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report

# Phase II Environmental Site Assessment

Former J.T. Berry Rehabilitation Center  
102 & 104 Lowell Road  
North Reading, MA

December 2014

**ASTM Phase II Environmental Site Assessment  
102 and 104 Lowell Road  
North Reading, Massachusetts**



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December 31, 2014  
Date

The following Environmental Professionals performed this Phase II ESA in conformance with ASTM Standard Practice E 1903-11. The individual(s) listed above meet the qualifications for individuals completing or overseeing all appropriate inquiries, and possess sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the existence of environmental conditions on the site. Any work completed on this Phase II ESA by an individual who is not considered an environmental professional was completed under the supervision or responsible charge of the environmental professional. Please note that the signatory is not acting in their LSP capacity or as an LSP-of-Record under the provisions of the Massachusetts Contingency Plan, 310 CMR 40.000.

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## EXECUTIVE SUMMARY

Weston & Sampson, on behalf of the Town of North Reading, Massachusetts (the Town), has prepared this Phase II Environmental Site Assessment (ESA) Report of the property located at 102 and 104 Lowell Road in North Reading, Massachusetts (referred to herein as the "Site"). The ESA was initiated by the Town to evaluate environmental conditions associated with the Site in preparation for acquisition of the property and future site redevelopment.

The Site consists of the western portion of the former J.T. Berry Rehabilitation Center, which was a state-run healthcare facility from the 1920s to the early 1990s. The eastern portion of the former healthcare facility was redeveloped between 2006 and 2008 as Edgewood Apartments, a residential apartment complex. The Site is in a mostly industrial area, with concrete, asphalt, sand, and stone facilities to the north and west, and wetlands to the south.

Weston & Sampson completed a Phase II ESA that included the excavation of five (5) test pits, advancement of three (3) soil borings, installation of three (3) groundwater monitoring wells, and soil and groundwater sampling at the Site. In addition, samples were also collected of waste "Orangeburg" piping associated with a waste concrete pile to determine if this material contains asbestos. Sample locations were selected based on our understanding of the historical Site use and recognized environmental conditions identified during the recently completed Phase I ESA. Based on the results of the Phase II ESA investigation, Weston & Sampson concludes the following:

No visual or olfactory evidence of any regulated contaminants was noted during the Phase II ESA; however, coal/wood ash was identified under a former sidewalk (which was initially presumed to be a steam tunnel) during test pitting. In addition, coal slag and clinker were identified scattered on the surface within the building demolition debris areas. Some slag and clinker was also noted on the base of concrete structures already removed from the ground (e.g. steam tunnel pits). While no significant accumulations of coal slag, clinker, or ash were observed during the Phase II work, this material will need to be managed as 'special waste' if it is to be disposed.

Laboratory analyses of soil and groundwater samples collected as a part the Phase II ESA did not reveal the presence of any contaminants above Massachusetts Method 1 S-1/GW-1 Standards (i.e. unrestricted use standards). Some concentrations of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl's (PCBs), and metals were detected in samples but below these standards. The analytical results suggest that soil may be managed as below the Reportable Concentration for S-1 soils in Massachusetts (below RCS-1).

All of the Orangeburg pipe samples collected from the waste concrete pile contained asbestos. As such, these materials would need to be properly managed and disposed by a Massachusetts licensed asbestos contractor. In the interim, the waste concrete and asbestos pipe pile will need to be covered with polyethylene plastic (8-mil) sheeting. It is important to note that the extent of any remaining asbestos containing pipe in the ground is not known. However, if more Orangeburg piping is identified in the future, it would have to be managed in a similar fashion.

Some steam tunnels appear to have been removed as a part of past demolition activities, but there are also portions of steam tunnels still present in the southern portion of the property. During our assessment work we did not enter any steam tunnels, because the limited access associated with the tunnels represents a confined space hazard. Visual inspection from the surface revealed that some of these tunnels contain accumulated rainwater and steam conveyance piping; however, no insulation was observed on any of the pipes that were viewed and it is not known if any insulation (i.e. asbestos) and/or other RECs are present in the remaining portions of the tunnels that were not viewed.

## 1.0 INTRODUCTION

### 1.1 General

Weston & Sampson, on behalf of the Town of North Reading (the Town), has prepared this Phase II Environmental Site Assessment (ESA) Report for the properties located at 102 and 104 Lowell Road in North Reading, Massachusetts (the Site). This Phase II ESA was completed in conformance with the ASTM International (ASTM) Standard Practice E 1903-11 to confirm or dismiss recognized environmental conditions (RECs) identified during previous assessment work completed at the Site. The site was previously assessed in a Weston & Sampson Phase I ESA, dated December 2014. The Phase I ESA identified several RECs in connection with the property at the time of the property evaluation.

### 1.2 Property Location and Description

The Site consists of two parcels of land totaling 36.7 acres located at 102 Lowell Road (2.49 acres) and 104 Lowell Road (34.21 acres) in the Town of North Reading, Massachusetts. The two parcels, collectively referred to as the Site, are divided by the entrance road to Edgewood Apartments at 100 Lowell Road. Edgewood Apartments (Edgewood) borders the Site to the east. The Site is bordered by Martins Brook and land owned by the Town of North Reading to the South, which includes the Town's water treatment facility. To the west, the Site is bordered by vacant land owned by the Town of North Reading and, in the Town of Wilmington, land owned and occupied by Concrete Investments, LLC. North of the Site, across Lowell Road (Salem Street in Wilmington), is land owned by Benevento Family Limited Partnership. A Locus Map showing the location and general surroundings of the Site is provided as Figure 1. Figure 2 shows the general details of the Site and sample locations.

The approximate geographical coordinates for the property are as follows:

UTM Coordinates:                    325,331.2 meters East  
    4,716,435.5 meters North

Latitude/Longitude:                42° 34' 57.00" North  
    71° 07' 42.60" West

The Site is accessible from Lowell Road through a gated entryway. The Site is improved with one small building (shed) located in the northeast quadrant. A dirt road extends from the entrance at Lowell Road east across the Site. Several dirt trails branch off the main dirt road in all directions leading either back to Lowell Road (Salem Street in Wilmington), the Edgewood property, or Martins Brook. Some asphalt remains in-place from the former J.T. Berry Center access road. Additionally, some other relict structures remain in-place associated with the former J.T. Berry Center such as steam tunnels, stairways, utility poles, and signage.

### 1.3 Property History

#### 1.3.1 Operations and Ownership

Between the 1920s and the early 1990s, the Site was the eastern portion of the J.T. Berry Rehabilitation Center (J.T. Berry Center). The J.T. Berry Center was a Massachusetts-run healthcare facility, functioning as a tuberculosis infirmary for the majority of its existence. The facility was almost entirely self-sufficient, and included a power plant, drinking water well field and towers, wastewater treatment facility, greenhouses, carpentry shop, dining halls, recreation

hall, and residential housing. The majority of the buildings and infrastructure was on the eastern portion of the J.T. Berry Center, now occupied by Edgewood Apartments. Buildings located on the Site included a residential building and a recreation hall.

The Edgewood property is now used for residential housing. To the south, across Martins Brook, is the Town of North Reading Water Treatment Plant. The adjoining property to the west operates as pre-cast concrete facility. To the north, across Lowell Road (Salem Street in Wilmington), are a concrete batching plant, and asphalt batching plant, and an active quarry

The Site is currently unoccupied. Winding paths are used by trespassers for recreation, including hiking and dog walking, as well as riding all-terrain vehicles (ATVs).

#### **1.4 Area Receptors**

According to the Area Receptors Map (Figure 3), prepared using the MassGIS Environmental Receptors Database, the Site is located within a MassDEP-approved Zone II Wellhead Protection Area. No portion of the Site is classified as Natural Heritage and Endangered Species Protected (NHESP) protected land. Several non-specified areas of protected open space exist within a 0.5-mile radius of the Site.

#### **1.5 MCP Method 1 Soil and Groundwater Classification**

The MCP soil and groundwater classifications presented below were identified in accordance with 310 CMR 40.0933 and 310 CMR 40.0932, respectively, and were used to compare the soil and groundwater analytical results with applicable Method 1 cleanup standards developed by MassDEP for preliminary risk screening purposes.

##### **1.5.1 Soil**

Soil analytical results were compared to MCP Method 1 S-1 cleanup standards for risk characterization purposes. Soil analytical results were also compared to MCP Reportable Concentrations (RCs) for Reporting Category S-1 (RCS-1) because the Site is located within 500 feet of residences, and to identify any new potential soil reporting conditions (e.g., a contaminant previously not identified at the Site in prior investigations).

##### **1.5.2 Groundwater**

Based on potential exposures, MassDEP has defined three categories of groundwater for risk characterization, classified as follows:

- Groundwater category GW-1 applies to groundwater located within current or potential drinking water sources areas;
- Groundwater category GW-2 is considered to be a potential source of oil and/or hazardous materials (OHM) vapors to indoor air, and includes groundwater where the average annual depth of the water table is less than 15 feet below ground surface (bgs), and where contaminants are identified in groundwater located within 30 feet of an occupied building; and,
- Groundwater category GW-3 applies to all groundwater in Massachusetts due to its potential to discharge to surface water bodies.

A series of databases have been developed by MassDEP and the Executive Office of Environmental Affairs (“EOEA”). These databases are compilations of information pertaining to

the location of relevant cultural features, water supplies, medium and high yield aquifers, MassDEP-approved wellhead protection areas, certified vernal pools and other environmentally sensitive receptors. A summary of this information is provided in Figure 3 – Area Receptors Map.

As previously discussed, the Site is located within a MassDEP-approved Zone II; therefore, the GW-1 groundwater category is applicable to the Site.

The MCP Section 40.0932(6) specifies that groundwater shall be categorized as GW-2 if it is located within 30 feet of an existing occupied building or structure, and the average annual depth to groundwater in that area is 15 feet or less. Although structures intended for human occupancy may be built at the Site, depth to groundwater is greater than 15 feet; therefore, the GW-2 category does not apply at the Site.

Groundwater at all disposal sites is considered a potential source of discharge to surface water, as defined by 310 CMR 40.0932(2); therefore, all groundwater shall be categorized as GW-3 cleanup category. The GW-3 Method 1 cleanup standards are meant to be protective of aquatic organisms in surface water bodies, the closest being Martins Brook, which border the Site to south.

In summary, the applicable Method 1 groundwater cleanup categories for the Site are GW-1 and GW-3.

## 2.0 PREVIOUS ENVIRONMENTAL WORK

The text of a previous investigation report that was performed at the Site was supplied to Weston & Sampson by the current owner, the Commonwealth of Massachusetts, via the Town of North Reading. Additionally, Weston & Sampson completed a Phase I ESA for the Site in December 2014. Pertinent information is included in Appendix A and the investigations are summarized below.

### 2.1 1998 Dames & Moore Phase I ESA

In December 1998, Dames & Moore, Inc. (D&M), previously of Salem, New Hampshire, completed a Phase I ESA on behalf of DCAMM (formerly DCAM). The D&M Phase I ESA included all of the former J.T. Berry Center property, which includes the Site. During the investigation, D&M was able to access most of the buildings located on the J.T. Berry Center property, including all of the buildings located on the Site. In addition to the RECs presented below, D&M observed suspect asbestos-containing material (ACM) in many buildings. Although not a REC when in its place of original installation, ACM becomes a REC when it is a waste.

The RECs identified in the D&M Phase I ESA included:

1. *Separate phase petroleum (No. 6 fuel oil) and petroleum-contaminated soil and groundwater...in the vicinity of the former 20,000-gallon [underground storage tanks] USTs, which were removed in 1990.*

This REC references the petroleum contamination associated with Release Tracking Number (RTN) 3-0003557. Weston & Sampson considered the residual contamination associated with this release a REC in our December 2014 Phase I ESA.

2. *Typical 275-gallon heating oil storage tanks were observed in the basement of...Building #14.*

This REC references an aboveground storage tank (AST) in Building #14, which was formerly located at the Site. Other buildings mentioned in this REC were located on what is now the Edgewood property; D&M does not discuss obvious leaking or staining associated with the observed AST in Building #14. The Town of North Reading Fire Department records indicate that the AST in question was removed in January of 1999. Because no leaking or staining was reported associated with the removal of the AST in question, and the AST was removed soon after the D&M Phase I, it is not likely to have impacted subsurface conditions at the Site. Weston & Sampson did not consider the presence of an AST a REC in the Phase I ESA.

### 2.2 December 2014 Weston & Sampson Phase I ESA

Weston & Sampson was contracted by the Town of North Reading, Massachusetts to perform a Phase I ESA at the Site. The ESA was initiated by the Town to evaluate the environmental conditions of the Site in preparation for potential property transfer and future site redevelopment. This ESA was performed in accordance with ASTM International's Standard practice E1527-13 which is compliant with the federal All Appropriate Inquiry (AAI) rule.

The Weston & Sampson Phase I ESA findings were as follows:

- Historical land development often involved the reuse of coal slag and clinkers material for backfill. This material was noted on surface at the Site. The presence of coal slag and clinkers, and other areas of unnatural topography, suggests the possibility of buried materials is considered a REC.
- A pile of waste concrete containing Orangeburg pipe, which was suspected to be ACM was observed on the Site. The presence of waste suspect ACM at the Site is considered a REC.
- Several areas of construction and demolition debris mixed with surface soils were observed at the Site. The presence of construction and demolition debris at the Site, along with the documented existence of ACM and PCBs in former buildings associated with the J.T. Berry Center is considered a REC.
- A review of the MassDEP files associated with the adjacent Edgewood Apartments property at 100 Lowell Road revealed that some residual contamination associated with USTs was left in-place during the previous remediation and redevelopment of the property. Based on an assumed groundwater flow direction toward the Site, this residual contamination has the potential to impact subsurface conditions at the Site. The potential impact to the Site is considered a REC.
- During the Site visits, Weston & Sampson observed four existing environmental groundwater monitoring wells at the Site. The presence of groundwater monitoring wells at the Site is associated with the Edgewood wastewater treatment system considered a REC because the condition of the groundwater in this area of the Site is not known.

To determine if contaminants are present at the Site, Weston & Sampson recommended a Phase II ESA be completed to assess the above-mentioned RECs.

### 3.0 STATEMENT OF OBJECTIVES

We have performed a Phase II environmental site assessment at the property at 104 Lowell Road, North Reading, Massachusetts in conformance with the scope and limitations of ASTM Practice E1903-11 and for the following objectives:

1. Five (5) test pits were dug to assess the presence of coal slag, clinkers and fill piles from unknown sources. During test pitting, one (1) representative sample was collected of material associated with slag and/or fill piles (with unknown sources) and analyzed for COMM-97 parameters to assess the disposition of this material for future soil management purposes. One of the test pits was dug adjacent a concrete structure that is presumed to be a steam tunnel. This test pit was dug to determine if coal slag and/or clinkers were used as subgrade materials.
2. Three (3) Orangeburg pipe samples were collected for asbestos analysis. The analytical work was done to determine if this material contains asbestos.
3. Four (4) surficial soil samples were collected to assess for the presence of residual construction and demolition debris from the former buildings. The soil was first examined by our building materials specialist and it was determined that further laboratory analysis was required. The samples were then analyzed for asbestos, lead, and PCBs.
4. Three (3) monitor wells were installed along the southwestern Site boundary to assess if the historical releases associated with the former power plant have impacted groundwater conditions. Groundwater water level measurements were also collected and the top of the casing of each well was surveyed to evaluate groundwater flow conditions. Groundwater samples were collected from these wells and analyzed for extractable petroleum hydrocarbons (EPH).
5. Collection of groundwater samples from the four (4) groundwater monitoring wells at the Site associated with Edgewood wastewater treatment plant. Samples were collected using low flow techniques and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), EPH, and metals to assess the condition of the groundwater in the area of these wells.

Weston & Sampson developed a Phase II ESA work plan on November 13, 2014 that addressed the above referenced objectives and considered the potential nature of the contaminants associated with each identified REC.

#### 4.0 CONCEPTUAL SITE MODEL

The Conceptual Site Model (CSM) is a three-dimensional evaluation of site conditions that presents contaminant distributions, release mechanisms, exposure pathways and migration routes, and potential receptors. The CSM documents current site conditions and is supported herein by maps and site diagrams that illustrate human and environmental exposure through contaminant release and migration to potential receptors.

The Site consists of two parcels of land totaling 36.7 acres, and is predominantly flat and wooded with scattered areas of natural, and seemingly unnatural, undulations. Site topography drops approximately 20-30 feet at the southern and western property boundaries near Martins Brook. Several areas of construction and demolition (C&D) debris were observed in the open area of the Site. These areas included concrete rubble, brick, along with a large pile of suspect ACM pipe. Coal slag and clinkers were also observed on the ground surface throughout the Site, which may indicate the use of such material as backfill.

The following table outlines the RECs identified by Weston & Sampson in the December 2014 Phase I, and the data produced by the Phase II ESA.

SUMMARY OF PHASE I RECs AND PHASE II DATA			
REC Identified in Phase I	Expected Contaminants	Expected Impacted Environmental Media	Notes
Suspected Buried Slag and Clinkers	Lead & SVOCs	Soil	This material generally requires disposal as a special waste.
Orangeburg Pipe	Asbestos	None (encased in concrete)	Orangeburg pipe tested positive for ACM.
C&D Debris	Lead, PCBs, Asbestos	Soil	C&D material is mostly surficial. Some buried concrete rubble (possibly a slab) exists in the area of TP-3.
Suspected Impacts from J.T. Berry USTs	Heavy Oil (Extractable Petroleum Hydrocarbons)	Soil / GW	Based on topography, groundwater may flow toward the Site from the former USTs.
Existing Groundwater Wells	Unknown	GW	Impacts are unknown but may be related to past Site activities or operation of the residential wastewater treatment system on the Site.

The source of soil contamination is not attributed to a single release, but rather a result of the industrial activity that occurred at the Site when the J.T. Berry Center was in operation, and the subsequent demolition of Site buildings. The primary source of contamination is believed to trace residual material associated with C&D debris and industrial by-products present at the ground surface in several areas of the Site.

Soil contamination at the Site was not detected above the MCP RCS-1 criteria. Low levels of PCBs and PAHs were detected in two composite soil samples. Metals detected in soils are consistent with published background concentrations for Massachusetts soils. Groundwater contamination is limited to barium, which was detected below the RCGW-1 at monitoring well EW-2.

Secondary release mechanisms that could potentially cause exposure are primarily direct contact with soil, wind driven dust, storm water runoff, and plant uptake.

Potentially affected human receptors under current use risk scenarios include neighbors at the adjacent property to the east and trespassers exposed to contaminated soil via inhalation of fugitive dust and/or dermal adsorption. There is also potential exposure to terrestrial biota via uptake, ingestion, and dermal adsorption.

## 5.0 PHASE II SUBSURFACE INVESTIGATION

The Phase II subsurface investigation was performed at the Site in December 2014, and consisted of the excavation of five (5) test pits; collection of four (4) surficial soil samples; the advancement of three (3) soil borings; and the installation of three (3) groundwater monitoring wells. Soil samples were collected from one (1) of the five test pits and from two soil surface locations. Groundwater samples were collected from each newly-installed well and from three (3) of the four (4) existing monitoring wells. Additionally, Orangeburg pipe, which is located in a pile in the northeast quadrant of the Site, was sampled to assess asbestos content.

### 5.1 Test Pit Excavation, Surficial Sampling, Soil Boring Advancement, and Monitoring Well Installation

#### 5.1.1 Test Pit Excavation

On December 2, 2014, A-Z Environmental Enterprises (A-Z) of Hudson, New Hampshire, under the oversight of a Weston & Sampson scientist, excavated five (5) test pits to depths ranging from three feet bgs to ten feet bgs. Test pits were excavated at locations shown on Figure 2 – Site Plan using a track-mounted excavator. Test pit locations were based on the sampling plan designed by Weston & Sampson to assess formerly distributed areas for the visual presence of coal slag and clinkers and to assess fill piles. The test pits were excavated as trenches to obtain a cross-sectional view of the subsurface and to define the vertical extent of layers of suspected buried materials such as coal slag, clinker, ash, coal dust, and building materials. In addition, soil samples were collected from one (1) of the five test pit locations. Test pit locations are shown in Figure 2.

Weston & Sampson recorded the following observations from each test pit excavated: soil type, color, depth and thickness of soils, field estimation of moisture content, field instrumentation readings, visual evidence of soil contamination, sampling intervals, and test pit abandonment details. Soils were classified using a modified Burmister Soil Classification System and evaluated for evidence of possible contamination (i.e., nature, odor, staining, etc.). Soil samples were collected for field observation from each test pit at the zero to three (0-3) foot and three to six (3-6) foot depth intervals.

Each collected soil sample was screened in the field for VOCs utilizing a photoionization detector (PID) fitted with 10.6 electron volt (eV) lamp and in accordance with the jar headspace screening method outlined in MassDEP Waste Site Cleanup Policy #WSC-94-400 entitled Interim Remediation Waste Management Policy for Petroleum Contaminated Soils. PID screening values and soil descriptions are presented in the Test Pit Logs included in Appendix B.

One discrete soil sample, collected from the 0-3 foot interval at TP-3, was submitted for laboratory analysis of typical disposal characterization parameters.

#### 5.1.2 Surficial Soil Sampling

On December 2, 2014, A-Z, under the oversight of a Weston & Sampson scientist, aided in the collection of four (4) surficial samples. Surficial sample locations were excavated at locations shown on Figure 2 – Site Plan using a track-mounted excavator to a depth of one foot bgs. Surficial sampling locations were based on the sampling plan designed by Weston & Sampson to assess areas of C&D debris observed on the ground surface for the presence of lead, asbestos, and PCBs. Soil samples were collected from each of the four surficial soil sampling locations, and as a composite from two (2) of the four surficial locations for disposal characterization parameters.

Weston & Sampson recorded the following observations from each surficial soil sample location: soil type, color, depth and thickness of soils, field estimation of moisture content, field instrumentation readings, evidence of soil contamination, and sampling intervals. Soils were classified using a modified Burmister Soil Classification System and evaluated for evidence of possible contamination (i.e., nature, odor, staining, etc.). Each soil sample was screened for VOCs utilizing a PID fitted with 10.6 eV lamp and in accordance with the jar headspace screening method outlined in MassDEP Waste Site Cleanup Policy #WSC-94-400 entitled Interim Remediation Waste Management Policy for Petroleum Contaminated Soils.

As indicated above, one discrete sample was submitted from each location for laboratory analysis of lead, PCBs, and ACM. Additionally, one composite soil sample, collected from surficial sampling locations SS-1 and SS-2, was submitted for laboratory analysis of typical disposal characterization parameters.

### 5.1.3 Soil Boring Advancement

On December 1, 2014, New England Geotech, LLC of Jamestown, Rhode Island, under the oversight of a Weston & Sampson scientist, advanced three (3) soil borings (SB-1, SB-2, and SB-3) and installed three (3) groundwater monitoring wells at the locations shown on Figure 2. Soil borings were advanced using direct-push technology and a track-mounted rig. Locations were based on the sampling plan designed by Weston & Sampson and placed to evaluate possible groundwater impacts to the Site related to the documented UST release at the former J.T. Berry Rehabilitation Center power plant on what is now the Edgewood property.

Soil borings were advanced to the groundwater table (depths ranging from 29 feet bgs to 30 feet bgs). Soil samples were collected continuously during the advancement of the soil borings and Weston & Sampson recorded the following information on boring logs for each boring location: soil type, color, depth and thickness of soils, field estimation of moisture content, field instrumentation readings, visual evidence of soil contamination, sampling intervals, and borehole abandonment details. Each soil sample (at a minimum of every 5 feet) was screened for VOCs utilizing a PID equipped with a 10.6 eV lamp and in accordance with the jar headspace screening method outlined in MassDEP Waste Site Cleanup Policy #WSC-94-400 entitled Interim Remediation Waste Management Policy for Petroleum Contaminated Soils. Characterization details and PID readings are included in the Soil Boring Logs included in Appendix B.

Consistent with the November 2014 work plan, no soil samples were collected for laboratory analysis because obvious impacts were not observed during the advancement of soil borings.

### 5.1.4 Monitoring Well Construction & Development

Three (3) 2-inch diameter PVC monitoring wells (MW-1, MW-2, and MW-3) were installed at three boring locations (SB-1 became MW-1, SB-2 became MW-2, and SB-3 became MW-3) in general accordance with MassDEP publication #WSC-310-91 entitled Standard Reference for Monitoring Wells and DEP Policy Standard References for Monitoring Wells, Small Diameter Driven Well Supplement, dated January 1999. Each well was constructed with a 20-foot section of 0.010-inch slotted screen, an appropriate length of solid riser pipe between the slotted screen and the surface, a sand filter pack between the annulus and slotted screen, and a bentonite seal (above the filter pack). Each well was then finished with a ~3-foot locking protective steel casing. The groundwater monitoring well locations were based on the sampling plan designed by Weston & Sampson and were placed to evaluate possible groundwater impacts to the Site related to the documented UST release at the former J.T. Berry Rehabilitation Center power

plant on what is now the Edgewood property. Groundwater monitoring well construction logs are included in Appendix B. Monitoring well locations are shown in Figure 2.

Following well construction activities, each well was developed using a polyethylene bailer to develop a connection between the monitoring well and surrounding groundwater aquifer. Up to 5 well volumes of water was removed during the development process.

The relative elevation of each well was determined via a stadia survey that was conducted on December 8, 2014.

## 5.2 Soil Sampling and Analysis

As described in detail above, Weston & Sampson completed a subsurface investigation on December 1 and 2, 2014. The following soil samples were collected to further advance the Phase II ESA objectives (i.e. assessment of the identified Phase I ESA RECs):

- A soil sample was collected from test pit location, TP-3, from 0-3 feet bgs, and was submitted for laboratory analysis of typical disposal characterization parameters based on MassDEP Policy #COMM-97-001. TP-3 was chosen as a sample location for disposal characterization due to the presence of C&D debris observed on the ground surface and to a depth of three feet bgs. Characterization of the C&D material is necessary prior to redevelopment of the Site if the material is to be disposed of off-site. These parameters included conductivity, PCBs, RCRA-5 metals (arsenic, cadmium, chromium, mercury, and lead), total petroleum hydrocarbons (TPH), VOCs, and SVOCs. Analysis of Toxicity Characteristic Leaching Procedure (TCLP) (EPA Method SW-846 1311), based on the “twenty times rule,” was not necessary for the disposal characterization sample.
- Four surficial samples (SS-1, SS-2, SS-3, and SS-4) were collected from the surficial soil sampling locations in order to assess the impacts from C&D debris observed at the ground surface and in the soil matrix. Laboratory analysis of surficial soil samples included lead, PCBs, and asbestos. Alpha subcontracted the asbestos analysis to Proscience Analytical of Woburn, Massachusetts. Proscience analyzed the samples via an in-house method using transmission electron microscopy (TEM) with selected area electron diffraction (SAED) and energy dispersive spectroscopy. This method is used to qualitatively determine the presence or absence of asbestos in non-friable samples.
- Two surficial sampling locations, SS-1 and SS-2 were composited and submitted for laboratory analysis of typical disposal characterization parameters based on the presence of C&D debris observed on the ground surface. Laboratory analysis for disposal characterization included conductivity, PCBs, RCRA-5 metals, TPH, VOCs, and SVOCs. Analysis of TCLP, based on the “twenty times rule,” was not necessary for the disposal characterization sample.

All soil samples collected for analysis were placed directly into new laboratory-prepared sample containers and packed and transported on ice to Alpha Analytical Laboratory (Alpha) in Westborough, Massachusetts, in accordance with professional standards of care for selected analyses via EPA methods or equivalent State-approved methods. Chain-of-custody documentation was maintained throughout the sampling process. A copy of each chain-of-custody is included in the respective laboratory report. The Alpha soil analytical laboratory reports are included in Appendix C.

### 5.3 Groundwater Sampling and Analysis

Weston & Sampson conducted one round of groundwater sampling on December 8, 2014. The following samples were collected as a part of this work to assess the condition of groundwater migrating onto the property from the documented UST release associated with the former power plant on the Edgewood property and to assess the groundwater in the area of the existing groundwater monitoring wells identified on the property. Sample collection included the following:

- Three (3) groundwater samples were collected from the newly installed monitoring wells (MW-1, MW-2, and MW-3) using a traditional purge and sample technique. The groundwater samples were submitted to Alpha for laboratory analysis. Groundwater at the three newly installed well locations was analyzed for dissolved EPH with PAHs.
- Three (3) groundwater samples were collected from the existing monitoring wells (EW-1, EW-2, and EW-4) and was analyzed for VOCs, SVOCs, EPH, and CAM 14 metals (antimony, arsenic, barium, beryllium, cadmium, chromium, mercury, nickel, lead, selenium, silver, thallium, vanadium, and zinc). One existing well (EW-3) contained an obstruction that prevented sampling.

Prior to sampling, all wells were gauged evaluate the presence of light non-aqueous phase liquid (LNAPL) and to record depth to groundwater and depth to well bottom using an oil-water interface probe. Weston & Sampson then calculated the standing volume of water in each well using the depth to water and total well depth measurements. Five standing volumes of water were purged from each well before the well was sampled. Sampling was completed using disposable polyethylene bailers and nylon string. All non-dedicated equipment was decontaminated between sampling locations with a double wash using an Alconox detergent solution followed by a double rinse with deionized water. All measuring probes and meters were calibrated according to the manufacturer's specifications.

Once sampling conditions were established, each groundwater sample was collected for the laboratory analysis detailed above by pumping or pouring directly into laboratory-supplied containers. The groundwater samples, including one (1) duplicate, were collected and submitted on ice to Alpha for laboratory analysis. Chain-of-custody documentation was maintained throughout the sampling process. A copy of each chain-of-custody is included in the respective laboratory report. The Alpha groundwater analytical laboratory reports are included in Appendix C.

### 5.4 Waste Building Materials Sampling and Analysis

In order to address the REC associated with waste Orangeburg pipe observed at the Site, Weston & Sampson collected three (3) samples (Orangeburg-1, Orangeburg-2, and Orangeburg-3) of the pipe on December 2, 2014. All Orangeburg samples collected for analysis were placed directly into new laboratory-prepared sample containers and packed and transported on ice to Alpha in accordance with professional standards of care for selected analyses via EPA methods or equivalent State-approved methods. Similar to the surficial soil samples, Alpha subcontracted this laboratory work to Proscience Analytical of Woburn, Massachusetts. Proscience analyzed the samples via an in-house method using TEM with selected area electron diffraction SAED and energy dispersive spectroscopy. This method is used to qualitatively determine the presence or absence of asbestos in non-friable samples. Chain-of-custody documentation was maintained throughout the sampling process. A copy of each chain-of-custody is included in the laboratory report. The Alpha soil analytical laboratory reports are included in Appendix C.

## 6.0 PHASE II SUBSURFACE INVESTIGATION RESULTS

### 6.1 Underlying Bedrock and Surficial Geology

#### 6.1.1 Bedrock Geology

According to the USGS Bedrock Geologic Map of Massachusetts (Zen et al., 1983), the Site is underlain by the Andover Granite Formation, which is of Silurian or Ordovician age, and consists primarily of granite with secondary pegmatite. Bedrock was not encountered during any of the subsurface investigation work.

#### 6.1.2 Surficial Geology

In general, the following two soil horizons were encountered during the subsurface investigation work in vertical succession:

Top Soil: Approximately one foot of dark brown fine to medium sand with organic silt, and little to trace gravel.

Alluvial or Glacial Outwash Sand: Up to 30 feet of brown to light brown fine to coarse sand.

Two of the locations investigated by Weston & Sampson differed from the above-outlined shallow surficial geology as follows:

Weston & Sampson excavated TP-4 proximate to a suspected steam tunnel associated with the former J.T. Berry Center power plant. Upon excavation, it was determined that the concrete structure observed at the surface was likely a former walkway, not a steam tunnel. Several inches of coal ash was observed underlying the walkway as base fill. Under the coal ash, approximately two feet bgs, the native sand unit was observed.

Approximately three feet bgs at the location of TP-3, a layer of concrete rubble, consistent with a former building floor was observed. The extent of the subsurface rubble could not be determined with the equipment available during the excavation of test pits (i.e., a larger machine is needed).

Copies of the Phase II ESA soil boring logs and test pit logs are provided in Appendix B.

### 6.2 Hydrogeology

#### 6.2.1 Groundwater Elevations and Flow Direction

On December 8, 2014, Weston & Sampson conducted a groundwater gauging event at the Site to record monitoring well and groundwater elevations, and to evaluate groundwater flow direction. During this work, a stadia survey was completed to determine the relative elevation of the top of casing of each monitor well.

Depth to groundwater was measured at the three newly installed monitoring wells and four existing wells. These measurements were used to calculate groundwater elevations based on an arbitrary benchmark of 100 feet above mean sea level set at EW-2. Groundwater elevations ranged from 58.00 feet at MW-2 to 66.37 feet at EW-2. The data collected on December 8, 2014, indicates that groundwater flow is to the south southwest toward the Martins Brook Wetland area. Groundwater elevation data from the December groundwater gauging event is included in Table 1. Please note that data from monitoring well MW-2 was not used to calculate the groundwater flow direction as it was interpreted to be artificially low due a gauging error. Groundwater flow contours are shown in Figure 2.

### 6.2.2 Hydraulic Gradients

Average horizontal hydraulic gradient for groundwater at the Site was calculated based on groundwater gauging measurements for EW-2 and EW-4 obtained December 8, 2014, using the following equation:

$$i = dh/dl$$

Where:

i	=	horizontal hydraulic gradient
dh	=	change in head
dl	=	distance between measurement points

The horizontal hydraulic gradient across the Site was calculated to be approximately 0.006.

### 6.2.3 Groundwater Velocity

Literature values for similar geologic materials were used to estimate the hydraulic conductivity (K) of the sand unit, the primary soil/geologic unit underlying the Site through which groundwater is flowing. Based on K values for glacial outwash presented in Hydrogeology (CW Fetter, 1994), the well-sorted, alluvial sand unit was estimated to be 10<sup>-2</sup> centimeters per second (cm/sec) or 28.3 feet/day. The K value was used to calculate groundwater velocity (v) in the urban fill unit using Darcy's Law as follows:

$$v = \frac{K * I_{AVG}}{n}$$

Where:

v	=	groundwater velocity (feet/day)
I <sub>AVG</sub>	=	horizontal gradient = 0.006
K	=	hydraulic conductivity = 28.3 feet/day
n	=	effective porosity (e.g., Freeze and Cherry, 1979) = 0.26 for the glacial outwash.

Site groundwater velocity was estimated to be 0.653 feet/day or 238.37 feet/year through the sand unit.

## 6.3 **Soil Analytical Results**

Soil analytical results for the one test pit and four surficial soil samples are summarized below. As previously discussed, soil analytical results were compared to the MCP RCS-1 and Method 1 S-1/GW-1 and S-1/GW-3 Standards. Soil analytical data summary tables are provided as Tables 2 and 3. Soil laboratory analytical reports are included in Appendix C.

### 6.3.1 Disposal Analysis

Disposal analysis soil sample results for TP-3 and SS-COMP (pH, reactivity, flashpoint, conductivity, PCBs, RCRA-5 metals, TPH, VOCs, and SVOCs) are summarized in Table 2. No contaminants were detected at or above the applicable standards; therefore, it is assumed that the material analyzed can be disposed of as "less than RCS-1," which is the least restrictive class of impacted soil in Massachusetts.

### 6.3.2 Surficial Soil

Soil analytical results for the SS-1, SS-2, SS-3, and SS-4 are presented in Table 3. Detectable concentrations of lead were noted in the collected samples, but were reported below the applicable RCS-1 criteria. These concentrations are consistent with background concentrations in Massachusetts soil. PCBs and ACM were not detected in any of the surficial soil samples.

### 6.3.3 Orangeburg Pipe

Laboratory analytical results of the Orangeburg samples (Orangeburg-1, Orangeburg-2, and Orangeburg-3) is presented in Table 4. Asbestos was detected in each of the three samples; as such, the Orangeburg pipe is considered ACM. Prior to disposal, the waste pile of concrete encased ACM pipe should be appropriately covered with 8-mil polyethylene plastic sheeting to prevent a release of asbestos to the environment. Currently, there is no requirement to notify MassDEP of the presence of the material; however, during future redevelopment activities, the disposal of the waste pile and any other Orangeburg pipe noted will require special handling by a Massachusetts licensed asbestos contractor.

## 6.4 Groundwater Analytical Results

Weston & Sampson collected groundwater samples from six (6) groundwater monitoring wells. Three existing monitoring wells were analyzed for VOCs, SVOCs, EPH, and CAM 14 metals, and three newly installed monitoring wells were analyzed for EPH with target PAHs. The groundwater analytical results indicate that for all groundwater samples except EW-2, no contaminants were detected above the laboratory reporting limit. Barium was detected in EW-2 at a concentration of 0.040 milligrams per liter (mg/l) which is below the applicable Method 1 GW-1 standard. Groundwater analytical results are summarized in Table 5.

## 6.5 Nature and Extent of Contamination

Based on the analytical results presented above and summarized in Tables 2-5, there are low levels of PCBs, metals, and petroleum-related constituents in soils, and low levels of barium in groundwater. It is important to note that the Phase II ESA was spatially limited, and intended only to address the RECs identified in the December 2014 Phase I ESA and the target contaminants identified in the conceptual model.

## 7.0 REPRESENTATIVENESS EVALUATION AND DATA USABILITY ASSESSMENT

The Representativeness Evaluation and Data Usability Assessment (REDUA) presented in this section were prepared in general accordance with MassDEP Policy WSC-07-350, dated September 2007. The REDUA for the Site is presented below.

### 7.1 Representativeness Evaluation

The purpose of the Representativeness Evaluation is to demonstrate the following:

- The spatial and temporal data sets used to support the Phase II ESA are adequate considering the Site's historical use, hydrogeological and physical characteristics, and field observations;
- The data set in total sufficiently characterizes conditions at the Site and supports a coherent Conceptual Site Model;
- The cumulative data to characterize the nature and extent of contamination at the Site and the risk to health, safety, public welfare and the environment is adequate; and,
- The use of the data to support this Phase II ESA is justified considering any inconsistent and incomplete information, and potential sources of uncertainty.

Sections 6.1.1 through 6.1.8 below describe the elements that were evaluated in the Representativeness Evaluation in support of this Phase II ESA.

#### 7.1.1 Conceptual Site Model

The Site consists of two parcels of land totaling 36.7 acres, and is predominantly flat and wooded with scattered areas of natural, and seemingly unnatural, undulations. Site topography drops approximately 20-30 feet at the southern and western property boundaries near Martins Brook. Several areas of construction and demolition (C&D) debris were observed in the open area of the Site. These areas included concrete rubble, brick, along with a large pile of suspect ACM pipe. Coal slag and clinkers were also observed on the ground surface throughout the Site, which may indicate the use of such material as backfill.

The source of soil contamination is not attributed to a single release, but rather a result of the industrial activity that occurred at the Site when the J.T. Berry Center was in operation, and the subsequent demolition of Site buildings. The primary source of contamination is believed to trace residual material associated with C&D debris and industrial by-products present at the ground surface in several areas of the Site. Soil contamination at the Site was not detected above the MCP RCS-1 criteria. Very low levels of PCBs and PAHs were detected in two composite soil samples. Metals detected in soils are consistent with published background concentrations for Massachusetts soils. Groundwater contamination is limited to barium, which was detected below the RCGW-1 at monitoring well EW-2.

Secondary release mechanisms that could potentially cause exposure are primarily direct contact with soil, wind driven dust, storm water runoff, and plant uptake.

Potentially affected human receptors under current use risk scenarios include neighbors at the adjacent property to the east and trespassers exposed to contaminated soil via inhalation of fugitive dust and/or dermal adsorption. There is also potential exposure to terrestrial biota via uptake, ingestion, and dermal adsorption.

### 7.1.2 Use of Field Screening Data

During the course of investigative activities associated with this Phase II ESA, field data were recorded during sample collection activities. Field data include values from screening soil sample headspace for volatile compounds with a photoionization detector (PID), as well as recording visual and olfactory observations. Not all field screening data were included as part of the overall data quality assessment. On several occasions during the soil boring advancement, significant PID fluctuations, thought to be associated with atmospheric conditions (i.e., humidity), inconsistent with visual and olfactory observations occurred. These fluctuations are considered unrepresentative, and were appropriately excluded from the data quality assessment. The remaining data sets collected during the course of the investigation are considered appropriate for the data quality objectives of this Phase II ESA.

### 7.1.3 Sampling Rationale

As outlined in Section 4.0, the sampling rationale presented in the Scope of Work submitted to the Town was to evaluate the RECs identified in the December 2014 Phase I ESA, and to collect current information on soil and groundwater conditions in order to fill data gaps. The type of medium sampled and parameters evaluated for each location were based on Site history, previous investigations, and experience evaluating contaminant conditions at similar sites.

### 7.1.4 Number, Spatial Distribution, and Handling of Samples

Prior to conducting the Phase II ESA sampling program, existing Site information and data sets collected by Weston & Sampson and others were reviewed to assist in developing the number, spatial distribution, and handling (e.g., compositing, split samples, etc.) of samples. Weston & Sampson determined the number, spatial distribution, and handling of samples based on similar project experience, and the results of a review of historical subsurface data, historical aerial photographs, and a site reconnaissance information collected during the Phase I ESA. The number and spatial distribution of samples is adequate to support the conclusions of this Phase II ESA.

### 7.1.5 Temporal Distribution of Samples

Adequate characterization should include consecutive seasonal rounds of sampling and gauging to provide an understanding of the magnitude of water table fluctuations and their potential effect on groundwater concentrations. The data obtained by Weston & Sampson and the data reported in historical site investigations have provided sufficient temporal evaluation to support the findings of this Phase II ESA.

