

# **PHASE II SITE INVESTIGATION SUMMARY REPORT**

**29 ELM STREET  
SALISBURY, MASSACHUSETTS**

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## EXECUTIVE SUMMARY

TRC Environmental Corporation (TRC) has prepared a Site Investigation Summary Report for the property located at 29 Elm Street in Salisbury, Essex County, Massachusetts, hereinafter referred to as the "Site." The Merrimack Valley Planning Commission (MVPC) is funding this Phase II soil and groundwater investigation under U.S. Environmental Protection Agency (EPA) Brownfields Assessment grant to facilitate redevelopment or divestment of this property by the Site owner, the Town of Salisbury, Massachusetts (the "Town"). The Phase II investigation was conducted to provide information regarding the presence or absence of environmental conditions at the Site which may require notification to the Massachusetts Department of Environmental Protection (MassDEP) or may effect Site redevelopment. TRC's soil and groundwater sampling program was designed to assess the potential for impacts of possible current and historical sources of contamination within and adjacent to the Site. A scope of work for TRC's Site Investigation was set forth in the EPA-approved Quality Assurance Project Plan (QAPP) Addendum B, dated April 2008.

Phase II Site investigation activities were conducted from April 18, 2008 to April 25, 2008 and included the advancement of three soil borings, excavation of eight test pits, completion of three monitoring wells, collection of 11 soil samples, three groundwater samples, and one water sample from a concrete-lined pit for chemical analysis.

- **Overburden Geology.** The Site is underlain by a layer of loamy topsoil over fine to medium sand and silt. Bedrock or compact glacial till were not encountered. Evidence of anthropogenic fill materials was observed during test pitting activities in the southern portion of the Site, including glass bottles and stacks of spent shoe leather. Mounds have been observed in the wooded areas in the southern portion of the Site and extending to areas south of the Site boundary. Waste debris including a discarded tire and a crushed steel drum have been observed immediately adjacent to the Site.
- **Groundwater Depth and Flow Direction.** Site groundwater depths as measured by TRC on April 25, 2008 ranged from approximately 6.48 feet to approximately 8.74 feet from the top of the well risers (approximately 3.18 to 5.62 feet below ground surface). Based on the April 25, 2008 relative elevation survey, the groundwater table slopes to the southwest at an average gradient of approximately 0.0077 foot/foot.
- **Site Soil Conditions.** TRC collected 11 soil samples from the Site. Based on comparison of analytical results to Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) Reportable Concentrations for category S-1 soil (RCS-1), metals including antimony, arsenic, barium, cadmium, chromium, lead, nickel, and zinc and polycyclic aromatic hydrocarbons (PAHs) including benzo(a)pyrene, dibenzo(a,h)anthracene, and phenanthrene are present in anthropogenic fill materials in the southern portion of the Site at concentrations in excess of RCS-1 criteria. This area of the Site is adjacent to wetlands and was likely filled in to increase upland land areas or as a means of waste disposal. Debris materials encountered during test pit excavation in this area included stacks of discarded shoe leather (at test pit TP-5) and glass bottles (at test pit TP-6). Test pit logs completed during test pit excavation indicate that fill materials at TP-5 and TP-6 extend to approximately 5 feet below grade. Based on observations of the topography in the rear of the Site, earth mounds indicate that historical filling activities may have included areas that are south of the property boundary. Also observed waste debris immediately adjacent to the Site could indicate further dumping/infilling activities. The exceedances of RCS-1 criteria at TP-5 and TP-6 represent a 120-day reporting condition under the MCP.

- **Site Groundwater Conditions.** Groundwater samples were collected from each of the three monitoring wells installed on Site. Groundwater samples were collected via low flow methods and submitted for laboratory analysis for VOCs, VPH, SVOCs, EPH, and MCP metals and mercury. None of the contaminants tested for in groundwater were present at concentrations equal to or exceeding their respective MCP Reportable Concentrations for category GW-2 (RCGW-2) groundwater.
- **Concrete-lined Pit.** Soil samples taken from TP-2 within a concrete-lined elevator pit from the former Site building exceed the RCS-1 criteria for a number of VOC, SVOC, EPH, VPH, and metals constituents. A sample of standing water from TP-2 contained acetone, toluene, methyl isobutyl ketone, and m/p-xylene at concentrations below RCGW-2 criteria. Based on non-detect sample results from test pits TP-7 and TP-8 taken downgradient from and adjacent to TP-2, the observed intact nature of the concrete pit, the discrepancy between the levels of standing water in the pit and static groundwater outside the pit, and the absence of detectable levels of VOCs in groundwater sampled on Site, the contaminated soil, debris, and groundwater found at TP-2 is limited to the concrete-lined pit. Therefore the material excavated from TP-2 is not representative of Site soil and groundwater conditions and does not represent a reporting condition under the MCP.

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Appendix B	Soil Boring Logs, Well Construction Diagrams, and Sample Log Sheets
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## **1.0 INTRODUCTION**

### **1.1 Objective**

TRC Environmental Corporation (TRC) performed a due-diligence related Phase II Site Investigation (Phase II) for the property located at 29 Elm Street in Salisbury, Essex County, Massachusetts, hereinafter referred to as the “Site.” The Site is owned by the Town of Salisbury, Massachusetts (the Town). The Merrimack Valley Planning Commission (MVPC) funded this Phase II soil and groundwater investigation in order to facilitate the Town’s redevelopment of this Brownfield property.

The Phase II was conducted to provide information regarding the presence or absence of Site conditions that may require notification to the Massachusetts Department of Environmental Protection (MassDEP) consistent with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) The Scope of Work for these efforts were set forth in the EPA-approved Quality Assurance Project Plan (QAPP) Addendum B, dated April 2008.

### **1.2 Background**

The Site is located on an approximately 0.77-acre vacant parcel on the south side of Elm Street, in Salisbury, Massachusetts. A Site Location Map is provided as Figure 1. The Site is identified as Block 2, Lot 45 on Map 6 of the Town of Salisbury Assessors records. The Site’s coordinates are 42° 50’ 22.6” latitude and -70° 51’ 50.4” longitude, and the Universal Transverse Mercator (UTM) coordinates are 4,744,473.5m N and 347,667.5m E.

The Site is located approximately 0.1-mile west of the intersection of Massachusetts Route 110 (Elm Street) and U.S. Route 1 (School Street), near downtown Salisbury, Massachusetts. The Site slopes southerly towards the Town Creek Marshes, a wetland located on the south side of Mudnock Road, approximately 0.1-mile from the Site. This wetland surrounds Town Creek, which is a tributary to the Merrimack River and is located 0.25 miles south of the Site.

The 29 Elm Street property consists of a vacant lot that is thickly-wooded along the southern portion of the Site, and grass-covered in the northern portion. A concrete slab, believed to be the floor of a former Site building, is located in the southeastern portion of the Site. The Site is abutted by undeveloped lots to the north across Elm Street and to the south. A book store borders the Site to the northeast. The lot to the east of the Site is occupied by Harry’s Auto Repair facility, and the properties to the southeast and west are occupied by single-family residences. A Site Plan is provided as Figure 2.

In August 2007, TRC completed an American Society of Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) for the Site. Review of historical documentation indicated that past Site uses have included shoe manufacturing, vehicle maintenance and repair, and a lumber yard. TRC identified historic uses of the Site and the present use of the adjacent auto repair facility for additional assessment. A transformer yard was identified on historical Sanborn fire insurance maps adjacent to the former shoe factory on Site. Historical records did not indicate the presence of tanning facilities at the former shoe factory. Leather materials were presumably prepared at other locations and brought to the Site for shoe assembly.

Soil and groundwater contamination was reportedly confirmed in a December 2005 environmental investigation by the presence of polycyclic aromatic hydrocarbons (PAHs) and metals in soil and methyl tertiary butyl ether (MTBE) in groundwater. TRC could not obtain access to a report summarizing this investigation.

During a February 2008 Site walk conducted in preparation of the QAPP Addendum, TRC personnel recognized undulating terrain in the southern portion of the Site, potentially indicative of past dumping on Site.

TRC's Site investigation activities included the excavation of test pits within the 100-foot buffer zone surrounding a wetlands area located to the south and southwest of the Site. In order to comply with the Massachusetts Wetlands Protection Act (WPA) and the bylaws of the Town of Salisbury, TRC completed a Request for Determination of Applicability (RDA) to the Salisbury Conservation Commission, which included the following activities.

- March 13, 2008 – Wetland scientists from TRC Environmental visited the property and delineated the boundary of a bordering vegetated wetland (BVW).
- March 19, 2008 – An RDA under the WPA was filed with the Salisbury Conservation Commission seeking authorization to proceed with minor excavation activities within the 100-foot buffer zone to bordering vegetated wetland. Included in the RDA was a Notification to Abutters.
- April 2, 2008 – Public Hearing with the Conservation Commission (opened and closed the same night).

## 2.0 TECHNICAL APPROACH

The following describes the activities performed as part of this project. Unless otherwise specified, work was performed in accordance with the EPA-approved QAPP Addendum (dated April 2008) for the MVPC Brownfields Assessment Program. Site activities included sampling of soil and groundwater for laboratory analysis. Soil and groundwater sample results were compared against applicable MCP Reportable Concentrations (RCs).

### 2.1 Soil Borings, Test Pits, and Soil Sampling

TRC's soil boring and test pit program was completed on April 18, 2008. Figure 2 depicts the locations of the soil borings and test pits completed during this project. Table 2-1 summarizes soil samples collected from the Site and submitted for laboratory analysis. Test pit and soil boring logs including well construction diagrams are contained in Appendix B. Photographs taken during test-pitting activities are located in Appendix A.

<b>Table 2-1: Summary of Soil Samples and Analytical Parameters</b> <b>29 Elm Street, Salisbury, Massachusetts</b> <b>April 2008</b>							
Sample ID	Sample Depth (feet bgs)	VOCs	VPH	SVOCs	EPH	MCP Metals + Hg	PCBs
B-1/MW1	3-4		X	X	X	X	
B-2/MW2	3-4		X	X	X	X	
B-3/MW3	0-1		X	X	X	X	
TP-1	4		X	X	X	X	X*
TP-2	N/A	X	X	X	X	X	
TP-3	3		X*	X	X*	X	
TP-4	7		X	X <sup>§</sup>	X	X <sup>§</sup>	
TP-5	3		X	X*	X	X*	
TP-6	2		X <sup>§</sup>	X	X	X	
TP-7	6	X		X			
TP-8	2	X		X			
<b>Notes:</b> * - Field duplicate was collected § - MS/MSD or MS/Dup sample MCP – Massachusetts Contingency Plan PCBs – Polychlorinated Biphenyls EPH – Extractable Petroleum Hydrocarbons VOCs – Volatile Organic Compounds SVOCs – Semi-volatile Organic Compounds Hg – mercury VPH – Volatile Petroleum Hydrocarbons N/A – Not applicable (sample contained within a concrete pit)							

The April 18, 2008 boring and test pitting program consisted of the advancement of three soil borings, all of which were completed as groundwater monitoring wells, and eight test pits. Soil borings were advanced and completed as monitoring wells utilizing GeoProbe™ direct-push drilling methods. Soil samples from these borings were collected using continuous 48-inch acetate-lined macro-core sleeves. Two-inch diameter Schedule 40 polyvinyl chloride (PVC) monitoring wells were installed in each boring. Test pits were advanced using a John Deere 310SE backhoe with a 24-inch bucket.

Soil samples were screened in the field for the presence of organic vapors using a photoionization detector (PID). The presence or absence of organic vapors and any visual or olfactory indications of contamination were used to select soil samples for submittal to an off-site laboratory and analyzed for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), semi-volatile organic compounds (SVOCs), and MCP metals and mercury. Soil was additionally submitted for analysis of polychlorinated biphenyls (PCBs) at test pit TP-1. If no evidence of contamination was



observed during boring advancement, a soil sample was collected from the interval immediately above the observed groundwater interface. A total of 11 soil samples were submitted for laboratory analysis.

During excavation of test pit TP-2 in the concrete-lined pit of the former Site building, TRC noted elevated PID readings (>1,000 parts per million by volume [ppmv]), a strong acetone-like odor, black-stained soil and wood waste materials, and a partially crushed 55-gallon drum. Based on these observations, TRC personnel collected additional soil volume at this location for volatile organic compounds (VOCs). Additionally, two test pits (TP-7 and TP-8) were completed adjacent to the pit to assess whether observed contaminants within TP-2 had migrated outside of the pit. Samples from TP-7 and TP-8 were submitted for laboratory analysis of VOCs and SVOCs. Based on review of historical Sanborn fire insurance maps contained in TRC's 2007 Phase I report, TP-2 is believed to be associated with the elevator of the former Site building.

The addition of VOC analysis at TP-2 and VOC and SVOC analyses at TP-7 and TP-8 represent additions to TRC's April 2008 QAPP Addendum. Additionally, test pits TP-5 and TP-6 were moved slightly from their proposed locations to investigate mounded areas in the rear of the Site. During test pit excavation test pits TP-2 and TP-3 were erroneously numbered. Thus, Figure 2 indicates that the locations of TP-2 and TP-3 were reversed from their proposed locations in TRC's April 2008 QAPP Addendum.

### ***2.1.1 MCP Reporting Requirements for Soil***

TRC analyzed soil sampling data and field observations to evaluate the need for reporting of the results to MassDEP. Laboratory analytical data were compared to applicable MCP Reportable Concentrations for Category S-1 soil (RCS-1). These criteria were employed pursuant to 310 CMR 40.0361 of the MCP and based on Site soil borings' proximity (within 500 feet) to multiple suspected residences in the area.

