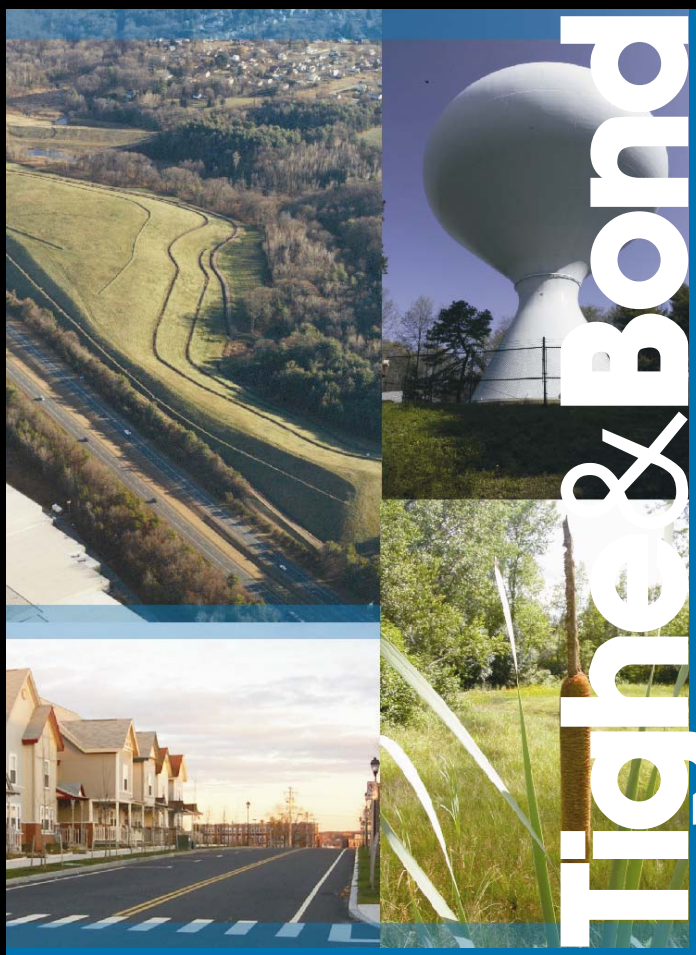

55 Frank B. Murray Street
ES Main Street
Springfield, Massachusetts

Analysis of Brownfields Cleanup Alternatives

Prepared For:

Office of Planning and Community Development
Springfield, Massachusetts

April 2012

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Section 1
Introduction

This Analysis of Brownfields Cleanup Alternatives (ABCA) has been prepared for the Union Station site located 55 Frank B. Murray Street and ES Main Street in the City of Springfield, Hampden County, Massachusetts (the site). This ABCA report addresses the health and safety issues associated with elevated concentrations of petroleum and hazardous materials in soil and groundwater previously detected at the site. A Locus Map identifying the location of the site is included as Figure 1 in Appendix A.

This ABCA has been prepared for submittal to the United States Environmental Protection Agency (EPA) pursuant to the requirements of the EPA Brownfields program. The ABCA has been prepared in conformation with the EPA guidance for cleanups with Federal grant funds. The ABCA provides the following information to allow public comment on the environmental clean-up strategy selected for the site.

1. Summarize site background and the environmental conditions that warrant remediation
2. Identify the goals of the clean-up
3. Provide an analysis of clean-up alternatives on the basis of effectiveness, feasibility and cost
4. Describe the selected remedy and rationale

The site has been vacant for over 30 years. The City of Springfield has been working to redevelop the Union Station property into a modern intermodal transportation facility. The City is currently planning to restore the Terminal Building to consolidate the Pioneer Valley Transportation Authority (PVTA), Amtrak, commuter rail, and intercity bus operation in one location.

1.1 Site Description

The site consists of two parcels of land located in downtown Springfield, Massachusetts. The southwestern parcel, with an address of ES Main Street, is a vacant rectangular parcel formerly occupied by the Hotel Charles. This parcel is 0.71-acres in size. The second parcel, located on the northeast side of the Hotel Charles site, is identified as 55 Frank B. Murray Street and is 2.39-acres in size. This parcel is the location of the Union Station terminal. A Site Location Map identifying the general layout of the site is included as Figure 2 in Appendix A.

According to Springfield Assessor's data, the hotel parcel is identified as Block 08130, Lot 512 and the terminal parcel as Block 05355, Lot 55. Both parcels are owned by the Springfield Redevelopment Authority (SRA). According to the Springfield Zoning Map (2009) the site is currently zoned as "Business B."

The terminal parcel is currently occupied by one three-story 120,250-square-foot building and one two-story 92,618-square-foot building which together operated as the Union Station railroad hub. The three-story structure was historically used as the terminal building, while the two-story building was a baggage building. Both buildings were constructed in approximately 1915 and have been vacant for approximately 30

years. Between the station building and Frank B. Murray Street is a gated, paved parking area.

The former Hotel Charles portion of the site is currently an undeveloped grassy lot which serves as a small landscaped park with a walking path.

1.1.1 Surrounding Area Description

The site is located in an urban area characterized by a mix of industrial, commercial, and residential development. Adjacent properties are identified as follows:

- North - Office buildings
- Northwest - A parking lot and retail store
- Southwest - Medical offices and a bus transportation facility
- South - Offices, commercial space, and apartments
- Southeast – Rail terminal, offices, automotive services facility
- Northeast – Manufacturing and warehouse facility

1.1.2 Environmental Setting

As previously described, the site is located in downtown Springfield and municipal sewer and water service are available. The site is not located in a mapped drinking water area and according to the Springfield Health Department records no private drinking water wells are located in close proximity to the site.

The closest mapped water body to the site is the Connecticut River which is located approximately 1,100 feet southwest of the site. No wetlands or water bodies are located on or in close proximity to the site.

1.1.3 Site History

Site history research was conducted as part of a Phase I Environmental Site Assessment (ESA) completed in November 2009. According to that work, the northeastern portion of the site has been used as a train station since the early 1900s. The station was comprised of a variety of associated buildings including a post office.

The western portion of the site was occupied by a hotel from the late 1800s until at least 1970. The hotel also included several street-level retail stores. The hotel parcel was formerly occupied by Cooley's Hotel between 1886 and the early 1930s. Sometime before 1931, the hotel's name changed to the Hotel Charles. The hotel building was reportedly demolished in the mid-1990s.

Section 2
Previous Investigations

As part of the redevelopment efforts several investigations were conducted to determine whether any environmental concerns are present at the site. The most recent investigations are summarized below.

2.1 ASTM Phase I Environmental Site Assessment (ESA)

A Phase I ESA was completed for the site in November 2009. A Phase I is a historical and environmental records review that was conducted to identify "Recognized Environmental Conditions (REC)" or issues that may cause concern regarding current or historical uses of the site. The RECs identified during the ESA were:

- The presence of a historic on-site release, the presence of an Activity and Use Limitation (AUL – deed restriction) due to that release, and observed areas of petroleum leakage in the interior of the Baggage Building near the former AST vault and adjacent exterior building wall.
- Potential impact from the former on-site railroad switch yard
- Potential impact from use of the adjacent property as a rail line
- Potential groundwater contamination from adjacent properties historically occupied by numerous commercial and industrial tenants

Based on these REC's a Phase II subsurface investigation was conducted.

2.2 ASTM Phase II ESA

A Phase II ESA was conducted in July and August 2010 to investigate the concerns identified during the Phase I ESA. The investigation included the installation of seventeen soil borings, six of which were completed as groundwater monitoring wells. The locations of the borings and wells are included on Figure 2.

During the investigation, samples were collected for laboratory analysis. The analytical results were compared to the numbers established in the Massachusetts Contingency Plan (MCP – Massachusetts hazardous material regulations) to determine whether a release, as defined by the state regulations, required reporting the Department of Environmental Protection (MassDEP). In addition, the analytical results were compared to the MCP Method 1 standards which determine the levels that the site must meet upon clean-up to "close out" the site under the state regulations. The following exceedances were detected during the initial sampling work at the site:

Volatile Petroleum Hydrocarbons (VPH - lighter petroleum products)

- C_9 – C_{10} aromatics (B-15 (11') and B-15 (17')

Extractable Petroleum Hydrocarbons (EPH – heavier petroleum products)

- C_9-C_{18} aliphatics (B-15 (11') and B-15 (17'))
- C_{11}-C_{22} aromatics (B-15 (11') and B-15 (17'))

- Benzo(a)pyrene (B-16 (0-3'))
- Dibenzo(a,h)anthracene (B-16 (0-3'))

Metals

- Total chromium (B-14 (1-3') and B-15 (10-12'))
- Nickel (B-14 (1-3') and B-15 (10-12'))

Groundwater samples were also collected from the monitoring wells, but no exceedance of any Reportable Concentration or state standard were identified. However, on July 30, 2010, a measurable thickness (0.26 feet) of free phase petroleum product or light nonaqueous phase liquid (LNAPL) was identified in well MW-6 (see Figure 2 for well location). This thickness required that the presence of LNAPL be reported to the MassDEP within 72 hours. The release was subsequently reported to MassDEP who issued Release Tracking Number (RTN) 1—17919 for the release.

Based on the issues identified during this investigation additional work was recommended to identify the source of the contamination identified at the site. Tables summarizing the soil analytical results are included in Appendix B.

2.3 MCP Phase I Initial Site Investigation

Additional investigation was conducted between December 2010 and April 2011 to investigate the issues identified during the initial sampling efforts at the site.

2.3.1 Geophysical Survey

In December 2010, a geophysical survey of the Hotel Charles portion of the site was conducted to locate suspect underground storage tanks (USTs) or other underground structures that may be the source of the free phase product identified in monitoring well MW-6. The investigation included a ground penetrating radar (GPR) survey, electromagnetic (EM) methods, and the use of precision utility locators.

The survey revealed several "anomalies" that warranted exploratory test pit excavation at the site.

2.3.2 Test Pitting

Test pits were conducted in the vicinity of well MW-6 where two anomalies were identified during the geophysical survey. Two USTs were present in this area of the site. One was estimated to be approximately 15 feet by 15 feet square by 5 feet deep. The second tank was approximately 32 feet long by 5 feet in diameter. During the test pitting activities, an oil/water mixture "bubbled up" out of the square tank once the overlying soil was removed.

2.3.3 Additional Soil and Groundwater Sampling

Six additional soil borings were advanced at the site, five of which were completed as groundwater monitoring wells. During the investigation, additional soil and groundwater samples were submitted for laboratory analysis.

During the initial subsurface investigation, elevated concentrations of total chromium were detected in borings B-14 and B-15. However, the total chromium standard assumes that the detected chromium consists of hexavalent (Cr^{+6}) and not trivalent

(Cr^{+3}) chromium (which is much less toxic than hexavalent chromium). Therefore, during the March 2011 sampling program, two samples were collected for both trivalent and hexavalent chromium and submitted for analysis. No hexavalent chromium was detected in either sample indicating that the higher standard for trivalent chromium is applicable for these areas of the site and no exceedances of the standards, with respect to chromium, were identified.

A summary of the exceedances and areas of concern at the site is presented below. This summary includes the exceedances previously identified during the initial sampling events at the site.

Volatile Petroleum Hydrocarbons (VPH - lighter petroleum products)

- C_9 – C_{10} aromatics (B-15 (11'), B-15 (17'), B-21 (12'), and TP-2 (1.5'))

Extractable Petroleum Hydrocarbons (EPH – heavier petroleum products)

- C_9-C_{18} aliphatics (B-15 (11'), B-15 (17'), B-21 (12'), and TP-2 (1.5'))
- C_{19}-C_{36} aliphatics (TP-2 (1-2'))
- C_{11}-C_{22} aromatics (B-15 (11'), B-15 (17'), TP-2 (1-2'), and TP-2B (3-3.5''))
- Benzo(a)pyrene (B-16 (0-3'))
- Dibenzo(a,h)anthracene (B-16 (0-3'))

Metals

- Nickel (B-14 (1-3'), B-15 (10-12'), B-19 (10-12'), B-22 (6-9'), and B-23 (10-12'))

No groundwater exceedances of any Reportable Concentration or state standard were identified during the sampling. Tables summarizing the soil analytical results are included in Appendix B.

2.3.4 Soil Gas Analytical Results

Two soil gas points (SG-1 and SG-2) were installed at the site and sampled. The sampling identified positive detections of air phase hydrocarbons. These concentrations were compared to the Commercial/Industrial Threshold Values and Soil Gas Sub-Slab Screening Values recently published in MassDEP's December 2011 Interim Final Vapor Intrusion Guidance. The positive detections were below the published values. While there is insufficient data (the MCP guidance recommends two to four sampling events) to close out the site based on the existing data there is not a risk to indoor air at the 55 Frank B. Murray portion of the site based on the first round of sample collection. The locations of the soil gas points are included on Figure 2 included in Appendix A.

2.3.5 LNAPL Gauging

Upon completion of the additional wells, wells MW-1 through MW-17 were gauged with an interface probe to determine if free phase product was present. Free phase product was identified in wells MW-6, MW-7, MW-11, and MW-13 ranging in thickness from 0.02 to 0.69 feet. The approximate extent of the free phase product is included on Figure 6 in Appendix A.

2.4 UST Removal

On November 29 and December 1, 2011, the two USTs were removed from the Hotel Charles parcel. Prior to removal the contents of the tanks were pumped out and the tanks were cleaned by an environmental contractor. The locations of the USTs are included on the Figures 2 and 6 in Appendix A.

Following removal of the USTs, soil samples were collected from the tank graves and submitted for analysis of petroleum compounds (VPH and EPH with targets). No bottom samples were collected due to the presence of a concrete slab at the base of the tanks. Elevated concentrations of petroleum were identified in four of the sidewall samples (SWW-1, SWW-2, SWN-2, and SWS-2). The locations of the samples are included on Figure 7.

A sample was also collected from Tank #2 to identify the type of petroleum stored in the tank. The contents of the tank were identified as No. 6 fuel oil.

2.5 Potential Threats to Public Health and the Environment

No issues were identified from adjacent property uses raised during the Phase I ESA at the site, including use of those properties by the railroad and industries. Based on the previous investigations the following environmental concerns remain at the site:

- Exceedances of state standards remain in soil surrounding the former petroleum USTs located on the Hotel Charles parcel. In addition to impacted soil, free phase product continues to be measured in several wells in this area of the site.

- Nickel has been detected at elevated concentrations in several borings (B-14 (1-3'), B-15 (10-12'), B-19 (10-12'), B-22 (6-9'), and B-23 (10-12')) at concentrations that exceed state standards.

Section 3
Alternatives Analysis

The objective of the remediation is to clean-up the site and provide the City of Springfield and SRA with a site that can be re-developed. As previously discussed the City and SRA have prepared a redevelopment plan for the site and are rapidly moving forward with the studies required to achieve that goal.

3.1 Areas of Proposed Remediation

Environmental investigations, previously discussed in this report, have identified the following concentrations of contaminants that exceed state soil clean-up standards at the site:

Volatile Petroleum Hydrocarbons (VPH - lighter petroleum products)

- C_9 – C_{10} aromatics (B-15 (11'), B-15 (17'), B-21 (12'), and TP-2 (1.5'))

Extractable Petroleum Hydrocarbons (EPH – heavier petroleum products)

- C_9-C_{18} aliphatics (B-15 (11'), B-15 (17'), B-21 (12'), and TP-2 (1.5'))
- C_{19}-C_{36} aliphatics (TP-2 (1-2'))
- C_{11}-C_{22} aromatics (B-15 (11'), B-15 (17'), TP-2 (1-2'), and TP-2B (3-3.5''))
- Benzo(a)pyrene (B-16 (0-3'))
- Dibenzo(a,h)anthracene (B-16 (0-3'))

Metals

- Nickel (B-14 (1-3'), B-15 (10-12'), B-19 (10-12'), B-22 (6-9'), and B-23 (10-12'))

Most of these issues are associated with the leaking USTs on the south side of the Hotel Charles property. Test pit TP-2 and borings B-15 and B-21 are all located in close proximity to the tanks. In addition, the monitoring wells where free phase LNAPL has been identified are in this area of the site as well.

Nickel has been detected at elevated concentrations in several borings (B-14 (1-3'), B-15 (10-12'), B-19 (10-12'), B-22 (6-9'), and B-23 (10-12')). A couple of additional borings are expected to be advanced adjacent to boring B-14 to confirm that the elevated nickel is the result of coal ash fill in this area of the site.

The nickel identified in Borings B-22 and B-23 and the benzo(a)pyrene and dibenzo(a,h)anthracene in Boring B-16 are beyond the scope of the EPA clean-up grants.