### 7.1.6 Completeness

There were no data gaps identified in the sampling locations and analytical data collected during the Phase II ESA. The target completeness for critical samples for data set validity was established as 100% and achieved.

### 7.1.7 Inconsistency and Uncertainty

No inconsistencies were identified with analytical results, field screening measurements, or field observations.

### 7.1.8 Information Considered Unrepresentative

Field screening data, as described in Section 6.1.2, was considered unrepresentative due to moisture in the samples and thrown out. All other data are considered to be representative of current conditions at the Site.

## 7.2 Data Usability Assessment

The Data Usability Assessment evaluates the validity of the data being used for MCP risk characterization and/or other response actions, focusing on actual quality assurance/quality control (QA/QC) procedures used in the field during sample collection, and laboratory analytical methods. The broad performance standards for the acquisition, analysis, and reporting of the analytical and environmental monitoring data used to support MCP response actions are specified in 310 CMR 40.0017 and 40.0191(2)(c). To facilitate the application of these MCP performance standards, MassDEP published a Compendium of Analytical Methods (CAM), a series of recommended protocols for the acquisition, analysis, and reporting of MCP-related analytical data. The minimum criteria and performance standards for the collection and analysis of data to be used in MCP risk assessments, background determinations, and/or site closure are outlined in the current MassDEP publications WSC-CAM-VIIA (revised July 1, 2010) and WSC-10-320 (effective July 1, 2010). Samples collected and analyzed in compliance with CAM have achieved “Presumptive Certainty”, which assures that the precision, accuracy, and sensitivity have been adequately determined.

### 7.2.1 PARCCS Evaluation

Data that achieve “Presumptive Certainty” status may not necessarily meet the data usability and representativeness requirements. Thus, data usability is also evaluated by the following parameters: precision, accuracy, representativeness, comparability, completeness and sensitivity (referred to as PARCCS). With the exception of representativeness, the PARCCS parameters are controlled by the laboratory through strict QA/QC procedures, and any issues that might affect data usability are identified and described in the case narrative of each laboratory report.

### 7.2.2 Precision

Precision is a measure of mutual agreement among individual measurements of the same property and is generally expressed as the reproducibility of the analytical result between initial sample and field duplicate as expressed by the relative percent difference (RPD). Precision is a measure of the reproducibility of sampling technique, matrix homogeneity, and analytical method. A review of laboratory control sample/laboratory control sample duplicate (LCS/LCSD) information indicates that the data appear to be consistent from sample to sample, and consistent with field observations with few exceptions. The data are considered suitably precise to support this Phase II ESA.

### 7.2.3 Accuracy

Accuracy is the degree of agreement of a measurement with an accepted reference or true value. Accuracy is reported as the percent recovery of known concentrations added to the matrix sample to determine the influence of matrix on the analytical method. Overall the data are considered suitably accurate to support this Phase II ESA.

### 7.2.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of the population, parameter variation, or environmental condition. Weston & Sampson designed the sampling protocol to ensure representativeness by incorporating factors such as site history, visual and olfactory observations, physical features, proper sample collection and preservation procedures, appropriate testing methodology, and field screening data. The samples collected at the Site are considered representative based on the known subsurface conditions.

### 7.2.5 Completeness

Completeness is a measure of whether enough data has been collected to support an LSP opinion and is expressed as a percent representing the ratio of valid data to expected data. Data may be considered invalid for reasons such as exceeding the holding time, poor calibration of analytical instruments, and poor surrogate or matrix spike recoveries. Based on a review of the case narratives and lab QA/QC samples, the data collected for this Site is complete.

### 7.2.6 Comparability

Comparability refers to the level of confidence with the correlation of data collected during separate events or by different persons, or analyzed by different methods. This may be measured qualitatively based on a review of sampling and testing procedures or quantitatively by comparison of sample data collected at the same location using the same sampling and testing procedures. All sampling and testing procedures were followed utilizing accepted standards for quality assurance and quality control, and data among separate sampling events and by different staff is comparable.

### 7.2.7 Sensitivity

Sensitivity is a measure of whether the laboratory method was sufficient to report detected contaminants at concentrations at or below the applicable MCP cleanup criteria. In some cases a contaminant was reported as “not detected” but the laboratory method detection limit was equal to or slightly above the MCP RC and/or cleanup criteria. This is not a reportable condition. Weston & Sampson is of the opinion that given the RECs associated with the Site and general lack of detected contaminants that, sample results are adequately sensitive to evaluate the objectives of the Phase II ESA. As result, Weston & Sampson considers the data to be at a sufficient level of sensitivity to support the conclusions in this Phase II ESA.

In summary, the results of the PARCCS evaluation indicate that data quality indicators are acceptable with the exception of elevated RLs for some VOCs and SVOCs in soil and groundwater. The soil and groundwater data obtained during the Weston & Sampson Phase II investigation is adequate for characterizing Site conditions and risk. The elevated RLs represent a small constituency of the total number of analytes run, and none are contaminants are considered likely to be present based on field observations.

## 8.0 RISK SCREENING

### 8.1 General

The risk screening overview presented as part of this Phase II ESA is to report contaminant concentrations that are currently above the applicable MCP Method 1 soil and groundwater cleanup standards. A screening-level human health risk characterization was performed to establish whether a level of No Significant Risk for human health exists or can be achieved at the Site. The screening assessment considered both current and reasonably foreseeable future Site activities and uses. Soil is conservatively categorized as S-1. The Method 1 S-1 cleanup standards are the most stringent and considered to be protective of human health for residential use, which has the highest exposure potential and the most sensitive receptors (young children, elderly, pregnant females). Consequently, if concentrations are below Method 1 S-1 cleanup standards, it may be concluded that a condition of No Significant Risk (NSR) exists for unrestricted use, and no further risk characterization or remedial response actions are required.

As previously mentioned, groundwater at the Site is currently classified as GW-1 and GW-3. The GW-1 classification is protective of potential drinking water sources, and applies to the Site because it is within a MassDEP-Approved Zone II. The GW-3 classification pertains to groundwater that may potentially impact surface water. By definition under the MCP, all groundwater is categorized as GW-3 (310 CMR 40.0932(2)) because it eventually discharges to a surface water body. The GW-2 designation pertains to groundwater that may have potential indoor air impacts and is applicable at sites where groundwater is less than 15 feet below grade and within 30 feet of an occupied structure. Depth to groundwater at the Site is approximately 28 to 36 feet; therefore, groundwater at the Site does not meet the GW-2 criteria.

### 8.2 Contaminants of Concern

Contaminants of Concern (CoCs) were not identified at the Site during the Phase II ESA. No contaminants were detected above the MCP RCs.

### 8.3 Human Receptor Information

Potential for exposure to impacts at the Site by visitors, trespassers, or construction/utility workers may be associated with ingestion and dermal contact of impacted soils and inhalation of fugitive dust during construction operations.

### 8.4 Exposure-Point Concentrations (EPCs) - Identification of "Hot Spots"

An initial evaluation of potential hot spots was conducted in accordance with the requirements of 310 CMR 40.0926. Soil "hot spots", which are defined in the MCP as discrete areas having substantially higher (10 to 100 times) concentrations than surrounding locations, cannot be averaged with other soil concentrations throughout the Site and must be evaluated as separate exposure-point concentrations ("EPCs") in accordance with 310 CMR 40.0924(2).

No hot spots were identified at the Site.

### 8.5 Risk Characterization Screening Summary

The results of the screening-level human health risk characterization indicate that a condition of NSR to the human health, welfare, and the environment does exist based on the data collected during this Phase II ESA. It should be noted that risk of exposure to the coal ash observed under the sidewalk proximate to TP-4 was not analyzed, and is not included in this risk assessment.

## 9.0 DISCUSSION & CONCLUSIONS

Weston & Sampson completed a Phase II ESA that included the excavation of five (5) test pits, collection of four (4) surficial samples, advancement of three (3) soil borings, installation of three (3) groundwater monitoring wells, and soil, groundwater, and waste building materials sampling at the Site. The sampling locations were based on historical Site use and RECs identified in the December 2014 Phase I ESA by Weston & Sampson. Based on the results of the Phase II ESA investigation, Weston & Sampson concludes the following:

- Results of the Phase II ESA work did not reveal visual or olfactory evidence of any regulated contaminants; however, coal/wood ash was identified under a former sidewalk (which was initially presumed to be a steam tunnel) during test pitting. In addition, coal slag and clinker were identified scattered on the surface within the building demolition debris areas. Some slag and clinker was also noted on the base of concrete structures already removed from the ground (e.g. steam tunnel pits). While no significant accumulations of coal slag, clinker, or ash were observed during the Phase I or Phase II work, material scheduled for disposal that contains this material will need to be managed as 'special waste'.
- Laboratory analyses of soil and groundwater samples collected as a part of the Phase II ESA did not reveal the presence of any contaminants above Massachusetts Method 1 S-1/GW-1 Standards (i.e. unrestricted use standards). Some concentrations of polycyclic aromatic hydrocarbons (PAH), PCBs, and metals were detected in samples but below these standards. The analytical results suggest that soil may be managed as "below RCS-1."
- All of the Orangeburg pipe samples collected from the waste concrete pile contained asbestos. As such, these materials would need to be properly managed and disposed by a Massachusetts licensed asbestos contractor. In the interim, the waste concrete and asbestos pipe pile will need to be covered with polyethylene plastic (8-mil). It is important to note that the extent of any remaining asbestos-containing pipe in the ground is not known. However, if more Orangeburg piping is identified in the future, it would have to be managed in a similar fashion.
- Some steam tunnels appear to have been removed as a part of past demolition activities, but there are also steam tunnels still present in the southern portion of the property. During our assessment work we did not enter any steam tunnels, because the limited access associated with the tunnels represents a confined space hazard. Visual inspection from the surface revealed that some of these tunnels contain accumulated rainwater and steam conveyance piping; however, no insulation was observed on any of the pipes that were viewed and it is not known if any insulation (i.e. asbestos) and/or other RECs are present in the remaining portions of the tunnels that were not viewed.

Based on the analytical results presented in this report, OHM releases requiring notification to MassDEP do not exist at the Site, and a condition of NSR does exist for current and future uses.

## 10.0 LIMITATIONS

This Phase II ESA was prepared for the use of the Town of North Reading, Massachusetts, exclusively. The findings provided by Weston & Sampson in this report are based solely on the information reported in this document. Future investigations, and/or information that was not available to Weston & Sampson at the time of the investigation, may result in a modification of the findings stated in this report.

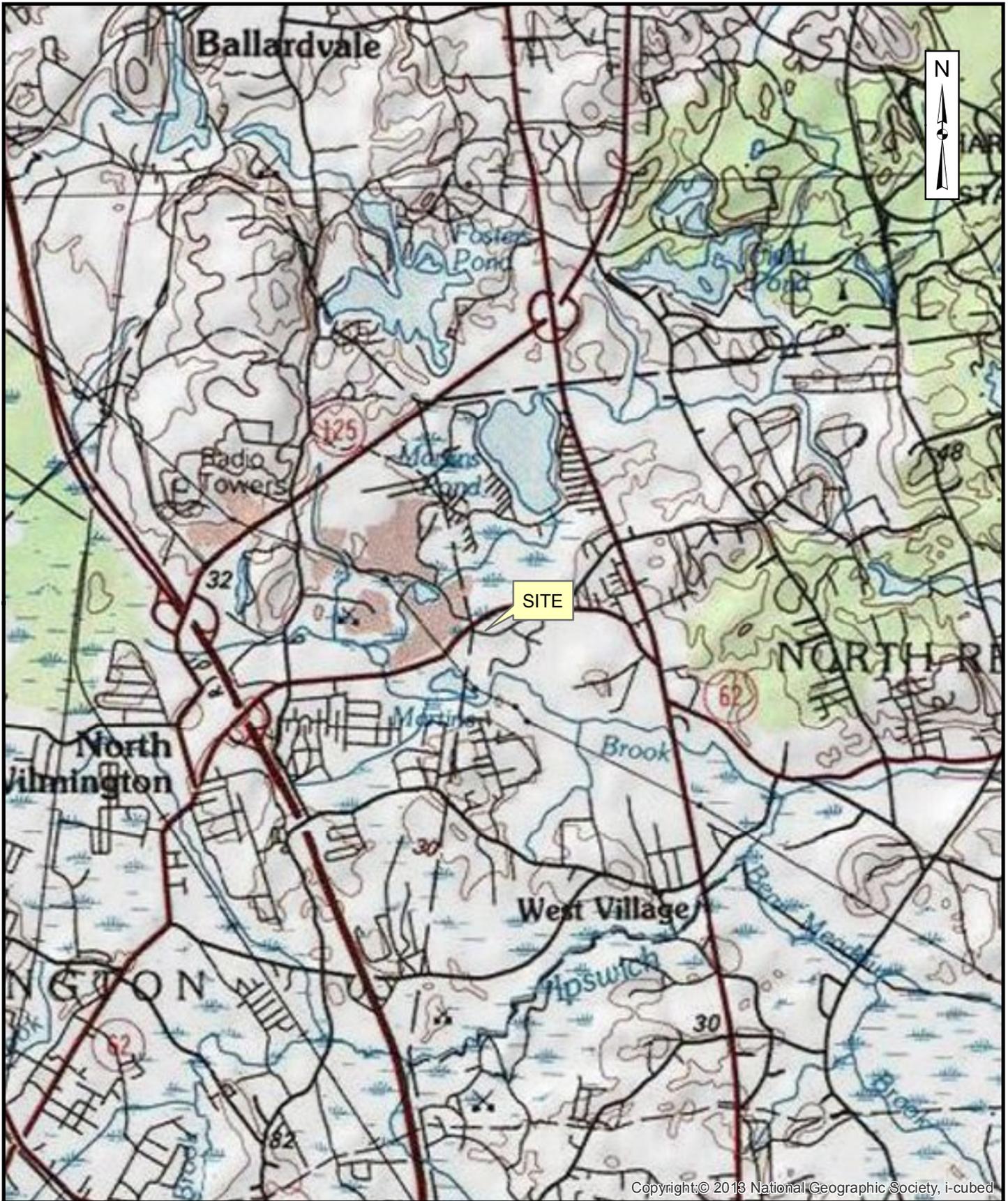
Should additional information become available concerning this Site or neighboring properties, which could directly impact the Site in the future, that information should be made available to Weston & Sampson for review so that, if necessary, conclusions presented in this report may be modified. The conclusions of this report are based on Site conditions observed by Weston & Sampson personnel at the time of the investigation, information provided by the Town of North Reading, and samples collected and analyzed on the dates shown or stated in this report. This report has been prepared in accordance with generally accepted engineering and geological practices. No other warranty, express or implied, is made.

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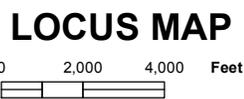
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## FIGURES

Path: N:\DataStore\Client\North Reading MA\2140633.A Former JT Berry Center\Fomer JT Berry Center\Fomer JT Berry Center.FIG 1.mxd User: SpencerJ Saved: 11/12/2014 12:46:12 PM Opened: 11/12/2014 12:46:26 PM

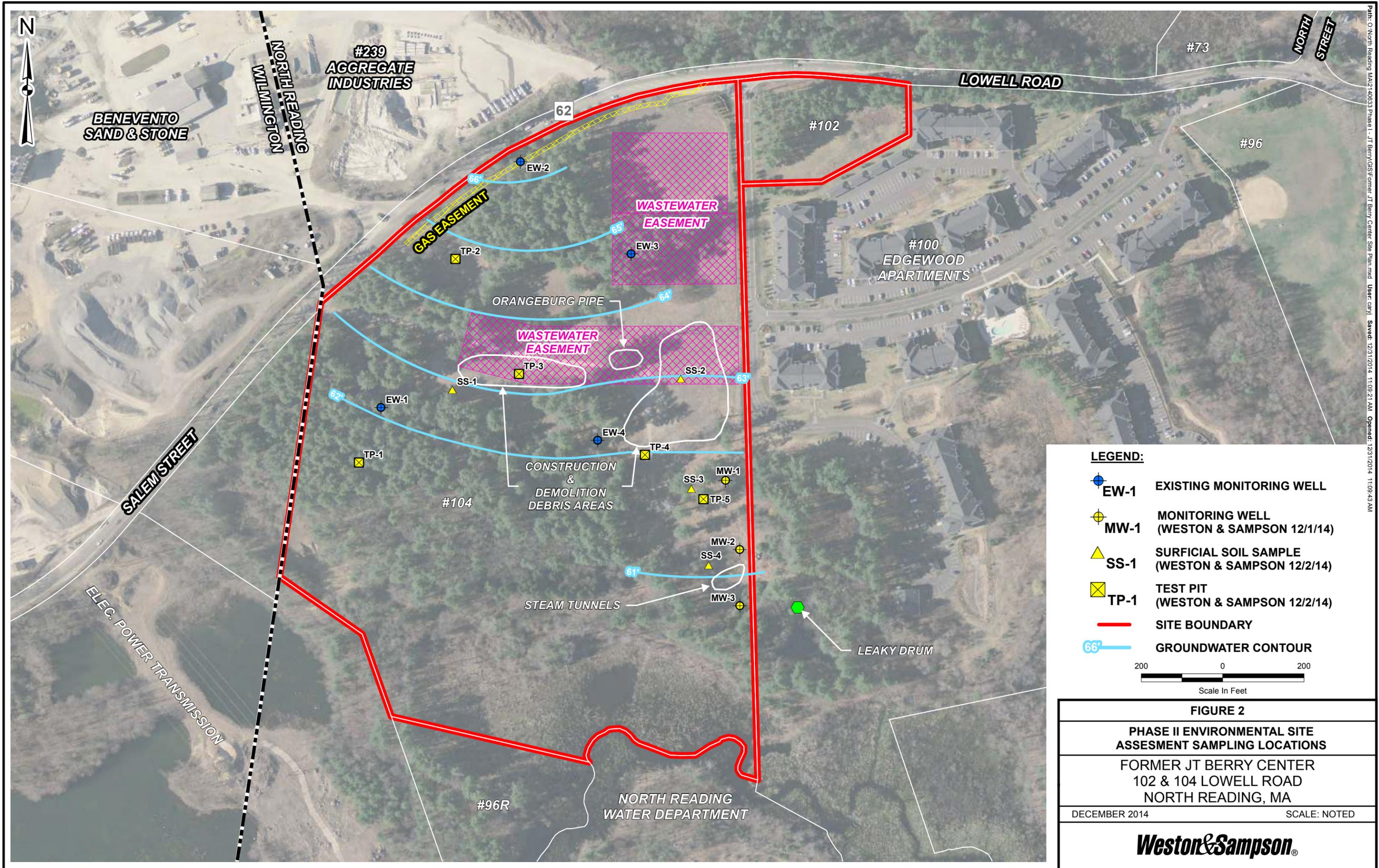


**FIGURE 1**  
**FORMER J.T. BERRY CENTER**  
**102 & 104 LOWELL ROAD**  
**NORTH READING, MASSACHUSETTS**



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**LEGEND:**

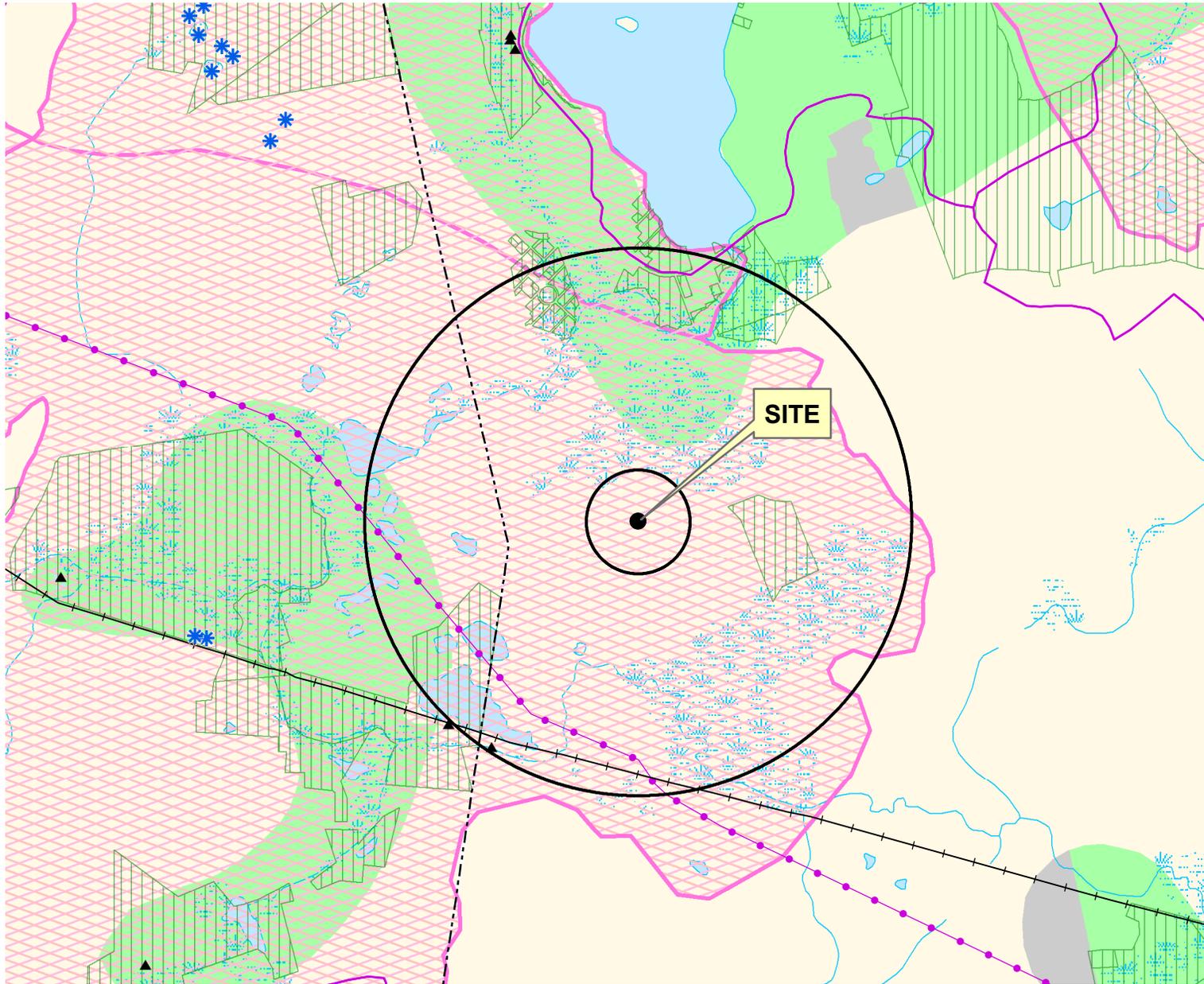
- EW-1 EXISTING MONITORING WELL
- MW-1 MONITORING WELL (WESTON & SAMPSON 12/1/14)
- SS-1 SURFICIAL SOIL SAMPLE (WESTON & SAMPSON 12/2/14)
- TP-1 TEST PIT (WESTON & SAMPSON 12/2/14)
- SITE BOUNDARY
- 66' GROUNDWATER CONTOUR

200 0 200  
Scale In Feet

**FIGURE 2**  
**PHASE II ENVIRONMENTAL SITE ASSESMENT SAMPLING LOCATIONS**  
 FORMER JT BERRY CENTER  
 102 & 104 LOWELL ROAD  
 NORTH READING, MA  
 DECEMBER 2014 SCALE: NOTED

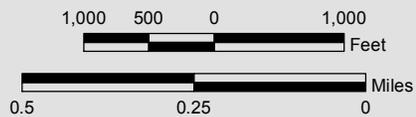
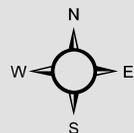
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**Legend**

- Town Boundaries
  - State Boundary
  - ▲ Ground Water
  - ▲ Surface Water
  - ▲ Non-Community
  - ★ NHESP Certified Vernal Pools
  - +— Railroads by Ownership
  - Pipeline
  - Pipeline Arbitrary Extension
  - Powerline
  - Powerline Arbitrary Extension
  - Ski Lift/Tramway
  - Substation
  - Landing Strip/Airport
  - ◆ Highway Exit Locations
- All Roads**
- Road Classification**
- Limited Access Highway
  - Multi-lane Hwy, not limited access
  - Other Numbered Highway
  - Major Road, Collector
  - Minor Road, Arterial
- Sub-basins
  - Major Basins
  - Solid Waste Facilities
  - Protected Open Space
  - ACECs
  - Zone A
  - IWPAs
  - DEP Approved Zone IIs
  - River, Stream, Shoreline
  - Water
  - Wetland
  - Sole Source Aquifers
  - NHESP Estimated Habitats of Rare Wildlife
  - NHESP Priority Habitats of Rare Species
- Non Potential Drinking Water Source Area**
- High Yield
  - Medium Yield
- Aquifers**
- High Yield
  - Medium Yield
- MA Towns (from Survey Points)**
- MA Towns (from Survey Points)



**Data Source:** Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

**Note:** Radii shown are approximately 500-feet and 1/2-mile from center of Site.

**FIGURE 3**

Area Receptors Map  
102 & 104 Lowell Road  
North Reading, Massachusetts



## TABLES

**Table 1**  
**Groundwater Elevations**  
**Former JT Berry Center -- 102 & 104 Lowell Road**  
**North Reading, Massachusetts**  
**December 8, 2014**

Location	Top of PVC Riser	Measured Depth to Groundwater	Groundwater Elevation
MW-1	93.93	32.35	61.58
MW-2	93.63	35.63	58.00
MW-3	89.08	28.25	60.83
EW-1	90.59	28.35	62.24
EW-2	100.00	33.63	66.37
EW-3	95.33	30.68	64.65
EW-4	94.93	32.82	62.11

O:\North Reading MA\2140633 Phase I - JT Berry\Phase II\Tables\[Table 1 - Groundwater Elevation.xlsx]Sheet1

**Notes:**

All elevations are in feet relative to mean sea level.

An arbitrary benchmark of 100 feet above mean sea level was set at EW-2.

**Table 2**  
**Summary of Soil Analytical Results - Disposal Characterization**  
**Former JT Berry Center – 102 & 104 Lowell Road**  
**North Reading, MA**  
**December 2, 2014**

Parameters	Units	COMM-97-001 Reuse & Disposal at Massachusetts Landfills		MCP Standards (1)			Sample ID	
		Lined Landfills	Unlined Landfills	S-1/GW-1	S-1/GW-3	RCS-1	SS-COMP	TP-3
<b>General Chemistry</b>								
Specific Conductance	umhos/cm	8000	4000	NS	NS	NS	<b>41</b>	<b>290</b>
Solids, Total	%	NS	NS	NS	NS	NS	<b>83.4</b>	<b>84.4</b>
<b>PCBs</b>								
Aroclor 1016	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1221	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1232	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1242	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1248	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1254	mg/kg	NS	NS	1	1	1	< 0.0386	<b>0.044</b>
Aroclor 1260	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1262	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Aroclor 1268	mg/kg	NS	NS	1	1	1	< 0.0386	< 0.0387
Total PCBs	mg/kg	NS	NS	1	1	1	< 0.0386	<b>0.044</b>
<b>SVOCs</b>								
Acenaphthene	mg/kg	NS	NS	4	1000	4	< 0.16	< 0.16
Fluoranthene	mg/kg	NS	NS	1000	1000	1000	<b>0.26</b>	<b>0.2</b>
4-Bromophenyl phenyl ether	mg/kg	NS	NS	NS	NS	100	< 0.2	< 0.19
Diethyl phthalate	mg/kg	NS	NS	10	300	10	< 0.2	< 0.19
Dimethyl phthalate	mg/kg	NS	NS	0.7	600	0.7	< 0.2	< 0.19
Benzo(a)anthracene	mg/kg	NS	NS	7	7	7	<b>0.16</b>	<b>0.12</b>
Benzo(a)pyrene	mg/kg	NS	NS	2	2	2	< 0.16	< 0.16
Benzo(b)fluoranthene	mg/kg	NS	NS	7	7	7	<b>0.21</b>	<b>0.12</b>
Benzo(k)fluoranthene	mg/kg	NS	NS	70	70	70	< 0.12	< 0.12
Chrysene	mg/kg	NS	NS	70	70	70	<b>0.16</b>	<b>0.12</b>
Acenaphthylene	mg/kg	NS	NS	1	10	1	< 0.16	< 0.16
Indeno(1,2,3-cd)Pyrene	mg/kg	NS	NS	7	7	7	< 0.16	< 0.16
Pyrene	mg/kg	NS	NS	1000	1000	1000	<b>0.21</b>	<b>0.16</b>
2,4,5-Trichlorophenol	mg/kg	NS	NS	4	600	4	< 0.2	< 0.19
<b>Metals</b>								
Arsenic	mg/kg	40	40	20	20	20	<b>7.6</b>	<b>8.9</b>
Cadmium	mg/kg	80	30	70	70	70	< 0.48	< 0.46
Chromium	mg/kg	1000	1000	100	100	100	<b>15</b>	<b>14</b>
Lead	mg/kg	2000	1000	200	200	200	<b>44</b>	<b>40</b>
Mercury	mg/kg	10	10	20	20	20	<b>0.114</b>	< 0.079
<b>VOCs 8260/5035</b>								
Methylene chloride	mg/kg	NS	NS	0.1	400	0.1	< 0.56	< 0.0079
Chloroform	mg/kg	NS	NS	0.4	500	0.2	< 0.084	< 0.0012
Carbon tetrachloride	mg/kg	NS	NS	10	30	5	< 0.056	< 0.0008
Dibromochloromethane	mg/kg	NS	NS	0.005	20	0.005	< 0.056	< 0.0008
1,1,2-Trichloroethane	mg/kg	NS	NS	0.1	40	0.1	< 0.084	< 0.0012
Tetrachloroethene	mg/kg	NS	NS	1	30	1	< 0.056	< 0.0008
Chlorobenzene	mg/kg	NS	NS	1	100	1	< 0.056	< 0.0008
Trichlorofluoromethane	mg/kg	NS	NS	NS	NS	1000	< 0.22	< 0.0032
1,2-Dichloroethane	mg/kg	NS	NS	0.1	20	0.1	< 0.056	< 0.0008
1,1,1-Trichloroethane	mg/kg	NS	NS	30	500	30	< 0.056	< 0.0008
1,4-Dioxane	mg/kg	NS	NS	0.2	20	0.2	< 5.6	< 0.032
<b>TPH</b>	mg/kg	5000	2500	1000	1000	1000	<b>147</b>	<b>59.9</b>

QC by JRS 12/29/14

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**ABBREVIATIONS:**

PCBs = Polychlorinated Biphenyls  
SVOCs = Semivolatile Organic Compounds  
VOCs = Volatile Organic Compounds  
mg/kg = milligrams per kilogram  
umhos/cm = micromhos per centimeter  
NS = No Standard  
NA = Not Analyzed  
ND = Not Detected  
MCP = Massachusetts Contingency Plan

**NOTES:**

< = parameters not detected above laboratory method detection limit, shown.  
(1) Analytical results compared to the Massachusetts Contingency Plan (MCP) Method 1 Cleanup Standards 310 CMR 40.0000, revised May 23, 2014  
**BOLD** Parameter detected above laboratory detection limit  
**BOLD** Parameter exceeds the Reportable Concentration standard  
For presentation not all undetected analytes are shown.

**Table 3**  
**Summary of Surficial Soil Analytical Results**  
**Former JT Berry Center -- 102 & 104 Lowell Road**  
**North Reading, Massachusetts**  
**December 2, 2014**

Parameters	Units	MCP Standards (1)			Sample ID			
		S-1/GW-1	S-1/GW-3	RC S-1	SS-1	SS-2	SS-3	SS-5
<b>PCBs</b>								
Aroclor 1016	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1221	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1232	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1242	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1248	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1254	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1260	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1262	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
Aroclor 1268	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
<b>Total PCBs</b>	mg/kg	1	1	1	< 0.0371	< 0.036	< 0.0376	< 0.0342
<b>Asbestos</b>	No Units	NS	NS	NS	NP	NP	NP	NP
<b>Total Lead</b>	mg/kg	200	200	200	<b>48</b>	<b>56</b>	<b>53</b>	<b>6</b>

QC by JRS 12/29/14

O:\North Reading MA\2140633 Phase I - JT Berry\Phase II\Tables\Table 3 Surf Soil.xlsx\Sheet2

**ABBREVIATIONS:**

PCBs = Polychlorinated Biphenyls  
mg/kg = milligrams per kilogram  
NS = No Standard  
NA = Not Analyzed  
ND = Not Detected  
NP = Not Present

**NOTES:**

< = parameters not detected above laboratory method detection limit shown.  
(1) Analytical results compared to the Massachusetts Contingency Plan (MCP) Method 1  
Cleanup Standards 310 CMR 40.0000, revised May 23, 2014  
**BOLD** Parameter detected above laboratory detection limit  
**BOLD** Parameter exceeds the Reportable Concentration standard

**Table 4**  
**Summary of Orangeburg Pipe Results**  
**Former JT Berry Center -- 102 & 104 Lowell Road**  
**North Reading, Massachusetts**  
**December 2, 2014**

Parameters	Units	Sample ID		
		Orangeburg-1	Orangeburg-2	Orangeburg-3
Asbestos	No Units	Present	Present	Present

QC by JRS 12/29/14

ading MA\2140633 Phase I - JT Berry\Phase II\Tables\[Table 4 - Orangeburg.xlsx]Sheet2

**NOTES:**

Present = Indicates that qualitative analysis detected the present of asbestos in the sample.

**Table 5**  
**Summary of Groundwater Analytical Results**  
**Former JT Berry Center -- 102 & 104 Lowell Road**  
**North Reading, Massachusetts**  
**December 8, 2014**

Parameters	Units	MCP Standards (1)			Sample ID						
		GW-1	GW-3	RC GW-1	DUP (EW-1)	EW-1	EW-2	EW-4	MW-1	MW-2	MW-3
<b>EPH</b>											
C9-C18 Aliphatics	µg/l	700	50000	700	< 100	< 100	< 100	< 100	< 100	< 100	< 100
C19-C36 Aliphatics	µg/l	14000	50000	14000	< 100	< 100	< 100	< 100	< 100	< 100	< 100
C11-C22 Aromatics	µg/l	NS	NS	NS	< 100	< 100	< 100	< 100	< 100	< 100	< 100
<b>PAHs</b>											
Naphthalene	µg/l	140	20000	140	NA	NA	NA	NA	< 0.4	< 0.4	< 0.4
2-Methylnaphthalene	µg/l	10	20000	10	NA	NA	NA	NA	< 0.4	< 0.4	< 0.4
Acenaphthylene	µg/l	30	40	30	NA	NA	NA	NA	< 0.4	< 0.4	< 0.4
<b>Metals</b>											
Antimony	µg/l	6	8000	6	< 3	< 3	< 3	< 3	NA	NA	NA
Arsenic	µg/l	10	900	10	< 5	< 5	< 5	< 5	NA	NA	NA
Barium	µg/l	2000	50000	2000	< 10	< 10	<b>40</b>	< 10	NA	NA	NA
Beryllium	µg/l	4	200	4	< 4	< 4	< 4	< 4	NA	NA	NA
Cadmium	µg/l	5	4	4	< 4	< 4	< 4	< 4	NA	NA	NA
Chromium	µg/l	100	300	100	< 10	< 10	< 10	< 10	NA	NA	NA
Lead	µg/l	15	10	10	< 10	< 10	< 10	< 10	NA	NA	NA
Mercury	µg/l	2	20	2	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA
Nickel	µg/l	100	200	100	< 25	< 25	< 25	< 25	NA	NA	NA
Selenium	µg/l	50	100	50	< 10	< 10	< 10	< 10	NA	NA	NA
Silver	µg/l	100	7	7	< 7	< 7	< 7	< 7	NA	NA	NA
Thallium	µg/l	2	3000	2	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA
Vanadium	µg/l	30	4000	30	< 10	< 10	< 10	< 10	NA	NA	NA
Zinc	µg/l	5000	900	900	< 50	< 50	< 50	< 50	NA	NA	NA
<b>Semivolatile Organics</b>											
1,2,4-Trichlorobenzene	µg/l	70	50000	70	< 5	< 5	< 5	< 5	NA	NA	NA
Bis(2-chloroethyl)ether	µg/l	30	50000	30	< 2	< 2	< 2	< 2	NA	NA	NA
2,4-Dichlorophenol	µg/l	10	2000	10	< 5	< 5	< 5	< 5	NA	NA	NA
2,4-Dimethylphenol	µg/l	60	50000	60	< 5	< 5	< 5	< 5	NA	NA	NA
2-Nitrophenol	µg/l	NS	NS	1000	< 10	< 10	< 10	< 10	NA	NA	NA
4-Nitrophenol	µg/l	NS	NS	1000	< 10	< 10	< 10	< 10	NA	NA	NA
2,4-Dinitrophenol	µg/l	200	20000	200	< 20	< 20	< 20	< 20	NA	NA	NA
Phenol	µg/l	1000	2000	1000	< 5	< 5	< 5	< 5	NA	NA	NA
2-Methylphenol	µg/l	NS	NS	5000	< 5	< 5	< 5	< 5	NA	NA	NA
3-Methylphenol/4-Methylphenol	µg/l	NS	NS	5000	< 5	< 5	< 5	< 5	NA	NA	NA
2,4,5-Trichlorophenol	µg/l	200	3000	200	< 5	< 5	< 5	< 5	NA	NA	NA
<b>Semi-volatile Organic Compounds</b>											
Acenaphthene	µg/l	20	10000	20	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA
2-Chloronaphthalene	µg/l	NS	NS	10000	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA
2-Methylnaphthalene	µg/l	10	20000	10	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA
Pentachlorophenol	µg/l	1	200	1	< 0.8	< 0.8	< 0.8	< 0.8	NA	NA	NA
Hexachlorobenzene	µg/l	1	6000	1	< 0.8	< 0.8	< 0.8	< 0.8	NA	NA	NA
Hexachloroethane	µg/l	8	50000	8	< 0.8	< 0.8	< 0.8	< 0.8	NA	NA	NA
<b>VOCs</b>											
Methylene chloride	µg/l	5	50000	5	< 2	< 2	< 2	< 2	NA	NA	NA
1,1-Dichloroethane	µg/l	70	20000	70	< 1	< 1	< 1	< 1	NA	NA	NA
Chloroform	µg/l	70	20000	50	< 1	< 1	< 1	< 1	NA	NA	NA
Benzene	µg/l	5	10000	5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA
Toluene	µg/l	1000	40000	1000	< 1	< 1	< 1	< 1	NA	NA	NA
Ethylbenzene	µg/l	700	5000	700	< 1	< 1	< 1	< 1	NA	NA	NA
Chloromethane	µg/l	NS	NS	1000	< 2	< 2	< 2	< 2	NA	NA	NA
Bromomethane	µg/l	10	800	7	< 2	< 2	< 2	< 2	NA	NA	NA
Vinyl chloride	µg/l	2	50000	2	< 1	< 1	< 1	< 1	NA	NA	NA
Chloroethane	µg/l	NS	NS	1000	< 2	< 2	< 2	< 2	NA	NA	NA
1,1-Dichloroethene	µg/l	7	30000	7	< 1	< 1	< 1	< 1	NA	NA	NA
trans-1,2-Dichloroethene	µg/l	100	50000	80	< 1	< 1	< 1	< 1	NA	NA	NA
Trichloroethene	µg/l	5	5000	5	< 1	< 1	< 1	< 1	NA	NA	NA
1,4-Dioxane	µg/l	0.3	50000	0.3	< 250	< 250	< 250	< 250	NA	NA	NA

QC by JRS 12/29/14

O:\North Reading MA\2140633 Phase I - JT Berry\Phase II\Tables\Table 5 - GW.xlsx\Sheet1

**ABBREVIATIONS:**

EPH = Extractable Petroleum Hydrocarbons  
SVOCs = Semivolatile Organic Compounds  
VOCs = Volatile Organic Compounds  
µg/l = micrograms per liter  
NS = No Standard  
NA = Not Analyzed  
ND = Not Detected  
MCP = Massachusetts Contingency Plan

**NOTES:**

< = parameters not detected above laboratory method detection limit shown.  
(1) Analytical results compared to the Massachusetts Contingency Plan (MCP)  
Method 1 Cleanup Standards 310 CMR 40.0000, revised May 23, 2014  
**BOLD** Parameter detected above laboratory detection limit  
**BOLD** Parameter exceeds the Reportable Concentration standard  
For presentation not all undetected analytes are shown.

## **APPENDIX A**

### Previous Investigations and Reports



**DAMES & MOORE**

A DAMES & MOORE GROUP COMPANY

**Prepared for:**

Commonwealth of Massachusetts  
Division of Capital Asset Management

**Prepared by:**

DAMES & MOORE, Inc.  
5 Industrial Way  
Salem, New Hampshire 03079

December 30, 1998  
PN: 29375-026:S19195

**PHASE I ENVIRONMENTAL  
SITE ASSESSMENT FOR  
J.T BERRY SCHOOL PROPERTY  
100 LOWELL ROAD AND BERRY WAY  
NORTH READING, MASSACHUSETTS**

## EXECUTIVE SUMMARY

Dames & Moore was retained by the Commonwealth of Massachusetts, Division of Capital Asset Management (Asset Management) to conduct a Phase I Environmental Site Assessment for the J.T Berry School property managed by Asset Management and located at 100 Lowell Road (Route 62) and Berry Way in North Reading, Middlesex County, Massachusetts (subject property).