## **2.2 Groundwater Sampling**

Each of the three borings was completed as a groundwater monitoring well through the installation of a PVC riser with 10-slot (0.010-inch machine slotted) PVC screen placed so as to extend above and below the upper surface of the groundwater table, as observed during soil boring activities. The screened interval was surrounded by filter sand extending to a level approximately one foot above the top of the screen (where possible). A bentonite seal was installed above the sand pack to seal rainwater out of the monitoring well. Any remaining space in the annulus around the well riser was backfilled with native soil cuttings. Monitoring wells were installed with five-foot steel stick-ups set in concrete. After installation, monitoring wells were developed using a submersible centrifugal pump. Wells were purged until water from the well ran clear based on visual observation. After development, monitoring wells were allowed to stabilize for one week prior to groundwater sampling.

TRC collected groundwater samples from the three newly-installed groundwater monitoring wells on April 25, 2008. Groundwater samples were collected and analyzed for VOCs, VPH, SVOCs, EPH, and total MCP metals and mercury. An additional water sample was submitted for laboratory analysis of VOCs from the concrete-lined pit, which was found to contain one foot of brown turbid water. The addition of VOC analyses at each monitoring well, as well as the additional water sample, represents deviations from TRC's April 2008 QAPP. Groundwater sample logs are included in Appendix B, and groundwater sample analyses are summarized in Table 2-2.

<b>Table 2-2: Summary of Water Samples and Analytical Parameters</b> <b>29 Elm Street, Salisbury, Massachusetts</b> <b>April 2008</b>					
Sample ID	VOCs	VPH	SVOCs	EPH	MCP Metals + Hg
MW-1	X	X	X	X	X
MW-2§	X	X	X	X	X
MW-3*	X	X	X	X	X
TP-2	X				
<b>Notes:</b> * - Field duplicate was collected      VOCs – Volatile Organic Compounds § - MS/MSD or MS/Dup Sample      SVOCs – Semi-volatile Organic Compounds MCP – Massachusetts Contingency Plan      Hg – mercury VPH – Volatile Petroleum Hydrocarbons      EPH – Extractable Petroleum Hydrocarbons					

### 2.2.1 MCP Reporting Requirements for Groundwater

TRC analyzed groundwater sampling data and field observations to evaluate the need for reporting of the results to the MassDEP. Laboratory analytical data were compared to applicable MCP Reportable Concentrations for Category GW-2 groundwater (RCGW-2). These standards were employed based on the MassDEP Priority Resource Map for the Site area, which indicates that there are no active or potential productive drinking water aquifers in the vicinity of the Site. TRC contacted the Salisbury Health Department on May 6, 2008, and confirmed the absence of drinking water wells in the vicinity of the Site. The MassDEP Priority Resource Map is provided as Figure 3.

### 2.3 Groundwater Elevation Survey and Separate Phase Hydrocarbon Measurement

On April 25, 2008, TRC performed a relative elevation survey of the three groundwater monitoring wells installed on Site. The locations of Site monitoring wells are presented in Figure 2. The depth to water was measured within each monitoring well from the top of PVC risers. Monitoring well gauging activities were conducted using a 100-foot Solinst™ Oil/Water Interface Probe. Data from these activities were used to estimate the elevation of the groundwater table at each monitoring well location. A contour map depicting the interpreted slope of the groundwater table is presented as Figure 4. Elevation and groundwater depth gauging data are provided in Table 2-3. No separate phase hydrocarbon (SPH) was detected during the gauging event.

<b>Table 2-3: Summary of Groundwater Elevation Data</b> <b>29 Elm Street, Salisbury, Massachusetts</b> <b>April 2008</b>						
Monitoring Well	Screened Interval (feet btor)	Relative Elevation (feet)	Depth to Water (feet btor)	Depth to Bottom (feet btor)	Depth to SPH	Relative GW Elevation (feet)
MW-1*	6.03-13.03	100.85	6.82	13.03	-	94.03
MW-2*	5.44-12.94	100.67	6.55	12.94	-	94.12
MW-3*	7.03-13.03	100	8.74	13.03	-	91.26
<b>Notes:</b> btor – below top of riser      SPH – Separate Phase Hydrocarbon * - Well constructed with a stick up casing						

### **3.0 RESULTS OF INVESTIGATION**

#### **3.1 Subsurface Conditions**

Based on observations made by TRC field personnel during soil boring activities, the Site is underlain by fine and medium sands. Soil borings were completed to their full depths without encountering refusal, which would indicate the depth of bedrock or compact glacial till. Anthropogenic fill materials were observed during test pitting activities towards the southern end of the property, and also within the concrete-lined pit. Such materials consisted of shoe leather and shoe and boot molds, and other miscellaneous fill material such as glass bottles and jars. Copies of soil boring and monitoring well construction logs are contained in Appendix B. Based on observations of the topography in the rear of the Site, earth mounds indicate that historical filling activities may have included areas that are south of the property. Also waste debris including a discarded tire and a crushed steel drum were observed immediately adjacent to the Site during visual reconnaissance.

Depth to groundwater at the Site, as measured by TRC on April 25, 2008 during a groundwater elevation survey, is estimated to range from approximately 6.48 feet to approximately 8.74 feet from the top of the well risers (approximately 3.18 to 5.62 feet below ground surface [bgs]). No measurable SPH was observed during gauging activities. Based on the April 25, 2008 relative elevation survey, the groundwater table slopes to the southwest at an average gradient of approximately 0.0077 foot/foot. A Groundwater Contour plan is presented in Figure 4.

#### **3.2 Nature and Extent of Contamination**

To assess subsurface conditions at the Site and to assess the level of impact of past Site uses and uses of adjacent properties, TRC collected soil and groundwater samples as described in Section 2.0. The following sections summarize analytical results for samples collected from the Site. Appendix C contains copies of laboratory analytical reports.

##### **3.2.1 Soil**

Soil analytical results were compared to RCS-1 soil criteria. These criteria were employed pursuant to 310 CMR 40.0361 of the MCP and based on Site soil borings' proximity (within 500 feet) to residential dwellings proximate to the Site. Table 3-1 summarizes soil analytical data from samples collected during the April 2008 sampling program. In test pits TP-1, TP-3, TP-4, TP-7, and TP-8, none of the contaminants analyzed for were detected at concentrations in excess of RCS-1 criteria.

Test pits TP-5 and TP-6 were completed in the southern portion of the property (see Figure 2). Multiple PAH and metal constituents were detected at levels above the RCS-1 criteria in soil samples collected from these two locations. Soil collected from TP-6 contained the PAHs benzo(a)pyrene and phenanthrene at concentrations slightly above their respective RCS-1 criteria. Soil collected from TP-5 contained the PAHs benzo(a)pyrene and dibenzo(a,h)anthracene at concentrations just above their RCS-1 criteria. The soil samples from both TP-5 and TP-6 contained concentrations of metals above RCS-1 criteria, including antimony, arsenic, barium, cadmium, chromium, lead, nickel, and zinc. These constituents did not exceed RCS-1 criteria in other soil samples collected across the site (except TP-2, see below). Metals and PAH contamination at TP-5 and TP-6 is likely attributable to anthropogenic fill materials that were deposited in this portion of the Site.

**Table 3-1: Summary of Analytical Results for Soil Samples - April 2008**  
**29 Elm Street**  
**Salisbury, Massachusetts**

Analysis	Analyte	Sample ID:	B-1/MW1	B-2/MW2	B-3/MW3	TP-01		TP-02	TP-03		TP-04	TP-05		TP-06	TP-07	TP-08
		Sample Depth (ft.):	3-4	3-4	0-1	4	4		3	3		3	3			
		Sample Date:	04/18/08	04/18/08	04/18/08	04/18/08	04/18/08		Field Dup	04/18/08		04/18/08	Field Dup			
		RC S-1														
VOCs (mg/kg)	Acetone	6	NA	NA	NA	NA	NA	33 U	NA	NA	NA	NA	NA	NA	16 U	18 U
	Amyl Methyl Ether (TAME), tert-	NS	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Benzene	2	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Bromobenzene	100	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Bromochloromethane	NS	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Bromodichloromethane	0.1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Bromoform	0.1	NA	NA	NA	NA	NA	1.3 U	NA	NA	NA	NA	NA	NA	0.63 U	0.69 U
	Bromomethane	0.5	NA	NA	NA	NA	NA	3.3 U	NA	NA	NA	NA	NA	NA	1.6 U	1.8 U
	Methyl Ethyl Ketone (MEK)	4	NA	NA	NA	NA	NA	13 U	NA	NA	NA	NA	NA	NA	6.3 U	6.9 U
	Butylbenzene, n-	100 <sup>(1)</sup>	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Butylbenzene, sec-	100 <sup>(1)</sup>	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Butylbenzene, tert-	100 <sup>(1)</sup>	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Ethyl Tert-buryl Ether (ETBE)	NS	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Carbon Disulfide	100	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	0.95 U	1.1 U
	Carbon Tetrachloride	5	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Chlorobenzene	1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dibromochloromethane	0.005	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Chloroethane	100	NA	NA	NA	NA	NA	6.5 U	NA	NA	NA	NA	NA	NA	3.2 U	3.5 U
	Chloroform	0.3	NA	NA	NA	NA	NA	1.3 U	NA	NA	NA	NA	NA	NA	0.63 U	0.69 U
	Chloromethane	100	NA	NA	NA	NA	NA	3.3 U	NA	NA	NA	NA	NA	NA	1.6 U	1.8 U
	Chlorotoluene, 2-	100	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Chlorotoluene, 4-	100	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	1,2-Dibromo-3-chloropropane	10	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Ethylene Dibromide	0.1	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Dibromomethane	500	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichlorobenzene, 1,2- (o-DCB)	9	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichlorobenzene, 1,3- (m-DCB)	1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichlorobenzene, 1,4- (p-DCB)	0.7	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichlorodifluoromethane (Freon 12)	1000	NA	NA	NA	NA	NA	6.5 U	NA	NA	NA	NA	NA	NA	3.2 U	3.5 U
	Dichloroethane, 1,1-	0.4	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloroethane, 1,2-	0.1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloroethylene, 1,1-	3	NA	NA	NA	NA	NA	1.3 U	NA	NA	NA	NA	NA	NA	0.63 U	0.69 U
	Dichloroethene, cis-1,2-	0.3	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloroethene, trans-1,2-	1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloropropane, 1,2-	0.1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloropropane, 1,3-	500	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Dichloropropane, 2,2-	0.1 <sup>(2)</sup>	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloropropene, 1,1-	0.01 <sup>(3)</sup>	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Dichloropropene, cis-1,3	0.01 <sup>(4)</sup>	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Dichloropropene, trans-1,3	0.01 <sup>(4)</sup>	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Diethyl Ether	100	NA	NA	NA	NA	NA	6.5 U	NA	NA	NA	NA	NA	NA	3.2 U	3.5 U
	Diisopropyl Ether (DIPE)	100	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Dioxane, 1,4-	0.2	NA	NA	NA	NA	NA	33 U	NA	NA	NA	NA	NA	NA	16 U	18 U
	Ethylbenzene	40	NA	NA	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Hexachlorobutadiene	6	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Hexanone (MNBK), 2-	100	NA	NA	NA	NA	NA	6.5 U	NA	NA	NA	NA	NA	NA	3.2 U	3.5 U
	Isopropylbenzene (Cumene)	1000	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Isopropyltoluene, p-	100 <sup>(1)</sup>	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Methyl T-Butyl Ether (MTBE)	0.1	NA	NA	NA	NA	NA	1.3 U	NA	NA	NA	NA	NA	NA	0.63 U	0.69 U
	Methylene Chloride	0.1	NA	NA	NA	NA	NA	6.5 U	NA	NA	NA	NA	NA	NA	3.2 U	3.5 U
Methyl Isobutyl Ketone (MIBK)	0.4	NA	NA	NA	NA	NA	43	NA	NA	NA	NA	NA	NA	3.2 U	3.5 U	