3.2 Remedial Alternatives Evaluation

Based on the previous work at the site the following three remedial options have been evaluated for clean-up of the UST release:

- No action

- Soil excavation and off-site disposal
- Injection of remedial additives

Each option was evaluated for its applicability to the site and its feasibility. Each option is discussed below.

3.2.1 No Action

The "no action" alternative is included in the evaluation as a standard to compare other remedial actions to in order to compare and contrast any significant reduction in site risk, as necessary. For the "no action" option, the City of Springfield would not take any action to abate or remediate the issues identified at the site.

As previously stated petroleum and metals compounds have been identified in site soils above standards established by the state. In order to close the site out and proceed with future development plans additional activities are required by the state. The No Action Alternative would not provide any mitigation of the health concerns present at the site and would impede redevelopment of the Union Station property.

Therefore, leaving the site in its current condition is not protective of human health or the environment. Based on these concerns, the "no action" alternative cannot be recommended.

Cost: No direct cost is associated with the "no action" alternative.

3.2.2 Soil Excavation and Off-Site Disposal

This option includes:

- Removal and off-site disposal of impacted soils
- Collection of confirmatory soil samples from the sidewalls and bottom of the excavation on the soil removal is complete
- Placement of clean backfill in the excavation
- Dewatering of the excavation to allow access to soils below the groundwater table

Excavation is an effective approach to remove impacted soils above the water table. Used in conjunction with dewatering (removal of groundwater in the excavation) it is a relatively quick approach to removing contaminants from the subsurface. Complete removal of impacted soils may not be possible due to the depth of the contamination. However, by removing the majority of the contaminated material it will reduce and/or eliminate the free phase product currently present at the site and minimize any follow-up remediation required to achieve site closure under the state regulations.

Soil excavation and off-site disposal is a commonly used remedial method. This removal method should not pose a significant risk to contractors or the general public if handled/managed appropriately during excavation and staging activities. Based on the identified contaminants, the soils should be acceptable at a local asphalt batching facility which would minimize transport time and cost.

In the event that complete removal of the impacted soil is not feasible due to groundwater migration into the excavation, the MassDEP allows the implementation of

an Activity and Use Limitation (AUL), or deed restriction to minimize contact to the impacted soils in the future. If a deed restriction is not the preferred option for the site there may be other more remedial options to address the soil at depth.

Cost: $300,000

3.2.3 Injection of Remedial Additives

This option includes the injection of an additive to either stimulate the naturally occurring bacteria at the site to increase breakdown of the petroleum and/or add a chemical to breakdown the petroleum in the ground. The advantage to using injections is they provide a non-intrusive remedial approach that requires minimal equipment to implement. Direct injections work well at sites where impacted soil is at or below the water table and it may be difficult to excavate the impacted soils at depth. These methods are also preferable at sites where adjacent buildings or infrastructure (such as railroad tracks) may limit the removal of soils.

However, the persistent presence of significant free phase product or light nonaqueous phase liquid (LNAPL) presents challenges for using injections. Bacteria are typically only active on the outer perimeter of a free phase product plume, making them unsuitable for plume remediation. For in-situ chemical oxidation or ISCO, the presence of LNAPL represents a significant oxidant demand which makes its use uneconomical, due to the large amount of chemical required to remediate the free-phase product. We typically recommend a physical removal method (such as excavation) to reduce the LNAPL thicknesses followed by a second remedial approach, tailored to the groundwater chemistry of the site. For example, if the oxidation-reduction potentials measured at the site are very low or negative, indicating an anaerobic (low-oxygen) or reducing environment, we typically recommend a chemical injection program that works well in this environment rather than trying to change and maintain site chemistry above an aerobic, oxidative threshold for aerobic bioremediation or ISCO.

Due to the presence of free phase product in a relatively large portion of the site, injection of remedial additives could be used following the removal of the LNAPL. This would include bailing the free phase product in this area of the site until minimal thicknesses were present in the wells. Following the bailing, injections could occur. However, these injection programs typically require time to work in the subsurface environment followed by at least a year of groundwater monitoring. Based on the short timeframe for the redevelopment it is unlikely that the City and SRA will have the ability to hold off construction on this area of the site to provide access for ongoing monitoring or additional injections.

A site-specific pilot test or additional chemical evaluation would be required prior to designing an injection program for the site. Based on previous experience on similar petroleum-impacted sites we anticipate that an injection program for the Hotel Charles parcel would cost at least $450,000.

Cost: $450,000

Section 4
Comparative Analysis of Alternatives

Based on the foregoing evaluation of remedial options, a comparative analysis was performed. The comparative analysis qualitatively ranked each alternative using the criteria indicated in Table 4-1 included at the end of this section. Each evaluation criterion was given a score for each alternative of 1, 2, or 3, with 1 being poor, 2 being average, and 3 being good. The individual scores were summed for each alternative to give a total score, with the highest score indicating the best option. The evaluation of remedial alternatives and this comparative analysis were performed based on existing data.

As expected, soil excavation and remedial additives injection had relatively similar scores (58 and 53, respectively). The difference between the two options is that with the injection of remedial additives, additional injections and groundwater monitoring will be required that will extend the potential time frame for the clean-up. In addition, it is unlikely that the remedial injections would achieve site closure without some initial removal of free phase product from the site. Based on the raw scores soil excavation with off-site disposal would be the preferred remedial alternative.

4.1 Recommendations

Two feasible options are available to address the health and safety concerns at the Union Station site. Both of these approaches, soil excavation and injection of remedial alternatives, scored relatively similar in the comparative analysis included in Table 4-1. The selection of either remedial option would address the health and safety issues by reducing the contaminants in soil and groundwater at the site. However, if the additional of remedial additives is selected the removal of free phase product would have to occur first. This would present an additional cost to the City and SRA over the period of time that the removal occurred.

A summary of applicable regulations for the project is included in Table 4-2 - Applicable, Relevant, and Appropriate Requirements (ARARs), included at the end of this section.

TABLE 4-1
Comprehensive Analysis of Alternatives
Union Station, Springfield, Massachusetts

		No Action	Soil Excavation and Off-Site Disposal	Injection of Remedial Additives
Effectiveness				
	Protectiveness			
	Protective of public health & community	1	3	3
	Protective of workers during implementation	NA	2	2
	Protective of environment	1	3	3
	Complies with ARARs	1	3	3
	Ability to Achieve Removal Objectives			
	Level of treatment/containment expected	1	2	2
	No residual effects concerns	1	3	2
	Will maintain control until long-term solution implemented	NA	NA	NA
Implementability				
	Technical Feasibility			
	Construction & operational considerations	NA	3	2
	Demonstrated performance/useful life	1	3	3
	Adaptable to environmental conditions	1	2	3
	Contributes to remedial performance	NA	3	3
	Can be implemented within one year	3	3	1
	Can be implemented within six weeks	3	3	1
	Availability			
	Equipment	NA	3	3
	Personnel & services	NA	3	3
	Outside laboratory testing capacity	NA	3	3
	Off-site treatment and disposal capacity	NA	3	3
	Post removal site control	NA	3	3
	Administrative Feasibility			
	Permits required	NA	2	2
	Elimination of existing public safety & building code violations	NA	3	3
	Easements or right-of-way requirements	NA	NA	NA
	Impact on adjoining properties	NA	2	2
	Ability to impose institutional controls	NA	3	3
	Likelihood imposed obtaining exemption from statutory limits, if needed	NA	NA	NA
	Total	**13**	**58**	**53**

1=Poor; 2=Average; 3=Good
NA – Not applicable

TABLE 4-2
ARARs for the Recommended Alternative

ARARS	STATUS	MAJOR REQUIREMENTS	RECOMMENDED ALTERNATIVE ACTION
Massachusetts Contingency Plan (MCP) 310 CMR 40.0000	Applicable	Establishes methodology for evaluation and remediation of oil/hazardous materials, and cleanup standards for risk characterization.	An Immediate Response Action Plan will be submitted to MassDEP in accordance with the MCP.
USEPA Disposal of PCBs 40 CFR Parts 750 and 761	Not Applicable	Establishes methods and standards for the removal and disposal of PCB-impacted media and decontamination for PCB contaminated materials	PCBs are not a contaminant of concern at the site
OSHA 29 CFR Parts 1926	Applicable	Regulates worker protection standards and exposures.	The recommended alternative will require the Contractor to prepare a Health & Safety Plan in accordance with OSHA standards.
Standards Applicable to Generators of Hazardous Waste, 49 CFR Part 362, Subpart C, Pre-Transport Requirements: §262.30 Packaging; §262.31 Labeling; and §262.32 Marking	Applicable	Regulates the preparation of hazardous materials.	The disposal of impacted soil and groundwater generated during the remedial activities will be conducted in compliance with the MCP. Neither media is expected to be classified as hazardous waste.
Massachusetts Rivers Protection Act	Not Applicable	Regulates activities occurring within 200 feet of a river.	No resource areas are located in close proximity to the site.
Clean Air Act – federal	Not Applicable	Establishes program control land prevents airborne particulates and toxic emissions and control volatile and other hazardous emissions.	No impact to air is anticipated during the remedial activities.
Resource Conservation and Recovery Act and regulations	Applicable	Defines federal dangerous waste requirements for those who generate, store, treat or dispose of it. Key elements included requirements for and permitting of disposal facilities and land disposal facilities.	The City and SRA will be generating remediation waste as part of site activities. The waste will be transported under Bill of Ladings and/or non-hazardous waste manifests.

Section 5
Documentation and Reporting

The selected soil remediation plan is excavation and off-site disposal. The property is already owned by the SRA and in conjunction with the City will be conducting clean-up activities in accordance with the MCP.

5.1 State Reporting Requirements

The MCP requires that the clean-up be conducted in under the license of a registered environmental professional or Licensed Site Professional (LSP). The City's LSP, Nancy E. Milkey (LSP #5456) will prepare and submit an Immediate Response Action (IRA) Plan in accordance with the MCP and this ABCA submittal. Upon completion of the site work, an IRA Completion Report will be submitted to MAssDEP with the results of the remediation activities. The IRA Report will include a summary of activities completed at the site, data tables summarizing sample data, figures identifying the extent of work, complete laboratory reports, and documentation of waste disposal.

5.2 Public Notice

The provisions of the EPA Clean-Up Grant require that notice be provided to the general public to allow stakeholders notice and opportunity to comment on the clean-up proposal presented in the ABCA. A 30-day public comment period will be provided and a public meeting will be held in the site neighborhood to provide interested stakeholders the opportunity to obtain more information on the project.

5.3 Quality Assurance Project Plan (QAPP)

A site-specific QAPP will be developed prior to implementation of site remedial activities, as necessary. The QAPP will conform to the standards and procedures outlined in Tighe & Bond's Generic QAPP which has previously been approved and is on file with EPA. The fieldwork activities, sampling protocols, laboratory analysis and associated quality assurance/quality control (QA/QC) measures to be followed during the project are outlined in the QAPP.

5.4 Post Remediation Groundwater Sampling

Upon completion of the excavation work at the site, monitoring wells should be installed in the former USTs graves and surrounding area to replace those wells removed during the excavation work. The wells will be used to document post-remediation groundwater concentrations present at the site.

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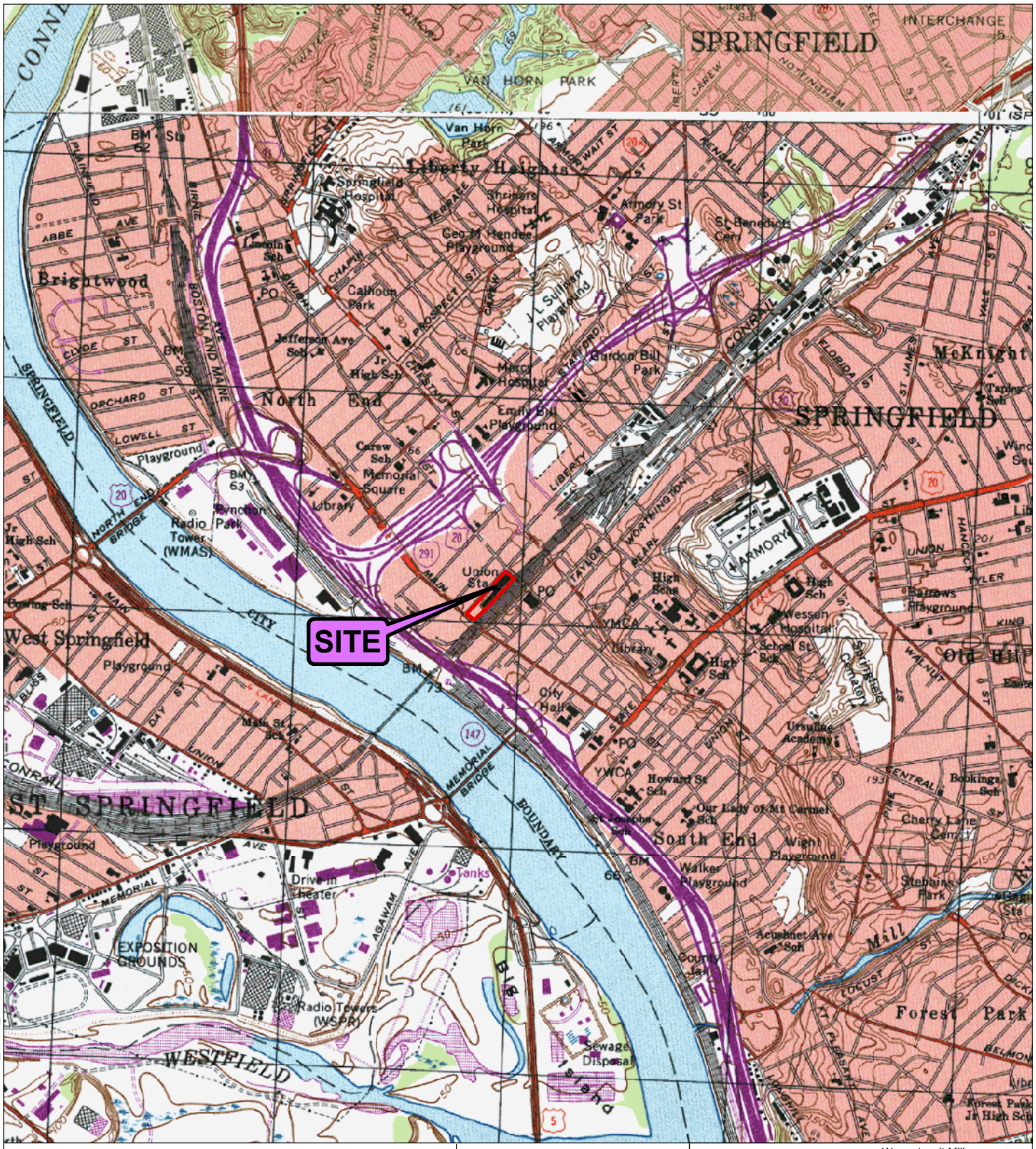
Tighe&Bond

APPENDIX A



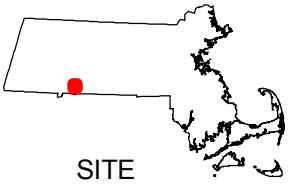
Approximate Site Boundary

0 1,000 2,000 Feet

N

Base map: USGS 7.5 Minute Topographic Quadrangles Springfield South (1979), Springfield North (1979)

