



Tighe & Bond

Walnut/Pleasant Street Community
Garden Pocket Green Space
New Bedford, Massachusetts

Limited Subsurface Investigation

Prepared For:

**Office of Environmental Stewardship
City of New Bedford
New Bedford, Massachusetts**

May 2010



N-0769
May 17, 2010

Scott Alfonse
Director
Office of Environmental Stewardship
133 William Street
New Bedford, Massachusetts 02740

**RE: Limited Subsurface Investigation
Walnut/Pleasant Street Community Garden Pocket Green Space
New Bedford, Massachusetts**

Dear Scott:

On behalf of the City of New Bedford, Tighe & Bond has prepared this Limited Subsurface Investigation for the Walnut/Pleasant Street Community Pocket Green Space project in New Bedford, Massachusetts (the site). This Assessment was conducted in accordance with our proposal dated February 3, 2009 in order to address elevated lead and total petroleum hydrocarbon (TPH) concentrations detected at the site from two composite surface soil samples collected by the City on November 13, 2008. The location of these two sample locations is not known. The elevated lead concentrations may be associated with lead based paint due to the former presence of residential buildings on the property and may therefore be exempt from reporting under the Massachusetts Contingency Plan (310 CMR 40.00).

A Site Locus Map (Figure 1), Massachusetts Geographic Information System (Mass GIS) Map (Figure 2), Orthophotograph (Figure 3) and Site Plan (Figure 4) are provided in Appendix A.

Sample Collection

On June 26, 2009, Tighe & Bond collected 10 soil samples at the site using a hand auger. A representative sample was collected at each location from 0 to 12 inches below surface grade (BSG) at that time. Soils at the site consisted of organics and loam underlain by medium sands and gravel. Some brick, glass and wood materials were also observed in the samples.

Subsequent to collection, the 10 soil samples were transported to Phoenix Environmental Laboratories in Manchester, Connecticut for total lead analysis. Five of the soil samples were also analyzed for extractable petroleum hydrocarbons (EPH). Soil sample locations are shown on Figure 4, included in Appendix A.

Sample Analysis & Results

According to the laboratory analytical report, two soil samples (S-6 and S-7) contained total lead concentrations above the Massachusetts Contingency Plan (MCP) Reportable Concentration (RC) for S-1 soils of 300 milligram per kilogram (mg/kg). Specifically, a total concentration of 504 mg/kg and 1,010 mg/kg were detected at sample locations S-6 and S-7 respectively. All other soil samples collected on June 26, 2009 contained lead concentrations below the MCP RCS-1 Standard. EPH carbon fraction and target analyte concentrations were either not detected above laboratory detection limits or were below the applicable RCS-1 Standard for each analyte. Table 1 (Appendix B) summarizes the laboratory results for the samples collected at the site on June 26, 2009. A copy of the complete laboratory report is included in Appendix C.



Since the site formerly contained residential buildings, it is suspected that lead based paint may be the source of elevated lead concentrations at the site. Therefore, Tighe & Bond submitted duplicate soil samples from S-6 and S-7 collected on June 26, 2009 for Scanning Electron Microscope (SEM) and Energy Dispersive X-Ray Spectroscopy (EDS) analysis at MicroVision Laboratories, Inc. (MicroVision) in Chelmsford, Massachusetts.

According to MicroVision's analysis, soil sample S-6 contained a brown colored chip that appeared to be a building material that was confirmed by MicroVision to contain lead. Sample S-6 contained two brown colored chips and one blue colored chip. The brown colored chips were similar to the chip found in S-6, both of which were confirmed to contain lead. The blue particle appeared to be a laminated ceramic material, with the laminated material containing lead. MicroVision concluded that no lead containing paint chips were identified in either soil sample. MicroVision further indicated that the lead detected in the colored particles appeared to represent a mixture of building debris and ceramic material. A copy of MicroVision's complete report is included in Appendix D.

Conclusions & Recommendations

Tighe & Bond has completed a Limited Subsurface Investigation in accordance with our February 3, 2009 proposal. Based on the outcome of the tasks completed, it is the opinion of Tighe & Bond that the elevated lead concentrations are not attributable to lead based paint.

Although MicroVision verbally reported that the soil may also contain trace particles associated with coal/coal ash (a potential lead source that is exempt from reporting), the presence of the identified lead source (i.e. building materials and ceramics) still represents a source of lead that is reportable under the MCP. The previous elevated TPH concentration detected in the composite sample collected in November of 2008 could not be reproduced with the subsequent EPH analysis conducted as part of this investigation. Based on these findings, the elevated lead concentrations detected at the site are reportable under the 120 reporting criteria of the MCP.

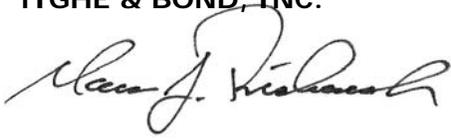
Since the elevated lead concentrations were originally detected in November of 2008 subsequent to the City's first sampling event, the release notification deadline was March 18, 2009. Based on this deadline, Tighe & Bond recommends submitting a Release Notification for the elevated lead concentrations immediately.

A review of the lead data indicates that the Exposure Point Concentration (EPC) for the samples collected on June 26, 2009 is below the MCP Method 1 S-1 Risk Characterization Standard for lead. Therefore, based on current site conditions, a level of No Significant Risk to health, safety, public welfare, or the environment likely exists at the site. However, the vertical and horizontal extent of lead impacts has not been fully evaluated. Additional soil samples will be required prior to submittal of a Response Action Outcome (RAO). Assuming that the lead EPCs for all soil samples at the site remain below the Method 1 Risk Characterization Standard, it is anticipated that a Class B-1 RAO Statement can be achieved for this release.

If you have any questions, please feel free to call me at (508) 471-9621.

Very truly yours,

TIGHE & BOND, INC.

A handwritten signature in black ink, appearing to read "Marc J. Richards". The signature is fluid and cursive, with the first name "Marc" being the most prominent.

Marc J. Richards, P.E., LSP
Office/Project Manager

Enclosures

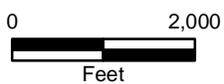
Figures
Table
Laboratory Analytical Report
SEM/EDS Report



Tighe & Bond



1:25,000



Based on USGS Topographic Map for
New Bedford North & South, MA Quadrangle.
Revised 1979 & 1977
Circles indicate 500-foot and half-mile radii



FIGURE 1 SITE LOCUS MAP

Walnut/Pleasant Street Community Garden
City of New Bedford
New Bedford, Massachusetts

