2014
n-Octadecane	50	44.9	90	43.0	86	4	10/29/2014
n-Nonadecane	50	45.2	90	40.9	82	10	10/29/2014
n-Eicosane	50	46.6	93	42.5	85	9	10/29/2014
n-Docasane	50	46.2	92	40.7	81	13	10/29/2014
n-Tetracosane	50	45.8	92	39.4	79	15	10/29/2014
n-Hexacosane	50	45.5	91	38.7	77	16	10/29/2014
n-Octacosane	50	44.9	90	37.7	75	17	10/29/2014
n-Triacontane	50	44.2	88	36.9	74	18	10/29/2014
n-Hexatriacontane	50	44.9	90	37.2	74	19	10/29/2014

Extraction Surrogates

5-alpha-Androstane	83	79	10/29/2014
Ortho-terphenyl	116	96	10/29/2014

QA/QC Report

Client: FSL Associates, Inc.

WO #: 1410-23949

Date: 10/31/2014

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Extractable Petroleum Hydrocarbons (cont'd)								
Fractionation Surrogates								
2-Fluorobiphenyl			110		94			10/29/2014
2-Bromonaphthalene			111		92			10/29/2014
Breakthrough Analytes								
Naphthalene			0		0			10/29/2014
2-Methylnaphthalene			1		1			10/29/2014
Aromatic Analytes								
Naphthalene		5.0	2.5	50	2.4	48	4	10/30/2014
2-Methylnaphthalene		5.0	2.7	54	2.6	52	4	10/30/2014
Acenaphthylene		5.0	2.9	58	2.7	54	7	10/30/2014
Acenaphthene		5.0	2.8	56	2.7	54	4	10/30/2014
Fluorene		5.0	3.0	60	2.8	56	7	10/30/2014
Phenanthrene		5.0	4.1	82	3.5	70	16	10/30/2014
Anthracene		5.0	3.8	76	3.3	66	14	10/30/2014
Fluoranthene		5.0	3.8	76	3.3	66	14	10/30/2014
Pyrene		5.0	3.7	74	3.5	70	6	10/30/2014
Benzo(a)anthracene		5.0	3.6	72	3.5	70	3	10/30/2014
Chrysene		5.0	3.5	70	3.5	70	0	10/30/2014
Benzo(b)fluoranthene		5.0	4.6	92	3.4	68	30	10/30/2014
Benzo(k)fluoranthene		5.0	4.0	80	3.6	72	11	10/30/2014
Benzo(a)pyrene		5.0	3.8	76	3.7	74	3	10/30/2014
Indeno(1,2,3-cd)pyrene		5.0	3.7	74	3.6	72	3	10/30/2014
Dibenzo(a,h)anthracene		5.0	3.8	76	3.6	72	5	10/30/2014
Benzo(g,h,i)perylene		5.0	3.6	72	3.5	70	3	10/30/2014
Extraction Surrogates								
Ortho-terphenyl			73		65			10/30/2014
Dissolved Metals								
Mercury		0.0020	0.0020	100	0.0020	100	0	10/27/2014
Cadmium		1.00	1.01	101	1.03	103	2	10/29/2014
Chromium		1.00	1.04	104	1.06	106	2	10/29/2014
Silver		1.00	1.01	101	1.03	103	2	10/29/2014
Barium		1.00	1.00	100	1.01	101	1	10/29/2014
Dissolved Metals								
Arsenic (mg/l)		0.050	0.050	100	0.050	100	0	10/28/2014
Lead (mg/l)		0.050	0.046	92	0.046	92	0	10/28/2014
Selenium (mg/l)		0.050	0.045	90	0.047	94	4	10/28/2014



CHAIN OF CUSTODY RECORD

41 Illinois Avenue
 Warwick, RI 02888-3007
 800-937-2580 • Fax: 401-738-1970 800-937-2580 • Fax: 978-568-0078

131 Coolidge St., Suite 105
 Hudson, MA 01749-1331
 800-937-2580 • Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type	Preservation Code ^P	Matrix Code ^M	VOCs	VPHs	EFF/PAH	**RCRA 8 Metals	**Lab to filter & preserve	**Following preservation
10/22/14	1230	FSL-MW1	C	2V	H	GW	X					
10/22/14	1230	FSL-MW1	C	2V	H	GW		X				
10/22/14	1230	FSL-MW1	C	2AG	NP	GW			X			
10/22/14	1230	FSL-MW1	C	1P	NP	GW				X		
10/22/14	1247	FSL-MW2	C	2V	H	GW	X					
10/22/14	1247	FSL-MW2	C	2V	H	GW		X				
10/22/14	1247	FSL-MW2	C	2AG	NP	GW			X			
10/22/14	1247	FSL-MW2	C	1P	NP	GW				X		
10/22/14	1217	FSL-MW3	C	2V	H	GW	X					
10/22/14	1217	FSL-MW3	C	2V	H	GW		X				
10/22/14	1217	FSL-MW3	C	2AG	NP	GW			X			
10/22/14	1217	FSL-MW3	C	1P	NP	GW				X		

(Handwritten signature)

Client Information		Project Information	
Company Name:	FSL Associates	Project Name:	39 Lincoln St, Reading MA
Address:	358 Chestnut Hill Avenue	P.O. Number:	39 Lincoln
City / State / Zip:	Boston, MA 02135	Report To:	Andrew Pieroni
Telephone:	617-232-0001	Phone:	617-232-0001
Contact Person:	Andrew Pieroni	Fax:	617-232-7800
		Sampled by:	Andrew Pieroni
		Quote No.:	APIeroni@fslassociates.com
		Email report to these addresses:	

Relinquished By Signatures	Date	Time	Received By Signatures	Date	Time
<i>(Signature)</i>	10/23/14	8:30am	<i>(Signature)</i>	10/23	15:10
<i>(Signature)</i>	10/23	1700	<i>(Signature)</i>	10/23	1700
<i>(Signature)</i>	10/23	1800	<i>(Signature)</i>	10/23	1800

Circle if applicable: GW-1 GW-2 GW-3 S-1 S-2 S-3 MCP Data Enhancement QC Package? Yes No

Temp. Upon Receipt: 3.2 °C

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH4Cl, H=HCl, M=MeOH, N=HNO3, NP=None, S=H2SO4, SB=NaHSO4, SH=NaOH, T=Na2S2O3, Z=ZnOAc
 Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, WP=Wipe, O=



CHAIN OF CUSTODY RECORD

41 Illinois Avenue
Warwick, RI 02888-3007
800-937-2580 • Fax: 401-738-1970

131 Coolidge St., Suite 105
Hudson, MA 01749-1331
800-937-2580 • Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type	Preservation Code ^P	Matrix Code ^M	VOCs	VPHs	EPP/PAH	**RCRA 8 Metals	**Lab to filter & preserve	**following preservation
10/22/14	1300	FSL-MW4	C	2V	H	GW	X					
10/22/14	1300	FSL-MW4	C	2V	H	GW		X				
10/22/14	1300	FSL-MW4	C	2AG	NP	GW			X			
10/22/14	1300	FSL-MW4	C	1P	NP	GW				X		