MASSACHUSETTS



SITE LOCATION

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

SITE LOCATION MAP

55 FRANK B MURRAY STREET & EAST SIDE OF MAIN STREET SPRINGFIELD, MA

FIGURE 1	FEBRUARY 2012

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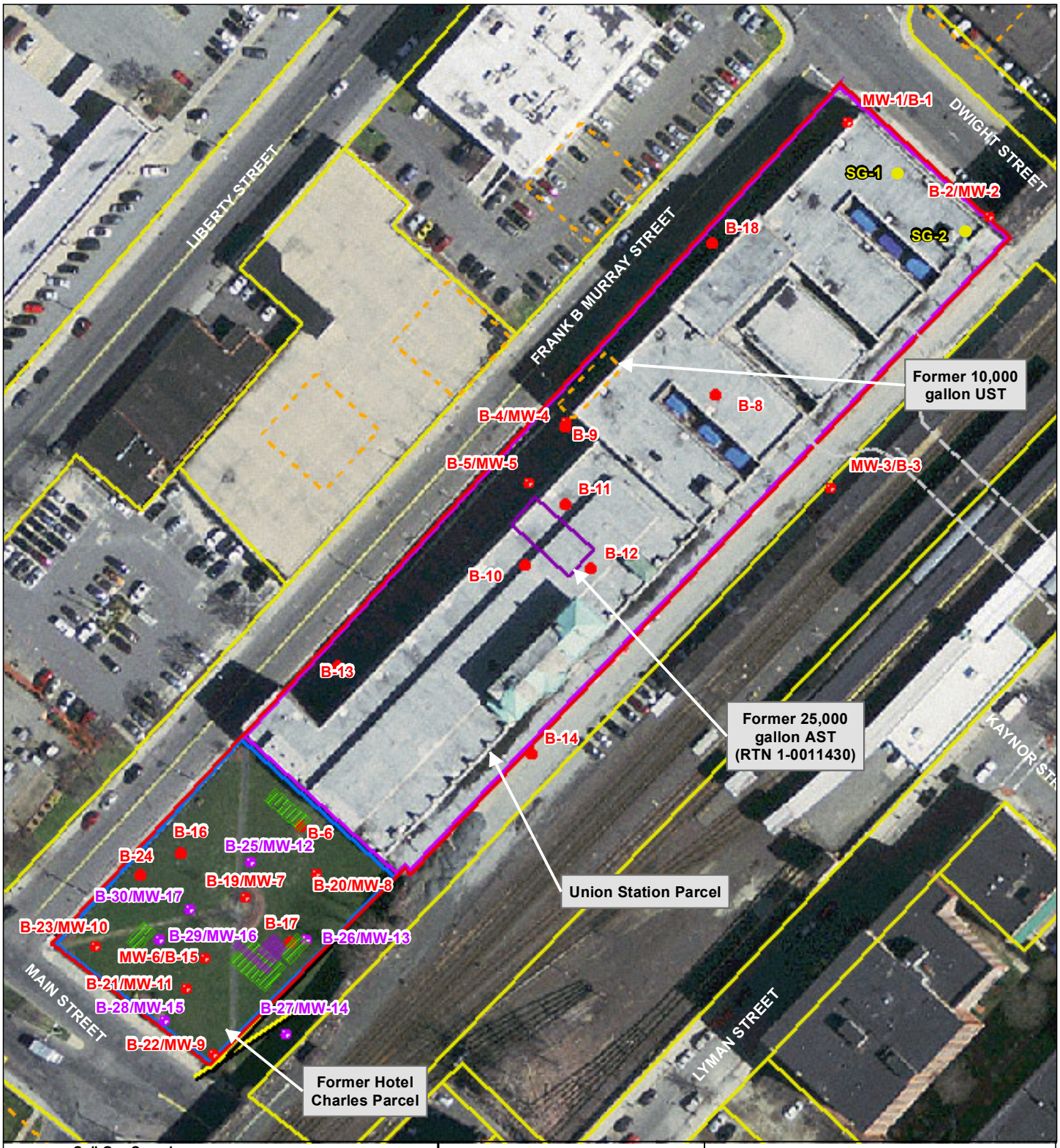


Soil Gas Sample Locations Installed March 23 2011

TRC-Installed Monitoring Well Location December 2011

Approximate Site Boundary

Approximate Union Station Parcel Boundary

Approximate Disposal Site Boundary, Hotel Charles (RTN 1-17919)

Springfield Parcels

TRC-Installed Monitoring Well Location Installed July 2010 - April 2011

TRC-Installed Soil Boring Location Installed July 2010 - April 2011

Approximate Underground Storage Tank Location

Test Pit Location

Former Underground Storage Tank Location

Utility Line

0 25 50 Feet

N

Base map: 2009 Orthophoto, Parcels MASSGIS

MASSACHUSETTS

SITE LOCATION

TRC

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

SITE PLAN

55 FRANK B MURRAY STREET & EAST SIDE OF MAIN STREET SPRINGFIELD, MA

FIGURE 2	FEBRUARY 2012

Path: R:\Projects\GIS_20081159402_Springfield_Brownfields\mxd\FIG2_UnionStation_SitePlan_020712.mxd

TRC-Installed Monitoring Well Location
Installed December 2011

TRC-Installed Soil Boring Location
Installed July 2010 - April 2011

TRC-Installed Monitoring Well Location
Installed July 2010 - April 2011

Approximate Extent of NAPL as of 1/6/2012
(Dashed Where Inferred)

Springfield Parcels

Former Underground
Storage Tank Location

Utility Line

Approximate Site
Boundary

Approximate Disposal
Site Boundary
(RTN 1-17919)

0 25 50 Feet

N

Base map: 2009 Orthophoto, Parcels MASSGIS

MASSACHUSETTS

SITE
LOCATION

TRC

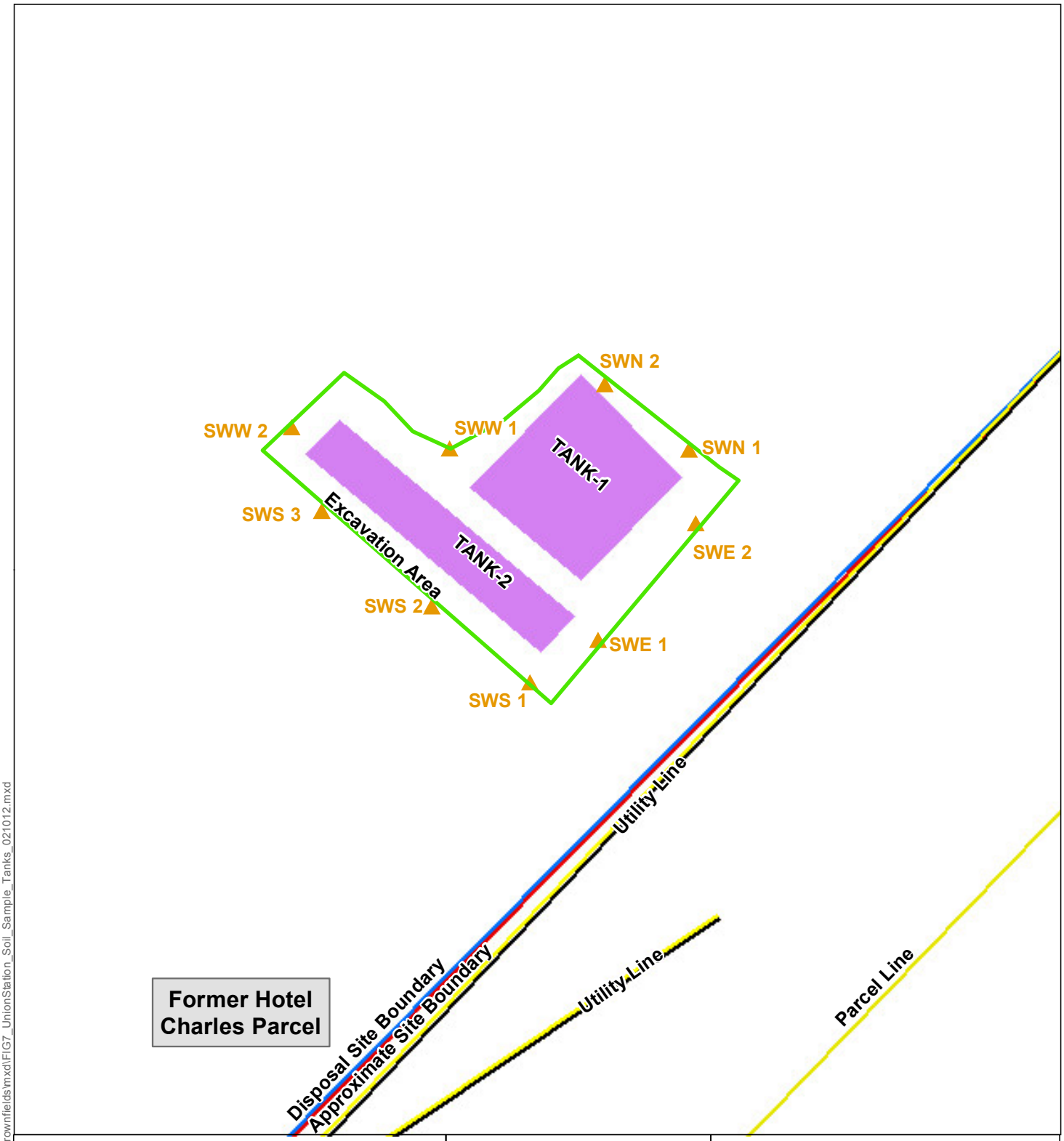
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

EXTENT OF NON AQUEOUS PHASE LIQUID (NAPL)

55 FRANK B MURRAY STREET & EAST SIDE OF MAIN STREET SPRINGFIELD, MA

FIGURE 6 | FEBRUARY 2012

Path: R:\Projects\GIS_2008\159402_Springfield_Brownfields\mxd\FIG6_UnionStation_ExtentNAPL_020712.mxd



TRC-Tank Sidewall Soil Sample Location December 1st 2011

Excavation Area Boundary

Approximate Site Boundary

Former Underground Storage Tank Location

Approximate Disposal Site Boundary (RTN 1-17919)

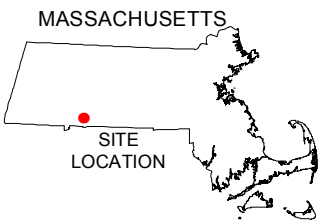
Utility Line

Springfield Parcels

0 5 10 Feet

N

Base map: 2009 Orthophoto, Parcels MASSGIS



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

TANK EXCAVATION SOIL SAMPLE LOCATIONS

55 FRANK B MURRAY STREET & EAST SIDE OF MAIN STREET SPRINGFIELD, MA

FIGURE 7 | FEBRUARY 2012

Path: R:\Projects\GIS_2008\159402_Springfield_Brownfields\mxd\FIG7_UnionStation_Soil_Sample_Tanks_021012.mxd

Tighe&Bond

APPENDIX B

Table 3: Summary of Post-Excavation Soil Analytical Results -- December 2011
Union Station Site
Springfield, Massachusetts

Analysis	Analyte				Sample ID:	SWE-1	SWE-2	SWN-1	SWN-2		SWS-1	SWS-2	SWS-3	SWW-1	SWW-2
					Sample Depth (ft.):	8-9	8-9	8-9	8-9	8-9	8-9	8-9	8-9	8-9	8-9
					Sample Date:	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3					Field Dup					
VPH															
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	9.5 U	12 U	18 U	50 U	88 U	14 U	14 U	13 U	74 U	70 U
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	9.5 U	12 U	**21**	**51**	**210**	14 U	14 U	13 U	**77**	**98**
	C9-C10 Aromatics	100	100	500	500	9.5 U	12 U	18 U	**140**	**400**	14 U	14 U	13 U	**170**	**200**
	Benzene	30	30	200	200	0.048 U	0.059 U	0.089 U	0.25 U	0.44 U	0.068 U	0.072 U	0.066 U	0.37 U	0.35 U
	Ethylbenzene	500	500	1,000	1,000	0.048 U	0.059 U	0.089 U	0.25 U	0.44 U	0.068 U	0.072 U	0.066 U	0.37 U	**0.35**
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.048 U	0.059 U	0.089 U	0.25 U	0.44 U	0.068 U	0.072 U	0.066 U	0.37 U	0.35 U
	Naphthalene	40	500	40	1,000	0.24 U	0.30 U	0.45 U	**7.9**	**22**	0.34 U	0.36 U	0.33 U	**6.6**	**9.6**
	Toluene	500	500	1,000	1,000	0.048 U	0.059 U	0.089 U	0.25 U	0.44 U	0.068 U	0.072 U	0.066 U	0.37 U	0.35 U
	m+p Xylene	300	500	300	1,000	0.095 U	0.12 U	0.18 U	0.50 U	0.88 U	0.14 U	0.14 U	0.13 U	0.74 U	0.70 U
	o-Xylene	300	500	300	1,000	0.048 U	0.059 U	0.089 U	**0.26**	**0.83**	0.068 U	0.072 U	0.066 U	**0.39**	**0.51**
EPH															
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	21 U	11 U	**930**	**4,600**	**4,500**	12 U	23 U	24 U	**3,400**	**2,600**
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	21 U	11 U	**480**	**1,700**	**1,600**	**14**	**82**	**51**	**1,200**	**950**
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	21 U	11 U	**660**	**2,600**	**1,300**	**23**	**260**	**93**	**1,700**	**1,300**
	Acenaphthene	1,000	1,000	3,000	3,000	0.21 U	0.11 U	**0.56**	**5.3**	**5.5**	0.12 U	**2.6**	0.24 U	**4.5**	**2.4**
	Acenaphthylene	600	10	600	10	0.21 U	0.11 U	**0.43**	**4.2**	**3.8**	0.12 U	**0.43**	0.24 U	**3.0**	**2.0**
	Anthracene	1,000	1,000	3,000	3,000	0.21 U	0.11 U	**1.1**	**4.6**	**3.1**	0.12 U	**9.2**	**0.36**	**7.7**	**1.9**
	Benzo(a)anthracene	7	7	40	40	0.21 U	0.11 U	**3.3**	**7.1**	**2.7**	**0.60**	**13**	**1.2**	**12**	**3.3**
	Benzo(a)pyrene	2	2	4	4	0.21 U	0.11 U	**3.2**	**6.9**	**2.8**	**0.53**	**8.6**	**1.0**	**11**	**3.7**
	Benzo(b)fluoranthene	7	7	40	40	0.21 U	0.11 U	**4.5**	**9.2**	**3.7**	**0.77**	**12**	**1.6**	**15**	**5.2**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	0.21 U	0.11 U	**2.2**	**4.5**	**2.2**	**0.34**	**4.3**	**0.60**	**5.7**	**2.5**
	Benzo(k)fluoranthene	70	70	400	400	0.21 U	0.11 U	**1.7**	**3.3**	**1.3**	**0.27**	**4.7**	**0.56**	**5.8**	**1.8**
	Chrysene	70	70	400	400	0.21 U	0.11 U	**3.2**	**6.8**	**2.7**	**0.61**	**12**	**1.2**	**11**	**3.3**
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.21 U	0.11 U	**0.69**	**1.3**	**0.65**	0.12 U	**1.7**	0.24 U	**2.0**	**0.79**
	Fluoranthene	1,000	1,000	3,000	3,000	0.21 U	0.11 U	**6.7**	**16**	**5.4**	**1.1**	**31**	**2.6**	**26**	**6.6**
	Fluorene	1,000	1,000	3,000	3,000	0.21 U	0.11 U	**0.33**	**1.6**	**1.6**	0.12 U	**4.7**	**0.28**	**0.86**	**0.87**
	Indeno(1,2,3-cd)pyrene	7	7	40	40	0.21 U	0.11 U	**2.4**	**4.8**	**2.2**	**0.37**	**5.3**	**0.77**	**6.9**	**2.8**
	2-Methylnaphthalene	80	300	80	500	0.21 U	0.11 U	**1.7**	**13**	**10**	0.12 U	**1.5**	**0.37**	**11**	**5.6**
	Naphthalene	40	500	40	1,000	0.21 U	0.11 U	**0.83**	0.27 U	0.27 U	0.12 U	**3.8**	**0.26**	**6.3**	**2.6**
	Phenanthrene	500	500	1,000	1,000	0.21 U	0.11 U	**4.3**	**11**	**6.1**	**0.58**	**37**	**1.9**	**26**	**5.1**
	Pyrene	1,000	1,000	3,000	3,000	0.21 U	0.11 U	**6.0**	**17**	**7.5**	**1.0**	**26**	**2.4**	**24**	**7.2**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