Table 3-1: Summary of Analytical Results for Soil Samples - April 2008

29 Elm Street  
Salisbury, Massachusetts

Analysis	Analyte	Sample ID:	B-1/MW1	B-2/MW2	B-3/MW3	TP-01		TP-02	TP-03		TP-04	TP-05		TP-06	TP-07	TP-08
		Sample Depth (ft.):	3-4	3-4	0-1	4	4		3	3	7	3	3	2	6	2
		Sample Date:	04/18/08	04/18/08	04/18/08	04/18/08	Field Dup	04/18/08	04/18/08	Field Dup	04/18/08	04/18/08	Field Dup	04/18/08	04/18/08	04/18/08
		RC S-1														
	Naphthalene	4	NA	NA	NA	NA	NA	1.3 U	NA	NA	NA	NA	NA	NA	0.63 U	0.69 U
	Propylbenzene, n-	100	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Styrene	3	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Tetrachloroethane, 1,1,1,2-	0.1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Tetrachloroethane, 1,1,2,2-	0.005	NA	NA	NA	NA	NA	0.33 U	NA	NA	NA	NA	NA	NA	0.16 U	0.18 U
	Tetrachloroethylene	1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Tetrahydrofuran (THF)	500	NA	NA	NA	NA	NA	3.3 U	NA	NA	NA	NA	NA	NA	1.6 U	1.8 U
	Toluene	30	NA	NA	NA	NA	NA	450	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trichlorobenzene, 1,2,3-	NS	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trichlorobenzene, 1,2,4-	2	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trichloroethane, 1,1,1-	30	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trichloroethane, 1,1,2-	0.1	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trichloroethylene	0.3	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trichlorofluoromethane (Freon 11)	1,000	NA	NA	NA	NA	NA	3.3 U	NA	NA	NA	NA	NA	NA	1.6 U	1.8 U
	Trichloropropane, 1,2,3-	100	NA	NA	NA	NA	NA	0.65 U	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trimethylbenzene, 1,2,4-	1,000	NA	NA	NA	NA	NA	3.1	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Trimethylbenzene, 1,3,5-	10	NA	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
	Vinyl Chloride	0.6	NA	NA	NA	NA	NA	3.3 U	NA	NA	NA	NA	NA	NA	1.6 U	1.8 U
	Xylenes, m/p-	300	NA	NA	NA	NA	NA	67	NA	NA	NA	NA	NA	NA	0.63 U	0.69 U
	Xylene, o-	300	NA	NA	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	0.32 U	0.35 U
<b>VPH</b>																
(mg/kg)	C5-C8 Aliphatics	100	19.7 U	26.0 U	33.3 U	23.6 U	NA	250	22.5 U	25.2 U	20.9 U	44.2 U	NA	32.3 U	NA	NA
	C9-C12 Aliphatics	1,000	13.1 U	17.3 U	22.2 U	15.8 U	NA	30.8 U	15.0 U	16.8 U	13.9 U	29.5 U	NA	21.6 U	NA	NA
	C9-C10 Aromatics	100	13.1 U	17.3 U	22.2 U	15.8 U	NA	30.8 U	15.0 U	16.8 U	13.9 U	29.5 U	NA	21.6 U	NA	NA
	Benzene	2	0.066 U	0.087 U	0.111 U	0.079 U	NA	0.154 U	0.075 U	0.084 U	0.070 U	0.148 U	NA	0.108 U	NA	NA
	Ethylbenzene	40	0.066 U	0.087 U	0.111 U	0.079 U	NA	18.0	0.075 U	0.084 U	0.070 U	0.148 U	NA	0.108 U	NA	NA
	Methyl T-Butyl Ether (MTBE)	0.1	0.066 U	0.087 U	0.111 U	0.079 U	NA	0.154 U	0.075 U	0.084 U	0.070 U	0.148 U	NA	0.108 U	NA	NA
	Naphthalene	4	0.655 U	0.865 U	1.11 U	0.787 U	NA	1.54 U	0.749 U	0.838 U	0.694 U	1.48 U	NA	1.08 U	NA	NA
	Toluene	30	0.066 U	0.087 U	0.111 U	0.079 U	NA	334	0.075 U	0.084 U	0.070 U	0.168	NA	0.108 U	NA	NA
	Xylenes, m/p-	300	0.131 U	0.173 U	0.222 U	0.158 U	NA	54.4	0.150 U	0.168 U	0.139 U	0.295 U	NA	0.216 U	NA	NA
	Xylene, o-	300	0.066 U	0.087 U	0.111 U	0.079 U	NA	14.5	0.075 U	0.084 U	0.070 U	0.148 U	NA	0.108 U	NA	NA
<b>EPH</b>																
(mg/kg)	C9-C18 Aliphatics	1,000	34.6 U	38.4 U	36.6 U	37.3 U	NA	277 U	37.3 U	38.7 U	34.6 U	46.0 U	NA	46.5 U	NA	NA
	C19-C36 Aliphatics	3,000	34.6 U	38.4 U	36.6 U	37.3 U	NA	515	37.3 U	38.7 U	34.6 U	107	NA	102	NA	NA
	C11-C22 Aromatics	1,000	34.6 U	38.4 U	36.6 U	37.3 U	NA	1,090	37.3 U	38.7 U	34.6 U	977	NA	243	NA	NA
	Acenaphthene	4	0.2 U	0.2 U	0.2 U	0.2 U	NA	1.3	0.2 U	0.2 U	0.2 U	0.5	NA	0.9	NA	NA
	Acenaphthylene	1	0.2 U	0.2 U	0.2 U	0.2 U	NA	6.3	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.3	NA	NA
	Anthracene	1,000	0.2 U	0.2 U	0.2 U	0.2 U	NA	10.7	0.2 U	0.2 U	0.2 U	1.4	NA	1.7	NA	NA
	Benzo(a)anthracene	7	0.2 U	0.2 U	0.2 U	0.2 U	NA	24.9	0.2 U	0.2 U	0.2 U	3.1	NA	3.8	NA	NA
	Benzo(a)pyrene	2	0.2 U	0.2 U	0.2 U	0.2 U	NA	27.2	0.2 U	0.2 U	0.2 U	0.2 U	NA	3.7	NA	NA
	Benzo(b)fluoranthene	7	0.2 U	0.2 U	0.2 U	0.2 U	NA	39.8	0.2 U	0.2 U	0.2 U	0.2 U	NA	4.9	NA	NA
	Benzo(g,h,i)perylene	1,000	0.2 U	0.2 U	0.2 U	0.2 U	NA	14.4	0.2 U	0.2 U	0.2 U	0.2 U	NA	1.8	NA	NA
	Benzo(k)fluoranthene	70	0.2 U	0.2 U	0.2 U	0.2 U	NA	15.7	0.2 U	0.2 U	0.2 U	0.2 U	NA	1.7	NA	NA
	Chrysene	70	0.2 U	0.2 U	0.2 U	0.2 U	NA	27.6	0.2 U	0.2 U	0.2 U	4.1	NA	5.0	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.2 U	0.2 U	0.2 U	0.2 U	NA	4.5	0.2 U	0.2 U	0.2 U	0.2 U	NA	0.5	NA	NA
	Fluoranthene	1,000	0.2 U	0.2 U	0.2 U	0.2 U	NA	66.1	0.2 U	0.2 U	0.2 U	10.0	NA	10.8	NA	NA
	Fluorene	1,000	0.2 U	0.2 U	0.2 U	0.2 U	NA	2.1	0.2 U	0.2 U	0.2 U	0.8	NA	1.3	NA	NA
	Indeno(1,2,3-cd)pyrene	7	0.2 U	0.2 U	0.2 U	0.2 U	NA	16.7	0.2 U	0.2 U	0.2 U	0.2 U	NA	1.9	NA	NA
	Methylnaphthalene, 2-	0.7	0.2 U	0.2 U	0.2 U	0.2 U	NA	1.0	0.2 U	0.2 U	0.2 U	0.3	NA	0.6	NA	NA
	Naphthalene	4	0.2 U	0.2 U	0.2 U	0.2 U	NA	2.4	0.2 U	0.2 U	0.2 U	0.5	NA	1.5	NA	NA
	Phenanthrene	10	0.2 U	0.2 U	0.2 U	0.2 U	NA	32.3	0.2 U	0.2 U	0.2 U	8.2	NA	12.8	NA	NA
	Pyrene	1,000	0.2 U	0.2 U	0.2 U	0.2 U	NA	67.3	0.2 U	0.2 U	0.2 U	9.8	NA	12.8	NA	NA

Table 3-1: Summary of Analytical Results for Soil Samples - April 2008

29 Elm Street  
Salisbury, Massachusetts

Analysis	Analyte	Sample ID:	B-1/MW1	B-2/MW2	B-3/MW3	TP-01		TP-02	TP-03		TP-04	TP-05		TP-06	TP-07	TP-08
		Sample Depth (ft.):	3-4	3-4	0-1	4	4		3	3	7	3	3	2	6	2
		Sample Date:	04/18/08	04/18/08	04/18/08	04/18/08	04/18/08	Field Dup	04/18/08	04/18/08	Field Dup	04/18/08	04/18/08	Field Dup	04/18/08	04/18/08
		RC S-1														
SVOCs (mg/kg)	Acenaphthene	4	0.20 U	0.22 U	0.21 U	0.21 U	NA	1.24 U	0.22 U	NA	0.20 U	0.40	0.68	0.26 U	0.21 U	0.22 U
	Acenaphthylene	1	0.20 U	0.22 U	0.21 U	0.21 U	NA	3.11	0.22 U	NA	0.20 U	0.26 U	0.26 U	0.26 U	0.21 U	0.22 U
	Acetophenone	1,000	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Aniline	1,000	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Anthracene	1,000	0.20 U	0.22 U	0.21 U	0.21 U	NA	5.26	0.22 U	NA	0.20 U	0.77	1.44	0.43	0.21 U	0.22 U
	Benzo(a)anthracene	7	0.20 U	0.22 U	0.21 U	0.21 U	NA	29.0	0.22 U	NA	0.20 U	2.48	4.45	1.51	0.21 U	0.22 U
	Benzo(a)pyrene	2	0.20 U	0.22 U	0.21 U	0.21 U	NA	28.1	0.22 U	NA	0.20 U	2.33	3.80	1.31	0.21 U	0.22 U
	Benzo(b)fluoranthene	7	0.20 U	0.22 U	0.21 U	0.21 U	NA	40.1	0.22 U	NA	0.20 U	3.90	4.28	1.79	0.21 U	0.22 U
	Benzo(g,h,i)perylene	1,000	0.20 U	0.22 U	0.21 U	0.21 U	NA	14.0	0.22 U	NA	0.20 U	1.60	2.43	0.68	0.21 U	0.22 U
	Benzo(k)fluoranthene	70	0.20 U	0.22 U	0.21 U	0.21 U	NA	15.3	0.22 U	NA	0.20 U	1.49	2.38	0.56	0.21 U	0.22 U
	Bis (2-Chloroethoxy)methane	500	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Bis(2-Chloroethyl)ether	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	2,2-oxybis(1-Chloropropane)	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Bis(2-Ethylhexyl)phthalate	200	0.39 U	0.43 U	0.41 U	0.42 U	NA	50.7	0.43 U	NA	0.39 U	66.6	78.4	0.57	0.41 U	0.44 U
	Bromophenyl phenyl ether, 4-	100	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Butyl benzyl phthalate	100	0.77 U	0.86 U	0.82 U	0.83 U	NA	4.93 U	0.86 U	NA	0.77 U	1.03 U	1.01 U	1.03 U	0.82 U	0.88 U
	Chloroaniline, p-	1	0.77 U	0.86 U	0.82 U	0.83 U	NA	4.93 U	0.86 U	NA	0.77 U	1.03 U	1.01 U	1.03 U	0.82 U	0.88 U
	Chloronaphthalene, 2-	1,000	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Chlorophenol, 2-	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Chrysene	70	0.20 U	0.22 U	0.21 U	0.21 U	NA	27.8	0.22 U	NA	0.20 U	2.62	4.70	1.56	0.21 U	0.22 U
	Dibenzofuran	100	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.53	0.52 U	0.41 U	0.44 U
	Dibenzo(a,h)anthracene	0.7	0.20 U	0.22 U	0.21 U	0.21 U	NA	4.15	0.22 U	NA	0.20 U	0.56	0.81	0.26 U	0.21 U	0.22 U
	Dichlorobenzene, 1,2- (o-DCB)	9	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Dichlorobenzene, 1,3- (m-DCB)	1	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Dichlorobenzene, 1,4- (p-DCB)	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Dichlorobenzidine, 3,3'-	1	0.20 U	0.22 U	0.21 U	0.21 U	NA	1.24 U	0.22 U	NA	0.20 U	0.26 U	0.26 U	0.26 U	0.21 U	0.22 U
	Dichlorophenol, 2,4-	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Diethyl Phthalate	10	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Dimethylphenol, 2,4-	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Dimethyl Phthalate	30	0.77 U	0.86 U	0.82 U	0.83 U	NA	4.93 U	0.86 U	NA	0.77 U	1.03 U	1.01 U	1.03 U	0.82 U	0.88 U
	Butyl phthalate, Di-n-	50	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	1.96	2.97	1.39	0.41 U	0.44 U
	Octyl phthalate, di-n-	1,000	0.77 U	0.86 U	0.82 U	0.83 U	NA	4.93 U	0.86 U	NA	0.77 U	1.03 U	1.04	1.03 U	0.82 U	0.88 U
	Dinitrophenol, 2,4-	3	0.77 U	0.86 U	0.82 U	0.83 U	NA	4.93 U	0.86 U	NA	0.77 U	1.03 U	1.01 U	1.03 U	0.82 U	0.88 U
	Dinitrotoluene, 2,4-	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Dinitrotoluene, 2,6- (2,6-DNT)	100	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Azobenzene	50	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Fluoranthene	1,000	0.20 U	0.22 U	0.21 U	0.21 U	NA	61.0	0.22 U	NA	0.20 U	5.84	6.99	3.46	0.21 U	0.22 U
	Fluorene	1,000	0.20 U	0.22 U	0.21 U	0.21 U	NA	1.24 U	0.22 U	NA	0.20 U	0.38	0.61	0.26 U	0.21 U	0.22 U
	Hexachlorobenzene	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Hexachlorobutadiene	6	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
Hexachloroethane	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	
Indeno(1,2,3-cd)pyrene	7	0.20 U	0.22 U	0.21 U	0.21 U	NA	19.2	0.22 U	NA	0.20 U	2.07	3.18	0.87	0.21 U	0.22 U	
Isophorone	100	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	
Methylphenol, 2-	500	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	
m & p-cresol(s)	500	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	
Methylnaphthalene, 2-	0.7	0.20 U	0.22 U	0.21 U	0.21 U	NA	1.24 U	0.22 U	NA	0.20 U	0.26 U	0.26 U	0.26 U	0.21 U	0.22 U	
Naphthalene	4	0.20 U	0.22 U	0.21 U	0.21 U	NA	1.24 U	0.22 U	NA	0.20 U	0.49	0.64	0.26 U	0.21 U	0.22 U	
Nitrobenzene	500	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	
Nitrophenol, 2-	100	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	
Nitrophenol, 4-	100	0.77 U	0.86 U	0.82 U	0.83 U	NA	4.93 U	0.86 U	NA	0.77 U	1.03 U	1.01 U	1.03 U	0.82 U	0.88 U	
Pentachlorophenol	3	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U	