Tighe&Bond

August 2009

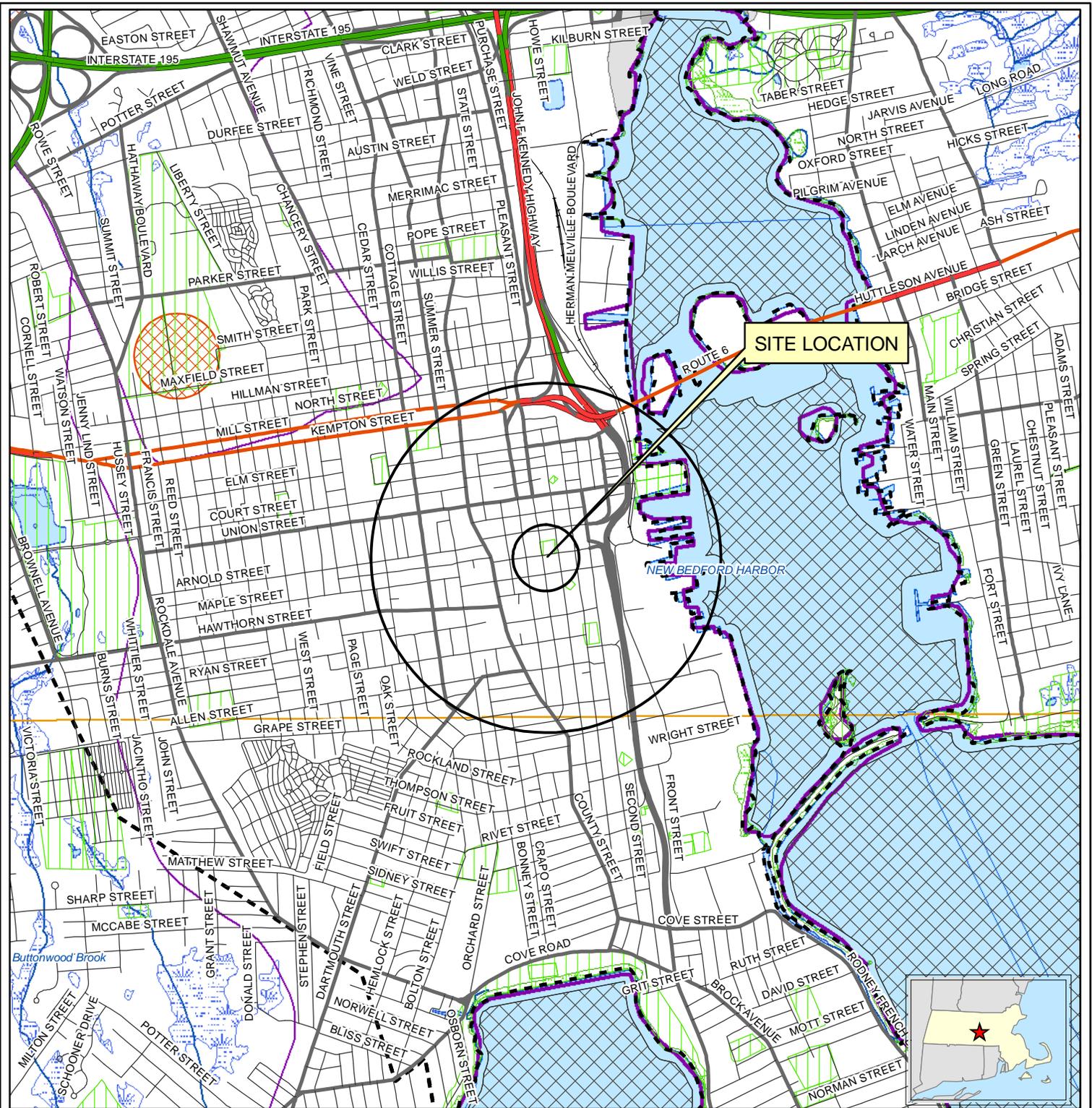


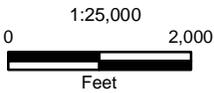
FIGURE 2
PRIORITY RESOURCE MAP

Walnut/Pleasant Street Community Garden
City of New Bedford
New Bedford, Massachusetts

Tighe & Bond
August 2009

Data source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts
Executive Office of Environmental Affairs.
Circles indicate 500-foot and half-mile radii.
Data valid as of July 2009.

- | | |
|---|--|
| NHESP Certified Vernal Pools | Public Surface Water Supply (PSWS) |
| Community Public Water Supply - Surface Water | Inland Wetlands (MA DEP) |
| Community Public Water Supply - Groundwater | Coastal Wetlands (MA DEP) |
| Non-Community Non-Transient Public Water Supply | Waterbodies |
| Non-Community Transient Public Water Supply | Major Drainage Basin |
| Non-Potential Drinking Water Source Area - High Yield | Sub Drainage Basin |
| Non-Potential Drinking Water Source Area - Medium Yield | Limited Access Highway |
| Potentially Productive Medium Yield Aquifer | Multi-Lane Highway, NOT Limited Access |
| Potentially Productive High Yield Aquifer | Other Numbered Highway |
| EPA Designated Sole Source Aquifer | Major Road - Collector |
| DEP Approved Wellhead Protection Area (Zone II) | Minor Street or Road |
| DEP Interim Wellhead Protection Area (IWPA) | Town Boundary |
| NHESP Priority Habitats for Rare Species | County Boundary |
| NHESP Estimated Habitats for Rare Wildlife | Quad Sheet Boundary |
| Public Surface Water Supply Protection Area (Zone A) | Track or Trail |
| Protected and Recreational Open Space | Train |
| Area of Critical Environmental Concern (ACEC) | Powerline |
| Solid Waste Landfill | Pipeline |
| | Aquaduct |





SITE LOCATION

1:2,400

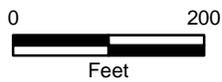


FIGURE 3 ORTHOPHOTOGRAPH

Walnut/Pleasant Street Community Garden
City of New Bedford
New Bedford, Massachusetts

Tighe&Bond

August 2009

Based on MassGIS Color Orthophotography (April 2005)
Orthophoto Sheet ID # 249818

WALNUT STREET



RESIDENCE

PLEASANT STREET

S-1

S-2

S-3

S-5

S-4

DAYCARE FACILITY

RESIDENCE

S-7

S-6

S-8

S-9

S-10

EXISTING VEGETABLE GARDEN

CHURCH

RESIDENCE

RESIDENCE

FIGURE 4 - SITE PLAN

SOIL SAMPLE LOCATIONS
WALNUT STREET / PLEASANT ST
COMMUNITY GREEN SPACE PROJECT
NEW BEDFORD, MASSACHUSETTS

TIGHE & BOND INC. CONSULTING ENGINEERS
WORCESTER, MASSACHUSETTS

SCALE: 1" = 20'

DATE: JULY 2009



Tighe & Bond

TABLE 1

Soil Analytical Results
Walnut/Pleasant Street Community Garden Pocket Green Space
Walnut/Pleasant Street
New Bedford, Massachusetts