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 one or more of the listed MassDEP Method 1 standards.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-1 1-3/3 7/30/2010	B-1 13-15/14 7/30/2010	B-2 1-3/2 7/30/2010	B-2 10-12/11 7/30/2010	B-2 10-12/11 7/30/2010 Field Dup	B-3 0.5-3/3 7/29/2010	B-3 22-24/23 7/29/2010	B-4 1-3/2 7/28/2010	B-4 7-9/9 7/28/2010	B-5 1-3 7/28/2010	B-5 3-5 7/28/2010	B-6 0-2/2 7/29/2010	B-6 0-2 7/29/2010 Field Dup	B-6 4-6/5 7/29/2010
VOCs (mg/kg)	Acetone	50	400	50	400	6	NS	0.052 U	0.058 U	0.071 U	0.058 U	NA	0.055 U	0.070 U	NA	NA	NA	NA	0.071 U	NA	0.086 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	NS	NS	NS	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	Benzene	30	30	200	200	2	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Bromobenzene	NS	NS	NS	NS	100	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Bromochloromethane	NS	NS	NS	NS	NS	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Bromodichloromethane	0.1	20	0.1	100	0.1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Bromoform	1	200	1	800	0.1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Bromomethane	0.5	30	0.5	30	0.5	NS	0.0052 U	0.0058 U	0.0071 U	0.0058 U	NA	0.0055 U	0.0070 U	NA	NA	NA	NA	0.0071 U	NA	0.0086 U
	2-Butanone (MEK)	50	400	50	400	4	NS	0.021 U	0.023 U	0.028 U	0.023 U	NA	0.022 U	0.028 U	NA	NA	NA	NA	0.028 U	NA	0.034 U
	n-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	**0.0058**
	sec-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	**0.012**
	tert-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NS	NS	NS	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	Carbon Disulfide	NS	NS	NS	NS	100	NS	0.0031 U	0.0035 U	0.0042 U	0.0035 U	NA	0.0033 U	0.0042 U	NA	NA	NA	NA	0.0042 U	NA	0.0052 U
	Carbon Tetrachloride	5	10	5	60	5	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Chlorobenzene	3	100	3	100	1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Chlorodibromomethane	0.03	20	0.03	100	0.005	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	Chloroethane	NS	NS	NS	NS	100	NS	0.010 U	0.012 U	0.014 U	0.012 U	NA	0.011 U	0.014 U	NA	NA	NA	NA	0.014 U	NA	0.017 U
	Chloroform	0.3	400	0.3	800	0.3	NS	0.0021 U	0.0023 U	0.0028 U	0.0023 U	NA	0.0022 U	0.0028 U	NA	NA	NA	NA	0.0028 U	NA	0.0034 U
	Chloromethane	NS	NS	NS	NS	100	NS	0.0052 U	0.0058 U	0.0071 U	0.0058 U	NA	0.0055 U	0.0070 U	NA	NA	NA	NA	0.0071 U	NA	0.0086 U
	2-Chlorotoluene	NS	NS	NS	NS	100	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	4-Chlorotoluene	NS	NS	NS	NS	100	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	10	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2-Dibromoethane (EDB)	0.1	0.7	0.1	4	0.1	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	Dibromomethane	NS	NS	NS	NS	500	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2-Dichlorobenzene	30	300	30	300	9	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,3-Dichlorobenzene	40	100	40	500	1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	NS	NS	1,000	NS	0.010 U	0.012 U	0.014 U	0.012 U	NA	0.011 U	0.014 U	NA	NA	NA	NA	0.014 U	NA	0.017 U
	1,1-Dichloroethane	5	500	5	1,000	0.4	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2-Dichloroethane	0.1	10	0.1	90	0.1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,1-Dichloroethylene	40	500	40	1000	3	NS	0.0021 U	0.0023 U	0.0028 U	0.0023 U	NA	0.0022 U	0.0028 U	NA	NA	NA	NA	0.0028 U	NA	0.0034 U
	cis-1,2-Dichloroethylene	0.4	100	0.4	500	0.3	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	trans-1,2-Dichloroethylene	1	500	1	1,000	1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2-Dichloropropane	0.1	10	0.1	100	0.1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,3-Dichloropropane	NS	NS	NS	NS	500	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	2,2-Dichloropropane	NS	NS	NS	NS	0.1[2]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,1-Dichloropropene	NS	NS	NS	NS	0.01[3]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	cis-1,3-Dichloropropene	0.4[4]	9[4]	0.4[4]	70[4]	0.01[4]	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	trans-1,3-Dichloropropene	0.4[4]	9[4]	0.4[4]	70[4]	0.01[4]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Diethyl Ether	NS	NS	NS	NS	100	NS	0.010 U	0.012 U	0.014 U	0.012 U	NA	0.011 U	0.014 U	NA	NA	NA	NA	0.014 U	NA	0.017 U
	Diisopropyl Ether (DIPE)	NS	NS	NS	NS	100	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	1,4-Dioxane	6	70	6	500	0.2	NS	0.052 U	0.058 U	0.071 U	0.058 U	NA	0.055 U	0.070 U	NA	NA	NA	NA	0.071 U	NA	0.086 U
	Ethylbenzene	500	500	1,000	1,000	40	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Hexachlorobutadiene	6	6	90	90	6	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	2-Hexanone (MBK)	NS	NS	NS	NS	100	NS	0.010 U	0.012 U	0.014 U	0.012 U	NA	0.011 U	0.014 U	NA	NA	NA	NA	0.014 U	NA	0.017 U
	Isopropylbenzene (Cumene)	100[1]	100[1]	500[1]	500[1]	1,000	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	**0.0057**
	p-Isopropyltoluene (p-Cymene)	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	0.0021 U	0.0023 U	0.0028 U	0.0023 U	NA	0.0022 U	0.0028 U	NA	NA	NA	NA	0.0028 U	NA	0.0034 U
	Methylene Chloride	20	200	20	900	0.1	NS	0.010 U	0.012 U	0.014 U	0.012 U	NA	0.011 U	0.014 U	NA	NA	NA	NA	0.014 U	NA	0.017 U
	4-Methyl-2-pentanone (MIBK)	50	400	50	400	0.4	NS	0.010 U	0.012 U	0.014 U	0.012 U	NA	0.011 U	0.014 U	NA	NA	NA	NA	0.014 U	NA	0.017 U
	Naphthalene	40	500	40	1,000	4	1	0.0052 U	0.0058 U	0.0071 U	0.0058 U	NA	0.0055 U	0.0070 U	NA	NA	NA	NA	0.0071 U	NA	0.0086 U
	n-Propylbenzene	100[1]	100[1]	500[1]	500[1]	100	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	**0.010**
	Styrene	4	30	4	200	3	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,1,1,2-Tetrachloroethane	0.1	7	0.1	100	0.1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,1,2,2-Tetrachloroethane	0.02	0.8	0.02	10	0.005	NS	0.00052 U	0.00058 U	0.00071 U	0.00058 U	NA	0.00055 U	0.00070 U	NA	NA	NA	NA	0.00071 U	NA	0.00086 U
	Tetrachloroethylene	10	30	10	200	1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Tetrahydrofuran	NS	NS	NS	NS	500	NS	0.0052 U	0.0058 U	0.0071 U	0.0058 U	NA	0.0055 U	0.0070 U	NA	NA	NA	NA	0.0071 U	NA	0.0086 U
	Toluene	500	500	1,000	1,000	30	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	0.0021 U	0.0023 U	0.0028 U	0.0023 U	NA	0.0022 U	0.0028 U	NA	NA	NA	NA	0.0028 U	NA	0.0034 U
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-1		B-2			B-3		B-4		B-5		B-6		
	Sample Depth (ft.)*							1-3/3	13-15/14	1-3/2	10-12/11	10-12/11	0.5-3/3	22-24/23	1-3/2	7-9/9	1-3	3-5	0-2/2	0-2	4-6/5
	Sample Date							7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/29/2010	7/29/2010	7/28/2010	7/28/2010	7/28/2010	7/28/2010	7/29/2010	7/29/2010	7/29/2010
												Field Dup								Field Dup	
	1,1,1-Trichloroethane	500	500	600	1,000	30	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,1,2-Trichloroethane	2	4	2	60	0.1	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Trichloroethylene	2	90	2	700	0.3	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	1,000	NS	0.0052 U	0.0058 U	0.0071 U	0.0058 U	NA	0.0055 U	0.0070 U	NA	NA	NA	NA	0.0071 U	NA	0.0086 U
	1,2,3-Trichloropropane	NS	NS	NS	NS	100	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,2,4-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	1,000	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	1,3,5-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	10	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
	Vinyl Chloride	0.6	0.6	0.7	4	0.6	NS	0.0052 U	0.0058 U	0.0071 U	0.0058 U	NA	0.0055 U	0.0070 U	NA	NA	NA	NA	0.0071 U	NA	0.0086 U
	m+p Xylene	300	500	300	1,000	300	NS	0.0021 U	0.0023 U	0.0028 U	0.0023 U	NA	0.0022 U	0.0028 U	NA	NA	NA	NA	0.0028 U	NA	0.0034 U
	o-Xylene	300	500	300	1,000	300	NS	0.0010 U	0.0012 U	0.0014 U	0.0012 U	NA	0.0011 U	0.0014 U	NA	NA	NA	NA	0.0014 U	NA	0.0017 U
VPH																					
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	100	NS	16 U	12 U	14 U	14 U	NA	NA	NA	12 U	17 U	NA	NA	NA	NA	17 U
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	16 U	12 U	14 U	14 U	NA	NA	NA	12 U	17 U	NA	NA	NA	NA	17 U
	C9-C10 Aromatics	100	100	500	500	100	NS	16 U	12 U	14 U	14 U	NA	NA	NA	12 U	17 U	NA	NA	NA	NA	**28**
	Benzene	30	30	200	200	2	NS	0.079 U	0.059 U	0.068 U	0.072 U	NA	NA	NA	0.060 U	0.087 U	NA	NA	NA	NA	0.086 U
	Ethylbenzene	500	500	1,000	1,000	40	NS	0.079 U	0.059 U	0.068 U	0.072 U	NA	NA	NA	0.060 U	0.087 U	NA	NA	NA	NA	0.086 U
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	0.079 U	0.059 U	0.068 U	0.072 U	NA	NA	NA	0.060 U	0.087 U	NA	NA	NA	NA	0.086 U
	Naphthalene	40	500	40	1,000	4	1	0.79 U	0.59 U	0.68 U	0.72 U	NA	NA	NA	0.60 U	0.87 U	NA	NA	NA	NA	0.86 U
	Toluene	500	500	1,000	1,000	30	NS	0.079 U	0.059 U	0.068 U	0.072 U	NA	NA	NA	0.060 U	0.087 U	NA	NA	NA	NA	0.086 U
	m+p Xylene	300	500	300	1,000	300	NS	0.16 U	0.12 U	0.14 U	0.14 U	NA	NA	NA	0.12 U	0.17 U	NA	NA	NA	NA	0.17 U
	o-Xylene	300	500	300	1,000	300	NS	0.079 U	0.059 U	0.068 U	0.072 U	NA	NA	NA	0.060 U	0.087 U	NA	NA	NA	NA	0.086 U
EPH																					
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	12 U	13 U	12 U	12 U	NA	NA	NA	10 U	14 U	11 U	11 U	NA	NA	**52**
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	NS	12 U	13 U	12 U	**14**	NA	NA	NA	**25**	**31**	11 U	**21**	NA	NA	**38**
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	NS	12 U	13 U	12 U	**14**	NA	NA	NA	10 U	**18**	**18**	11 U	NA	NA	**42**
	Acenaphthene	1,000	1,000	3,000	3,000	4	2	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	1	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	9	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	7	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	8	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	4	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Chrysene	70	70	400	400	70	7	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	0.12 U	0.13 U	0.12 U	**0.15**	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	1	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	**0.11**	0.11 U	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	20	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	0.12 U	0.13 U	0.12 U	**0.15**	NA	NA	NA	0.10 U	0.14 U	0.11 U	0.11 U	NA	NA	NA
SVOCs																					
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	2	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	0.20 U	NA	0.20 U
	Acenaphthylene	600	10	600	10	1	1	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	0.20 U	NA	0.20 U
	Acetophenone	NS	NS	NS	NS	1,000	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Aniline	NS	NS	NS	NS	1,000	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.27**	NA	0.20 U
	Benzo(a)anthracene	7	7	40	40	7	9	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.86**	NA	0.20 U
	Benzo(a)pyrene	2	2	4	4	2	7	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.83**	NA	0.20 U
	Benzo(b)fluoranthene	7	7	40	40	7	8	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**1.0**	NA	0.20 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.46**	NA	0.20 U
	Benzo(k)fluoranthene	70	70	400	400	70	4	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.38**	NA	0.20 U