The original J.T. Berry School, later called the J. T. Berry Rehabilitation Center, was reportedly constructed in the early 1900's and additional buildings were constructed on the property, as needed, over the last eight decades. The facility was opened as a Tuberculosis treatment center, and was later used as a care facility for the mentally handicapped. The school complex consists of former residences, classroom buildings, food service and recreational facilities, a power plant, maintenance facilities and a greenhouse complex. Two water towers and former sanitary wastewater filtration beds are also located on the property. The school was closed in the 1990's. At the time of this assessment the buildings on the subject property were unoccupied and boarded up. The access road into the property (Berry Way) is controlled by a full time security service, and the security services also conducts scheduled security inspections of the property.

The school complex is located on the south side of Route 62 (Lowell Road), to the east of Route 93, and to the west of Route 28. The subject property is located in a mixed commercial and residential area of North Reading.

Dames & Moore's Scope of Work for the Phase I Environmental Site Assessment consisted of a reconnaissance of the subject property and nearby area, a review of available regulatory information concerning the subject property and nearby properties of environmental concern, and preparation of a report detailing Dames & Moore's results, conclusions, and recommendations. Search radius distances for facilities of potential environmental concern in the vicinity of the subject property are in conformance with the ASTM Standard E1527-97.

Based on the review of available information, the following Recognized Environmental Conditions were found to be associated with the subject property:

- 1) Separate phase petroleum (No. 6 fuel oil) and petroleum-contaminated soil and ground water have been detected in the vicinity of the former 20,000-gallon No. 6 fuel USTs which were removed from the property in 1990. This site has been issued a Release Tracking Number (3-3557) and a Tier 1C Permit (Permit #136417) in accordance with the requirements of the MCP. According to the Tier 1C permit, a Response Action Outcome indicating that a condition of no significant risk has been achieved must be submitted to DEP by December 3, 2002.
  
- 2) Typical 275-gallon heating oil storage tanks were observed in the basement of Building # 2 and in the basement of Building # 14. Building # 4 is a residential structure similar to Buildings # 2 and # 14, and therefore may also have a heating storage tank located in the basement; however, Dames & Moore was unable to access the basement of Building #4 during this assessment.

It is our understanding that Asset Management has retained a consultant to (1) remove these tanks (2) excavate the remaining contaminated soil, and (3) conduct additional testing and remedial response actions, as necessary, to demonstrate that a condition of no significant risk has been achieved with respect to the No. 6 fuel oil release at the subject property, as required by the MCP.

Based on Dames & Moore's review of available information, no offsite sources with the potential to create a Recognized Environmental Condition on the subject property were identified.

Based on the age of construction, the buildings on the subject property may contain asbestos-containing building materials (ACM). Suspect ACM observed during the assessment included

floor tile, ceiling tile, mastic, roofing material, and pipe and mechanical-equipment insulation. Based on our observations, some of these materials are in poor condition, especially in those structures that were observed to be in structurally poor condition.

Sand filter beds formerly used to treat sanitary wastewater generated at the site are located on the subject property to the south of the school complex. The available information indicates that sludge and/or biomass was buried in one or more of the former sand filter beds at the site. The former concrete settling tanks associated with the on-site wastewater treatment facility may also still be present at the site, but evidence of the tanks is no longer apparent.

Labeled PCB-containing transformers are located outside the power plant and electrical switches that may contain PCBs are located in the basement of Building # 10. No evidence of a release to the environment was observed at these locations during this assessment.

Five 50-lb. containers of material labeled as "0.015 clear microcello" were observed in Building # 10, and several bags labeled as containing asbestos materials were observed in Building #13. No evidence of a release to the environment was observed to be associated with these containers or bags.

One very small area of stained soil was observed to be associated with an empty 55-gallon drum located southeast of the water towers. However, based on the limited extent of the stained soil, this release does not appear to represent a Recognized Environmental Condition.

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**FIGURES**

FIGURE 1 SITE LOCATION MAP  
FIGURE 2 SITE PLAN

**APPENDICES**

APPENDIX A SITE PHOTOGRAPHS  
APPENDIX B VISTA DATABASE SEARCH REPORT

## 1.0 INTRODUCTION

Dames & Moore was retained by the Commonwealth of Massachusetts, Division of Capital Asset Management (Asset Management) to conduct a Phase I Environmental Site Assessment of the property known as the J.T. Berry School located at 100 Lowell Street and Berry Way in North Reading, Massachusetts (subject property). The Phase I Environmental Site Assessment was conducted in general conformance with the American Society for Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (Standard Designation E 1527-97), published June 1997. The entire project was conducted in accordance with Dames & Moore's proposal dated September 23, 1998. The Phase I Environmental Site Assessment objectives, scope, and limitations are presented in the following sections.

### 1.1 OBJECTIVE

The objective of Dames & Moore's Phase I Environmental Site Assessment was to evaluate whether activities on or adjacent to the subject property may have resulted in significant contamination by hazardous materials or wastes, which is subsequently referred to in this report as a "Recognized Environmental Condition." A Recognized Environmental Condition is defined as:

"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."

## **1.2 SCOPE OF WORK**

Dames & Moore's Scope of Work for the Phase I Environmental Site Assessment consisted of a reconnaissance of the subject property and nearby area, a review of available regulatory information concerning the subject property and nearby properties of environmental concern, and preparation of a report detailing Dames & Moore's results, and conclusions. Search radius distances for facilities of potential environmental concern in the vicinity of the subject property are in conformance with the ASTM Standard E1527-97.

## **1.3 LIMITING CONDITIONS**

Dames & Moore's site reconnaissance included a walking observations of the subject property, and a drive-by observation of surrounding and adjacent properties, including those properties identified in the environmental database search as being a potential concern with respect to the subject property. Conditions which would limit Dames & Moore's ability to complete the Scope of Work were encountered during the performance of the Phase I Environmental Site Assessment. Several of the buildings on the subject property were observed to be in disrepair. Dames & Moore personnel did not enter buildings or portions of buildings that appeared to be structurally unsafe. Additionally, two garages at the subject property were boarded up such that access to the interior of these structures was not possible during this assessment

## **1.4 LIMITATIONS OF THE ASSESSMENT**

The Phase I Environmental Site Assessment was prepared in accordance with Dames & Moore's proposed Scope of Work. The work conducted by Dames & Moore is limited to the services agreed to with Asset Management and no other services beyond those explicitly stated should be inferred or are implied.

The conclusions presented in this report are professional opinions based solely upon Dames & Moore's visual observations of the site and the immediate site vicinity, and upon Dames & Moore's interpretations of the available historical information, conversations with personnel

## **2.0 SITE DESCRIPTION**

Information concerning the subject property was obtained from a site inspection conducted by Shelley Tamis of Dames & Moore on October 7, 1998, interviews with employees and representatives of the state, interviews with persons knowledgeable about the subject property, and review of the documents referenced in Section 7.0 of this report.

### **2.1 PHYSICAL LOCATION AND DESCRIPTION OF PROPERTY**

The subject property is located at 100 Lowell Street and Berry Way in North Reading, Middlesex County, Massachusetts. A site location map is presented as Figure 1. The J.T. Berry School complex is situated on approximately 85 acres. The complex includes nine major buildings and associated out buildings; however, most of the property consists of undeveloped land. The buildings include residences, classrooms, cafeteria and recreational facilities, a power plant, maintenance facilities and a greenhouse complex. Other structures include two water towers and sanitary waste water filtration beds. The J.T. Berry School was initially constructed at the turn of the century, with additional buildings constructed as needed, during the past eight decades. The facility was opened as a Tuberculosis treatment center, and was later used as a care facility for the mentally handicapped. The facility was closed in the 1990's. The subject property is located in a mixed residential and commercial area of North Reading.

### **2.2 ENVIRONMENTAL SETTING**

Environmental characteristics including topography, geology, and hydrogeology were evaluated based on site observations, published literature, and maps.

As shown on the Reading, and Wilmington, Massachusetts USGS topographic quadrangle maps, (Figure 1) the subject property occupies a small hill which ranges in elevation from approximately 70 to 100 feet above National Geodetic Vertical Datum (NGVD). Based on the regional topography, groundwater in the general vicinity of the subject property is expected to

flow to the south-southeast, eventually discharging to Martin's Brook which is a tributary to the Ipswich River. As shown on Figure 1, Martins Brook is located at the base of the hill occupied by the J.T. Berry school complex and flows to the east. Locally, groundwater is expected to flow radially away from the crest of the hill, which is occupied by the subject property. The J.T. Berry School complex is generally located along the south-facing portion of the hill near the crest, so ground water in the vicinity of the complex is expected to flow to the south towards Martin's Brook.

Based upon the USGS Bedrock Geologic Map of Massachusetts, 1983, the subject property is underlain by Sparpaers Pond Diorite; bedrock characterized as a complex of non-foliated medium-grained, equigranular, biotite, homblende, tonalite, and diorite.

According to the USGS Surficial Geology of the Reading Quadrangle, the surficial deposits in the vicinity of the subject property are classified as glaciofluvial deposits, with the flat-topped hills composed of sand and gravel. As shown on Figure 1, the area to the north and west of the subject property has been extensively mined for sand and gravel.

Based upon Dames & Moore's review of published information available from the United States Geological Survey, radon gas measurements in this area typically average greater than 4.0 picoCuries per liter of air (pCi/l). The EPA recommended action level for radon reduction is 4.0 pCi/L.

Based on a review of the available information, there is no evidence of oil or gas exploration or bedrock mining activities on or near the subject property.

### 3.0 SITE RECONNAISSANCE

Dames & Moore viewed the subject property on October 7, 1998. Weather conditions at the time did not interfere with the site reconnaissance. Dames & Moore's reconnaissance of the interiors of buildings was limited to areas that were considered readily accessible and safe to enter. Photographs taken during Dames & Moore's site inspection are provided in Appendix A.

#### 3.1 CURRENT USES OF THE PROPERTY

The subject property was observed to include nine major buildings with associated out buildings, a greenhouse complex, two water towers and wastewater sand filter beds. The buildings were observed to be unoccupied, generally vacant in fair to poor condition. Two of the garages were boarded up and could not be accessed during this assessment. Other buildings or portions of buildings, as noted below, did not appear to be structurally safe to enter and were not accessed during this assessment.

#### 3.2 EXTERIOR AND INTERIOR SITE OBSERVATIONS

The subject property was toured with the assistance Mr. Phil Schreiber of Asset Management. A site plan is provided as Figure 2.

##### BUILDING # 2

Building #2 is a two-story brick residential structure with a full basement. The building was vacant and in fair condition. A typical 275-gallon above ground heating oil storage tank was observed to be present in the basement of the building. A detached garage is associated with this structure; however, the garage was boarded up so that access to the interior was not possible at the time of the assessment.

#### BUILDING # 4

Building # 4 is a two-story wood-framed residential structure with a full basement. The building was vacant and in fair condition. The basement of this structure was not accessible during this assessment; however, an above ground heating oil storage tank may be present in the basement of the building based on our observation of the presence of above ground heating oil tanks in Building # 2 and Building # 14.

#### BUILDING # 6

Building #6 is a three-story brick structure. The structure was historically heated with steam. The building was formerly used for office space. The building was observed to be vacant and in fair condition at the time of this assessment.

#### BUILDING # 8

Building #8 is a three-story brick structure. The first floor was formerly used as a cafeteria. Floor drains and suspect asbestos containing materials (ACM) such as floor and ceiling tile were observed in the cafeteria area. The structure was historically heated with steam. The upper floors were formerly used for residential housing and/or classrooms. The building was vacant and in fair condition.

#### BUILDING # 10

Building #10 is a one-story brick structure with a full basement. The building included a classroom and gymnasium on the first floor. The basement includes an electrical room which contains switches that may contain PCBs. Potentially hazardous material in the form of five 50 lb. cardboard containers labeled as "0.015 clear microcello," (an unknown substance) were observed in the basement. The basement has a poured concrete floor. Suspect asbestos-containing materials were observed in the basement in the form of pipe insulation. The building was vacant and in fair condition.

### BUILDING # 12

Building #12 is a two-story brick residential structure with a full basement. The first floor was formerly used for classroom and kitchen space; patient housing (bedrooms) was located on the second floor. Suspect asbestos-containing materials including floor tile and pipe insulation were observed throughout the building. The structure was historically heated with steam. The building was vacant and in fair condition

### BUILDING # 13

Building #13 is a two-story wood-frame barn structure. The building contains the former basketball court, lockers, bleachers, and some furniture. Bags labeled as containing asbestos-containing materials were observed on the first floor of the building. The second floor, which consists of a balcony overlooking the basketball court, did not appear to be structurally safe and therefore was not accessed at the time of the assessment. The building was vacant and in poor condition.

### BUILDING # 14

Building #14 is a two-story brick residential structure with a full basement. The building was vacant and in fair condition. An above ground heating oil storage tank was observed to be present in the basement of the building.

### POWER PLANT

The power plant is a one-story brick building. Two 20,000-gallon # 6 fuel oil USTs, were formerly located immediately to the south of the power plant. These USTs were excavated and removed from the property in 1990. During the removal of the USTs, approximately 900 cubic yards of soil petroleum-impacted were excavated and asphalt batched at the site. The USTs were

replaced with two 15,000-gallon double-walled steel # 4 fuel oil tanks which are located within a concrete vault that was constructed below grade at the former location of the USTs on the south side of the power plant. The se tanks were removed on December 21, 1998 without incident. Transformers are located outside on the northwest side of the power plant building. The transformers are labeled as containing PCBs. Potential asbestos-containing materials were observed in the power plant building in the form of boiler and piping insulation. Four 55-gallon drums of suspect petroleum-contaminated soil cuttings are located to the south of the power plant. Also located south of the power plant is a small wooden structure formerly occupied by a carpenter's shop. The wooden structure was generally vacant.

### GREENHOUSE COMPLEX

The greenhouse complex consists of two greenhouse structures and a one-story wood-framed storage/garage building. The greenhouse buildings are vacant and in poor condition. The garage building was also vacant; however, a former vehicle service pit, which has been filled with sand, was observed in the garage. The pit could have formerly included a floor drain and/or a hydraulic lift.

### OTHER STRUCTURES

Two large water towers are located on the southern portion of the subject property. Southeast of the water towers, located on the south-facing slope of the hillside are piles of brush and debris. One empty 55-gallon drum (labeled as containing motor oil) was observed in this area. A petroleum odor and small area of stained soil (within the footprint of the drum) were observed to be associated with the drum. Additionally, a stockpile of bituminous asphalt-treated soil is located southeast of the power plant. This is reported to be the asphalt-treated petroleum-impacted soil that was excavated when the USTs were removed in 1990. Two fenced-in areas located east-southeast of the power plant were observed to contain former sanitary waste water sand filter beds.

### 3.2.1 Hazardous Substances and Wastes

No evidence of improper storage or use of chemicals was observed during this assessment; however, evidence of leaks and/or spills was observed in the form of a small potentially oil-stained area associated with a 55-gallon drum on the southern portion of the site. Additionally, a release of # 6 fuel oil into soil and ground water has been documented in the vicinity of the former USTs located south of the power plant. Although some petroleum-impacted soils were excavated and asphalt-batched at the site when the tanks were removed, subsequent investigation reports indicate that petroleum-impacted soil and ground water are still present in this general area of the subject property. Other potentially hazardous materials included the PCB-containing transformers and possibly the electrical switches in the basement of Building # 10; and an unknown granular substance stored in five fifty-pound containers also within Building # 10. Suspect asbestos-containing materials (ACM), were observed within several of the buildings in the form of pipe insulation and floor and ceiling tile.

### 3.2.2 Underground/Aboveground Storage Tanks

The following USTs and ASTs were identified at the subject property during this assessment:

#### Power Plant

- Two 15,000-gallon #4 heating oil USTs are located within a concrete vault located south of the power plant. Two 20,000-gallon # 6 heating oil USTs were excavated and removed from this location in 1990 along with approximately 900 cubic yards of petroleum-contaminated soil. Subsequent investigations indicated that petroleum-impacted soil and ground water are still present in this general area of the subject property.

#### Building # 2

- One typical residential heating oil AST is located in the basement of the structure.

### Buildings # 14

- One typical residential heating oil AST is located in the basement of the structure.

In addition, a residential heating oil AST may be located in the basement of Building # 4.

Asset Management reported that they have retained a consultant to remove the tanks listed above.

### **3.2.3 PCB-Containing Equipment**

Dames & Moore observed potential PCB-containing equipment in the form of transformers located along the exterior of the power plant, and electrical switches located in the basement of Building # 10.

### **3.2.4 Solid Waste**

Solid waste is not currently generated at the subject property. Other than several small piles of brush and miscellaneous domestic-type debris and the wastewater treated sludge/biomass (as discussed below), no evidence of on-site waste disposal (e.g. solid waste landfill) was observed or encountered during this assessment.

### 3.2.5 Drains and Sumps

Floor drains were observed in the basement of Building # 8 in the cafeteria. These floor drains likely discharged to the sand filter beds along with other sanitary waste water formerly generated at the site. A floor drain may also have been located within the vehicle servicing pit located with the garage building. The pit has been back filled with sand and therefore could not be examined.

### 3.2.6 Wastewater

No process water waste is currently generated at the subject property. Buildings at the J.T. Berry School reportedly discharged sanitary wastewater via gravity feed piping to concrete settling tanks which discharged to approximately 15 sand filter beds. The filter beds were reportedly underlain by piping which collected the filtered wastewater and fed it to a chlorine contact chamber. Treated effluent was reportedly discharged to a drainage ditch which reportedly discharged to Martin's Brook. In the late 1970's the piping from the sand filters was reportedly removed and the effluent was allowed to percolate through the sand filter beds into the underlying soil. Sludge from the concrete settling tanks and biomass from the filter beds were reportedly buried on-site in one or more of the filter beds. Two fenced-in areas containing sand filter beds were observed during this assessment. The beds appeared to be dry and inactive. The concrete settling tanks may still be present at the site, but evidence of the tanks is no longer apparent.

### 3.2.7 Wells

Groundwater monitoring wells are located in the vicinity of the former USTs at the power plant. These wells were advanced in 1991 by Hygienetics and in 1995 by TRC Environmental Corporation to assess soil and groundwater conditions in the vicinity of the former USTs. Water supply wells were not observed on the subject property; however, available information indicated that wells located on the property were used to supply water to the facility until municipal water was provided to the facility in 1988.

### **3.2.8 Pits, Ponds, and Lagoons**

No pits, ponds or lagoons were observed at the subject property. The sand filter beds were observed to be dry at the time of this assessment.

### **3.2.9 Other Physical Evidence of Contamination**

Other than the small stained soil area associated with an empty 55-gallon drum located south of the two water towers, no physical evidence of contamination was observed on the subject property at the time of this assessment.

### **3.2.10 Asbestos-Containing Material (ACM)**

Based on the age of the construction, the buildings at the site may contain asbestos-containing building materials. Dames & Moore observed the following suspect ACM during this assessment: floor tile, ceiling tile, mastic, roofing material, pipe and mechanical-equipment (e.g. boiler) insulation.

### **3.2.11 Radon**

The Generalized Geologic Radon Potential Map of the United States prepared by the U.S. Geological Surveys indicates average radon levels in the vicinity of the subject property are typically greater than 4.0 picoCuries per liter (pC/l); however actual levels can only be determined through testing. The EPA recommended action level is 4.0 pC/l.

## **3.3 CURRENT USES OF ADJOINING PROPERTIES**

The subject property is located in a mixed residential and commercial area of North Reading. To the north of the J.T. Berry School complex is Route 62 (Lowell Road), beyond which is undeveloped marsh, and grassland. To the south are undeveloped marsh, grass, and woodlands.

To the east of the complex are residential properties, and to the west is a sand and gravel quarrying operation.

#### **3.4 SURROUNDING PROPERTIES OF POTENTIAL ENVIRONMENTAL CONCERN**

Based on topography it is likely that ground water flows radially away from the crest of the hill which includes the J.T. Berry School complex. Buildings on the subject property are located near the crest and on the south-facing slope of the hill, therefore, potentially upgradient property is limited to an approximately one-quarter mile stretch of undeveloped property along Route 62. Therefore, it is unlikely that conditions at off-site properties would result in a Recognized Environmental Condition at the subject property.

#### **4.0 HISTORIC SITE AND SURROUNDING PROPERTY CONDITIONS**

The history of land use on and near the subject property was reviewed based on interviews, review of historic material, aerial photographs, and the other documents referenced in Section 7.0.

##### **4.1 CURRENT AND PRIOR OWNERSHIP**

The current owner of the subject property is listed in the North Reading Tax Assessor's office as The Commonwealth of Massachusetts. The site was developed as the J.T. Berry School in the early 1900's and was run by the Department of Mental Health (DMH). The complex was closed by the Commonwealth in the 1990's. Historical maps indicate that in the late 1800's the property was occupied by farm land.

##### **4.2 AERIAL PHOTOGRAPHS**

Aerial photographs of the subject site, on file at the Town of North Reading Assessors Office, were available for 1965 and 1972. Information observed from the photographs is summarized below:

1965: The site appears to be well maintained, and farm and woodland properties surrounding the site. The buildings, water towers and filter beds, appear similar to the present day configuration.

1972: The subject site appears to be generally the same as shown in the 1965 photograph.

## 5.0 REGULATORY AGENCY REVIEW

### 5.1 ENVIRONMENTAL DATABASES REVIEW

Dames & Moore reviewed information gathered from several environmental databases and presented in a report by VISTA Information Solutions, Inc (VISTA) to evaluate whether activities on or near the subject property have the potential to create a Recognized Environmental Condition on the subject property. VISTA reviews databases compiled by Federal, state, and local governmental agencies. The complete list of databases reviewed by VISTA is provided in VISTA's report, which is included in Appendix B. It should be noted that this information is reported as Dames & Moore received it from VISTA, which in turn reports information as it is provided in various government databases. It is not possible for either Dames & Moore or VISTA to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence. The databases searched and the information obtained is summarized below.

As discussed below, the subject property was identified in the databases reviewed as part of this assessment. The subject property was listed as a Massachusetts Location to be Investigated (Release Tracking # 3-00599) and as a Confirmed Disposal site (Release Tracking # 3-03557). The site was also list as a CERCLIS site where no further remedial action (NFRAP) is planned, and as a spill/leaking underground storage tank site; these listings related to the state listings, respectively.

#### 5.1.1 Federal NPL List

The EPA's National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for sites within one mile of the subject property. To appear on the NPL, sites must have met or surpassed a predetermined hazard ranking system score, been chosen as a state's top priority site, pose a significant health or environmental threat, or be a site where the EPA has

determined that remedial action is more cost-effective than removal action. No NPL sites were identified within one mile of the subject property.

### **5.1.2 Federal CERCLIS List**

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to identify if site(s) within 1/2-mile of the subject property are listed for investigation. The CERCLIS database identifies hazardous waste sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment. Other than the subject property, no CERCLIS sites were identified within 1/2-mile of the subject property. The subject property is listed in the CERCLIS environmental database as a site where No Further Remedial Action is Planned (NFRAP), and is discussed in detail below.

### **5.1.3 Federal NFRAP List**

The EPA's No Further Remedial Action Planned Sites (NFRAP) listing was reviewed to identify if NFRAP sites are located within 1/2-mile of the subject property. NFRAP sites are sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require NPL consideration. The subject site was listed as a NFRAP site. No other NFRAP sites were identified within 1/2-mile of the subject property.

Dames & Moore was provided with a TRC Environmental Corporation (TRC) LSP evaluation opinion and Environmental Assessment Report for the subject property by Asset Management. The report indicates that the subject property was initially investigated by the U.S. Environmental Protection Agency (EPA) as part of a statewide inventory of surface impoundments. The EPA Preliminary Assessment report indicated that the waste water treatment facility at the subject property was discharging chlorinated sludge to an unnamed brook that discharges to Martin's Brook; when in actuality, the waste water treatment facility was discharging disinfected (i.e. chlorinated) filtered waste water to a drainage ditch that

discharges to an unnamed brook that discharges to Martin's Brook. As a result of this inaccurate report, the subject property was listed by EPA as a CERCLIS site and by the Massachusetts DEP as a Location To Be Investigated. The site was assigned Release Tracking # 3-0599 by the DEP.

TRC investigated the wastewater treatment facility in 1995 and, as part of the investigation, confirmed that the waste water treatment facility was disinfecting the filtered water by treating the water with 1.4 gallons per day of a sodium hypochlorinate solution prior to discharging the water to the drainage ditch. TRC also collected sediment samples from the drainage ditch at the location downstream from the former outfall and at several locations along the unnamed brook for volatile organic compound (VOCs) analysis. No VOCs were detected in these samples. Based on the findings of the investigation, TRC concluded that the "waste water treatment facility (RTN 3-0599) is not a disposal site where a release of oil and/or hazardous material has occurred which is subject to the notification requirements of 310 CMR 40.0300 and no further response actions are required for chlorinated substances." DEP currently lists the status of RTN 3-0599 as No Further Action Required.

#### **5.1.4 Federal RCRA Lists**

The current RCRIS TSD List was reviewed to identify if RCRA treatment, storage, or disposal sites (TSDs) are within one mile of the subject property. The database search did not identify RCRA TSD facilities within 1-mile of the subject property.

The RCRA-regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjacent to the subject property. The presence of a RCRA generator does not necessarily indicate the presence of environmental condition on the subject property, but identifies the potential for environmental impacts. The database search identified no small quantity RCRA hazardous waste generator within a 1/8-mile radius of the subject property.

### **5.1.5 Federal ERNS List**

A database search of the EPA's Emergency Response Notification System (ERNS), which lists reported spills of oil and hazardous substances, did not identify the subject property as ERN site.

### **5.1.6 Massachusetts Hazardous Waste Sites**

The Massachusetts Hazardous Waste Sites (HWS) list was reviewed for sites within 1/2 miles of the subject property. The Massachusetts HWS list identified Confirmed Disposal Sites and Locations To Be Investigated, which includes sites that are deemed potentially hazardous by the MA DEP. Review of the database search report indicated that other than the subject property which is listed as a Location To Be Investigated (RTN) 3-599 and is a Confirmed Disposal Site (RTN 3-03557), no hazardous waste sites were identified within a one-half mile radius of the subject property. The subject property is listed as a Location To Be Investigated as a result of a EPA Preliminary Assessment report (See Section 5.1.3). The subject property is listed as a Confirmed Disposal site as a result of the documented release of No. 6 fuel oil from the USTs formerly located south of the power plant at the subject property (See Section 5.1.8)

### **5.1.7 Solid Waste Disposal Facilities**

The State inventory of Solid Waste Facilities (SWF) was reviewed to assess whether reported SWF sites are located within a 1/2-mile radius of the subject property. No SWF sites were identified within a 1/2-mile radius of the subject property.

### **5.1.8 State Leaking UST Sites**

The subject property is listed as a leaking UST site and Confirmed Disposal site as a result of the release of No. 6 fuel oil which was discovered when the USTs located near the power plant were removed in 1990. The release tracking number for the site is 3-003557. The release is documented in a reported completed by TRC Environmental Corporation (TRC) titled Phase I

Initial Site Investigation Report J.T. Berry Rehabilitation Center, North Reading, Massachusetts, dated August 2, 1997. A copy the report was provided the report to Dames & Moore by Asset Management.

The TRC report describes the release associated with USTs formerly located in the vicinity of the power plant. In April 1990, two 20,000 gallon USTs were removed from the vicinity of the power plant. During the removal, petroleum-impacted soils were observed in the excavation. As a result, the Massachusetts Department of Environmental Protection (DEP) issued a Notice of Responsibility to the J.T. Berry Rehab Center on May 8, 1990. Approximately 900 cubic yards of soil were removed from the excavation, recycled onsite into bituminous asphalt and stockpiled in the vicinity of the power plant. During this time, the tanks were replaced with two 15,000-gallon, double-walled steel tanks placed in a concrete vault. The DEP listed the site as a confirmed disposal site on April 15, 1991 and assigned a release tracking number of 3-3557.

In July of 1991, Hygienetics, Inc. installed four groundwater-monitoring wells as part of a Preliminary Site Assessment and Limited Site Investigation. Approximately three feet of fuel oil was observed in the well (MW-1) which was installed closest to the former tank location, and relatively low concentrations of dissolved petroleum constituents were detected in each monitoring well. The ground water sample from well MW-5, the well located furthest downgradient from the former USTs, had a total volatile organic compound concentration of 28 parts per billion (ppb).

In February 1993, H+GCL, Inc collected ground water samples from the existing monitoring wells and detected 1.5 feet of fuel oil in well MW-1. Total petroleum hydrocarbons (TPH) at 500#ppb and 5 benzene at 5#ppb were detected in the ground water sampled obtained.

In July 1995, TRC sampled MW-5 for VOCs and polycyclic aromatic hydrocarbons (PAHs), and only benzene was detected at a concentration of 0.4 ppb.

TRC installed additional monitoring wells in the vicinity of the former USTs in September 1995. The conditions encountered in these wells were similar to the conditions encountered in the existing wells. Approximately one foot of fuel oil was detected in the monitoring wells installed nearest to the former UST location. However, benzene, toluene, ethylbenzene, and xylenes (BTEX), PAHs, and TPH were not detected in the downgradient wells. In 1997, TRC measured fuel oil in the two monitoring wells located nearest to the former UST location. DEP issued the site a Tier 1C permit under the Massachusetts Contingency Plan (MCP) on December 3, 1997. The permits expires on December 3, 2002.

One other leaking UST site was identified within 1/2-mile of the subject property. The site is located approximately 1/4-mile to the west of the subject property and a release of oil from the UST was reported at that location in February 1998. The available information indicates that a Response Action Outcome has been achieved for the release in accordance with the requirements of the MCP. Based upon distance from the subject property, the reported RAC achieved for the release and the inferred direction of groundwater flow in the vicinity of the subject property, it is Dames & Moore's opinion that conditions at the location of this release would not result in a Recognized Environmental Condition at the subject property.

#### **5.1.9 Registered UST Sites**

The Massachusetts Registered UST list was reviewed to assess whether USTs are located within a 1/4-mile radius of the subject property. The presence of USTs does not necessarily indicate the presence of environmental conditions, but identifies the potential for future environmental impacts. No UST sites were identified within a 1/4-mile radius of the subject property.

#### **5.1.10 Other Information**

Dames & Moore reviewed the list of Unplottable Sites, which are sites that have not been geocoded based on lack of sufficient data regarding their exact location within the general area. The review of this list, coupled with a windshield survey of the site vicinity, did not identify off-

site facilities/properties that are likely to create a Recognized Environmental Condition on the subject property.

## 5.2 REGULATORY AGENCY CONTACT

During the performance of an environmental assessment, federal, state and local regulatory agencies having jurisdiction over the subject property are contacted to identify the following information: the status of relevant environmental permits; whether there has been violations, or other similar correspondence from such agencies; whether corrective action or remediation is planned, currently taking place, or has been completed at the subject property; whether there have been reported violations or complaints that the subject property is not in compliance with environmental laws, regulations, or standards, and whether the subject property is under investigation for such non-compliance; whether the subject property is listed on regulatory databases; and whether there is other pertinent documentation on file with such regulatory agencies regarding the subject property or surrounding sites of concern. Regulatory agencies contacted and a summary of the information obtained from these agencies is included in the following sections.

### Massachusetts Department of Environmental Protection

Dames & Moore visited the MADEP Northeast Regional Office to review the Graphic Information System (GIS) map and determine whether the site is located within a GW-1 groundwater zone. According to the current version of the MCP, the GW-1 classification applies if one or more of the following criteria are met: the site is located within an area mapped as Zone II for a public water supply; the site is located within an area mapped as an Interim Wellhead Protection Area for a public water supply; the site is located within an area mapped as a Potentially Productive Aquifer; the site is located within an area mapped as Zone A of a Class A surface water body used as a public water supply; or the property at any point is located 500 feet or more from a public water supply distribution pipeline, or the property at any groundwater sampling point is located within 500 feet of a private water supply well. Based upon Dames &

Moore's research, the subject property is located within an area mapped as Zone II for a public water supply; therefore, the subject property is considered to lie within a GW-1 zone.

When the T.J. Berry Rehabilitation Center was in operation, it reportedly maintained its own water supply wells. However, according to the town, the facility was connected to the municipal water supply system in 1988, and use of the on-site water supply wells was terminated. The municipal water supply line is reportedly located along Berry Way. According to the town, there are no private water supply wells located within 500 feet of the subject property; however, there are two public water supply wells located approximately 1,850 feet southwest of the subject property.

#### North Reading Assessors Office

The subject site is listed as being owned by the Commonwealth of Massachusetts, and is shown on Map 14 as parcel 9 in the Town of North Reading Assessor's office. The parcel totals approximately 85 acres, and is zoned as "industrial office".

#### North Reading Fire Department

A Dames & Moore representative talk via telephone with Deputy Chief Brady of the North Reading Fire Department regarding spills, leaks, fires, and USTs, at the subject property. Deputy Chief Brady indicated that his records did not include reports of spills, fires, or leaks. He was aware of the UST removal, in 1990, and indicated that a representative of the Fire Department was present when the tanks were removed.

#### North Reading Office of Planning and Engineering

The Planning and Engineering Department did not maintain a file on the subject property.

North Reading Board of Health

Dames & Moore visited the North Reading Board of Health regarding the subject property. The Board of Health does not maintain a file on the subject property.

## 6.0 CONCLUSIONS

Dames & Moore conducted a Phase I Environmental Site Assessment of the J.T. Berry School complex located at 100 Lowell Road and Berry Way in North Reading, Middlesex County, Massachusetts (subject property) to evaluate the potential for Recognized Environmental Conditions to exist from onsite or offsite activities. Dames & Moore's conclusions are presented below.

### 6.1 ONSITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on the review of available information, the following Recognized Environmental Conditions were found to be associated with the subject property:

- 1) Separate phase petroleum (No. 6 fuel oil) and petroleum-contaminated soil and ground water have been detected in the vicinity of the former 20,000-gallon No. 6 fuel USTs which were removed from the property in 1990. This site has been issued a Release Tracking Number (3-3557) and a Tier 1C Permit (Permit #136417) in accordance with the requirement of the MCP. According to the Tier 1C permit, a Response Action Outcome indicating that a condition of no significant risk has been achieved must be submitted to DEP by December 3, 2002.
- 2) Typical 275-gallon heating oil storage tanks were observed in the basement of Building # 2 and in the basement of Building # 14. Building # 4 is a residential structure similar to Buildings # 2 and # 14, and therefore may also have a heating storage tank located in the basement; however, Dames & Moore was unable to access the basement of Building #4 during this assessment.

It is our understanding that Asset Management has retained a consultant to (1) remove these tanks (2) excavate the remaining contaminated soil, and (3) conduct additional testing and

remedial response actions, as necessary, to demonstrate that a condition of no significant risk has been achieved with respect to the No. 6 fuel oil release at the subject property, as required by the MCP.

## **6.2 OFFSITE RECOGNIZED ENVIRONMENTAL CONDITIONS**

Based on Dames & Moore's review of available information, no offsite sources with the potential to create a Recognized Environmental Condition on the subject property were identified.

## **6.3 OTHER ISSUES**

Based on the age of construction, the buildings may contain asbestos-containing building materials (ACM). Suspect ACM observed during the assessment included floor tile, ceiling tile, mastic, roofing material, and pipe and mechanic-equipment insulation. Based on our observations these materials may be in poor condition, especially in those structures that were observed to be in structurally poor condition.

Sand filter beds formerly used to treat sanitary wastewater generated at the site are located on the subject property to the south of the school complex. The TRC report indicates that sludge and/or biomass was buried in one or more of the former sand filter beds at the site. The former concrete settling tanks associated with the on-site wastewater treatment facility may also still be present at the site, but evidence of the tanks is no longer apparent.

PCB-containing transformers are located outside the power plant and electrical switches that may contain PCBs are located in the basement of Building # 10. No evidence of a release to the environment was observed at these locations during this assessment.

Five 50-lb. containers of material labeled as "0.015 clear microcello" were observed in Building # 10, and several bags labeled as containing asbestos materials were observed in Building # 13.

No evidence of a release to the environment was observed to be associated with these containers or bags.

One very small area of stained soil was observed to be associated with an empty 55-gallon drum located southeast of the water towers. However, based on the limited extent of the stained soil, this release does not appear to represent a Recognized Environmental Condition.

## 7.0 REFERENCES

### References:

USGS Topographic Quadrangle, Reading, Massachusetts, 1987.

USGS Surficial Geology Quadrangle, Reading, Massachusetts. 1962.

USGS Bedrock Geological Map of Massachusetts, 1983.

VISTA Assessment Report, October 6, 1998, Report #: 293751007.

North Reading Zoning Map, 1995.

North Reading Assessor's Field Cards and Map, 9.

"Phase I Initial Site Investigation Report," TRC Environmental Corporation, J.T. Berry Rehabilitation Center, North Reading, Massachusetts, dated August 2, 1997.

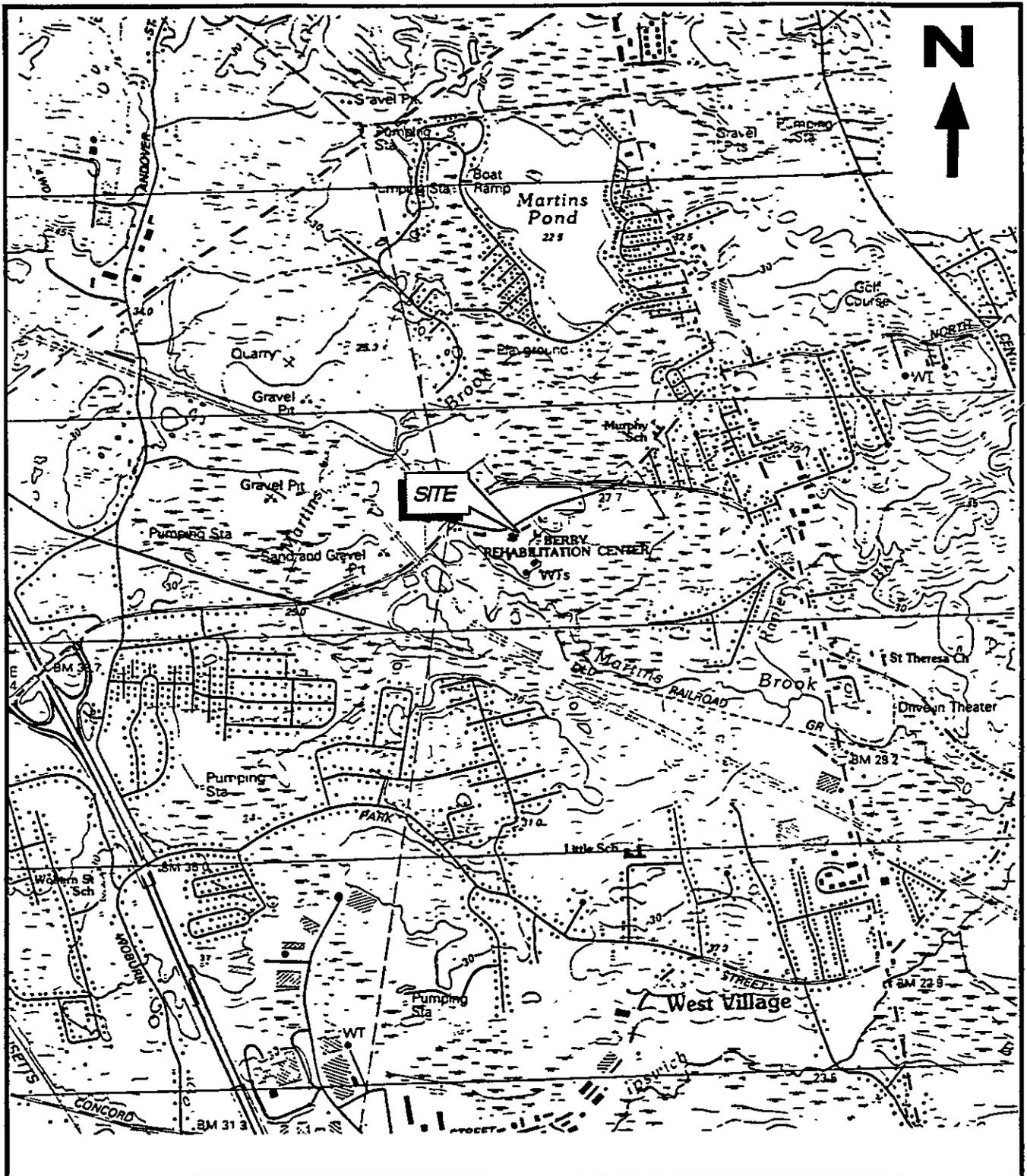
"Site Assessment Report," Vista Information Solutions, Inc., October 6, 1998.

"Environmental Assessment Report, J.T. Berry Rehabilitation Center Wastewater Treatment Facility, Lowell Road, North Reading, MA."

