DEF Seawall Soil Sampling

153516

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION AND WASTE MANAGEMENT PROGRAM
DIVISION OF REMEDIATION SUPPORT
BUREAU OF ENVIRONMENTAL MEASUREMENTS AND SITE ASSESSMENT
P.O. BOX 407
TRENTON, NEW JERSEY 08625-0407

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

Memorandum

To: Fred Mumford, Case Manager
Remedial Response Element

AUG 6 2007

From: Jerry R. Schoenleber, Section Chief JRS
Environmental Measurements Section

Subject: Margaret's Creek Lead Contamination – A4639300
Soil Sampling – July 24, 2007

At your request the Environmental Measurements Section conducted surface soil sampling at the Old Bridge Waterfront Walkway at Laurence Harbor on July 24th, 2007. This event constitutes the second round of sampling, the first being conducted in May of this year. Soil associated with the seawall analyzed during the first event revealed elevated levels of lead, antimony and arsenic. This prompted a second round of surface soil sampling to further investigate the expanse associated with the park where exposure to walkway users would most likely occur. Thirty-one locations were chosen over the park area including an expanse of beach east of the footbridge over Margaret's Creek. The attached maps depict sample locations that were fixed using global positioning satellites. All samples were collected from the 0-6 inch depth interval using dedicated decontaminated stainless steel trowels.

As a precautionary measure, a radiation meter (Micro R/Model 19 w/ Gamma probe) was used to scan the crucible slag waste material along the seawall between S29 and S30 and again at locations S34 and S35. Reading never went above the background measurement of 5-6 mR/hr. Based on these observations, it may be assumed that the cmcible slag presents no immediate radiological concems.

Samples were shipped to Test America in Burlington, Vermont for trace metals analysis per state contract A57425 line item #50. Results should be available on or about August 26th. If you have any questions regarding sample collection or the status of samples analysis please contact the writer @ 588-3104.

C: Ed Putnam, Assistant Director, RRE, w/attachments
William Lowry, Chief, BEMSA
Chron

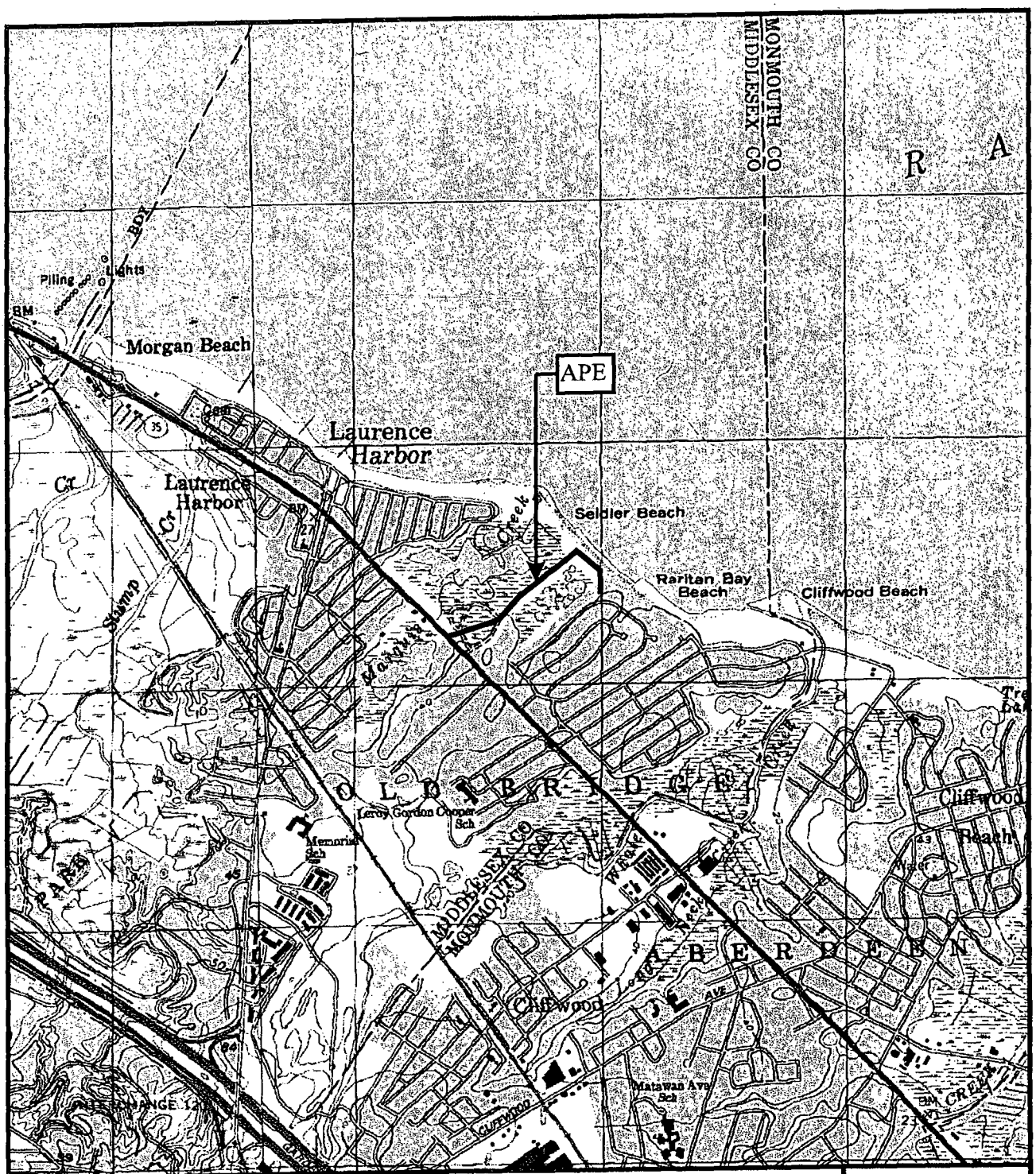

Figure 2:

Project Location (from U.S.G.S. 7.5' Quadrangles: Keyport, NJ-NY 1995 and South Amboy, NJ-NY 1995).

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SITE INVESTIGATION REPORT
FOR
OLD BRIDGE TOWNSHIP – MARGARETS CREEK PROPERTY
OLD BRIDGE TOWNSHIP, MIDDLESEX COUNTY
April 20, 2007

1. Preliminary assessment. Review of available environmental records was completed. The property, Block 1, lot 54.11, located on Route 35, is not listed in the State's Known Contaminated Sites or Solid Waste Disposal Area databases. The local health department, Middlesex County Department of Public Health, had no records on the property. Old Bridge Township – the site's owner- has no knowledge of the nature of the f ll material.

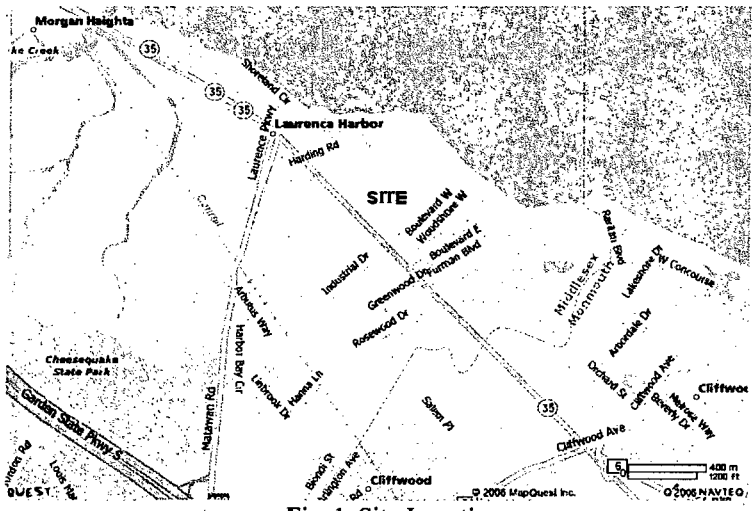


Fig. 1 Site Location

1.1 Review of historic aerial photography revealed the subject to be, in 1930, tidal marsh – with a road traversing southwest –northeast from Route 35 to a cluster of structures on Raritan Bay. In 1974 the filling of a ± 20 acre portion of the site is apparent.