753

Client Information		Project Information	
Company Name:	FSL Associates	Project Name:	39 Lincoln St, Reading MA
Address:	358 Chestnut Hill Avenue	P.O. Number:	39 Lincoln
City / State / Zip:	Boston, MA 02135	Report To:	Andrew Pieroni
Telephone:	617-232-0001	Phone:	617-232-0001
Contact Person:	Andrew Pieroni	Fax:	617-232-7800
		Sampled by:	Andrew Pieroni
		Quote No:	APieroni@fslassociates.com
		Email report to these addresses:	

Relinquished By Signatures	Date	Time	Received By Signatures	Date	Time	Turn Around Time
<i>[Signature]</i>	10/23/14	8:30am	<i>[Signature]</i>	10/23	15:10	Normal <input checked="" type="checkbox"/> EMAIL Report
<i>[Signature]</i>	10/23	1700	<i>[Signature]</i>	10/23	1700	5 Business days.
<i>[Signature]</i>	10/23	1830	<i>[Signature]</i>	10/23	1830	Rush - Date Due: / /

Project Comments	
Circle if applicable: <input checked="" type="checkbox"/> GW-1, <input type="checkbox"/> GW-2, <input type="checkbox"/> GW-3, <input checked="" type="checkbox"/> S-1, <input type="checkbox"/> S-2, <input type="checkbox"/> S-3	MCP Data Enhancement QC Package? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temp. Upon Receipt 3.2°C	
Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH4Cl, H=HCl, M=MeOH, N=HNO3, NP=None, S=H2SO4, SB=NaHSO4, SH=NaOH, T=Na2S2O3, Z=ZnO Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, WP=Wipe, O=	
Lab Use Only <input checked="" type="checkbox"/> Sample Pick Up Only <input type="checkbox"/> RIAL sampled; attach field hours <input checked="" type="checkbox"/> Shipped on ice Workorder No: 1710-23949 Page 7 of 7	

APPENDIX C: BORING LOGS

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-1

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0					
		Asphalt	-1					
1		Urban Fill, Sand/Gravel						
2								
3								
4								
5		Sand	-5					
6								
7		Concrete	-7					
8		Silt/Sand/Rock	-8					
9								
10		Gravel	-10					
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-2

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0					
		Asphalt	-1					
1		Urban Fill, Sand/Gravel						
2								
3		Gravel/Sand	-3					
4								
5		Sand/Gravel	-5					
6								
7								
8								
9								
10		Asphalt	-10					
11		Sand/Gravel	-11					
12								
13								
14								
15								
16								
17								
18								
19								
20								

RCRA 8 Metals
sample @ 5'-10'



Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-3

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0				<div style="display: flex; justify-content: space-between;"> 10 30 50 70 90 </div> <div style="display: flex; justify-content: space-between;"> 10 30 50 70 90 </div>	
		Asphalt	-1					
1		Sand/Gravel						
2								
3								
4								
5			-5					
6		Gravel/Sand						
7								
8			-8					
9		Sand						
10			-10					
11		Sand/Gravel						
12								
13			-14					
14		Gravel						
15								
16								
17								
18								
19								
20								

Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-4

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375 %LEL 10 30 50 70 90	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0				RCRA 8 Metals EPH/PAH sample @ 0'-5' 	
		Asphalt	-1					
1		Coal Ash						
2		Sand/Gravel	-2					
3								
4								
5		Gravel/Sand	-5					
6								
7								
8		Sand	-8					
9								
10		Sand/Gravel	-10					
11								
12								
13								
14		Gravel	-14					
15								
16								
17								
18								
19								
20								

Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-5

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0				<div style="display: flex; justify-content: space-between;"> 10 30 50 70 90 </div> <div style="display: flex; justify-content: space-between;"> 10 30 50 70 90 </div> <p>RCRA 8 Metals sample @ 0'-5'</p> 	
		Asphalt	-1					
1		Urban Fill, Sand						
2								
3								
4								
5			-5					
		Sand						
6			-6					
		Gravel						
7								
8			-8					
		Gravel/Sand						
9								
10			-10					
		Sand/Gravel						
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-6

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0					
		Asphalt	-1					
1		Urban Fill, Sand						
2								
3								
4								
5		Sand	-5					
6								
7								
8								
9								
10		Gravel/Sand	-10					
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

RCRA 8 Metals
sample @ 5'-10'



Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

Project No:

Project: 39-41 Lincoln Street/2-12 Prescott Street

Client: MKM Reading, LLC

Location: Reading, MA 01867

Log of Borehole: FSL-7

Enclosure: Logs

Engineer: Andrew Pieroni

SUBSURFACE PROFILE				SAMPLE			VOC Concentration ppm 125 250 375	Well Completion Details
Depth	Symbol	Description	Elev.	Number	Type	Lab Analysis		
0		Ground Surface	0					
		Asphalt	-1					
1		Sand/Gravel						
2								
3								
4								
5		Sand	-5					
6		Sand/Gravel	-6					
7								
8		Gravel/Sand	-8					
9								
10		Sand/Gravel	-10					
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Drill Method:

Drill Date: 10/20/14

Hole Size: 1 inch

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

Datum:

Checked by:

Sheet: 1 of 1

APPENDIX D: PREVIOUS REPORTS



*Environmental Engineering, Civil Engineering
Forensic Engineering, Construction Services*

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
(ASTM E 1527-05)**

For Property Located at:

**39-41 Lincoln Street & 2-12 Prescott Street,
Reading, MA 01867**

Prepared For:

MKM Reading, LLC
109 Oak Street, Suite G20
Newton, MA 02464

Prepared By:

FSL Associates, Inc.
358 Chestnut Hill Avenue
Boston, MA 02135

November 20, 2014

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1.0 EXECUTIVE SUMMARY

At the request of the client, FSL Associates, Inc. (FSL) conducted a Phase 1 Environmental Site Assessment (ESA) to identify, to the extent possible, pursuant to ASTM E 1527-05, recognized environmental conditions in connection with the Property identified as 39-41 Lincoln Street and 2-12 Prescott Street in Reading, MA 01867. Recognized environmental conditions is defined as the presence or likely presence of hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the structures on the property or into the ground, groundwater, or surface water of the property. The evaluation included the investigation of both on- and off-Site sources to determine the occurrence of past or current releases which may have affected the property, and whether any such releases would be a cause for concern and liability under Massachusetts Department of Environmental Protection (MADEP) Regulations 310 CMR 40.0000 to the owner or its successors. These findings are based upon multiple sources including personal interviews; local and/or state files; electronic database file search; and physical inspection of the property.