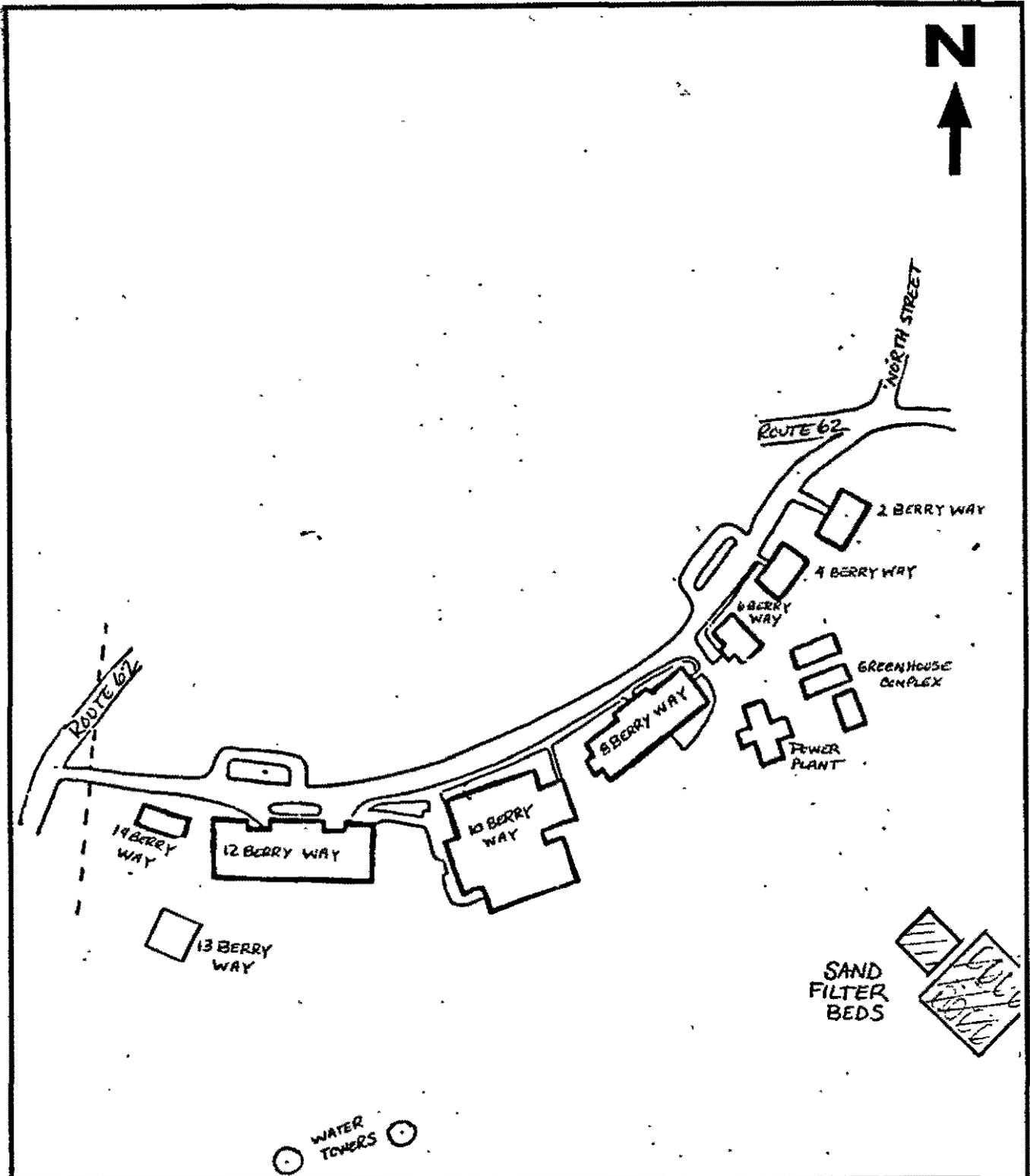
"Environmental Assessment Report" TRC Environmental Corporation, August 1, 1995.

"Tier 1 Permit," Massachusetts Department of Environmental Protection; December 9, 1997.





<p>Scale: 1:25000 - Metric</p> <p>BASE MAP SOURCE: USGS 7.5 X 15 Minute Topographic Quadrangle Map: Reading, MA, 1987.</p>	<p><b>Figure 1</b></p> <p>Site Location Map</p>
	<p><b>Client: Division of Capital Asset Management</b></p>
	<p>Phase I - Environmental Site Assessment</p> <p>J.T. Berry School</p> <p>Berry Way</p> <p>North Reading, Massachusetts</p>
	<p>Job No.: 29375-026-211</p> <p style="text-align: right;">DAMES &amp; MOORE</p>



**Figure 2**  
Site Plan

**Client: Division of Capital Asset Management**  
Phase I - Environmental Site Assessment  
J.T. Berry School  
Berry Way  
North Reading, Massachusetts

Scale: Not to scale  
Source: Kevin Keenan - Commonwealth of Massachusetts



**APPENDIX A**  
**SITE PHOTOGRAPHS**



Photo 1 # 4 Berry Way



Photo 2 # 10 and # 12 Berry Way

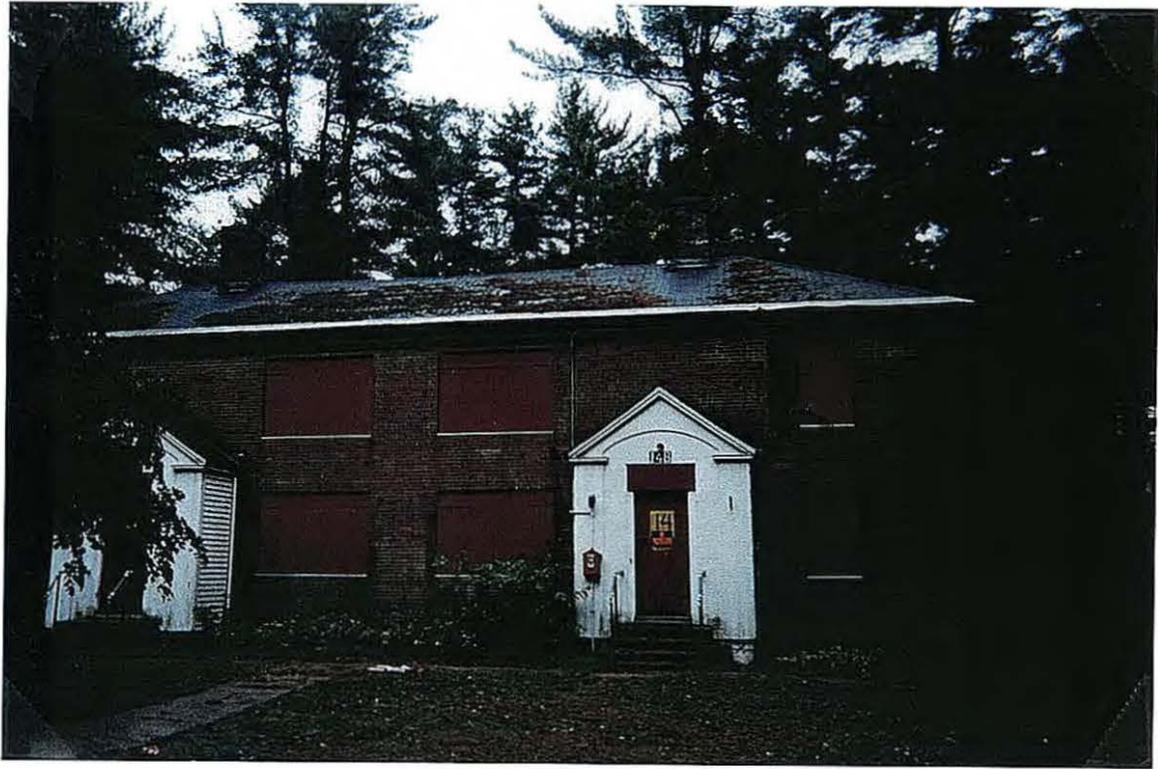


Photo 3 #14 Berry Way



Photo 4 Power Plant



Photo 5 Transformers Next to Power Plant



Photo 6 # 13 Berry Way



**Photo 7 Water Towers**



**Photo 8 Sand Filter Beds**

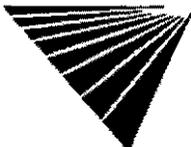


**APPENDIX B**  
**VISTA DATABASE SEARCH**

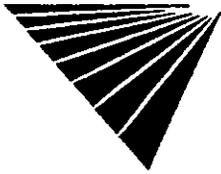
# SITE ASSESSMENT REPORT

PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided Former J.T. Berry School Berry Street N. Reading, MA 01864 Latitude/Longitude: ( 42.583041, 71.125964 )	

Site Distribution Summary	within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
<b>Agency / Database - Type of Records</b>				
<b>A) Databases searched to 1 mile:</b>				
US EPA NPL National Priority List	0	0	0	0
US EPA CORRACTS RCRA Corrective Actions and associated TSD	0	0	0	0
STATE SPL State equivalent priority list	0	0	0	0
<b>B) Databases searched to 1/2 mile:</b>				
STATE SCL State equivalent CERCLIS list	1	0	0	-
US EPA CERCLIS / NFRAP Sites currently or formerly under review by US EPA	1	0	0	-
US EPA TSD RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE LUST Leaking Underground Storage Tanks	0	0	1	-
STATE SWLF Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
<b>C) Databases searched to 1/4 mile:</b>				
STATE UST Registered underground storage tanks	0	0	-	-
<b>D) Databases searched to 1/8 mile:</b>				
US EPA ERNS Emergency Response Notification System of spills	0	-	-	-
US EPA LG GEN RCRA registered large generators of hazardous waste	0	-	-	-
US EPA SM GEN RCRA registered small generators of hazardous waste	0	-	-	-
STATE SPILLS State spills list	0	-	-	-

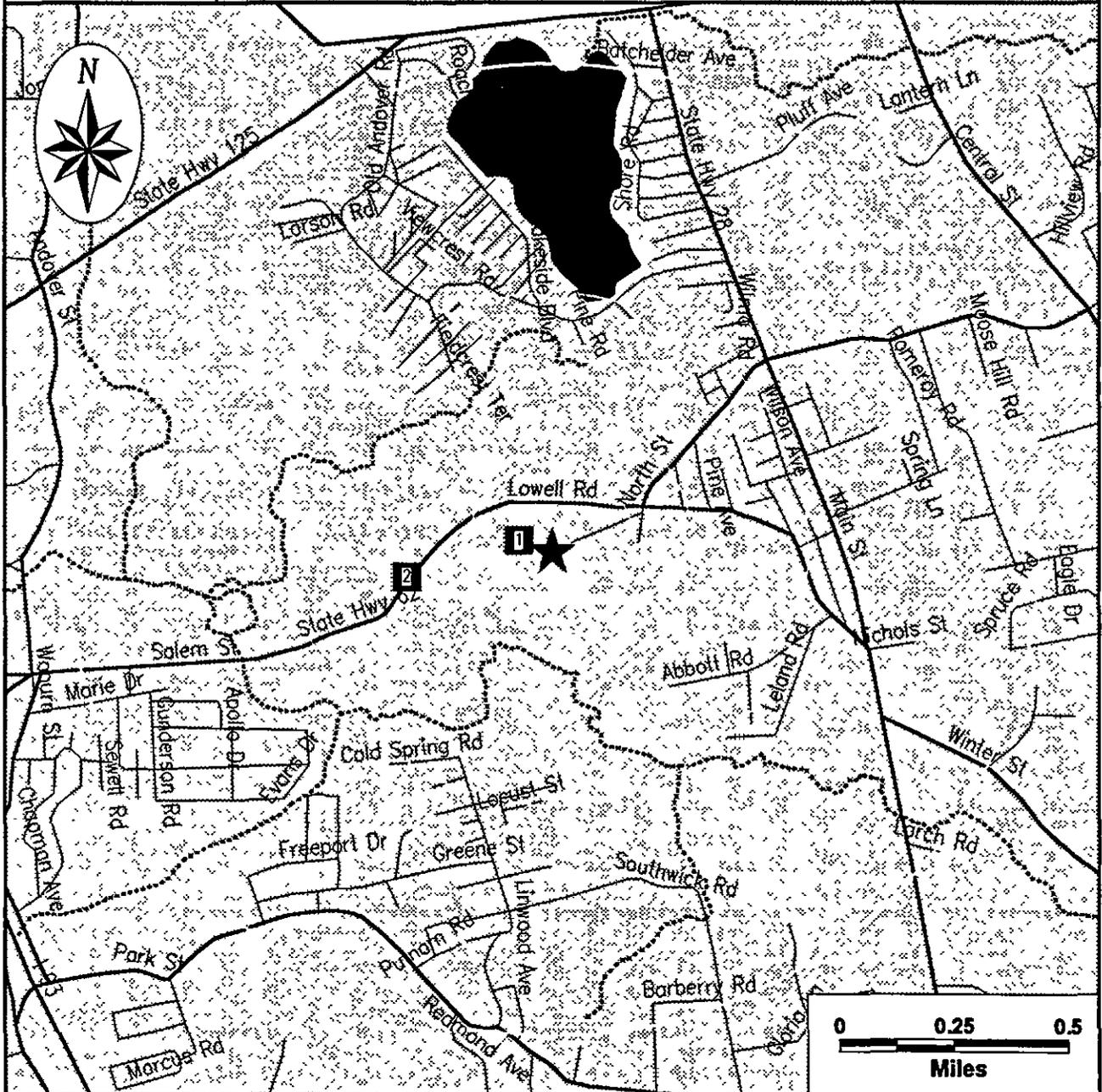






# SITE ASSESSMENT REPORT

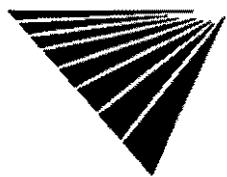
## Map of Sites within 1 Mile



Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	▲	●
	Multiple Sites	◆	■	▲	●
	Highways and Major Roads	NPL, SPL, CORRACTS (TSD)	CERCLIS\ NFRAP, TSD, LUST, SWLF, SCL	UST	ERNS, GENERATORS
	Roads				
	Railroads				
	Rivers or Water Bodies				
	Utilities				

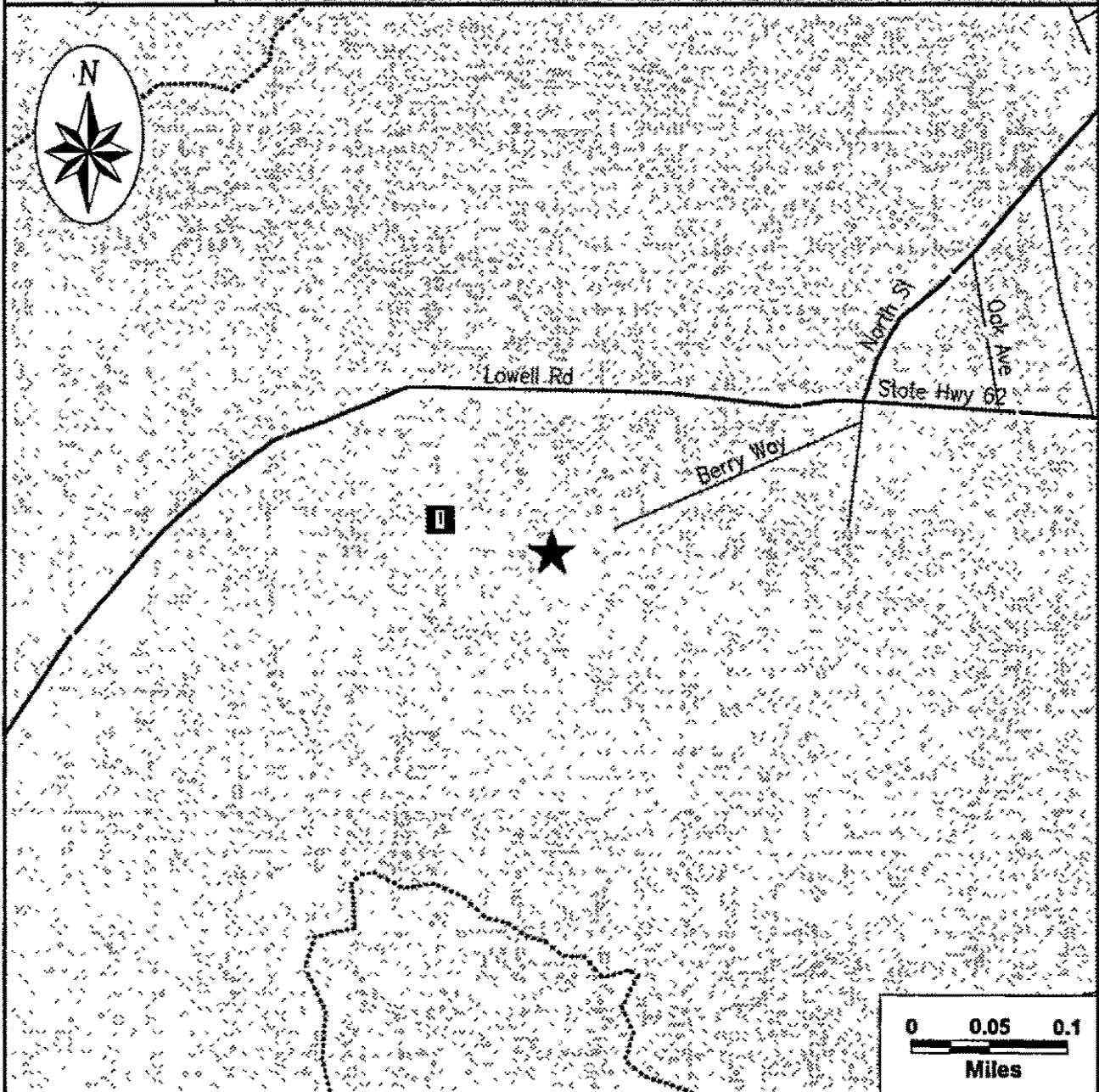
For More Information Call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403  
 Report ID: 293751007

Date of Report: October 6, 1998

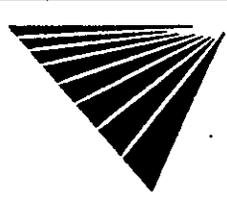


# SITE ASSESSMENT REPORT

## Map of Sites within 1/4 Mile

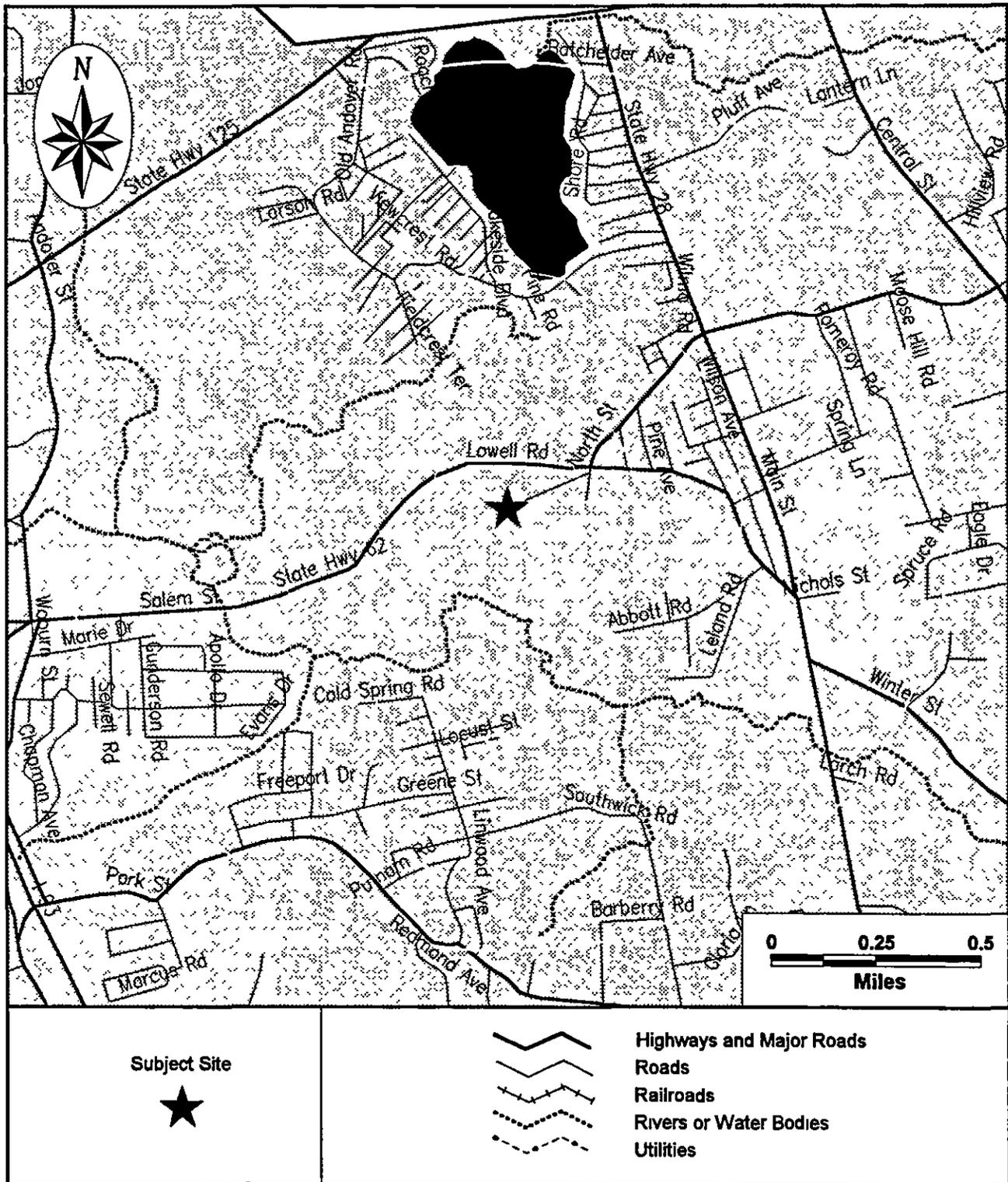


<b>Subject Site</b> 	<b>Category:</b> <b>Databases Searched to:</b>	<b>A</b> 1 mi. 	<b>B</b> 1/2 mi. 	<b>C</b> 1/4 mi. 	<b>D</b> 1/8 mi. 
	<b>Single Sites</b> <b>Multiple Sites</b>	 NPL, SPL, CORRACTS (TSD)	 CERCLIS/ NFRAP, TSD, LUST, SWLF, SCL	 UST	 ERNS, GENERATORS
Highways and Major Roads Roads Railroads Rivers or Water Bodies Utilities					



# SITE ASSESSMENT REPORT

## Street Map



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# SITE ASSESSMENT REPORT

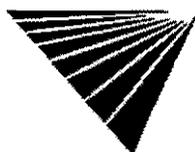
## SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D			
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN	SM GEN
1	JOHN BERRY REHABILITATION CENTER LOWELL STREET NORTH READING, MA 01864	1862573 0.01 MI W				X	X							

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN
No Records Found													

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D			
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN	SM GEN
2	RTE 62 HEFFRON 800 SALEM ST WILMINGTON, MA 01887	7413698 0.26 MI W							X					

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN
No Records Found													



X = search criteria; \* = tag-along (beyond search criteria).

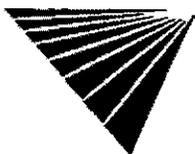
For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.  
Report ID: 293751007

Date of Report: October 6, 1998

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UNMAPPED SITES	VISTA #	A			B			C		D			
		NPL	CORRACTS(TSD)	SPL	SCL	CE/CULS/IN/HP	TSD	LUST	SWLF	UST	ERMS	LG GEN	SM GEN
JT BERRY REHAB RT 62 NORTH READING, MA 01864	957380				X		X						X
NO INTERMEDIATE SCHOOL SALEM ST WILMINGTON, MA 01887	2704276						X						
WILMINGTON DUMP SALEM ST WILMINGTON, MA 01887	6731601							X					
HEFFRON MATERIALS SALEM ST WILMINGTON, MA 01887	191380								X				
HOOD SCHOOL HAVERHILL ST. NORTH READING, MA 01864	2697697						X						
QUINN D L CO INC NATSUE WAY MIDDLETON, MA 01949	344827						X						
MASS DPW WEST ST WILMINGTON, MA 01887	3582451						X						
BOSTON MAINE CORP MAINT HQ MAIN ST WILMINGTON, MA 01887	849596								X				
WILMINGTON LANDFILL BALLARDVALE ST WILMINGTON, MA 01887	1858748							X					
OF RTE. 62 POLICE DEPARTMENT WILMINGTON, MA 01887	2701898						X						
WILMINGTON COMPOST SITE OLD MAIN ST WILMINGTON, MA 01887	6634485							X					
SHAWSHEEN ELEMENTARY SCHOOL RTE #129 WILMINGTON, MA 01887	2703229						X						
NORTHEAST DEVELOPMENT INTERSECTION OF RT 129 AND RT WILMINGTON, MA 01887	6069999						X						
TOWN OF WILMINGTON WILDWOOD ST SCHOOL WILMINGTON, MA 01887	6070088						X						
GULF TANKER SPILL RTE 93 N STA 81 MM 30.7 WILMINGTON, MA 01887	5148273			X									•



X = search criteria; • = tag-along (beyond search criteria).

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

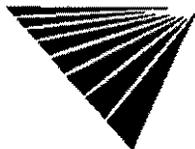
Report ID: 293751007

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UNMAPPED SITES		A			B			C		D				
	VISTA #	NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NERAF	TSD	LIST	SWLF	UST	ERNS	LG GEN	SM GEN	SPILLS
RAILROAD TRACK .5 MILE N OF WILMINGTON STA WILMINGTON, MA 01887	5148309				X									
HEFFRON MATERIALS WILMINGTON, MA 01887	5386481								X					
UST REMOVAL 38 LAWRENCE ST WILMINGTON, MA 01887	4262703							X						
WEST ST..LOWELL ST/RTE 129 9 WILMINGTON, MA 01887	2981909							X						
RTE 62 WILMINGTON, MA 01887	3580632							X						•
360 MIDDLESEX AVE. RTE.62 WILMINGTON, MA 01887	2993391							X						



X = search criteria; • = tag-along (beyond search criteria).

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.  
Report ID: 293751007

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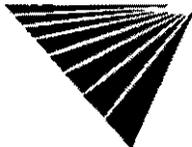
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# SITE ASSESSMENT REPORT

## DETAILS

### PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

<b>VISTA Address:</b>	<b>JOHN BERRY REHABILITATION CENTER LOWELL STREET NORTH READING, MA 01864</b>	<b>VISTA ID#:</b>	<b>1862573</b>
		<b>Distance/Direction:</b>	<b>0.01 MI / W</b>
		<b>Plotted as:</b>	<b>Point</b>
<b>NFRAP / SRC# 4942</b>		<b>EPA ID:</b>	<b>MAD980909147</b>
<b>Agency Address:</b>	<i>SAME AS ABOVE</i>		
<b>EPA Region:</b>	<i>1</i>		
<b>Congressional District:</b>	<i>8</i>		
<b>Federal Facility:</b>	<i>NOT A FEDERAL FACILITY</i>		
<b>Facility Ownership:</b>	<i>PRIVATE</i>		
<b>Site Incident Category:</b>	<i>unknown</i>		
<b>Federal Facility Docket:</b>	<i>Agency Code ( )</i>		
<b>NPL Status:</b>	<i>NOT ON NPL</i>		
<b>Incident Type:</b>	<i>Unknown</i>		
<b>Proposed NPL Update #:</b>	<i>0</i>		
<b>Final NPL Update #:</b>	<i>0</i>		
<b>Financial Management System ID:</b>	<i>NOT REPORTED</i>		
<b>Latitude:</b>	<i>4216350</i>		
<b>Longitude:</b>	<i>7107260</i>		
<b>Lat/Long Source:</b>	<i>RESEARCHED BY THE REGION AND MANUALLY ENTERED</i>		
<b>Lat/Long Accuracy:</b>	<i>Unknown</i>		
<b>Dioxin Tier:</b>	<i>Unknown</i>		
<b>USGS Hydro Unit:</b>	<i>1090001</i>		
<b>RCRA Indicator:</b>	<i>Unknown</i>		
<b>Unit Id:</b>	<i>0</i>		
<b>Unit Name:</b>	<i>ENTIRE SITE</i>		
<b>Type:</b>	<i>DISCOVERY</i>	<b>Lead Agency:</b>	<i>EPA FUND-FINANCED</i>
<b>Qualifier:</b>	<i>UNKNOWN</i>	<b>Category:</b>	<i>Unknown</i>
<b>Name:</b>	<i>NOT REPORTED</i>	<b>Actual Start Date:</b>	<i>NOT REPORTED</i>
<b>Plan Status:</b>	<i>Unknown</i>	<b>Actual Completion Date:</b>	<i>UNKNOWN</i>
<b>Type:</b>	<i>PRELIMINARY ASSESSMENT</i>	<b>Lead Agency:</b>	<i>EPA FUND-FINANCED</i>
<b>Qualifier:</b>	<i>NO FURTHER REMEDIAL ACTION PLANNED</i>	<b>Category:</b>	<i>Unknown</i>
<b>Name:</b>	<i>NOT REPORTED</i>	<b>Actual Start Date:</b>	<i>NOT REPORTED</i>
<b>Plan Status:</b>	<i>Unknown</i>	<b>Actual Completion Date:</b>	<i>UNKNOWN</i>



\* VISTA address includes enhanced city and ZIP.

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**PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.**

<b>SCI - State Equivalent CERCLIS List / SRC# 5019</b>		<b>EPA ID:</b>	<b>MAD980909147</b>
		<b>Agency ID:</b>	<b>3-0000599</b>
<b>Agency Address:</b>	JOHN BERRY REHAB CENTER LOWELL RD NORTH READING, MA 01864		
<b>Status:</b>	NOT ON NPL		
<b>Facility Type:</b>	NOT AVAILABLE		
<b>Lead Agency:</b>	FEDERAL		
<b>State Status:</b>	SITE TO BE INVESTIGATED		
<b>Pollutant 1:</b>	HAZARDOUS		
<b>Pollutant 2:</b>	UNKNOWN		
<b>Pollutant 3:</b>	UNKNOWN		

**SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)**

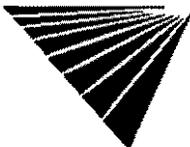
No Records Found

**SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)**

<b>VISTA Address:</b>	RTE 62 HEFFRON 800 SALEM ST WILMINGTON, MA 01887	<b>VISTA ID#:</b>	7413698
		<b>Distance/Direction:</b>	0.26 MI / W
		<b>Plotted as:</b>	Point
<b>STATE LUST - State Leaking Underground Storage Tank / SRC# 6023</b>		<b>EPA/Agency ID:</b>	N/A
<b>Agency Address:</b>	SAME AS ABOVE		
<b>Leak ID#:</b>	9-0016522		
<b>Leak Date:</b>	02/20/1998		
<b>Leak Source:</b>	UST		
<b>Remediation Event:</b>	ACTION DATE: 6/1/98		
<b>Media Affected:</b>	COMMERCIAL		
<b>Description / Comment:</b>	SUBSTANCE: DIESEL FUEL - 51.7 MG/L, FUEL OIL #2 - 51.7 MG/L		
<b>Description / Comment:</b>	REMEDIAL ACTION: RESPONSE ACTION OUTCOME		

**SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)**

No Records Found



\* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

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**UNMAPPED SITES**

VISTA Address*	JT BERRY REHAB RT 62 NORTH READING, MA 01864	VISTA ID#	957380
----------------	--	-----------	--------

STATE LUST - State Leaking Underground Storage Tank / SRC#	EPA/Agency ID:	N/A
5019		

Agency Address:	JT BERRY REHAB CTR PP UST LOWELL RD (RTE 62) NORTH READING, MA 01864
Leak ID#:	3-0003557
Contamination Confirmed Date:	4/16/91
Substance:	, GASOLINE
Substance:	BOTH
Remediation Event:	PHASE I
Remediation Event:	COMPLETION STATEMENT RECE
Remediation Event:	ACTION BY: RP ONLY
Remediation Event:	ACTION DATE: 8/1/97
Remediation Status:	UNCLASSIFIED CONFIRMED, PHASE 1 C
Media Affected:	, GROUNDWATER, SOIL
Region / District:	3
Referral:	ERB
Description / Comment:	SITE STATUS: UNCLASSIFIED
Description / Comment:	FACILITY TYPE: , POWER PLANT,
Description / Comment:	SITE CLASS: 21E

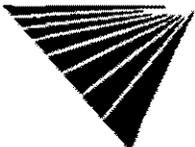
SCL - State Equivalent CERCLIS List / SRC#	EPA/Agency ID:	N/A
5019		

Agency Address:	JOHN T BERRY REHABILITATION RT 62 NORTH READING, MA 01864
Status:	NOT ON NPL
Facility Type:	NOT AVAILABLE
Lead Agency:	STATE
State Status:	REMEDIAL ACTION IN PROGRESS
Pollutant 1:	GASOLINE, OIL, VOC
Pollutant 2:	UNKNOWN
Pollutant 3:	UNKNOWN

VISTA Address*	NO INTERMEDIATE SCHOOL SALEM ST WILMINGTON, MA 01887	VISTA ID#	2704275
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STATE LUST - State Leaking Underground Storage Tank / SRC#	EPA/Agency ID:	N/A
4778		

Agency Address:	SAME AS ABOVE
Facility ID:	3-2777
Leak ID#:	N89-1394
Leak Date:	08/18/1989
Leak Report Date:	08/18/1989
Who Reported:	JOHN MURPHY
Leak Cause:	TANK REMOVAL
Leak Source:	U.S.T.
Substance:	#4 FUEL OIL
Quantity / Units:	UNKNOWN
Units:	



\* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

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**UNMAPPED SITES CONT.**

Remediation Event:	---
Remediation Status:	CLOSED: YES
Lead Agency Contact:	STUGER, B
Agency Contact:	STUGER, B
Referral:	SA

VISTA Address:	WILMINGTON DUMP SALEM ST WILMINGTON, MA 01887	VISTA ID#:	6731601
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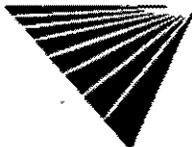
STATE SWLF - Solid Waste Landfill / SRC#	5021	Agency ID:	SL0342:005
Agency Address:	WILMINGTON DUMP SALEM ST WILMINGTON, MA		
Facility Type:	SANITARY LANDFILL/LANDFILL		
Facility Status:	INACTIVE		
Permit Status:	NOT AVAILABLE		

VISTA Address:	HOOD SCHOOL HAVERHILL ST. NORTH READING, MA 01864	VISTA ID#:	2697697
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STATE LUST - State Leaking Underground Storage Tank / SRC#	4778	EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Leak ID#:	N91-0003		
Leak Date:	01/02/1991		
Leak Report Date:	01/02/1991		
Who Reported:	ROGER YOUNG/PUBLIC SCHOOL		
Leak Cause:	TANK REMOVAL		
Leak Source:	U.S.T.		
Substance:	#2 FUEL OIL		
Quantity / Units:	UNKNOWN	Units:	---
Remediation Event:	SC		
Remediation Status:	CLOSED: YES		
Lead Agency Contact:	BOYLE, T		
Agency Contact:	BOYLE, T		
Referral:	NO		

VISTA Address:	QUINN D L CO INC NATSUE WAY MIDDLETON, MA 01949	VISTA ID#:	344827
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STATE LUST - State Leaking Underground Storage Tank / SRC#	5023	EPA/Agency ID:	N/A
Agency Address:	D L QUINN CO NATSUE WAY MIDDLETON, MA 01949		
Leak ID#:	3-0016976		
Leak Date:	02/03/1998		
Leak Source:	UST		
Remediation Event:	ACTION DATE: 6/12/98		
Media Affected:	INDUSTRIAL		



\* VISTA address includes enhanced city and ZIP.

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**UNMAPPED SITES CONT**

Description / Comment: *SUBSTANCE: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL- 58 PPM, PETROLEUM BASED OIL- 100 PPMV, UNKNOWN CHEMICAL OF UNKNOWN TYPE-*

Description / Comment: *130 PPMV, GASOLINE*

Description / Comment: *REMEDIAL ACTION: IMMEDIATE RESPONSE ACTION*

VISTA Address*:	MASS DPW WEST ST WILMINGTON, MA 01887	VISTA ID#:	3582451
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STATE LUST - State Leaking Underground Storage Tank / SRC# 4778	EPA/Agency ID:	N/A
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Agency Address:	SAME AS ABOVE
Leak ID#:	N92-0845
Leak Date:	07/07/1992
Leak Report Date:	07/07/1992
Who Reported:	JERRY LANGONE/DPW
Leak Cause:	DUMPING
Leak Source:	U.S.T.
Substance:	OTHER MATERIAL -->
Substance:	3000 GALLON UST
Quantity / Units:	Units:
Remediation Event:	---
Remediation Status:	CLOSED: YES
Lead Agency Contact:	FONKEM, V
Agency Contact:	FONKEM, V
Referral:	NO

VISTA Address*:	WILMINGTON LANDFILL BALLARDVALE ST WILMINGTON, MA 01887	VISTA ID#:	1858748
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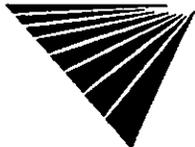
STATE SWLF - Solid Waste Landfill / SRC# 5021	Agency ID:	SL0342.003
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Agency Address:	WILMINGTON LANDFILL BALLARDVALE ST WILMINGTON, MA
Facility Type:	SANITARY LANDFILL/LANDFILL
Facility Status:	CLOSED
Permit Status:	NOT AVAILABLE

VISTA Address*:	OF RTE. 62 POLICE DEPARTMENT WILMINGTON, MA 01887	VISTA ID#:	2701898
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STATE LUST - State Leaking Underground Storage Tank / SRC# 4778	EPA/Agency ID:	N/A
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Agency Address:	OF RTE. 62 POLICE DEPARTMENT WILMINGTON, MA
Leak ID#:	N86-1262
Leak Report Date:	12/10/1986
Leak Cause:	OTHER RELEASE >
Leak Source:	U.S.T.
Substance:	GASOLINE
Quantity / Units:	NONE Units:
Remediation Status:	CLOSED: YES



\* VISTA address includes enhanced city and ZIP.

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**UNMAPPED SITES CONT**

<b>Lead Agency Contact:</b>	FONKEM, V
<b>Agency Contact:</b>	FONKEM, V
<b>Referral:</b>	NO

<b>VISTA Address*:</b>	WILMINGTON COMPOST SITE OLD MAIN ST WILMINGTON, MA 01887	<b>VISTA ID#:</b>	6634486
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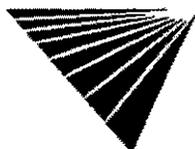
<b>STATE SWLF - Solid Waste Landfill / SRC#</b>	6021	<b>Agency ID:</b>	CO0342:006
<b>Agency Address:</b>	WILMINGTON COMPOST SITE OLD MAIN ST WILMINGTON, MA		
<b>Facility Type:</b>	COMPOSTING FACILITY		
<b>Facility Status:</b>	ACTIVE		
<b>Permit Status:</b>	NOT AVAILABLE		

<b>VISTA Address*:</b>	SHAWSHEEN ELEMENTARY SCHOOL RTE #129 WILMINGTON, MA 01887	<b>VISTA ID#:</b>	2703229
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<b>STATE LUST - State Leaking Underground Storage Tank / SRC#</b>	4778	<b>EPA/Agency ID:</b>	N/A
<b>Agency Address:</b>	SAME AS ABOVE		
<b>Leak ID#:</b>	N89-1472		
<b>Leak Date:</b>	08/31/1989		
<b>Leak Report Date:</b>	08/31/1989		
<b>Who Reported:</b>	R MUESE		
<b>Leak Cause:</b>	TANK REMOVAL		
<b>Leak Source:</b>	U.S.T.		
<b>Substance:</b>	#4 FUEL OIL		
<b>Quantity / Units:</b>	UNKNOWN	<b>Units:</b>	---
<b>Remediation Event:</b>	---		
<b>Remediation Status:</b>	CLOSED: YES		
<b>Lead Agency Contact:</b>	BRADLEY, R		
<b>Agency Contact:</b>	BRADLEY, R		
<b>Referral:</b>	NO		

<b>VISTA Address*:</b>	NORTHEAST DEVELOPMENT INTERSECTION OF RT 129 AND RT WILMINGTON, MA 01887	<b>VISTA ID#:</b>	6069999
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<b>STATE LUST - State Leaking Underground Storage Tank / SRC#</b>	4778	<b>EPA/Agency ID:</b>	N/A
<b>Agency Address:</b>	SAME AS ABOVE		
<b>Leak ID#:</b>	N88-0481		
<b>Leak Report Date:</b>	04/06/1988		
<b>Leak Cause:</b>	TANK REMOVAL		
<b>Leak Source:</b>	U.S.T.		
<b>Substance:</b>	DIESEL FUEL		
<b>Quantity / Units:</b>	NONE	<b>Units:</b>	---
<b>Remediation Status:</b>	CLOSED: YES		
<b>Lead Agency Contact:</b>	FONKEM, V		
<b>Agency Contact:</b>	FONKEM, V		





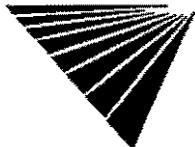
**UNMAPPED SITES CONT.**

VISTA Address*	HEFFRON MATERIALS WILMINGTON, MA 01887	VISTA ID#	5386481
STATE SWLF - Solid Waste Landfill / SRC# 287B		EPA/Agency ID:	N/A
Agency Address:	HEFFRON MATERIALS WILMINGTON, MA		
Facility Type:	RESOURCE RECOVERY (RECYCLING)		
Facility Status:	NOT AVAILABLE		
Permit Status:	NOT AVAILABLE		

VISTA Address*	UST REMOVAL 38 LAWRENCE ST WILMINGTON, MA 01887	VISTA ID#	4252703
STATE LUST - State Leaking Underground Storage Tank / SRC# 4778		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Leak ID#:	N93-0733		
Leak Date:	06/01/1993		
Leak Report Date:	06/01/1993		
Who Reported:	GREG ERIKSON/WILMINGTON B		
Leak Cause:	TANK REMOVAL		
Leak Source:	U.S.T.		
Substance:	#2 FUEL OIL		
Quantity / Units:	UNKNOWN	Units:	-----
Remediation Status:	CLOSED: YES		
Lead Agency Contact:	BOYLE, T		
Agency Contact:	BOYLE, T		
Referral:	NO		

VISTA Address*	WEST ST. LOWELL ST/ RTE 129 9 WILMINGTON, MA 01887	VISTA ID#	2981909
STATE LUST - State Leaking Underground Storage Tank / SRC# 4778		EPA/Agency ID:	N/A
Agency Address:	WEST ST.,LOWELL ST/ RTE 129 9 WILMINGTON, MA		
Leak ID#:	N86-1162		
Leak Date:	10/31/1986		
Leak Source:	U.S.T.		
Substance:	GASOLINE		
Remediation Status:	CLOSED: YES		
Lead Agency Contact:	BRADLEY, R		
Agency Contact:	BRADLEY, R		

VISTA Address*	RTE 62 WILMINGTON, MA 01887	VISTA ID#	3580632
STATE LUST - State Leaking Underground Storage Tank / SRC# 4778		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Leak ID#:	N89-0847		
Leak Date:	06/24/1989		
Leak Report Date:	06/24/1989		
Who Reported:	ANONYMOUS		



\* VISTA address includes enhanced city and ZIP.