Sample Identification Sample Date	S1-S7	S8-S12	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	MCP Reportable Concentrations S-1
	11/13/2008	11/13/2008	6/26/2009	6/26/2009	6/26/2009	6/26/2009	6/26/2009	6/26/2009	6/26/2009	6/26/2009	6/26/2009	6/26/2009	
Total Metals													
Lead	521	872	96.4	32.8	209	62.3	90.4	504	1,010	190	272	113	300
Arsenic	3.1	5.6	--	--	--	--	--	--	--	--	--	--	20
Barium	61.1	122	--	--	--	--	--	--	--	--	--	--	1,000
Cadmium	<0.36	0.5	--	--	--	--	--	--	--	--	--	--	2
Chromium	9.12	10.2	--	--	--	--	--	--	--	--	--	--	30
Mercury	0.19	1	--	--	--	--	--	--	--	--	--	--	20
Selenium	<1.8	<1.9	--	--	--	--	--	--	--	--	--	--	400
Silver	<0.36	<0.39	--	--	--	--	--	--	--	--	--	--	100
Total Petroleum Hydrocarbons	<76	1,000											
EPH													
C9-C18 Aliphatics	--	--	<5.7	--	<5.7	--	--	--	<5.9	<6.0	<5.8	--	1,000
C11-C22 Aromatics	--	--	<5.7	--	<5.7	--	--	--	6.7	<6.0	<5.8	--	1,000
C19-C36 Aliphatics	--	--	<5.7	--	<5.7	--	--	--	<5.9	<6.0	<5.8	--	3,000
PAHs													
2-Methyl Naphthalene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	0.7
Acenaphthene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	4
Naphthalene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	4
Phenanthrene	--	--	<0.57	--	<0.57	--	--	--	0.81	<0.60	<0.58	--	10
Acenaphthylene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	1
Anthracene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	1,000
Benzo(a)anthracene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	7
Benzo(a)pyrene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	2
Benzo(b)fluoranthene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	7
Benzo(g,h,i)perylene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	1,000
Benzo(k)fluoranthene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	70
Chrysene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	70
Dibenzo(a,h)anthracene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	0.7
Fluoranthene	--	--	<0.57	--	<0.57	--	--	--	1.1	<0.60	<0.58	--	1,000
Fluorene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	1,000
Indeno(1,2,3-cd)pyrene	--	--	<0.57	--	<0.57	--	--	--	<0.59	<0.60	<0.58	--	7
Pyrene	--	--	<0.57	--	<0.57	--	--	--	0.68	<0.60	<0.58	--	1,000

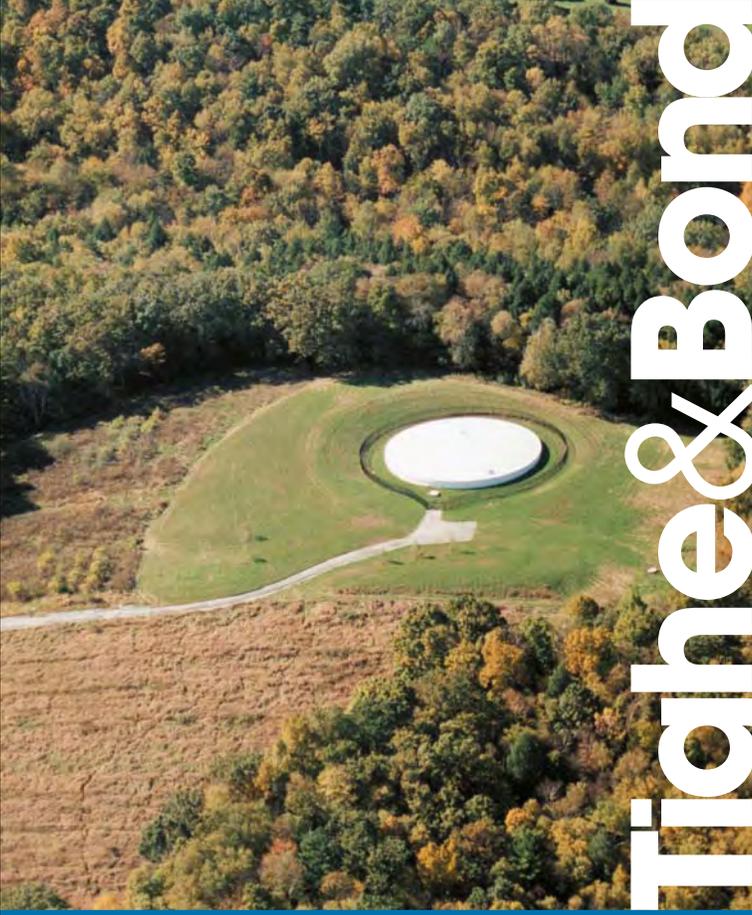
Results reported in milligrams per kilogram (mg/kg), which is equivalent to parts-per-million (ppm)

"<" indicates compound was not detected. Detection limit is provided.

"--" indicates not analyzed

Boxed values indicate an exceedance of one or more applicable reportable concentration (RC) or Method 1 Standards.

*Detection limit exceeds one or more applicable RC or Method 1 Standard due to the dilution required by the matrix interferences encountered during concentration of the sample and the dilution required (See Laboratory Report)



Tighe & Bond





Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
Tigh & Bond
446 Main Street
Worcester MA

Sample Information

Matrix: SOIL
Location Code: NEWBDENV
Rush Request:
P.O.#: N-0769

Custody Information

Collected by: MS
Received by: SW
Analyzed by: see "By" below

Date: 06/26/09 10:00
06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
Phoenix I.D.: AR89140

Client ID: WALNUT/PLEASANT ST GARDEN S-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	96.4	0.38	mg/Kg	06/30/09		EK	SW6010
Percent Solid	87		%	06/29/09		M-JL	E160.3
EPH Extraction	Completed			06/29/09		BS/D/K	3545
Ext. Petroleum Hydrocarbons	Completed			07/02/09		KCA	MADEP EPH-04
Total Metals Digest	Completed			06/29/09		AG/C	SW846 - 3050

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	<5.7	5.7	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C19-C36 Aliphatic Hydrocarbons 1*	<5.7	5.7	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C9-C18 Aliphatic Hydrocarbons 1*	<5.7	5.7	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
Total TPH 1*	<5.7	5.7	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1

QA/QC Surrogates

% 1-chlorooctadecane (aliphatic)	69		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Bromonaphthalene (Fractionation)	69		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Fluorobiphenyl (Fractionation)	62		%	07/01/09		KCA	MAEPH 5/2004	1
% o-terphenyl (aromatic)	93		%	07/01/09		KCA	MAEPH 5/2004	1

EPH Diesel PAH Target Analytes

2-Methyl Naphthalene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Acenaphthene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Naphthalene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Phenanthrene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004

EPH Other PAH Target Analytes

Acenaphthylene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Anthracene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)anthracene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)pyrene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(b)fluoranthene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(ghi)perylene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(k)fluoranthene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Dibenzo(a,h)anthracene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluoranthene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluorene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Indeno(1,2,3-cd)pyrene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Pyrene	<0.57	0.57	mg/Kg	07/01/09		KCA	MAEPH 5/2004

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

MAEPH:

1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level



Phyllis Shiller, Laboratory Director

July 15, 2009



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
 Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/26/09 10:10
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89141

Client ID: WALNUT/PLEASANT ST GARDEN S-2

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	32.8	0.39	mg/Kg	06/30/09		EK	SW6010
Percent Solid	86		%	06/29/09		M-JL	E160.3
Total Metals Digest	Completed			06/29/09		AG/C	SW846 - 3050

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
 ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
July 15, 2009



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Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/26/09 10:20
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89142