The properties are located at 39-41 Lincoln Street and 2-12 Prescott Street, Reading, MA, 01867. The Properties encompass approximately 36,064 square feet of land. The building at 39-41 Lincoln Street is a three-story aluminum building classified for retail use. The building at 2-12 Prescott Street is a four-story clapboard building exterior building classified for commercial warehouse. There is an asphalt paved parking lot connecting the two properties. The property at 39 Lincoln Street is currently vacant. The current tenants at 2-12 Prescott Street include Doucette Moving & Storage, Grasshopper Irrigation, and Dave's Home Service.

Several Mass DEP disposal sites are located within ¼-mile radius of the Property. However, each of the sites have been closed or received a class A-1, A-2, or A-3 Response Action Outcome (RAO). FSL does not find these to be recognized environmental conditions in connection to the subject site.

467 Main Street is an open MassDEP Disposal Site under RTN 3-24116 that has been classified as a Downgradient Property Status (DPS). Releases of Tetrachloroethylene and Trichloroethene were observed in monitoring wells located at 467 Main Street that exceeded MassDEP Reportable Concentrations (RCs). Reading Dry Cleaning and Tailoring, located at 525 Main Street, was identified as the source of the release. Based on the proximity of 467 Main Street to the subject site and geographical conditions, FSL did not find this to present recognized environmental conditions in connection to the subject site.

There are several RCRA Generator sites that generate hazardous waste in close proximity of the subject site. Of particular concern is 35 Lincoln Street (Brown's Auto Body) and 41 High Street (Nick's Drycleaners). 35 Lincoln Street was historically used as a gasoline filling station. 41 High Street was formerly Luigi's Dry-cleaning and Shirt Service until 2004 and was listed as actively using

Perchloroethylene (Perc). Based on the quantity of hazardous waste generated and accumulated and the proximity of the RCRA Gen sites, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.

Records were provided by the Town of Reading Fire Department Fire Prevention Division for the removal of one (1) 1,000 gallon underground storage tank (UST) formerly used for the storage of #2 fuel oil at the subject site. The UST dimensions were listed as 48"x10'8". The removal took place in October, 1991. However, records provide conflicting locations of the removed tank, and town records of permitted USTs and aboveground storage tanks (AST) on the subject site are inconsistent. During a site walk through, FSL personnel observed a large rectangular shape of resealed pavement in the parking lot at the 2-12 Prescott Street property; the dimensions were approximately 60" x 12'. Based on the available UST records and the physical evidence of the subject site, it is FSL's opinion that the addresses were erroneously entered on the permits and correspondence filed at the Town of Reading Fire Department Fire Prevention Division and that the removed UST likely came from the property at 2-12 Prescott. Therefore, the inconsistent records and unknown location of the removed UST could potentially be recognized environmental conditions in connection with the Property.

Based on historic fire insurance maps, the property at 39-41 Lincoln Street has been used for metals manufacturing, wood manufacturing, and retail, while the property at 2-12 Prescott Street has been used for metals manufacturing, wood manufacturing, printing and storage. According to reviewed records and maps, a second building on the 2-12 Prescott Street Property was taken down between 1918 and 1921. This building was a two story building that was connected by a catwalk to the presently existing structure. It was used as a shipping room and glass room on the first floor, and as a painting storage room on the second floor. However, during an inquiry to the Town of Reading Building Division, FSL personnel were not able to come up with any documentation/permits of the demolition of the building. Therefore, due to inconsistent records of the removed structure at 2-12 Prescott Street, it is FSL's opinion that this could potentially be recognized environmental conditions in connection with the Property.

Based on the following: that there was a permitted UST on the subject site that was removed from a suspected location at 2-12 Prescott Street; a structure was demolished without records of permits on the subject site; the northern abutter that was identified to have been a gasoline filling station with inconsistent tank records; and the proximity of a dry-cleaning facility that had a known history of using Perchloroethylene, FSL recommends:

- Intrusive subsurface investigations conducted on the subject Property by advancing test borings;
- Installation of four (4) groundwater monitoring well, at least two (2) of which should be advanced on the northern property boundary with the former gasoline station property at 35 Lincoln Street;
- Soil sampling and testing for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons/polycyclic aromatic hydrocarbons (EPH/PAH) and Resource Conservation Recovery Act (RCRA) 8 Metals;
- Groundwater sampling and testing for volatile organic compounds (VOCs), VPH, EPH/PAH and (RCRA) 8 Metals.

2.0 INTRODUCTION

This Phase I Site Assessment was prepared for the Client in accordance with the “Recommended Table of Contents and Report Format” under E 1527-05 of ASTM publication “Standard Practice for Environmental site Assessments: Phase I Environmental Site Assessment Process¹”.

2.1 Purpose

The purpose of this report is to present a Phase I Environmental Site Assessment of the property identified as 39-41 Lincoln Street and 2-12 Prescott Street in Reading, MA (the "Property" or "Site"). The further purpose of this practice, “is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products and, within the Commonwealth of Massachusetts, with respect to the requirements of Massachusetts General Laws, Chapter 21E (MGL 21E) and the MADEP regulations in 310 CMR 40.0000. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (hereinafter, the “landowner liability protections,” or “LLPs”): that is, the practices that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in 42 USC §9601(35) (B).”ⁱ

The goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.ⁱⁱ

2.2 Scope of Services

To accomplish the objectives listed above, FSL Associates, Inc. (FSL) performed the following tasks:

- Contacted Environmental Data Resources, Inc. (EDR™), a firm specializing in databases of sites of potential environmental impact, to complete an environmental database search on the property and its environs;
- Contacted personnel in municipal and other involved governmental agencies for information of environmental impact on the property;
- Conducted a physical inspection of the Site and surrounding areas for obvious indications of present or past activities, which have or could contaminate the property;
- Prepared this report containing our procedures, findings, conclusions and recommendations.

2.3 Significant Assumptions

There were no significant assumptions made during the preparation of this report.

2.4 Limitations and Exceptions

There were no limitations of access to the property, due to barriers, weather or reasons why certain procedures could not be done.

2.5 Special Terms and Conditions

There were no limitations placed by the Client as to what may or may not be done on the property.

2.6 User Reliance

The use of this report is limited to the Client and/or the Client's designee. No part of this report may be reproduced without the expressed consent of the Client. FSL understands that the report is being used by the Client or the Client's designee to evaluate possible environmental liability concerning the Site.

3.0 SITE DESCRIPTION

3.1 *Site Location and Legal Description*

The properties are identified as 39-41 Lincoln Street and 2-12 Prescott Street in Reading, MA. The Universal Transverse Mercator (UTM) coordinates are Zone 19, Northing 326860.8 and Easting 4709597.0. The latitude and longitude coordinates are 42° 31' 16.68" N and 71° 6' 28.08" W, respectively.

The properties are identified as 39-41 Lincoln Street (parcel ID: 16-226; 10,029 sq-ft) and 2-12 Prescott Street (parcel ID: 16-224; 26,035 sq-ft) in Reading, MA.

Copies of the Assessor's Maps are provided as **Figure 2 and 3**.