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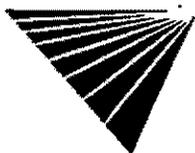
**UNMAPPED SITES CONT.**

<b>Leak Cause:</b>	LEAK
<b>Leak Source:</b>	U.S.T.
<b>Substance:</b>	GASOLINE
<b>Quantity / Units:</b>	<b>Units:</b>
<b>Remediation Event:</b>	—
<b>Remediation Status:</b>	CLOSED: YES
<b>Lead Agency Contact:</b>	BOYLE, T
<b>Agency Contact:</b>	BOYLE, T
<b>Referral:</b>	NO

<b>VISTA Address:</b>	360 MIDDLESEX AVE. RTE. 62 WILMINGTON, MA 01887	<b>VISTA ID#:</b>	2992391
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<b>STATE LUST - State Leaking Underground Storage Tank / SRC#</b>	<b>EPA/Agency ID:</b>	<b>N/A</b>
4778		

<b>Agency Address:</b>	360 MIDDLESEX AVE. RTE. 62 WILMINGTON, MA
<b>Leak ID#:</b>	N85-0722
<b>Leak Date:</b>	09/23/1985
<b>Leak Cause:</b>	LEAK
<b>Leak Source:</b>	U.S.T.
<b>Substance:</b>	GASOLINE
<b>Remediation Status:</b>	CLOSED: YES
<b>Lead Agency Contact:</b>	PENTA
<b>Agency Contact:</b>	PENTA



\* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.  
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# SITE ASSESSMENT REPORT

## DESCRIPTION OF DATABASES SEARCHED

### A) DATABASES SEARCHED TO 1 MILE

**NPL**  
**SRC#: 4938** VISTA conducts a database search to identify all sites within 1 mile of your property.  
The agency release date for NPL was July, 1998.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

**SPL**  
**SRC#: 5020** VISTA conducts a database search to identify all sites within 1 mile of your property.  
The agency release date for Sites Plus Database- Confirmed Sites was July, 1998.

This database is provided by the Department of Environmental Protection, Bureau of Waste Sites Cleanup. The agency may be contacted at: 617-292-5990.

**CORRACTS**  
**SRC#: 4467** VISTA conducts a database search to identify all sites within 1 mile of your property.  
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.

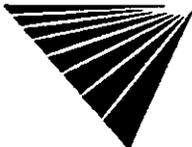
### B) DATABASES SEARCHED TO 1/2 MILE

**CERCLIS**  
**SRC#: 4941** VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for CERCLIS was June, 1998.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activities or events at the site, financial funding information for the events, and unrestricted enforcement activities.

**NFRAP**  
**SRC#: 4942** VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for CERCLIS-NFRAP was June, 1998.

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.



**SCL**  
**SRC#: 5019**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for Sites Plus Database- Sites to be Investigated was July, 1998.

This database is provided by the Department of Environmental Protection, Bureau of Waste Sites Cleanup. The agency may be contacted at: 617-292-5578.

The Massachusetts List of Confirmed Disposal Sites and Locations contains the following facility types: (1) Remedial Sites-Sites where oil or hazardous materials have been released and an appropriate remedial action has been completed and no further action is planned; (2) Confirmed Sites-where oil or hazardous materials have been released and remedial response actions have not been completed; (3) Waiver Sites-A waiver allows those conducting cleanup actions at non-priority sites to proceed at an accelerated pace with no Departmental oversight; (4) Deleted Sites-Deleted locations for which Preliminary Assessments, Phase I Limited Site Investigations, or Phase II Comprehensive Site Assessments have been completed finding that no further investigations or response actions are required; (5) Locations to be Investigated-Locations where oil or hazardous materials may have been released to the environment, based on past or present uses of the property, conditions reported and any other information available to the DEP, which warrant an initial investigation. Some of these sites are leaking underground storage tank sites or state spill sites and may also appear on the Leaking Underground Storage Tank report or the State Spill report.

**RCRA-TSD**  
**SRC#: 4467**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

**SWLF**  
**SRC#: 2773**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for Demolition Landfills List was August, 1994.

This database is provided by the DEP, Division of Solid Waste, Bureau of Waste Prevention. The agency may be contacted at: .

**SWLF**  
**SRC#: 2878**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for Recycling Services Directory was January, 1996.

This database is provided by the DEP, Division of Solid Waste, Bureau of Waste Prevention. The agency may be contacted at: .

**SWLF**  
**SRC#: 5021**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for Solid Waste Facilities List was July, 1998.

This database is provided by the DEP, Division of Solid Waste, Bureau of Waste Prevention. The agency may be contacted at: 617-292-5990.

**SWLF**  
**SRC#: 5022**

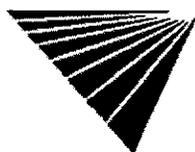
VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for Transfer Stations List was July, 1998.

This database is provided by the DEP, Division of Solid Waste, Bureau of Waste Prevention. The agency may be contacted at: 617-292-5578.

**LUST**  
**SRC#: 4778**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.  
The agency release date for Spills Database (includes LUST) was March, 1996.

This database is provided by the Department of Environmental Protection, Bureau of Waste Site Cleanup. The agency may be contacted at: 617-292-5937.



LUST  
SRC#: 5019

VISTA conducts a database search to identify all sites within 1/2 mile of your property. The agency release date for Sites Plus Database-LUST Sites was July, 1998.

This database is provided by the Department of Environmental Protection, Bureau of Waste Site Cleanup. The agency may be contacted at: 617-292-5990.

The Massachusetts List of Confirmed Disposal Sites and Locations includes Leaking Underground Storage Tank sites. All facilities on this report also appear on the State Priority Sites report. Details contained in this report pertain only to the leaking tank reported at the site.

LUST  
SRC#: 5023

VISTA conducts a database search to identify all sites within 1/2 mile of your property. The agency release date for Release Database-LUST Sites was July, 1998.

This database is provided by the Department of Environmental Protection, Bureau of Waste Site Cleanup. The agency may be contacted at: 617-292-5937.

#### C) DATABASES SEARCHED TO 1/4 MILE

UST's  
SRC#: 5024

VISTA conducts a database search to identify all sites within 1/4 mile of your property. The agency release date for Underground Storage Tank Database was July, 1998.

This database is provided by the Department of Public Safety. The agency may be contacted at: 617-727-3200; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

#### D) DATABASES SEARCHED TO 1/8 MILE

ERNS  
SRC#: 4939

VISTA conducts a database search to identify all sites within 1/8 mile of your property. The agency release date for was July, 1998.

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of transportation. A search of the database records for the period October 1986 through January 1998 revealed information regarding reported spills of oil or hazardous substances in the stated area.

RCRA-LgGen  
SRC#: 4467

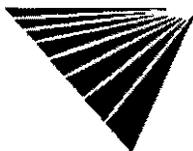
VISTA conducts a database search to identify all sites within 1/8 mile of your property. The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste ( or 1 kg./month of acutely hazardous waste).

RCRA-SmGen  
SRC#: 4467

VISTA conducts a database search to identify all sites within 1/8 mile of your property. The agency release date for HWDMS/RCRIS was February, 1998.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.



**SPILL  
SRC#: 4778**

VISTA conducts a database search to identify all sites within 1/8 mile of your property.  
The agency release date for Spills Database (includes LUST) was March, 1996.

This database is provided by the Department of Environmental Protection, Bureau of  
Waste Sites Cleanup. The agency may be contacted at: 617-292-5937.

**SPILL  
SRC#: 5019**

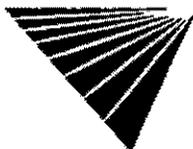
VISTA conducts a database search to identify all sites within 1/8 mile of your property.  
The agency release date for Sites Plus Database-Spill Sites was July, 1998.

This database is provided by the Department of Environmental Protection, Bureau of  
Waste Sites Cleanup. The agency may be contacted at: 617-292-5990.

**SPILL  
SRC#: 5023**

VISTA conducts a database search to identify all sites within 1/8 mile of your property.  
The agency release date for Release Database was July, 1998.

This database is provided by the Department of Environmental Protection, Bureau of  
Waste Site Cleanup. The agency may be contacted at: 617-292-5937.



## **APPENDIX B**

Soil Boring Logs, Test Pit Logs, Monitoring Well Reports

<h1>Weston &amp; Sampson</h1>	<u>PROJECT</u> 104 Lowell Rd North Reading MA.	<u>REPORT OF BORING No.</u> <u>SB-1</u>
		SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2140633</u> CHKD BY <u>Joe Spencer</u>

BORING Co. <u>NE Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Maynor</u>	GROUND SURFACE ELEV. _____ DATUM _____
<b>WSE GEOLOGIST:</b> <u>Sephera Simoneau</u>	DATE START <u>12/1/14</u> DATE END <u>12/1/14</u>

SAMPLER: <u>Geoprobe 7822DT track mounted rig</u> <u>DT22 Sampler 2.25 in.</u> CASING: <u>DT22 1.125 in. PVC Liners with catcher</u> CASING SIZE: <u>2.25 in</u> Method <u>Direct Push</u>	<b>GROUNDWATER READINGS</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>WATER AT</th> <th>CASING AT</th> <th>STABILIZATION TIME</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME															
DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME																	

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	REC/PEN (in)	DEPTH (ft)	PID Depth				
5		48/60		0-30	0-5	0*	18" top soil dark organics		SAND
							Moist tan to orange medium to coarse SAND		
10		48/60			5-10	0*	Moist tan to orange medium to coarse SAND		
15		54/60			10-15	0.1*	Dry light tan fine-medium SAND bottom		
							Moist to dry areas throughout, fine SAND mixed with medium to coarse SAND, large pebbles throughout, tan to orange medium SAND (dry areas)		
20		50/60			15-20	0.3*	Fine to medium dark tan moist SAND		
							Moist tan to orange medium to coarse SAND		
25		57/60			20-25	0.3*	Bottom 18" fine tan to orange SAND (bea		
							Dark moist medium SAND		
							Moist tan to orange medium to coarse SAND		
30		45/60			25-30	0.3*	Dry fine tan to orange SAND		
							Top 18" moist medium SAND		
							Moist tan to orange medium to coarse SAND		
35							Bottom 18" fine tan SAND		
							*2" saturated		

GRANULAR SOILS	COHESIVE SOILS	REMARKS: drill to 40' to set well	End of Boring @ 30'
BLOWS/FT	DENSITY		BLOWS/FT

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.  
 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>SB-1</u>
------------------------

<b>Weston &amp; Sampson</b>	<u>PROJECT</u>	REPORT OF BORING No. <u>SB-2</u>
	104 Lowell Rd North Reading MA.	SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2140633</u>
		CHKD BY <u>Joe Spencer</u>

BORING Co. <u>NE Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Maynor</u>	GROUND SURFACE ELEV. _____ DATUM _____
<b>WSE GEOLOGIST:</b> <u>Sephera Simoneau</u>	DATE START <u>12/1/14</u> DATE END <u>12/1/14</u>

SAMPLER: <u>Geoprobe 7822DT track mounted rig</u> <u>DT22 Sampler 2.25 in.</u>	<b>GROUNDWATER READINGS</b>				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
CASING: <u>DT22 1.125 in. PVC Liners with catcher</u>					
CASING SIZE: <u>2.25 in</u> Method <u>Direct Push</u>					

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION	
		No.	REC/PEN (in)	DEPTH (ft)	PID Depth					
5			52/60	0-30	0-5	15.6*	Top 6" dark organic soil		<b>SAND</b>	
							Moist tan to orange coarse to medium SAND			
10			48/60		5-10	12.2*	Moist tan to orange medium SAND with occasional pebbles			
15			48/60		10-15	14.8*	Top 6" moist coarse to medium orange  Dry medium orange SAND			
20			48/60		15-20	NS	Top 18" coarse to medium tan to orange  Moist tan fine beach like SAND			
25			60/60		20-25	17.5*	Top 18" moist orange coarse to medium  Moist tan fine beach like SAND mixed with orange fines with occasional pebbles			
30			56/60		25-30	14.6*	Top 30" moist tan to orange coarse to medium SAND  Dry tan beach like fine SAND *Last 2" coarse orange saturated SAND			
35										Saturated @ 29'

<b>GRANULAR SOILS</b>	<b>COHESIVE SOILS</b>	REMARKS: drill to 40' to set well *PID results impacted by moisture NS=No Sample Screened by PID
BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.  
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>SB-2</u>
------------------------

<h1>Weston &amp; Sampson</h1>	<u>PROJECT</u> 104 Lowell Rd North Reading MA.	REPORT OF BORING No. <u>SB-3</u>
		SHEET <u>1</u> OF <u>1</u>
		Project No. <u>2140633</u> CHKD BY <u>Joe Spencer</u>

BORING Co. <u>NE Geotech</u>	BORING LOCATION <u>See attached plan</u>
FOREMAN <u>Maynor</u>	GROUND SURFACE ELEV. _____ DATUM _____
<b>WSE GEOLOGIST:</b> <u>Sephera Simoneau</u>	DATE START <u>12/1/14</u> DATE END <u>12/1/14</u>

SAMPLER: <u>Geoprobe 7822DT track mounted rig</u> <u>DT22 Sampler 2.25 in.</u>	<b>GROUNDWATER READINGS</b>				
	DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
CASING: <u>DT22 1.125 in. PVC Liners with catcher</u>					
CASING SIZE: <u>2.25 in</u> Method <u>Direct Push</u>					

DEPTH (feet)	CASING (lb/ft)	SAMPLE				PID (ppm)	SAMPLE DESCRIPTION Burmister Classification	NOTES	STRATUM DESCRIPTION
		No.	REC/PEN (in)	DEPTH (ft)	PID Depth				
5			48/60	0-30	0-5	22.4*	Top 6" dark organic soil Moist dark orange coarse to medium Moist light tan to orange coarse to medium SAND mixed with fines and pebbles	<b>SAND</b>	
10			52/60		5-10	14.2*	Moist very coarse orange SAND mixed with fines and pebbles		
15			50/60		10-15	14.8*	Top 6" moist coarse orange SAND 6-10" moist tan silty fine SAND Moist tan to orange coarse to medium SAND		
20			54/60		15-20	15.7*	Top 6" moist medium to fine mixed with Moist orange coarse to medium SAND mixed with pebbles		
25			50/60		20-25	8.6*	Moist orange coarse to medium to fine SAND mixed with pebbles *bottom 2" saturated		
30			52/60		25-30	9.8*	Moist orange very coarse SAND mixed with medium to fine SAND *bottom 6-8" saturated		
35									

GRANULAR SOILS		COHESIVE SOILS		REMARKS: drill to 40' to set well *PID results impacted by moisture
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.  
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THIS BORING LOG.  
FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS ARE MADE.

BORING No. <u>SB-3</u>
------------------------

### TEST PIT LOG

PROJECT NAME/NO. <u>JT Berry Site</u>	<b>TEST PIT NUMBER</b>
LOCATION <u>102 &amp; 104 Lowell Rd.</u>	TP -1
CLIENT <u>Town of North Reading</u>	GROUND SURFACE
CONTRACTOR <u>A-Z Environmental</u> FOREMAN: <u>Bill Z.</u>	ELEVATION <u>N/A</u>
OBSERVED BY <u>J. Spencer</u> DATE <u>12/2/14</u>	DEPTH TO GROUNDWATER BELOW
CHECKED BY <u>S. Simoneau</u> DATE <u>12/29/14</u>	SURFACE <u>N/A</u>

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0 - 1'	Dark brown fine-medium SAND, trace gravel, trace silt, moist, (top soil)
1-4'	Light brown-brown, fine-coarse SAND, moist
4-7'	Light brown fine SAND, moist

<b>NOTES:</b> PID @ 1-4' = 0 ppm PID @ 4-7' = 0 ppm	<b>TEST PIT NUMBER</b> TP -1  <b>WESTON &amp; SAMPSON</b> <b>ENGINEERS, INC.</b>
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### TEST PIT LOG

PROJECT NAME/NO.	JT Berry Site	<b>TEST PIT NUMBER</b>
LOCATION	102 & 104 Lowell Rd.	TP -2
CLIENT	Town of North Reading	GROUND SURFACE
CONTRACTOR	A-Z Environmental	FOREMAN: Bill Z.
OBSERVED BY	J. Spencer	DATE
CHECKED BY	S. Simoneau	DATE
		ELEVATION
		DEPTH TO GROUNDWATER BELOW
		SURFACE

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0 - 1'	Dark brown fine-medium SAND, trace gravel, trace silt, moist (top soil)
1-7'	Light brown-brown fine-coarse SAND, moist

<b>NOTES:</b> PID @ 1-3' = 0 ppm PID @ 3-7' = 0 ppm	<b>TEST PIT NUMBER</b> TP -2 <b>WESTON &amp; SAMPSON</b> <b>ENGINEERS, INC.</b>
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### TEST PIT LOG

PROJECT NAME/NO.	JT Berry Site	<b>TEST PIT NUMBER</b>
LOCATION	102 & 104 Lowell Rd.	TP -3
CLIENT	Town of North Reading	GROUND SURFACE
CONTRACTOR	A-Z Environmental	FOREMAN: Bill Z.
OBSERVED BY	J. Spencer	DATE 12/2/14
CHECKED BY	S. Simoneau	DATE 12/29/14
		ELEVATION N/A
		DEPTH TO GROUNDWATER BELOW SURFACE N/A

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
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0 - 3'	Light brown fine to coarse SAND with concrete and brick, moist Concrete rubble at 3' bgs--impenetrable with small excavator
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<b>NOTES:</b> PID @ 1-3' = 0 ppm	<b>TEST PIT NUMBER</b> TP -3 <b>WESTON &amp; SAMPSON ENGINEERS, INC.</b>
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### TEST PIT LOG

PROJECT NAME/NO.	JT Berry Site	<b>TEST PIT NUMBER</b>
LOCATION	102 & 104 Lowell Rd.	TP -4
CLIENT	Town of North Reading	GROUND SURFACE
CONTRACTOR	A-Z Environmental	FOREMAN: Bill Z.
OBSERVED BY	J. Spencer	DATE 12/2/14
CHECKED BY	S. Simoneau	DATE 12/29/14
		ELEVATION N/A
		DEPTH TO GROUNDWATER BELOW SURFACE N/A

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
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0 - 4'	Light brown-brown-red, fine - medium SAND with some silt, moist. ~6 inch layer of ash under concrete pad adjacent to test pit
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<b>NOTES:</b> PID @ 0-4' = 0.2 ppm	<b>TEST PIT NUMBER</b> TP -4 <b>WESTON &amp; SAMPSON ENGINEERS, INC.</b>
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### TEST PIT LOG

PROJECT NAME/NO.	JT Berry Site	<b>TEST PIT NUMBER</b>
LOCATION	102 & 104 Lowell Rd.	TP -5
CLIENT	Town of North Reading	GROUND SURFACE
CONTRACTOR	A-Z Environmental	FOREMAN: Bill Z.
OBSERVED BY	J. Spencer	DATE
CHECKED BY	S. Simoneau	DATE
		ELEVATION
		DEPTH TO GROUNDWATER BELOW
		SURFACE

DEPTH BELOW GROUND SURFACE (ft.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION
0 - 1'	Dark brown fine-medium SAND, little silt, trace gravel, moist
1-7'	Light brown-brown fine-coarse SAND, trace-little silt, trace gravel, moist

<b>NOTES:</b> PID @ 1-4' = 0.1 ppm PID @ 4-7' = 0 ppm	<b>TEST PIT NUMBER</b> TP -5 <b>WESTON &amp; SAMPSON ENGINEERS, INC.</b>
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## GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. <u>J.T Berry Rehab Center</u>	<b>MONITORING WELL NO.</b>
LOCATION <u>North Reading, Massachusetts</u>	<b>MW-1</b>
CLIENT <u>North Reading, Massachusetts</u>	ELEVATION
CONTRACTOR <u>NE Geotech</u> DRILLER <u>Maynor</u>	TOP OF PVC <u>98.50</u>
OBSERVED BY <u>Sephera Simoneau</u> DATE <u>12/1/14</u>	DEPTH TO GROUNDWATER FROM
CHECKED BY <u>Joe Spencer</u> DATE <u>12/1/14</u>	TOP OF PVC <u>32.35</u>

GROUND ELEVATION		<----- LENGTH OF CASING ABOVE GROUND SURFACE	3'
GENERAL SOIL CONDITIONS (NOT TO SCALE)		<----- LENGTH OF RISER PIPE ABOVE GROUND SURFACE	3'
		THICKNESS OF SURFACE SEAL(S)	1'
		<----- TYPE OF SURFACE SEAL(S)	Concrete
		TYPE OF SURFACE CASING	PVC
		<----- ID OF SURFACE CASING	4"
		<----- DEPTH BOTTOM OF CASING	N/A
		ID OF RISER PIPE	2"
		<----- TYPE OF RISER PIPE	Schedule 40 PVC
		<----- TYPE OF BACKFILL AROUND RISER PIPE	#2 Sand
		DEPTH TOP OF SEAL	16'
		<----- TYPE OF SEAL	Bentonite
		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	18'
		<----- DEPTH TOP OF SCREEN	20'
		TYPE OF SCREEN	PVC Pre-Pack
		<----- SIZE OPENINGS	0.010"
		ID OF SCREEN	1.5"
		<----- TYPE OF BACKFILL AROUND SCREEN	#2 Sand
		<----- DEPTH BOTTOM OF SCREEN	40'
		<----- DEPTH BOTTOM OF SAND COLUMN	40'
	<----- TYPE OF BACKFILL BELOW SCREEN	N/A	
	<----- DIAMETER OF BOREHOLE	4"	
	<----- DEPTH BOTTOM OF BOREHOLE	40'	

NOTES:	<b>MONITORING WELL NO.</b> <b>MW-1</b> <b>WESTON &amp; SAMPSON</b> <b>ENGINEERS, INC.</b>
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## GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. <u>J.T Berry Rehab Center</u>	<b>MONITORING WELL NO.</b>
LOCATION <u>North Reading, Massachusetts</u>	<b>MW-2</b>
CLIENT <u>North Reading, Massachusetts</u>	ELEVATION
CONTRACTOR <u>NE Geotech</u> DRILLER <u>Maynor</u>	TOP OF PVC <u>98.20</u>
OBSERVED BY <u>Sephera Simoneau</u> DATE <u>12/1/14</u>	DEPTH TO GROUNDWATER FROM
CHECKED BY <u>Joe Spencer</u> DATE <u>12/1/14</u>	TOP OF PVC <u>35.63</u>

GROUND ELEVATION		<----- LENGTH OF CASING ABOVE GROUND SURFACE	3'
GENERAL SOIL CONDITIONS (NOT TO SCALE)		<----- LENGTH OF RISER PIPE ABOVE GROUND SURFACE	3'
		THICKNESS OF SURFACE SEAL(S)	1'
		<----- TYPE OF SURFACE SEAL(S)	Concrete
		TYPE OF SURFACE CASING	PVC
		<----- ID OF SURFACE CASING	4"
		<----- DEPTH BOTTOM OF CASING	N/A
		ID OF RISER PIPE	2"
		<----- TYPE OF RISER PIPE	Schedule 40 PVC
		<----- TYPE OF BACKFILL AROUND RISER PIPE	#2 Sand
		DEPTH TOP OF SEAL	16'
		<----- TYPE OF SEAL	Bentonite
		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	18'
		<----- DEPTH TOP OF SCREEN	20'
		TYPE OF SCREEN	PVC Pre-Pack
		<----- SIZE OPENINGS	0.010"
		ID OF SCREEN	1.5"
		<----- TYPE OF BACKFILL AROUND SCREEN	#2 Sand
		<----- DEPTH BOTTOM OF SCREEN	40'
		<----- DEPTH BOTTOM OF SAND COLUMN	40'
	<----- TYPE OF BACKFILL BELOW SCREEN	N/A	
	<----- DIAMETER OF BOREHOLE	4"	
	<----- DEPTH BOTTOM OF BOREHOLE	40'	

NOTES:	<b>MONITORING WELL NO.</b> <b>MW-2</b> <b>WESTON &amp; SAMPSON</b> <b>ENGINEERS, INC.</b>
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## GROUNDWATER MONITORING WELL INSTALLATION REPORT

PROJECT NAME/NO. <u>J.T Berry Rehab Center</u>	<b>MONITORING WELL NO.</b>
LOCATION <u>North Reading, Massachusetts</u>	<b>MW-3</b>
CLIENT <u>North Reading, Massachusetts</u>	ELEVATION
CONTRACTOR <u>NE Geotech</u> DRILLER <u>Maynor</u>	TOP OF PVC <u>93.65</u>
OBSERVED BY <u>Sephera Simoneau</u> DATE <u>12/1/14</u>	DEPTH TO GROUNDWATER FROM
CHECKED BY <u>Joe Spencer</u> DATE <u>12/1/14</u>	TOP OF PVC <u>28.25</u>

GROUND ELEVATION		<----- LENGTH OF CASING ABOVE GROUND SURFACE	3'
GENERAL SOIL CONDITIONS (NOT TO SCALE)		<----- LENGTH OF RISER PIPE ABOVE GROUND SURFACE	3'
		THICKNESS OF SURFACE SEAL(S)	1'
		<----- TYPE OF SURFACE SEAL(S)	Concrete
		TYPE OF SURFACE CASING	PVC
		<----- ID OF SURFACE CASING	4"
		<----- DEPTH BOTTOM OF CASING	N/A
		ID OF RISER PIPE	2"
		<----- TYPE OF RISER PIPE	Schedule 40 PVC
		<----- TYPE OF BACKFILL AROUND RISER PIPE	#2 Sand
		DEPTH TOP OF SEAL	16'
		<----- TYPE OF SEAL	Bentonite
		DEPTH BOTTOM OF SEAL/TOP OF SAND COLUMN	18'
		<----- DEPTH TOP OF SCREEN	20'
		TYPE OF SCREEN	PVC Pre-Pack
		<----- SIZE OPENINGS	0.010"
		ID OF SCREEN	1.5"
		<----- TYPE OF BACKFILL AROUND SCREEN	#2 Sand
		<----- DEPTH BOTTOM OF SCREEN	40'
		<----- DEPTH BOTTOM OF SAND COLUMN	40'
	<----- TYPE OF BACKFILL BELOW SCREEN	N/A	
	<----- DIAMETER OF BOREHOLE	4"	
	<----- DEPTH BOTTOM OF BOREHOLE	40'	

NOTES:	<b>MONITORING WELL NO.</b> <b>MW-3</b> <b>WESTON &amp; SAMPSON</b> <b>ENGINEERS, INC.</b>
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## **APPENDIX C**

### Laboratory Analytical Reports



## ANALYTICAL REPORT

Lab Number:	L1428969
Client:	Weston & Sampson Five Centennial Drive Peabody, MA 01960-7985
ATTN:	Richard Vandenberg
Phone:	(978) 532-1900
Project Name:	JT BERRY CENTER
Project Number:	Not Specified
Report Date:	12/10/14

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

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

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



**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1428969-01	SS-COMP	SOIL	102 &104 LOWELL RD. NORTH READING	12/02/14 12:00	12/03/14
L1428969-02	TP-3	SOIL	102 &104 LOWELL RD. NORTH READING	12/02/14 12:15	12/03/14
L1428969-03	TRIP BLANK	SOIL	102 &104 LOWELL RD. NORTH READING	12/02/14 00:00	12/03/14

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

### MADEP MCP Response Action Analytical Report Certification

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

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

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



**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

### Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

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

#### HOLD POLICY

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

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

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**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

### Case Narrative (continued)

#### MCP Related Narratives

##### Volatile Organics

In reference to question G:

L1428969-01: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample; therefore, one or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

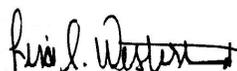
The initial calibration, associated with L1428969-01 and -03 (high-level), did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.05631) and 1,4-dioxane (0.00244), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane. The initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (144%), but within overall method criteria.

The initial calibration, associated with L1428969-02 and -03 (low-level), did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.06561), 4-methyl-2-pentanone (0.08030), and 1,4-dioxane (0.00260), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane. In addition, a quadratic fit was utilized for chloroethane.

The continuing calibration standards, associated with L1428969-01 through -03, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

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

Authorized Signature:

 Lisa Westerlind

Title: Technical Director/Representative

Date: 12/10/14

# ORGANICS

# VOLATILES

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

**Lab ID:** L1428969-01  
**Client ID:** SS-COMP  
**Sample Location:** 102 &104 LOWELL RD. NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 97,8260C  
**Analytical Date:** 12/05/14 14:25  
**Analyst:** MV  
**Percent Solids:** 83%

**Date Collected:** 12/02/14 12:00  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	560	--	1
1,1-Dichloroethane	ND		ug/kg	84	--	1
Chloroform	ND		ug/kg	84	--	1
Carbon tetrachloride	ND		ug/kg	56	--	1
1,2-Dichloropropane	ND		ug/kg	200	--	1
Dibromochloromethane	ND		ug/kg	56	--	1
1,1,2-Trichloroethane	ND		ug/kg	84	--	1
Tetrachloroethene	ND		ug/kg	56	--	1
Chlorobenzene	ND		ug/kg	56	--	1
Trichlorofluoromethane	ND		ug/kg	220	--	1
1,2-Dichloroethane	ND		ug/kg	56	--	1
1,1,1-Trichloroethane	ND		ug/kg	56	--	1
Bromodichloromethane	ND		ug/kg	56	--	1
trans-1,3-Dichloropropene	ND		ug/kg	56	--	1
cis-1,3-Dichloropropene	ND		ug/kg	56	--	1
1,3-Dichloropropene, Total	ND		ug/kg	56	--	1
1,1-Dichloropropene	ND		ug/kg	220	--	1
Bromoform	ND		ug/kg	220	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	56	--	1
Benzene	ND		ug/kg	56	--	1
Toluene	ND		ug/kg	84	--	1
Ethylbenzene	ND		ug/kg	56	--	1
Chloromethane	ND		ug/kg	220	--	1
Bromomethane	ND		ug/kg	110	--	1
Vinyl chloride	ND		ug/kg	110	--	1
Chloroethane	ND		ug/kg	110	--	1
1,1-Dichloroethene	ND		ug/kg	56	--	1
trans-1,2-Dichloroethene	ND		ug/kg	84	--	1
Trichloroethene	ND		ug/kg	56	--	1
1,2-Dichlorobenzene	ND		ug/kg	220	--	1

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

## SAMPLE RESULTS

Lab ID: L1428969-01

Date Collected: 12/02/14 12:00

Client ID: SS-COMP

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	220	--	1
1,4-Dichlorobenzene	ND		ug/kg	220	--	1
Methyl tert butyl ether	ND		ug/kg	110	--	1
p/m-Xylene	ND		ug/kg	110	--	1
o-Xylene	ND		ug/kg	110	--	1
Xylenes, Total	ND		ug/kg	110	--	1
cis-1,2-Dichloroethene	ND		ug/kg	56	--	1
1,2-Dichloroethene, Total	ND		ug/kg	56	--	1
Dibromomethane	ND		ug/kg	220	--	1
1,2,3-Trichloropropane	ND		ug/kg	220	--	1
Styrene	ND		ug/kg	110	--	1
Dichlorodifluoromethane	ND		ug/kg	560	--	1
Acetone	ND		ug/kg	2000	--	1
Carbon disulfide	ND		ug/kg	220	--	1
Methyl ethyl ketone	ND		ug/kg	560	--	1
Methyl isobutyl ketone	ND		ug/kg	560	--	1
2-Hexanone	ND		ug/kg	560	--	1
Bromochloromethane	ND		ug/kg	220	--	1
Tetrahydrofuran	ND		ug/kg	220	--	1
2,2-Dichloropropane	ND		ug/kg	280	--	1
1,2-Dibromoethane	ND		ug/kg	220	--	1
1,3-Dichloropropane	ND		ug/kg	220	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	56	--	1
Bromobenzene	ND		ug/kg	280	--	1
n-Butylbenzene	ND		ug/kg	56	--	1
sec-Butylbenzene	ND		ug/kg	56	--	1
tert-Butylbenzene	ND		ug/kg	220	--	1
o-Chlorotoluene	ND		ug/kg	220	--	1
p-Chlorotoluene	ND		ug/kg	220	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	220	--	1
Isopropylbenzene	ND		ug/kg	56	--	1
p-Isopropyltoluene	ND		ug/kg	56	--	1
Naphthalene	ND		ug/kg	220	--	1
n-Propylbenzene	ND		ug/kg	56	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	220	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	220	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	220	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	220	--	1

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-01  
 Client ID: SS-COMP  
 Sample Location: 102 &104 LOWELL RD. NORTH READING

Date Collected: 12/02/14 12:00  
 Date Received: 12/03/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
Diethyl ether	ND		ug/kg	280	--	1
Diisopropyl Ether	ND		ug/kg	220	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	220	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	220	--	1
1,4-Dioxane	ND		ug/kg	5600	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-02  
 Client ID: TP-3  
 Sample Location: 102 &104 LOWELL RD. NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8260C  
 Analytical Date: 12/07/14 13:21  
 Analyst: BN  
 Percent Solids: 84%

Date Collected: 12/02/14 12:15  
 Date Received: 12/03/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	7.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.79	--	1
1,2-Dichloropropane	ND		ug/kg	2.8	--	1
Dibromochloromethane	ND		ug/kg	0.79	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.79	--	1
Chlorobenzene	ND		ug/kg	0.79	--	1
Trichlorofluoromethane	ND		ug/kg	3.2	--	1
1,2-Dichloroethane	ND		ug/kg	0.79	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.79	--	1
Bromodichloromethane	ND		ug/kg	0.79	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.79	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.79	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.79	--	1
1,1-Dichloropropene	ND		ug/kg	3.2	--	1
Bromoform	ND		ug/kg	3.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.79	--	1
Benzene	ND		ug/kg	0.79	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	0.79	--	1
Chloromethane	ND		ug/kg	3.2	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	1.6	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.79	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
Trichloroethene	ND		ug/kg	0.79	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.2	--	1

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

Lab ID: L1428969-02

Date Collected: 12/02/14 12:15

Client ID: TP-3

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
1,3-Dichlorobenzene	ND		ug/kg	3.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.2	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	1.6	--	1
Xylenes, Total	ND		ug/kg	1.6	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.79	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.79	--	1
Dibromomethane	ND		ug/kg	3.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.2	--	1
Styrene	ND		ug/kg	1.6	--	1
Dichlorodifluoromethane	ND		ug/kg	7.9	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	3.2	--	1
Methyl ethyl ketone	ND		ug/kg	7.9	--	1
Methyl isobutyl ketone	ND		ug/kg	7.9	--	1
2-Hexanone	ND		ug/kg	7.9	--	1
Bromochloromethane	ND		ug/kg	3.2	--	1
Tetrahydrofuran	ND		ug/kg	3.2	--	1
2,2-Dichloropropane	ND		ug/kg	3.9	--	1
1,2-Dibromoethane	ND		ug/kg	3.2	--	1
1,3-Dichloropropane	ND		ug/kg	3.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.79	--	1
Bromobenzene	ND		ug/kg	3.9	--	1
n-Butylbenzene	ND		ug/kg	0.79	--	1
sec-Butylbenzene	ND		ug/kg	0.79	--	1
tert-Butylbenzene	ND		ug/kg	3.2	--	1
o-Chlorotoluene	ND		ug/kg	3.2	--	1
p-Chlorotoluene	ND		ug/kg	3.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.2	--	1
Isopropylbenzene	ND		ug/kg	0.79	--	1
p-Isopropyltoluene	ND		ug/kg	0.79	--	1
Naphthalene	ND		ug/kg	3.2	--	1
n-Propylbenzene	ND		ug/kg	0.79	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.2	--	1

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-02  
 Client ID: TP-3  
 Sample Location: 102 &104 LOWELL RD. NORTH READING

Date Collected: 12/02/14 12:15  
 Date Received: 12/03/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
Diethyl ether	ND		ug/kg	3.9	--	1
Diisopropyl Ether	ND		ug/kg	3.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.2	--	1
1,4-Dioxane	ND		ug/kg	32	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	90		70-130

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

**Lab ID:** L1428969-03  
**Client ID:** TRIP BLANK  
**Sample Location:** 102 &104 LOWELL RD. NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 97,8260C  
**Analytical Date:** 12/05/14 15:44  
**Analyst:** MV  
**Percent Solids:** Results reported on an 'AS RECEIVED' basis.