	Bis(2-chloroethoxy)methane	NS	NS	NS	NS	500	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Bis(2-chloroethyl)ether	0.7	0.7	0.7	3	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Bis(2-chloroisopropyl)ether	0.7	3	0.7	50	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Bis(2-Ethylhexyl)phthalate	200	200	700	700	200	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	4-Bromophenylphenylether	NS	NS	NS	NS	100	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Butylbenzylphthalate	NS	NS	NS	NS	100	NS	0.79 U	0.84 U	0.77 U	0.78 U	NA	0.69 U	0.77 U	NA	NA	NA	NA	0.76 U	NA	0.77 U
	4-Chloroaniline	100	3	100	3	1	NS	0.79 U	0.84 U	0.77 U	0.78 U	NA	0.69 U	0.77 U	NA	NA	NA	NA	0.76 U	NA	0.77 U
	2-Chloronaphthalene	NS	NS	NS	NS	1,000	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1				RC	Background**	B-1		B-2			B-3		B-4		B-5		B-6		
							Sample Depth (ft.)*:	1-3/3	13-15/14	1-3/2	10-12/11	10-12/11	0.5-3/3	22-24/23	1-3/2	7-9/9	1-3	3-5	0-2/2	0-2	4-6/5
							Sample Date:	7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/29/2010	7/29/2010	7/28/2010	7/28/2010	7/28/2010	7/28/2010	7/29/2010	7/29/2010	7/29/2010
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-1						Field Dup								Field Dup	
	2-Chlorophenol	100	100	100	300	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Chrysene	70	70	400	400	70	7	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.82**	NA	0.20 U
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.35**	NA	0.20 U
	Dibenzofuran	NS	NS	NS	NS	100	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	1,2-Dichlorobenzene	30	300	30	300	9	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	1,3-Dichlorobenzene	40	100	40	500	1	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	3,3-Dichlorobenzidine	1	1	10	10	1	NS	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	0.20 U	NA	0.20 U
	2,4-Dichlorophenol	60	40	60	40	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Diethylphthalate	200	300	200	300	10	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2,4-Dimethylphenol	100	500	100	1,000	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Dimethylphthalate	50	600	50	600	30	NS	0.79 U	0.84 U	0.77 U	0.78 U	NA	0.69 U	0.77 U	NA	NA	NA	NA	0.76 U	NA	0.77 U
	Di-n-butylphthalate	NS	NS	NS	NS	50	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2,4-Dinitrophenol	50	50	50	90	3	NS	0.79 U	0.84 U	0.77 U	0.78 U	NA	0.69 U	0.77 U	NA	NA	NA	NA	0.76 U	NA	0.77 U
	2,4-Dinitrotoluene	2	2	10	10	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2,6-Dinitrotoluene	NS	NS	NS	NS	100	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Di-n-octylphthalate	NS	NS	NS	NS	1,000	NS	0.79 U	0.84 U	0.77 U	0.78 U	NA	0.69 U	0.77 U	NA	NA	NA	NA	0.76 U	NA	0.77 U
	1,2-Diphenylhydrazine (as Azobenzene)	NS	NS	NS	NS	50	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	0.20 U	0.22 U	**0.25**	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**1.6**	NA	**0.33**
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	0.20 U	NA	0.20 U
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Hexachlorobutadiene	6	6	90	90	6	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Hexachloroethane	3	9	3	100	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**0.78**	NA	0.20 U
	Isophorone	NS	NS	NS	NS	100	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2-Methylnaphthalene	80	300	80	500	0.7	1	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	0.20 U	NA	0.20 U
	2-Methylphenol	NS	NS	NS	NS	500	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	3/4-Methylphenol	NS	NS	NS	NS	500	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Naphthalene	40	500	40	1,000	4	1	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	0.20 U	NA	0.20 U
	Nitrobenzene	NS	NS	NS	NS	500	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2-Nitrophenol	NS	NS	NS	NS	100	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	4-Nitrophenol	NS	NS	NS	NS	100	NS	0.79 U	0.84 U	0.77 U	0.78 U	NA	0.69 U	0.77 U	NA	NA	NA	NA	0.76 U	NA	0.77 U
	Pentachlorophenol	10	10	70	10	3	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Phenanthrene	500	500	1,000	1,000	10	20	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**1.1**	NA	**0.30**
	Phenol	50	20	50	20	1	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	0.20 U	0.22 U	0.20 U	0.20 U	NA	0.18 U	0.20 U	NA	NA	NA	NA	**1.1**	NA	**0.28**
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2,4,5-Trichlorophenol	1,000	600	1,000	600	4	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
	2,4,6-Trichlorophenol	20	20	20	20	0.7	NS	0.41 U	0.43 U	0.39 U	0.40 U	NA	0.36 U	0.39 U	NA	NA	NA	NA	0.39 U	NA	0.40 U
PCBs																					
(mg/kg)	Aroclor-1016	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1262	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1268	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	NS	0.12 U	0.13 U	0.12 U	0.12 U	NA	0.11 U	0.12 U	NA	NA	NA	NA	NA	NA	NA
Pesticides																					
(mg/kg)	Aldrin	0.04	0.04	0.4	0.4	0.04	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	alpha-BHC	NS	NS	NS	NS	50	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	beta-BHC	NS	NS	NS	NS	10	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	delta-BHC	NS	NS	NS	NS	10	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	gamma-BHC (Lindane)	0.7	0.5	2	0.5	0.003	NS	0.0036 U	0.0038 U	0.0035 U	0.0035 U	NA	0.0032 U	0.0034 U	NA	NA	NA	NA	NA	NA	NA
	Chlordane	0.7	0.7	30	30	0.7	NS	0.024 U	0.025 U	0.023 U	0.023 U	NA	0.021 U	0.023 U	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDD	4	4	30	30	4	NS	0.0048 U	0.0051 U	0.0046 U	0.0047 U	NA	0.0042 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDE	3	3	20	20	3	NS	0.0048 U	0.0051 U	0.0046 U	0.0047 U	NA	0.0042 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDT	3	3	20	20	3	NS	0.0048 U	0.0051 U	0.0046 U	0.0047 U	NA	0.0042 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA
	Dieldrin	0.05	0.05	0.4	0.4	0.05	NS	0.0048 U	0.0051 U	0.0046 U	0.0047 U	NA	0.0042 U	0.0046 U	NA	NA	NA	NA	NA	NA	NA
	Endosulfan I	200	1	300	1	0.5	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-1 1-3/3 7/30/2010	B-1 13-15/14 7/30/2010	B-2 1-3/2 7/30/2010	B-2 10-12/11 7/30/2010	B-2 10-12/11 7/30/2010 Field Dup	B-3 0.5-3/3 7/29/2010	B-3 22-24/23 7/29/2010	B-4 1-3/2 7/28/2010	B-4 7-9/9 7/28/2010	B-5 1-3 7/28/2010	B-5 3-5 7/28/2010	B-6 0-2/2 7/29/2010	B-6 0-2 7/29/2010 Field Dup	B-6 4-6/5 7/29/2010
	Endosulfan II	200	1	300	1	0.5	NS	0.0096 U	0.010 U	0.0093 U	0.0093 U	NA	0.0084 U	0.0091 U	NA	NA	NA	NA	NA	NA	NA
	Endosulfan Sulfate	NS	NS	NS	NS	0.5	NS	0.0096 U	0.010 U	0.0093 U	0.0093 U	NA	0.0084 U	0.0091 U	NA	NA	NA	NA	NA	NA	NA
	Endrin	8	8	10	10	8	NS	0.0096 U	0.010 U	0.0093 U	0.0093 U	NA	0.0084 U	0.0091 U	NA	NA	NA	NA	NA	NA	NA
	Endrin Ketone	NS	NS	NS	NS	NS	NS	0.0096 U	0.010 U	0.0093 U	0.0093 U	NA	0.0084 U	0.0091 U	NA	NA	NA	NA	NA	NA	NA
	Heptachlor	0.2	0.2	2	2	0.2	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	Heptachlor Epoxide	0.09	0.09	0.7	0.7	0.09	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	0.0060 U	0.0063 U	0.0058 U	0.0058 U	NA	0.0053 U	0.0057 U	NA	NA	NA	NA	NA	NA	NA
	Methoxychlor	200	200	300	300	200	NS	0.060 U	0.063 U	0.058 U	0.058 U	NA	0.053 U	0.057 U	NA	NA	NA	NA	NA	NA	NA
Herbicides																					
(mg/kg)	MCPP	NS	NS	NS	NS	NS	NS	NA	NA	3.8 U	4.0 U	4.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MCPA	NS	NS	NS	NS	100	NS	NA	NA	3.8 U	4.0 U	4.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dalapon	NS	NS	NS	NS	NS	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dicamba	NS	NS	NS	NS	500	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroprop	NS	NS	NS	NS	NS	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-D	NS	NS	NS	NS	100	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-DB	NS	NS	NS	NS	100	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-T	NS	NS	NS	NS	100	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-TP (Silvex)	NS	NS	NS	NS	100	NS	NA	NA	0.038 U	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dinoseb	NS	NS	NS	NS	500	NS	NA	NA	R	0.040 U	0.040 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																					
(mg/kg)	Antimony	20	20	30	30	20	7	2.9 U	2.9 U	2.7 U	3.1 U	NA	2.6 U	2.9 U	2.7 U	3.3 U	2.6 U	3.0 U	2.9 U	2.9 U	2.9 U
	Arsenic	20	20	20	20	20	20	**3.4**	2.9 U	2.7 U	3.1 U	NA	2.6 U	2.9 U	2.7 U	**3.5**	**3.0**	3.0 U	**4.0**	**3.2**	**6.0**
	Barium	1,000	1,000	3,000	3,000	1,000	50	**93**	**12**	**79**	**20**	NA	**22**	**28**	**22**	**72**	**29**	**22**	**110**	**87**	**78**
	Beryllium	100	100	200	200	100	0.9	0.29 U	0.29 U	0.27 U	0.31 U	NA	0.26 U	0.29 U	0.27 U	0.33 U	0.26 U	0.30 U	0.29 U	0.29 U	0.29 U
	Cadmium	2	2	30	30	2	3	0.29 U	0.29 U	0.27 U	0.31 U	NA	0.26 U	0.29 U	0.27 U	0.33 U	0.26 U	0.30 U	**0.48**	**0.36**	**0.41**
	Chromium (total)	30	30	200	200	30	40	**24**	**8.2**	**22**	**11**	NA	**7.7**	**8.5**	**6.9**	**25**	**6.6**	**7.2**	**16**	**14**	**22**
	Chromium (VI)	30	30	200	200	30	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	600	**6.6**	**7.1**	**22**	**3.9**	NA	**22**	**3.0**	**2.6**	**8.7**	**4.2**	**2.6**	**110**	**96**	**42**
	Mercury	20	20	30	30	20	1	**0.056**	0.011 U	**0.081**	0.010 U	NA	**0.035**	**0.026**	**0.026**	0.025 U	0.019 U	0.016 U	**0.067**	**0.083**	**0.081**
	Nickel	20	20	700	700	20	30	**14**	**12**	**13**	**11**	NA	**4.9**	**6.1**	**3.3**	**17**	**7.4**	**5.3**	**12**	**9.5**	**14**
	Selenium	400	400	800	800	400	1	5.8 U	5.8 U	5.4 U	6.1 U	NA	5.2 U	5.8 U	5.4 U	6.6 U	5.3 U	5.9 U	5.7 U	5.7 U	5.8 U
	Silver	100	100	200	200	100	5	0.58 U	0.58 U	0.54 U	0.61 U	NA	0.52 U	0.58 U	0.54 U	0.66 U	0.53 U	0.59 U	0.57 U	0.57 U	0.58 U
	Thallium	8	8	60	60	8	5	2.9 U	2.9 U	2.7 U	3.1 U	NA	2.6 U	2.9 U	2.7 U	3.3 U	2.6 U	3.0 U	2.9 U	2.9 U	2.9 U
	Vanadium	600	600	1,000	1,000	600	30	**29**	**15**	**23**	**11**	NA	**13**	**13**	**11**	**30**	**15**	**12**	**27**	**21**	**29**
	Zinc	2,500	2,500	3,000	3,000	2,500	300	**36**	**30**	**44**	**21**	NA	**18**	**22**	**11**	**51**	**12**	**12**	**130**	**89**	**98**
Oxidation/Reduction Potential																					
(mV)	Oxidation/Reduction Potential	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH																					
(s.u.)	pH	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mV - milliVolt.
s.u. - Standard unit.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
NS - No MassDEP standards exist for this analyte.
R - Rejected due to matrix spike recovery <10%.
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 one or more of the listed MassDEP Method 1 standards and RCS-1.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
SVOCs - Semivolatile Organic Compounds.
PCBs - Polychlorinated Biphenyls.
RC - Reportable concentration.
(1) - MassDEP Method 1 standards and RC for C9-C10 aromatics used.
(2) - MassDEP RCS-1 for Dichloropropane used.
(3) - MassDEP RCS-1 for Dichloropropene used.
(4) - MassDEP Method 1 standards and RC for 1,3-Dichloropropene used.
* - Sample depth for Other/(VOCs &VPH) analysis; otherwise the sample depth applies to all listed analyses.
** - Background Concentration for soil containing coal ash/wood ash.