3.2 *Site & Vicinity General Characteristics*

The Site is situated south of the intersection of Prescott Street and Lincoln Street in a mixed commercial and residential district in Reading, Massachusetts. The local population is approximately 24,747. The Site is located at approximately 32 m (104 ft) above mean sea level on relatively flat land. **Figure 1** presents the environmental setting of the site location as superimposed on a portion of the U.S.G.S. Topographic Map.

3.3 *Site Improvements (Including structures, roadways; heating/cooling system, sanitary sewer disposal, water supply)*

The building at 39-41 Lincoln Street is comprised of a concrete foundation and aluminum siding exterior. The parking lot is in fair condition with few noticeable cracks. There is a slight pitch from the parking lot entrance of the property to Lincoln Street. The building at 2-12 Prescott Street is comprised of a concrete foundation and clapboard siding exterior. There is a slight pitch from the parking lot entrance of the property to Prescott Street. The parking lot is in fair to poor condition with noticeable cracks and abrasions. There is a large rectangular shape of resealed pavement in the parking lot at the 2-12 Prescott Street property; the dimensions are approximately 60' x 12'.

Heating at 2 Prescott Street is provided through an oil heating system which features a 275 gallon above ground heating oil tank on the first floor of the building. Heating at 39 Lincoln Street is provided through an oil heating system which features a 275 gallon above ground heating oil tank on the first floor of the building.

Utilities to both properties include water, sewer, electricity, oil, telephone and internet. Both water and sewer service is provided by the Town of Reading.

3.4 Current Ownership & Use

The owner of 39-41 Lincoln St. is 39-41 Lincoln St. LLC; the owner of 2-12 Prescott Street is 2-12 Prescott St. LLC. The building at 39 Lincoln Street is currently vacant. 2 Prescott Street is currently used for offices and trucking/equipment storage. The current tenants at 2 Prescott Street include Doucette Moving & Storage, Grasshopper Irrigation, and Dave's Home Service.

3.5 Adjoining Properties

The adjoining properties consist of a variety of mixed commercial, retail, and residential land use.

The abutter to the north includes Browns Auto Repair at 35 Lincoln Street. Historically this site has been a machine shop, metallic brush shop, bicycle repair shop, and an auto supply shop that previously had a gasoline filling station with storage tanks. To the northeast on the opposite side of Lincoln Street is the Massachusetts Bay Transportation Authority Reading Commuter Rail Station. Surrounding the northwestern, southern and western Property boundaries are residential properties.

4.0 USER PROVIDED INFORMATION

The *User* is MKM Reading, LLC at 109 Oak Street, Suite G20 in Newton, MA 02464.

Mr. Matt Zuker, the representative of User, provided all information required of the *User* pursuant to Section 6 of ASTM E 1527-05 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

This report is being prepared for MKM Reading, LLC.

4.1 Title Records

Title records will be supplied by the Client.

4.2 Environmental Liens or Activity and Use Limitations (AULs)

The user was not aware of any Environmental Liens or AULs that are in place or have been filed or recorded in a registry under federal, tribal, state or local law.

4.3 Specialized Knowledge

The user was not aware of any specialized knowledge pertaining to the Site.

4.4 Commonly known or Reasonably Ascertainable Information.

The user was not aware of any commonly known or reasonably ascertainable information pertaining to the Site.

4.5 Valuation Reduction for Environmental Issues

Based on the information gathered for this report, there is no indication for a potential of a valuation reduction for this property.

4.6 Reason for Performing Phase I

This ASTM Phase I Site Assessment was performed at the request of the *User* to satisfy the requirements of Massachusetts General Law (MGL) Chapter 21E, "Massachusetts Oil and Hazardous Material Release Prevention Act," in the purchase of commercial real estate at 39 Lincoln Street and 2-12 Prescott Street in Reading, MA.

4.7 Reports Provided by User

The *User* did not provide any reports or other documents.

5.0 REGULATORY REVIEW

FSL reviewed information on the Site collected by an electronic environmental database service (EDR™ Radius Map Report with GeoCheck® prepared by Environmental Data Resources, Inc. (EDR™)). The electronic database service provides information regarding sites identified in various state and federal databases resulting from the discovery, use, spill or storage of hazardous materials that are within specified distances from a Site. FSL uses the standard ASTM databases and distances to initially evaluate a Site for the presence of a release or threat of a release of oil and/or hazardous materials that could affect a Site. A modified report containing a summary of all the sites identified in the search as well as the detail sheets for the pertinent sites identified is included in the Electronic File Search section of this report (**Appendix B**). Local records were obtained from the Municipal Fire Department, Office of the Assessor and Inspectional Services. Copies of the records obtained from the Municipal Offices are included in **Appendix C**.

5.1 Federal Databases

Federal databases searched for this report included the National Priority List (NPL), Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), Resource Conservation and Recovery Information System Corrective Action (RCRA COR ACT), RCRA Generators (RCRA GEN), RCRA Treatment, Storage, Disposal (RCRA TSD) and Emergency Response Notification System (ERNS). The NPL database lists the United States Environmental Protection Agency's (US EPA's) list of Superfund Sites. These sites represent the worst of all identified uncontrolled and/or abandoned hazardous waste sites. CERCLIS is the US EPA's list of potential Superfund sites currently or previously investigated for release or threatened release of hazardous waste materials. RCRIS is the US EPA's list of all registered hazardous waste generators. RCRIS COR tracks specific program events that have taken place at a facility (e.g. facility assessment, stabilization) and the program priority (high/medium/low).

RCRIS GEN and RCRIS TSD is a list of registered generators of hazardous waste and a list of TSD facilities. ERNS is the US EPA's spills database showing all EPA response action to emergency spill incidents.

5.1.1 NPL, NPL delisted or CERCLIS

No NPL, NPL delisted or CERCLIS sites were identified within a ½-mile radius of the Property.

5.1.2 RCRA CORRACT, TSD, or GEN

No CORRACTS or TSDs are located within a 1/8-mile radius of the property. Six (6) RCRA GEN sites, conditionally exempt generators (VGN) or very small quantity generators (VSQG-FED) of hazardous waste were identified within a 1/8-mile radius of the Property. VGN and VSQG-FED sites generate between 0-220 lbs/month with less than 250 gallons accumulated on-site.

Table 1: List of RCRA Generator Sites

Site Name / Address	Site ID/Status	Distance/Direction	Map ID	Elev
Brown Auto 35 Lincoln Street	MAV000003204 / RCRA-VSQG	0.03 ENE	A1	Even
Nick Drycleaners 41 High Street	MV7819449706 / RCRA-VSQG	0.056 NE	B3	+3
Reading Family Chiropractic 2 Haven Street	MV7816709993 / RCRA-VSQG	0.056 NE	B5	+3
Weavers Auto 21 High Street MV7819427833	State Site / SQG-MA	0.064 ENE	C8	+1
Reading Auto Body Clinic 17-19 High Street	MAD055350540 / RCRA-VSQG	0.077 ENE	C10	Even
Rite Aid 10122 25 Haven Street	MAC300021094 / RCRA-SQG	0.084 NE	E16	+4
Foreign Auto Union 15 High Street	MAD108857624 / RCRA-VSQG	0.084 E	F19	Even

Based on the quantity of hazardous waste generated and accumulated and the proximity of the RCRA Gen sites, in particular Brown Auto Body and Nick’s Drycleaners, it is FSL’s opinion this could potentially be recognized environmental conditions in connection with the Property.