**Date Collected:** 12/02/14 00:00  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 5035 High - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	500	--	1
1,1-Dichloroethane	ND		ug/kg	75	--	1
Chloroform	ND		ug/kg	75	--	1
Carbon tetrachloride	ND		ug/kg	50	--	1
1,2-Dichloropropane	ND		ug/kg	180	--	1
Dibromochloromethane	ND		ug/kg	50	--	1
1,1,2-Trichloroethane	ND		ug/kg	75	--	1
Tetrachloroethene	ND		ug/kg	50	--	1
Chlorobenzene	ND		ug/kg	50	--	1
Trichlorofluoromethane	ND		ug/kg	200	--	1
1,2-Dichloroethane	ND		ug/kg	50	--	1
1,1,1-Trichloroethane	ND		ug/kg	50	--	1
Bromodichloromethane	ND		ug/kg	50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	50	--	1
cis-1,3-Dichloropropene	ND		ug/kg	50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	50	--	1
1,1-Dichloropropene	ND		ug/kg	200	--	1
Bromoform	ND		ug/kg	200	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--	1
Benzene	ND		ug/kg	50	--	1
Toluene	ND		ug/kg	75	--	1
Ethylbenzene	ND		ug/kg	50	--	1
Chloromethane	ND		ug/kg	200	--	1
Bromomethane	ND		ug/kg	100	--	1
Vinyl chloride	ND		ug/kg	100	--	1
Chloroethane	ND		ug/kg	100	--	1
1,1-Dichloroethene	ND		ug/kg	50	--	1
trans-1,2-Dichloroethene	ND		ug/kg	75	--	1
Trichloroethene	ND		ug/kg	50	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

## SAMPLE RESULTS

Lab ID: L1428969-03

Date Collected: 12/02/14 00:00

Client ID: TRIP BLANK

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
Methyl tert butyl ether	ND		ug/kg	100	--	1
p/m-Xylene	ND		ug/kg	100	--	1
o-Xylene	ND		ug/kg	100	--	1
Xylenes, Total	ND		ug/kg	100	--	1
cis-1,2-Dichloroethene	ND		ug/kg	50	--	1
1,2-Dichloroethene, Total	ND		ug/kg	50	--	1
Dibromomethane	ND		ug/kg	200	--	1
1,2,3-Trichloropropane	ND		ug/kg	200	--	1
Styrene	ND		ug/kg	100	--	1
Dichlorodifluoromethane	ND		ug/kg	500	--	1
Acetone	ND		ug/kg	1800	--	1
Carbon disulfide	ND		ug/kg	200	--	1
Methyl ethyl ketone	ND		ug/kg	500	--	1
Methyl isobutyl ketone	ND		ug/kg	500	--	1
2-Hexanone	ND		ug/kg	500	--	1
Bromochloromethane	ND		ug/kg	200	--	1
Tetrahydrofuran	ND		ug/kg	200	--	1
2,2-Dichloropropane	ND		ug/kg	250	--	1
1,2-Dibromoethane	ND		ug/kg	200	--	1
1,3-Dichloropropane	ND		ug/kg	200	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--	1
Bromobenzene	ND		ug/kg	250	--	1
n-Butylbenzene	ND		ug/kg	50	--	1
sec-Butylbenzene	ND		ug/kg	50	--	1
tert-Butylbenzene	ND		ug/kg	200	--	1
o-Chlorotoluene	ND		ug/kg	200	--	1
p-Chlorotoluene	ND		ug/kg	200	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Isopropylbenzene	ND		ug/kg	50	--	1
p-Isopropyltoluene	ND		ug/kg	50	--	1
Naphthalene	ND		ug/kg	200	--	1
n-Propylbenzene	ND		ug/kg	50	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	200	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	200	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	200	--	1

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-03  
 Client ID: TRIP BLANK  
 Sample Location: 102 &104 LOWELL RD. NORTH READING

Date Collected: 12/02/14 00:00  
 Date Received: 12/03/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 5035 High - Westborough Lab</b>						
Diethyl ether	ND		ug/kg	250	--	1
Diisopropyl Ether	ND		ug/kg	200	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--	1
1,4-Dioxane	ND		ug/kg	5000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

Lab ID: L1428969-03  
 Client ID: TRIP BLANK  
 Sample Location: 102 &104 LOWELL RD. NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8260C  
 Analytical Date: 12/07/14 13:47  
 Analyst: BN  
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 12/02/14 00:00  
 Date Received: 12/03/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	10	--	1
1,1-Dichloroethane	ND		ug/kg	1.5	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	3.5	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.5	--	1
Tetrachloroethene	ND		ug/kg	1.0	--	1
Chlorobenzene	ND		ug/kg	1.0	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	1.0	--	1
Bromodichloromethane	ND		ug/kg	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
1,3-Dichloropropene, Total	ND		ug/kg	1.0	--	1
1,1-Dichloropropene	ND		ug/kg	4.0	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--	1
Benzene	ND		ug/kg	1.0	--	1
Toluene	ND		ug/kg	1.5	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	2.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1
Trichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichlorobenzene	ND		ug/kg	4.0	--	1

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

## SAMPLE RESULTS

Lab ID: L1428969-03

Date Collected: 12/02/14 00:00

Client ID: TRIP BLANK

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	4.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	4.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	2.0	--	1
Xylenes, Total	ND		ug/kg	2.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	4.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	4.0	--	1
Styrene	ND		ug/kg	2.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	ND		ug/kg	36	--	1
Carbon disulfide	ND		ug/kg	4.0	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	4.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	5.0	--	1
1,2-Dibromoethane	ND		ug/kg	4.0	--	1
1,3-Dichloropropane	ND		ug/kg	4.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--	1
Bromobenzene	ND		ug/kg	5.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	4.0	--	1
o-Chlorotoluene	ND		ug/kg	4.0	--	1
p-Chlorotoluene	ND		ug/kg	4.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	4.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.0	--	1

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

Lab ID: L1428969-03

Date Collected: 12/02/14 00:00

Client ID: TRIP BLANK

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics by 8260/5035 - Westborough Lab</b>						
Diethyl ether	ND		ug/kg	5.0	--	1
Diisopropyl Ether	ND		ug/kg	4.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.0	--	1
1,4-Dioxane	ND		ug/kg	40	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	97		70-130

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8260C  
Analytical Date: 12/05/14 09:08  
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03 Batch: WG746056-3					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8260C  
Analytical Date: 12/05/14 09:08  
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03 Batch: WG746056-3					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8260C  
Analytical Date: 12/05/14 09:08  
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03 Batch: WG746056-3					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	5000	--

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

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8260C  
Analytical Date: 12/07/14 11:10  
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG746474-3					
Methylene chloride	ND		ug/kg	10	--
1,1-Dichloroethane	ND		ug/kg	1.5	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	3.5	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.5	--
Tetrachloroethene	ND		ug/kg	1.0	--
Chlorobenzene	ND		ug/kg	1.0	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	1.0	--
Bromodichloromethane	ND		ug/kg	1.0	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--
1,3-Dichloropropene, Total	ND		ug/kg	1.0	--
1,1-Dichloropropene	ND		ug/kg	4.0	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--
Benzene	ND		ug/kg	1.0	--
Toluene	ND		ug/kg	1.5	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	2.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	1.0	--

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8260C  
Analytical Date: 12/07/14 11:10  
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG746474-3					
1,2-Dichlorobenzene	ND		ug/kg	4.0	--
1,3-Dichlorobenzene	ND		ug/kg	4.0	--
1,4-Dichlorobenzene	ND		ug/kg	4.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	2.0	--
Xylenes, Total	ND		ug/kg	2.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	4.0	--
1,2,3-Trichloropropane	ND		ug/kg	4.0	--
Styrene	ND		ug/kg	2.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	36	--
Carbon disulfide	ND		ug/kg	4.0	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	4.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	5.0	--
1,2-Dibromoethane	ND		ug/kg	4.0	--
1,3-Dichloropropane	ND		ug/kg	4.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--
Bromobenzene	ND		ug/kg	5.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	4.0	--
o-Chlorotoluene	ND		ug/kg	4.0	--

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 97,8260C  
**Analytical Date:** 12/07/14 11:10  
**Analyst:** BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG746474-3					
p-Chlorotoluene	ND		ug/kg	4.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	4.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	4.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	4.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	4.0	--
Diethyl ether	ND		ug/kg	5.0	--
Diisopropyl Ether	ND		ug/kg	4.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.0	--
1,4-Dioxane	ND		ug/kg	40	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	87		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG746056-1 WG746056-2								
Methylene chloride	122		117		70-130	4		20
1,1-Dichloroethane	118		116		70-130	2		20
Chloroform	116		114		70-130	2		20
Carbon tetrachloride	123		121		70-130	2		20
1,2-Dichloropropane	114		111		70-130	3		20
Dibromochloromethane	101		98		70-130	3		20
1,1,2-Trichloroethane	103		100		70-130	3		20
Tetrachloroethene	114		112		70-130	2		20
Chlorobenzene	106		104		70-130	2		20
Trichlorofluoromethane	134	Q	132	Q	70-130	2		20
1,2-Dichloroethane	114		111		70-130	3		20
1,1,1-Trichloroethane	122		120		70-130	2		20
Bromodichloromethane	114		111		70-130	3		20
trans-1,3-Dichloropropene	103		101		70-130	2		20
cis-1,3-Dichloropropene	113		110		70-130	3		20
1,1-Dichloropropene	124		122		70-130	2		20
Bromoform	96		93		70-130	3		20
1,1,2,2-Tetrachloroethane	98		94		70-130	4		20
Benzene	118		115		70-130	3		20
Toluene	106		104		70-130	2		20
Ethylbenzene	110		108		70-130	2		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG746056-1 WG746056-2								
Chloromethane	135	Q	132	Q	70-130	2		20
Bromomethane	113		105		70-130	7		20
Vinyl chloride	127		127		70-130	0		20
Chloroethane	133	Q	130		70-130	2		20
1,1-Dichloroethene	116		111		70-130	4		20
trans-1,2-Dichloroethene	119		118		70-130	1		20
Trichloroethene	121		118		70-130	3		20
1,2-Dichlorobenzene	103		100		70-130	3		20
1,3-Dichlorobenzene	107		103		70-130	4		20
1,4-Dichlorobenzene	104		101		70-130	3		20
Methyl tert butyl ether	108		106		70-130	2		20
p/m-Xylene	112		109		70-130	3		20
o-Xylene	110		107		70-130	3		20
cis-1,2-Dichloroethene	117		114		70-130	3		20
Dibromomethane	110		107		70-130	3		20
1,2,3-Trichloropropane	96		94		70-130	2		20
Styrene	109		106		70-130	3		20
Dichlorodifluoromethane	118		118		70-130	0		20
Acetone	96		95		70-130	1		20
Carbon disulfide	124		118		70-130	5		20
Methyl ethyl ketone	96		99		70-130	3		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG746056-1 WG746056-2								
Methyl isobutyl ketone	104		101		70-130	3		20
2-Hexanone	93		86		70-130	8		20
Bromochloromethane	115		111		70-130	4		20
Tetrahydrofuran	109		106		70-130	3		20
2,2-Dichloropropane	122		119		70-130	2		20
1,2-Dibromoethane	100		98		70-130	2		20
1,3-Dichloropropane	103		99		70-130	4		20
1,1,1,2-Tetrachloroethane	105		103		70-130	2		20
Bromobenzene	102		99		70-130	3		20
n-Butylbenzene	120		116		70-130	3		20
sec-Butylbenzene	111		108		70-130	3		20
tert-Butylbenzene	107		106		70-130	1		20
o-Chlorotoluene	106		104		70-130	2		20
p-Chlorotoluene	107		104		70-130	3		20
1,2-Dibromo-3-chloropropane	92		85		70-130	8		20
Hexachlorobutadiene	112		112		70-130	0		20
Isopropylbenzene	108		106		70-130	2		20
p-Isopropyltoluene	112		110		70-130	2		20
Naphthalene	92		88		70-130	4		20
n-Propylbenzene	111		108		70-130	3		20
1,2,3-Trichlorobenzene	102		100		70-130	2		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03 Batch: WG746056-1 WG746056-2								
1,2,4-Trichlorobenzene	107		104		70-130	3		20
1,3,5-Trimethylbenzene	109		106		70-130	3		20
1,2,4-Trimethylbenzene	107		105		70-130	2		20
Diethyl ether	114		110		70-130	4		20
Diisopropyl Ether	116		113		70-130	3		20
Ethyl-Tert-Butyl-Ether	110		107		70-130	3		20
Tertiary-Amyl Methyl Ether	107		105		70-130	2		20
1,4-Dioxane	104		102		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		102		70-130
Toluene-d8	94		95		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	102		103		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG746474-1 WG746474-2								
Methylene chloride	122		112		70-130	9		20
1,1-Dichloroethane	127		116		70-130	9		20
Chloroform	114		104		70-130	9		20
Carbon tetrachloride	100		88		70-130	13		20
1,2-Dichloropropane	135	Q	124		70-130	8		20
Dibromochloromethane	90		83		70-130	8		20
1,1,2-Trichloroethane	111		105		70-130	6		20
Tetrachloroethene	87		77		70-130	12		20
Chlorobenzene	95		87		70-130	9		20
Trichlorofluoromethane	100		86		70-130	15		20
1,2-Dichloroethane	114		106		70-130	7		20
1,1,1-Trichloroethane	104		92		70-130	12		20
Bromodichloromethane	110		102		70-130	8		20
trans-1,3-Dichloropropene	108		100		70-130	8		20
cis-1,3-Dichloropropene	120		111		70-130	8		20
1,1-Dichloropropene	120		105		70-130	13		20
Bromoform	81		77		70-130	5		20
1,1,2,2-Tetrachloroethane	104		98		70-130	6		20
Benzene	125		113		70-130	10		20
Toluene	101		91		70-130	10		20
Ethylbenzene	98		89		70-130	10		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG746474-1 WG746474-2								
Chloromethane	132	Q	118		70-130	11		20
Bromomethane	108		98		70-130	10		20
Vinyl chloride	97		85		70-130	13		20
Chloroethane	112		85		70-130	27	Q	20
1,1-Dichloroethene	108		95		70-130	13		20
trans-1,2-Dichloroethene	112		100		70-130	11		20
Trichloroethene	110		98		70-130	12		20
1,2-Dichlorobenzene	85		78		70-130	9		20
1,3-Dichlorobenzene	86		79		70-130	8		20
1,4-Dichlorobenzene	86		79		70-130	8		20
Methyl tert butyl ether	109		102		70-130	7		20
p/m-Xylene	94		85		70-130	10		20
o-Xylene	92		84		70-130	9		20
cis-1,2-Dichloroethene	113		104		70-130	8		20
Dibromomethane	111		102		70-130	8		20
1,2,3-Trichloropropane	104		97		70-130	7		20
Styrene	89		81		70-130	9		20
Dichlorodifluoromethane	100		85		70-130	16		20
Acetone	121		109		70-130	10		20
Carbon disulfide	82		70		70-130	16		20
Methyl ethyl ketone	129		120		70-130	7		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG746474-1 WG746474-2								
Methyl isobutyl ketone	105		102		70-130	3		20
2-Hexanone	87		83		70-130	5		20
Bromochloromethane	107		100		70-130	7		20
Tetrahydrofuran	120		126		70-130	5		20
2,2-Dichloropropane	109		95		70-130	14		20
1,2-Dibromoethane	96		91		70-130	5		20
1,3-Dichloropropane	114		106		70-130	7		20
1,1,1,2-Tetrachloroethane	91		85		70-130	7		20
Bromobenzene	84		78		70-130	7		20
n-Butylbenzene	93		84		70-130	10		20
sec-Butylbenzene	89		80		70-130	11		20
tert-Butylbenzene	85		77		70-130	10		20
o-Chlorotoluene	96		87		70-130	10		20
p-Chlorotoluene	95		86		70-130	10		20
1,2-Dibromo-3-chloropropane	74		68	Q	70-130	8		20
Hexachlorobutadiene	78		70		70-130	11		20
Isopropylbenzene	87		78		70-130	11		20
p-Isopropyltoluene	85		76		70-130	11		20
Naphthalene	81		76		70-130	6		20
n-Propylbenzene	94		84		70-130	11		20
1,2,3-Trichlorobenzene	82		77		70-130	6		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG746474-1 WG746474-2								
1,2,4-Trichlorobenzene	82		76		70-130	8		20
1,3,5-Trimethylbenzene	89		81		70-130	9		20
1,2,4-Trimethylbenzene	88		80		70-130	10		20
Diethyl ether	117		108		70-130	8		20
Diisopropyl Ether	135	Q	125		70-130	8		20
Ethyl-Tert-Butyl-Ether	119		112		70-130	6		20
Tertiary-Amyl Methyl Ether	112		105		70-130	6		20
1,4-Dioxane	123		117		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	103		103		70-130
Dibromofluoromethane	96		95		70-130

# SEMIVOLATILES

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

**Lab ID:** L1428969-01  
**Client ID:** SS-COMP  
**Sample Location:** 102 &104 LOWELL RD. NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 97,8270D  
**Analytical Date:** 12/09/14 02:58  
**Analyst:** PS  
**Percent Solids:** 83%

**Date Collected:** 12/02/14 12:00  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/05/14 16:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	120	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	200	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	260		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	160	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	200	--	1
Benzo(a)anthracene	160		ug/kg	120	--	1
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	210		ug/kg	120	--	1

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

Lab ID: L1428969-01

Date Collected: 12/02/14 12:00

Client ID: SS-COMP

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	160		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	160	--	1
Pyrene	210		ug/kg	120	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	230	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	120	--	1
2-Chlorophenol	ND		ug/kg	200	--	1
2,4-Dichlorophenol	ND		ug/kg	180	--	1
2,4-Dimethylphenol	ND		ug/kg	200	--	1
2-Nitrophenol	ND		ug/kg	420	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	940	--	1
Pentachlorophenol	ND		ug/kg	390	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	79		30-130
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	85		30-130
2,4,6-Tribromophenol	101		30-130
4-Terphenyl-d14	83		30-130

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-02  
 Client ID: TP-3  
 Sample Location: 102 &104 LOWELL RD. NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8270D  
 Analytical Date: 12/09/14 03:23  
 Analyst: PS  
 Percent Solids: 84%

Date Collected: 12/02/14 12:15  
 Date Received: 12/03/14  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/05/14 16:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	120	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	190	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	190	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	200		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	160	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	190	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

Lab ID: L1428969-02

Date Collected: 12/02/14 12:15

Client ID: TP-3

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READING

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	160	--	1
Pyrene	160		ug/kg	120	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	230	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	120	--	1
2-Chlorophenol	ND		ug/kg	190	--	1
2,4-Dichlorophenol	ND		ug/kg	170	--	1
2,4-Dimethylphenol	ND		ug/kg	190	--	1
2-Nitrophenol	ND		ug/kg	420	--	1
4-Nitrophenol	ND		ug/kg	270	--	1
2,4-Dinitrophenol	ND		ug/kg	930	--	1
Pentachlorophenol	ND		ug/kg	390	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		30-130
Phenol-d6	77		30-130
Nitrobenzene-d5	89		30-130
2-Fluorobiphenyl	88		30-130
2,4,6-Tribromophenol	17	Q	30-130
4-Terphenyl-d14	88		30-130

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8270D  
Analytical Date: 12/08/14 11:33  
Analyst: PS

Extraction Method: EPA 3546  
Extraction Date: 12/05/14 16:09

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG746079-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	97	--
Bis(2-chloroethyl)ether	ND		ug/kg	140	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8270D  
Analytical Date: 12/08/14 11:33  
Analyst: PS

Extraction Method: EPA 3546  
Extraction Date: 12/05/14 16:09

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG746079-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	97	--
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	190	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	97	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	140	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 97,8270D  
 Analytical Date: 12/08/14 11:33  
 Analyst: PS

Extraction Method: EPA 3546  
 Extraction Date: 12/05/14 16:09

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG746079-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		30-130
Phenol-d6	59		30-130
Nitrobenzene-d5	57		30-130
2-Fluorobiphenyl	62		30-130
2,4,6-Tribromophenol	82		30-130
4-Terphenyl-d14	88		30-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG746079-2 WG746079-3								
Acenaphthene	90		74		40-140	20		30
1,2,4-Trichlorobenzene	90		68		40-140	28		30
Hexachlorobenzene	96		80		40-140	18		30
Bis(2-chloroethyl)ether	82		61		40-140	29		30
2-Chloronaphthalene	93		74		40-140	23		30
1,2-Dichlorobenzene	85		59		40-140	<b>36</b>	Q	30
1,3-Dichlorobenzene	82		56		40-140	<b>38</b>	Q	30
1,4-Dichlorobenzene	81		57		40-140	<b>35</b>	Q	30
3,3'-Dichlorobenzidine	91		85		40-140	7		30
2,4-Dinitrotoluene	109		93		40-140	16		30
2,6-Dinitrotoluene	106		91		40-140	15		30
Azobenzene	100		84		40-140	17		30
Fluoranthene	101		85		40-140	17		30
4-Bromophenyl phenyl ether	96		82		40-140	16		30
Bis(2-chloroisopropyl)ether	82		62		40-140	28		30
Bis(2-chloroethoxy)methane	88		66		40-140	29		30
Hexachlorobutadiene	84		64		40-140	27		30
Hexachloroethane	77		53		40-140	<b>37</b>	Q	30
Isophorone	86		68		40-140	23		30
Naphthalene	85		65		40-140	27		30
Nitrobenzene	94		73		40-140	25		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG746079-2 WG746079-3								
Bis(2-Ethylhexyl)phthalate	105		88		40-140	18		30
Butyl benzyl phthalate	101		85		40-140	17		30
Di-n-butylphthalate	100		85		40-140	16		30
Di-n-octylphthalate	106		90		40-140	16		30
Diethyl phthalate	96		82		40-140	16		30
Dimethyl phthalate	94		80		40-140	16		30
Benzo(a)anthracene	99		86		40-140	14		30
Benzo(a)pyrene	101		86		40-140	16		30
Benzo(b)fluoranthene	101		88		40-140	14		30
Benzo(k)fluoranthene	93		80		40-140	15		30
Chrysene	97		82		40-140	17		30
Acenaphthylene	96		78		40-140	21		30
Anthracene	96		81		40-140	17		30
Benzo(ghi)perylene	94		80		40-140	16		30
Fluorene	95		80		40-140	17		30
Phenanthrene	96		82		40-140	16		30
Dibenzo(a,h)anthracene	96		81		40-140	17		30
Indeno(1,2,3-cd)Pyrene	99		84		40-140	16		30
Pyrene	98		83		40-140	17		30
Aniline	68		55		40-140	21		30
4-Chloroaniline	99		79		40-140	22		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY CENTER

Project Number: Not Specified

Lab Number: L1428969

Report Date: 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG746079-2 WG746079-3								
Dibenzofuran	98		81		40-140	19		30
2-Methylnaphthalene	97		78		40-140	22		30
Acetophenone	93		70		40-140	28		30
2,4,6-Trichlorophenol	114		92		30-130	21		30
2-Chlorophenol	99		73		30-130	30		30
2,4-Dichlorophenol	105		84		30-130	22		30
2,4-Dimethylphenol	99		78		30-130	24		30
2-Nitrophenol	107		80		30-130	29		30
4-Nitrophenol	117		99		30-130	17		30
2,4-Dinitrophenol	20	Q	33		30-130	49	Q	30
Pentachlorophenol	115		93		30-130	21		30
Phenol	96		74		30-130	26		30
2-Methylphenol	98		75		30-130	27		30
3-Methylphenol/4-Methylphenol	101		77		30-130	27		30
2,4,5-Trichlorophenol	108		88		30-130	20		30

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
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MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG746079-2 WG746079-3

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
2-Fluorophenol	97		71		30-130
Phenol-d6	102		76		30-130
Nitrobenzene-d5	102		75		30-130
2-Fluorobiphenyl	98		76		30-130
2,4,6-Tribromophenol	116		95		30-130
4-Terphenyl-d14	105		90		30-130

# **PETROLEUM HYDROCARBONS**

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

**Lab ID:** L1428969-01      D  
**Client ID:** SS-COMP  
**Sample Location:** 102 &104 LOWELL RD. NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 12/05/14 19:21  
**Analyst:** AR  
**Percent Solids:** 83%

**Date Collected:** 12/02/14 12:00  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/04/14 15:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
--	--	--	--	--	--	--

TPH	147000		ug/kg	77400	--	2
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		40-140

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-02  
 Client ID: TP-3  
 Sample Location: 102 &104 LOWELL RD. NORTH READING  
 Matrix: Soil  
 Analytical Method: 1,8015C(M)  
 Analytical Date: 12/05/14 23:44  
 Analyst: AR  
 Percent Solids: 84%

Date Collected: 12/02/14 12:15  
 Date Received: 12/03/14  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/04/14 15:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
--	--	--	--	--	--	--

TPH	59900		ug/kg	38400	--	1
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	74		40-140

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8015C(M)  
 Analytical Date: 12/05/14 11:19  
 Analyst: AR

Extraction Method: EPA 3546  
 Extraction Date: 12/04/14 15:47

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-02 Batch: WG745738-1					
TPH	ND		ug/kg	31600	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		40-140

### Lab Control Sample Analysis Batch Quality Control

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-02 Batch: WG745738-2								
TPH	78		-		40-140	-		40

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
o-Terphenyl	83				40-140

**Lab Duplicate Analysis**  
**Batch Quality Control**

**Project Name:** JT BERRY CENTER

**Project Number:** Not Specified

**Lab Number:** L1428969

**Report Date:** 12/10/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG745738-3 QC Sample: L1428623-02 Client ID: DUP Sample						
TPH	251000	275000	ug/kg	9		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	81		86		40-140

# PCBS

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

**Lab ID:** L1428969-01  
**Client ID:** SS-COMP  
**Sample Location:** 102 &104 LOWELL RD. NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 97,8082  
**Analytical Date:** 12/05/14 20:52  
**Analyst:** JT  
**Percent Solids:** 83%

**Date Collected:** 12/02/14 12:00  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/04/14 17:15  
**Cleanup Method:** EPA 3665A  
**Cleanup Date:** 12/05/14  
**Cleanup Method:** EPA 3660B  
**Cleanup Date:** 12/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	38.6	--	1	A
Aroclor 1221	ND		ug/kg	38.6	--	1	A
Aroclor 1232	ND		ug/kg	38.6	--	1	A
Aroclor 1242	ND		ug/kg	38.6	--	1	A
Aroclor 1248	ND		ug/kg	38.6	--	1	A
Aroclor 1254	ND		ug/kg	38.6	--	1	A
Aroclor 1260	ND		ug/kg	38.6	--	1	B
Aroclor 1262	ND		ug/kg	38.6	--	1	A
Aroclor 1268	ND		ug/kg	38.6	--	1	A
PCBs, Total	ND		ug/kg	38.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	92		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	117		30-150	B

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

**Lab ID:** L1428969-02  
**Client ID:** TP-3  
**Sample Location:** 102 &104 LOWELL RD. NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 97,8082  
**Analytical Date:** 12/05/14 21:08  
**Analyst:** JT  
**Percent Solids:** 84%

**Date Collected:** 12/02/14 12:15  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/04/14 17:15  
**Cleanup Method:** EPA 3665A  
**Cleanup Date:** 12/05/14  
**Cleanup Method:** EPA 3660B  
**Cleanup Date:** 12/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	38.7	--	1	A
Aroclor 1221	ND		ug/kg	38.7	--	1	A
Aroclor 1232	ND		ug/kg	38.7	--	1	A
Aroclor 1242	ND		ug/kg	38.7	--	1	A
Aroclor 1248	ND		ug/kg	38.7	--	1	A
Aroclor 1254	44.0		ug/kg	38.7	--	1	B
Aroclor 1260	ND		ug/kg	38.7	--	1	B
Aroclor 1262	ND		ug/kg	38.7	--	1	A
Aroclor 1268	ND		ug/kg	38.7	--	1	A
PCBs, Total	44.0		ug/kg	38.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	107		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	124		30-150	B

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**Method Blank Analysis  
 Batch Quality Control**

Analytical Method: 97,8082  
 Analytical Date: 12/05/14 09:25  
 Analyst: JT

Extraction Method: EPA 3546  
 Extraction Date: 12/04/14 17:15  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/05/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/05/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG745766-1						
Aroclor 1016	ND		ug/kg	32.1	--	A
Aroclor 1221	ND		ug/kg	32.1	--	A
Aroclor 1232	ND		ug/kg	32.1	--	A
Aroclor 1242	ND		ug/kg	32.1	--	A
Aroclor 1248	ND		ug/kg	32.1	--	A
Aroclor 1254	ND		ug/kg	32.1	--	A
Aroclor 1260	ND		ug/kg	32.1	--	A
Aroclor 1262	ND		ug/kg	32.1	--	A
Aroclor 1268	ND		ug/kg	32.1	--	A
PCBs, Total	ND		ug/kg	32.1	--	A

Surrogate	%Recovery	Qualifier	Acceptance	Column
			Criteria	
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	110		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	125		30-150	B



### Lab Control Sample Analysis Batch Quality Control

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG745766-2 WG745766-3									
Aroclor 1016	70		66		40-140	6		30	A
Aroclor 1260	81		72		40-140	12		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		79		30-150	A
Decachlorobiphenyl	123		109		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		84		30-150	B
Decachlorobiphenyl	137		126		30-150	B

## METALS

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

Lab ID: L1428969-01  
 Client ID: SS-COMP  
 Sample Location: 102 &104 LOWELL RD. NORTH READ  
 Matrix: Soil  
 Percent Solids: 83%

Date Collected: 12/02/14 12:00  
 Date Received: 12/03/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Total Metals - Westborough Lab</b>											
Arsenic, Total	7.6		mg/kg	0.48	--	1	12/04/14 20:51	12/05/14 13:32	EPA 3050B	97,6010C	BC
Cadmium, Total	ND		mg/kg	0.48	--	1	12/04/14 20:51	12/05/14 13:32	EPA 3050B	97,6010C	BC
Chromium, Total	15		mg/kg	0.48	--	1	12/04/14 20:51	12/05/14 13:32	EPA 3050B	97,6010C	BC
Lead, Total	44		mg/kg	2.4	--	1	12/04/14 20:51	12/05/14 13:32	EPA 3050B	97,6010C	BC
Mercury, Total	0.114		mg/kg	0.080	--	1	12/04/14 08:43	12/04/14 15:24	EPA 7471B	97,7471B	MC



Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

## SAMPLE RESULTS

Lab ID: L1428969-02

Date Collected: 12/02/14 12:15

Client ID: TP-3

Date Received: 12/03/14

Sample Location: 102 &amp;104 LOWELL RD. NORTH READ

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Arsenic, Total	8.9		mg/kg	0.46	--	1	12/04/14 20:51	12/05/14 13:36	EPA 3050B	97,6010C	BC
Cadmium, Total	ND		mg/kg	0.46	--	1	12/04/14 20:51	12/05/14 13:36	EPA 3050B	97,6010C	BC
Chromium, Total	14		mg/kg	0.46	--	1	12/04/14 20:51	12/05/14 13:36	EPA 3050B	97,6010C	BC
Lead, Total	40		mg/kg	2.3	--	1	12/04/14 20:51	12/05/14 13:36	EPA 3050B	97,6010C	BC
Mercury, Total	ND		mg/kg	0.079	--	1	12/04/14 08:43	12/04/14 15:26	EPA 7471B	97,7471B	MC



**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

### Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01-02 Batch: WG745492-1									
Mercury, Total	ND	mg/kg	0.083	--	1	12/04/14 08:43	12/04/14 15:04	97,7471B	MC

#### Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01-02 Batch: WG745810-1									
Arsenic, Total	ND	mg/kg	0.40	--	1	12/04/14 20:51	12/05/14 10:19	97,6010C	BC
Cadmium, Total	ND	mg/kg	0.40	--	1	12/04/14 20:51	12/05/14 10:19	97,6010C	BC
Chromium, Total	ND	mg/kg	0.40	--	1	12/04/14 20:51	12/05/14 10:19	97,6010C	BC
Lead, Total	ND	mg/kg	2.0	--	1	12/04/14 20:51	12/05/14 10:19	97,6010C	BC

#### Prep Information

Digestion Method: EPA 3050B

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** JT BERRY CENTER

**Project Number:** Not Specified

**Lab Number:** L1428969

**Report Date:** 12/10/14

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Total Metals - Westborough Lab Associated sample(s): 01-02 Batch: WG745492-2 WG745492-3 SRM Lot Number: D083-540								
Mercury, Total	103		104		75-126	1		30
MCP Total Metals - Westborough Lab Associated sample(s): 01-02 Batch: WG745810-2 WG745810-3 SRM Lot Number: D083-540								
Arsenic, Total	106		106		78-122	0		30
Cadmium, Total	90		91		82-118	1		30
Chromium, Total	90		91		79-121	1		30
Lead, Total	86		90		81-119	5		30

# **INORGANICS & MISCELLANEOUS**

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

**SAMPLE RESULTS**

**Lab ID:** L1428969-01  
**Client ID:** SS-COMP  
**Sample Location:** 102 &104 LOWELL RD. NORTH READ  
**Matrix:** Soil

**Date Collected:** 12/02/14 12:00  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Specific Conductance	41		umhos/cm	10	--	1	-	12/03/14 23:50	1,9050A	AS
Solids, Total	83.4		%	0.100	NA	1	-	12/03/14 22:02	30,2540G	RT



**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**SAMPLE RESULTS**

**Lab ID:** L1428969-02  
**Client ID:** TP-3  
**Sample Location:** 102 &104 LOWELL RD. NORTH READ  
**Matrix:** Soil

**Date Collected:** 12/02/14 12:15  
**Date Received:** 12/03/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Specific Conductance	290		umhos/cm	10	--	1	-	12/03/14 23:50	1,9050A	AS
Solids, Total	84.4		%	0.100	NA	1	-	12/03/14 22:02	30,2540G	RT



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** JT BERRY CENTER

**Lab Number:** L1428969

**Project Number:** Not Specified

**Report Date:** 12/10/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG745459-1								
Specific Conductance	96		-		80-120	-		

## Lab Duplicate Analysis

Batch Quality Control

Project Name: JT BERRY CENTER

Project Number: Not Specified

Lab Number: L1428969

Report Date: 12/10/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG745429-1 QC Sample: L1428914-01 Client ID: DUP Sample						
Solids, Total	80.8	80.2	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG745459-2 QC Sample: L1428977-01 Client ID: DUP Sample						
Specific Conductance	410	400	umhos/cm	2		20

Project Name: JT BERRY CENTER

Lab Number: L1428969

Project Number: Not Specified

Report Date: 12/10/14

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 12/03/2014 22:42

## Cooler Information Custody Seal

## Cooler

A Absent

## Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1428969-01A	Vial MeOH preserved	A	N/A	4.3	Y	Absent	MCP-8260HLW-10(14)
L1428969-01B	Vial water preserved	A	N/A	4.3	Y	Absent	MCP-8260HLW-10(14)
L1428969-01C	Vial water preserved	A	N/A	4.3	Y	Absent	MCP-8260HLW-10(14)
L1428969-01D	Glass 250ml/8oz unpreserved	A	N/A	4.3	Y	Absent	MCP-8082-10(365),MCP-CR-6010T-10(180),MCP-8270-10(14),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),TPH-DRO-D(14),COND-9050(28),MCP-PB-6010T-10(180)
L1428969-01E	Glass 250ml/8oz unpreserved	A	N/A	4.3	Y	Absent	MCP-8082-10(365),MCP-CR-6010T-10(180),MCP-8270-10(14),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),TPH-DRO-D(14),COND-9050(28),MCP-PB-6010T-10(180)
L1428969-02A	Vial MeOH preserved	A	N/A	4.3	Y	Absent	MCP-8260HLW-10(14)
L1428969-02B	Vial water preserved	A	N/A	4.3	Y	Absent	MCP-8260HLW-10(14)
L1428969-02C	Vial water preserved	A	N/A	4.3	Y	Absent	MCP-8260HLW-10(14)
L1428969-02D	Glass 250ml/8oz unpreserved	A	N/A	4.3	Y	Absent	MCP-8082-10(365),MCP-CR-6010T-10(180),MCP-8270-10(14),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),TPH-DRO-D(14),COND-9050(28),MCP-PB-6010T-10(180)
L1428969-02E	Glass 250ml/8oz unpreserved	A	N/A	4.3	Y	Absent	MCP-8082-10(365),MCP-CR-6010T-10(180),MCP-8270-10(14),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),TS(7),TPH-DRO-D(14),COND-9050(28),MCP-PB-6010T-10(180)
L1428969-03A	Vial MeOH preserved	A	N/A	4.3	Y	Absent	MCP-8260H-10(14),MCP-8260HLW-10(14)

\*Values in parentheses indicate holding time in days

**Project Name:** JT BERRY CENTER**Project Number:** Not Specified**Lab Number:** L1428969**Report Date:** 12/10/14**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Analysis(*)</b>
L1428969-03B	Vial water preserved	A	N/A	4.3	Y	Absent	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1428969-03C	Vial water preserved	A	N/A	4.3	Y	Absent	MCP-8260H-10(14),MCP-8260HLW-10(14)

\*Values in parentheses indicate holding time in days

**Project Name:** JT BERRY CENTER  
**Project Number:** Not Specified

**Lab Number:** L1428969  
**Report Date:** 12/10/14

## GLOSSARY

### Acronyms

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

### Footnotes

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

### Terms

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

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

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

Report Format: Data Usability Report



**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14**Data Qualifiers**

- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** JT BERRY CENTER**Lab Number:** L1428969**Project Number:** Not Specified**Report Date:** 12/10/14

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

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

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



## Certification Information

Last revised April 15, 2014

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

### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

**EPA 8260C:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

**EPA 8330A/B:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**EPA 625:** 4-Chloroaniline, 4-Methylphenol.

**SM4500:** Soil: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

### Mansfield Facility

**EPA 8270D:** Biphenyl.

**EPA 2540D:** TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:**

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

**SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

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



## CHAIN OF CUSTODY

PAGE 1 OF 1



8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-998-0720

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-8300

Date Rec'd in Lab: 12-3-14

ALPHA Job #: L1428969

Project Name: JT BERRY CENTER

Project Location: 152 #104 LINDSEY RD N. READING

Project #: \_\_\_\_\_

Project Manager: RICK VANDENBERG

ALPHA Quote #: \_\_\_\_\_

**Client Information**

Client: WESTON & SAMPSON

Address: 5 Central Dr  
Pct. body, MA

Phone: 800 SAMPSON

Email: vandenbergr@wscinc.com

Additional Project Information:

**Report Information - Data Deliverables**

ADEX     EMAIL

Same as Client info    PO #:

**Billing Information**

Same as Client info    PO #:

**Regulatory Requirements & Project Information Requirements**

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

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

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

Yes  No NPDES RGP

Other State / Fed Program    Criteria

**Turn-Around Time**

Standard     RUSH (only confirmed if pre-approved)

Date Due: 12-10-14

VOC:	SVOC:	METALS:	METALS:	EPH:	VPH:	TPH:	Other	Criteria	SAMPLE INFO	TOTAL # BOTTLES
<input checked="" type="checkbox"/> 000	<input type="checkbox"/> 004	<input type="checkbox"/> 004.2	<input type="checkbox"/> 004							
<input type="checkbox"/> ABN	<input type="checkbox"/> PAN	<input type="checkbox"/> MCP 13	<input type="checkbox"/> MCP 14	<input type="checkbox"/> MCP 15	<input type="checkbox"/> RCP 14	<input type="checkbox"/> RCP 15	<input type="checkbox"/> RCP 16	<input type="checkbox"/> RCP 17	<input type="checkbox"/> RCP 18	
<input type="checkbox"/> RORAS										
<input type="checkbox"/> Ranges & Targets										
<input type="checkbox"/> PCB	<input type="checkbox"/> PEST	<input type="checkbox"/> Quant Only	<input type="checkbox"/> Fingerprint	<input type="checkbox"/> (COMM-9) - 021	<input type="checkbox"/> TOTAL PB	<input type="checkbox"/> PCBs	<input type="checkbox"/> PCBs	<input type="checkbox"/> PCBs	<input type="checkbox"/> PCBs	
<input type="checkbox"/> Filtration	<input type="checkbox"/> Field	<input type="checkbox"/> Lab to do								

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS	Criteria	Sample Comments	TOTAL # BOTTLES
		Date	Time						
28969-01	SS-CUMP		1200				X		5
02	TP-3		1215				X		5
	SS-1		0800				X	X	1
	SS-2		0855				X	X	1
	SS-3		0915				X	X	1
	SS-4		1015				X	X	1
03	TRIP BLANKS					X			3

Container Type	Preservative	Container Type	Preservative	Date/Time	Date/Time
P= Plastic A= Amber glass V= Vial G= Glass B= Bacteria cup C= Cube O= Other E= Encore D= BOD Bottle	A= None B= HCl C= HNO <sub>3</sub> D= H <sub>2</sub> SO <sub>4</sub> E= NaOH F= MeOH G= NaHSO <sub>4</sub> H= Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> I= Ascorbic Acid J= NH <sub>4</sub> Cl K= Zn Acetate O= Other	V	A/A	12/3/14 1500	12/3/14 1830

Relinquished By: <u>[Signature]</u>	Date/Time: <u>12/3/14 1500</u>	Received By: <u>[Signature]</u>	Date/Time: <u>12/3/14 1830</u>
-------------------------------------	--------------------------------	---------------------------------	--------------------------------

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

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

7A  
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1428969

Instrument ID: Voal04.i      Calibration Date: 05-DEC-2014      Time: 07:49

Lab File ID: 1205A03      Init. Calib. Date(s): 14-NOV-2      14-NOV-2

Sample No: 8260 CCAL      Init. Calib. Times : 18:34      21:39

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.16305	.19288	.1	18	20	
chloromethane	.31614	.42625	.1	35	20	F
vinyl chloride	.2743	.34871	.1	27	20	F
bromomethane	100	113	.1	13	20	
chloroethane	.13774	.18364	.1	33	20	F
trichlorofluoromethane	.27387	.36578	.1	34	20	F
ethyl ether	.09232	.10544	.05	14	20	
1,1,-dichloroethene	.2177	.25234	.1	16	20	
carbon disulfide	.70085	.87093	.1	24	20	F
methylene chloride	.26137	.31798	.1	22	20	F
acetone	100	96.211	.1	-4	20	
trans-1,2-dichloroethene	.25442	.30317	.1	19	20	
methyl tert butyl ether	.55986	.60754	.1	9	20	
Diisopropyl Ether	.94156	1.0875	.05	15	20	
1,1-dichloroethane	.49595	.58445	.2	18	20	
Ethyl-Tert-Butyl-Ether	.82014	.90379	.05	10	20	
cis-1,2-dichloroethene	.28074	.32881	.1	17	20	
2,2-dichloropropane	.35677	.43416	.05	22	20	F
bromochloromethane	.12861	.14845	.05	15	20	
chloroform	.44837	.51842	.2	16	20	
carbontetrachloride	.32832	.40531	.1	23	20	F
tetrahydrofuran	.06814	.07421	.05	9	20	
1,1,1-trichloroethane	.37681	.46113	.1	22	20	F
2-butanone	.09192	.08804	.1	-4	20	F
1,1-dichloropropene	.33481	.41444	.05	24	20	F
benzene	.97656	1.1535	.5	18	20	
Tertiary-Amyl Methyl Ether	.62875	.67469	.05	7	20	
1,2-dichloroethane	.30244	.34413	.1	14	20	
trichloroethene	.264	.3194	.2	21	20	F
dibromomethane	.14205	.157	.05	11	20	
1,2-dichloropropane	.27957	.31869	.1	14	20	
bromodichloromethane	.33098	.37713	.2	14	20	
1,4-dioxane	.00202	.0021	.05	4	20	F
cis-1,3-dichloropropene	.39239	.44233	.2	13	20	
toluene	.87644	.93053	.4	6	20	
tetrachloroethene	.36363	.41566	.2	14	20	
4-methyl-2-pentanone	.07517	.07823	.1	4	20	F
trans-1,3-dichloropropene	.46349	.47644	.1	3	20	

FORM VII MCP-8260HLW-10

7A  
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1428969

Instrument ID: Voal04.i      Calibration Date: 05-DEC-2014      Time: 07:49

Lab File ID: 1205A03      Init. Calib. Date(s): 14-NOV-2      14-NOV-2

Sample No: 8260 CCAL      Init. Calib. Times : 18:34      21:39

Compound	RRF	RRF	MIN RRF	%D	MAX %D
1,1,2-trichloroethane	.23224	.23829	.1	3	20
chlorodibromomethane	.34856	.35131	.1	1	20
1,3-dichloropropane	.45928	.47287	.05	3	20
1,2-dibromoethane	.28223	.28323	.1	0	20
2-hexanone	.19278	.17926	.1	-7	20
chlorobenzene	1.0010	1.0670	.5	7	20
ethyl benzene	1.6393	1.8026	.1	10	20
1,1,1,2-tetrachloroethane	.3581	.37689	.05	5	20
p/m xylene	.63448	.7126	.1	12	20
o xylene	.6125	.67387	.3	10	20
styrene	1.0136	1.1012	.3	9	20
bromoform	.39846	.38386	.1	-4	20
isopropylbenzene	3.1932	3.4629	.1	8	20
bromobenzene	.84329	.86358	.05	2	20
n-propylbenzene	3.6352	4.0315	.05	11	20
1,1,2,2,-tetrachloroethane	.67812	.66181	.3	-2	20
2-chlorotoluene	2.3296	2.4817	.05	7	20
1,2,3-trichloropropane	.49557	.47827	.05	-3	20
1,3,5-trimethylbenzene	2.6303	2.8622	.05	9	20
4-chorotoluene	2.2427	2.3921	.05	7	20
tert-butylbenzene	2.2838	2.4432	.05	7	20
1,2,4-trimethylbenzene	2.6527	2.8497	.05	7	20
sec-butylbenzene	3.4242	3.7964	.05	11	20
p-isopropyltoluene	2.8275	3.1779	.05	12	20
1,3-dichlorobenzene	1.5651	1.6721	.6	7	20
1,4-dichlorobenzene	1.6000	1.6657	.5	4	20
n-butylbenzene	2.4383	2.9220	.05	20	20
1,2-dichlorobenzene	1.4443	1.4895	.4	3	20
1,2-dibromo-3-chloropropane	.10573	.09685	.05	-8	20
hexachlorobutadiene	.45607	.50924	.05	12	20
1,2,4-trichlorobenzene	.95262	1.0162	.2	7	20
naphthalene	2.1836	1.9987	.05	-8	20
1,2,3-trichlorobenzene	.88772	.90754	.05	2	20
dibromofluoromethane	.2538	.2584	.05	2	30
1,2-dichloroethane-d4	.22706	.22913	.05	1	30
toluene-d8	1.3076	1.2348	.05	-6	30
4-bromofluorobenzene	.90729	.89739	.05	-1	30