Client ID: WALNUT/PLEASANT ST GARDEN S-3

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	209	0.40	mg/Kg	06/30/09		EK	SW6010
Percent Solid	87		%	06/29/09		M-JL	E160.3
EPH Extraction	Completed			07/06/09		BS/E	3545
Ext. Petroleum Hydrocarbons	Completed			07/13/09		KCA	MADEP EPH-04
Total Metals Digest	Completed			06/29/09		AG/C	SW846 - 3050

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	<5.7	5.7	mg/Kg	07/08/09		KCA	MAEPH 5/2004	1
C19-C36 Aliphatic Hydrocarbons 1*	<5.7	5.7	mg/Kg	07/08/09		KCA	MAEPH 5/2004	1
C9-C18 Aliphatic Hydrocarbons 1*	<5.7	5.7	mg/Kg	07/08/09		KCA	MAEPH 5/2004	1
Total TPH 1*	<5.7	5.7	mg/Kg	07/08/09		KCA	MAEPH 5/2004	1

QA/QC Surrogates

% 1-chlorooctadecane (aliphatic)	54		%	07/08/09		KCA	MAEPH 5/2004	1
% 2-Bromonaphthalene (Fractionation)	77		%	07/08/09		KCA	MAEPH 5/2004	1
% 2-Fluorobiphenyl (Fractionation)	62		%	07/08/09		KCA	MAEPH 5/2004	1
% o-terphenyl (aromatic)	113		%	07/08/09		KCA	MAEPH 5/2004	1

EPH Diesel PAH Target Analytes

2-Methyl Naphthalene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
Acenaphthene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
Naphthalene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
Phenanthrene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004

EPH Other PAH Target Analytes

Acenaphthylene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
Anthracene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
Benzo(a)anthracene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
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Benzo(ghi)perylene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
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Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004
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Pyrene	<0.57	0.57	mg/Kg	07/08/09		KCA	MAEPH 5/2004

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Comments:

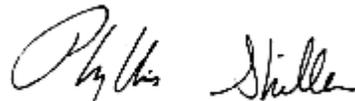
MAEPH:

1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

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Phyllis Shiller, Laboratory Director

July 15, 2009



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Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/26/09 10:30
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89143

Client ID: WALNUT/PLEASANT ST GARDEN S-4

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	62.3	0.42	mg/Kg	06/30/09		EK	SW6010
Percent Solid	86		%	06/29/09		M-JL	E160.3
Total Metals Digest	Completed			06/29/09		AG/C	SW846 - 3050

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
 ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
July 15, 2009



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
 Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/26/09 10:40
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89144

Client ID: WALNUT/PLEASANT ST GARDEN S-5

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	90.4	0.41	mg/Kg	06/30/09		EK	SW6010
Percent Solid	84		%	06/29/09		M-JL	E160.3
Total Metals Digest	Completed			06/29/09		AG/C	SW846 - 3050

Comments:

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 ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
July 15, 2009



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FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/26/09 10:50
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89145

Client ID: WALNUT/PLEASANT ST GARDEN S-6

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	504	4.3	mg/Kg	07/02/09		LK	SW6010
Percent Solid	80		%	06/29/09		M-JL	E160.3
Total Metals Digest	Completed			06/30/09		AG/C	SW846 - 3050

Comments:

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 ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
July 15, 2009



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Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date: 06/26/09 11:00
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89146

Client ID: WALNUT/PLEASANT ST GARDEN S-7

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	1010	4.2	mg/Kg	07/02/09		LK	SW6010
Percent Solid	83		%	06/29/09		M-JL	E160.3
EPH Extraction	Completed			06/29/09		BS/D/K	3545
Ext. Petroleum Hydrocarbons	Completed			07/02/09		KCA	MADEP EPH-04
Total Metals Digest	Completed			06/30/09		AG/C	SW846 - 3050

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	6.7	5.9	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C19-C36 Aliphatic Hydrocarbons 1*	<5.9	5.9	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C9-C18 Aliphatic Hydrocarbons 1*	<5.9	5.9	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
Total TPH 1*	6.7	5.9	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1

QA/QC Surrogates

% 1-chlorooctadecane (aliphatic)	58		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Bromonaphthalene (Fractionation)	65		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Fluorobiphenyl (Fractionation)	52		%	07/01/09		KCA	MAEPH 5/2004	1
% o-terphenyl (aromatic)	88		%	07/01/09		KCA	MAEPH 5/2004	1

EPH Diesel PAH Target Analytes

2-Methyl Naphthalene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Acenaphthene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Naphthalene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Phenanthrene	0.81	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004

EPH Other PAH Target Analytes

Acenaphthylene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Anthracene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)anthracene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)pyrene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(b)fluoranthene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(ghi)perylene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(k)fluoranthene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Dibenzo(a,h)anthracene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluoranthene	1.1	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluorene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Indeno(1,2,3-cd)pyrene	<0.59	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Pyrene	0.68	0.59	mg/Kg	07/01/09		KCA	MAEPH 5/2004

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

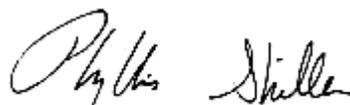
MAEPH:

1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level



Phyllis Shiller, Laboratory Director

July 15, 2009



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Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date: 06/26/09
 Time: 11:10
 Date: 06/29/09
 Time: 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89147

Client ID: WALNUT/PLEASANT ST GARDEN S-8

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	190	0.41	mg/Kg	07/01/09		EK	SW6010
Percent Solid	82		%	06/29/09		M-JL	E160.3
EPH Extraction	Completed			06/29/09		BS/D/K	3545
Ext. Petroleum Hydrocarbons	Completed			07/02/09		KCA	MADEP EPH-04
Total Metals Digest	Completed			06/30/09		AG/C	SW846 - 3050

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	<6.0	6.0	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C19-C36 Aliphatic Hydrocarbons 1*	<6.0	6.0	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C9-C18 Aliphatic Hydrocarbons 1*	<6.0	6.0	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
Total TPH 1*	<6.0	6.0	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1

QA/QC Surrogates

% 1-chlorooctadecane (aliphatic)	67		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Bromonaphthalene (Fractionation)	68		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Fluorobiphenyl (Fractionation)	68		%	07/01/09		KCA	MAEPH 5/2004	1
% o-terphenyl (aromatic)	99		%	07/01/09		KCA	MAEPH 5/2004	1

EPH Diesel PAH Target Analytes

2-Methyl Naphthalene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Acenaphthene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Naphthalene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Phenanthrene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004

EPH Other PAH Target Analytes

Acenaphthylene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Anthracene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)anthracene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)pyrene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(b)fluoranthene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(ghi)perylene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(k)fluoranthene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Dibenzo(a,h)anthracene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluoranthene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluorene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Indeno(1,2,3-cd)pyrene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Pyrene	<0.60	0.60	mg/Kg	07/01/09		KCA	MAEPH 5/2004

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

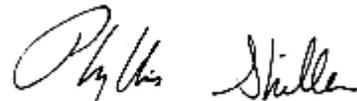
MAEPH:

1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

July 15, 2009



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Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date: 06/26/09 11:20
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89148

Client ID: WALNUT/PLEASANT ST GARDEN S-9

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	272	4.1	mg/Kg	07/02/09		LK	SW6010
Percent Solid	86		%	06/29/09		M-JL	E160.3
EPH Extraction	Completed			06/29/09		BS/D/K	3545
Ext. Petroleum Hydrocarbons	Completed			07/02/09		KCA	MADEP EPH-04
Total Metals Digest	Completed			06/30/09		AG/C	SW846 - 3050