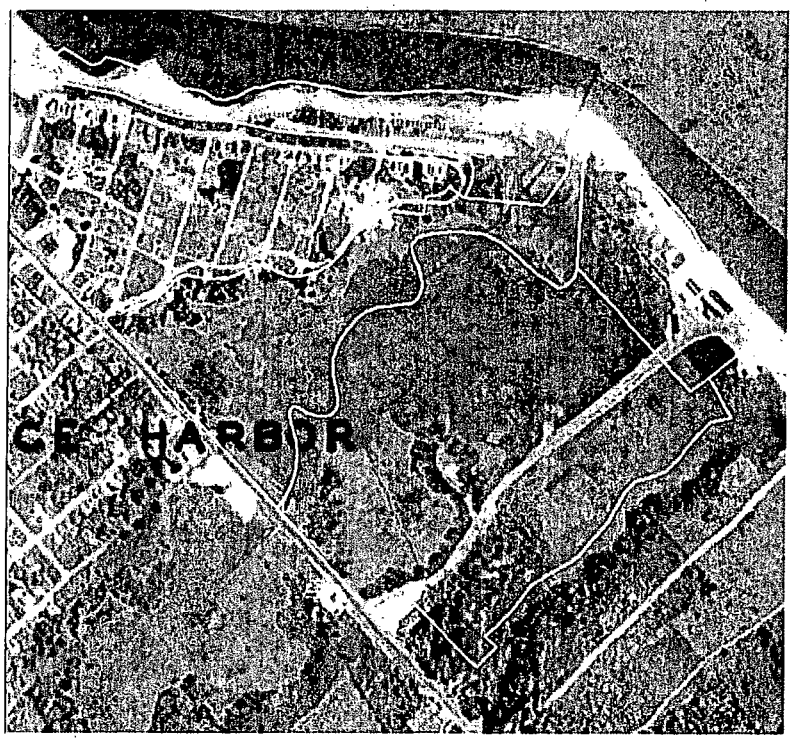


Fig. 2 1930

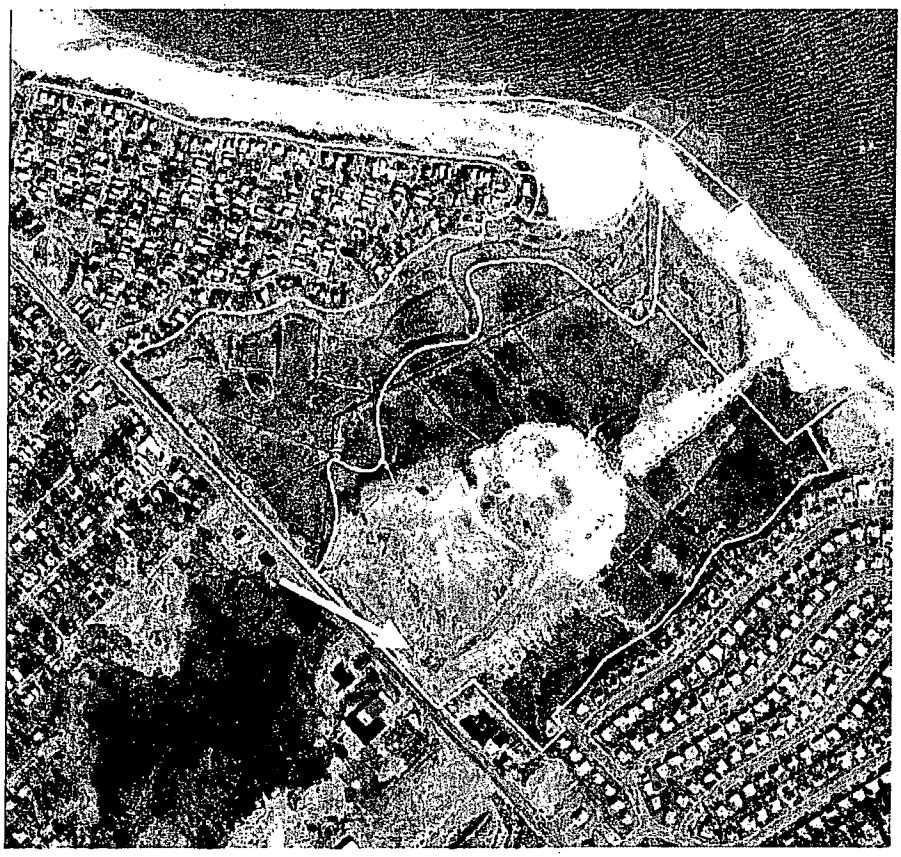


Fig. 3 1974 (Showing land filling)

1.2 On December 13, 2006, a limited site investigation was completed to visually characterize fill material via excavation of test pits. Using a skid steer backhoe, representatives of the New Jersey Geological Survey completed 11 test pits biased (using historic aerial photography) to the thickest deposits of fill or based upon evidence of surficial waste materials. Test pits were excavated to native material. Only minor amounts of non-soil materials were encountered and in only one of 11 locations.

Waste materials were evident in numerous locations across the surface of the filled area, several of which included large quantities of what appeared to be shredded automotive battery casings, brick – including apparent refractory brick – and slag, suggesting possible disposal of industrial wastes (see Figures 4 & 5).

Fig. 4 Main access road, showing crushed car battery casings.

Fig. 5 Area of slag, refractory brick & miscellaneous sohd waste.

2. Site Investigation.

2.1 Field work. On March 4, 2007, representatives of the Bureau of Environmental Measurements & Site Assessment collected 16 soil samples, biased to areas with accumulations of shredded battery casings and in areas devoid of vegetation in which refractory brick, slag and other waste materials were evident. Samples L-1 through L-13 were collected in areas of accumulated battery casings, for lead analyses. Samples S-1 through S-4 were collected in areas devoid of vegetation in which refractory brick, slag and other waste materials were evident, for the complete Target Analyte List/Target Compound List analyses. The lead and TAL samples were collected in the 0-6" interval beneath waste materials. The TCL samples were collected at 6-12" bgs. Samples for volatile organic compound analyses were collected using Encore coring devices from within the boring.

2.2 Results. Lead was detected in all lead-only sample locations (L-1 though L-13) and at one TCL/TAL location (S-1) at concentrations above the non-restricted future use and restricted future use Soil Cleanup Criteria (400 ppm/600 ppm) with a concentration range of 701 ppm to 146,000 ppm, with an average concentration of 50,482 ppm (See Figure 6.)

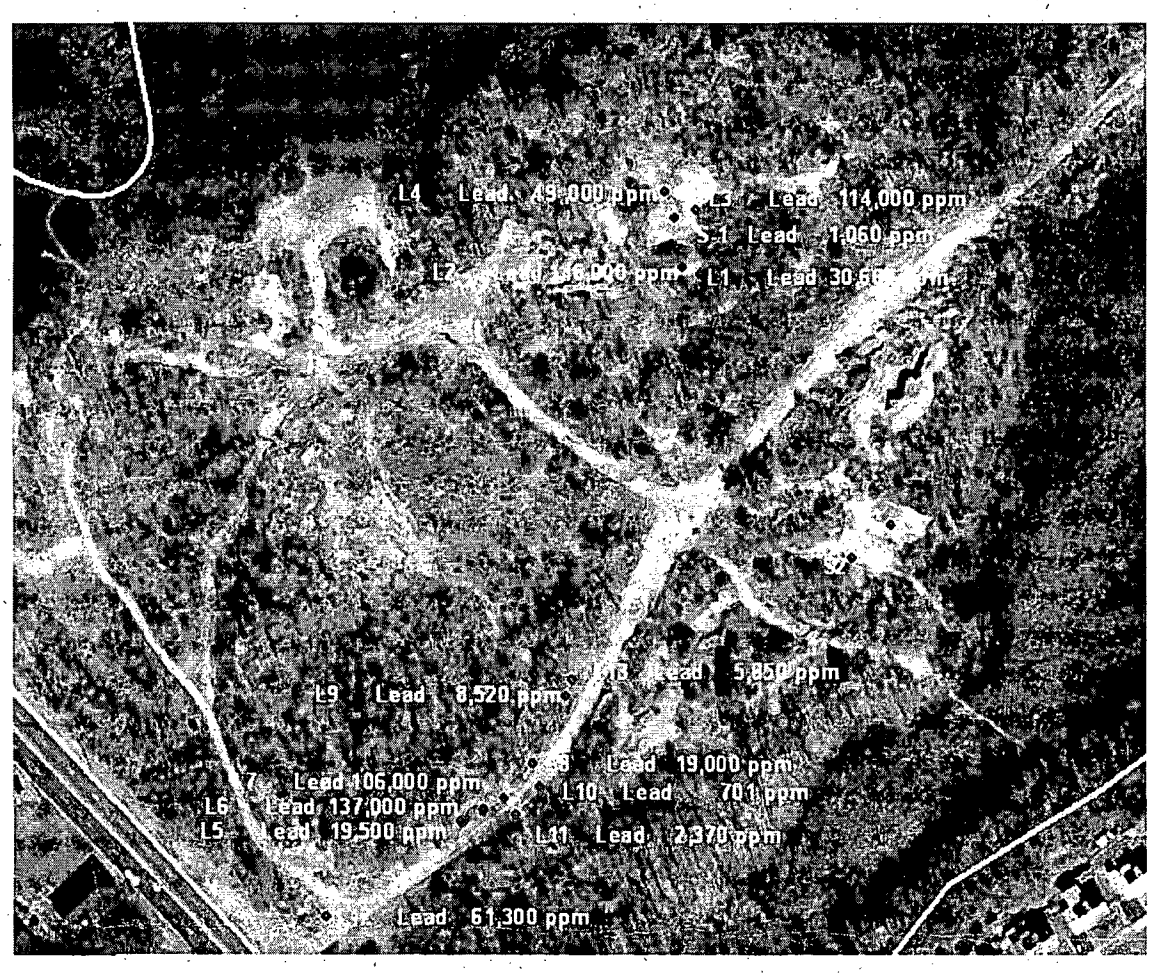


Fig. 6 Sample location map.

2.3 Discussion: The detected concentrations of lead significantly exceed the Department's human health-based Soil Cleanup Criteria. Ample visual evidence of human use of the site was observed during the site investigation, including footprints, bike/ATV tracks, campsites and promiscuous dumping.