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-8 1-3/2 7/30/2010	B-8 4-6/5 7/30/2010	B-9 0-3/2 7/28/2010	B-9 5-7/6.5 7/28/2010	B-10 0.5-3 7/30/2010	B-10 7-9 7/30/2010	B-11 1-3 7/30/2010	B-11 7-9 7/30/2010	B-12 0.5-3 7/30/2010	B-12 4-6 7/30/2010	B-13 1-3/2 7/29/2010	B-13 6-8/7 7/29/2010	B-14 1-3/2 7/30/2010	B-14 23-25/24 7/30/2010
VOCs (mg/kg)	Acetone	50	400	50	400	6	NS	0.12 U	0.090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.061 U	0.079 U	0.076 U	0.080 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	NS	NS	NS	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	Benzene	30	30	200	200	2	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Bromobenzene	NS	NS	NS	NS	100	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Bromochloromethane	NS	NS	NS	NS	NS	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Bromodichloromethane	0.1	20	0.1	100	0.1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Bromoform	1	200	1	800	0.1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Bromomethane	0.5	30	0.5	30	0.5	NS	0.012 U	0.0090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0061 U	0.0079 U	0.0076 U	0.0080 U
	2-Butanone (MEK)	50	400	50	400	4	NS	0.047 U	0.036 U	NA	NA	NA	NA	NA	NA	NA	NA	0.025 U	0.032 U	0.031 U	0.032 U
	n-Butylbenzene	100(1)	100(1)	500(1)	500(1)	100(1)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	sec-Butylbenzene	100(1)	100(1)	500(1)	500(1)	100(1)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	tert-Butylbenzene	100(1)	100(1)	500(1)	500(1)	100(1)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NS	NS	NS	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	Carbon Disulfide	NS	NS	NS	NS	100	NS	0.0070 U	0.0054 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0037 U	0.0048 U	0.0046 U	0.0048 U
	Carbon Tetrachloride	5	10	5	60	5	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Chlorobenzene	3	100	3	100	1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Chlorodibromomethane	0.03	20	0.03	100	0.005	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	Chloroethane	NS	NS	NS	NS	100	NS	0.023 U	0.018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.012 U	0.016 U	0.015 U	0.016 U
	Chloroform	0.3	400	0.3	800	0.3	NS	0.0047 U	0.0036 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0025 U	0.0032 U	0.0031 U	0.0032 U
	Chloromethane	NS	NS	NS	NS	100	NS	0.012 U	0.0090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0061 U	0.0079 U	0.0076 U	0.0080 U
	2-Chlorotoluene	NS	NS	NS	NS	100	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	4-Chlorotoluene	NS	NS	NS	NS	100	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	10	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2-Dibromoethane (EDB)	0.1	0.7	0.1	4	0.1	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	Dibromomethane	NS	NS	NS	NS	500	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2-Dichlorobenzene	30	300	30	300	9	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,3-Dichlorobenzene	40	100	40	500	1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	NS	NS	1,000	NS	0.023 U	0.018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.012 U	0.016 U	0.015 U	0.016 U
	1,1-Dichloroethane	5	500	5	1,000	0.4	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2-Dichloroethane	0.1	10	0.1	90	0.1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,1-Dichloroethylene	40	500	40	1000	3	NS	0.0047 U	0.0036 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0025 U	0.0032 U	0.0031 U	0.0032 U
	cis-1,2-Dichloroethylene	0.4	100	0.4	500	0.3	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	trans-1,2-Dichloroethylene	1	500	1	1,000	1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2-Dichloropropane	0.1	10	0.1	100	0.1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,3-Dichloropropane	NS	NS	NS	NS	500	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	2,2-Dichloropropane	NS	NS	NS	NS	0.1(2)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,1-Dichloropropene	NS	NS	NS	NS	0.01(3)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	cis-1,3-Dichloropropene	0.4(4)	9(4)	0.4(4)	70(4)	0.01(4)	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	trans-1,3-Dichloropropene	0.4(4)	9(4)	0.4(4)	70(4)	0.01(4)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Diethyl Ether	NS	NS	NS	NS	100	NS	0.023 U	0.018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.012 U	0.016 U	0.015 U	0.016 U
	Diisopropyl Ether (DIPE)	NS	NS	NS	NS	100	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	1,4-Dioxane	6	70	6	500	0.2	NS	0.12 U	0.090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.061 U	0.079 U	0.076 U	0.080 U
	Ethylbenzene	500	500	1,000	1,000	40	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Hexachlorobutadiene	6	6	90	90	6	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	2-Hexanone (MBK)	NS	NS	NS	NS	100	NS	0.023 U	0.018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.012 U	0.016 U	0.015 U	0.016 U
	Isopropylbenzene (Cumene)	100(1)	100(1)	500(1)	500(1)	1,000	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	p-Isopropyltoluene (p-Cymene)	100(1)	100(1)	500(1)	500(1)	100(1)	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	0.0047 U	0.0036 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0025 U	0.0032 U	0.0031 U	0.0032 U
	Methylene Chloride	20	200	20	900	0.1	NS	0.023 U	0.018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.012 U	0.016 U	0.015 U	0.016 U
	4-Methyl-2-pentanone (MIBK)	50	400	50	400	0.4	NS	0.023 U	0.018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.012 U	0.016 U	0.015 U	0.016 U
	Naphthalene	40	500	40	1,000	4	1	0.012 U	0.0090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0025 U	0.0079 U	0.0076 U	0.0080 U
	n-Propylbenzene	100(1)	100(1)	500(1)	500(1)	100	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Styrene	4	30	4	200	3	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,1,1,2-Tetrachloroethane	0.1	7	0.1	100	0.1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,1,2,2-Tetrachloroethane	0.02	0.8	0.02	10	0.005	NS	0.0012 U	0.00090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.00061 U	0.00079 U	0.00076 U	0.00080 U
	Tetrachloroethylene	10	30	10	200	1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Tetrahydrofuran	NS	NS	NS	NS	500	NS	0.012 U	0.0090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0061 U	0.0079 U	0.0076 U	0.0080 U
	Toluene	500	500	1,000	1,000	30	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	0.0047 U	0.0036 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0025 U	0.0032 U	0.0031 U	0.0032 U
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-8 1-3/2 7/30/2010	B-8 4-6/5 7/30/2010	B-9 0-3/2 7/28/2010	B-9 5-7/6.5 7/28/2010	B-10 0.5-3 7/30/2010	B-10 7-9 7/30/2010	B-11 1-3 7/30/2010	B-11 7-9 7/30/2010	B-12 0.5-3 7/30/2010	B-12 4-6 7/30/2010	B-13 1-3/2 7/29/2010	B-13 6-8/7 7/29/2010	B-14 1-3/2 7/30/2010	B-14 23-25/24 7/30/2010
	1,1,1-Trichloroethane	500	500	600	1,000	30	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,1,2-Trichloroethane	2	4	2	60	0.1	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Trichloroethylene	2	90	2	700	0.3	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	1,000	NS	0.012 U	0.0090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0061 U	0.0079 U	0.0076 U	0.0080 U
	1,2,3-Trichloropropane	NS	NS	NS	NS	100	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,2,4-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	1,000	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	1,3,5-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	10	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
	Vinyl Chloride	0.6	0.6	0.7	4	0.6	NS	0.012 U	0.0090 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0061 U	0.0079 U	0.0076 U	0.0080 U
	m+p Xylene	300	500	300	1,000	300	NS	0.0047 U	0.0036 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0025 U	0.0032 U	0.0031 U	0.0032 U
	o-Xylene	300	500	300	1,000	300	NS	0.0023 U	0.0018 U	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 U	0.0016 U	0.0015 U	0.0016 U
VPH																					
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	100	NS	NA	NA	12 U	14 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	NA	NA	12 U	14 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	100	100	500	500	100	NS	NA	NA	12 U	14 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	30	30	200	200	2	NS	NA	NA	0.061 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	500	500	1,000	1,000	40	NS	NA	NA	0.061 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	NA	NA	0.061 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	0.61 U	0.69 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1,000	1,000	30	NS	NA	NA	0.061 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	m+p Xylene	300	500	300	1,000	300	NS	NA	NA	0.12 U	0.14 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	o-Xylene	300	500	300	1,000	300	NS	NA	NA	0.061 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																					
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	NA	NA	21 U	13 U	10 U	11 U	11 U	11 U	11 U	11 U	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	NS	NA	NA	**27**	13 U	**11**	11 U	11 U	11 U	11 U	11 U	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	NS	NA	NA	**39**	13 U	**11**	11 U	11 U	11 U	11 U	11 U	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	4	2	NA	NA	**0.27**	0.13 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	1	NA	NA	0.21 U	0.13 U	0.10 U	0.11 U	0.11 U	**0.13**	0.11 U	0.11 U	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	NA	NA	**0.59**	0.13 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	9	NA	NA	**1.3**	0.13 U	**0.31**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	7	NA	NA	**1.1**	0.13 U	**0.32**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	8	NA	NA	**1.5**	0.13 U	**0.47**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	NA	NA	**0.73**	0.13 U	**0.25**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	4	NA	NA	**0.56**	0.13 U	**0.16**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	7	NA	NA	**1.4**	0.13 U	**0.39**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	NA	NA	0.21 U	0.13 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	NA	NA	**3.0**	0.13 U	**0.32**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	NA	NA	**0.30**	0.13 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	NA	NA	**0.74**	0.13 U	**0.24**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	1	NA	NA	0.21 U	0.13 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	0.21 U	0.13 U	0.10 U	0.11 U	0.11 U	**0.20**	0.11 U	0.11 U	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	20	NA	NA	**2.7**	0.13 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	NA	NA	**3.1**	0.13 U	**0.37**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA	NA	NA
SVOCs																					
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	2	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	Acenaphthylene	600	10	600	10	1	1	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	Acetophenone	NS	NS	NS	NS	1,000	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Aniline	NS	NS	NS	NS	1,000	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	Benzo(a)anthracene	7	7	40	40	7	9	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**0.81**	0.19 U
	Benzo(a)pyrene	2	2	4	4	2	7	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**0.96**	0.19 U
	Benzo(b)fluoranthene	7	7	40	40	7	8	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**1.7**	0.19 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**0.85**	0.19 U
	Benzo(k)fluoranthene	70	70	400	400	70	4	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**0.55**	0.19 U
	Bis(2-chloroethoxy)methane	NS	NS	NS	NS	500	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Bis(2-chloroethyl)ether	0.7	0.7	0.7	3	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Bis(2-chloroisopropyl)ether	0.7	3	0.7	50	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Bis(2-Ethylhexyl)phthalate	200	200	700	700	200	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	4-Bromophenylphenylether	NS	NS	NS	NS	100	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Butylbenzylphthalate	NS	NS	NS	NS	100	NS	0.77 U	0.83 U	NA	NA	NA	NA	NA	NA	NA	NA	0.72 U	0.89 U	1.4 U	0.73 U
	4-Chloroaniline	100	3	100	3	1	NS	0.77 U	0.83 U	NA	NA	NA	NA	NA	NA	NA	NA	0.72 U	0.89 U	1.4 U	0.73 U
	2-Chloronaphthalene	NS	NS	NS	NS	1,000	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-8 1-3/2 7/30/2010	B-8 4-6/5 7/30/2010	B-9 0-3/2 7/28/2010	B-9 5-7/6.5 7/28/2010	B-10 0.5-3 7/30/2010	B-10 7-9 7/30/2010	B-11 1-3 7/30/2010	B-11 7-9 7/30/2010	B-12 0.5-3 7/30/2010	B-12 4-6 7/30/2010	B-13 1-3/2 7/29/2010	B-13 6-8/7 7/29/2010	B-14 1-3/2 7/30/2010	B-14 23-25/24 7/30/2010
	2-Chlorophenol	100	100	100	300	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Chrysene	70	70	400	400	70	7	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**1.0**	0.19 U
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	Dibenzofuran	NS	NS	NS	NS	100	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	1,2-Dichlorobenzene	30	300	30	300	9	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	1,3-Dichlorobenzene	40	100	40	500	1	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	3,3-Dichlorobenzidine	1	1	10	10	1	NS	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	2,4-Dichlorophenol	60	40	60	40	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Diethylphthalate	200	300	200	300	10	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2,4-Dimethylphenol	100	500	100	1,000	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Dimethylphthalate	50	600	50	600	30	NS	0.77 U	0.83 U	NA	NA	NA	NA	NA	NA	NA	NA	0.72 U	0.89 U	1.4 U	0.73 U
	Di-n-butylphthalate	NS	NS	NS	NS	50	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2,4-Dinitrophenol	50	50	50	90	3	NS	0.77 U	0.83 U	NA	NA	NA	NA	NA	NA	NA	NA	0.72 U	0.89 U	1.4 U	0.73 U
	2,4-Dinitrotoluene	2	2	10	10	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2,6-Dinitrotoluene	NS	NS	NS	NS	100	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Di-n-octylphthalate	NS	NS	NS	NS	1,000	NS	0.77 U	0.83 U	NA	NA	NA	NA	NA	NA	NA	NA	0.72 U	0.89 U	1.4 U	0.73 U
	1,2-Diphenylhydrazine (as Azobenzene)	NS	NS	NS	NS	50	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**1.5**	0.19 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Hexachlorobutadiene	6	6	90	90	6	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Hexachloroethane	3	9	3	100	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**1.2**	0.19 U
	Isophorone	NS	NS	NS	NS	100	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2-Methylnaphthalene	80	300	80	500	0.7	1	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	2-Methylphenol	NS	NS	NS	NS	500	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	3/4-Methylphenol	NS	NS	NS	NS	500	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Naphthalene	40	500	40	1,000	4	1	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	0.36 U	0.19 U
	Nitrobenzene	NS	NS	NS	NS	500	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2-Nitrophenol	NS	NS	NS	NS	100	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	4-Nitrophenol	NS	NS	NS	NS	100	NS	0.77 U	0.83 U	NA	NA	NA	NA	NA	NA	NA	NA	0.72 U	0.89 U	1.4 U	0.73 U
	Pentachlorophenol	10	10	70	10	3	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Phenanthrene	500	500	1,000	1,000	10	20	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**0.65**	0.19 U
	Phenol	50	20	50	20	1	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	0.20 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.23 U	**0.96**	0.19 U
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2,4,5-Trichlorophenol	1,000	600	1,000	600	4	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
	2,4,6-Trichlorophenol	20	20	20	20	0.7	NS	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	0.37 U	0.46 U	0.72 U	0.38 U
PCBs																					
(mg/kg)	Aroclor-1016	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1221	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1232	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1242	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1248	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1254	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1260	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.15**	0.11 U
	Aroclor-1262	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Aroclor-1268	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 U	0.11 U
	Total PCBs	2	2	3	3	2	NS	0.12 U	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.15**	0.11 U
Pesticides																					
(mg/kg)	Aldrin	0.04	0.04	0.4	0.4	0.04	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	alpha-BHC	NS	NS	NS	NS	50	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	beta-BHC	NS	NS	NS	NS	10	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	delta-BHC	NS	NS	NS	NS	10	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	gamma-BHC (Lindane)	0.7	0.5	2	0.5	0.003	NS	0.0035 U	0.0037 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0032 U	0.0033 U
	Chlordane	0.7	0.7	30	30	0.7	NS	0.023 U	0.025 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.021 U	0.022 U
	4,4'-DDD	4	4	30	30	4	NS	0.0047 U	0.0049 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0042 U	0.0044 U
	4,4'-DDE	3	3	20	20	3	NS	0.0047 U	0.0049 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0042 U	0.0044 U
	4,4'-DDT	3	3	20	20	3	NS	0.0047 U	0.0049 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0042 U	0.0044 U
	Dieldrin	0.05	0.05	0.4	0.4	0.05	NS	0.0047 U	0.0049 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0042 U	0.0044 U
	Endosulfan I	200	1	300	1	0.5	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-8		B-9		B-10		B-11		B-12		B-13		B-14	
	Sample ID:							B-8		B-9		B-10		B-11		B-12		B-13		B-14	
	Sample Depth (ft.)*:							1-3/2	4-6/5	0-3/2	5-7/6.5	0.5-3	7-9	1-3	7-9	0.5-3	4-6	1-3/2	6-8/7	1-3/2	23-25/24
	Sample Date:							7/30/2010	7/30/2010	7/28/2010	7/28/2010	7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/30/2010	7/29/2010	7/29/2010	7/30/2010	7/30/2010
	Endosulfan II	200	1	300	1	0.5	NS	0.0094 U	0.0099 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0084 U	0.0089 U
	Endosulfan Sulfate	NS	NS	NS	NS	0.5	NS	0.0094 U	0.0099 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0084 U	0.0089 U
	Endrin	8	8	10	10	8	NS	0.0094 U	0.0099 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0084 U	0.0089 U
	Endrin Ketone	NS	NS	NS	NS	NS	NS	0.0094 U	0.0099 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0084 U	0.0089 U
	Heptachlor	0.2	0.2	2	2	0.2	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	Heptachlor Epoxide	0.09	0.09	0.7	0.7	0.09	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	0.0058 U	0.0062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0053 U	0.0055 U
	Methoxychlor	200	200	300	300	200	NS	0.058 U	0.062 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.053 U	0.055 U
Herbicides																					
(mg/kg)	MCPP	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MCPA	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dalapon	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dicamba	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroprop	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-D	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-DB	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-T	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-TP (Silvex)	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dinoseb	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																					
(mg/kg)	Antimony	20	20	30	30	20	7	2.9 U	3.0 U	2.8 U	3.1 U	2.5 U	2.8 U	2.7 U	2.9 U	2.8 U	2.8 U	2.7 U	3.4 U	2.7 U	2.9 U
	Arsenic	20	20	20	20	20	20	2.9 U	3.0 U	**3.4**	3.1 U	**3.0**	2.8 U	2.7 U	2.9 U	2.8 U	2.8 U	**11**	3.4 U	**9.0**	2.9 U
	Barium	1,000	1,000	3,000	3,000	1,000	50	**59**	**73**	**70**	**75**	**33**	**28**	**40**	**33**	**40**	**24**	**64**	**55**	**65**	**29**
	Beryllium	100	100	200	200	100	0.9	0.29 U	0.30 U	0.28 U	0.31 U	0.25 U	0.28 U	0.27 U	0.29 U	0.28 U	0.28 U	0.27 U	0.34 U	0.27 U	0.29 U
	Cadmium	2	2	30	30	2	3	0.29 U	0.30 U	0.28 U	0.31 U	0.25 U	0.28 U	0.27 U	0.29 U	0.28 U	0.28 U	0.27 U	0.34 U	**0.91**	0.29 U
	Chromium (total)	30	30	200	200	30	40	**14**	**18**	**16**	**20**	**7.8**	**8.4**	**8.8**	**8.3**	**10**	**7.0**	**24**	**21**	**44**	**7.0**
	Chromium (VI)	30	30	200	200	30	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	600	**14**	**8.6**	**13**	**4.5**	**72**	**3.1**	**20**	**4.7**	**13**	**2.9**	**140**	**10**	**170**	**5.2**
	Mercury	20	20	30	30	20	1	**0.051**	**0.025**	**0.021**	0.014 U	**0.18**	0.012 U	**0.056**	0.014 U	**0.078**	**0.017**	**0.047**	**0.028**	**0.098**	0.014 U
	Nickel	20	20	700	700	20	30	**7.5**	**10**	**12**	**17**	**5.3**	**4.1**	**8.6**	**6.9**	**9.3**	**4.1**	**8.6**	**17**	**22**	**6.3**
	Selenium	400	400	800	800	400	1	5.7 U	6.0 U	5.6 U	6.2 U	4.9 U	5.5 U	5.3 U	5.9 U	5.5 U	5.6 U	5.4 U	6.8 U	5.4 U	5.7 U
	Silver	100	100	200	200	100	5	0.57 U	0.60 U	0.56 U	0.62 U	0.49 U	0.55 U	0.53 U	0.59 U	0.55 U	0.56 U	0.54 U	0.68 U	0.54 U	0.57 U
	Thallium	8	8	60	60	8	5	2.9 U	3.0 U	2.8 U	3.1 U	2.5 U	2.8 U	2.7 U	2.9 U	2.8 U	2.8 U	2.7 U	3.4 U	2.7 U	2.9 U
	Vanadium	600	600	1,000	1,000	600	30	**22**	**26**	**31**	**22**	**14**	**12**	**15**	**12**	**19**	**12**	**25**	**21**	**86**	**12**
	Zinc	2,500	2,500	3,000	3,000	2,500	300	**33**	**35**	**39**	**39**	**32**	**21**	**46**	**17**	**22**	**12**	**15**	**49**	**98**	**21**
Oxidation/Reduction Potential																					
(mV)	Oxidation/Reduction Potential	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH																					
(s.u.)	pH	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mV - milliVolt.
s.u. - Standard unit.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
NS - No MassDEP standards exist for this analyte.
R - Rejected due to matrix spike recovery <10%.
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 one or more of the listed MassDEP Method 1 standards and RCS-1.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
SVOCs - Semivolatile Organic Compounds.
PCBs - Polychlorinated Biphenyls.
RC - Reportable concentration.
(1) - MassDEP Method 1 standards and RC for C9-C10 aromatics used.
(2) - MassDEP RCS-1 for Dichloropropane used.
(3) - MassDEP RCS-1 for Dichloropropene used.
(4) - MassDEP Method 1 standards and RC for 1,3-Dichloropropene used.
* - Sample depth for Other/(VOCs &VPH) analysis; otherwise the sample depth applies to all listed analyses.
** - Background Concentration for soil containing coal ash/wood ash.