Table 3-1: Summary of Analytical Results for Soil Samples - April 2008  
29 Elm Street  
Salisbury, Massachusests

Analysis	Analyte	Sample ID:	B-1/MW1	B-2/MW2	B-3/MW3	TP-01		TP-02	TP-03		TP-04	TP-05		TP-06	TP-07	TP-08
		Sample Depth (ft.):	3-4	3-4	0-1	4	4	04/18/08	3	3	04/18/08	3	3	04/18/08	04/18/08	04/18/08
		Sample Date:	04/18/08	04/18/08	04/18/08	04/18/08	04/18/08 Field Dup		04/18/08	04/18/08 Field Dup		04/18/08 Field Dup				
		RC S-1														
	Phenanthrene	10	0.20 U	0.22 U	0.21 U	0.21 U	NA	18.6	0.22 U	NA	0.20 U	3.91	5.88	2.05	0.21 U	0.22 U
	Phenol	1	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Pyrene	1,000	0.20 U	0.22 U	0.21 U	0.21 U	NA	42.6	0.22 U	NA	0.20 U	3.22	5.28	2.04	0.21 U	0.22 U
	Trichlorobenzene, 1,2,4-	2	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Trichlorophenol, 2,4,5-	4	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
	Trichlorophenol, 2,4,6-	0.7	0.39 U	0.43 U	0.41 U	0.42 U	NA	2.47 U	0.43 U	NA	0.39 U	0.52 U	0.51 U	0.52 U	0.41 U	0.44 U
PCBs (mg/kg)																
	Aroclor 1016	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1221	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1232	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1242	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1248	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1254	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1260	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor 1262	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1268	2	NA	NA	NA	0.125 U	0.124 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metals (mg/kg)																
	Antimony	20	4.61 U	5.12 U	4.88 U	4.97 U	NA	7.39 U	5.13 U	NA	4.61 U	52.1	6.04 U	163	NA	NA
	Arsenic	20	8.11	3.20 U	3.86	3.26	NA	11.4	3.21 U	NA	2.88 U	8.20	7.89	51.0	NA	NA
	Barium	1,000	7.36	25.6	17.5	16.0	NA	611	12.1	NA	11.8	2,190	2,980	13,500	NA	NA
	Beryllium	100	0.29 U	0.32 U	0.31 U	0.32 U	NA	0.47 U	0.33 U	NA	0.29 U	0.39 U	0.38 U	0.39 U	NA	NA
	Cadmium	2	0.29 U	0.32 U	0.31 U	0.32 U	NA	4.91	0.33 U	NA	0.29 U	13.9	14.3	24.4	NA	NA
	Chromium	30	4.85	9.89	10.2	12.0	NA	38.0	7.58	NA	6.39	82.9	103	703	NA	NA
	Lead	300	1.90	4.97	22.8	2.76	NA	336	2.50	NA	2.13	557	651	1,530	NA	NA
	Nickel	20	5.82	5.68	4.52	8.42	NA	14.1	6.04	NA	5.23	16.4	15.7	50.0	NA	NA
	Selenium	400	5.77 U	6.40 U	6.10 U	6.22 U	NA	9.23 U	6.41 U	NA	5.76 U	7.66 U	7.55 U	7.74 U	NA	NA
	Silver	100	0.58 U	0.64 U	0.61 U	0.63 U	NA	0.93 U	0.65 U	NA	0.58 U	2.10	1.54	3.92	NA	NA
	Thallium	8	3.46 U	3.84 U	3.66 U	3.73 U	NA	5.54 U	3.85 U	NA	3.46 U	4.60 U	4.53 U	4.65 U	NA	NA
	Vanadium	600	5.77 U	9.42	11.9	11.6	NA	18.6	8.26	NA	7.23	17.5	19.0	29.0	NA	NA
	Zinc	2,500	10.8	23.1	18.4	20.8	NA	325	11.9	NA	20.3	1,060	1,060	6,840	NA	NA
	Mercury	20	0.025 U	0.017	0.053	0.013 U	NA	0.332	0.015 U	NA	0.012 U	0.542	0.420	0.274	NA	NA
Solids (%)																
Total Solids		N/A	86.8	78.2	82.1	80.5	81.2	54.2	80.5	77.5	86.9	65.3	66.3	64.6	81.4	75.9

**Note:**  
All units in mg/kg unless otherwise specified.  
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).  
NA - Sample not analyzed for the listed analyte.  
NS - No MADEP standards exist for this compound.  
U - Compound was not detected at specified quantitation limit.  
Values in **Bold** indicate the compound was detected.  
**Values shown in Bold and shaded type exceed the listed criteria.**  
(1) - MCP RC for C9-C10 aromatics used.  
(2) - MCP RC for Dichloropropane used.  
(3) - MCP RC for Dichloropropene used.  
(4) - MCP RC for 1,3-Dichloropropene used.  
VOCs - Volatile Organic Compounds.  
VPH - Volatile Petroleum Hydrocarbons.  
EPH - Extractable Petroleum Hydrocarbons.  
PCBs - Polychlorinated Biphenyls.  
SVOCs - Semivolatile Organic Compounds.  
RC - Reportable Concentration.

As described above, test pit TP-2 was completed within the concrete-lined pit believed to have been associated with an elevator in the former Site building. TRC noted PID readings in excess of 1,000 ppmv, a strong acetone-like odor, black-stained soil and wood waste materials, and a partially crushed 55-gallon drum. Soils excavated at this location exceeded the respective RCS-1 criteria for multiple VOC, VPH, EPH, and SVOC constituents, as well as cadmium, chromium, and lead. TRC did not observe cracks or voids in the concrete sides of the pit. Standing water in the pit precluded observation of the condition of the concrete on the bottom of the pit. Based on the continuous level of water standing in the pit on April 18, the concrete pit does not have large cracks or voids. Test pits TP-7 and TP-8 were completed on the south and west sides of the concrete-lined pit, respectively. Soil samples collected from TP-7 and TP-8 were analyzed for VOCs and SVOCs. Sample results indicated no detectable compounds. Based on the soil sample results from TP-7 and TP-8 and observations of the condition of the concrete pit, the contamination detected in soil excavated from TP-2 does not represent Site soil conditions (i.e., contaminated soils and debris in this area are contained in the concrete-lined pit and not in subsurface soil).

<b>Table 3-2: Summary of Soil Results in Excess of RCS-1 Criteria – April 2008</b>					
<b>Analysis</b>	<b>Analyte</b>	<b>RC S-1 (mg/kg)</b>	<b>TP-2 (mg/kg)</b>	<b>TP-5 (3') (mg/kg)</b>	<b>TP-6 (2') (mg/kg)</b>
<b>VOCs</b>	Methyl Isobutyl Ketone (MIBK)	<b>0.4</b>	43		
	Toluene	<b>30</b>	450		
<b>VPH</b>	C <sub>5</sub> -C <sub>8</sub> aliphatics	<b>100</b>	250		
	Toluene	<b>30</b>	334		
<b>EPH</b>	C <sub>11</sub> -C <sub>12</sub> aromatics	<b>1,000</b>	1,090		
	Acenaphthylene	<b>1</b>	6.3		
	Benzo(a)anthracene	<b>7</b>	24.9		
	Benzo(a)pyrene	<b>2</b>	27.2		3.7
	Benzo(b)fluoranthene	<b>7</b>	39.8		
	Dibenzo(a,h)anthracene	<b>0.7</b>	4.5		
	Indeno(1,2,3-cd)pyrene	<b>7</b>	16.7		
	Methylnaphthalene, 2-	<b>0.7</b>	1.0		
	Phenanthrene	<b>10</b>	32.3		12.8
<b>SVOCs</b>	Acenaphthylene	<b>1</b>	3.11		
	Benzo(a)anthracene	<b>7</b>	29		
	Benzo(a)pyrene	<b>2</b>	28.1	3.8	
	Benzo(b)fluoranthene	<b>7</b>	40.1		
	Dibenzo(a,h)anthracene	<b>0.7</b>	4.15	0.81	
	Indeno(1,2,3-cd)pyrene	<b>7</b>	19.2		
	Phenanthrene	<b>10</b>	18.6		
<b>Metals</b>	Antimony	<b>20</b>		52.1	163
	Arsenic	<b>20</b>			51
	Barium	<b>1,000</b>		2,980	13,500
	Cadmium	<b>2</b>	4.91	14.3	24.4
	Chromium	<b>30</b>	38	103	703
	Lead	<b>300</b>	336	651	1,530
	Nickel	<b>20</b>			50
	Zinc	<b>2,500</b>			6,840



### **3.2.2 Groundwater**

Groundwater analytical results were compared to RCGW-2 criteria. These criteria were employed based on the MassDEP Priority Resource Map for the Site area, which indicates that there are no productive or potentially productive drinking water aquifers in the vicinity of the Site. Groundwater samples were collected and analyzed for VOCs, VPH, SVOCs, EPH, and total MCP metals and mercury. An additional water sample was submitted for laboratory analysis of VOCs from the concrete-lined pit, which was found to contain one foot of brown turbid water. This sample does not represent Site groundwater conditions at the Site and is discussed in Section 3.2.3 below. Table 3-3 summarizes the groundwater analytical data from the Site.

None of the contaminants analyzed for were detected at concentrations exceeding RCGW-2 criteria in Site groundwater.

### **3.2.3 Other Media**

While excavating TP-2, the concrete-lined former elevator pit was found to contain approximately one foot of standing water, observed to be brown and turbid with traces of a sheen. The static level of water in TP-2 was approximately three feet below grade. In test pits excavated immediately adjacent to the concrete pit (e.g., TP-7 and TP-8) static water levels were approximately six to seven feet below grade. This indicates that the water in the pit is not hydraulically connected to groundwater in the immediate vicinity. Further, groundwater samples collected from the three monitoring wells installed on Site did not contain detectable levels of the contaminants detected in the water sample collected from TP-2. These results indicate that water from the concrete pit is not representative of groundwater conditions at the Site. TRC has compared analytical data for water from the pit to RCGW-2 criteria as a general guide to the significance of the detected concentrations. Acetone (5,220 µg/L), methyl isobutyl ketone (5,520 µg/L), toluene (2,590 µg/L), and m and p-xylenes (247 µg/L) were detected in water sampled from TP-2 at levels below RCGW-2 criteria.

## **3.3 Data Usability Assessment**

TRC conducted a data usability assessment (DUA) of the data. In general, the precision, accuracy and completeness of the data were considered acceptable for the purposes of this project with the following caution:

- Caution should be used with the dibenzo(a,h)anthracene result in sample TP-05 due to field duplicate variability. The field duplicate result exceeds the project action level while the original sample result is below the project action level. In order to remain conservative, the result from the field duplicate sample should be used for decision-making purposes.
- Caution should be used with the antimony result in sample TP-05 due to field duplicate variability. The original sample result exceeds the project action level while the field duplicate result is nondetect and below the project action level. In order to remain conservative, the result from the original sample should be used for decision-making purposes. Due to this variability, potential uncertainty exists for all nondetect results for antimony in soil samples.

The results of the data usability assessment are provided in Appendix D.

**Table 3-3: Summary of Analytical Results for Water Samples - April 2008**  
**29 Elm Street**  
**Salisbury, Massachusetts**

Analysis	Analyte	Sample Location:	MW-1	MW-2	MW-3		TP-02
		Sample Date:	04/25/08	04/25/08	04/25/08	04/25/08	04/18/08
		RC GW-2				Field Dup	
<b>VOCs</b>							
(ug/L)	Acetone	50,000	50 U	50 U	50 U	50 U	5,220
	Amyl Methyl Ether (TAME), tert-	10,000	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Benzene	2,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Bromobenzene	10,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Bromochloromethane	NS	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Bromodichloromethane	6	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Bromoform	700	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Bromomethane	7	5.0 U	5.0 U	5.0 U	5.0 U	500 U
	Methyl Ethyl Ketone (MEK)	50,000	20 U	20 U	20 U	20 U	2,000 U
	Butylbenzene, n-	7,000 <sup>(1)</sup>	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Butylbenzene, sec-	7,000 <sup>(1)</sup>	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Butylbenzene, tert-	10,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Ethyl Tert-butyl Ether (ETBE)	NS	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Carbon Disulfide	10,000	3.0 U	3.0 U	3.0 U	3.0 U	300 U
	Carbon Tetrachloride	2	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Chlorobenzene	200	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dibromochloromethane	20	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Chloroethane	10,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Chloroform	50	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Chloromethane	10,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Chlorotoluene, 2-	10,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Chlorotoluene, 4-	NS	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	1,2-Dibromo-3-chloropropane	1,000	5.0 U	5.0 U	5.0 U	5.0 U	500 U
	Ethylene Dibromide	2	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Dibromomethane	50,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichlorobenzene, 1,2- (o-DCB)	2,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichlorobenzene, 1,3- (m-DCB)	2,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichlorobenzene, 1,4- (p-DCB)	200	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichlorodifluoromethane (Freon 12)	100,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Dichloroethane, 1,1-	1,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloroethane, 1,2-	5	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloroethylene, 1,1-	80	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloroethene, cis-1,2-	100	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloroethene, trans-1,2-	90	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloropropane, 1,2-	3	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloropropane, 1,3-	50,000	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Dichloropropane, 2,2-	9 <sup>(2)</sup>	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Dichloropropene, 1,1-	5 <sup>(3)</sup>	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Dichloropropene, cis-1,3	10 <sup>(4)</sup>	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Dichloropropene, trans-1,3	10 <sup>(4)</sup>	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Diethyl Ether	10,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Diisopropyl Ether (DIPE)	10,000	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Dioxane, 1,4-	6,000	50 U	50 U	50 U	50 U	5,000 U
	Ethylbenzene	5,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Hexachlorobutadiene	1	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Hexanone (MNBK), 2-	10,000	10 U	10 U	10 U	10 U	1,000 U
	Isopropylbenzene (Cumene)	1,000,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Isopropyltoluene, p-	10,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Methyl T-Butyl Ether (MTBE)	5,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Methylene Chloride	10,000	5.0 U	5.0 U	5.0 U	5.0 U	500 U
	Methyl Isobutyl Ketone (MIBK)	50,000	10 U	10 U	10 U	10 U	5,520
	Naphthalene	1,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Propylbenzene, n-	10,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Styrene	100	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Tetrachloroethane, 1,1,1,2-	10	1.0 U	1.0 U	1.0 U	1.0 U	100 U