5.1.3 ERNS

The subject Site was not identified the under federal Emergency Response Notification System (ERNS) database.

5.2 State Databases

The state databases searched for this report included State Sites List (STATE SITES), State Spills List (SPILLS 1990s), Solid Waste Landfills (SWL), Leaking Underground Storage Tank (LUST) and Registered

Underground Storage Tanks/Aboveground Storage Tanks (REG UST/AST). The STATE SITES is a database of known or potential hazardous waste sites. The SPILLS 1990 database is a listing of spills and hazardous leaking incidents, which were reported to the Massachusetts Department of Environmental Protection (MA DEP) in the 1990's. The SWL database is a list of active, permitted, solid waste landfills. REG UST/AST is a list of registered USTs/ASTs maintained by the Massachusetts Department of Public Safety.

5.2.1 State Sites, State Spills 1990s, LUSTs

Nine (9) site locations were identified in the database report within a 1/4-mile radius of the property. Site locations are shown in the figures in **Appendix B**. The identified sites are summarized in the table below. All of the site locations have been closed with a permanent solution and achievement of a level of "no significant risk".

Table 2: Summary of State Sites, State Spills 1990s, LUSTs

Name/Address/ID/Status	Database	Distance/Direction	Impact	Rationale	Map I.D.	Elev
Residential 47 High Street 3-21706 / A2-CLOSED	LUST RELEASE	0.056 NNE	Not Anticipated	Site Closed	B7	+5
Corner of Haven & High Street 25 Haven Street 3-13004 / A2-CLOSED	LUST RELEASE	0.084 NE	Not Anticipated	Site Closed	E18	+4
SM Hudson Inc. 26 Brande Court 3-29718 / A1-CLOSED	SPILLS	0.095 SE	Not Anticipated	Site Closed	D23	+8
Bobs Repair Service 4 Minot Street 3-20947 / A2-CLOSED	SPILLS	0.119 ESE	Not Anticipated	Site Closed	G26	-3
In front of 142 Woburn Street 142 Woburn Street 3-17050 / A2-CLOSED	SHWS RELEASE	0.152 WNW	Not Anticipated	Site Closed	29	+7
Residential 5 Washington Street 3-15201/ A2-CLOSED	SHWS LUST RELEASE	0.182 NW	Not Anticipated	Site Closed	E18	+7
Verizon Massachusetts #576507 17 Linden Street 3-10836/RAO-A3	LUST UST	0.210 NNE	Not Anticipated	Site Closed	K36	+14
Residential 49 Riverside Drive 3-17623/ A2-CLOSED	LUST RELEASE	0.231 SSW	Not Anticipated	Site Closed	41	-5
Gas Station 467 Main Street 3-3459/ A2-CLOSED	SHWS LUST SPILLS RELEASE HW GEN	0.235 E	Not Anticipated	Site Closed	M47	-6
Gas Station 467 Main Street 3-3459/A2- Closed	LUST SHWS SPILLS	0.235 E	Not Anticipated	Site Closed	M47	-6
Front of #19 Temple Street 3-14721/ A1-CLOSED	SHWS SPILL	0.245 WNW	Not Anticipated	Site Closed	51	Even

Notes:

* - AUL- Activity and Use Limitation in effect

RAO - Response Action Outcome

RAONR - Response Action Outcome Not Required

DEPMOU - DEP Memorandum of Understanding

DEPNFA - DEP No Further Action

PENNFA - Pending No Further Action

Ph V - Operation, Maintenance and/or Monitoring

WCSPRM - Waiver Completion Statement

5.2.2 Subject Site as a MassDEP Disposal Site

The subject Site was not identified as a MassDEP disposal site.

5.2.3 Adjacent MassDEP Disposal Sites

There are no MassDEP Disposal Sites adjacent to the property.

5.2.4 Open MassDEP Disposal Sites

467 Main Street is an open MassDEP Disposal Site under RTN 3-24116. As of May 10, 1996, this site has been classified as a Downgradient Property Status (DPS). Releases of Tetrachloroethylene and Trichloroethene were observed in monitoring wells located at 467 Main Street that exceeded MassDEP Reportable Concentrations. 525 Main Street, Reading, which was listed as Reading Dry Cleaning and Tailoring, was identified as the source of the release. Chlorinated VOCs were noted to have been used during the dry cleaning process at the facility. Based on the proximity of 467 Main Street to the subject site and geographical conditions, FSL does not find this site to present recognized environmental conditions in connection to the subject site.

5.2.5 Registered USTs/ASTs

There are no Underground Storage Tank (UST) / Aboveground Storage Tank (AST) sites registered at the Property address according to the EDR™ report. Four (4) UST/AST sites were identified within a ¼-mile radius of the Site. Refer to the following table for information about the registered sites:

Table 3: Summary of USTs/ASTs

Facility/Type/Address/I.D	Database	Status	Distance/Direction	Map I.D.	Elev
S M Hudson Inc. 26 Brande Court 0-010811	UST	In Use: 4-20000 gal fuel oil 5-20000 gal fuel oil	0.095NNE	B7	+5
John J Theodore R WA 143 Washington Street 0-010794	UST	Removed: 1-500 gal Waste Oil 2-Unknown 3-Unknown	0.208 ESE	C8	+1
Verizon Massachusetts #576507 17 Linden Street 0-010798	AST	In Use: 2-500 gal Diesel 3-500 gal Diesel	0.210 NNE	G26	-3
Reading Car Care Center 467 Main Street 0-010819	UST	In Use: 1-10000 gal Gasoline	0.235 E	M48	-6

For figures showing the location of the above mentioned registered USTs, refer to **Appendix B**.

5.2.6 Dry Cleaners

Nicks Dry Cleaners is located at 41 High Street, within 0.056 mile of the site. According to the EDR report, this property was formerly Luigi's Dry-cleaning and Shirt Service until 2004, and was listed as actively using Perchloroethylene (Perc). Based on the proximity of Nick's Dry Cleaners

and the historical use Perc onsite, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.

5.3 GIS Databases

The Geographic Information System (GIS) databases reviewed included State Wells, Water Related GIS Data Layers (AQUIFERS), Areas of Critical Environmental Concern (ACEC), and Wetlands. State Wells is a list of permitted public water supplies (surface water and well). AQUIFERS are high and medium yield aquifers that have been identified as potentially productive or not potentially productive water supplies. EPA sole source water supplies and known public water supply Zone II boundaries are included. ACEC are areas designated as environmentally sensitive including estimated habits of endangered species, protected open spaces and vernal pools.