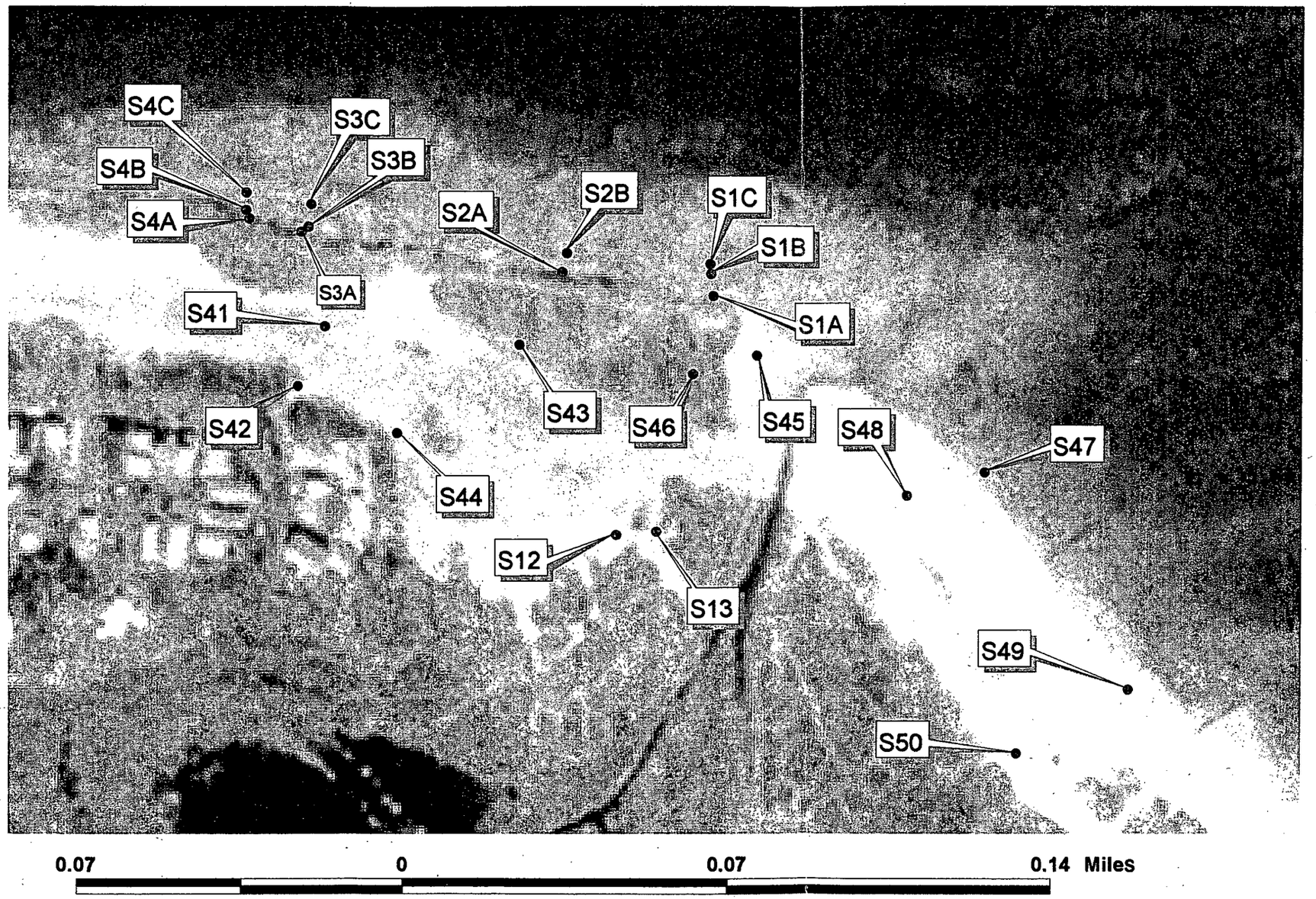
In addition, the site is situated adjacent to sensitive environmental receptors – the wetlands and open water of the Margarets Creek and Raritan Bay. The site is mapped in the Department's Geographic Information System as "Critical Emergent Wetland" and as foraging habitat for a State-threatened species: the Black-Crowned Night Heron. The proximity of the contaminated areas to wetlands and open water suggests the possibility that contamination may be or may have migrated to these receptors via overland flow in surface runoff or via groundwater.

Given the sample results and potential receptors/exposures, this information was reported to the Department's Environmental Hotline and was assigned case # 07-04-18-1110-28.

3. Recommendation. It is recommended that Green Acres not purchase this property. Old Bridge Township should be advised of the results of the site investigation and be urged to enter a Memorandum of Agreement with the Site Remediation & Waste Management Program to address the contamination. Green Acres may reconsider acquisition of the site upon receipt by the Township of a No Further Action determination by the Site Remediation & Waste Management Program.

Map I

Laurence Harbor



New Jersey Department of Environmental Protection

Site Remediation Program

Eastern Quadrant Sampling Locations

May 23, 2007 Sampling Locations

July 24, 2007 Sampling Locations

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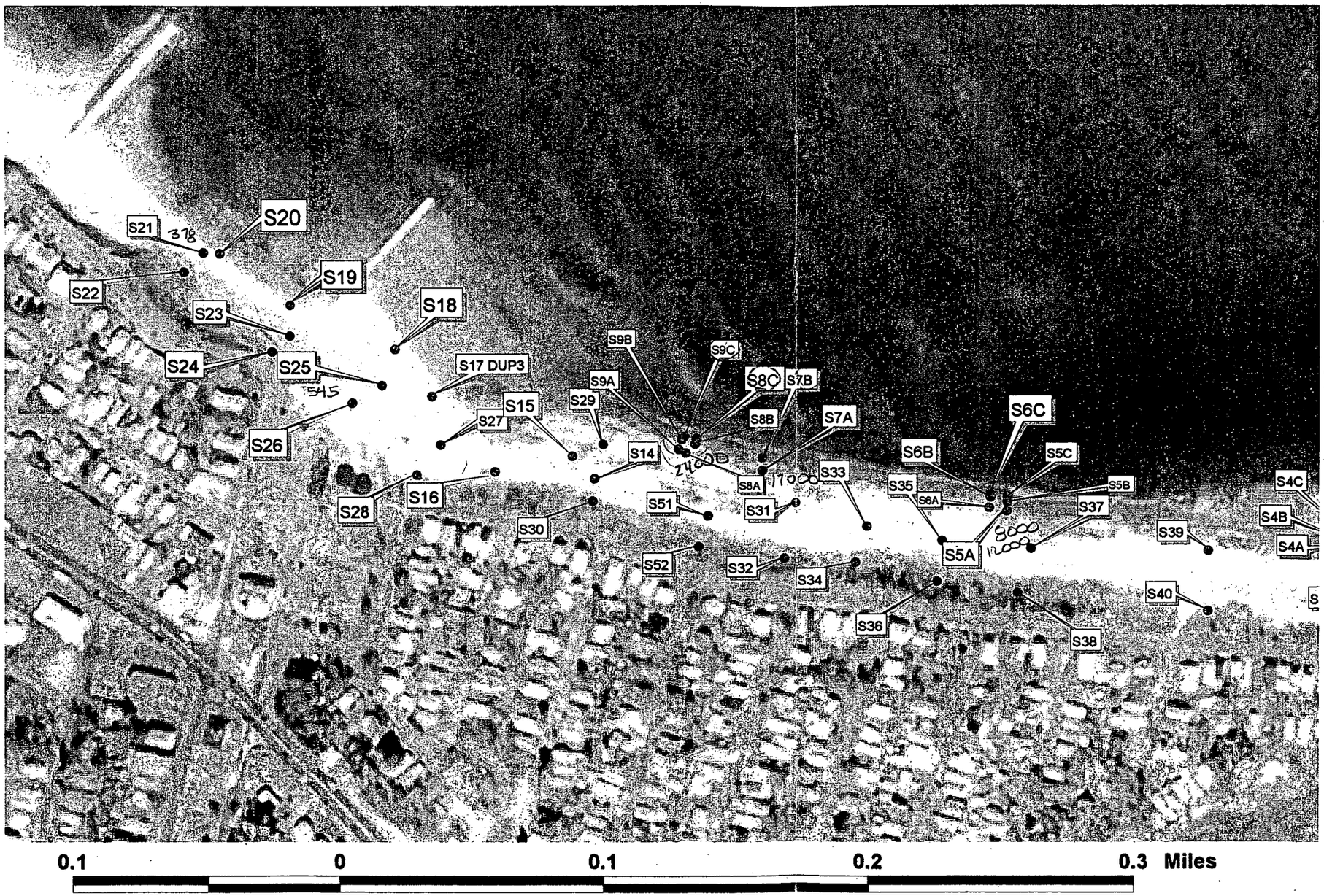
Laurence Harbor



New Jersey Department of Environmental Protection

Site Remediation Program

Western Quadrant Sampling Locations

May 23, 2007 Sampling Locations

July 24, 2007 Sampling Locations

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State of New Jersey

Department of Environmental Protection

Jon S. Corzine
Governor

Lisa P. Jackson
Commissioner

MEMORANDUM

TO: Ed Putnam
Remedial Planning and Design Element

THROUGH: Greg Toffoli, Section Chief 8/22/07
Office of Data Quality
Hazardous Site Science Element

AUG 2 2 2007

FROM: Carol Pillsbury 8/22/07
Office of Data Quality
Hazardous Site Science Element

SUBJECT: Quality Assurance Review –Laurence Harbor Petroleum (SDG 120127) Site. STL Burlington, Colchester, VT analyzed twenty nonaqueous samples for TAL Metals according to USEPA CLP SOW ILM05.3.