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	<5.8	5.8	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C19-C36 Aliphatic Hydrocarbons 1*	<5.8	5.8	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
C9-C18 Aliphatic Hydrocarbons 1*	<5.8	5.8	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1
Total TPH 1*	<5.8	5.8	mg/Kg	07/01/09		KCA	MAEPH 5/2004	1

QA/QC Surrogates

% 1-chlorooctadecane (aliphatic)	55		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Bromonaphthalene (Fractionation)	71		%	07/01/09		KCA	MAEPH 5/2004	1
% 2-Fluorobiphenyl (Fractionation)	58		%	07/01/09		KCA	MAEPH 5/2004	1
% o-terphenyl (aromatic)	100		%	07/01/09		KCA	MAEPH 5/2004	1

EPH Diesel PAH Target Analytes

2-Methyl Naphthalene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Acenaphthene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Naphthalene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Phenanthrene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004

EPH Other PAH Target Analytes

Acenaphthylene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Anthracene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)anthracene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(a)pyrene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(b)fluoranthene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(ghi)perylene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Benzo(k)fluoranthene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004

Parameter	Result	RL	Units	Date	Time	By	Reference
Chrysene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Dibenzo(a,h)anthracene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluoranthene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Fluorene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Indeno(1,2,3-cd)pyrene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004
Pyrene	<0.58	0.58	mg/Kg	07/01/09		KCA	MAEPH 5/2004

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

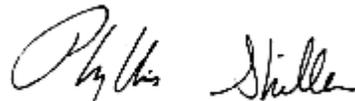
MAEPH:

1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

July 15, 2009



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Analysis Report

July 15, 2009

FOR: Attn: Mr. Michael Scherer
 Tigh & Bond
 446 Main Street
 Worcester MA

Sample Information

Matrix: SOIL
 Location Code: NEWBDENV
 Rush Request:
 P.O.#: N-0769

Custody Information

Collected by: MS
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/26/09 11:30
 06/29/09 17:00

Laboratory Data

SDG I.D.: GAR89140
 Phoenix I.D.: AR89149

Client ID: WALNUT/PLEASANT ST GARDEN S-10

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	113	0.39	mg/Kg	07/01/09		EK	SW6010
Percent Solid	87		%	06/29/09		M-JL	E160.3
Total Metals Digest	Completed			06/30/09		AG/C	SW846 - 3050

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
 ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
July 15, 2009



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QA/QC Report

July 15, 2009

QA/QC Data

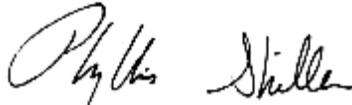
SDG I.D.: GAR89140

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 130316, QC Sample No: AR89080 (AR89140, AR89141, AR89142, AR89143, AR89144)								
<u>ICP Metals - Soil</u>								
Lead	BDL	0.10	107	103	3.8	86.0	96.1	11.1
QA/QC Batch 130317, QC Sample No: AR89146 (AR89145, AR89146, AR89147, AR89148, AR89149)								
<u>ICP Metals - Soil</u>								
Lead	BDL	6.10	91.4	102	11.0	50.1	109	74.0 3

3 = This parameter is outside laboratory ms/msd specified limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria


 Phyllis Shiller, Laboratory Director
 July 15, 2009

Title: MADEP MCP Response Action Analytical Report Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. Project #:

Project Location: WALNUT/PLEASANT ST GARDEN MADEP RTN1:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
 AR89140, AR89141, AR89142, AR89143, AR89144, AR89145, AR89146, AR89147, AR89148, AR89149

Sample Matrices: Groundwater Soil/Sediment Drinking Water Other:

MCP SW-846 Methods Used	<input type="checkbox"/> 8260B	<input type="checkbox"/> 8151A	<input type="checkbox"/> 8330	<input checked="" type="checkbox"/> 6010B	<input type="checkbox"/> 7470A/1A
	<input type="checkbox"/> 8270C	<input type="checkbox"/> 8081A	<input type="checkbox"/> VPH	<input type="checkbox"/> 6020	<input type="checkbox"/> 9014M2

As specified in MADEP Compendium of Analytical Methods. (check all that apply)	<input type="checkbox"/> 8082	<input type="checkbox"/> 8021B	<input checked="" type="checkbox"/> EPH	<input type="checkbox"/> 7000S3	<input type="checkbox"/> 7196A
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1 List Release Tracking Number (RTN), if known
 2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
 3 S - SW-846 Methods 7000 Series List individual method and analyte.

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

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

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

E	Were all QC performance standards and recommendations for the specified methods achieved?	<input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

All negative responses must be addressed in an attached Environmental Laboratory case narrative.

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

Authorized Signature:  Date: Wednesday, July 15, 2009
 Printed Name: Greg Lawrence
 Position: Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823



MCP Certification Report

July 15, 2009

SDG I.D.: GAR89140

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument: Au-fid2 07/01/09-1 (AR89140, AR89146, AR89147, AR89148)

A six level calibration was performed. All RSDs were within limits.

The continuing calibration standards were within control limits.

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

Printed Name Keith Aloisa

Position: Chemist

Date: 7/1/2009

Instrument: Au-fid2 07/10/09-1 (AR89142)

A six level calibration was performed. All RSDs were within limits.

The continuing calibration standards were within control limits.

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

Printed Name Keith Aloisa

Position: Chemist

Date: 7/10/2009

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

ICP Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument: Icp7 06/29/09-1 (AR89140, AR89141, AR89142, AR89143, AR89144)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Emily Kolominskaya

Position: Chemist

Date: 6/29/2009

Instrument: Icp7 06/30/09-1 (AR89140, AR89141, AR89142, AR89143, AR89144)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823



MCP Certification Report

July 15, 2009

SDG ID.: GAR89140

Printed Name Emily Kolominskaya
Position: Chemist
Date: 6/30/2009

Instrument: Icp7 07/01/09-1 (AR89145, AR89146, AR89147, AR89148, AR89149)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Emily Kolominskaya
Position: Chemist
Date: 7/1/2009

Instrument: Icp7 07/02/09-1 (AR89145, AR89146, AR89148)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 7/2/2009

QC (Site Specific)

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All MS recoveries were within 75 - 125 with the following exceptions: Lead

All MSD recoveries were within 75 - 125 with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within cr

QC (Batch Specific)