Public Water Supply, Zone II, Zone A, Interim Wellhead Protection Areas, Potentially Productive Aquifers, Non-Potential Drinking Sources, Water Bodies, Sole Source Aquifers and ACEC were not identified within a ½-mile radius of the Site. The Site is located outside the boundary of the 100-year floodplain.

Protected open space is located within 500 feet of the site to the south, as well as within ½-mile to the East/Northeast. Wetlands were identified within ½-mile radius of the Site to the east, south and to the west. Vernal pools were identified within ½-mile radius of the site to the west. Maps depicting GIS database findings are provided in **Appendix B**.

5.4 Non-Geocoded Properties

None of the sites identified in the non-geocoded section are expected to have an adverse environmental impact on the subject Property based on the distances and topographical relationship to the Site.

5.5 Municipal File Review

FSL personnel made inquiries to several Town of Reading departments to conduct a municipal file review. During the review, it was noted that in several departments the files for both 39-41 Lincoln Street and 2-12 Prescott Street were filed together generally under the 39-41 Lincoln Street address. The following municipal offices were reviewed for information pertinent to the Site:

5.5.1 Office of the Assessor's

On October 27, 2014, FSL personnel made inquiry to the Town of Reading and obtained a digital copy of the Assessor's Map. The Properties are identified as 39-41 Lincoln Street (parcel ID: 16-226; 10,029 sq-ft) and 2-12 Prescott Street (parcel ID: 16-224; 26,035 sq-ft), and is located within Middlesex County. The owner of 39-41 Lincoln Street is 39 Lincoln St. LLC. The owner of 2 Prescott Street is 2-12 Prescott St. LLC.

The building at 39-41 Lincoln Street is a three-story aluminum building classified as retail. The building at 2-12 Prescott Street is a four-story clapboard building exterior building (2 Prescott St.) classified for commercial warehouse, and a with an asphalt paved parking lot connecting the two properties.

A copy of the property record card is provided in **Appendix C**.

5.5.2 Inspectional Services/Building Department/Department of Public Works

On October 27, 2014, FSL personnel made inquiry to the Town of Reading Inspections and Zoning Division. Several inspection certificates and permits have been issued for electrical work, alterations, and construction for the properties. No violations were identified as recognized environmental conditions.

5.5.3 Fire Department

On October 27, 2014, FSL personnel made inquiry to the Town of Reading Fire Department regarding the past or current presence of ASTs/USTs and tank removals at or near the Properties. Refer to Table 4 on the following page for a summary of the information on file for the site at the Reading Fire Department. For Fire Department correspondence and records provided by the Reading Fire Department, refer to **Appendix C**.

Table 4: Reading Fire Department Oil Tank Permits

Date	Town Permit No.	Permit Type	Tank Size (gallons)	Location
39-41 Lincoln Street				
March 27, 1952	52-53	Permit for Storage of Fuel Oil	1000 UST	Not Listed
March 22, 2000	00-16	Permit for Storage of Fuel Oil	330 AST	Not Listed
35 Lincoln Street (Brown's Auto)				
January 3, 1949	49-17	Permit for Storage of Fuel Oil	275 UST	Not Listed
February 23, 1994	94-19	Permit for Storage and Use of Fuel Oil	275	Not Listed
47 High Street (Nick's Dry Cleaning)				
November 25, 1974	74-107	Permit for Storage and Use of Fuel Oil	10,000 UST	Corner of Chute St. and High St.
February 20, 1975	75-11	Permit for Storage and Use of Fuel Oil	10,000 UST	Not Listed
January 6, 1976	76-11	Permit for Storage and Use of Fuel Oil	10,000 UST	Not Listed
November 14, 1994	94-201	Permit for Storage and Use of Fuel Oil	Not Listed	Not Listed
April 25, 2002	02-37	Permit for Storage and Use of Fuel Oil	2x330 AST	Basement
April 25, 2002	SP02-28	Tank Removal	10,000 UST	April 25, 2002
October 29, 2007	07-108	Permit for Storage and Use of Fuel Oil	Not Listed	Not Listed

Along with Tank Permits, FSL personnel found correspondence and permits for a potential UST removal between October 20, 1990 and October 22, 1991 at the subject site. On October 20, 1990, Beaudoin & Merrill Fuel Company (433 Pearl Street, Reading MA) corresponded with Paul Doucette (30-41 Lincoln Street, Reading, MA) on a working agreement to remove a 1,000 gallon tank for \$1,100.00 and to cut up cement slabs at a rate of \$45.00. On October 22, 1991, two checks were written from Paul Doucette (PD Reality, 39-41 Lincoln Street, Reading MA): one was written to Beaudoin Merrill for \$500.00; the other was written to the Merrill Bros. for \$1,200.00. The Massachusetts State Fire Marshal's Office Receipt of Disposal of Underground Steel Storage Tank, FDID #17246, says the removed tank was delivered to the approved tank yard by the company Merrill Bros. The Town of Reading Tank Removal Receipt (SD91-105) is listed for a completed tank removal at 34 Lincoln Street, Reading, MA; tank dimensions were 48"x10'8", which are established dimensions for a 1000 gallon tank.

As seen in Table 4, the available records for USTs/ASTs on the subject site/abutting sites/nearby sites of concern are inconsistent. Particularly of concern are the contradictory records of the UST possibly removed from the subject site and the current unknown status of the UST located at the adjacent property at 35 Lincoln Street. Based on the available information, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.

5.5.4 Health Department

On October 27, 2014, FSL personnel made inquiry to the Town of Reading Public Health Department regarding any past health code violations at both properties; the search did reveal a violation. On November 11, 2013, Inspectors responded to complaints at 39-41 Lincoln Street about rat/rodent infestation and excessive solid waste storage on the property. For public health department correspondence and records provided by the health department, refer to **Appendix C**.

5.6 Physical Setting Source

5.6.1 Topography

The Site is situated south of the intersection of Prescott Street and Lincoln Street in a mixed commercial and residential district in Reading, Massachusetts. The Site is located at approximately 32 m (104 ft) above mean sea level on relatively flat land. There is a slight pitch from the parking lot entrance at 2 Prescott Street towards Prescott Street. There is a slight pitch from the parking lot entrance at 39 Lincoln Street towards Lincoln Street.

5.6.2 Surface Waters/Wetlands

There are no surface waters or wetlands located on the Property. The nearest body of water is Lake Quannapowitt, located approximately 1.5 miles to the east.

5.6.3 Groundwater/Hydrology

A groundwater survey was not within the scope of this report. Based on the local topography and historical records, groundwater can be inferred to flow in a western direction from the site.

5.7 Flood Insurance Rate Map (F.I.R.M)

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map (F.I.R.M.), for Middlesex County, Massachusetts, the Property is within Zone C, above the 500-year flood level.

A copy of the F.I.R.M. is presented as **Figure 4**.

6.0 SITE HISTORY

6.1 Owner/Operator History

The owner of 39-41 Lincoln St. is 39-41 Lincoln St. LLC. 39-41 Lincoln Street is currently vacant. The owner of 2-12 Prescott Street is 2-12 Prescott St. LLC. 2-12 Prescott Street is currently used for offices and trucking/equipment storage.