Field ID	Laboratory ID	Sample Date	Matrix
S1A	711236	05/23/2007	NONAQUEOUS
S1B	711237	05/23/2007	NONAQUEOUS
S1C	711238	05/23/2007	NONAQUEOUS
S2B	711239	05/23/2007	NONAQUEOUS
S2A	711240	05/23/2007	NONAQUEOUS
S3A	711241	05/23/2007	NONAQUEOUS
S3B	711242	05/23/2007	NONAQUEOUS
S3C	711243	05/23/2007	NONAQUEOUS
S4A	711244	05/23/2007	NONAQUEOUS
S4B	711245	05/23/2007	NONAQUEOUS
S4C	711246	05/23/2007	NONAQUEOUS
S16	711247	05/23/2007	NONAQUEOUS
S15	711248	05/23/2007	NONAQUEOUS
S14	711249	05/23/2007	NONAQUEOUS
S17	711250	05/23/2007	NONAQUEOUS
S19	711251	05/23/2007	NONAQUEOUS
S18	711252	05/23/2007	NONAQUEOUS
S20	711253	05/23/2007	NONAQUEOUS
S12	711254	05/23/2007	NONAQUEOUS
S5B	711255	05/23/2007	NONAQUEOUS

The Office of Data Quality, Hazardous Site Science Element, Division of Remediation Management and Response has reviewed the above listed nonaqueous samples according to Full CLP Deliverable Requirements as specified in the Technical Requirements for Site

Remediation, N.J.A.C. 7:26E. A Target Analyte Summary List is provided for your convenience. Specific comments are provided below:

Metals

Samples S1A (711236), S3B (711242), S3C (711243) and S12 (711254) were analyzed undiluted and at 100 fold dilutions because lead, sodium and zinc were present at levels above the linear range of the instrument. The dilution analyses were sufficient to bring the concentrations of lead and zinc within the linear range. The dilutions were too extensive for sodium in the above listed samples and the detection limits were elevated above the Contract Required Quantitation Limits (CRQLs). A 50-fold dilution would have been more appropriate for sodium. The nondetected results and detection levels for sodium in the above mentioned samples are suspect.

The remaining metals data are acceptable with the qualifications resulting from QA/QC outliers in the following analyses: sample spike, sample duplicate, serial dilution, preparation blank and negative drifting.

Should you have any questions regarding this review, please contact this office at 633-0752.

C. Dave Diblee, SAS

Project Name: 32950000
SDG: 120127
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Field ID Num: S5B; Lab ID Num: 711255; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	94.2		94.2			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.039	UJ	0.039		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3040		3040			
Antimony	7440-36-0	98.9		98.9			
Arsenic	7440-38-2	103	J	103		Qualify	4
Barium	7440-39-3	30.7		30.7			
Beryllium	7440-41-7	0.51	J	0.51		Qualify	5
Cadmium	7440-43-9	0.76	J	0.76		Qualify	5
Calcium	7440-70-2	1620	J	1620		Qualify	1
Chromium	7440-47-3	34.9	J	34.9		Qualify	2,4
Cobalt	7440-48-4	3.1	J	3.1		Qualify	1,5
Copper	7440-50-8	51.1	J	51.1		Qualify	3
Iron	7439-89-6	55100		55100			
Lead	7439-92-1	734		734			
Magnesium	7439-95-4	689		689			
Manganese	7439-96-5	150	J	150		Qualify	4
Nickel	7440-02-0	11.3		11.3			
Potassium	7440-09-7	352	J	352		Qualify	1
Sodium	7440-23-5	681		681			
Thallium	7440-28-0	0.64	J	0.64		Qualify	1
Vanadium	7440-62-2	62.5		62.5			
Zinc	7440-66-6	109		109			
Field ID Num: S12; Lab ID Num: 711254; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	95.3		95.3			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.034	J	0.034		Qualify	1,8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1230		1230			
Antimony	7440-36-0	962		962			
Arsenic	7440-38-2	141	J	141		Qualify	4
Barium	7440-39-3	176		176			
Beryllium	7440-41-7	0.16	J	0.16		Qualify	1,5
Cadmium	7440-43-9	11.9	J	11.9		Qualify	5
Calcium	7440-70-2	486	J	486		Qualify	1
Chromium	7440-47-3	6.8	J	6.8		Qualify	2,4
Cobalt	7440-48-4	3.5	J	3.5		Qualify	1,5
Copper	7440-50-8	130	J	130		Qualify	3
Iron	7439-89-6	15200		15200			
Lead	7439-92-1	25600		25600			
Magnesium	7439-95-4	93.5	J	93.5		Qualify	1
Manganese	7439-96-5	89.5	J	89.5		Qualify	4

Project Name: 32950000
SDG: 120127
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Nickel	7440-02-0	13.9		13.9			
Potassium	7440-09-7	212	J	212		Qualify	1
Selenium	7782-49-2	0.69	J	0.69		Qualify	1
Silver	7440-22-4	1.1		1.1			
Sodium	7440-23-5	4010	UJ	4010		Suspect	10
Thallium	7440-28-0	1.6	J	1.6		Qualify	1
Vanadium	7440-62-2	8.9		8.9			
Zinc	7440-66-6	170		170			
Field ID Num: S20; Lab ID Num: 711253; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	96		96			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.047	UJ	0.047		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1790		1790			
Antimony	7440-36-0	9.3		9.3			
Arsenic	7440-38-2	15.3	J	15.3		Qualify	4
Barium	7440-39-3	52.1		52.1			
Beryllium	7440-41-7	0.25	J	0.25		Qualify	1,5
Cadmium	7440-43-9	0.51	J	0.51		Qualify	5
Calcium	7440-70-2	3670	J	3670		Qualify	1
Chromium	7440-47-3	10.6	J	10.6		Qualify	2,4
Cobalt	7440-48-4	1.4	J	1.4		Qualify	1,5
Copper	7440-50-8	24.2	J	24.2		Qualify	3
Iron	7439-89-6	21600		21600			
Lead	7439-92-1	260		260			
Magnesium	7439-95-4	481		481			
Manganese	7439-96-5	113	J	113		Qualify	4
Nickel	7440-02-0	4.5		4.5			
Potassium	7440-09-7	243	J	243		Qualify	1
Sodium	7440-23-5	497		497			
Vanadium	7440-62-2	32.4		32.4			
Zinc	7440-66-6	53.1		53.1			
Field ID Num: S18; Lab ID Num: 711252; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	94.9		94.9			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.053	UJ	0.053		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1790		1790			
Antimony	7440-36-0	17.8		17.8			
Arsenic	7440-38-2	26	J	26		Qualify	4
Barium	7440-39-3	8.1	J	8.1		Qualify	1
Beryllium	7440-41-7	0.32	J	0.32		Qualify	1,5
Cadmium	7440-43-9	0.36	J	0.36		Qualify	1,5
Calcium	7440-70-2	13500		13500			

Project Name: 32950000
SDG: 120127
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Chromium	7440-47-3	23.7	J	23.7		Qualify	2,4
Cobalt	7440-48-4	2	J	2		Qualify	1,5
Copper	7440-50-8	29.6	J	29.6		Qualify	3
Iron	7439-89-6	20200		20200			
Lead	7439-92-1	334		334			
Magnesium	7439-95-4	685		685			
Manganese	7439-96-5	104	J	104		Qualify	4
Nickel	7440-02-0	6.3		6.3			
Potassium	7440-09-7	273	J	273		Qualify	1
Sodium	7440-23-5	645		645			
Vanadium	7440-62-2	34.4		34.4			
Zinc	7440-66-6	56.1		56.1			
Field ID Num: S19; Lab ID Num: 711251; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	95.2		95.2			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.037	UJ	0.037		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2830		2830			
Antimony	7440-36-0	17.9		17.9			
Arsenic	7440-38-2	23.6	J	23.6		Qualify	4
Barium	7440-39-3	8.8	J	8.8		Qualify	1
Beryllium	7440-41-7	0.25	J	0.25		Qualify	1,5
Cadmium	7440-43-9	0.35	J	0.35		Qualify	1,5
Calcium	7440-70-2	8830		8830			
Chromium	7440-47-3	11.7	J	11.7		Qualify	2,4
Cobalt	7440-48-4	1.9	J	1.9		Qualify	1,5
Copper	7440-50-8	37	J	37		Qualify	3
Iron	7439-89-6	27600		27600			
Lead	7439-92-1	245		245			
Magnesium	7439-95-4	560		560			
Manganese	7439-96-5	68.8	J	68.8		Qualify	4
Nickel	7440-02-0	7.1		7.1			
Potassium	7440-09-7	330	J	330		Qualify	1
Sodium	7440-23-5	622		622			
Vanadium	7440-62-2	25.9		25.9			
Zinc	7440-66-6	39		39			
Field ID Num: S17; Lab ID Num: 711250; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	93.7		93.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.051	UJ	0.051		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1360		1360			
Antimony	7440-36-0	67.6		67.6			
Arsenic	7440-38-2	39.3	J	39.3		Qualify	4

Project Name: 32950000
SDG: 120127
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Barium	7440-39-3	16.8		16.8			
Beryllium	7440-41-7	0.23	J	0.23		Qualify	1,5
Cadmium	7440-43-9	0.32	J	0.32		Qualify	1,5
Calcium	7440-70-2	2320	J	2320		Qualify	1
Chromium	7440-47-3	13.2	J	13.2		Qualify	2,4
Cobalt	7440-48-4	1.3	J	1.3		Qualify	1,5
Copper	7440-50-8	71.3	J	71.3		Qualify	3
Iron	7439-89-6	17100		17100			
Lead	7439-92-1	647		647			
Magnesium	7439-95-4	353	J	353		Qualify	1
Manganese	7439-96-5	65.1	J	65.1		Qualify	4
Nickel	7440-02-0	5.9		5.9			
Potassium	7440-09-7	233	J	233		Qualify	1
Sodium	7440-23-5	402	J	402		Qualify	1
Vanadium	7440-62-2	32.8		32.8			
Zinc	7440-66-6	65.5		65.5			
Field ID Num: S14; Lab ID Num: 711249; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	81.3		81.3			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.079	J	0.079		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	9930		9930			
Antimony	7440-36-0	0.86	JB	0.86		Negate	6
Arsenic	7440-38-2	13	J	13		Qualify	4
Barium	7440-39-3	58.3		58.3			
Beryllium	7440-41-7	0.6	J	0.6		Qualify	5
Cadmium	7440-43-9	0.27	J	0.27		Qualify	1,5
Calcium	7440-70-2	2960	J	2960		Qualify	1
Chromium	7440-47-3	28.7	J	28.7		Qualify	2,4
Cobalt	7440-48-4	5.4	J	5.4		Qualify	5
Copper	7440-50-8	24.9	J	24.9		Qualify	3
Iron	7439-89-6	27800		27800			
Magnesium	7439-95-4	2520		2520			
Manganese	7439-96-5	168	J	168		Qualify	4
Nickel	7440-02-0	12.8		12.8			
Potassium	7440-09-7	1490		1490			
Lead	7439-92-1	70.5		70.5			
Sodium	7440-23-5	157	J	157		Qualify	1
Vanadium	7440-62-2	40.1		40.1			
Zinc	7440-66-6	57.1		57.1			
Field ID Num: S15; Lab ID Num: 711248; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	91.5		91.5			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.055	UJ	0.055		Qualify	8
ICPAES Metals (mg/Kg)							