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte						Sample ID:	B-15			B-16	B-17	B-18		B-19				B-20			
							Sample Depth (ft.)*:	0-3/2	10-12/11	15-17/16	0-3/1	0-3/2	0-3/2	0-3/2	6-8	10-12	15-17/15	16.5	4-8/5	4-8/5	10-12	15-17/16.5
							Sample Date:	7/28/2010	7/29/2010	7/29/2010	7/28/2010	7/28/2010	7/28/2010	7/28/2010	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011
		Method 1				RC	Background**							Field Dup						Field Dup		
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-1																
VOCs (mg/kg)	Acetone	50	400	50	400	6	NS	0.070 U	5.2 U	NA	0.12 U	0.074 U	0.058 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA
	tert-Amyl Methyl Ether (TAME)	NS	NS	NS	NS	NS	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	30	30	200	200	2	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bromobenzene	NS	NS	NS	NS	100	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bromochloromethane	NS	NS	NS	NS	NS	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	0.1	20	0.1	100	0.1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bromoform	1	200	1	800	0.1	NS	0.0014 U	0.21 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bromomethane	0.5	30	0.5	30	0.5	NS	0.0070 U	0.21 U	NA	0.012 U	0.0074 U	0.0058 U	0.0069 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Butanone (MEK)	50	400	50	400	4	NS	0.028 U	2.1 U	NA	0.047 U	0.030 U	0.023 U	0.027 U	NA	NA	NA	NA	NA	NA	NA	NA
	n-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0014 U	**1.5**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	sec-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0014 U	**1.3**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	tert-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NS	NS	NS	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NS	NS	NS	100	NS	0.0042 U	1.0 U	NA	0.0070 U	0.0044 U	0.0035 U	0.0041 U	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	5	10	5	60	5	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorobenzene	3	100	3	100	1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorodibromomethane	0.03	20	0.03	100	0.005	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroethane	NS	NS	NS	NS	100	NS	0.014 U	0.21 U	NA	0.023 U	0.015 U	0.012 U	0.014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroform	0.3	400	0.3	800	0.3	NS	0.0028 U	0.21 U	NA	0.0047 U	0.0030 U	0.0023 U	0.0027 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chloromethane	NS	NS	NS	NS	100	NS	0.0070 U	0.21 U	NA	0.012 U	0.0074 U	0.0058 U	0.0069 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Chlorotoluene	NS	NS	NS	NS	100	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	4-Chlorotoluene	NS	NS	NS	NS	100	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	10	NS	0.0014 U	0.52 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dibromoethane (EDB)	0.1	0.7	0.1	4	0.1	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Dibromomethane	NS	NS	NS	NS	500	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichlorobenzene	30	300	30	300	9	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Dichlorobenzene	40	100	40	500	1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorodifluoromethane (Freon 12)	NS	NS	NS	NS	1,000	NS	0.014 U	0.21 U	NA	0.023 U	0.015 U	0.012 U	0.014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,1-Dichloroethane	5	500	5	1,000	0.4	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloroethane	0.1	10	0.1	90	0.1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,1-Dichloroethylene	40	500	40	1000	3	NS	0.0028 U	0.10 U	NA	0.0047 U	0.0030 U	0.0023 U	0.0027 U	NA	NA	NA	NA	NA	NA	NA	NA
	cis-1,2-Dichloroethylene	0.4	100	0.4	500	0.3	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	trans-1,2-Dichloroethylene	1	500	1	1,000	1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloropropane	0.1	10	0.1	100	0.1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Dichloropropane	NS	NS	NS	NS	500	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,2-Dichloropropane	NS	NS	NS	NS	0.1[2]	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,1-Dichloropropene	NS	NS	NS	NS	0.01[3]	NS	0.0014 U	0.21 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	cis-1,3-Dichloropropene	0.4[4]	9[4]	0.4[4]	70[4]	0.01[4]	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	trans-1,3-Dichloropropene	0.4[4]	9[4]	0.4[4]	70[4]	0.01[4]	NS	0.0014 U	0.052 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Diethyl Ether	NS	NS	NS	NS	100	NS	0.014 U	0.21 U	NA	0.023 U	0.015 U	0.012 U	0.014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Diisopropyl Ether (DIPE)	NS	NS	NS	NS	100	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,4-Dioxane	6	70	6	500	0.2	NS	0.070 U	5.2 U	NA	0.12 U	0.074 U	0.058 U	0.069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	500	500	1,000	1,000	40	NS	0.0014 U	**0.27**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	6	6	90	90	6	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Hexanone (MBK)	NS	NS	NS	NS	100	NS	0.014 U	1.0 U	NA	0.023 U	0.015 U	0.012 U	0.014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropylbenzene (Cumene)	100[1]	100[1]	500[1]	500[1]	1,000	NS	0.0014 U	**0.55**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	p-Isopropyltoluene (p-Cymene)	100[1]	100[1]	500[1]	500[1]	100[1]	NS	0.0014 U	**0.34**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	0.0028 U	0.10 U	NA	0.0047 U	0.0030 U	0.0023 U	0.0027 U	NA	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	20	200	20	900	0.1	NS	0.014 U	0.52 U	NA	0.023 U	0.015 U	0.012 U	0.014 U	NA	NA	NA	NA	NA	NA	NA	NA
	4-Methyl-2-pentanone (MIBK)	50	400	50	400	0.4	NS	0.014 U	1.0 U	NA	0.023 U	0.015 U	0.012 U	0.014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	0.0070 U	**0.54**	NA	0.012 U	0.0074 U	0.0058 U	0.0069 U	NA	NA	NA	NA	NA	NA	NA	NA
	n-Propylbenzene	100[1]	100[1]	500[1]	500[1]	100	NS	0.0014 U	**1.1**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	4	30	4	200	3	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,1,1,2-Tetrachloroethane	0.1	7	0.1	100	0.1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,1,2,2-Tetrachloroethane	0.02	0.8	0.02	10	0.005	NS	0.00070 U	0.052 U	NA	0.0012 U	0.00074 U	0.00058 U	0.00069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethylene	10	30	10	200	1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrahydrofuran	NS	NS	NS	NS	500	NS	0.0070 U	1.0 U	NA	0.012 U	0.0074 U	0.0058 U	0.0069 U	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1,000	1,000	30	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	0.0028 U	0.52 U	NA	0.0047 U	0.0030 U	0.0023 U	0.0027 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-15 0-3/2 7/28/2010	B-15 10-12/11 7/29/2010	B-15 15-17/16 7/29/2010	B-16 0-3/1 7/28/2010	B-17 0-3/2 7/28/2010	B-18 0-3/2 7/28/2010	B-18 0-3/2 7/28/2010 Field Dup	B-19 6-8 3/23/2011	B-19 10-12 3/23/2011	B-19 15-17/15 3/23/2011	B-19 16.5 3/23/2011	B-20 4-8/5 3/24/2011	B-20 4-8/5 3/24/2011 Field Dup	B-20 10-12 3/24/2011	B-20 15-17/16.5 3/24/2011
	1,1,1-Trichloroethane	500	500	600	1,000	30	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,1,2-Trichloroethane	2	4	2	60	0.1	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Trichloroethylene	2	90	2	700	0.3	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	1,000	NS	0.0070 U	0.21 U	NA	0.012 U	0.0074 U	0.0058 U	0.0069 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,3-Trichloropropane	NS	NS	NS	NS	100	NS	0.0014 U	0.21 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,4-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	1,000	NS	0.0014 U	**0.72**	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,3,5-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	10	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
	Vinyl Chloride	0.6	0.6	0.7	4	0.6	NS	0.0070 U	0.21 U	NA	0.012 U	0.0074 U	0.0058 U	0.0069 U	NA	NA	NA	NA	NA	NA	NA	NA
	m+p Xylene	300	500	300	1,000	300	NS	0.0028 U	0.21 U	NA	0.0047 U	0.0030 U	0.0023 U	0.0027 U	NA	NA	NA	NA	NA	NA	NA	NA
	o-Xylene	300	500	300	1,000	300	NS	0.0014 U	0.10 U	NA	0.0023 U	0.0015 U	0.0012 U	0.0014 U	NA	NA	NA	NA	NA	NA	NA	NA
VPH																						
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	100	NS	NA	39 U	270 U	NA	NA	10 U	10 U	NA	NA	21 U	13 U	NA	NA	NA	12 U
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	NA	**78**	270 U	NA	NA	10 U	10 U	NA	NA	**23**	13 U	NA	NA	NA	12 U
	C9-C10 Aromatics	100	100	500	500	100	NS	NA	**190**	**820**	NA	NA	10 U	10 U	NA	NA	21 U	**16**	NA	NA	NA	12 U
	Benzene	30	30	200	200	2	NS	NA	0.20 U	1.4 U	NA	NA	0.051 U	0.050 U	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	500	500	1,000	1,000	40	NS	NA	**0.55**	**3.5**	NA	NA	0.051 U	0.050 U	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	NA	0.20 U	1.4 U	NA	NA	0.051 U	0.050 U	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	**10**	**33**	NA	NA	0.51 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1,000	1,000	30	NS	NA	0.20 U	1.4 U	NA	NA	0.051 U	0.050 U	NA	NA	NA	NA	NA	NA	NA	NA
	m+p Xylene	300	500	300	1,000	300	NS	NA	0.39 U	**5.5**	NA	NA	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA
	o-Xylene	300	500	300	1,000	300	NS	NA	**0.78**	**7.0**	NA	NA	0.051 U	0.050 U	NA	NA	NA	NA	NA	NA	NA	NA
EPH																						
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	NA	**2,400**	**8,600**	NA	NA	21 U	21 U	12 U	NA	**110**	NA	12 U	NA	NA	12 U
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	NS	NA	**700**	**2,300**	NA	NA	**26**	**37**	**35**	NA	**35**	NA	**23**	NA	NA	12 U
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	NS	NA	**1,300**	**2,400**	NA	NA	**28**	**41**	**27**	NA	**56**	NA	**120**	NA	NA	12 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	2	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	1	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	9	NA	NA	NA	NA	NA	0.21 U	**0.24**	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	7	NA	NA	NA	NA	NA	**0.56**	**0.76**	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	8	NA	NA	NA	NA	NA	**0.27**	**0.38**	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	NA	NA	NA	NA	NA	0.21 U	**0.28**	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	4	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	7	NA	NA	NA	NA	NA	**0.24**	**0.33**	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	NA	NA	NA	NA	NA	**0.41**	**0.68**	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	NA	NA	NA	NA	NA	0.21 U	**0.22**	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	1	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	NA	NA	NA	0.21 U	0.21 U	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	20	NA	NA	NA	NA	NA	**0.35**	**0.65**	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	NA	NA	NA	NA	NA	**0.40**	**0.66**	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs																						
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	2	**0.23**	**0.88**	NA	**0.68**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	1	0.18 U	0.24 U	NA	0.21 U	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Acetophenone	NS	NS	NS	NS	1,000	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aniline	NS	NS	NS	NS	1,000	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	**0.67**	0.24 U	NA	**4.0**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	9	**1.7**	0.24 U	NA	**5.8**	**0.33**	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	7	**1.6**	0.24 U	NA	**5.7**	**0.31**	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	8	**2.0**	0.24 U	NA	**6.8**	**0.40**	**0.19**	**0.21**	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	**0.70**	0.24 U	NA	**2.3**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	4	**0.84**	0.24 U	NA	**2.7**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-chloroethoxy)methane	NS	NS	NS	NS	500	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-chloroethyl)ether	0.7	0.7	0.7	3	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-chloroisopropyl)ether	0.7	3	0.7	50	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-Ethylhexyl)phthalate	200	200	700	700	200	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	4-Bromophenylphenylether	NS	NS	NS	NS	100	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzylphthalate	NS	NS	NS	NS	100	NS	0.72 U	0.95 U	NA	0.82 U	0.76 U	0.69 U	0.71 U	NA	NA	NA	NA	NA	NA	NA	NA
	4-Chloroaniline	100	3	100	3	1	NS	0.72 U	0.95 U	NA	0.82 U	0.76 U	0.69 U	0.71 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Chloronaphthalene	NS	NS	NS	NS	1,000	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-15 0-3/2 7/28/2010	B-15 10-12/11 7/29/2010	B-15 15-17/16 7/29/2010	B-16 0-3/1 7/28/2010	B-17 0-3/2 7/28/2010	B-18 0-3/2 7/28/2010	B-18 0-3/2 7/28/2010 Field Dup	B-19 6-8 3/23/2011	B-19 10-12 3/23/2011	B-19 15-17/15 3/23/2011	B-19 16.5 3/23/2011	B-20 4-8/5 3/24/2011	B-20 4-8/5 3/24/2011 Field Dup	B-20 10-12 3/24/2011	B-20 15-17/16.5 3/24/2011
	2-Chlorophenol	100	100	100	300	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	7	**1.6**	**0.28**	NA	**5.5**	**0.32**	0.18 U	**0.19**	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	**0.39**	0.24 U	NA	**0.89**	0.20 U	0.18 U	**0.25**	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzofuran	NS	NS	NS	NS	100	NS	0.37 U	**1.1**	NA	**0.57**	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichlorobenzene	30	300	30	300	9	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Dichlorobenzene	40	100	40	500	1	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	3,3-Dichlorobenzidine	1	1	10	10	1	NS	0.18 U	0.24 U	NA	0.21 U	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dichlorophenol	60	40	60	40	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Diethylphthalate	200	300	200	300	10	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dimethylphenol	100	500	100	1,000	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Dimethylphthalate	50	600	50	600	30	NS	0.72 U	0.95 U	NA	0.82 U	0.76 U	0.69 U	0.71 U	NA	NA	NA	NA	NA	NA	NA	NA
	Di-n-butylphthalate	NS	NS	NS	NS	50	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dinitrophenol	50	50	50	90	3	NS	0.72 U	0.95 U	NA	0.82 U	0.76 U	0.69 U	0.71 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dinitrotoluene	2	2	10	10	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,6-Dinitrotoluene	NS	NS	NS	NS	100	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Di-n-octylphthalate	NS	NS	NS	NS	1,000	NS	0.72 U	0.95 U	NA	0.82 U	0.76 U	0.69 U	0.71 U	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Diphenylhydrazine (as Azobenzene)	NS	NS	NS	NS	50	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	**2.7**	**0.28**	NA	**11**	**0.56**	**0.22**	**0.27**	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	**0.32**	**2.1**	NA	**0.93**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	6	6	90	90	6	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachloroethane	3	9	3	100	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	**1.0**	**0.32**	NA	**3.2**	**0.41**	**0.28**	**0.29**	NA	NA	NA	NA	NA	NA	NA	NA
	Isophorone	NS	NS	NS	NS	100	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	1	0.18 U	0.24 U	NA	**0.24**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylphenol	NS	NS	NS	NS	500	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	3/4-Methylphenol	NS	NS	NS	NS	500	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	0.18 U	0.24 U	NA	**0.50**	0.20 U	0.18 U	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA
	Nitrobenzene	NS	NS	NS	NS	500	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2-Nitrophenol	NS	NS	NS	NS	100	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	4-Nitrophenol	NS	NS	NS	NS	100	NS	0.72 U	0.95 U	NA	0.82 U	0.76 U	0.69 U	0.71 U	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	10	10	70	10	3	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	20	**2.4**	**4.9**	NA	**7.7**	**0.41**	**0.20**	**0.21**	NA	NA	NA	NA	NA	NA	NA	NA
	Phenol	50	20	50	20	1	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	**2.1**	**0.50**	NA	**7.3**	**0.42**	**0.20**	**0.21**	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-Trichlorophenol	1,000	600	1,000	600	4	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,6-Trichlorophenol	20	20	20	20	0.7	NS	0.37 U	0.49 U	NA	0.42 U	0.39 U	0.36 U	0.36 U	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																						
(mg/kg)	Aroclor-1016	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1262	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1268	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	NS	NA	NA	NA	NA	NA	0.11 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																						
(mg/kg)	Aldrin	0.04	0.04	0.4	0.4	0.04	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	alpha-BHC	NS	NS	NS	NS	50	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	beta-BHC	NS	NS	NS	NS	10	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	delta-BHC	NS	NS	NS	NS	10	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	gamma-BHC (Lindane)	0.7	0.5	2	0.5	0.003	NS	NA	NA	NA	NA	NA	0.0032 U	0.0032 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chlordane	0.7	0.7	30	30	0.7	NS	NA	NA	NA	NA	NA	0.021 U	0.021 U	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDD	4	4	30	30	4	NS	NA	NA	NA	NA	NA	0.0042 U	0.0042 U	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDE	3	3	20	20	3	NS	NA	NA	NA	NA	NA	0.0042 U	0.0042 U	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDT	3	3	20	20	3	NS	NA	NA	NA	NA	NA	0.0042 U	0.0042 U	NA	NA	NA	NA	NA	NA	NA	NA
	Dieldrin	0.05	0.05	0.4	0.4	0.05	NS	NA	NA	NA	NA	NA	0.0042 U	0.0042 U	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan I	200	1	300	1	0.5	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-15 0-3/2 7/28/2010	B-15 10-12/11 7/29/2010	B-15 15-17/16 7/29/2010	B-16 0-3/1 7/28/2010	B-17 0-3/2 7/28/2010	B-18 0-3/2 7/28/2010	B-18 0-3/2 7/28/2010 Field Dup	B-19 6-8 3/23/2011	B-19 10-12 3/23/2011	B-19 15-17/15 3/23/2011	B-19 16.5 3/23/2011	B-20 4-8/5 3/24/2011	B-20 4-8/5 3/24/2011 Field Dup	B-20 10-12 3/24/2011	B-20 15-17/16.5 3/24/2011
	Endosulfan II	200	1	300	1	0.5	NS	NA	NA	NA	NA	NA	0.0084 U	0.0085 U	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan Sulfate	NS	NS	NS	NS	0.5	NS	NA	NA	NA	NA	NA	0.0084 U	0.0085 U	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin	8	8	10	10	8	NS	NA	NA	NA	NA	NA	0.0084 U	0.0085 U	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin Ketone	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	0.0084 U	0.0085 U	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor	0.2	0.2	2	2	0.2	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor Epoxide	0.09	0.09	0.7	0.7	0.09	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	NA	NA	NA	NA	NA	0.0053 U	0.0053 U	NA	NA	NA	NA	NA	NA	NA	NA
	Methoxychlor	200	200	300	300	200	NS	NA	NA	NA	NA	NA	0.053 U	0.053 U	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides																						
(mg/kg)	MCPP	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MCPA	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dalapon	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dicamba	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroprop	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-D	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-DB	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-T	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-TP (Silvex)	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dinoseb	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																						
(mg/kg)	Antimony	20	20	30	30	20	7	2.9 U	3.6 U	NA	3.3 U	2.8 U	2.7 U	2.5 U	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	20	**3.0**	**5.5**	NA	**4.7**	**2.9**	2.7 U	**2.9**	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	50	**75**	**130**	NA	**270**	**92**	**49**	**45**	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	100	100	200	200	100	0.9	0.29 U	0.36 U	NA	0.33 U	0.28 U	0.27 U	0.25 U	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	3	**0.37**	**0.49**	NA	**0.52**	0.28 U	0.27 U	0.25 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium (total)	30	30	200	200	30	40	**14**	**32**	NA	**12**	**18**	**11**	**13**	**7.6**	**19**	NA	NA	**14**	**15**	**17**	NA
	Chromium (VI)	30	30	200	200	30	40	NA	NA	NA	NA	NA	NA	NA	NA	0.42 U	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	600	**38**	**33**	NA	**170**	**38**	**40**	**34**	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	20	1	**0.064**	**0.017**	NA	**0.15**	**0.068**	**0.036**	**0.080**	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	20	30	**9.2**	**34**	**12**	**5.9**	**12**	**9.8**	**10**	**5.3**	**22**	**11**	NA	**9.8**	**8.9**	**19**	NA
	Selenium	400	400	800	800	400	1	5.8 U	7.1 U	NA	6.6 U	5.6 U	5.3 U	5.1 U	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	5	0.58 U	0.71 U	NA	**1.2**	0.56 U	0.53 U	0.51 U	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	5	2.9 U	3.6 U	NA	3.3 U	2.8 U	2.7 U	2.5 U	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	30	**20**	**34**	NA	**19**	**40**	**19**	**19**	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	300	**77**	**90**	NA	**190**	**59**	**84**	**66**	NA	NA	NA	NA	NA	NA	NA	NA
Oxidation/Reduction Potential																						
(mV)	Oxidation/Reduction Potential	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	**18**	**100**	NA	NA	**94**	NA	**100**	NA
pH																						
(s.u.)	pH	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	**11**	**8.2**	NA	NA	**9.5**	NA	**8.8**	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mV - milliVolt.