Table 3-3: Summary of Analytical Results for Water Samples - April 2008

29 Elm Street  
Salisbury, Massachusetts

Analysis	Analyte	Sample Location:	MW-1 04/25/08	MW-2 04/25/08	MW-3		TP-02 04/18/08
		Sample Date:			04/25/08	04/25/08	
		RC GW-2				Field Dup	
	Tetrachloroethane, 1,1,2,2-	9	0.5 U	0.5 U	0.5 U	0.5 U	50 U
	Tetrachloroethylene	50	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Tetrahydrofuran (THF)	50,000	10 U	10 U	10 U	10 U	1,000 U
	Toluene	40,000	1.0 U	1.0 U	1.0 U	1.0 U	2,590
	Trichlorobenzene, 1,2,3-	NS	5.0 U	5.0 U	5.0 U	5.0 U	500 U
	Trichlorobenzene, 1,2,4-	2,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Trichloroethane, 1,1,1-	4,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Trichloroethane, 1,1,2-	900	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Trichloroethylene	30	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Trichlorofluoromethane (Freon 11)	100,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Trichloropropane, 1,2,3-	10,000	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Trimethylbenzene, 1,2,4-	1,000,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Trimethylbenzene, 1,3,5-	1,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
	Vinyl Chloride	2	2.0 U	2.0 U	2.0 U	2.0 U	200 U
	Xylenes, m/p-	5,000	2.0 U	2.0 U	2.0 U	2.0 U	247
	Xylene, o-	5,000	1.0 U	1.0 U	1.0 U	1.0 U	100 U
<b>VPH</b>							
(ug/L)	C5-C8 Aliphatics	3,000	100 U	100 U	100 U	100 U	NA
	C9-C12 Aliphatics	5,000	100 U	100 U	100 U	100 U	NA
	C9-C10 Aromatics	7,000	100 U	100 U	100 U	100 U	NA
	Benzene	2,000	1.0 U	1.0 U	1.0 U	1.0 U	NA
	Ethylbenzene	5,000	1.0 U	1.0 U	1.0 U	1.0 U	NA
	Methyl T-Butyl Ether (MTBE)	5,000	1.0 U	1.0 U	1.0 U	1.0 U	NA
	Naphthalene	1,000	10 U	10 U	10 U	10 U	NA
	Toluene	40,000	1.0 U	1.0 U	1.0 U	1.0 U	NA
	Xylenes, m/p-	5,000	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Xylene, o-	5,000	1.0 U	1.0 U	1.0 U	1.0 U	NA
<b>EPH</b>							
(ug/L)	C9-C18 Aliphatics	5,000	150 U	150 U	150 U	150 U	NA
	C19-C36 Aliphatics	50,000	150 U	150 U	150 U	150 U	NA
	C11-C22 Aromatics	5,000	100 U	100 U	100 U	100 U	NA
	Acenaphthene	6,000	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Acenaphthylene	40	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Anthracene	30	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Benzo(a)anthracene	1,000	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Benzo(a)pyrene	500	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Benzo(b)fluoranthene	400	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Benzo(g,h,i)perylene	20	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Benzo(k)fluoranthene	100	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Chrysene	70	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Dibenzo(a,h)anthracene	40	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Fluoranthene	200	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Fluorene	40	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Indeno(1,2,3-cd)pyrene	100	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Methylnaphthalene, 2-	2,000	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Naphthalene	1,000	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Phenanthrene	10,000	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Pyrene	20	2.0 U	2.0 U	2.0 U	2.0 U	NA
<b>SVOCs</b>							
(ug/L)	Acenaphthene	6,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Acenaphthylene	40	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Acetophenone	100,000	10 U	10 U	10 U	10 U	NA
	Aniline	100,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Anthracene	30	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Benzo(a)anthracene	1,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Benzo(a)pyrene	500	5.0 U	5.0 U	5.0 U	5.0 U	NA

Table 3-3: Summary of Analytical Results for Water Samples - April 2008

29 Elm Street  
Salisbury, Massachusetts

Analysis	Analyte	Sample Location:	MW-1 04/25/08	MW-2 04/25/08	MW-3		TP-02 04/18/08
		Sample Date:			04/25/08	04/25/08	
		RC GW-2				Field Dup	
	Benzo(b)fluoranthene	400	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Benzo(g,h,i)perylene	20	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Benzo(k)fluoranthene	100	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Bis (2-Chloroethoxy)methane	50,000	10 U	10 U	10 U	10 U	NA
	Bis(2-Chloroethyl)ether	30	10 U	10 U	10 U	10 U	NA
	2,2-oxybis(1-Chloropropane)	100	10 U	10 U	10 U	10 U	NA
	Bis(2-Ethylhexyl)phthalate	50,000	10 U	10 U	10 U	10 U	NA
	Bromophenyl phenyl ether, 4-	10,000	10 U	10 U	10 U	10 U	NA
	Butyl benzyl phthalate	10,000	20 U	20 U	20 U	20 U	NA
	Chloroaniline, p-	300	20 U	20 U	20 U	20 U	NA
	Chloronaphthalene, 2-	100,000	10 U	10 U	10 U	10 U	NA
	Chlorophenol, 2-	7,000	10 U	10 U	10 U	10 U	NA
	Chrysene	70	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Dibenzofuran	10,000	10 U	10 U	10 U	10 U	NA
	Dibenzo(a,h)anthracene	40	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Dichlorobenzene, 1,2- (o-DCB)	2,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Dichlorobenzene, 1,3- (m-DCB)	2,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Dichlorobenzene, 1,4- (p-DCB)	200	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Dichlorobenzidine, 3,3'-	2,000	10 U	10 U	10 U	10 U	NA
	Dichlorophenol, 2,4-	2,000	10 U	10 U	10 U	10 U	NA
	Diethyl Phthalate	9,000	10 U	10 U	10 U	10 U	NA
	Dimethylphenol, 2,4-	40,000	40 U	40 U	40 U	40 U	NA
	Dimethyl Phthalate	50,000	20 U	20 U	20 U	20 U	NA
	Butyl phthalate, Di-n-	5,000	10 U	10 U	10 U	10 U	NA
	Octyl phthalate, di-n-	100,000	20 U	20 U	20 U	20 U	NA
	Dinitrophenol, 2,4-	20,000	20 U	20 U	20 U	20 U	NA
	Dinitrotoluene, 2,4-	20,000	10 U	10 U	10 U	10 U	NA
	Dinitrotoluene, 2,6- (2,6-DNT)	10,000	10 U	10 U	10 U	10 U	NA
	Azobenzene	5,000	10 U	10 U	10 U	10 U	NA
	Fluoranthene	200	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Fluorene	40	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Hexachlorobenzene	1	10 U	10 U	10 U	10 U	NA
	Hexachlorobutadiene	1	10 U	10 U	10 U	10 U	NA
	Hexachloroethane	100	10 U	10 U	10 U	10 U	NA
	Indeno(1,2,3-cd)pyrene	100	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Isophorone	10,000	10 U	10 U	10 U	10 U	NA
	Methylphenol, 2-	50,000	10 U	10 U	10 U	10 U	NA
	m & p-cresol(s)	50,000	20 U	20 U	20 U	20 U	NA
	Methylnaphthalene, 2-	2,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Naphthalene	1,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Nitrobenzene	50,000	10 U	10 U	10 U	10 U	NA
	Nitrophenol, 2-	10,000	10 U	10 U	10 U	10 U	NA
	Nitrophenol, 4-	10,000	20 U	20 U	20 U	20 U	NA
	Pentachlorophenol	200	10 U	10 U	10 U	10 U	NA
	Phenanthrene	10,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Phenol	2,000	10 U	10 U	10 U	10 U	NA
	Pyrene	20	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Trichlorobenzene, 1,2,4-	2,000	5.0 U	5.0 U	5.0 U	5.0 U	NA
	Trichlorophenol, 2,4,5-	3,000	10 U	10 U	10 U	10 U	NA
	Trichlorophenol, 2,4,6-	500	10 U	10 U	10 U	10 U	NA
Metals, total							NA
(ug/L)	Antimony	8,000	40 U	40 U	40 U	40 U	NA
	Arsenic	900	5.0 U	5.0 U	8.0	5.0 U	NA
	Barium	50,000	56.1	131	50 U	50 U	NA
	Beryllium	200	2.0 U	2.0 U	2.0 U	2.0 U	NA
	Cadmium	4	2.5 U	2.5 U	2.5 U	2.5 U	NA

**Table 3-3: Summary of Analytical Results for Water Samples - April 2008**  
**29 Elm Street**  
**Salisbury, Massachusetts**

Analysis	Analyte	Sample Location:	MW-1	MW-2	MW-3		TP-02
		Sample Date:	04/25/08	04/25/08	04/25/08	04/25/08	04/18/08
		RC GW-2				Field Dup	
	Chromium	300	<b>6.0</b>	5.0 U	5.0 U	5.0 U	NA
	Lead	10	7.5 U	7.5 U	7.5 U	7.5 U	NA
	Nickel	200	<b>6.0</b>	5.0 U	5.0 U	5.0 U	NA
	Selenium	100	50 U	50 U	50 U	50 U	NA
	Silver	7	3.0 U	3.0 U	3.0 U	3.0 U	NA
	Thallium	3,000	30 U	30 U	30 U	30 U	NA
	Vanadium	4,000	25 U	25 U	25 U	25 U	NA
	Zinc	900	<b>19</b>	<b>20</b>	<b>13</b>	<b>14</b>	NA
	Mercury	20	0.1 U	0.1 U	0.1 U	0.1 U	NA

**Note:**

All units in ug/L unless otherwise specified.

ug/L - micrograms per liter.

NS - No MADEP standards exist for this compound.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

(1) - MCP RC for C9-C10 aromatic hydrocarbons used.

(2) - MCP RC for Dichloropropane used.

(3) - MCP RC for Dichloropropene used.

(4) - MCP RC for 1,3-Dichloropropene used.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

SVOCs - Semivolatile Organic Compounds.

RC - Reportable Concentration.

## **4.0 CONCLUSIONS**

Conclusions based on the results of TRC's Site investigations activities are as follows:

### **4.1 Subsurface Conditions**

Based on observations made by TRC field personnel during soil boring and test pitting activities, the Site is underlain by a layer of loamy topsoil over fine to medium sand and silt. Soil borings were completed to their full depths without encountering refusal, which would indicate the presence of bedrock or compact glacial till. Evidence of anthropogenic fill materials was observed during test pitting activities in the southern portion of the Site, including glass bottles and stacks of spent shoe leather. Mounds have been observed in the wooded areas in the southern portion of the Site and extending to areas south of the Site boundary. Waste debris including a discarded tire and a crushed steel drum have been observed immediately adjacent to the Site.

Site groundwater depths as measured by TRC on April 25, 2008 ranged from approximately 6.48 feet to approximately 8.74 feet from the top of the well risers (approximately 3.18 to 5.62 feet bgs). Based on the April 25, 2008 relative elevation survey, the groundwater table slopes to the southwest at an average gradient of approximately 0.0077 foot/foot. No measurable SPH was observed during gauging activities.

### **4.2 Site Soil Conditions**

TRC collected 11 soil samples from the Site. Soil analytical results are discussed in Section 3 and summarized in Table 3-1. Based on comparison of analytical results to RCS-1 criteria, metals including antimony, arsenic, barium, cadmium, chromium, lead, nickel, and zinc and PAHs including benzo(a)pyrene, dibenzo(a,h)anthracene, and phenanthrene are present in anthropogenic fill materials in the southern portion of the Site at concentrations in excess of RCS-1 criteria. This area of the Site is adjacent to wetlands and was likely filled in to increase upland land areas or as a means of waste disposal. Debris materials encountered during test pit excavation in this area included stacks of discarded shoe leather (at TP-5) and glass bottles (at TP-6). Test pit logs completed during test pit excavation indicate that fill materials at TP-5 and TP-6 extend to approximately 5 feet below grade. Based on observations of the topography in the rear of the Site, earth mounds indicate that historical filling activities may have included areas that are south of the property boundary. Also observed waste debris immediately adjacent to the Site could indicate further dumping/infilling activities. The exceedances of RCS-1 criteria at TP-5 and TP-6 represent a 120-day reporting condition under the MCP.

Soil samples taken from TP-2 exceed the RCS-1 criteria for a number of VOC, SVOC, EPH, VPH, and metals constituents. Based on non-detect sample results from test pits TP-7 and TP-8 taken downgradient from and adjacent to TP-2, as well as the observed intact nature of the concrete pit, the contamination found at TP-2 is limited to the concrete-lined pit. Therefore the material excavated from TP-2 is not representative of Site soil conditions and does not represent a reporting condition under the MCP. Although soil excavated from TP-2 is not indicative of Site soil conditions, the soil and other pit contents will still require appropriate characterization and management to prevent potential future exposures and to facilitate future site development.