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

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



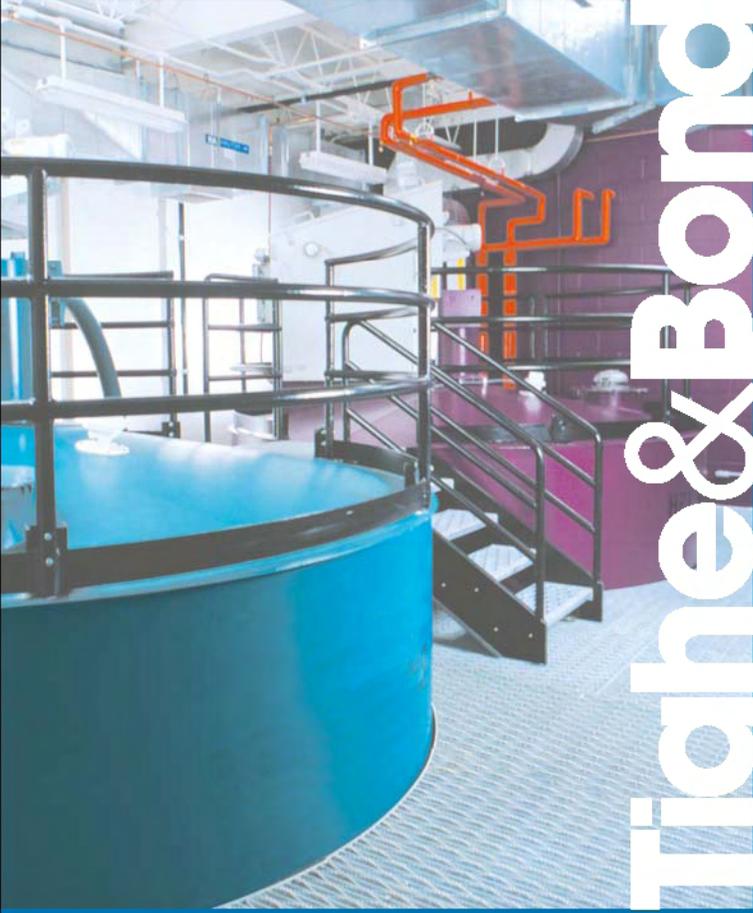
EPH Fractionation Standard

SDG I.D.: GAR89140

Date: 09/19/07

Analyst: Johanna Harrington/Kate Dunfield

AS #	TV	#1	#2	#3	#4	Avg	% Rec	% RSD	Rec Limits	RSD Limits
2-Methylnaphthalene	64	45	39.7	54.78	54.58	48.51	75.8	7.4	40-140	20
Acenaphthalene	64	62.3	57.8	61.08	62.48	60.91	95.2	2.2	40-140	20
Acenaphthene	64	50.99	47.7	56.72	57.25	53.17	83.1	4.6	40-140	20
Anthracene	64	71.2	66.7	69.4	71.33	69.66	108.8	2.2	40-140	20
Benzo(a)anthracene	64	67.8	61.8	64.51	69.52	65.91	103	3.4	40-140	20
Benzo(a)pyrene	64	70.3	65.67	69.86	71.12	69.24	108.2	2.4	40-140	20
Benzo(b)fluoranthene	64	77.3	69.6	73.26	77.3	74.36	116.2	3.7	40-140	20
Benzo(ghi)perylene	64	66.1	61.81	66.05	66.92	65.22	101.9	2.3	40-140	20
Benzo(k)fluoranthene	64	58.6	58	62.59	60	59.8	93.4	2	40-140	20
Chrysene	64	70.6	67	71.94	68.58	69.53	108.6	2.2	40-140	20
Decane c10	64	43.03	42.27	42.18	41.27	42.19	65.9	0.7	40-140	20
Dibenz(ah)anthracene	64	62.7	49.42	60.66	70	60.69	94.8	8.5	40-140	20
Docosane c22	64	63.15	60.94	61.79	59.78	61.41	96	1.4	40-140	20
Dodecane c12	64	44.7	44.56	46.47	43.33	44.76	69.9	1.3	40-140	20
Eicosane c20	64	61.4	59.22	62.16	58.85	60.41	94.4	1.6	40-140	20
Fluoranthene	64	64.8	59.6	62.86	63.86	62.78	98.1	2.3	40-140	20
Fluorene	64	62.97	58.1	60.91	62.23	61.05	95.4	2.1	40-140	20
Hexacosane c26	64	66.07	64	66.17	64.28	65.13	101.8	1.2	40-140	20
Hexadecane c16	64	52	50.72	53.09	50.9	51.68	80.7	1.1	40-140	20
Hexatriacontane c36	64	74.1	71.2	74.32	68.49	72.03	112.5	2.8	40-140	20
Indeno(123cd)pyrene	64	69.1	73.1	81.41	79.97	75.9	118.6	5.8	40-140	20
Naphthalene	64	40.9	35.3	52.8	52.08	45.27	70.7	8.6	40-140	20
Nonadecane c19	64	54.7	51.86	54.42	50.84	52.95	82.7	1.9	40-140	20
Nonane c9	64	42.3	41.7	41.46	40.05	41.38	64.7	1	30-140	20
Octacosane c28	64	67.24	65.36	65.2	64.88	65.67	102.6	1.1	40-140	20
Octadecane c18	64	57.9	55.98	57.71	54.96	56.64	88.5	1.4	40-140	20
Phenanthrene	64	64.69	59.8	62.4	63.91	62.7	98	2.2	40-140	20
Pyrene	64	66.3	64.35	64.27	65.52	65.11	101.7	1	40-140	20
Tetracosane c24	64	64.04	60.77	64.14	61.1	62.51	97.7	1.8	40-140	20
Tetradecane c14	64	48.1	46.25	47.39	44.92	46.66	72.9	1.4	40-140	20
Tricotane c30	64	70.4	66.47	67.42	67.36	67.91	106.1	1.7	40-140	20



Tighe & Bond





7/24/2009

Tighe & Bond
446 Main Street
Worcester, MA 01608
Attn: Michael Scherer

PO#: N-0769
Job #: 2838

Dear Michael:

This report covers the methods and findings of the lead paint analysis that MicroVision Laboratories, Inc. conducted on the two (2) soil samples you submitted for this testing from your project# N-0769. The purpose of this analysis was to detect and document lead paint that may be present in the submitted soil samples by use of a combination of microscopy tests including SEM/EDS, and macroscopic inspection.

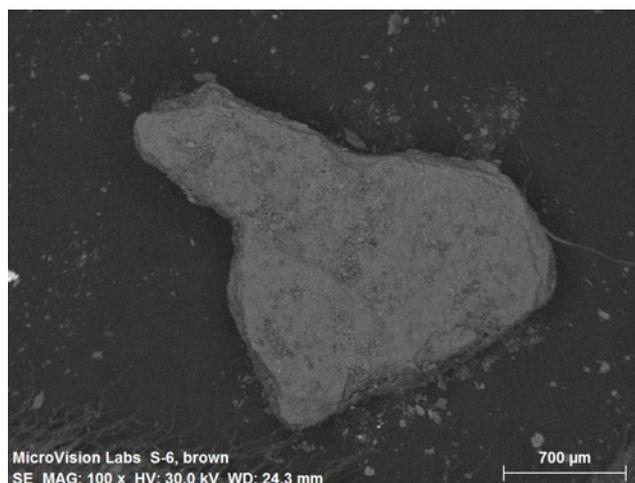
Methods:

The samples were dried and examined by eye and under the stereomicroscope for any suspect colored components to the soil. These suspect colored particles were separated from the soil sample and a portion of each type of particle was prepared for examination by Scanning Electron Microscopy with Energy Dispersive X-Ray Spectroscopy (SEM/EDS). The suspect particles were mounted on an aluminum analysis SEM stub with double sided adhesive tape, coated with evaporated graphite and examined under the SEM by EDS to obtain elemental data in the form of EDS spectra. Digital images were taken of each particle at various magnifications.