s.u. - Standard unit.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

NS - No MassDEP standards exist for this analyte.

R - Rejected due to matrix spike recovery <10%.

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 one or more of the listed MassDEP Method 1 standards and RCS-1.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

RC - Reportable concentration.

(1) - MassDEP Method 1 standards and RC for C9-C10 aromatics used.

(2) - MassDEP RCS-1 for Dichloropropane used.

(3) - MassDEP RCS-1 for Dichloropropene used.

(4) - MassDEP Method 1 standards and RC for 1,3-Dichloropropene used.

* - Sample depth for Other/(VOCs &VPH) analysis; otherwise the sample depth applies to all listed analyses.

** - Background Concentration for soil containing coal ash/wood ash.

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte						Sample ID:	B-21			B-22			B-23				B-24		TP-2	TP-2A	TP-2B	
							Sample Depth (ft.)*:	6-8	10-12/12	15-17/15.5	6-9/8	10-12	15-17/16.5	6-10/9	10-12	15-17/16	15-17/16	12-14	14-16/15.5	1-2/1.5	1-2.5/2	1-2.5	3-3.5
							Sample Date:	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/22/2011	3/22/2011	3/22/2011	3/22/2011
		Method 1				RC	Background**										Field Dup						
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-1																	
VOCs (mg/kg)	Acetone	50	400	50	400	6	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	tert-Amyl Methyl Ether (TAME)	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	30	30	200	200	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromobenzene	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromochloromethane	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	0.1	20	0.1	100	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromoform	1	200	1	800	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromomethane	0.5	30	0.5	30	0.5	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Butanone (MEK)	50	400	50	400	4	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	n-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	sec-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	tert-Butylbenzene	100[1]	100[1]	500[1]	500[1]	100[1]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	5	10	5	60	5	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorobenzene	3	100	3	100	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorodibromomethane	0.03	20	0.03	100	0.005	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroethane	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroform	0.3	400	0.3	800	0.3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloromethane	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Chlorotoluene	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4-Chlorotoluene	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dibromoethane (EDB)	0.1	0.7	0.1	4	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibromomethane	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichlorobenzene	30	300	30	300	9	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Dichlorobenzene	40	100	40	500	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorodifluoromethane (Freon 12)	NS	NS	NS	NS	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,1-Dichloroethane	5	500	5	1,000	0.4	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloroethane	0.1	10	0.1	90	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,1-Dichloroethylene	40	500	40	1000	3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	cis-1,2-Dichloroethylene	0.4	100	0.4	500	0.3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	trans-1,2-Dichloroethylene	1	500	1	1,000	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloropropane	0.1	10	0.1	100	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Dichloropropane	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,2-Dichloropropane	NS	NS	NS	NS	0.1[2]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,1-Dichloropropene	NS	NS	NS	NS	0.01[3]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	cis-1,3-Dichloropropene	0.4[4]	9[4]	0.4[4]	70[4]	0.01[4]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	trans-1,3-Dichloropropene	0.4[4]	9[4]	0.4[4]	70[4]	0.01[4]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diethyl Ether	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diisopropyl Ether (DIPE)	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,4-Dioxane	6	70	6	500	0.2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	500	500	1,000	1,000	40	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	6	6	90	90	6	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Hexanone (MBK)	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropylbenzene (Cumene)	100[1]	100[1]	500[1]	500[1]	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	p-Isopropyltoluene (p-Cymene)	100[1]	100[1]	500[1]	500[1]	100[1]	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	20	200	20	900	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4-Methyl-2-pentanone (MIBK)	50	400	50	400	0.4	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	n-Propylbenzene	100[1]	100[1]	500[1]	500[1]	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	4	30	4	200	3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,1,1,2-Tetrachloroethane	0.1	7	0.1	100	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,1,2,2-Tetrachloroethane	0.02	0.8	0.02	10	0.005	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethylene	10	30	10	200	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrahydrofuran	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1,000	1,000	30	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4: Summary of Soil Analytical Results
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Springfield, Massachusetts

Analysis	Analyte	Method 1				RC	Background**	B-21			B-22			B-23				B-24		TP-2	TP-2A	TP-2B	
							Sample ID:																
							Sample Depth (ft.)*:	6-8	10-12/12	15-17/15.5	6-9/8	10-12	15-17/16.5	6-10/9	10-12	15-17/16	15-17/16	12-14	14-16/15.5	1-2/1.5	1-2.5/2	1-2.5	3-3.5
							Sample Date:	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/22/2011	3/22/2011	3/22/2011	3/22/2011
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-1											Field Dup						
	1,1,1-Trichloroethane	500	500	600	1,000	30	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,1,2-Trichloroethane	2	4	2	60	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichloroethylene	2	90	2	700	0.3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,3-Trichloropropane	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,4-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,3,5-Trimethylbenzene	100(1)	100(1)	500(1)	500(1)	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vinyl Chloride	0.6	0.6	0.7	4	0.6	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	m+p Xylene	300	500	300	1,000	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	o-Xylene	300	500	300	1,000	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																							
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	100	NS	NA	100 U	21 U	NA	NA	17 U	23 U	NA	20 U	18 U	NA	20 U	130 U	16 U	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	NA	**200**	21 U	NA	NA	17 U	23 U	NA	20 U	18 U	NA	20 U	**250**	16 U	NA	NA
	C9-C10 Aromatics	100	100	500	500	100	NS	NA	**360**	21 U	NA	NA	17 U	23 U	NA	20 U	18 U	NA	20 U	**550**	16 U	NA	NA
	Benzene	30	30	200	200	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	500	500	1,000	1,000	40	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1,000	1,000	30	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	m+p Xylene	300	500	300	1,000	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	o-Xylene	300	500	300	1,000	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																							
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	12 U	**1,800**	**16**	14 U	NA	12 U	14 U	NA	12 U	12 U	12 U	12 U	**22,000**	**54**	59 U	**69**
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	NS	12 U	**600**	13 U	14 U	NA	12 U	**31**	NA	12 U	12 U	12 U	**19**	**7,300**	**140**	**76**	**240**
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	NS	**17**	**780**	**13**	14 U	NA	12 U	**37**	NA	12 U	12 U	12 U	**17**	**6,700**	**160**	**150**	**1,600**
	Acenaphthene	1,000	1,000	3,000	3,000	4	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs																							
(mg/kg)	Acenaphthene	1,000	1,000	3,000	3,000	4	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acetophenone	NS	NS	NS	NS	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aniline	NS	NS	NS	NS	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	1,000	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	7	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	2	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	7	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	70	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-chloroethoxy)methane	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-chloroethyl)ether	0.7	0.7	0.7	3	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-chloroisopropyl)ether	0.7	3	0.7	50	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bis(2-Ethylhexyl)phthalate	200	200	700	700	200	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4-Bromophenylphenylether	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzylphthalate	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4-Chloroaniline	100	3	100	3	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Chloronaphthalene	NS	NS	NS	NS	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

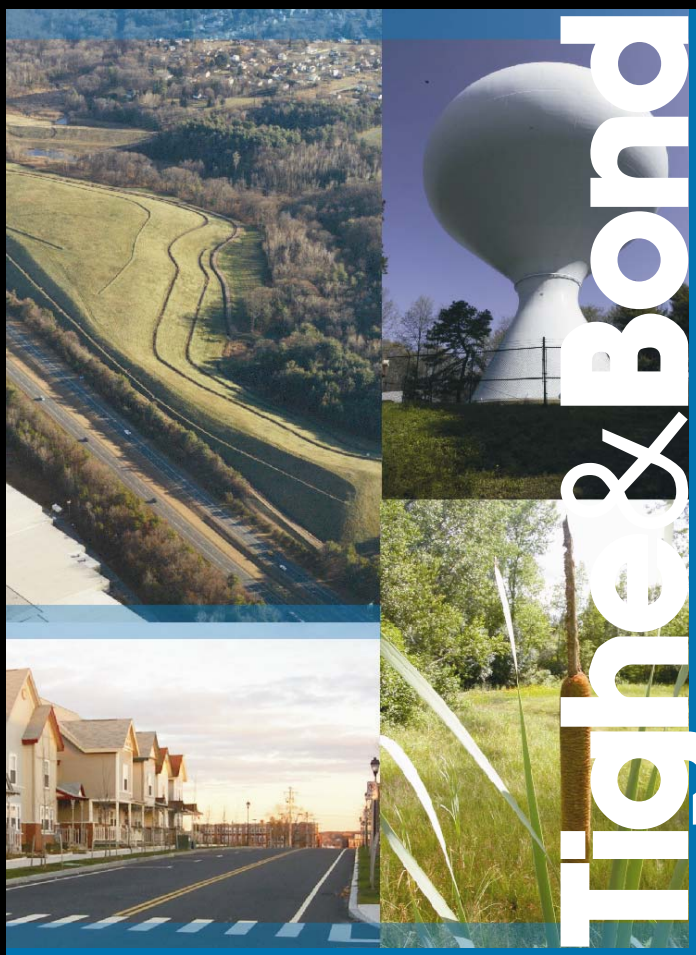
Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1				RC	Background**	B-21			B-22			B-23				B-24		TP-2	TP-2A	TP-2B	
							Sample ID:																
							Sample Depth (ft.)*:	6-8	10-12/12	15-17/15.5	6-9/8	10-12	15-17/16.5	6-10/9	10-12	15-17/16	15-17/16	12-14	14-16/15.5	1-2/1.5	1-2.5/2	1-2.5	3-3.5
							Sample Date:	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/23/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/24/2011	3/22/2011	3/22/2011	3/22/2011	3/22/2011
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-1											Field Dup						
	2-Chlorophenol	100	100	100	300	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	70	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzofuran	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichlorobenzene	30	300	30	300	9	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Dichlorobenzene	40	100	40	500	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,4-Dichlorobenzene	4	50	4	300	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3,3-Dichlorobenzidine	1	1	10	10	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dichlorophenol	60	40	60	40	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diethylphthalate	200	300	200	300	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dimethylphenol	100	500	100	1,000	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dimethylphthalate	50	600	50	600	30	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Di-n-butylphthalate	NS	NS	NS	NS	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dinitrophenol	50	50	50	90	3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-Dinitrotoluene	2	2	10	10	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,6-Dinitrotoluene	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Di-n-octylphthalate	NS	NS	NS	NS	1,000	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Diphenylhydrazine (as Azobenzene)	NS	NS	NS	NS	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	1,000	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	6	6	90	90	6	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachloroethane	3	9	3	100	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isophorone	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylnaphthalene	80	300	80	500	0.7	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylphenol	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/4-Methylphenol	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1,000	4	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nitrobenzene	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Nitrophenol	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4-Nitrophenol	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	10	10	70	10	3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	10	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenol	50	20	50	20	1	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2,4-Trichlorobenzene	70	500	70	900	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-Trichlorophenol	1,000	600	1,000	600	4	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,6-Trichlorophenol	20	20	20	20	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																							
(mg/kg)	Aroclor-1016	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1262	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1268	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	2	2	3	3	2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																							
(mg/kg)	Aldrin	0.04	0.04	0.4	0.4	0.04	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	alpha-BHC	NS	NS	NS	NS	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	beta-BHC	NS	NS	NS	NS	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	delta-BHC	NS	NS	NS	NS	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	gamma-BHC (Lindane)	0.7	0.5	2	0.5	0.003	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlordane	0.7	0.7	30	30	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDD	4	4	30	30	4	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDE	3	3	20	20	3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDT	3	3	20	20	3	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dieldrin	0.05	0.05	0.4	0.4	0.05	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan I	200	1	300	1	0.5	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4: Summary of Soil Analytical Results
Union Station Site
Springfield, Massachusetts

Analysis	Analyte	Method 1 S-1/GW-2	Method 1 S-1/GW-3	Method 1 S-2/GW-2	Method 1 S-2/GW-3	RC S-1	Background**	B-21 6-8 3/23/2011	B-21 10-12/12 3/23/2011	B-21 15-17/15.5 3/23/2011	B-22 6-9/8 3/23/2011	B-22 10-12 3/23/2011	B-22 15-17/16.5 3/23/2011	B-23 6-10/9 3/24/2011	B-23 10-12 3/24/2011	B-23 15-17/16 3/24/2011	B-23 15-17/16 3/24/2011 Field Dup	B-24 12-14 3/24/2011	B-24 14-16/15.5 3/24/2011	TP-2 1-2/1.5 3/22/2011	TP-2A 1-2.5/2 3/22/2011	TP-2B 1-2.5 3/22/2011	TP-2B 3-3.5 3/22/2011
	Endosulfan II	200	1	300	1	0.5	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan Sulfate	NS	NS	NS	NS	0.5	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin	8	8	10	10	8	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin Ketone	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor	0.2	0.2	2	2	0.2	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor Epoxide	0.09	0.09	0.7	0.7	0.09	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	0.7	0.7	5	5	0.7	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methoxychlor	200	200	300	300	200	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides																							
(mg/kg)	MCPP	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MCPA	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dalapon	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dicamba	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroprop	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-D	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-DB	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-T	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-TP (Silvex)	NS	NS	NS	NS	100	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dinoseb	NS	NS	NS	NS	500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																							
(mg/kg)	Antimony	20	20	30	30	20	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	20	20	20	20	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	1,000	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	100	100	200	200	100	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	2	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium (total)	30	30	200	200	30	40	**10**	**10**	NA	**28**	**13**	NA	**11**	**16**	NA	NA	**16**	NA	NA	NA	NA	NA
	Chromium (VI)	30	30	200	200	30	40	NA	NA	NA	1.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	20	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	20	30	**5.1**	**5.3**	NA	**21**	**12**	NA	**6.1**	**67**	**13**	NA	**15**	NA	NA	NA	NA	NA
	Selenium	400	400	800	800	400	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	100	100	200	200	100	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	8	8	60	60	8	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	600	600	1,000	1,000	600	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	2,500	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxidation/Reduction Potential																							
(mV)	Oxidation/Reduction Potential	N/A	N/A	N/A	N/A	N/A	N/A	**170**	**130**	NA	**92**	**88**	NA	**51**	**57**	NA	NA	**100**	NA	**100**	NA	NA	NA
pH																							
(s.u.)	pH	N/A	N/A	N/A	N/A	N/A	N/A	**8.0**	**9.7**	NA	**7.4**	**7.8**	NA	**11**	**9.7**	NA	NA	**11**	NA	**11**	NA	NA	NA

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mV - milliVolt.
s.u. - Standard unit.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
NS - No MassDEP standards exist for this analyte.
R - Rejected due to matrix spike recovery <10%.
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 one or more of the listed MassDEP Method 1 standards and RCS-1.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
SVOCs - Semivolatile Organic Compounds.
PCBs - Polychlorinated Biphenyls.
RC - Reportable concentration.
(1) - MassDEP Method 1 standards and RC for C9-C10 aromatics used.
(2) - MassDEP RCS-1 for Dichloropropane used.
(3) - MassDEP RCS-1 for Dichloropropene used.
(4) - MassDEP Method 1 standards and RC for 1,3-Dichloropropene used.
* - Sample depth for Other/(VOCs &VPH) analysis; otherwise the sample depth applies to all listed analyses.
** - Background Concentration for soil containing coal ash/wood ash.



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Analysis of Brownfields Cleanup Alternatives

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Office of Planning and Community Development
Springfield, Massachusetts

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