### **4.3 Site Groundwater Conditions**

Groundwater samples were collected from each of the three monitoring wells installed on Site. Groundwater samples were submitted for laboratory analysis for VOCs, SVOCs, VPH, EPH, and total MCP metals and mercury. None of the contaminants tested for in groundwater were present at concentrations exceeding their respective RCGW-2 criteria. Based on these results there are no

regulatory reporting obligations with respect to groundwater, and groundwater quality is not expected to adversely affect Site redevelopment or divestment.

The concrete-lined former elevator pit contained approximately one foot of stagnant brown, turbid water with traces of a sheen. The static level of water in TP-2 was approximately three feet below grade. In test pits TP-7 and TP-8, excavated immediately adjacent to the concrete pit, static water levels were approximately six to seven feet below grade. This indicates that the water in the concrete pit is not hydraulically connected to groundwater in the immediate vicinity. Further, groundwater samples collected from the three monitoring wells installed on Site did not contain detectable levels of the contaminants detected in the water sample collected from TP-2. These results indicate that water from the concrete pit is not representative of groundwater conditions at the Site.

## 5.0 RECOMMENDATIONS

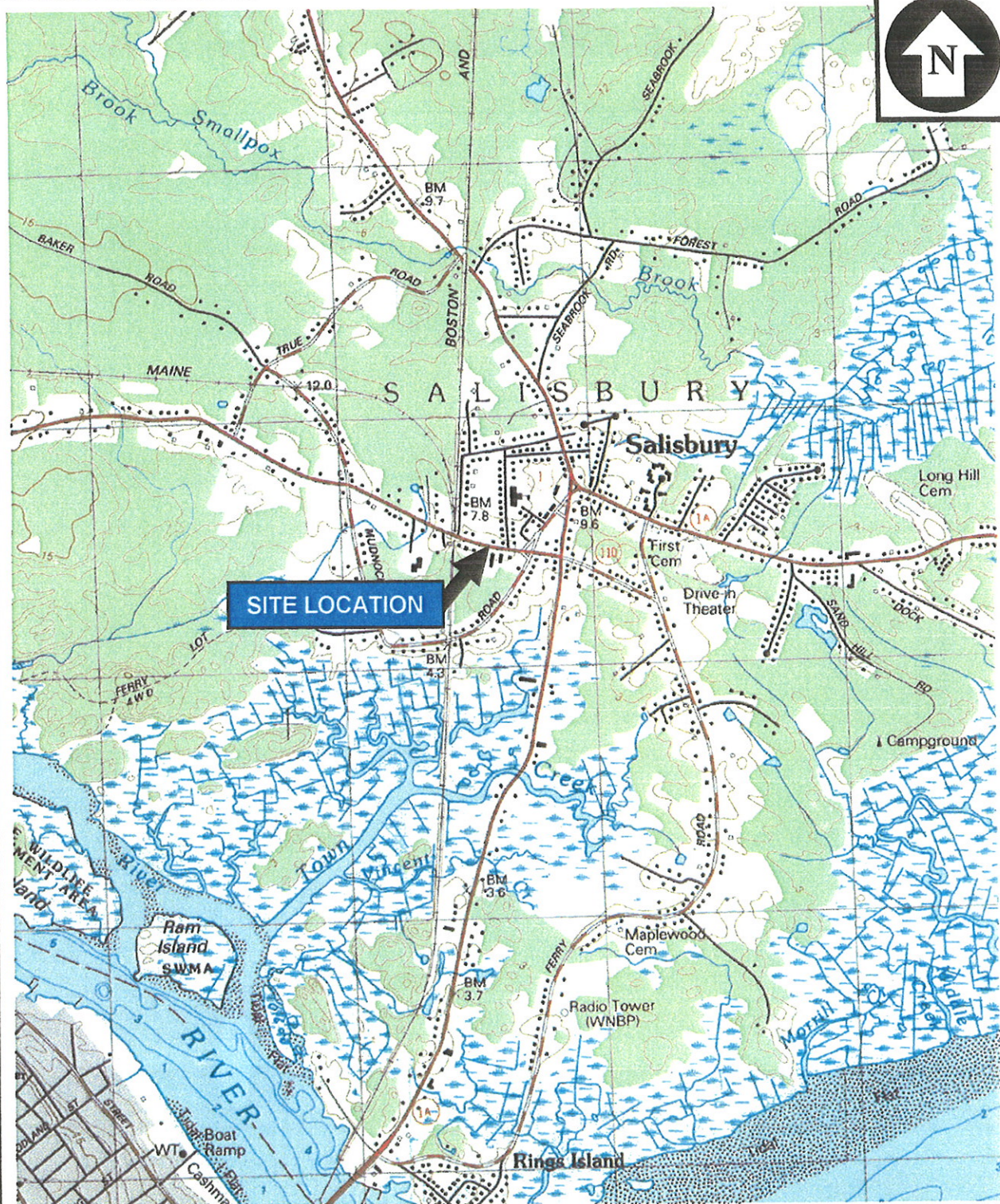
TRC presents the following recommendations based on the results of this Phase II Site Investigation:

- Soil contaminants identified at TP-5 and TP-6 are present at concentrations in excess of regulatory reporting criteria, specifically the 120-day reporting obligations set forth in 310 CMR 40.0315 and 40.1600 of the Massachusetts Contingency Plan (MCP). These contaminants include antimony, arsenic, barium, cadmium, chromium, lead, nickel, zinc, benzo(a)pyrene, dibenzo(a,h)anthracene, and phenanthrene. According to the MCP, the notification timeframe begins when the owner, title holder, or other person required to notify obtains knowledge of contamination requiring notification (310 CMR 40.0315 and 310 CMR 40.0331).
- The presence of soil contamination in the southern portion of the property is likely attributable to historical dumping/infilling activities. Visual observations of debris and mounds of soil have been made to the south of the Site boundary, indicating that filling activities may have extended off Site. Additional subsurface testing is warranted to further delineate the extent of metals contamination related to historical fill materials in the southern portion of the property.
- Soils, waste debris, and water present in the concrete-lined pit should be removed and properly disposed to mitigate any potential human health concerns associated with potential future Site uses and to prevent potential migration of contaminants to soil and groundwater outside the pit. Additional investigation of the pit is warranted to further evaluate potential release pathways (e.g., cracks, holes, drains, pipes, outlets, etc.) from the pit to the environment.



## FIGURES





BASE MAP IS A PORTION OF THE FOLLOWING 7.5' X 15' USGS  
TOPOGRAPHIC QUADRANGLES: NEWBURYPORT, MA-NH, 1987

0 1000 2000 3000  
scale in feet



**29 ELM STREET  
SALISBURY, MASSACHUSETTS**

### SITE LOCATION MAP



Wannalancit Mills  
650 Suffolk Street  
Lowell, Ma. 01854  
(978) 970-5600

**FIGURE  
1**

DRAWN: MAN  
CHECKED: NS

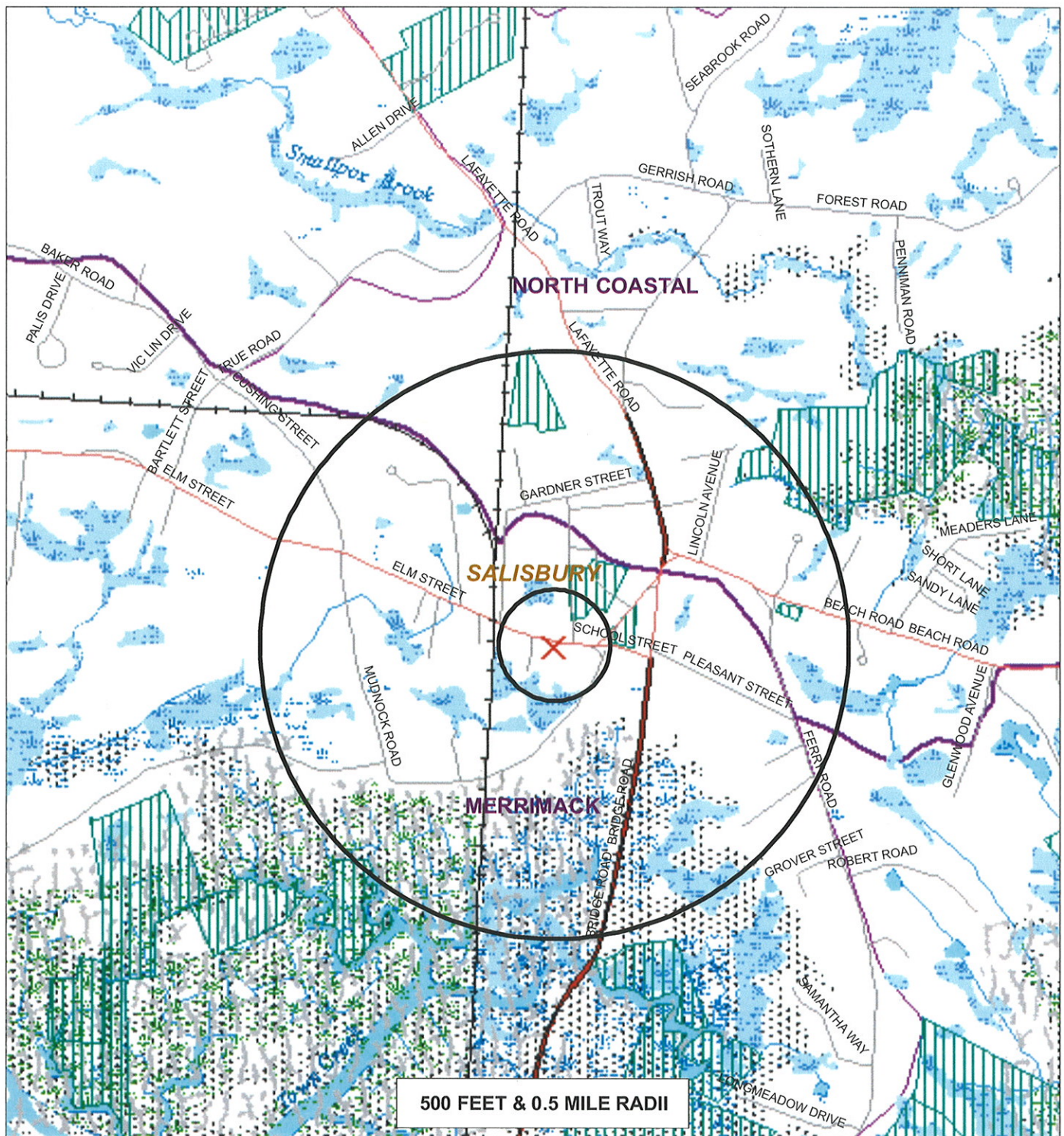
SCALE: AS SHOWN  
Date 5/29/07



R:\Projects\GIS\_2008\114605\_Salisbury\mxd\Fig2\_TestPit\_Borings.mxd







500 FEET & 0.5 MILE RADII

Roads: Limited Access, Multi-Lane, Major/Minor, Track, Trail  
 Railroad, Pipeline, Powerline  
 Major Basin, Sub Basin, Perennial Stream, Intermittent Stream, Shoreline, Man made Shrore, Dam, Aqueduct  
 Wetland, Salt Wetland, Submerged Wetland, Open Water, Reservoir, Tidal Flat/Shoal  
 Potentially Productive Aquifers: Medium, High Yield  
 Non-Potential Drinking Water Source Area: Medium, High Yield  
 EPA Sole Source Aquifer, FEMA 100 Yr. Floodplain, DEP Solid Waste Facility  
 Approved Zone II, IWPA, Surface Water Supply Zone A  
 Protected Open Space, ACEC  
 Estimated Habitat 2007, Certified Vernal Pool 2008  
 Boundaries: County and Town  
 Public Water Supplies: Ground, Surface, Non-Community (NTNC, TNC)



Wannalancit Mills  
 650 Suffolk Street  
 Lowell, MA 01854  
 978-970-5600

# MASS DEP PRIORITY RESOURCES MAP

29 ELM STREET  
 SALISBURY, MA

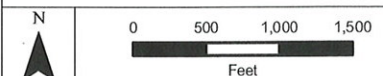


FIGURE 3

Source: MassGIS/EOEA



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**APPENDIX A**

**PHOTOGRAPHS OF TEST-PITTING ACTIVITIES**





Test Pit TP-3



Crushed drum from TP-2



Test Pit TP-2



Test Pit TP-7 adjacent to concrete lined pit.



Material excavated from TP-2.



Material excavated from TP-2.



Shoe leather excavated from TP-5.



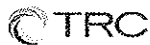
Shoe leather excavated from TP-5.