FORM VII MCP-8260HLW-10

7A  
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1428969

Instrument ID: Voall10.i      Calibration Date: 07-DEC-2014      Time: 09:26

Lab File ID: 1207A02      Init. Calib. Date(s): 01-NOV-2      01-NOV-2

Sample No: 8260 CCAL      Init. Calib. Times : 14:22      17:25

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.17542	.17508	.1	0	20	
chloromethane	.22578	.29693	.1	32	20	F
vinyl chloride	.3536	.34406	.1	-3	20	
bromomethane	100	108	.1	8	20	
chloroethane	100	112	.1	12	20	
trichlorofluoromethane	.42041	.41876	.1	0	20	
ethyl ether	.15818	.18519	.05	17	20	
1,1,-dichloroethene	.24685	.26785	.1	9	20	
carbon disulfide	100	81.672	.1	-18	20	
methylene chloride	100	122	.1	22	20	F
acetone	100	121	.1	21	20	F
trans-1,2-dichloroethene	.28583	.32026	.1	12	20	
methyl tert butyl ether	.75484	.82329	.1	9	20	
Diisopropyl Ether	.72259	.97849	.05	35	20	F
1,1-dichloroethane	.46551	.59265	.2	27	20	F
Ethyl-Tert-Butyl-Ether	.791	.94168	.05	19	20	
cis-1,2-dichloroethene	.31256	.35442	.1	13	20	
2,2-dichloropropane	.41844	.4558	.05	9	20	
bromochloromethane	.12769	.13626	.05	7	20	
chloroform	.50247	.57381	.2	14	20	
carbontetrachloride	.3617	.36099	.1	0	20	
tetrahydrofuran	.06073	.07318	.05	21	20	F
1,1,1-trichloroethane	.4409	.45802	.1	4	20	
2-butanone	.07965	.10287	.1	29	20	F
1,1-dichloropropene	.38726	.4633	.05	20	20	
benzene	1.0985	1.3748	.5	25	20	F
Tertiary-Amyl Methyl Ether	.76832	.85762	.05	12	20	
1,2-dichloroethane	.35041	.39856	.1	14	20	
trichloroethene	.29982	.33011	.2	10	20	
dibromomethane	.15557	.17247	.05	11	20	
1,2-dichloropropane	.24705	.33345	.1	35	20	F
bromodichloromethane	.35358	.3904	.2	10	20	
1,4-dioxane	.00262	.00323	.05	23	20	F
cis-1,3-dichloropropene	.42515	.51238	.2	21	20	F
toluene	1.0347	1.0411	.4	1	20	
4-methyl-2-pentanone	.07723	.08138	.1	5	20	F
tetrachloroethene	.38928	.33979	.2	-13	20	
trans-1,3-dichloropropene	.51027	.55236	.1	8	20	

FORM VII MCP-8260HLW-10

7A  
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1428969

Instrument ID: Voall10.i      Calibration Date: 07-DEC-2014      Time: 09:26

Lab File ID: 1207A02      Init. Calib. Date(s): 01-NOV-2      01-NOV-2

Sample No: 8260 CCAL      Init. Calib. Times : 14:22      17:25

Compound	RRF	RRF	MIN RRF	%D	MAX %D
1,1,2-trichloroethane	.26087	.29084	.1	11	20
chlorodibromomethane	.3241	.29148	.1	-10	20
1,3-dichloropropane	.5397	.61681	.05	14	20
1,2-dibromoethane	.29971	.28837	.1	-4	20
2-hexanone	.16746	.14548	.1	-13	20
chlorobenzene	1.1131	1.0550	.5	-5	20
ethyl benzene	1.9562	1.9267	.1	-2	20
1,1,1,2-tetrachloroethane	.34876	.3179	.05	-9	20
p/m xylene	.77252	.72974	.1	-6	20
o xylene	.74918	.69298	.3	-8	20
styrene	1.2705	1.1326	.3	-11	20
bromoform	.40302	.32809	.1	-19	20
isopropylbenzene	4.1169	3.5859	.1	-13	20
bromobenzene	.89337	.74866	.05	-16	20
n-propylbenzene	4.7919	4.4949	.05	-6	20
1,1,2,2,-tetrachloroethane	.84793	.88031	.3	4	20
2-chlorotoluene	2.9658	2.8497	.05	-4	20
1,3,5-trimethylbenzene	3.4272	3.0508	.05	-11	20
1,2,3-trichloropropane	.70134	.72671	.05	4	20
4-chlorotoluene	2.9381	2.7824	.05	-5	20
tert-butylbenzene	2.8477	2.4228	.05	-15	20
1,2,4-trimethylbenzene	3.4605	3.0499	.05	-12	20
sec-butylbenzene	4.4455	3.9695	.05	-11	20
p-isopropyltoluene	3.6626	3.1034	.05	-15	20
1,3-dichlorobenzene	1.8447	1.5843	.6	-14	20
1,4-dichlorobenzene	1.8763	1.6094	.5	-14	20
n-butylbenzene	3.478	3.2498	.05	-7	20
1,2-dichlorobenzene	1.7042	1.4449	.4	-15	20
1,2-dibromo-3-chloropropane	100	74.087	.05	-26	20
hexachlorobutadiene	.55293	.43291	.05	-22	20
1,2,4-trichlorobenzene	1.1250	.92171	.2	-18	20
naphthalene	2.6895	2.1834	.05	-19	20
1,2,3-trichlorobenzene	1.0493	.86343	.05	-18	20
dibromofluoromethane	.23914	.22874	.05	-4	30
1,2-dichloroethane-d4	.25922	.24726	.05	-5	30
toluene-d8	1.3156	1.2704	.05	-3	30
4-bromofluorobenzene	1.0436	1.0769	.05	3	30

F  
F

FORM VII MCP-8260HLW-10



## ANALYTICAL REPORT

Lab Number:	L1429510
Client:	Weston & Sampson Five Centennial Drive Peabody, MA 01960-7985
ATTN:	Richard Vandenberg
Phone:	(978) 532-1900
Project Name:	JT BERRY
Project Number:	2140633
Report Date:	12/16/14

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

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

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



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1429510-01	EW-1	WATER	N. READING	12/08/14 15:30	12/09/14
L1429510-02	EW-2	WATER	N. READING	12/08/14 16:00	12/09/14
L1429510-03	EW-4	WATER	N. READING	12/08/14 15:00	12/09/14
L1429510-04	MW-1	WATER	N. READING	12/08/14 16:45	12/09/14
L1429510-05	MW-2	WATER	N. READING	12/08/14 16:30	12/09/14
L1429510-06	MW-3	WATER	N. READING	12/08/14 16:15	12/09/14
L1429510-07	DUP	WATER	N. READING	12/08/14 00:00	12/09/14
L1429510-08	TRIP BLANK	WATER	N. READING	12/08/14 00:00	12/09/14

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

### MADEP MCP Response Action Analytical Report Certification

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

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

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



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

### Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

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

#### HOLD POLICY

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

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

---

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

### Case Narrative (continued)

#### MCP Related Narratives

##### Volatile Organics

In reference to question H:

The initial calibration, associated with L1429510-01, -02, -03, -07, and -08, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.07688), 4-methyl-2-pentanone (0.05758), and 1,4-dioxane (0.00097), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane. The initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (162%), but within overall method criteria.

The continuing calibration standard, associated with L1429510-01, -02, -03, -07, and -08, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

##### EPH

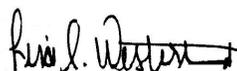
The WG748454-1 Method Blank, associated with L1429510-04, has concentrations above the reporting limits for Naphthalene and 2-Methylnaphthalene. Since the sample was non-detect for these target analytes, no further actions were taken. The results of the original analysis are reported.

In reference to question I:

L1429510-01 through -03 and -07 were analyzed for a subset of MCP compounds per the Chain of Custody.

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

Authorized Signature:

 Lisa Westerlind

Title: Technical Director/Representative

Date: 12/16/14

# ORGANICS

# VOLATILES

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8260C  
 Analytical Date: 12/11/14 10:18  
 Analyst: MM

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative

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

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-01

Date Collected: 12/08/14 15:30

Client ID: EW-1

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: See Narrative

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

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	114		70-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8260C  
 Analytical Date: 12/11/14 10:50  
 Analyst: MM

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

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

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-02

Date Collected: 12/08/14 16:00

Client ID: EW-2

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: See Narrative

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

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	118		70-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8260C  
 Analytical Date: 12/11/14 11:21  
 Analyst: MM

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

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

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-03

Date Collected: 12/08/14 15:00

Client ID: EW-4

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: See Narrative

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

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	112		70-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8260C  
 Analytical Date: 12/11/14 11:53  
 Analyst: MM

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

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

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-07

Date Collected: 12/08/14 00:00

Client ID: DUP

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: See Narrative

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

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	111		70-130

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-08  
 Client ID: TRIP BLANK  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8260C  
 Analytical Date: 12/11/14 07:09  
 Analyst: MM

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: Not Specified

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

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-08

Date Collected: 12/08/14 00:00

Client ID: TRIP BLANK

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: Not Specified

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

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-08  
 Client ID: TRIP BLANK  
 Sample Location: N. READING

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	120		70-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8260C  
Analytical Date: 12/11/14 06:05  
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03,07-08 Batch: WG747607-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 97,8260C  
**Analytical Date:** 12/11/14 06:05  
**Analyst:** MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03,07-08 Batch: WG747607-3					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis  
Batch Quality Control**

**Analytical Method:** 97,8260C  
**Analytical Date:** 12/11/14 06:05  
**Analyst:** MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03,07-08 Batch: WG747607-3					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	92		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Project Number: 2140633

Lab Number: L1429510

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,07-08 Batch: WG747607-1 WG747607-2								
Methylene chloride	103		124		70-130	19		20
1,1-Dichloroethane	108		128		70-130	17		20
Chloroform	112		122		70-130	9		20
Carbon tetrachloride	101		111		70-130	9		20
1,2-Dichloropropane	100		103		70-130	3		20
Dibromochloromethane	85		94		70-130	10		20
1,1,2-Trichloroethane	91		99		70-130	8		20
Tetrachloroethene	97		101		70-130	4		20
Chlorobenzene	97		98		70-130	1		20
Trichlorofluoromethane	121		129		70-130	6		20
1,2-Dichloroethane	119		120		70-130	1		20
1,1,1-Trichloroethane	107		116		70-130	8		20
Bromodichloromethane	101		107		70-130	6		20
trans-1,3-Dichloropropene	84		95		70-130	12		20
cis-1,3-Dichloropropene	93		101		70-130	8		20
1,1-Dichloropropene	108		112		70-130	4		20
Bromoform	80		83		70-130	4		20
1,1,2,2-Tetrachloroethane	95		90		70-130	5		20
Benzene	105		107		70-130	2		20
Toluene	93		99		70-130	6		20
Ethylbenzene	112		104		70-130	7		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,07-08 Batch: WG747607-1 WG747607-2								
Chloromethane	118		112		70-130	5		20
Bromomethane	87		90		70-130	3		20
Vinyl chloride	117		117		70-130	0		20
Chloroethane	125		129		70-130	3		20
1,1-Dichloroethene	100		120		70-130	18		20
trans-1,2-Dichloroethene	104		122		70-130	16		20
Trichloroethene	105		107		70-130	2		20
1,2-Dichlorobenzene	94		93		70-130	1		20
1,3-Dichlorobenzene	94		93		70-130	1		20
1,4-Dichlorobenzene	92		93		70-130	1		20
Methyl tert butyl ether	100		118		70-130	17		20
p/m-Xylene	112		104		70-130	7		20
o-Xylene	111		105		70-130	6		20
cis-1,2-Dichloroethene	105		117		70-130	11		20
Dibromomethane	112		114		70-130	2		20
1,2,3-Trichloropropane	94		93		70-130	1		20
Styrene	112		108		70-130	4		20
Dichlorodifluoromethane	87		86		70-130	1		20
Acetone	127		170	Q	70-130	29	Q	20
Carbon disulfide	86		107		70-130	22	Q	20
2-Butanone	123		157	Q	70-130	24	Q	20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,07-08 Batch: WG747607-1 WG747607-2								
4-Methyl-2-pentanone	95		101		70-130	6		20
2-Hexanone	88		101		70-130	14		20
Bromochloromethane	108		118		70-130	9		20
Tetrahydrofuran	93		110		70-130	17		20
2,2-Dichloropropane	101		120		70-130	17		20
1,2-Dibromoethane	92		100		70-130	8		20
1,3-Dichloropropane	92		100		70-130	8		20
1,1,1,2-Tetrachloroethane	97		97		70-130	0		20
Bromobenzene	94		92		70-130	2		20
n-Butylbenzene	91		88		70-130	3		20
sec-Butylbenzene	92		90		70-130	2		20
tert-Butylbenzene	92		91		70-130	1		20
o-Chlorotoluene	95		94		70-130	1		20
p-Chlorotoluene	95		94		70-130	1		20
1,2-Dibromo-3-chloropropane	81		89		70-130	9		20
Hexachlorobutadiene	99		89		70-130	11		20
Isopropylbenzene	108		104		70-130	4		20
p-Isopropyltoluene	92		90		70-130	2		20
Naphthalene	89		79		70-130	12		20
n-Propylbenzene	96		95		70-130	1		20
1,2,3-Trichlorobenzene	94		85		70-130	10		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,07-08 Batch: WG747607-1 WG747607-2								
1,2,4-Trichlorobenzene	92		83		70-130	10		20
1,3,5-Trimethylbenzene	95		93		70-130	2		20
1,2,4-Trimethylbenzene	95		93		70-130	2		20
Ethyl ether	103		126		70-130	20		20
Isopropyl Ether	102		134	Q	70-130	27	Q	20
Ethyl-Tert-Butyl-Ether	100		122		70-130	20		20
Tertiary-Amyl Methyl Ether	95		99		70-130	4		20
1,4-Dioxane	98		126		70-130	25	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	113		114		70-130
Toluene-d8	91		97		70-130
4-Bromofluorobenzene	105		99		70-130
Dibromofluoromethane	106		113		70-130

# SEMIVOLATILES

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D  
 Analytical Date: 12/14/14 17:38  
 Analyst: AS

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/13/14 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

## SAMPLE RESULTS

Lab ID: L1429510-01

Date Collected: 12/08/14 15:30

Client ID: EW-1

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
2,4-Dinitrophenol	ND		ug/l	20	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		15-110
Phenol-d6	34		15-110
Nitrobenzene-d5	77		30-130
2-Fluorobiphenyl	82		30-130
2,4,6-Tribromophenol	96		15-110
4-Terphenyl-d14	96		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D-SIM  
 Analytical Date: 12/11/14 12:51  
 Analyst: KR

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 00:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics by SIM - Westborough Lab</b>						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## MCP Semivolatile Organics by SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		15-110
Phenol-d6	31		15-110
Nitrobenzene-d5	66		30-130
2-Fluorobiphenyl	73		30-130
2,4,6-Tribromophenol	86		15-110
4-Terphenyl-d14	69		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D  
 Analytical Date: 12/14/14 18:05  
 Analyst: AS

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/13/14 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
2,4-Dinitrophenol	ND		ug/l	20	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		15-110
Phenol-d6	32		15-110
Nitrobenzene-d5	74		30-130
2-Fluorobiphenyl	76		30-130
2,4,6-Tribromophenol	87		15-110
4-Terphenyl-d14	95		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D-SIM  
 Analytical Date: 12/11/14 13:16  
 Analyst: KR

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 00:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics by SIM - Westborough Lab</b>						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## MCP Semivolatile Organics by SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		15-110
Phenol-d6	29		15-110
Nitrobenzene-d5	63		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	83		15-110
4-Terphenyl-d14	64		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D  
 Analytical Date: 12/14/14 18:33  
 Analyst: AS

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/13/14 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
2,4-Dinitrophenol	ND		ug/l	20	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		15-110
Phenol-d6	31		15-110
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	70		30-130
2,4,6-Tribromophenol	91		15-110
4-Terphenyl-d14	91		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D-SIM  
 Analytical Date: 12/11/14 13:40  
 Analyst: KR

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 00:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics by SIM - Westborough Lab</b>						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## MCP Semivolatile Organics by SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		15-110
Phenol-d6	34		15-110
Nitrobenzene-d5	71		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	96		15-110
4-Terphenyl-d14	75		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D  
 Analytical Date: 12/14/14 19:00  
 Analyst: AS

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/13/14 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics - Westborough Lab</b>						
2,4-Dinitrophenol	ND		ug/l	20	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		15-110
Phenol-d6	32		15-110
Nitrobenzene-d5	71		30-130
2-Fluorobiphenyl	70		30-130
2,4,6-Tribromophenol	85		15-110
4-Terphenyl-d14	84		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 97,8270D-SIM  
 Analytical Date: 12/11/14 14:05  
 Analyst: KR

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 00:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>MCP Semivolatile Organics by SIM - Westborough Lab</b>						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## MCP Semivolatile Organics by SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		15-110
Phenol-d6	35		15-110
Nitrobenzene-d5	73		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	96		15-110
4-Terphenyl-d14	71		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 97,8270D-SIM  
**Analytical Date:** 12/11/14 11:37  
**Analyst:** KR

**Extraction Method:** EPA 3510C  
**Extraction Date:** 12/10/14 00:57

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01-03,07 Batch: WG747111-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 12/11/14 11:37

Extraction Date: 12/10/14 00:57

Analyst: KR

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01-03,07 Batch: WG747111-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	24		15-110
Phenol-d6	17		15-110
Nitrobenzene-d5	36		30-130
2-Fluorobiphenyl	40		30-130
2,4,6-Tribromophenol	60		15-110
4-Terphenyl-d14	53		30-130

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 97,8270D  
**Analytical Date:** 12/14/14 16:16  
**Analyst:** AS

**Extraction Method:** EPA 3510C  
**Extraction Date:** 12/13/14 15:44

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03,07 Batch: WG748397-1					
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
Acetophenone	ND		ug/l	5.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 97,8270D  
 Analytical Date: 12/14/14 16:16  
 Analyst: AS

Extraction Method: EPA 3510C  
 Extraction Date: 12/13/14 15:44

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01-03,07 Batch: WG748397-1					
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		15-110
Phenol-d6	28		15-110
Nitrobenzene-d5	60		30-130
2-Fluorobiphenyl	58		30-130
2,4,6-Tribromophenol	78		15-110
4-Terphenyl-d14	84		30-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747111-2 WG747111-3								
Acenaphthene	70		75		40-140	7		20
2-Chloronaphthalene	74		80		40-140	8		20
Fluoranthene	74		80		40-140	8		20
Hexachlorobutadiene	66		70		40-140	6		20
Naphthalene	67		70		40-140	4		20
Benzo(a)anthracene	72		77		40-140	7		20
Benzo(a)pyrene	71		75		40-140	5		20
Benzo(b)fluoranthene	72		78		40-140	8		20
Benzo(k)fluoranthene	70		74		40-140	6		20
Chrysene	72		77		40-140	7		20
Acenaphthylene	77		82		40-140	6		20
Anthracene	68		73		40-140	7		20
Benzo(ghi)perylene	75		81		40-140	8		20
Fluorene	76		81		40-140	6		20
Phenanthrene	68		72		40-140	6		20
Dibenzo(a,h)anthracene	79		84		40-140	6		20
Indeno(1,2,3-cd)Pyrene	76		81		40-140	6		20
Pyrene	73		79		40-140	8		20
2-Methylnaphthalene	75		79		40-140	5		20
Pentachlorophenol	71		77		30-130	8		20
Hexachlorobenzene	74		79		40-140	7		20

### Lab Control Sample Analysis Batch Quality Control

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747111-2 WG747111-3								
Hexachloroethane	60		62		40-140	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	48		53		15-110
Phenol-d6	36		40		15-110
Nitrobenzene-d5	73		78		30-130
2-Fluorobiphenyl	78		85		30-130
2,4,6-Tribromophenol	97		105		15-110
4-Terphenyl-d14	73		81		30-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03,07 Batch: WG748397-2 WG748397-3								
1,2,4-Trichlorobenzene	79		71		40-140	11		20
Bis(2-chloroethyl)ether	78		70		40-140	11		20
1,2-Dichlorobenzene	75		70		40-140	7		20
1,3-Dichlorobenzene	71		66		40-140	7		20
1,4-Dichlorobenzene	73		68		40-140	7		20
3,3'-Dichlorobenzidine	79		72		40-140	9		20
2,4-Dinitrotoluene	90		84		40-140	7		20
2,6-Dinitrotoluene	92		82		40-140	11		20
Azobenzene	95		87		40-140	9		20
4-Bromophenyl phenyl ether	88		81		40-140	8		20
Bis(2-chloroisopropyl)ether	86		78		40-140	10		20
Bis(2-chloroethoxy)methane	89		78		40-140	13		20
Isophorone	88		78		40-140	12		20
Nitrobenzene	77		71		40-140	8		20
Bis(2-Ethylhexyl)phthalate	98		96		40-140	2		20
Butyl benzyl phthalate	95		90		40-140	5		20
Di-n-butylphthalate	105		96		40-140	9		20
Di-n-octylphthalate	103		95		40-140	8		20
Diethyl phthalate	91		83		40-140	9		20
Dimethyl phthalate	91		83		40-140	9		20
Aniline	50		48		40-140	4		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Project Number: 2140633

Lab Number: L1429510

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03,07 Batch: WG748397-2 WG748397-3								
4-Chloroaniline	89		79		40-140	12		20
Dibenzofuran	93		85		40-140	9		20
Acetophenone	95		84		40-140	12		20
2,4,6-Trichlorophenol	97		88		30-130	10		20
2-Chlorophenol	85		78		30-130	9		20
2,4-Dichlorophenol	94		85		30-130	10		20
2,4-Dimethylphenol	93		81		30-130	14		20
2-Nitrophenol	96		84		30-130	13		20
4-Nitrophenol	56		57		30-130	2		20
2,4-Dinitrophenol	97		89		30-130	9		20
Phenol	41		41		30-130	0		20
2-Methylphenol	81		73		30-130	10		20
3-Methylphenol/4-Methylphenol	78		71		30-130	9		20
2,4,5-Trichlorophenol	100		91		30-130	9		20

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
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MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01-03,07 Batch: WG748397-2 WG748397-3

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> <i>Criteria</i>
2-Fluorophenol	53		49		15-110
Phenol-d6	40		37		15-110
Nitrobenzene-d5	80		76		30-130
2-Fluorobiphenyl	71		67		30-130
2,4,6-Tribromophenol	101		89		15-110
4-Terphenyl-d14	96		90		30-130

# PETROLEUM HYDROCARBONS

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/12/14 23:14  
 Analyst: SR

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 16:10  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/11/14

**Quality Control Information**

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

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	83		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	77		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/12/14 23:45  
 Analyst: SR

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 16:10  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/11/14

**Quality Control Information**

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

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	75		40-140
o-Terphenyl	90		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	86		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/13/14 00:17  
 Analyst: SR

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 16:10  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/11/14

**Quality Control Information**

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

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	71		40-140
o-Terphenyl	85		40-140
2-Fluorobiphenyl	78		40-140
2-Bromonaphthalene	79		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-04  
 Client ID: MW-1  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/15/14 05:07  
 Analyst: SR

M.S. Analytical Date: 12/15/14 22:19  
 M.S. Analyst: MW

Date Collected: 12/08/14 16:45  
 Date Received: 12/09/14  
 Field Prep: None  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/13/14 23:31  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/14/14

**Quality Control Information**

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>EPH w/MS Targets - Westborough Lab</b>						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-04

Date Collected: 12/08/14 16:45

Client ID: MW-1

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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**EPH w/MS Targets - Westborough Lab**

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	73		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	70		40-140
O-Terphenyl-MS	86		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-05  
 Client ID: MW-2  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/12/14 17:56  
 Analyst: SR

M.S. Analytical Date: 12/12/14 16:39  
 M.S. Analyst: KR

Date Collected: 12/08/14 16:30  
 Date Received: 12/09/14  
 Field Prep: None  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 03:05  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/12/14

**Quality Control Information**

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>EPH w/MS Targets - Westborough Lab</b>						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-05

Date Collected: 12/08/14 16:30

Client ID: MW-2

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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**EPH w/MS Targets - Westborough Lab**

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	44		40-140
o-Terphenyl	87		40-140
2-Fluorobiphenyl	76		40-140
2-Bromonaphthalene	78		40-140
O-Terphenyl-MS	83		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-06  
 Client ID: MW-3  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/12/14 18:28  
 Analyst: SR

M.S. Analytical Date: 12/12/14 17:04  
 M.S. Analyst: KR

Date Collected: 12/08/14 16:15  
 Date Received: 12/09/14  
 Field Prep: None  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 03:05  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/12/14

**Quality Control Information**

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>EPH w/MS Targets - Westborough Lab</b>						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-06

Date Collected: 12/08/14 16:15

Client ID: MW-3

Date Received: 12/09/14

Sample Location: N. READING

Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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**EPH w/MS Targets - Westborough Lab**

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	44		40-140
o-Terphenyl	77		40-140
2-Fluorobiphenyl	70		40-140
2-Bromonaphthalene	72		40-140
O-Terphenyl-MS	71		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING  
 Matrix: Water  
 Analytical Method: 98,EPH-04-1.1  
 Analytical Date: 12/13/14 00:48  
 Analyst: SR

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative  
 Extraction Method: EPA 3510C  
 Extraction Date: 12/10/14 16:10  
 Cleanup Method1: EPH-04-1  
 Cleanup Date1: 12/11/14

**Quality Control Information**

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

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	76		40-140
o-Terphenyl	82		40-140
2-Fluorobiphenyl	81		40-140
2-Bromonaphthalene	80		40-140

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 98,EPH-04-1.1  
Analytical Date: 12/12/14 19:00  
Analyst: SR

M.S. Analytical Date: 12/12/14 15:01  
M.S. Analyst: KR

Extraction Method: EPA 3510C  
Extraction Date: 12/10/14 03:05  
Cleanup Method: EPH-04-1  
Cleanup Date: 12/12/14

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 05-06 Batch: WG747130-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--
Naphthalene	ND		ug/l	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 98,EPH-04-1.1

Analytical Date: 12/12/14 19:00

Analyst: SR

12/12/14 15:01

KR

Extraction Method: EPA 3510C

Extraction Date: 12/10/14 03:05

Cleanup Method: EPH-04-1

Cleanup Date: 12/12/14

Parameter	Result	Qualifier	Units	RL	MDL
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EPH w/MS Targets - Westborough Lab for sample(s): 05-06 Batch: WG747130-1					
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Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	82		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	75		40-140
O-Terphenyl-MS	77		40-140

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**Method Blank Analysis**  
Batch Quality Control

Analytical Method: 98,EPH-04-1.1

Extraction Method: EPA 3510C

Analytical Date: 12/12/14 21:07

Extraction Date: 12/10/14 16:10

Analyst: SR

Cleanup Method: EPH-04-1

Cleanup Date: 12/11/14

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 1				01-03,07	Batch: WG747399-
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	70		40-140
o-Terphenyl	86		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	83		40-140

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 98,EPH-04-1.1  
Analytical Date: 12/15/14 03:32  
Analyst: SR

M.S. Analytical Date: 12/15/14 21:06  
M.S. Analyst: MW

Extraction Method: EPA 3510C  
Extraction Date: 12/13/14 23:31  
Cleanup Method: EPH-04-1  
Cleanup Date: 12/14/14

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 04 Batch: WG748454-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--
Naphthalene	0.623		ug/l	0.400	--
2-Methylnaphthalene	0.408		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 98,EPH-04-1.1

Analytical Date: 12/15/14 03:32

Analyst: SR

12/15/14 21:06

MW

Extraction Method: EPA 3510C

Extraction Date: 12/13/14 23:31

Cleanup Method: EPH-04-1

Cleanup Date: 12/14/14

Parameter	Result	Qualifier	Units	RL	MDL
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EPH w/MS Targets - Westborough Lab for sample(s): 04 Batch: WG748454-1					
--	--	--	--	--	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	99		40-140
o-Terphenyl	91		40-140
2-Fluorobiphenyl	81		40-140
2-Bromonaphthalene	81		40-140
O-Terphenyl-MS	110		40-140

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 05-06 Batch: WG747130-2 WG747130-3								
C9-C18 Aliphatics	53		43		40-140	21		25
C19-C36 Aliphatics	70		57		40-140	20		25
C11-C22 Aromatics	54		96		40-140	56	Q	25
Naphthalene	77		70		40-140	10		25
2-Methylnaphthalene	91		81		40-140	12		25
Acenaphthylene	86		76		40-140	12		25
Acenaphthene	89		83		40-140	7		25
Fluorene	92		87		40-140	6		25
Phenanthrene	92		85		40-140	8		25
Anthracene	94		88		40-140	7		25
Fluoranthene	103		96		40-140	7		25
Pyrene	103		95		40-140	8		25
Benzo(a)anthracene	85		80		40-140	6		25
Chrysene	93		88		40-140	6		25
Benzo(b)fluoranthene	85		80		40-140	6		25
Benzo(k)fluoranthene	83		81		40-140	2		25
Benzo(a)pyrene	75		71		40-140	5		25
Indeno(1,2,3-cd)Pyrene	75		72		40-140	4		25
Dibenzo(a,h)anthracene	87		84		40-140	4		25
Benzo(ghi)perylene	88		84		40-140	5		25
Nonane (C9)	42		34		30-140	21		25

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Project Number: 2140633

Lab Number: L1429510

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 05-06 Batch: WG747130-2 WG747130-3								
Decane (C10)	52		42		40-140	21		25
Dodecane (C12)	63		52		40-140	19		25
Tetradecane (C14)	68		55		40-140	21		25
Hexadecane (C16)	71		57		40-140	22		25
Octadecane (C18)	75		61		40-140	21		25
Nonadecane (C19)	74		60		40-140	21		25
Eicosane (C20)	76		62		40-140	20		25
Docosane (C22)	78		63		40-140	21		25
Tetracosane (C24)	78		64		40-140	20		25
Hexacosane (C26)	78		64		40-140	20		25
Octacosane (C28)	76		63		40-140	19		25
Triacontane (C30)	79		65		40-140	19		25
Hexatriacontane (C36)	78		65		40-140	18		25

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 05-06 Batch: WG747130-2 WG747130-3								

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> <i>Criteria</i>
Chloro-Octadecane	65		45		40-140
o-Terphenyl	70		136		40-140
2-Fluorobiphenyl	46		75		40-140
2-Bromonaphthalene	49		78		40-140
O-Terphenyl-MS	93		87		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747399-2 WG747399-3								
C9-C18 Aliphatics	57		58		40-140	2		25
C19-C36 Aliphatics	76		77		40-140	1		25
C11-C22 Aromatics	106		107		40-140	1		25
Naphthalene	82		85		40-140	4		25
2-Methylnaphthalene	91		94		40-140	3		25
Acenaphthylene	84		89		40-140	6		25
Acenaphthene	94		97		40-140	3		25
Fluorene	99		101		40-140	2		25
Phenanthrene	104		106		40-140	2		25
Anthracene	116		117		40-140	1		25
Fluoranthene	109		110		40-140	1		25
Pyrene	110		112		40-140	2		25
Benzo(a)anthracene	107		108		40-140	1		25
Chrysene	114		115		40-140	1		25
Benzo(b)fluoranthene	112		111		40-140	1		25
Benzo(k)fluoranthene	121		118		40-140	3		25
Benzo(a)pyrene	111		115		40-140	4		25
Indeno(1,2,3-cd)Pyrene	93		93		40-140	0		25
Dibenzo(a,h)anthracene	109		109		40-140	0		25
Benzo(ghi)perylene	108		111		40-140	3		25
Nonane (C9)	46		48		30-140	4		25

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747399-2 WG747399-3								
Decane (C10)	56		58		40-140	4		25
Dodecane (C12)	66		67		40-140	2		25
Tetradecane (C14)	71		72		40-140	1		25
Hexadecane (C16)	76		77		40-140	1		25
Octadecane (C18)	81		82		40-140	1		25
Nonadecane (C19)	81		82		40-140	1		25
Eicosane (C20)	83		84		40-140	1		25
Docosane (C22)	85		86		40-140	1		25
Tetracosane (C24)	86		86		40-140	0		25
Hexacosane (C26)	86		86		40-140	0		25
Octacosane (C28)	84		85		40-140	1		25
Triacontane (C30)	87		88		40-140	1		25
Hexatriacontane (C36)	86		86		40-140	0		25

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Chloro-Octadecane	70		74		40-140
o-Terphenyl	124		114		40-140
2-Fluorobiphenyl	92		95		40-140
2-Bromonaphthalene	95		98		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 04 Batch: WG748454-2 WG748454-3								
C9-C18 Aliphatics	61		65		40-140	6		25
C19-C36 Aliphatics	74		80		40-140	8		25
C11-C22 Aromatics	84		96		40-140	13		25
Naphthalene	88		103		40-140	16		25
2-Methylnaphthalene	99		116		40-140	16		25
Acenaphthylene	90		106		40-140	16		25
Acenaphthene	97		115		40-140	17		25
Fluorene	100		120		40-140	18		25
Phenanthrene	101		123		40-140	20		25
Anthracene	102		127		40-140	22		25
Fluoranthene	109		133		40-140	20		25
Pyrene	109		133		40-140	20		25
Benzo(a)anthracene	99		120		40-140	19		25
Chrysene	103		125		40-140	19		25
Benzo(b)fluoranthene	100		126		40-140	23		25
Benzo(k)fluoranthene	105		123		40-140	16		25
Benzo(a)pyrene	95		113		40-140	17		25
Indeno(1,2,3-cd)Pyrene	86		104		40-140	19		25
Dibenzo(a,h)anthracene	97		119		40-140	20		25
Benzo(ghi)perylene	101		121		40-140	18		25
Nonane (C9)	58		61		30-140	5		25

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Project Number: 2140633

Lab Number: L1429510

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 04 Batch: WG748454-2 WG748454-3								
Decane (C10)	66		69		40-140	4		25
Dodecane (C12)	73		77		40-140	5		25
Tetradecane (C14)	74		79		40-140	7		25
Hexadecane (C16)	76		83		40-140	9		25
Octadecane (C18)	79		86		40-140	8		25
Nonadecane (C19)	79		86		40-140	8		25
Eicosane (C20)	80		87		40-140	8		25
Docosane (C22)	82		89		40-140	8		25
Tetracosane (C24)	83		90		40-140	8		25
Hexacosane (C26)	83		90		40-140	8		25
Octacosane (C28)	82		88		40-140	7		25
Triacontane (C30)	84		91		40-140	8		25
Hexatriacontane (C36)	84		90		40-140	7		25

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429510

Project Number: 2140633

Report Date: 12/16/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 04 Batch: WG748454-2 WG748454-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	82		89		40-140
o-Terphenyl	93		107		40-140
2-Fluorobiphenyl	77		86		40-140
2-Bromonaphthalene	80		89		40-140
O-Terphenyl-MS	94		115		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

## METALS

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-01  
 Client ID: EW-1  
 Sample Location: N. READING  
 Matrix: Water

Date Collected: 12/08/14 15:30  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Dissolved Metals - Westborough Lab</b>											
Antimony, Dissolved	ND		mg/l	0.0030	--	1	12/11/14 09:02	12/13/14 15:24	EPA 3005A	97,6020A	KL
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Barium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Beryllium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Cadmium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Lead, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Mercury, Dissolved	ND		mg/l	0.0002	--	1	12/10/14 13:43	12/10/14 20:15	EPA 7470A	97,7470A	AK
Nickel, Dissolved	ND		mg/l	0.025	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Silver, Dissolved	ND		mg/l	0.007	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Thallium, Dissolved	ND		mg/l	0.0005	--	1	12/11/14 09:02	12/13/14 15:24	EPA 3005A	97,6020A	KL
Vanadium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/11/14 09:02	12/12/14 10:15	EPA 3005A	97,6010C	TT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-02  
 Client ID: EW-2  
 Sample Location: N. READING  
 Matrix: Water

Date Collected: 12/08/14 16:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Dissolved Metals - Westborough Lab</b>											
Antimony, Dissolved	ND		mg/l	0.0030	--	1	12/11/14 09:02	12/13/14 15:27	EPA 3005A	97,6020A	KL
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Barium, Dissolved	0.040		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Beryllium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Cadmium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Lead, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Mercury, Dissolved	ND		mg/l	0.0002	--	1	12/10/14 13:43	12/10/14 20:21	EPA 7470A	97,7470A	AK
Nickel, Dissolved	ND		mg/l	0.025	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Silver, Dissolved	ND		mg/l	0.007	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Thallium, Dissolved	ND		mg/l	0.0005	--	1	12/11/14 09:02	12/13/14 15:27	EPA 3005A	97,6020A	KL
Vanadium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/11/14 09:02	12/12/14 10:18	EPA 3005A	97,6010C	TT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-03  
 Client ID: EW-4  
 Sample Location: N. READING  
 Matrix: Water

Date Collected: 12/08/14 15:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Dissolved Metals - Westborough Lab</b>											
Antimony, Dissolved	ND		mg/l	0.0030	--	1	12/11/14 09:02	12/13/14 15:31	EPA 3005A	97,6020A	KL
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Barium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Beryllium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Cadmium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Lead, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Mercury, Dissolved	ND		mg/l	0.0002	--	1	12/10/14 13:43	12/10/14 20:23	EPA 7470A	97,7470A	AK
Nickel, Dissolved	ND		mg/l	0.025	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Silver, Dissolved	ND		mg/l	0.007	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Thallium, Dissolved	ND		mg/l	0.0005	--	1	12/11/14 09:02	12/13/14 15:31	EPA 3005A	97,6020A	KL
Vanadium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/11/14 09:02	12/12/14 10:22	EPA 3005A	97,6010C	TT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

**SAMPLE RESULTS**

Lab ID: L1429510-07  
 Client ID: DUP  
 Sample Location: N. READING  
 Matrix: Water

Date Collected: 12/08/14 00:00  
 Date Received: 12/09/14  
 Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Dissolved Metals - Westborough Lab</b>											
Antimony, Dissolved	ND		mg/l	0.0030	--	1	12/11/14 09:02	12/13/14 15:34	EPA 3005A	97,6020A	KL
Arsenic, Dissolved	ND		mg/l	0.005	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Barium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Beryllium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Cadmium, Dissolved	ND		mg/l	0.004	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Chromium, Dissolved	ND		mg/l	0.01	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Lead, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Mercury, Dissolved	ND		mg/l	0.0002	--	1	12/10/14 13:43	12/10/14 20:28	EPA 7470A	97,7470A	AK
Nickel, Dissolved	ND		mg/l	0.025	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Selenium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Silver, Dissolved	ND		mg/l	0.007	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Thallium, Dissolved	ND		mg/l	0.0005	--	1	12/11/14 09:02	12/13/14 15:34	EPA 3005A	97,6020A	KL
Vanadium, Dissolved	ND		mg/l	0.010	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT
Zinc, Dissolved	ND		mg/l	0.050	--	1	12/11/14 09:02	12/12/14 10:26	EPA 3005A	97,6010C	TT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

### Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01-03,07 Batch: WG747308-1									
Mercury, Dissolved	ND	mg/l	0.0002	--	1	12/10/14 13:43	12/10/14 20:10	97,7470A	AK

#### Prep Information

Digestion Method: EPA 7470A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01-03,07 Batch: WG747402-1									
Arsenic, Dissolved	ND	mg/l	0.005	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Barium, Dissolved	ND	mg/l	0.010	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Beryllium, Dissolved	ND	mg/l	0.004	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Cadmium, Dissolved	ND	mg/l	0.004	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Chromium, Dissolved	ND	mg/l	0.01	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Lead, Dissolved	ND	mg/l	0.010	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Nickel, Dissolved	ND	mg/l	0.025	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Selenium, Dissolved	ND	mg/l	0.010	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Silver, Dissolved	ND	mg/l	0.007	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Vanadium, Dissolved	ND	mg/l	0.010	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT
Zinc, Dissolved	ND	mg/l	0.050	--	1	12/11/14 09:02	12/12/14 09:57	97,6010C	TT

#### Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01-03,07 Batch: WG747403-1									
Antimony, Dissolved	ND	mg/l	0.0030	--	1	12/11/14 09:02	12/13/14 15:17	97,6020A	KL
Thallium, Dissolved	ND	mg/l	0.0005	--	1	12/11/14 09:02	12/13/14 15:17	97,6020A	KL



**Project Name:** JT BERRY

**Lab Number:** L1429510

**Project Number:** 2140633

**Report Date:** 12/16/14

## Method Blank Analysis Batch Quality Control

### Prep Information

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Digestion Method: EPA 3005A

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Project Number: 2140633

Lab Number: L1429510

Report Date: 12/16/14

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747308-2 WG747308-3								
Mercury, Dissolved	114		117		80-120	3		20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747402-2 WG747402-3								
Arsenic, Dissolved	107		105		80-120	2		20
Barium, Dissolved	98		96		80-120	2		20
Beryllium, Dissolved	99		98		80-120	1		20
Cadmium, Dissolved	106		103		80-120	3		20
Chromium, Dissolved	100		95		80-120	5		20
Lead, Dissolved	102		100		80-120	2		20
Nickel, Dissolved	98		95		80-120	3		20
Selenium, Dissolved	107		103		80-120	4		20
Silver, Dissolved	102		98		80-120	4		20
Vanadium, Dissolved	101		98		80-120	3		20
Zinc, Dissolved	101		97		80-120	4		20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01-03,07 Batch: WG747403-2 WG747403-3								
Antimony, Dissolved	80		92		80-120	14		20
Thallium, Dissolved	100		98		80-120	2		20

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429510  
**Report Date:** 12/16/14

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

#### Cooler Information Custody Seal

##### Cooler

A Absent  
 B Absent  
 C Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1429510-01A	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-01B	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-01C	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-01D	Plastic 250ml HNO3 preserved	B	<2	2.9	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1429510-01E	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-01F	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-01G	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-01H	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-02A	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-02B	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-02C	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)

\*Values in parentheses indicate holding time in days



Project Name: JT BERRY

Project Number: 2140633

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## Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1429510-02D	Plastic 250ml HNO3 preserved	B	<2	2.9	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1429510-02E	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-02F	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-02G	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-02H	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-03A	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-03B	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-03C	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-03D	Plastic 250ml HNO3 preserved	B	<2	2.9	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1429510-03E	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-03F	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-03G	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-03H	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-04A	Amber 1000ml HCl preserved	A	<2	4.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1429510-04B	Amber 1000ml HCl preserved	A	<2	4.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1429510-05A	Amber 1000ml HCl preserved	A	<2	4.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1429510-05B	Amber 1000ml HCl preserved	A	<2	4.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1429510-06A	Amber 1000ml HCl preserved	A	<2	4.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)

\*Values in parentheses indicate holding time in days

Project Name: JT BERRY

Project Number: 2140633

Lab Number: L1429510

Report Date: 12/16/14

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1429510-06B	Amber 1000ml HCl preserved	A	<2	4.1	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1429510-07A	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-07B	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-07C	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)
L1429510-07D	Plastic 250ml HNO3 preserved	B	<2	2.9	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1429510-07E	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-07F	Amber 1000ml unpreserved	B	7	2.9	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1429510-07G	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-07H	Amber 1000ml HCl preserved	C	<2	4.6	Y	Absent	EPH-10(14)
L1429510-08A	Vial HCl preserved	B	N/A	2.9	Y	Absent	MCP-8260-10(14)

\*Values in parentheses indicate holding time in days



**Project Name:** JT BERRY  
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## GLOSSARY

### Acronyms

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

### Footnotes

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

### Terms

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

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

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**Report Format:** Data Usability Report



**Project Name:** JT BERRY  
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#### **Data Qualifiers**

- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** JT BERRY  
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## REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

## LIMITATION OF LIABILITIES

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

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



## Certification Information

Last revised April 15, 2014

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

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

**EPA 8260C:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

**EPA 8330A/B:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**EPA 625:** 4-Chloroaniline, 4-Methylphenol.

**SM4500:** Soil: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

#### Mansfield Facility

**EPA 8270D:** Biphenyl.

**EPA 2540D:** TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

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### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

#### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

**SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

---

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



# CHAIN OF CUSTODY

PAGE 1 OF 1

Eight Walkup Drive Westborough, MA 01581  
TEL: 508-898-9220 FAX: 508-898-9193

## Project Information

Project Name: JT Brey  
Project Location: N. Reading  
Project #: 2140633

Project Manager: Rick Vanderberg  
ALPHA Quote #:

## Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 12/16/14 Time:

## Client Information

Client: WESTON B Sampson  
Address: 5 Centennial Dr. Reading, MA  
Phone: 800 Sampson

Fax:  
Email: vanderberg@onsehr.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab: 12/9/14

ALPHA Job #: L1429510

## Report Information - Data Deliverables

FAX  EMAIL  
 ADEX  Add'l Deliverables

## Billing Information

Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MCP Criteria: GW-1, GW-2, GW-3

## MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

Yes  No Are MCP Analytical Methods Required?  
 Yes  No Are Drinking Water Samples Submitted?  
 Yes  No Have you met minimum field QC requirements?