Project Name: 32950000
SDG: 120127
Project Number: 32950000

Laboratory Name: STL-Burlingtoh
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor: 1.00							
Aluminum	7429-90-5	3080		3080			
Antimony	7440-36-0	1.5	JB	1.5		Negate	6
Arsenic	7440-38-2	2	J	2		Qualify	4
Barium	7440-39-3	13.6	J	13.6		Qualify	1
Beryllium	7440-41-7	0.24	J	0.24		Qualify	1,5
Calcium	7440-70-2	442		442			
Chromium	7440-47-3	6.6	J	6.6		Qualify	2,4
Cobalt	7440-48-4	0.32	J	0.32		Qualify	1,5
Copper	7440-50-8	4.2	JB	4.2		Qualify	3,7
Iron	7439-89-6	2680		2680			
Magnesium	7439-95-4	107	J	107		Qualify	1
Manganese	7439-96-5	17.7	J	17.7		Qualify	4
Nickel	7440-02-0	0.52	J	0.52		Qualify	1
Potassium	7440-09-7	330	J	330		Qualify	1
Lead	7439-92-1	8.1		8.1			
Vanadium	7440-62-2	6		6			
Zinc	7440-66-6	4.1	JB	4.1		Negate	6
Field ID Num: S16; Lab ID Num: 711247; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	94.4		94.4			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.05	UJ	0.05		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	7510		7510			
Antimony	7440-36-0	2.8	JB	2.8		Qualify	1,7
Arsenic	7440-38-2	6.1	J	6.1		Qualify	4
Barium	7440-39-3	17.6		17.6			
Beryllium	7440-41-7	0.24	J	0.24		Qualify	1,5
Cadmium	7440-43-9	0.17	J	0.17		Qualify	1,5
Calcium	7440-70-2	5280		5280			
Chromium	7440-47-3	21.9	J	21.9		Qualify	2,4
Cobalt	7440-48-4	3.5	J	3.5		Qualify	1,5
Copper	7440-50-8	23.8	J	23.8		Qualify	3
Iron	7439-89-6	12600		12600			
Magnesium	7439-95-4	2370		2370			
Manganese	7439-96-5	93.4	J	93.4		Qualify	4
Nickel	7440-02-0	9.9		9.9			
Potassium	7440-09-7	609		609			
Lead	7439-92-1	27.1		27.1			
Sodium	7440-23-5	431		431			
Vanadium	7440-62-2	32.5		32.5			
Zinc	7440-66-6	24.5		24.5			
Field ID Num: S4C; Lab ID Num: 711246; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	94.7		94.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							

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Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Mercury	7439-97-6	0.06	J	0.06		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3260		3260			
Antimony	7440-36-0	633		633			
Arsenic	7440-38-2	386	J	386		Qualify	4
Barium	7440-39-3	100		100			
Beryllium	7440-41-7	0.57	J	0.57		Qualify	5
Cadmium	7440-43-9	3.8	J	3.8		Qualify	5
Calcium	7440-70-2	3500		3500			
Chromium	7440-47-3	27.6	J	27.6		Qualify	2,4
Cobalt	7440-48-4	18.4	J	18.4		Qualify	5
Copper	7440-50-8	770	J	770		Qualify	3
Iron	7439-89-6	74000		74000			
Lead	7439-92-1	14700		14700			
Magnesium	7439-95-4	1090		1090			
Manganese	7439-96-5	433	J	433		Qualify	4
Nickel	7440-02-0	80.6		80.6			
Potassium	7440-09-7	518		518			
Selenium	7782-49-2	0.47	J	0.47		Qualify	1
Silver	7440-22-4	0.65	J	0.65		Qualify	1
Sodium	7440-23-5	1110	J	1110		Qualify	9
Thallium	7440-28-0	1	J	1		Qualify	1
Vanadium	7440-62-2	64.5		64.5			
Zinc	7440-66-6	319		319			
Field ID Num: S4B; Lab ID Num: 711245; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	98		98			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.42		0.42			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3170		3170			
Antimony	7440-36-0	4730		4730			
Arsenic	7440-38-2	3350	J	3350		Qualify	4
Barium	7440-39-3	289		289			
Beryllium	7440-41-7	0.26	J	0.26		Qualify	1,5
Cadmium	7440-43-9	6.4	J	6.4		Qualify	5
Calcium	7440-70-2	2150		2150			
Chromium	7440-47-3	44.3	J	44.3		Qualify	2,4
Cobalt	7440-48-4	24.9	J	24.9		Qualify	5
Copper	7440-50-8	3590	J	3590		Qualify	3
Iron	7439-89-6	217000		217000			
Lead	7439-92-1	25100		25100			
Magnesium	7439-95-4	479		479			
Manganese	7439-96-5	499	J	499		Qualify	4
Nickel	7440-02-0	286		286			
Potassium	7440-09-7	630		630			
Selenium	7782-49-2	15.7		15.7			
Silver	7440-22-4	1.4		1.4			

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Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Sodium	7440-23-5	638	J	638		Qualify	9
Thallium	7440-28-0	2.6		2.6			
Vanadium	7440-62-2	52.9		52.9			
Zinc	7440-66-6	655		655			
Field ID Num: S4A; Lab ID Num: 711244; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	95.6		95.6			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.54		0.54			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1790		1790			
Antimony	7440-36-0	145		145			
Arsenic	7440-38-2	92.1	J	92.1		Qualify	4
Barium	7440-39-3	45		45			
Beryllium	7440-41-7	0.14	J	0.14		Qualify	1,5
Cadmium	7440-43-9	1.1	J	1.1		Qualify	5
Calcium	7440-70-2	576		576			
Chromium	7440-47-3	9.2	J	9.2		Qualify	2,4
Cobalt	7440-48-4	1.1	J	1.1		Qualify	1,5
Copper	7440-50-8	131	J	131		Qualify	3
Iron	7439-89-6	11600		11600			
Lead	7439-92-1	4970		4970			
Magnesium	7439-95-4	258	J	258		Qualify	1
Manganese	7439-96-5	41.8	J	41.8		Qualify	4
Nickel	7440-02-0	7.9		7.9			
Potassium	7440-09-7	290	J	290		Qualify	1
Selenium	7782-49-2	0.56	J	0.56		Qualify	1
Silver	7440-22-4	1		1			
Sodium	7440-23-5	92.5	J	92.5		Qualify	1
Thallium	7440-28-0	0.39	J	0.39		Qualify	1
Vanadium	7440-62-2	13.6		13.6			
Zinc	7440-66-6	55.7		55.7			
Field ID Num: S3C; Lab ID Num: 711243; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	88.9		88.9			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.054	J	0.054		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2710		2710			
Antimony	7440-36-0	12900		12900			
Arsenic	7440-38-2	850	J	850		Qualify	4
Barium	7440-39-3	24.9		24.9			
Beryllium	7440-41-7	0.46	J	0.46		Qualify	5
Cadmium	7440-43-9	6.4	J	6.4		Qualify	5
Calcium	7440-70-2	4890		4890			
Chromium	7440-47-3	30.4	J	30.4		Qualify	2,4

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Cobalt	7440-48-4	10.2	J	10.2		Qualify	5
Copper	7440-50-8	1220	J	1220		Qualify	3
Iron	7439-89-6	101000		101000			
Lead	7439-92-1	142000		142000			
Magnesium	7439-95-4	701		701			
Manganese	7439-96-5	325	J	325		Qualify	4
Nickel	7440-02-0	59.2		59.2			
Potassium	7440-09-7	286	J	286		Qualify	1
Selenium	7782-49-2	2.1	J	2.1		Qualify	1
Silver	7440-22-4	11.8		11.8			
Sodium	7440-23-5	42900	UJ	42900		Suspect	10
Thallium	7440-28-0	2.8		2.8			
Vanadium	7440-62-2	51.3		51.3			
Zinc	7440-66-6	347	J	347		Qualify	9
Field ID Num: S3B; Lab ID Num: 711242; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	94.5		94.5			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	1.3		1.3			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	5100		5100			
Antimony	7440-36-0	864		864			
Arsenic	7440-38-2	544	J	544		Qualify	4
Barium	7440-39-3	525		525			
Beryllium	7440-41-7	0.27	J	0.27		Qualify	1,5
Cadmium	7440-43-9	3.2	J	3.2		Qualify	5
Calcium	7440-70-2	1050		1050			
Chromium	7440-47-3	47.5	J	47.5		Qualify	2,4
Cobalt	7440-48-4	6.6	J	6.6		Qualify	5
Copper	7440-50-8	1130	J	1130		Qualify	3
Iron	7439-89-6	78100		78100			
Lead	7439-92-1	39900		39900			
Magnesium	7439-95-4	522		522			
Manganese	7439-96-5	469	J	469		Qualify	4
Nickel	7440-02-0	41.7		41.7			
Potassium	7440-09-7	704		704			
Selenium	7782-49-2	2.8	J	2.8		Qualify	1
Silver	7440-22-4	1.7		1.7			
Sodium	7440-23-5	4010	UJ	4010		Suspect	10
Thallium	7440-28-0	2.5		2.5			
Vanadium	7440-62-2	49.4		49.4			
Zinc	7440-66-6	394		394			
Field ID Num: S3A; Lab ID Num: 711241; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	89		89			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.035	J	0.035		Qualify	1,8