**APPENDIX B**

**SOIL BORING LOGS, WELL CONSTRUCTION DIAGRAMS,  
AND SAMPLE LOG SHEETS**



# BORING LOG



**Project:** Town of Salisbury  
29 Elm Street  
Salisbury, MA

**Boring ID No.:** B-1  
**Monitor Well ID No.:** MW-1  
Sheet 1 of 1

**Boring Location:** Northwestern corner of Site adjacent to Elm Street

**Ground Elevation:** n/a

**Depth to First Water:** ~3'

**Depth to Static Water:**

**Stabilization Time:** n/a

## Blow Count Info

Type: n/a

Hammer: n/a

Fall: n/a

## Notes:

HS = Headspace PID reading with a Thermo 580 B OVM

**Project Number:**

**Project Manager:**

**Dated Drilled:**

**Drill Type:**

**Sampling Method:**

**Drill Rig and Model Number:**

**Drilling Company:**

**Driller's Name:**

**TRC Representative:**

114605.0010.040006

Paul Arnold

4/18/2008

Direct Push

48-inch Macrocore

Track Mounted Geoprobe

Geologic

Damien

John McRobbie

Depth (feet)	Sample Number	Blows Required	PID HS (ppmw)	Penetration / Recovery	USCS	Sample Description	Well Construction	Depth (feet)
1	S-1	n/a		48"/36"		36" Fine sand, tan-brown		1
2			0.0					2
3								3
4								4
5	S-2	n/a		48"/48"		48" Medium sand, tan, with some fine sand		5
6			0.0					6
7								7
8								8
9	S-3	n/a						9
10			n/a					10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20

## Proportions Used

Trace

Little

Some

And

Change in Material Type

Change in Deposit Type

## Penetration Resistance ("Blow Counts")

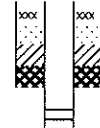
### Cohesionless Density

0-4 Very Loose  
5-9 Loose  
10-29 Med. Dense  
30-49 Dense  
50+ Very Dense

### Cohesive Consistency

0-2 Very Soft  
3-4 Soft  
5-8 M/Stiff  
9-15 Stiff  
16-30 Very Soft  
31+ Hard

Concrete  
Silica Sand Pack  
Native Fill  
Bentonite Seal  
Riser  
Screen



# BORING LOG



**Project:** Town of Salisbury  
29 Elm Street  
Salisbury, MA

**Boring ID No.:** B-2  
**Monitor Well ID No.:** MW-2  
**Sheet 1 of 1**

**Boring Location:** Along eastern edge of property

**Ground Elevation:** n/a

**Depth to First Water:** ~3.5'

**Depth to Static Water:**

**Stabilization Time:** n/a

**Blow Count Info**

Type: n/a

Hammer: n/a

Fall: n/a

**Notes:**  
HS = Headspace PID reading with a Thermo 580 B OVM

**Project Number:**

**Project Manager:**

**Dated Drilled:**

**Drill Type:**

**Sampling Method:**

**Drill Rig and Model Number:**

**Drilling Company:**

**Driller's Name:**

**TRC Representative:**

114605.0010.040006

Paul Arnold

4/18/2008

Direct Push

48-inch Macrocore

Track Mounted Geoprobe

Geologic

Damien

John McRobbie

Depth (feet)	Sample Number	Blows Required	PID HS (ppmv)	Penetration / Recovery	USCS	Sample Description	Well Construction	Depth (feet)
1	S-1	n/a		48"/38"		5" Topsoil		1
2			0.5			3" Medium to coarse brown sand some gravel		2
3						30" Tan very fine to fine sand (moist)		3
4								4
5	S-2	n/a		48"/48"		12" Very fine tan sand (wet)		5
6			0.9			26" Medium tan sand		6
7						4" Tan dense silt		7
8						3" Fine sand (wet)		8
9	S-3	n/a						9
10			n/a					10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20

## Proportions Used

Trace

Little

Some

And

Change in Material Type

Change in Deposit Type

## Penetration Resistance ("Blow Counts")

### Cohesionless Density

0-4 Very Loose  
5-9 Loose  
10-29 Med. Dense  
30-49 Dense  
50+ Very Dense

### Cohesive Consistency

0-2 Very Soft  
3-4 Soft  
5-8 M/Stiff  
9-15 Stiff  
16-30 Very Stiff  
31+ Hard

## Concrete

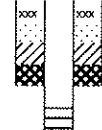
Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen



# BORING LOG



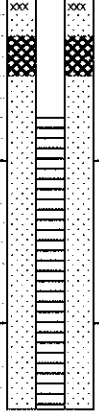
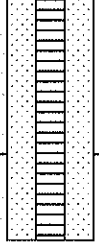



Project: Town of Salisbury  
29 Elm Street  
Salisbury, MA

Boring ID No.: B-3  
Monitor Well ID No.: MW-3  
Sheet 1 of 1

Boring Location: Southern portion of property  
Ground Elevation: n/a  
Depth to First Water: ~3.5'  
Depth to Static Water:  
Stabilization Time: n/a

Project Number: 114605.0010.040006  
Project Manager: Paul Arnold  
Dated Drilled: 4/18/2008  
Drill Type: Direct Push  
Sampling Method: 48-inch Macrocore  
Drill Rig and Model Number: Track Mounted Geoprobe  
Drilling Company: Geologic  
Driller's Name: Damien  
TRC Representative: John McRobbie

**Blow Count Info**  
Type: n/a  
Hammer: n/a  
Fall: n/a  
**Notes:**  
HS = Headspace PID reading with a Thermo 580 B OVM

Depth (feet)	Sample Number	Blows Required	PtD HS (ppmv)	Penetration / Recovery	USCS	Sample Description	Well Construction	Depth (feet)
1	S-1	n/a		48"/24"		3" Topsoil 3" Concrete 17" Very fine sand light tan to brown		1
2			4.9					2
3								3
4								4
5	S-2	n/a		48"/48"		6" very fine sand light tan 42" wet very fine to medium sand tan		5
6			4.2					6
7								7
8								8
9	S-3	n/a						9
10			n/a					10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20

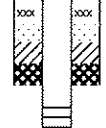
## Proportions Used

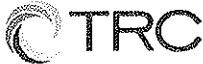
Trace  
Little  
Some  
And  
Change in Material Type  
Change in Deposit Type

## Penetration Resistance ("Blow Counts")

**Cohesionless Density**  
0-4 Very Loose  
5-9 Loose  
10-29 Med. Dense  
30-49 Dense  
50+ Very Dense  
**Cohesive Consistency**  
0-2 Very Soft  
3-4 Soft  
5-8 M/Stiff  
9-15 Stiff  
16-30 Very Soft  
31+ Hard

Concrete  
Silica Sand Pack  
Native Fill  
Bentonite Seal  
Riser  
Screen

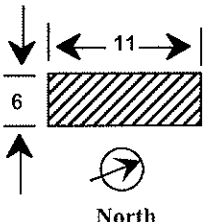



 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: Northwest Corner of the Site	Test Pit Number: <b>TP-1</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 5.5'	Piezometer Installed? No	
Depth to Ground Water: 5'		Weather: Sunny, 60s	Elevation: NM    Top of Pit	

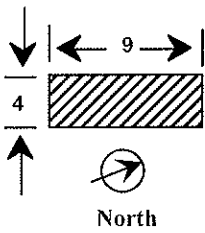
Depth	Sample Number	Stratigraphic Description	REMARKS:
1		Dk. Brown, dry, organic F. SAND and SILT to 1'	0.0 ppmv
2		Tan, damp-moist, F-M SAND, tr. c sand to 5.5', wet at 5'	0.0 ppmv
3			
4			
5			4.6 ppmv
6		End of Excavation ~5.5'	
7			
8			
9			
10			

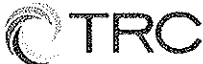
  

<p><b>TEST PIT PLAN</b></p>  <p>Vol. = ____ cu. yd.</p>	<p>Test Pit Sketch</p>
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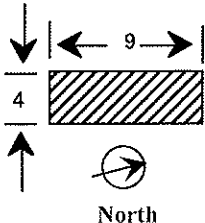
 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: Center of the Site	Test Pit Number: <b>TP-2</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 4'	Piezometer Installed? No	
Depth to Ground Water: N/A		Weather: Sunny, 60s	Elevation: NM    Top of Pit	

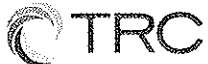
Depth	Sample Number	Stratigraphic Description	REMARKS:
1		<b>Moist, black stained soils, wood debris, concrete blocks, one crushed steel drum. Water standing at 3'. Strong acetone odor on the materials. All this is taken from within the concrete lined pit.</b>	<b>PID readings taken of soil pile 1,000+ ppmv</b>
2			
3			
4			
5			
6			
7			
8			
9			
10			

<p><b>TEST PIT PLAN</b></p>  <p>Vol. = _____ cu. yd.</p>	<p><b>Test Pit Sketch</b></p>
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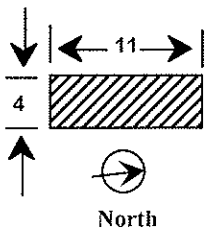
 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: Northeast, adjacent to Harry's auto	Test Pit Number: <b>TP-3</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 5'	Piezometer Installed? No	
Depth to Ground Water: 4'		Weather: Sunny, 60s	Elevation: NM Top of Pit	

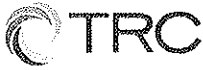
Depth	Sample Number	Stratigraphic Description	REMARKS:
1		Light brown, damp, F-M SAND, tr. c sand to 5', wet from 4 to 5'	0.0 ppmv
2			
3			0.0 ppmv
4			
5			
6		End of excavation ~5'	
7			
8			
9			
10			

<p><b>TEST PIT PLAN</b></p>  <p>Vol. = _____ cu. yd.</p>	<p>Test Pit Sketch</p>
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 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: West of MW-3	Test Pit Number: <b>TP-4</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 8.5'	Piezometer Installed? No	
Depth to Ground Water: 8'		Weather: Sunny, 60s	Elevation: NM    Top of Pit	

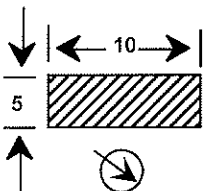
Depth	Sample Number	Stratigraphic Description	REMARKS:	
1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 —		Dk brown, damp, organic top soil to 0.75'	0.0 ppmv	
		Light brown, damp, f-m SAND, tr c. sand to 7.5'		
		Moist, gray, F. SAND and SILT to 8.5', wet at 8'		0.0 ppmv
		End of excavation ~8.5'		

<p><b>TEST PIT PLAN</b></p>  <p>Vol. = ____ cu. yd.</p>	<p>Test Pit Sketch</p>
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 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: Southwest Corner of the Site	Test Pit Number: <b>TP-5</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 8'	Piezometer Installed? No	
Depth to Ground Water: 7'		Weather: Sunny, 60s	Elevation: NM Top of Pit	

Depth	Sample Number	Stratigraphic Description	REMARKS:
1		Dk brown, dry F SAND, tr gravel to 1.25'	0.0 ppmv
2		Stacked shoe leather to 2'	
3		Dk brown/black sandy fill material with glass and plastic to 3.5'	0.0 ppmv
4		Light brown, f-c SAND to 8', wet at 7'	
5			0.0 ppmv
6			
7			
8		End of Excavation ~8'	
9			
10			

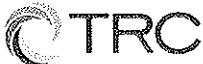
**TEST PIT PLAN**



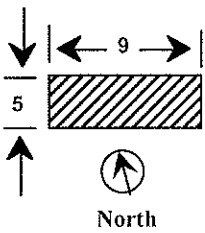
Vol. = \_\_\_\_\_ cu. yd.

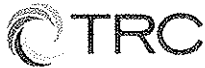
**Test Pit Sketch**



 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: Southeast Corner of the Site	Test Pit Number: <b>TP-6</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 5.5'	Piezometer Installed? No	
Depth to Ground Water: 5'		Weather: Sunny, 60s	Elevation: NM Top of Pit	

Depth	Sample Number	Stratigraphic Description	REMARKS:
1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 —		Dk brown top soil to 0.5'	0.0 ppmv           0.0 ppmv
		Orange/brown f-c sand fill with glass bottles and shoe forms to 3'	
		Gray/black f-c sand fill with broken glass to 5.5', wet at 5'	
		End of Excavation ~5.5'	

<p><b>TEST PIT PLAN</b></p>  <p>Vol. = ____ cu. yd.</p>	<p>Test Pit Sketch</p>
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# Test Pit Log

Project: 114605 – 29 Elm St. Salisbury

Date/Time: 4/18/08

Sheet 1 of 1

Contractor Personnel: Dave Edilberti

TRC Personnel: Ryan Niles

Equipment/Contractor Used:  
John Deere 310SE / Edilberti

Location: Southeast Side of the Elevator pit

Test Pit Number: **TP-7**

Reach/Capacity: 18.5' / 24" bucket

Total Depth: 6.5'

Piezometer Installed? No

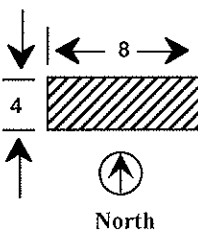
Depth to Ground Water: 6.5'

Weather: Sunny, 60s

Elevation: NM Top of Pit


Depth	Sample Number	Stratigraphic Description	REMARKS:
1		Black top soil to 2'	0.0 ppmv
2			
3		Light brown, F SAND, some silt, stiff to 6.5'	
4			
5			0.0 ppmv
6			
7		End of Excavation ~6.5'	
8			
9			
10			

## TEST PIT PLAN

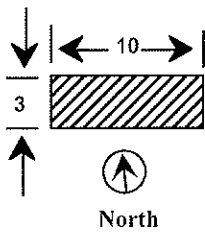


Vol. = \_\_\_\_ cu. yd.