Findings:

Sample S-6

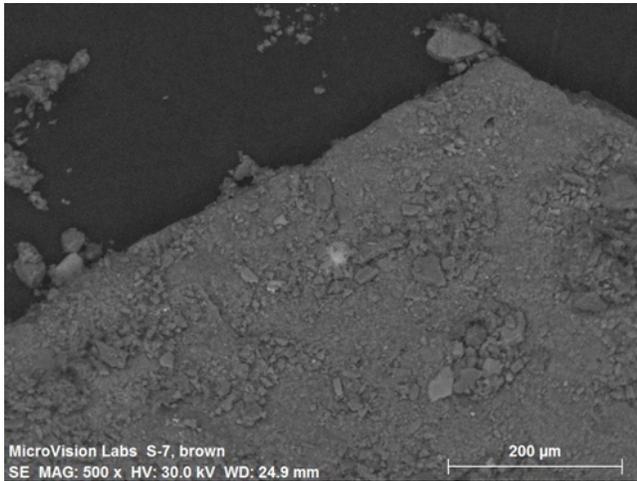
One (1) brown colored chip was separated from the soil sample and appeared to be a building material that contained lead. Looking at the SEM image, the lead is distributed throughout the particle. See Appendix A for the average composition EDS spectra for this particle.



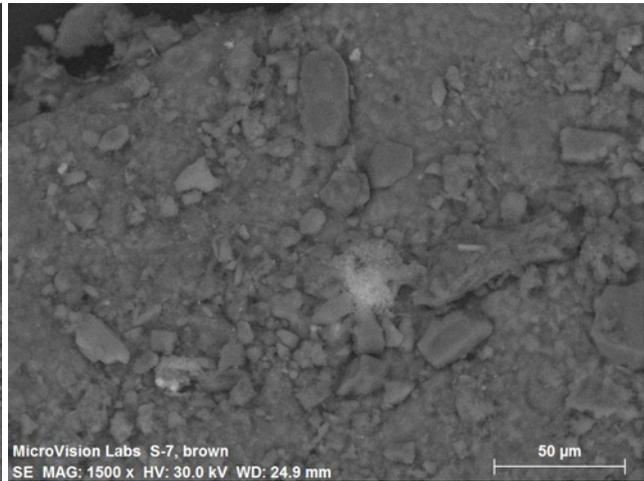
**Sample: S-6, Lead in Brown Particle
SEM Image**

Sample S-7

Three (3) colored chips, brown (2), and blue (1), were separated from the soil sample and appeared to be a mixture of laminated ceramic material and building material. Lead was detected in two (2) of the particles. The first particle examined, appeared to be a building material that was brown in color. Looking at the SEM image, the lighter colored area is the lead found in the particle while the darker area is the building material. See Appendix B for the average composition EDS spectra for this particle.

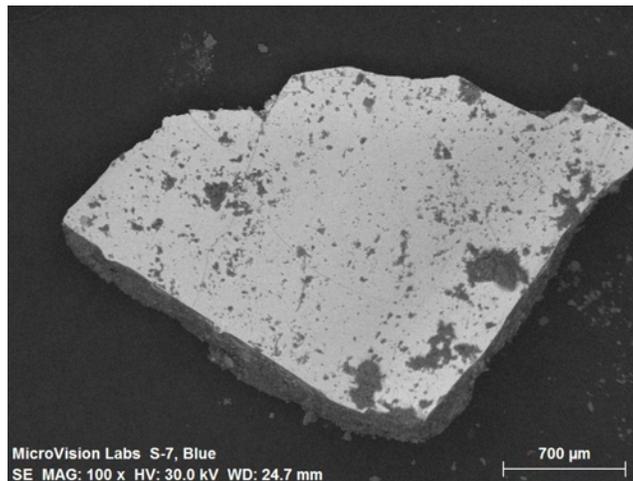


**Sample: S-7, Lead in Brown Particle
SEM Image**



**Sample: S-7, Lead in Brown Particle
SEM Image**

The second particle type appeared to be a blue ceramic material that was laminated. The laminated layer appeared to contain the lead. Looking at the SEM image, the lighter colored area is the lead based lamination layer. The darker spots on the particle are where this lamination layer appeared to have chipped off. See Appendix C for the average composition EDS spectra for this particle.



**Sample: S-7, Lead in Blue Particle
SEM Image**

Results Summary Table:

Sample Name	Material Detected	Lead Paint
S-6	Lead Containing Building Debris (trace)	None Detected
S-7	Lead Containing Building Debris/Ceramic (trace)	None Detected

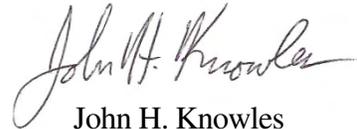
No lead containing paint chips were detected in either sample. Lead was detected in the colored particles examined. These particles appeared to represent a mixture of building debris and ceramic material.

The concentrations of the particle types detected in these samples are listed in parenthesis in the table above and are based on the number of particles found and the relative difficulty in finding them. The concentration information is listed for informational purposes only and has no bearing on exemption status. Please let me know if you have any questions about this analysis or if there is anything else I can do for you.