6.2 Past Use of the Property

According to Town of Reading Engineering Department files and a review of the historic fire insurance maps for 39-41 Lincoln Street, the Property was used for metals manufacturing, wood manufacturing, and retail (refer to section 6.4 – Sanborn Maps for further information).

According to Town of Reading Engineering Department files and a review of the historic fire insurance maps for 2-12 Prescott Street, the Property was used for metals manufacturing, wood manufacturing, printing, and storage (refer to section 6.4 – Sanborn Maps for further information).

6.3 OHM Use and Storage History

There is OHM (Oil and Hazardous Material) use and storage history associated with the addresses 39-41 Lincoln Street and 2-12 Prescott Street. These sites also have current OHM uses.

Refer to sections 5.5.3 and 7.3.2 for discussions of OHM at the subject site. For copies of Reading Fire Department Fire correspondence and records on OHM Use and Storage History, refer to **Appendix C**.

6.4 Sanborn Maps

A review of the historic fire insurance maps (dated 1892, 1897, 1903, 1918, 1928, 1948 and 1968) indicates that the adjacent properties and surrounding area have been developed since 1892. Based on the historic fire insurance maps, the adjacent property at 35 Lincoln Street has been a machine shop, metallic brush shop, bicycle repair shop, and an auto supply shop that previously had a gasoline filling

station with a storage tank. The remaining adjacent properties were listed in the historic fire insurance maps as residential properties. The historic fire insurance maps are provided in the **Appendix B**.

According to the Sanborn maps and reviewed Town of Reading Engineering Department town grid plans, a second building on the 2-12 Prescott Street property was taken down between 1918 and 1921. This building was a two story building that was connected by catwalk to the existing structure, and was used as a shipping room and glass room on the first floor, and as a painting storage room on the second floor.

6.5 Previous Reports

The *User* did not provide any historical reports.

7.0 SITE RECONNAISSANCE

7.1 Methodology and Limiting Conditions

On October 27, 2014, FSL personnel performed a site visit to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the Property. FSL walked through and visually observed the exterior of the buildings including all the exterior accessible portions of the Property. Site reconnaissance was limited to a visual inspection of the surface of the Property.

Photographs were taken and a written description was transcribed to note potential recognized environmental conditions and building adornments. For photographs presenting Property layout, contents, adornments, etc. refer to **Appendix A**.

The weather was sunny with a temperature of approximately 60°F.

7.2 General Site Setting (Topography, property access, utilities, etc.)

The Site is situated south of the intersection of Prescott Street and Lincoln Street in a mixed commercial and residential district in Reading, Massachusetts. The Site is located at approximately 32 m (104 ft) above mean sea level on relatively flat land. The Town of Reading relies on the Massachusetts Water Resources Authority for water and sewer services. Heating at 39-41 Lincoln Street is provided through an oil heating system which features an above ground heating oil tank on the first floor of the building. Heating for 2-12 Prescott Street is provided via oil fired heating systems which features an above ground heating oil tank located on the southern side of the exterior of the building.

7.3 Interior and Exterior Observations

7.3.1 Hazardous Substances and Petroleum Products

FSL observed the storage of 2 (2) 5-gallon gasoline carboys used by the tenants underneath trailers stored along the southern boundary of the property. FSL observed stained pavement at 39-41 Lincoln Street, near the concrete slab located at northwest corner of the building. FSL did not observe stressed vegetation at the time of inspection. (refer to **Photograph 4**).

7.3.2 Storage Tanks, Drums and Unidentified Substance Containers

FSL noticed three (3) unmarked 55-gallon steel drums on the southwestern side of the building at 2-12 Prescott Street. The tops and bases of each drum were rusting. Two of the drums had substantial amounts of liquid in them; the drum in the middle was nearly empty. The drums were unlabeled at the time of inspection. The contents were unknown at the time of inspection. (refer to **Photograph 8**).

7.3.3 Pools of Liquid, Pits, Ponds, or Lagoons.

FSL did not observe any pools of liquid, pits, ponds or lagoons at the time of inspection.

7.3.4 Utility Transformers / Polychlorinated Biphenyls (PCBs)

FSL did not observe any transformers during the inspection.

7.3.5 Stains or Corrosions

FSL observed stained concrete at 39-41 Lincoln Street located at the northwestern corner of the building. (refer to Photograph 7).

7.3.6 Drains, Sumps and Wells.

FSL did not observe any drains, sumps or wells on the subject site.

7.3.7 Solid Waste

FSL observed solid waste during the inspection. There was a dumpster located at the southeast corner of the building at 2 Prescott Street. There was also scrap metal and other various items stored along the southern boundary of the property at 2-12 Prescott Street. (refer to **Photograph 4**).

7.3.8 Septic Systems

There are no septic systems or cesspools located on the subject Site.

7.3.9 Landfills

There are no landfills located onsite or within ¼-mile radius of the subject Site.

8.0 INTERVIEWS

In order to obtain information indicating recognized environmental conditions in connection with the property, the user and the owner were asked if they know of:

- (1) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property;
- (2) any threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property; and

- (3) any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products;
- (4) any of the helpful documents pursuant to Section 10.8 of ASTM E 1527-05 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process¹".

8.1 Environmental Questionnaire

Ron Tiberi of FSL Associates sent an Environmental Questionnaire Form to MKM Reading, LLC. As of November 21, 2014, the completed Questionnaire has not been returned to FSL Associates.

9.0 NON-ASTM SCOPE ISSUES

Non-ASTM scope issues were not added in the preparation of this ASTM E1527-05 Phase I Environmental Site Assessment.

10.0 FINDINGS

We have performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E 1527 of the properties identified as 39-41 Lincoln Street and 2-12 Prescott Street (the "Site") and identified the following findings:

1. Several reportable release/Mass DEP disposal sites were identified within ¼-mile radius of the Property. However, each of the sites have been closed or received A-1, A-3, or B-1 Response Action Outcomes (RAOs). A-1 and B-1 RAOs shall apply to sites where a permanent solution has been achieved and a level of no significant risk exists. A-3 RAOs shall apply to sites where a permanent solution has been achieved and an activity and use limitation (AUL) is required to maintain a level of no significant risk. FSL does not find these to be recognized environmental conditions in connection to the subject site.
2. 467 Main Street is an open MassDEP Disposal Site under RTN 3-24116 that has been classified as a Downgradient Property Status (DPS). Releases of Tetrachloroethylene and Trichloroethene were observed in monitoring wells located at 467 Main Street that exceeded MassDEP Reportable Concentrations (RCs). The Reading Dry Cleaning and Tailoring, located at 525 Main Street, was identified as the source of the release. Chlorinated VOCs were noted to have been used during the dry cleaning process at the facility. Based on the proximity of 467 Main Street to the subject site and geographical conditions, FSL does not find this to present recognized environmental conditions in connection to the subject site.
3. There are several RCRA Generator sites that generate hazardous waste in close proximity of the subject site. Of particular concern is 35 Lincoln Street (Brown's Auto Body) and 41 High Street (Nick's Drycleaners). 35 Lincoln Street was historically used as a gasoline filling station. 41 High Street was formerly Luigi's Dry-cleaning and Shirt Service until 2004, and was listed as actively

using Perchloroethylene (Perc). Based on the quantity of hazardous waste generated and accumulated and the proximity of the RCRA Gen sites, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.