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Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	5770		5770			
Antimony	7440-36-0	4.6	JB	4.6		Qualify	1,7
Arsenic	7440-38-2	35.4	J	35.4		Qualify	4
Barium	7440-39-3	50.3		50.3			
Beryllium	7440-41-7	0.35	J	0.35		Qualify	1,5
Cadmium	7440-43-9	0.37	J	0.37		Qualify	1,5
Calcium	7440-70-2	1760		1760			
Chromium	7440-47-3	17.2	J	17.2		Qualify	2,4
Cobalt	7440-48-4	2.9	J	2.9		Qualify	1,5
Copper	7440-50-8	121	J	121		Qualify	3
Iron	7439-89-6	10500		10500			
Lead	7439-92-1	324		324			
Magnesium	7439-95-4	1360		1360			
Manganese	7439-96-5	168	J	168		Qualify	4
Nickel	7440-02-0	11.5		11.5			
Potassium	7440-09-7	612		612			
Silver	7440-22-4	0.15	J	0.15		Qualify	1
Sodium	7440-23-5	128	J	128		Qualify	1
Vanadium	7440-62-2	34.4		34.4			
Zinc	7440-66-6	33.2		33.2			
Field ID Num: S2A; Lab ID Num: 711240; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	97.1		97.1			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.049	J	0.049		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	4660		4660			
Antimony	7440-36-0	7.6		7.6			
Arsenic	7440-38-2	30.7	J	30.7		Qualify	4
Barium	7440-39-3	53.4		53.4			
Beryllium	7440-41-7	0.26	J	0.26		Qualify	1,5
Cadmium	7440-43-9	0.34	J	0.34		Qualify	1,5
Calcium	7440-70-2	1030		1030			
Chromium	7440-47-3	8.7	J	8.7		Qualify	2,4
Cobalt	7440-48-4	1.9	J	1.9		Qualify	1,5
Copper	7440-50-8	199	J	199		Qualify	3
Iron	7439-89-6	10400		10400			
Lead	7439-92-1	672		672			
Magnesium	7439-95-4	563		563			
Manganese	7439-96-5	87	J	87		Qualify	4
Nickel	7440-02-0	12.5		12.5			
Potassium	7440-09-7	648		648			
Selenium	7782-49-2	0.85	J	0.85		Qualify	1
Silver	7440-22-4	0.64	J	0.64		Qualify	1
Sodium	7440-23-5	173	J	173		Qualify	1
Vanadium	7440-62-2	46.1		46.1			
Zinc	7440-66-6	38.7		38.7			

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Field ID Num: S2B; Lab ID Num: 711239; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	91.4		91.4			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.05	UJ	0.05		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2950		2950			
Antimony	7440-36-0	8.6		8.6			
Arsenic	7440-38-2	29.4	J	29.4		Qualify	4
Barium	7440-39-3	5.6	J	5.6		Qualify	1
Beryllium	7440-41-7	0.6	J	0.6		Qualify	5
Cadmium	7440-43-9	0.57	J	0.57		Qualify	5
Calcium	7440-70-2	298	J	298		Qualify	1
Chromium	7440-47-3	44.3	J	44.3		Qualify	2,4
Cobalt	7440-48-4	1.9	J	1.9		Qualify	1,5
Copper	7440-50-8	42.7	J	42.7		Qualify	3
Iron	7439-89-6	47700		47700			
Lead	7439-92-1	155		155			
Magnesium	7439-95-4	513		513			
Manganese	7439-96-5	79.5	J	79.5		Qualify	4
Nickel	7440-02-0	8.8		8.8			
Potassium	7440-09-7	374	J	374		Qualify	1
Sodium	7440-23-5	147	J	147		Qualify	1
Vanadium	7440-62-2	65.5		65.5			
Zinc	7440-66-6	89.2		89.2			
Field ID Num: S1C; Lab ID Num: 711238; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	90.7		90.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.039	J	0.039		Qualify	1,8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3740		3740			
Antimony	7440-36-0	628		628			
Arsenic	7440-38-2	228	J	228		Qualify	4
Barium	7440-39-3	58.1		58.1			
Beryllium	7440-41-7	0.56	J	0.56		Qualify	5
Cadmium	7440-43-9	1.2	J	1.2		Qualify	5
Calcium	7440-70-2	2720		2720			
Chromium	7440-47-3	43	J	43		Qualify	2,4
Cobalt	7440-48-4	67.6	J	67.6		Qualify	5
Copper	7440-50-8	821	J	821		Qualify	3
Iron	7439-89-6	91100		91100			
Lead	7439-92-1	6120		6120			
Magnesium	7439-95-4	1670		1670			
Manganese	7439-96-5	480	J	480		Qualify	4
Nickel	7440-02-0	244		244			

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Potassium	7440-09-7	507		507			
Silver	7440-22-4	0.4	J	0.4		Qualify	1
Sodium	7440-23-5	1280		1280			
Thallium	7440-28-0	0.63	J	0.63		Qualify	1
Vanadium	7440-62-2	85.6		85.6			
Zinc	7440-66-6	339		339			
Field ID Num: S1B; Lab ID Num: 711237; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	95.5		95.5			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.048	UJ	0.048		Qualify	8
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2710		2710			
Antimony	7440-36-0	68.1		68.1			
Arsenic	7440-38-2	54	J	54		Qualify	4
Barium	7440-39-3	118		118			
Beryllium	7440-41-7	0.31	J	0.31		Qualify	1,5
Cadmium	7440-43-9	0.71	J	0.71		Qualify	5
Calcium	7440-70-2	7370		7370			
Chromium	7440-47-3	19.9	J	19.9		Qualify	2,4
Cobalt	7440-48-4	2.3	J	2.3		Qualify	1,5
Copper	7440-50-8	180	J	180		Qualify	3
Iron	7439-89-6	44600		44600			
Lead	7439-92-1	1670		1670			
Magnesium	7439-95-4	2470		2470			
Manganese	7439-96-5	135	J	135		Qualify	4
Nickel	7440-02-0	16.4		16.4			
Potassium	7440-09-7	314	J	314		Qualify	1
Silver	7440-22-4	0.45	J	0.45		Qualify	1
Sodium	7440-23-5	824		824			
Vanadium	7440-62-2	47.9		47.9			
Zinc	7440-66-6	146		146			
Field ID Num: S1A; Lab ID Num: 711236; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	89.7		89.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.61	J	0.61		Qualify	8
iCPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	6990		6990			
Antimony	7440-36-0	562		562			
Arsenic	7440-38-2	147	J	147		Qualify	4
Barium	7440-39-3	311		311			
Beryllium	7440-41-7	0.46	J	0.46		Qualify	5
Cadmium	7440-43-9	7.1	J	7.1		Qualify	5
Calcium	7440-70-2	2090		2090			
Chromium	7440-47-3	22.3	J	22.3		Qualify	2,4

Project Name: 32950000
SDG: 120127
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Cobalt	7440-48-4	5.8	J	5.8		Qualify	5
Copper	7440-50-8	321	J	321		Qualify	3
Iron	7439-89-6	39300		39300			
Lead	7439-92-1	7630		7630			
Magnesium	7439-95-4	1360		1360			
Manganese	7439-96-5	247		247		Qualify	4
Nickel	7440-02-0	40.9		40.9			
Potassium	7440-09-7	1290		1290			
Selenium	7782-49-2	0.72	J	0.72		Qualify	1
Silver	7440-22-4	1.6		1.6			
Sodium	7440-23-5	4290	UJ	4290		Suspect	10
Thallium	7440-28-0	0.82	J	0.82		Qualify	1
Vanadium	7440-62-2	104		104			
Zinc	7440-66-6	422		422			

FOOTNOTES

1. The reported concentration is quantitatively qualified because it is above the Method Detection Level (MDL) but below the Contract Required Quantitation Limit (CRQL).

2. The reported concentration is quantitatively qualified and may be biased low or the detection limit for the nondetected result may be estimated because the %recovery for the sample spike analysis was below the QA/QC limits of 75-125%.

3. The reported concentration is quantitatively qualified and may be biased high because the %recovery for the sample spike analysis was above the QA/QC limits of 75-125%.

4. The reported concentration is quantitatively qualified because the Relative %Difference between the sampie and sample duplicate results was greater than 20%.

5. The reported concentration is quantitatively qualified because the %Difference between the sample result and the Sample Serial Dilution result for this analyte was greater than 10%.

6. The reported concentration in the sample is less than 3 X the value in the method/preparation blank. It is the policy of ODQ to negate the reported value due to probable contamination unrelated to the actual sample.

7. The reported concentration in the sample is greater than 3X the value in the method/preparation blank and is considered "real". However, the reported value must be quantitatively qualified "J" due to method/preparation blank contamination. The "B" qualifier alerts the end-user to the presence of this analyte in the method/preparation blank.