ANALYSIS	8260	8210	MCP 19	224	#
	X	X	X	X	
	X	X	X	X	
	X	X	X	X	
				X	
				X	
	X	X	X	X	
	X				

## SAMPLE HANDLING

Filtration  
 Done  
 Not needed  
 Lab to do  
Preservation  
 Lab to do  
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						Sample Specific Comments
		Date	Time								
29510-01	EW-1	12/8	1530	GW	JLS	X	X	X	X		
-02	EW-2		1600			X	X	X	X		3 COOLERS!
-03	EW-4		1500			X	X	X	X		
-04	MW-1		1645						X		
-05	MW-2		1630						X		
-06	MW-3		1615						X		
-07	DUP		-			X	X	X	X		
-08	TRIP BLANK					X					

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ?

Container Type: A V P A  
Preservative: B B C B

Relinquished By: [Signature] Date/Time: 12/14/14 1731  
Received By: [Signature] Date/Time: 12/14/14 1717

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



# CHAIN OF CUSTODY

PAGE 1 OF 1Eight Walkup Drive Westborough, MA 01581  
TEL: 508-898-9220 FAX: 508-898-9193**Client Information**Client: WESTON B SAMPSON  
Address: 5 Centennial Dr.  
PEABODY, MA  
Phone: 800 SAMPSON  
Fax:Email: vanderberg@conserve.com  
 These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**Project Name: JT BERRY  
Project Location: N. PEABODY  
Project #:  
Project Manager: RICK VANDERBERG  
ALPHA Quote #:**Turn-Around Time** Standard  RUSH (only confirmed if pre-approved!)Date Due: 12/16/14 Time:Date Rec'd in Lab: 12/9/14ALPHA Job #: L1029510**Report Information - Data Deliverables** FAX  EMAIL  
 ADEX  Add'l Deliverables**Billing Information** Same as Client info PO #:**Regulatory Requirements/Report Limits**State /Fed Program: MCP Criteria: GW-1, GW-2, GW-3**MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED** Yes  No Are MCP Analytical Methods Required?  
 Yes  No Are Drinking Water Samples Submitted?  
 Yes  No Have you met minimum field QC requirements?

ANALYSIS	8260	8210	MCP 19	APPY	#
	X	X	X	X	
	X	X	X	X	
	X	X	X	X	
				X	
				X	
	X	X	X		
	X				

**SAMPLE HANDLING**Filtration  
 Done  
 Not needed  
 Lab to do  
Preservation  
 Lab to do  
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						Sample Specific Comments
		Date	Time								
29510-01	EW-1	12/8	1530	GW	JVS	X	X	X	X		
-02	EW-2		1600			X	X	X	X		3 COOLERS!
-03	EW-4		1500			X	X	X	X		
-04	MW-1		1645						X		
-05	MW-2		1630						X		
-06	MW-3		1615						X		
-07	DUP		-			X	X	X			
-08	TRIP BLANK					X					

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

Container Type: A V P A  
Preservative: B B C BRelinquished By: [Signature] Date/Time: 12/14/14 1731  
Received By: [Signature] Date/Time: 12/14/14 1731

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

7A  
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1429510

Instrument ID: Quimby.i      Calibration Date: 11-DEC-2014      Time: 04:31

Lab File ID: 1211A01      Init. Calib. Date(s): 16-OCT-2      25-NOV-2

Sample No: 8260 CCAL      Init. Calib. Times : 10:21      23:56

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
=====	=====	=====	=====	=====	=====	
dichlorodifluoromethane	.21946	.19157	.1	-13	20	
chloromethane	.37022	.43715	.1	18	20	
vinyl chloride	.34662	.40608	.1	17	20	
bromomethane	.22369	.19441	.1	-13	20	
chloroethane	.28355	.35434	.1	25	20	F
trichlorofluoromethane	.52604	.63616	.1	21	20	F
ethyl ether	.14955	.15364	.05	3	20	
acrolein	100	99	.05	-1	20	
freon-113	.33674	.36225	.1	8	20	
acetone	100	127	.1	27	20	F
1,1,-dichloroethene	.31222	.31059	.1	-1	20	
tert-butyl alcohol	500	563	.05	13	20	
iodomethane	.2644	.19237	.05	-27	20	F
methyl acetate	.14895	.15396	.01	3	20	
methylene chloride	.36481	.37537	.1	3	20	
carbon disulfide	.85039	.73346	.1	-14	20	
acrylonitrile	.09897	.10688	.05	8	20	
methyl tert butyl ether	.66219	.66504	.1	0	20	
Halothane	.23972	.24832	.05	4	20	
trans-1,2-dichloroethene	.35641	.36889	.1	4	20	
Diisopropyl Ether	1.2775	1.2984	.05	2	20	
vinyl acetate	.53582	.5214	.05	-3	20	
1,1-dichloroethane	.84151	.90566	.2	8	20	
Ethyl-Tert-Butyl-Ether	1.1231	1.1194	.05	0	20	
2-butanone	.0841	.10317	.1	23	20	F
2,2-dichloropropane	.4969	.50044	.05	1	20	
ethyl acetate	.19332	.19326	.05	0	20	
cis-1,2-dichloroethene	.40343	.4231	.1	5	20	
chloroform	.73964	.82687	.2	12	20	
bromochloromethane	.13757	.14917	.05	8	20	
tetrahydrofuran	100	93.067	.05	-7	20	
1,1,1-trichloroethane	.63534	.6814	.1	7	20	
cyclohexane	.87911	.92111	.01	5	30	
1,1-dichloropropene	.58723	.63267	.05	8	20	
carbontetrachloride	.47935	.48288	.1	1	20	
Tertiary-Amyl Methyl Ether	.70958	.67558	.05	-5	20	
1,2-dichloroethane	.55623	.66175	.1	19	20	
benzene	1.5862	1.6706	.5	5	20	

FORM VII MCP-8260-10

7A  
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1429510

Instrument ID: Quimby.i      Calibration Date: 11-DEC-2014      Time: 04:31

Lab File ID: 1211A01      Init. Calib. Date(s): 16-OCT-2      25-NOV-2

Sample No: 8260 CCAL      Init. Calib. Times : 10:21      23:56

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
=====	=====	=====	=====	=====	=====	
trichloroethene	.42123	.44079	.2	5	20	
methyl cyclohexane	.72075	.75582	.01	5	30	
1,2-dichloropropane	.46901	.46672	.1	0	20	
bromodichloromethane	.52421	.52965	.2	1	20	
1,4-dioxane	.00165	.00162	.05	-2	20	F
dibromomethane	.16953	.1899	.05	12	20	
2-chloroethylvinyl ether	.09224	.051	.05	-45	20	F
4-methyl-2-pentanone	.09418	.08925	.1	-5	20	F
cis-1,3-dichloropropene	.55065	.51259	.2	-7	20	
toluene	1.4197	1.3186	.4	-7	20	
ethyl-methacrylate	.100	81.762	.01	-18	0	F
trans-1,3-dichloropropene	.60023	.50127	.1	-16	20	
2-hexanone	.17491	.15381	.1	-12	20	
1,1,2-trichloroethane	.30441	.27601	.1	-9	20	
1,3-dichloropropane	.66616	.6162	.05	-8	20	
tetrachloroethene	.5358	.52115	.2	-3	20	
chlorodibromomethane	.37633	.31843	.1	-15	20	
1,2-dibromoethane	.30606	.2803	.1	-8	20	
chlorobenzene	1.4930	1.4475	.5	-3	20	
1,1,1,2-tetrachloroethane	.46564	.44984	.05	-3	20	
ethyl benzene	2.9619	3.3349	.1	13	20	
p/m xylene	1.0698	1.2019	.1	12	20	
o xylene	1.0010	1.1079	.3	11	20	
styrene	1.6242	1.8129	.31	12	20	
isopropylbenzene	2.9195	3.1644	.1	8	20	
bromoform	.34667	.27853	.1	-20	20	
1,4-dichlorobutane	1.5385	1.5858	.01	3	20	
1,1,2,2,-tetrachloroethane	.7656	.7291	.3	-5	20	
1,2,3-trichloropropane	.60071	.5635	.05	-6	20	
trans-1,4-dichloro-2-butene	.25099	.20928	.05	-17	20	
n-propylbenzene	6.2510	6.0286	.05	-4	20	
bromobenzene	1.0673	1.0045	.05	-6	20	
4-ethyltoluene	2.2510	2.4628	.05	9	20	
1,3,5-trimethylbenzene	4.5293	4.2915	.05	-5	20	
2-chlorotoluene	4.5534	4.3216	.05	-5	20	
4-chlorotoluene	4.1031	3.9026	.05	-5	20	
tert-butylbenzene	3.6416	3.3694	.05	-7	20	
1,2,4-trimethylbenzene	4.3335	4.1184	.05	-5	20	

FORM VII MCP-8260-10





## ANALYTICAL REPORT

Lab Number:	L1429114
Client:	Weston & Sampson Five Centennial Drive Peabody, MA 01960-7985
ATTN:	Richard Vandenberg
Phone:	(978) 532-1900
Project Name:	JT BERRY
Project Number:	2140633
Report Date:	12/12/14

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

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

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



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1429114-01	SS-1	SOIL	NORTH READING	12/02/14 08:00	12/04/14
L1429114-02	SS-2	SOIL	NORTH READING	12/02/14 08:55	12/04/14
L1429114-03	SS-3	SOIL	NORTH READING	12/02/14 09:15	12/04/14
L1429114-04	SS-4	SOIL	NORTH READING	12/02/14 10:15	12/04/14
L1429114-05	ORANGEBERG-1	SOLID	NORTH READING	12/02/14 12:30	12/04/14
L1429114-06	ORANGEBERG-2	SOLID	NORTH READING	12/02/14 12:35	12/04/14
L1429114-07	ORANGEBERG-3	SOLID	NORTH READING	12/02/14 12:40	12/04/14

Project Name: JT BERRY

Lab Number: L1429114

Project Number: 2140633

Report Date: 12/12/14

**MADEP MCP Response Action Analytical Report Certification**

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

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

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



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

### Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

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

#### HOLD POLICY

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

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

---

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

### Case Narrative (continued)

#### Report Submission

The analysis of Asbestos was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

#### MCP Related Narratives

##### Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

##### PCBs

In reference to question H:

The surrogate recoveries for L1429114-03 are below the acceptance criteria for decachlorobiphenyl (23%/20%); however, re-extraction achieved similar results: decachlorobiphenyl (25%/27%). The results of both extractions are reported; however, all associated compounds are considered to have a potentially low bias.

##### Metals

In reference to question I:

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

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 12/12/14

# ORGANICS

# PCBS

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

**Lab ID:** L1429114-01  
**Client ID:** SS-1  
**Sample Location:** NORTH READING  
**Matrix:** Soil  
**Analytical Method:** 97,8082  
**Analytical Date:** 12/09/14 14:19  
**Analyst:** JW  
**Percent Solids:** 88%

**Date Collected:** 12/02/14 08:00  
**Date Received:** 12/04/14  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/07/14 12:14  
**Cleanup Method:** EPA 3665A  
**Cleanup Date:** 12/08/14  
**Cleanup Method:** EPA 3660B  
**Cleanup Date:** 12/08/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	37.1	--	1	A
Aroclor 1221	ND		ug/kg	37.1	--	1	A
Aroclor 1232	ND		ug/kg	37.1	--	1	A
Aroclor 1242	ND		ug/kg	37.1	--	1	A
Aroclor 1248	ND		ug/kg	37.1	--	1	A
Aroclor 1254	ND		ug/kg	37.1	--	1	A
Aroclor 1260	ND		ug/kg	37.1	--	1	A
Aroclor 1262	ND		ug/kg	37.1	--	1	A
Aroclor 1268	ND		ug/kg	37.1	--	1	A
PCBs, Total	ND		ug/kg	37.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	51		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	49		30-150	B

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-02  
 Client ID: SS-2  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8082  
 Analytical Date: 12/09/14 14:32  
 Analyst: JW  
 Percent Solids: 88%

Date Collected: 12/02/14 08:55  
 Date Received: 12/04/14  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/07/14 12:14  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/08/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/08/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	36.0	--	1	A
Aroclor 1221	ND		ug/kg	36.0	--	1	A
Aroclor 1232	ND		ug/kg	36.0	--	1	A
Aroclor 1242	ND		ug/kg	36.0	--	1	A
Aroclor 1248	ND		ug/kg	36.0	--	1	A
Aroclor 1254	ND		ug/kg	36.0	--	1	A
Aroclor 1260	ND		ug/kg	36.0	--	1	A
Aroclor 1262	ND		ug/kg	36.0	--	1	B
Aroclor 1268	ND		ug/kg	36.0	--	1	A
PCBs, Total	ND		ug/kg	36.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	54		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	49		30-150	B

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-03  
 Client ID: SS-3  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8082  
 Analytical Date: 12/09/14 15:34  
 Analyst: KB  
 Percent Solids: 83%

Date Collected: 12/02/14 09:15  
 Date Received: 12/04/14  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/07/14 12:14  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/08/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/08/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	39.5	--	1	A
Aroclor 1221	ND		ug/kg	39.5	--	1	A
Aroclor 1232	ND		ug/kg	39.5	--	1	A
Aroclor 1242	ND		ug/kg	39.5	--	1	A
Aroclor 1248	ND		ug/kg	39.5	--	1	A
Aroclor 1254	ND		ug/kg	39.5	--	1	A
Aroclor 1260	ND		ug/kg	39.5	--	1	A
Aroclor 1262	ND		ug/kg	39.5	--	1	A
Aroclor 1268	ND		ug/kg	39.5	--	1	A
PCBs, Total	ND		ug/kg	39.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	31		30-150	A
Decachlorobiphenyl	<b>23</b>	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	38		30-150	B
Decachlorobiphenyl	<b>20</b>	Q	30-150	B

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-03 RE  
 Client ID: SS-3  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8082  
 Analytical Date: 12/11/14 21:06  
 Analyst: KB  
 Percent Solids: 83%

Date Collected: 12/02/14 09:15  
 Date Received: 12/04/14  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/11/14 11:40  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/11/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/11/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	37.6	--	1	A
Aroclor 1221	ND		ug/kg	37.6	--	1	A
Aroclor 1232	ND		ug/kg	37.6	--	1	A
Aroclor 1242	ND		ug/kg	37.6	--	1	A
Aroclor 1248	ND		ug/kg	37.6	--	1	A
Aroclor 1254	ND		ug/kg	37.6	--	1	A
Aroclor 1260	ND		ug/kg	37.6	--	1	A
Aroclor 1262	ND		ug/kg	37.6	--	1	A
Aroclor 1268	ND		ug/kg	37.6	--	1	A
PCBs, Total	ND		ug/kg	37.6	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	30		30-150	A
Decachlorobiphenyl	25	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	31		30-150	B
Decachlorobiphenyl	27	Q	30-150	B

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-04  
 Client ID: SS-4  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Analytical Method: 97,8082  
 Analytical Date: 12/09/14 15:46  
 Analyst: JW  
 Percent Solids: 92%

Date Collected: 12/02/14 10:15  
 Date Received: 12/04/14  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/07/14 12:14  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/08/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/08/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>MCP Polychlorinated Biphenyls - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	34.2	--	1	A
Aroclor 1221	ND		ug/kg	34.2	--	1	A
Aroclor 1232	ND		ug/kg	34.2	--	1	A
Aroclor 1242	ND		ug/kg	34.2	--	1	A
Aroclor 1248	ND		ug/kg	34.2	--	1	A
Aroclor 1254	ND		ug/kg	34.2	--	1	A
Aroclor 1260	ND		ug/kg	34.2	--	1	A
Aroclor 1262	ND		ug/kg	34.2	--	1	A
Aroclor 1268	ND		ug/kg	34.2	--	1	A
PCBs, Total	ND		ug/kg	34.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	57		30-150	A
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	52		30-150	B

Project Name: JT BERRY

Lab Number: L1429114

Project Number: 2140633

Report Date: 12/12/14

### Method Blank Analysis Batch Quality Control

Analytical Method: 97,8082  
 Analytical Date: 12/09/14 14:44  
 Analyst: JW

Extraction Method: EPA 3546  
 Extraction Date: 12/07/14 12:14  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/08/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/08/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02,04 Batch: WG746397-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance	Column
			Criteria	
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	59		30-150	B

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**Method Blank Analysis  
 Batch Quality Control**

Analytical Method: 97,8082  
 Analytical Date: 12/11/14 22:02  
 Analyst: KB

Extraction Method: EPA 3546  
 Extraction Date: 12/11/14 11:40  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 12/11/14  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 12/11/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 03 Batch: WG747699-1						
Aroclor 1016	ND		ug/kg	32.6	--	A
Aroclor 1221	ND		ug/kg	32.6	--	A
Aroclor 1232	ND		ug/kg	32.6	--	A
Aroclor 1242	ND		ug/kg	32.6	--	A
Aroclor 1248	ND		ug/kg	32.6	--	A
Aroclor 1254	ND		ug/kg	32.6	--	A
Aroclor 1260	ND		ug/kg	32.6	--	A
Aroclor 1262	ND		ug/kg	32.6	--	A
Aroclor 1268	ND		ug/kg	32.6	--	A
PCBs, Total	ND		ug/kg	32.6	--	A

Surrogate	%Recovery	Qualifier	Acceptance	Column
			Criteria	
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		30-150	B
Decachlorobiphenyl	102		30-150	B



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429114

Project Number: 2140633

Report Date: 12/12/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02,04 Batch: WG746397-2 WG746397-3									
Aroclor 1016	74		74		40-140	0		30	A
Aroclor 1260	68		68		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		61		30-150	A
Decachlorobiphenyl	57		54		30-150	A
2,4,5,6-Tetrachloro-m-xylene	81		72		30-150	B
Decachlorobiphenyl	55		52		30-150	B

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>	<b>Column</b>
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 03 Batch: WG747699-2 WG747699-3									
Aroclor 1016	76		86		40-140	12		30	A
Aroclor 1260	69		79		40-140	14		30	A

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>	<b>Column</b>
2,4,5,6-Tetrachloro-m-xylene	90		91		30-150	A
Decachlorobiphenyl	85		86		30-150	A
2,4,5,6-Tetrachloro-m-xylene	89		91		30-150	B
Decachlorobiphenyl	94		94		30-150	B

## METALS

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-01  
 Client ID: SS-1  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Percent Solids: 88%

Date Collected: 12/02/14 08:00  
 Date Received: 12/04/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Total Metals - Westborough Lab</b>											
Lead, Total	48		mg/kg	2.2	--	1	12/08/14 19:57	12/09/14 15:03	EPA 3050B	97,6010C	JH



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-02  
 Client ID: SS-2  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Percent Solids: 88%

Date Collected: 12/02/14 08:55  
 Date Received: 12/04/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Total Metals - Westborough Lab</b>											
Lead, Total	56		mg/kg	2.2	--	1	12/08/14 19:57	12/09/14 15:07	EPA 3050B	97,6010C	JH



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-03  
 Client ID: SS-3  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Percent Solids: 83%

Date Collected: 12/02/14 09:15  
 Date Received: 12/04/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Total Metals - Westborough Lab</b>											
Lead, Total	53		mg/kg	2.3	--	1	12/08/14 19:57	12/09/14 15:11	EPA 3050B	97,6010C	JH



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

Lab ID: L1429114-04  
 Client ID: SS-4  
 Sample Location: NORTH READING  
 Matrix: Soil  
 Percent Solids: 92%

Date Collected: 12/02/14 10:15  
 Date Received: 12/04/14  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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MCP Total Metals - Westborough Lab

Lead, Total	6.0		mg/kg	2.0	--	1	12/08/14 19:57	12/09/14 15:15	EPA 3050B	97,6010C	JH
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**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01-04 Batch: WG746671-1									
Lead, Total	ND	mg/kg	2.0	--	1	12/08/14 19:57	12/09/14 14:17	97,6010C	JH

### Prep Information

Digestion Method: EPA 3050B

## Lab Control Sample Analysis

Batch Quality Control

Project Name: JT BERRY

Lab Number: L1429114

Project Number: 2140633

Report Date: 12/12/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associated sample(s): 01-04 Batch: WG746671-2 WG746671-3 SRM Lot Number: D083-540								
Lead, Total	87		86		81-119	1		30

# **INORGANICS & MISCELLANEOUS**

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

**Lab ID:** L1429114-01  
**Client ID:** SS-1  
**Sample Location:** NORTH READING  
**Matrix:** Soil

**Date Collected:** 12/02/14 08:00  
**Date Received:** 12/04/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.0		%	0.100	NA	1	-	12/05/14 23:36	30,2540G	RT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

**Lab ID:** L1429114-02  
**Client ID:** SS-2  
**Sample Location:** NORTH READING  
**Matrix:** Soil

**Date Collected:** 12/02/14 08:55  
**Date Received:** 12/04/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	12/05/14 23:36	30,2540G	RT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

**Lab ID:** L1429114-03  
**Client ID:** SS-3  
**Sample Location:** NORTH READING  
**Matrix:** Soil

**Date Collected:** 12/02/14 09:15  
**Date Received:** 12/04/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	12/05/14 23:36	30,2540G	RT



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

**SAMPLE RESULTS**

**Lab ID:** L1429114-04  
**Client ID:** SS-4  
**Sample Location:** NORTH READING  
**Matrix:** Soil

**Date Collected:** 12/02/14 10:15  
**Date Received:** 12/04/14  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.4		%	0.100	NA	1	-	12/05/14 23:36	30,2540G	RT



**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

<b>Parameter</b>	<b>Native Sample</b>	<b>Duplicate Sample</b>	<b>Units</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG746166-1 QC Sample: L1429114-01 Client ID: SS-1						
Solids, Total	88.0	87.4	%	1		20

Project Name: JT BERRY

Lab Number: L1429114

Project Number: 2140633

Report Date: 12/12/14

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

## Cooler Information Custody Seal

## Cooler

A Absent

## Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1429114-01A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	MCP-8082-10(365),TS(7),MCP-PB-6010T-10(180)
L1429114-01S	Amber 120ml unpreserved split	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-NO()
L1429114-02A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	MCP-8082-10(365),TS(7),MCP-PB-6010T-10(180)
L1429114-02S	Amber 120ml unpreserved split	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-NO()
L1429114-03A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	MCP-8082-10(365),TS(7),MCP-PB-6010T-10(180)
L1429114-03S	Amber 120ml unpreserved split	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-NO()
L1429114-04A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	MCP-8082-10(365),TS(7),MCP-PB-6010T-10(180)
L1429114-04S	Amber 120ml unpreserved split	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-NO()
L1429114-05A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-YES()
L1429114-06A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-YES()
L1429114-07A	Glass 250ml/8oz unpreserved	A	N/A	4.6	Y	Absent	SUB-ASBESTOS-YES()

\*Values in parentheses indicate holding time in days

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

## GLOSSARY

### Acronyms

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

### Footnotes

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

### Terms

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

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

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**Report Format:** Data Usability Report



**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

#### **Data Qualifiers**

- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** JT BERRY  
**Project Number:** 2140633

**Lab Number:** L1429114  
**Report Date:** 12/12/14

## REFERENCES

- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

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

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



## Certification Information

Last revised April 15, 2014

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

### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

**EPA 8260C:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

**EPA 8330A/B:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**EPA 625:** 4-Chloroaniline, 4-Methylphenol.

**SM4500:** Soil: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

### Mansfield Facility

**EPA 8270D:** Biphenyl.

**EPA 2540D:** TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:**

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

**SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

---

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





# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/09/14

ALPHA Job #: 21429114

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

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

### Project Information

Project Name: **JT BOPPE**

Project Location: **NORTH ROADING**

Project #: \_\_\_\_\_

Project Manager: **RICK VAN DER VEGE**

ALPHA Quote #: \_\_\_\_\_

### Report Information - Data Deliverables

ADEX  EMAIL

### Billing Information

Same as Client info  PO #: \_\_\_\_\_

### Client Information

Client: **WILSON & SAMPSON**

Address: **5 Centennial Dr  
Pompano, MA**

Phone: **800 SAMPSON**

Email: **vandenbergr@wsi-inc.com**

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: **12/11/14**

### Regulatory Requirements & Project Information Requirements

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

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

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

Yes  No NPDES RGP

Other State / Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_

### Additional Project Information:

ANALYSIS		SAMPLE INFO	
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 5242	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	Filtration	<input type="checkbox"/> Field <input type="checkbox"/> Lab to do
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PPI3	Preservation	<input type="checkbox"/> Lab to do
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		
<input checked="" type="checkbox"/> PCB <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint		
TOTAL Pb			
ACM by TEM			
Sample Comments			

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
29114-01	SS-1	12/1	0900	GEN	DRS
02	SS-2		0855		
03	SS-3		0915		
04	SS-4		1015	✓	
05	ORANGEBOURG-1		1230	PIPE	
06	ORANGEBOURG-2		1235	PIPE	
07	ORANGEBOURG-3		1240	PIPE	

TOTAL # BOTTLES

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

**Preservative**  
A= None  
B= HCl  
C= HNO<sub>3</sub>  
D= H<sub>2</sub>SO<sub>4</sub>  
E= NaOH  
F= MeOH  
G= NaHSO<sub>4</sub>  
H= Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
I= Ascorbic Acid  
J= NH<sub>4</sub>Cl  
K= Zn Acetate  
O= Other

Container Type	A	A/P/G
Preservative	-	-

Relinquished By: **[Signature]** Date/Time: **12/4/14/1810**

Received By: **[Signature]** Date/Time: **12-4/14/1810**

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

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

CR # 3174

SUB Courier: Proscience, Woburn, Ma

# CHAIN OF CUSTODY

PAGE 1 OF 1



Westborough, MA    Mansfield, MA  
 TEL: 508-898-9220    TEL: 508-822-9300  
 FAX: 508-898-9193    FAX: 508-822-3288

## Client Information

Client: Alpha Analytical Lab  
 Address: 8 Walkup Drive  
 Westborough, Ma 01581  
 Phone: 508-898-9220  
 Fax: \_\_\_\_\_  
 Email: mgulli@alphalab.com, jsoucy@alphalab.com, reporting@alphalab.com  
 These samples have been Previously analyzed by Alpha

## Project Information

Project Name: \_\_\_\_\_  
 Project Location: MA  
 Project #: \_\_\_\_\_  
 Project Manager: Melissa Gulli  
 ALPHA Quote #: \_\_\_\_\_  
 Turn-Around Time  
 Standard     Rush (ONLY IF PRE-APPROVED)  
 Due Date: 12/11/14    Time: \_\_\_\_\_

Other Project Specific Requirements/Comments/Detection Limits:  
 Please reference Alpha Job # L1429114 on this report.

mg 12/8/14 updated COC

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
	SS-1	12/2/14	08:00	s	
	SS-2	12/01/14	08:55	S	
	SS-3	12/01/14	09:15	S	
	SS-4	12/01/14	10:15	S	
	ORANBERG-1	12/01/14	12:30	Pipe	
	ORANBERG-2	12/01/14	12:35	Pipe	
	ORANBERG-3	12/01/14	12:40	Pipe	

Date Rec'd in Lab: \_\_\_\_\_ ALPHA Job #: L1429114

**Report Information**    **Data Deliverables**    **Billing Information**  
 FAX     EMAIL     Same as Client info    PO #:  
 ADEx     Add'l Deliverables

**Regulatory Requirements/Report Limits**  
 State/Fed Program: \_\_\_\_\_    Criteria: \_\_\_\_\_

**MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS**  
 Yes     No    Are MCP Analytical Methods Required?  
 Yes     No    Are CT RCP (Reasonable Confidence Protocols) Required?

Sub-Asbestos	ANALYSIS												SAMPLE HANDLING <input type="checkbox"/> Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not Needed <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please specify below)  Sample Specific Comments	TOTAL # BOTTLES
	1	2	3	4	5	6	7	8	9	10	11	12		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1											
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1											
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1											
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1											
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1											
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1											
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

PLEASE ANSWER QUESTIONS ABOVE!

**IS YOUR PROJECT MA MCP or CT RCP?**

FORM NO. 01-01(1)  
 (rev. 30-JUL-07)

Container Type: A.120    Preservative: A

Relinquished By: *[Signature]*    Date/Time: 12/11/14  
 Received By: \_\_\_\_\_    Date/Time: \_\_\_\_\_

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

er # 3174

SUB Courier: Proscience, Woburn, Ma

# CHAIN OF CUSTODY

PAGE 1 OF 1



Westborough, MA    Mansfield, MA  
 TEL: 508-898-9220    TEL: 508-822-9300  
 FAX: 508-898-9193    FAX: 508-822-3288

## Client Information

Client: Alpha Analytical Lab  
 Address: 8 Walkup Drive  
 Westborough, Ma 01581  
 Phone: 508-898-9220  
 Fax: \_\_\_\_\_  
 Email: mgulli@alphalab.com, jsoucy@alphalab.com, reporting@alphalab.com  
 These samples have been Previously analyzed by Alpha

## Project Information

Project Name: \_\_\_\_\_  
 Project Location: MA  
 Project #: \_\_\_\_\_  
 Project Manager: Melissa Gulli  
 ALPHA Quote #: \_\_\_\_\_  
 Turn-Around Time  
 Standard     Rush (ONLY IF PRE-APPROVED)  
 Due Date: 12/11/14    Time: \_\_\_\_\_

Other Project Specific Requirements/Comments/Detection Limits:  
 Please reference Alpha Job # L1429114 on this report.

Date Rec'd in Lab: \_\_\_\_\_    ALPHA Job #: L1429114

**Report Information**    **Data Deliverables**    **Billing Information**  
 FAX     EMAIL     Same as Client info    PO #:  
 ADEx     Add'l Deliverables

**Regulatory Requirements/Report Limits**  
 State/Fed Program: \_\_\_\_\_    Criteria: \_\_\_\_\_

**MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS**  
 Yes     No    Are MCP Analytical Methods Required?  
 Yes     No    Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS														SAMPLE HANDLING <input type="checkbox"/> Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not Needed <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please specify below)	TOTAL # BOTTLES
Sub-Asbestos															
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input checked="" type="checkbox"/>	<input type="checkbox"/>		1												
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
	SS-1	12/01/14	08:00	s	
	SS-2	12/01/14	08:55	S	
	SS-3	12/01/14	09:15	S	
	SS-4	12/01/14	10:15	S	
	ORANGEBERG-1	12/01/14	12:30	Pipe	
	ORANGEBERG-2	12/01/14	12:35	Pipe	
	ORANGEBERG-3	12/01/14	12:40	Pipe	

PLEASE ANSWER QUESTIONS ABOVE!

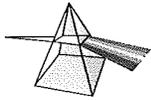
Container Type: A.120    Preservative: A

**IS YOUR PROJECT MA MCP or CT RCP?**

Relinquished By: *[Signature]*    Date/Time: 12/11/14  
 Received By: \_\_\_\_\_    Date/Time: \_\_\_\_\_

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(1) (rev. 30-JUL-07)

**ProScience Analytical Services, Inc.**22 Cummings Park ~ Woburn, MA 01801 ~ 781-935-3212 ~ FAX 781-932-4857, [www.proscience.net](http://www.proscience.net)

Melissa Gulli  
Alpha Analytical  
8 Walkup Drive  
Westborough, MA 01581

December 11, 2014

Dear Melissa Gulli:

Results of samples you described and submitted to ProScience Analytical Services, Inc. are shown on the enclosed data sheets. The analytical results in this report apply to the items tested only.

The listed samples were prepared and analyzed based on (but not in compliance with) a combination of the New York State Transmission Electron Microscope Method for Identifying and Quantitating Asbestos in Non-Friable Organically Bound Bulk Samples and an in-house technique. This method is used for the determination of weight percent of asbestos in soil. This method is not approved by any agency, federal or state.

The sample is processed to remove non-asbestos interference. The remaining residue is examined using a Philips 300 transmission electron microscope equipped with selected area electron diffraction (SAED) and an EVEX energy dispersive x-ray analyzer.

The following are reported: identification numbers, type of material, initial weight of the sample, weight percent of organic material lost by ashing, weight percent of material lost by grinding and sieving, weight percent of non-fibrous/non asbestos inorganic material, total weight percent of asbestos in the original sample, and the type(s) of asbestos, if any.

The EPA recognizes asbestos as the following: actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite. To be considered asbestos containing, a material must be determined to contain greater than one percent asbestos.

The quality control data related to the samples analyzed are available for review upon the written request of the client. ProScience Analytical Services, Inc. and its personnel assume no responsibility for potential sample contamination, misuse, misinformation, or misrepresentation by the client. The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

This report may not be reproduced, except in its entirety, without permission of the ProScience Analytical Services, Inc. Laboratory Director.

Please contact me if you have any questions regarding this report or related information.

Sincerely,

Mark Derosier  
Senior Analyst  
Transmission Electron Microscopy

Sincerely,

Aimee Cormier  
Laboratory Director

Enclosure:

Batch # NT14950  
Client Project # L1429114  
NVLAP ID #200090.0

# ProScience Analytical Services, Inc.

22 Cummings Park, Woburn, MA 01801

## NVLAP ID #200090 TEM Soil Sample Analysis Summary Sheet

Batch# 14950  
 PASI# 1497  
 Client Alpha Analytical  
 Job# L1429114  
 P.O.# N/A  
 Ref. N/A  
 Analyst Mark Derosier 

Lab ID	Client ID	Material	Location	Grams Smpl	% Org	% Carb /Rocks	% Non Fib Non Ash	Type	SAED	EDS	% Asbestos
NT 113868	L1429114-01S	Soil		0.5552	2.16	75.02	22.82				ND
NT 113869	L1429114-02S	Soil		0.7183	1.03	75.86	23.11				ND
NT 113870	L1429114-03S	Soil		0.6328	7.25	52.35	40.39				ND
NT 113871	L1429114-04S	Soil		0.6835	0.88	78.86	20.26				ND

Ch = Chrysotile  
 Am = Amosite  
 AT = Actinolite/Tremolite  
 Cr = Crocidolite  
 An = Anthophyllite

TR = Trace = <1%  
 ND = None detected  
 SAED = Verified asbestos SAED pattern  
 EDAX = Elements detected using EDS



12/8/2014

**PASi**

ProScience Analytical &lt;general@proscience.net&gt;

**Alpha lab # L1429114-Correction**

1 message

**Melissa Gulli** <mgulli@alphalab.com>  
 To: ProScience Analytical <general@proscience.net>

Mon, Dec 8, 2014 at 9:56 AM

Good Morning-

Our client would like the date collected changed to 12/2/14 for all samples for Alpha job # L1429114-01 through 07

Please let me know if you have any questions.

Melissa

-

**Melissa Gulli**  
 Project Manager

Email: MGulli@alphalab.com  
 Direct: 603-436-5111 - NH Service Center  
 Main: 800-624-9220

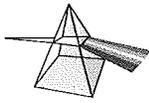
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**ProScience Analytical Services, Inc.**

22 Cummings Park ~ Woburn, MA 01801 ~ 781-935-3212 ~ FAX 781-932-4857, [www.proscience.net](http://www.proscience.net)

---

Melissa Gulli  
Alpha Analytical  
8 Walkup Drive  
Westborough, MA 01581

December 11, 2014

Dear Melissa Gulli:

Results of bulk samples you described and submitted to ProScience Analytical Services, Inc. are shown on the enclosed data sheets. The analytical results in this report apply to the items tested only.

The listed samples were prepared and analyzed by an in-house method using transmission electron microscopy (TEM) with selected area electron diffraction (SAED) and energy dispersive spectroscopy. This method is not approved by NVLAP, or any state or federal agency. This method is an in-house method designed to screen non-friable bulk materials for the absence of asbestos or the presence of asbestos. If any asbestos fibers are observed, this laboratory recommends utilizing the "Chatfield" method to eliminate non-asbestos interferences to obtain an accurate asbestos weight percentage.

The quality control data related to the samples analyzed are available for review upon the written request of the client. ProScience Analytical Services, Inc. and its personnel assume no responsibility for potential sample contamination, misuse, misinformation, or misrepresentation by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

This report may not be reproduced, except in its entirety, without the permission of ProScience Analytical Services, Inc., Laboratory Director.

Please contact me if you have any questions regarding this report or related information.

Sincerely,

Mark Derosier  
Senior Analyst  
Transmission Electron Microscopy

Sincerely,

Aimee Cormier  
Laboratory Director

Enclosure:  
Batch # NT14951  
Client Project # L1429114  
NVLAP ID #200090.0

**ProScience Analytical Services, Inc.**  
 22 Cummings Park, Woburn, Massachusetts Tel. 781-935-3212 Fax. 781-932-4857  
**TEM Qualitative Bulk Sample Analysis Summary**

Client: Alpha Analytical  
 Client Job # L1429114  
 Client Job Ref./Loc N/A  
 Client P.O. # N/A  
 Client # 1497  
 Batch # NT14951  
 Analyst: Mark Derosier   
 Date: 12/11/2014

Lab I.D.#	Client I.D.#	Description	Location	Asbestos Present	Type	SAED	EDS
NT 113872	L1429114-05A	Orangeberg-1		yes	Chys	X	
NT 113873	L1429114-06A	Orangeberg-2		yes	Chys	X	
NT 113874	L1429114-07A	Orangeberg-3		yes	Chys	X	

"ND" = None Detected

"SAED" = Asbestos Selected Area Electron Diffraction

"EDS" = Energy Dispersive Spectroscopy





ProScience Analytical &lt;general@proscience.net&gt;

---

**Alpha lab # L1429114-Correction**

1 message

---

**Melissa Gulli** <mgulli@alphalab.com>  
To: ProScience Analytical <general@proscience.net>

Mon, Dec 8, 2014 at 9:56 AM

Good Morning-

Our client would like the date collected changed to 12/2/14 for all samples for Alpha job # L1429114-01 through 07

Please let me know if you have any questions.

Melissa

-

**Melissa Gulli**  
Project Manager

Email: MGulli@alphalab.com  
Direct: 603-436-5111 - NH Service Center  
Main: 800-624-9220

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