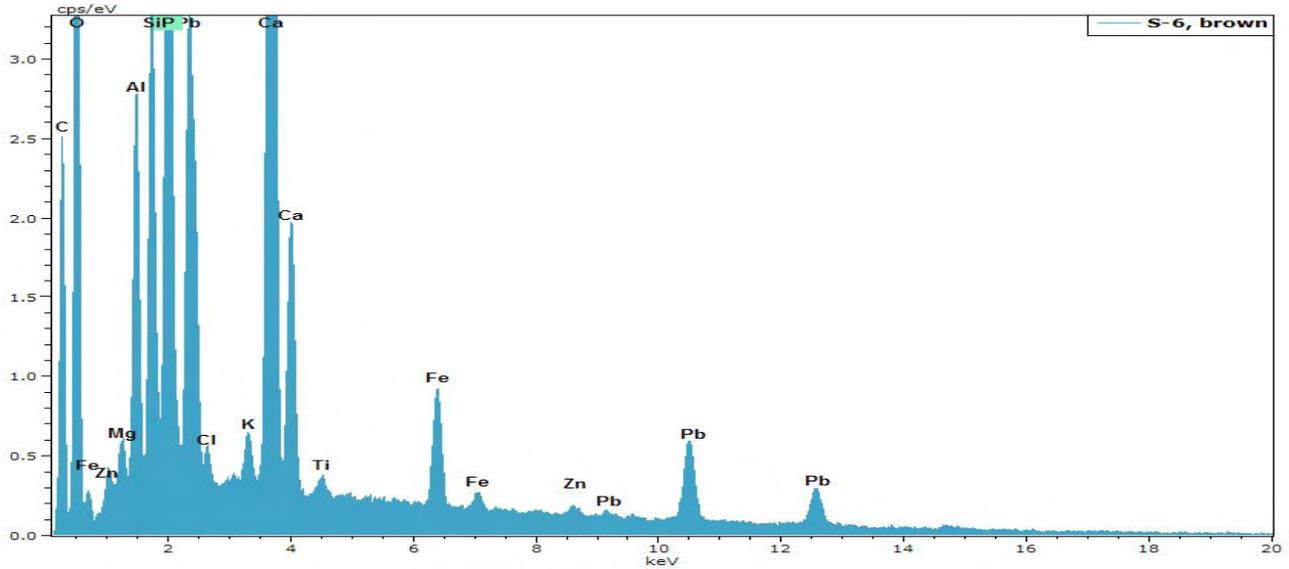
Sincerely,



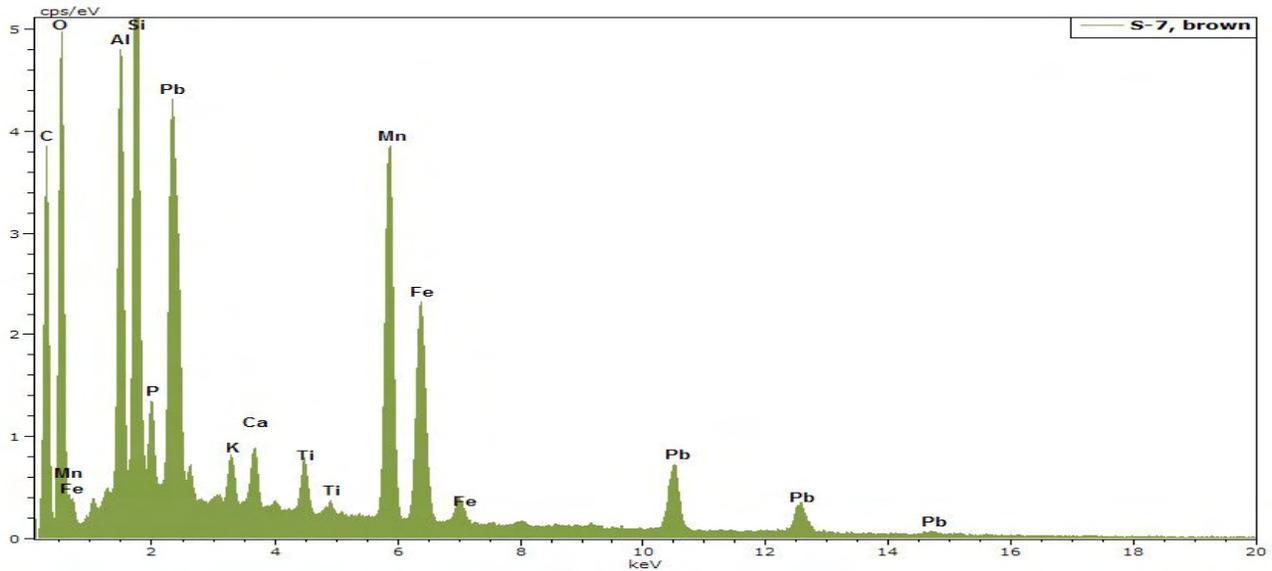
Robert Romano
Microscopist



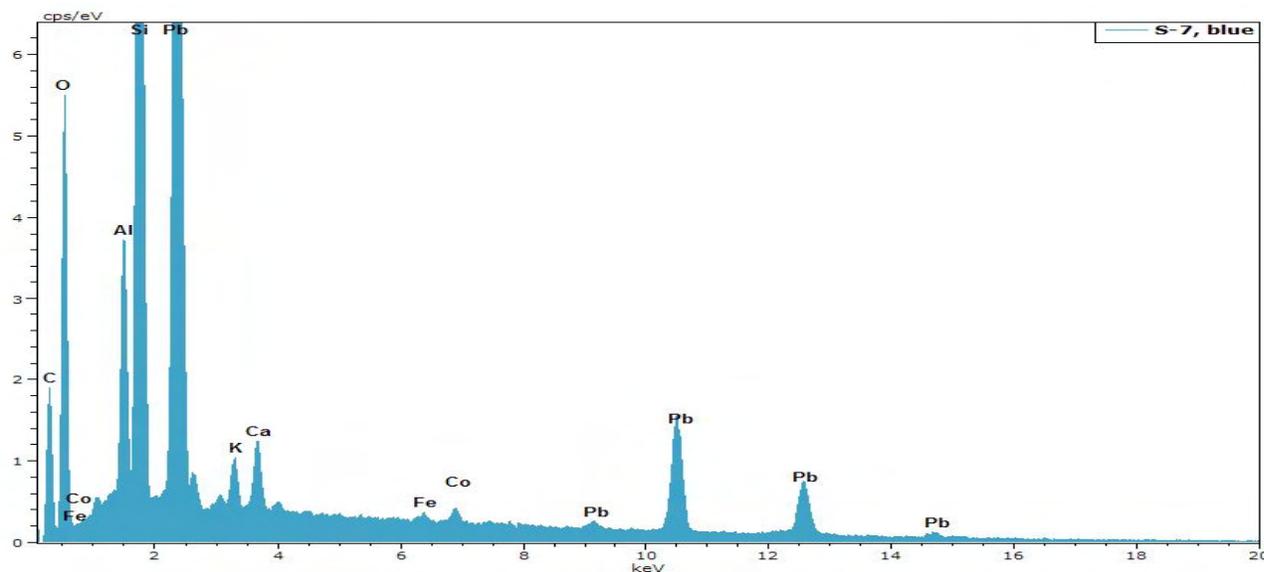
John H. Knowles
President



**Appendix A, EDS Spectrum
Sample: S-6, Brown Building Debris**



**Appendix B, EDS Spectrum
Sample: S-7, Brown Building Debris**



**Appendix C, EDS Spectrum
Sample: S-7, Blue Ceramic**

MICROVISION LABORATORIES, INC.		Chain Of Custody		Date Recd in Lab:		MicroVision Labs Job#: 2838	
187 Billerica Road, Chelmsford, MA 01824 Phone: (978) 250-9909 Fax: (978) 250-9901		Client Information		Project Information			
Client: <i>Trick + Bond</i>		Project Name: <i>Wahur Pleasant St. Gravel</i>					
Address: <i>446 Main St. Worcester, MA 01608</i>		Project Location: <i>New Bedford, MA</i>					
Phone: <i>508-754-2261</i>		Project #: <i>N-0769</i>					
Fax: <i>508-755-1087</i>		Project Manager: <i>Michael Schreier</i>					
Email: <i>MSSchreier@TrickBond.com</i>							
Sample ID	Collected	Matrix	Sampler's Initials	Analyses		Turn Around Time/Notes:	
				Coal Ash Test	SEM/EDS (see instructions)		
1) <i>S-6</i>	<i>6/26/09</i>	<i>Soil</i>	<i>MS</i>		<input checked="" type="checkbox"/>		
2) <i>S-7</i>	<i>6/26/09</i>	<i>Soil</i>	<i>MS</i>				
3)							
4)							
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
Relinquished By: <i>[Signature]</i>		Received By: <i>[Signature]</i>		Date/Time: <i>7/21/09 8:52</i>		Date/Time: <i>7/21/09 10:00</i>	
						Receiving SEM Analysis For Lead Based Paint	