8. The positive result is qualified "J" and may be biased low, the nondetected results are qualified "UJ" and the detection limits may be estimated due to negative drifting of this analyte in the preparation blank.

9. The reported concentration of this analyte is taken from a dilution analysis. The concentration is above the MDL but below the elevated CRQL.

10. The non detected result for this analyte is suspect because the sample was diluted too extensively.

State of New Jersey

Jon S. Corzine
Governor

Department of Environmental Protection

Lisa P. Jackson
Commissioner

MEMORANDUM

TO: Kevin Schick, Bureau Chief
Bureau of Environmental Evaluation and Risk Assessment

THROUGH: Greg Toffoli, Section Chief GT 9/4/07
Office of Data Quality
Hazardous Site Science Element

SEP 04 2007

FROM: Carol Pillsbury CP 9/4/07
Office of Data Quality
Hazardous Site Science Element

SUBJECT: Quality Assurance Review –Margaret Creek Lead Contamination (SDG 121055) Site. STL Burlington, Colchester, VT analyzed eighteen nonaqueous samples for TAL Metals according to USEPA CLP SOW ILM05.3.

Field ID	Laboratory ID	Sample Date	Matrix
S21	718700	07/23/2007	NONAQUEOUS
S22	718701	07/23/2007	NONAQUEOUS
S23	718702	07/23/2007	NONAQUEOUS
S24	718703	07/23/2007	NONAQUEOUS
S25	718704	07/23/2007	NONAQUEOUS
S26	718705	07/23/2007	NONAQUEOUS
S27	718706	07/23/2007	NONAQUEOUS
DUP2	718707	07/23/2007	NONAQUEOUS
S28	718708	07/23/2007	NONAQUEOUS
S29	718709	07/23/2007	NONAQUEOUS
S30	718710	07/23/2007	NONAQUEOUS
S31	718711	07/23/2007	NONAQUEOUS
S32	718712	07/23/2007	NONAQUEOUS
S33	718713	07/23/2007	NONAQUEOUS
S34	718714	07/23/2007	NONAQUEOUS
DUP1	718715	07/23/2007	NONAQUEOUS
S35	718716	07/23/2007	NONAQUEOUS
S36	718717	07/23/2007	NONAQUEOUS

The Office of Data Quality, Hazardous Site Science Element, Division of Remediation Management and Response has reviewed the above listed nonaqueous samples according to Full CLP Deliverable Requirements as specified in the Technical Requirements for Site Remediation, N.J.A.C. 7:26E. A Target Analyte Summary List is provided for your convenience. Specific comments are provided below:

Metals

The metals data are acceptable with the qualifications resulting from QA/QC outliers in the following analyses: sample spike, sample duplicate, serial dilution, negative drifting and preparation blank.

Should you have any questions regarding this review, please contact this office at 633-0752.

C. Ed Putnam, RPDE
Jerry Schoenleber, EMS
Mindy Mumford, OCR

Project Name: A4639300
SDG: 121055
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Field ID Num: S36; Lab ID Num: 718717; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	82.2		82.2			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1870		1870			
Antimony	7440-36-0	0.87	J	0.87		Qualify	1,3
Arsenic	7440-38-2	3.7		3.7			
Barium	7440-39-3	9.1	J	9.1		Qualify	1
Beryllium	7440-41-7	0.058	J	0.058		Qualify	1
Calcium	7440-70-2	782	J	782		Qualify	4
Cobalt	7440-48-4	0.53	J	0.53		Qualify	1
Chromium	7440-47-3	6.1		6.1			
Copper	7440-50-8	6		6			
Iron	7439-89-6	7940		7940			
Magnesium	7439-95-4	247	J	247		Qualify	1
Manganese	7439-96-5	26.5	J	26.5		Qualify	4
Sodium	7440-23-5	12.5	J	12.5		Qualify	1,5
Nickel	7440-02-0	1.6	J	1.6		Qualify	1
Lead	7439-92-1	33.1	J	33.1		Qualify	4
Potassium	7440-09-7	226	J	226		Qualify	1
Vanadium	7440-62-2	12.1		12.1			
Zinc	7440-66-6	14.3		14.3			
Field ID Num: S35; Lab ID Num: 718716; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	85.3		85.3			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3470		3470			
Antimony	7440-36-0	1.1	J	1.1		Qualify	1,3
Arsenic	7440-38-2	7.3		7.3			
Barium	7440-39-3	13.8	J	13.8		Qualify	1.
Beryllium	7440-41-7	0.22	J	0.22		Qualify	1
Calcium	7440-70-2	137	J	137		Qualify	1,4
Cobalt	7440-48-4	0.97	J	0.97		Qualify	1
Chromium	7440-47-3	17.5		17.5			
Copper	7440-50-8	9		9			
Iron	7439-89-6	21900		21900			
Magnesium	7439-95-4	147	J	147		Qualify	1
Manganese	7439-96-5	20.3	J	20.3		Qualify	4
Sodium	7440-23-5	28.6	J	28.6		Qualify	1,5
Nickel	7440-02-0	2.3	J	2.3		Qualify	1
Lead	7439-92-1	12.9	J	12.9		Qualify	4
Potassium	7440-09-7	461		461			
Vanadium	7440-62-2	28		28			
Zinc	7440-66-6	13.2		13.2			
Field ID Num: DUP1; Lab ID Num: 718715; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor: 1.0							
Solids, Percent	SRP 141	86.6		86.6			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	9030		9030			
Antimony	7440-36-0	1.3	J	1.3		Qualify	1,3
Arsenic	7440-38-2	8.4		8.4			
Barium	7440-39-3	40		40			
Beryllium	7440-41-7	0.43	J	0.43		Qualify	1
Calcium	7440-70-2	1710	J	1710		Qualify	4
Cadmium	7440-43-9	0.076	J	0.076		Qualify	1
Cobalt	7440-48-4	6		6			
Chromium	7440-47-3	34.4		34.4			
Copper	7440-50-8	24		24			
Iron	7439-89-6	24300		24300			
Magnesium	7439-95-4	1750		1750			
Manganese	7439-96-5	179	J	179		Qualify	4
Sodium	7440-23-5	106	J	106		Qualify	1,5
Nickel	7440-02-0	10.2		10.2			
Lead	7439-92-1	52.8	J	52.8		Qualify	4
Potassium	7440-09-7	1150		1150			
Vanadium	7440-62-2	41.5		41.5			
Zinc	7440-66-6	54.1		54.1			
Field ID Num: S34; Lab ID Num: 718714; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	86.9		86.9			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	8610		8610			
Antimony	7440-36-0	1.3	J	1.3		Qualify	1,3
Arsenic	7440-38-2	7.5		7.5			
Barium	7440-39-3	40.9		40.9			
Beryllium	7440-41-7	0.43	J	0.43		Qualify	1
Calcium	7440-70-2	2040	J	2040		Qualify	4
Cadmium	7440-43-9	0.1	J	0.1		Qualify	1
Cobalt	7440-48-4	5.3		5.3			
Chromium	7440-47-3	22.9		22.9			
Copper	7440-50-8	23		23			
Iron	7439-89-6	22300		22300			
Magnesium	7439-95-4	1970		1970			
Manganese	7439-96-5	193	J	193		Qualify	4
Sodium	7440-23-5	136	J	136		Qualify	1,5
Nickel	7440-02-0	10.3		10.3			
Lead	7439-92-1	53.6	J	53.6		Qualify	4
Potassium	7440-09-7	1140		1140			
Vanadium	7440-62-2	34.8		34.8			
Zinc	7440-66-6	50.9		50.9			
Field ID Num: S33; Lab ID Num: 718713; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor: 1.0							
Solids, Percent	SRP 141	88.1		88.1			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3040		3040			
Antimony	7440-36-0	1.1	J	1.1		Qualify	1,3
Arsenic	7440-38-2	5.6		5.6			
Barium	7440-39-3	12.7	J	12.7		Qualify	1
Beryllium	7440-41-7	0.2	J	0.2		Qualify	1
Calcium	7440-70-2	509	J	509		Qualify	4
Cobalt	7440-48-4	1.3	J	1.3		Qualify	1
Chromium	7440-47-3	12.7		12.7			
Copper	7440-50-8	13.6		13.6			
Iron	7439-89-6	19300		19300			
Magnesium	7439-95-4	305	J	305		Qualify	1
Manganese	7439-96-5	29.4	J	29.4		Qualify	4
Sodium	7440-23-5	27.5	J	27.5		Qualify	1,5
Nickel	7440-02-0	3	J	3		Qualify	1
Lead	7439-92-1	23.6	J	23.6		Qualify	4
Potassium	7440-09-7	359	J	359		Qualify	1
Vanadium	7440-62-2	16.9		16.9			
Zinc	7440-66-6	20		20			
Field ID Num: S32; Lab ID Num: 718712; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	85.3		85.3			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3280		3280			
Antimony	7440-36-0	0.5	J	0.5		Qualify	1,3
Arsenic	7440-38-2	2.6		2.6			
Barium	7440-39-3	13.9	J	13.9		Qualify	1
Beryllium	7440-41-7	0.1	J	0.1		Qualify	1
Calcium	7440-70-2	368	J	368		Qualify	1,4
Cobalt	7440-48-4	1.4	J	1.4		Qualify	1
Chromium	7440-47-3	7.8		7.8			
Copper	7440-50-8	8.6		8.6			
Iron	7439-89-6	8860		8860			
Magnesium	7439-95-4	359	J	359		Qualify	1
Manganese	7439-96-5	45.5	J	45.5		Qualify	4
Sodium	7440-23-5	30.9	J	30.9		Qualify	1,5
Nickel	7440-02-0	2.8	J	2.8		Qualify	1
Lead	7439-92-1	20.3	J	20.3		Qualify	4
Potassium	7440-09-7	314	J	314		Qualify	1
Vanadium	7440-62-2	13.9		13.9			
Zinc	7440-66-6	14.4		14.4			
Field ID Num: S31; Lab ID Num: 718711; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	82		82			