## Test Pit Sketch

 <b>Test Pit Log</b>		Project: 114605 – 29 Elm St. Salisbury	Date/Time: 4/18/08	Sheet <u>1</u> of <u>1</u>
		Contractor Personnel: Dave Edilberti	TRC Personnel: Ryan Niles	
Equipment/Contractor Used: John Deere 310SE / Edilberti		Location: West side of elevator pit	Test Pit Number: <b>TP-8</b>	
Reach/Capacity: 18.5' / 24" bucket		Total Depth: 5'	Piezometer Installed? No	
Depth to Ground Water:		Weather: Sunny, 60s	Elevation: NM    Top of Pit	

Depth	Sample Number	Stratigraphic Description	REMARKS:
1		Light brown F SAND, some m sand, mottled black in places, no odor	Pipes at 6" and 2'. Pipe at 6" seems to run toward the southeast. Pipe at 2' is broken.
2			0.0 ppmv
3		Light brown F-M SAND, tr. c sand	
4			0.0 ppmv
5		End of excavation ~5'	
6			
7			
8			
9			
10			

<p><b>TEST PIT PLAN</b></p>  <p>Vol. = _____ cu. yd.</p>	<p>Test Pit Sketch</p>
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**APPENDIX C**

**ANALYTICAL DATA REPORTS**  
**(ENCLOSED ELECTRONICALLY ON COMPACT DISC)**

**APPENDIX D**

**DATA USABILITY ASSESSMENT**

**29 Elm Street Site, Salisbury, MA**  
**Data Usability Assessment**

The data associated with soil samples collected on April 18, 2008 and groundwater samples collected on April 25, 2008 were reviewed. In general, the data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following cautions.

- Caution should be used with the dibenz(a,h)anthracene result in sample TP-05/3 due to field duplicate variability. The field duplicate result exceeds the project action level while the original sample result is below the project action level. In order to remain conservative, the result from the field duplicate sample should be used for decision-making purposes.
- Caution should be used with the antimony result in sample TP-05/3 due to field duplicate variability. The original sample result exceeds the project action level while the field duplicate result is nondetect and below the project action level. In order to remain conservative, the result from the original sample should be used for decision-making purposes. Due to this variability, potential uncertainty exists for all nondetect results for antimony in soil samples.

Details on the data usability assessment are provided below.

**Soil Samples Included in the Data Usability Assessment: B-1/MW1/3-4, B-2/MW2/3-4, B-3/MW3/0-1, TP-01/4, TP-02, TP-03/3, TP-04/7, TP-05/3, TP-06/2, TP-07/6, TP-08/2**

**Aqueous Sample Included in the Data Usability Assessment: TP-02**

**Groundwater Samples Included in the Data Usability Assessment: MW-1, MW-2, MW-3**

**Field Duplicates: TP-01/4 (PCB Aroclors), TP-03/3 (VPH, EPH), TP-05/3 (SVOCs, metals), MW-3 (VOCs, VPH, EPH, SVOCs, metals)**

**MS/MSDs or MS/DUPs: TP-04/7 (SVOCs, metals), TP-06/2 (VPH), MW-2 (SVOCs, metals)**

**QAPP Discrepancies:**

- A trip blank was not submitted with the groundwater samples for VPH analysis. However, a trip blank was submitted for VOC analysis. Since the VOC analysis of the trip blank exhibited nondetect results for all VOCs and since all VPH results were nondetect, the lack of a trip blank for VPH analysis did not have an adverse effect on the data usability.
- Due to field observations, select soil and groundwater samples were submitted for VOC analysis, although not planned for in the QAPP.

**I. Soil Samples and Aqueous Sample TP-02**

There were no biases or uncertainty associated with the VPH, PCB Aroclor, and metals analyses of the soil samples and TP-02 (Water). Sensitivity was acceptable for the EPH, PCB Aroclor, and metals analyses (i.e., quantitation limits for all nondetect results were below the applicable



S-1 Reportable Concentrations [RCs]). Sensitivity was not acceptable for select VOCs, VPH target analytes, and SVOCs (i.e., nondetect results exhibited quantitation limits above the applicable S-1 RCs). The following table summarizes the affected samples and compounds.

Compound Affected	Affected Samples	S-1 RC (mg/kg)	Quantitation Limit Range (mg/kg)
Acetone	TP-02 (Soil), TP-07/6, TP-08/2	6	16 – 33
Bromodichloromethane, 1,2-Dichloroethane, 1,2- Dichloropropane, 2,2- Dichloropropane, 1,1,1,2- Tetrachloroethane, 1,1,2- Trichloroethane	TP-02 (Soil), TP-07/6, TP-08/2	0.1	0.32 – 0.65
Bromoform, MTBE	TP-02 (Soil), TP-07/6, TP-08/2	0.1	0.63 – 1.3
Bromomethane	TP-02 (Soil), TP-07/6, TP-08/2	0.5	1.6 – 3.3
Methyl Ethyl Ketone	TP-02 (Soil), TP-07/6, TP-08/2	4	6.3 – 13
Dibromochloromethane, 1,1,2,2-Tetrachloroethane	TP-02 (Soil), TP-07/6, TP-08/2	0.005	0.16 – 0.33
Chloroform	TP-02 (Soil), TP-07/6, TP-08/2	0.3	0.63 – 1.3
Ethylene dibromide	TP-02 (Soil), TP-07/6, TP-08/2	0.1	0.16 – 0.33
1,1-Dichloroethane	TP-02 (Soil)	0.4	0.65
cis-1,2-Dichloroethene, Trichloroethene	TP-02 (Soil), TP-07/6, TP-08/2	0.3	0.32 – 0.65
1,1-Dichloropropene	TP-02 (Soil), TP-07/6, TP-08/2	0.01	0.32 – 0.65
cis-1,3-Dichloropropene, trans-1,3-Dichloropropene	TP-02 (Soil), TP-07/6, TP-08/2	0.01	0.16 – 0.33
1,4-Dioxane	TP-02 (Soil), TP-07/6, TP-08/2	0.2	16 – 33
Methylene chloride	TP-02 (Soil), TP-07/6, TP-08/2	0.1	3.2 – 6.5
Methyl isobutyl ketone	TP-07/6, TP-08/2	0.4	3.2 – 3.5
Vinyl chloride	TP-02 (Soil), TP-07/6, TP-08/2	0.6	1.6 – 3.3
MTBE (VPH)	B-3/MW-3/0-1, TP-02 (Soil), TP-05/3	0.1	0.111 – 0.154
Bis(2-chloroethyl)ether, 2,2'-oxybis(1- chloropropane), 2- Chlorophenol, 1,4- Dichlorobenzene, 2,4- Dichlorophenol, 2,4- Dimethylphenol, 2,4- Dinitrotoluene, Hexachlorobenzene, Hexachloroethane, 2- Methylnaphthalene, 2,4,6- Trichlorophenol	TP-02 (Soil)	0.7	2.47
4-Chloroaniline	TP-02 (Soil)	1	4.93
1,3-Dichlorobenzene, Phenol	TP-02 (Soil)	1	2.47
3,3'-Dichlorobenzidine	TP-02 (Soil)	1	1.24
2,4-Dinitrophenol	TP-02 (Soil)	3	4.93
1,2,4-Trichlorobenzene	TP-02 (Soil)	2	2.47

In general, the decision-making process was not adversely affected by the sensitivity issues noted above. In the case of the issues listed above, these analytes were either not potential contaminants of concern at this site or the quantitation limits exceeded the standard by an insignificant amount.

### A. Low-Biased Results

Potential low bias exists for select results due to various QC nonconformances. In general, the overall data usability and decision-making process were not affected by these QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
TP-02 (Water)	Chloromethane	Low recoveries in LCS and LCS Duplicate	Nondetect result for chloromethane significantly below GW-2 RC.
TP-02 (Soil)	Aniline, 4-chloroaniline, 2,4-dinitrophenol, pentachlorophenol	Low recoveries in LCS and LCS Duplicate	Nondetect results for these compounds either significantly below the project action levels or not a contaminant of concern for this site.

### B. High-Biased Results

Potential high bias exists for select results due to various QC nonconformances. In general, the overall data usability and decision-making process were not affected by these QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for High Bias	Reason Data Usability or Decision-making Process Not Affected
All soil samples	Trans-1,3-dichloropropene, 1,2-dibromo-3-chloropropane	High recoveries in LCS and LCS Duplicate	Affected compounds not detected in soil samples.
TP-02 (Water)	Acetone, methyl isobutyl ketone, bromomethane	High recoveries in LCS and/or LCS Duplicate	Positive and nondetect results for affected compounds below GW-2 RCs in sample TP-02 (Water).
TP-04/7	2-Methylphenol, 3&4-methylphenol, acetophenone	High recoveries in MS	Affected compounds not detected in sample TP-04/7.
All soil samples except TP-02 (Soil)	Fluoranthene (SVOC)	High recovery in MS	Positive and nondetect results for fluoranthene below project action level.

### C. Potential Uncertainty

It should be noted that the result for dibenz(a,h)anthracene exceeded the project action level in the field duplicate sample from TP-05/3 but was below the project action level in the original sample. Although the variability in the detected values was within the acceptance limits, the result from the field duplicate sample should be used for decision-making purposes in order to remain conservative.

Potential uncertainty exists for antimony results in all soil samples due to variability in the field duplicate pair (antimony was detected in the original sample at a concentration almost 10x higher than the quantitation limit and was not detected in the field duplicate sample). In order to remain conservative, the result for antimony in the original sample TP-05/3 should be used for decision-

making purposes since antimony was not detected in the field duplicate sample. Nondetect results for antimony in soil samples should be used with caution due to this variability.

In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Uncertainty	Reason Data Usability or Decision-making Process Not Affected
TP-04/7	Aniline, benzo(g,h,i)perylene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, 2,4-dinitrophenol, 2-methylphenol, 3&4-methylphenol, acetophenone	MS/MSD variability	Nondetect results for affected compounds significantly below the project action levels in sample TP-04/7.
TP-02 (Soil) and TP-05/3	C <sub>9</sub> -C <sub>18</sub> aliphatics, C <sub>19</sub> -C <sub>36</sub> aliphatics	LCS/LCS duplicate variability	Positive or nondetect results for these hydrocarbon ranges significantly below project action levels in affected samples.
TP-05/3	Anthracene, benzo(a)anthracene, acenaphthene, chrysene	Field duplicate variability	Although variable, results consistently below project action levels in both the original and field duplicate samples.

## **II. Groundwater Samples**

There were no biases or uncertainty associated with the VPH, EPH, and metals analyses of the groundwater samples. Sensitivity was acceptable for the VOC, VPH, EPH, and metals analyses (i.e., quantitation limits for all nondetect results were below the applicable GW-2 RCs). Sensitivity was not acceptable for select SVOCs (i.e., nondetect results exhibited quantitation limits above the applicable GW-2 RCs). The following table summarizes the affected samples and compounds.

Compound Affected	Affected Samples	GW-2 RC (ug/L)	Quantitation Limit (ug/L)
Hexachlorobenzene, hexachlorobutadiene	All groundwater samples	1	10

In general, the decision-making process was not adversely affected by the sensitivity issues noted above as these analytes were not potential contaminants of concern at this site.

### **A. Low-Biased Results**

Potential low bias exists for select results due to various QC nonconformances. In general, the overall data usability and decision-making process were not affected by these QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
MW-2	Aniline, 4-nitrophenol	Low recoveries in MS and/or MSD	Nondetect results for these compounds significantly below project action levels in sample MW-2.
All groundwater samples	Hexachloroethane, 4-nitrophenol	Low recoveries in LCS and/or LCS Duplicate	Nondetect results for these compounds significantly below project action levels in affected samples.

## **B. High-Biased Results**

Potential high bias exists for methyl isobutyl ketone, bromomethane, and 1,2,3-trichlorobenzene in all groundwater samples due to high recoveries in the LCS and LCS Duplicate analyses. In addition, potential high bias exists for hexachlorobutadiene in all groundwater samples due to laboratory blank contamination. In all cases, the affected compounds were not detected in the groundwater samples; data usability was therefore not adversely affected by the potential high biases.

## **C. Potential Uncertainty**

Potential uncertainty exists for select SVOCs in all groundwater samples due to LCS and LCS duplicate variability. The overall data usability and decision-making process were not affected by this QC nonconformance since the results for the affected compounds were either significantly below the project action levels or not contaminants of concern for this site.

# Technical Peer Review Sign-Off Sheet <sup>1, 2</sup>

## Part I – General Information

Project Number: 114605.0010.040006	Date Submitted for Review: 5/12/08
Project Name: 29 Elm St.	Review Due Date:
Client Name/Facility: MUPC	Project/Program Mgr: P. Arnold
Document/Report Title: SAE Investigation Summary Report	
Primary Author: B. Niles	Production Secretary:
Secondary (contributing) Authors: E. Wachel	

## Part II – Summary of Review Items

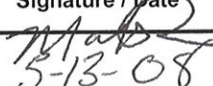

1. Does the document include an Executive Summary (if appropriate) with a clear and concise description of the major points and conclusions?
2. Is the document layout orderly and understandable? Can items of interest be easily found?
3. Does the document conform to applicable standards, regulations (e.g., P.E. certification, environmental regulations), or client-specified requirements, as required?
4. Would you judge the document as complete and accurate, from a technical perspective?
5. Are calculations and/or presented data accurate and clearly organized?
6. Are references within the document accurate?
7. Do there appear to be any outliers (i.e., items you find difficult to believe) that could be defended or explained better?
8. Can TRC stand behind the document?
9. Will the client be satisfied?

## Part III – Review Comments and Recommendations

If comments were added directly to the document, note in space below or attach a copy of the document.

## Part IV – Reviewer Sign-Off

(Sign and date to indicate review was performed. Indicate if you would like to review again following completion of revisions.)

Reviewer	Signature / Date	Comments	Second Review?
Senior Technical Reviewer:	 5-13-08		NO
Technical Reviewer (specialist):			
Project QA Coordinator (when one is designated for the project):	E. Denby 5/13/08	see marked-up hard copy	No
Tech. Editor (recommended):			
Project/Program Manager:	 5/20/08		NO

<sup>1</sup> If multiple reviews are performed simultaneously, multiple routing review sheets may be used to document the reviews.

<sup>2</sup> This form must be filed in the project files with the unbound original document.