4. FSL personnel found inconsistent correspondence and permits for a potential tank removal between October 20, 1990 and October 22, 1991 at the subject site. A Town of Reading Tank Removal Permit receipt shows the completed tank removal occurred at 34 Lincoln Street. All other correspondents indicate that the tank was removed from 39-41 Lincoln Street. FSL personnel noted that the property at 2-12 Prescott Street appeared to have adequate space for a tank similar to the size of the tank that was recorded to have been removed. FSL personnel also noticed a large rectangular shape of resealed pavement in the parking lot at the 2-12 Prescott Street property; the dimensions were approximately 60" x 12'. As noted in Section 5.5, records for both 39-41 Lincoln Street and 2-12 Prescott Street were filled together under the 39-41 Lincoln Street address in several departments.

Based on the available UST records and FSL's physical observations of the subject site, it is FSL's opinion that the addresses were erroneously entered on the permits and correspondence from both 34 Lincoln Street and 39-41 Lincoln Street, and that the removed UST likely came from the property at 2-12 Prescott. Therefore, the inconsistent records and unknown location of the removed UST could potentially be recognized environmental conditions in connection with the Property.

5. As seen in Table 4, the available records for USTs/ASTs on the subject site/abutting sites of concern are inconsistent. Particularly of concern is the current unknown status of the UST located at the adjacent property at 35 Lincoln Street. 35 Lincoln Street was historically used as a gasoline filling station. Based on the available information, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.
6. FSL observed solid waste during the inspection at the 2-12 Prescott Street property. There was a dumpster located at the southeast corner of the building at 2-12 Prescott Street. There was also scrap metal and other various items stored along the southern boundary of the property at 2-12 Prescott Street. FSL does not find these to be recognized environmental conditions in connection to the subject site.
7. There are aboveground heating oil tanks located at both properties in the subject site; a 275 gallon tank at 2-12 Prescott Street is located in a shed attached to the southern section of the building; a 275 gallon tank at 39-41 Lincoln Street is in a shed attached to the northwestern corner of the building. FSL did observe stained concrete at 39-41 Lincoln Street located at the northwestern corner of the building, next to the heating oil tank shed. Origins of the stains are unknown. FSL observed the storage of two (2) 5-gallon gasoline carboys used by the tenants underneath trailers stored along the southern boundary of the property. Based on the current

and historical OHM (Oil and Hazardous Material) used on site, and the stains observed in the vicinity of the AST at 39-41 Lincoln Street, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.

8. FSL noticed three (3) unmarked 55-gallon steel drums on the southwestern side of the building at 2-12 Prescott Street. The tops and bases of each drum are rusting. Two of the drums have substantial amounts of liquid in them; the drum in the middle is nearly empty. The contents were unknown at the time of inspection. Based on the unknown hazardous associated with the three steel drums, it is FSL's opinion this could potentially be recognized environmental conditions in connection with the Property.

11.0 CONCLUSIONS

"We have performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E 1527 of the properties identified as 39-41 Lincoln Street and 2-12 Prescott Street. Any exceptions or deletions from, this practice is described in **Section 12.0 - Deviations** of this report.

Based on the following: OHM present use onsite; that there was a permitted UST on the subject site that was removed from a suspected location at 2-12 Prescott Street; a structure was demolished without records of permits on the subject site; the northern abutter that was identified to have been a gasoline filling station with inconsistent tank records; and the proximity of a dry-cleaning facility that had a known history of using Perchloroethylene, FSL recommends:

- Intrusive subsurface investigations conducted on the subject Property by advancing test borings;
- Installation of four (4) groundwater monitoring well, at least two (2) of which should be advanced on the northern property boundary with the former gasoline station property at 35 Lincoln Street;
- Soil sampling and testing for VPH, EPH/PAH and RCRA 8 Metals;
- Groundwater sampling and testing for VOCs, VPH, EPH/PAH and (RCRA) 8 Metals.

12.0 DEVIATIONS

This Phase I Environmental Site Assessment was performed without any exceptions to, or deletions from, the scope and limitations of ASTM Practice E 1527.

13.0 REFERENCES

- ASTM Designation: E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process¹
- Environmental Data Resources Report, Target Property:
 - 2-12 Prescott Street, Reading, MA 01867
 - October 9, 2014
 - Inquiry No.:4093677.2s
- Town of Reading Assessment Office
- Town of Reading Fire Department
- Town of Reading Inspections and Zoning Division
- Town of Reading Public Health Services
- Topographic Map, Reading, Massachusetts
- Flood Insurance Rate Map, Town of Reading, Massachusetts, Middlesex County, Community No. 250211, panel no. 0313G dated June 4,2010
- Massachusetts Department of Environmental Protection, Database of Reportable Release Sites:
<http://db.state.ma.us/dep/cleanup/sites/search.asp>

14.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

"We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312" and

"We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

Prepared by:



Andrew Pieroni, E.I.T.
Environmental Consultant

Reviewed by:



Ronald Tiberi, PE
Vice President

APPENDIX E: ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS



*Environmental Engineering, Civil Engineering
Forensic Engineering, Construction Services*

Environmental Engineering

Forensic Engineering

Civil Engineering

Construction Services

Andrew Pieroni, E.I.T.

*Bachelor of Science in Civil Engineering,
University of New Hampshire, May 2010*

Experience

FSL Associates, Inc.* *October 2014 - Present

358 Chestnut Hill Avenue, Boston, MA 02135

Position: Field Engineer

- Conducted Environmental Site Assessments for real estate transactions, in accordance with Massachusetts General Law (MGL) Ch. 21E and ASTM Phase I Site Assessment standards;
- Performed groundwater sampling (peristaltic low flow, hydraulic lifts, bailers, Grundfos pumps);
- Subsurface investigation reports;

Triumvirate Environmental, Inc.* *August 2012-October 2014

200 Inner Belt Road, Somerville, MA 02143

Position: Environmental Specialist

- Inspecting hazardous waste collection programs
- Remove any Haz. waste that is full or requested to be removed
- Package/prepare it for shipment and final disposal based on EPA and DOT shipping/disposal regulations
- Complete a Hazardous Waste Manifests/shipment documentation
- Perform assigned sampling and monitoring
 - Groundwater
 - Soil Vapor
- Respond to emergency responses

Certifications

- Engineer-in-Training, US-New Hampshire-Concord Certification (EIT/FE) Certified by the NH Joint Board of Licensure and Certification), June, 2010
- OSHA-HAZWOPER