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	6890		6890			
Antimony	7440-36-0	1.6	J	1.6		Qualify	1,3
Arsenic	7440-38-2	6.7		6.7			
Barium	7440-39-3	33.8		33.8			
Beryllium	7440-41-7	0.27	J	0.27		Qualify	1
Calcium	7440-70-2	2250	J	2250		Qualify	4
Cadmium	7440-43-9	0.15	J	0.15		Qualify	1
Cobalt	7440-48-4	3.7	J	3.7		Qualify	1
Chromium	7440-47-3	16.2		16.2			
Copper	7440-50-8	25.7		25.7			
Iron	7439-89-6	16300		16300			
Magnesium	7439-95-4	1390		1390			
Manganese	7439-96-5	118	J	118		Qualify	4
Sodium	7440-23-5	93.7	J	93.7		Qualify	1,5
Nickel	7440-02-0	7.7		7.7			
Lead	7439-92-1	74.7	J	74.7		Qualify	4
Potassium	7440-09-7	866		866			
Vanadium	7440-62-2	27		27			
Zinc	7440-66-6	47.2		47.2			
Field ID Num: S30; Lab ID Num: 718710; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	86.3		86.3			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	11800		11800			
Antimony	7440-36-0	1.4	J	1.4		Qualify	1,3
Arsenic	7440-38-2	19.5		19.5			
Barium	7440-39-3	25.6		25.6			
Beryllium	7440-41-7	0.49		0.49			
Calcium	7440-70-2	440	J	440		Qualify	1,4
Cobalt	7440-48-4	2.7	J	2.7		Qualify	1
Chromium	7440-47-3	26.2		26.2			
Copper	7440-50-8	14.2		14.2			
Iron	7439-89-6	30800		30800			
Magnesium	7439-95-4	1210		1210			
Manganese	7439-96-5	58.2	J	58.2		Qualify	4
Sodium	7440-23-5	64.4	J	64.4		Qualify	1,5
Nickel	7440-02-0	6.1		6.1			
Lead	7439-92-1	18.4	J	18.4		Qualify	4
Potassium	7440-09-7	2040		2040			
Vanadium	7440-62-2	64.9		64.9			
Zinc	7440-66-6	30.1		30.1			
Field ID Num: S29; Lab ID Num: 718709; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	89.3		89.3			
ICPAES Metals (mg/Kg)							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor: 1.00							
Aluminum	7429-90-5	6370		6370			
Antimony	7440-36-0	1.3	J	1.3		Qualify	1,3
Arsenic	7440-38-2	6.4		6.4			
Barium	7440-39-3	27.4		27.4			
Beryllium	7440-41-7	0.3	J	0.3		Qualify	1
Calcium	7440-70-2	922	J	922		Qualify	4
Cadmium	7440-43-9	0.051	J	0.051		Qualify	1
Cobalt	7440-48-4	3.3	J	3.3		Qualify	1
Chromium	7440-47-3	17		17			
Copper	7440-50-8	20.8		20.8			
Iron	7439-89-6	16200		16200			
Magnesium	7439-95-4	1300		1300			
Manganese	7439-96-5	97.6	J	97.6		Qualify	4
Sodium	7440-23-5	76.9	J	76.9		Qualify	1,5
Nickel	7440-02-0	6.9		6.9			
Lead	7439-92-1	63.1	J	63.1		Qualify	4
Potassium	7440-09-7	1080		1080			
Vanadium	7440-62-2	24.3		24.3			
Zinc	7440-66-6	37.7		37.7			
Field ID Num: S28; Lab ID Num: 718708; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	88.6		88.6			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2070		2070			
Antimony	7440-36-0	1.7	J	1.7		Qualify	1,3
Arsenic	7440-38-2	4.6		4.6			
Barium	7440-39-3	9.9	J	9.9		Qualify	1
Beryllium	7440-41-7	0.14	J	0.14		Qualify	1
Calcium	7440-70-2	267	J	267		Qualify	1,4
Cobalt	7440-48-4	1	J	1		Qualify	1
Chromium	7440-47-3	8.9		8.9			
Copper	7440-50-8	8.6		8.6			
Iron	7439-89-6	10100		10100			
Magnesium	7439-95-4	407	J	407		Qualify	1
Manganese	7439-96-5	35.1	J	35.1		Qualify	4
Sodium	7440-23-5	28.4	J	28.4		Qualify	1,5
Nickel	7440-02-0	3.2	J	3.2		Qualify	1
Lead	7439-92-1	59	J	59		Qualify	4
Potassium	7440-09-7	382	J	382		Qualify	1
Vanadium	7440-62-2	13.8		13.8			
Zinc	7440-66-6	14.6		14.6			
Field ID Num: DUP2; Lab ID Num: 718707; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	89.5		89.5			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Aluminum	7429-90-5	4700		4700			
Antimony	7440-36-0	2.3	J	2.3		Qualify	1,3
Arsenic	7440-38-2	5.5		5.5			
Barium	7440-39-3	19.8		19.8			
Beryllium	7440-41-7	0.16	J	0.16		Qualify	1
Calcium	7440-70-2	878	J	878		Qualify	4
Cadmium	7440-43-9	0.032	J	0.032		Qualify	1
Cobalt	7440-48-4	1.5	J	1.5		Qualify	1
Chromium	7440-47-3	12.1		12.1			
Copper	7440-50-8	19.1		19.1			
Iron	7439-89-6	14900		14900			
Magnesium	7439-95-4	843		843			
Manganese	7439-96-5	43.2	J	43.2		Qualify	4
Sodium	7440-23-5	36.6	J	36.6		Qualify	1,5
Nickel	7440-02-0	4.2		4.2			
Lead	7439-92-1	82.3	J	82.3		Qualify	4
Potassium	7440-09-7	736		736			
Vanadium	7440-62-2	23.2		23.2			
Zinc	7440-66-6	27.8		27.8			
Field ID Num: S27; Lab ID Num: 718706; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	88.7		88.7			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	4370		4370			
Antimony	7440-36-0	1.6	J	1.6		Qualify	1,3
Arsenic	7440-38-2	5.4		5.4			
Barium	7440-39-3	18.6		18.6			
Beryllium	7440-41-7	0.14	J	0.14		Qualify	1
Calcium	7440-70-2	1330	J	1330		Qualify	4
Cadmium	7440-43-9	0.03	J	0.03		Qualify	1
Cobalt	7440-48-4	1.9	J	1.9		Qualify	1
Chromium	7440-47-3	17.8		17.8			
Copper	7440-50-8	44		44			
Iron	7439-89-6	14900		14900			
Magnesium	7439-95-4	823		823			
Manganese	7439-96-5	45.5	J	45.5		Qualify	4
Sodium	7440-23-5	38.3	J	38.3		Qualify	1,5
Nickel	7440-02-0	3.7		3.7			
Lead	7439-92-1	72.5	J	72.5		Qualify	4
Potassium	7440-09-7	701		701			
Vanadium	7440-62-2	23.4		23.4			
Zinc	7440-66-6	22.6		22.6			
Field ID Num: S26; Lab ID Num: 718705; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	87.4		87.4			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Aluminum	7429-90-5	3130		3130			
Antimony	7440-36-0	0.58	J	0.58		Qualify	1,3
Arsenic	7440-38-2	3.7		3.7			
Barium	7440-39-3	20.8		20.8			
Beryllium	7440-41-7	0.14	J	0.14		Qualify	1
Calcium	7440-70-2	109	J	109		Qualify	1,4
Cobalt	7440-48-4	0.61	J	0.61		Qualify	1
Chromium	7440-47-3	10.1		10.1			
Copper	7440-50-8	9.7		9.7			
Iron	7439-89-6	9290		9290			
Magnesium	7439-95-4	182	J	182		Qualify	1
Manganese	7439-96-5	11.4	J	11.4		Qualify	4
Sodium	7440-23-5	20.7	J	20.7		Qualify	1,5
Nickel	7440-02-0	1.9	J	1.9		Qualify	1
Lead	7439-92-1	15.9	J	15.9		Qualify	4
Potassium	7440-09-7	388	J	388		Qualify	1
Vanadium	7440-62-2	21.2		21.2			
Zinc	7440-66-6	9.7		9.7			
Field ID Num: S25; Lab ID Num: 718704; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	93.3		93.3			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2070		2070			
Antimony	7440-36-0	19.2	J	19.2		Qualify	3
Arsenic	7440-38-2	24.5		24.5			
Barium	7440-39-3	14.3	J	14.3		Qualify	1
Beryllium	7440-41-7	0.22	J	0.22		Qualify	1
Calcium	7440-70-2	1600	J	1600		Qualify	4
Cobalt	7440-48-4	0.8	J	0.8		Qualify	1
Chromium	7440-47-3	19.3		19.3			
Copper	7440-50-8	26.9		26.9			
Iron	7439-89-6	29100		29100			
Magnesium	7439-95-4	255	J	255		Qualify	1
Manganese	7439-96-5	29.3	J	29.3		Qualify	4
Sodium	7440-23-5	30.6	J	30.6		Qualify	1,5
Nickel	7440-02-0	3.8		3.8			
Lead	7439-92-1	545	J	545		Qualify	4
Potassium	7440-09-7	432		432			
Vanadium	7440-62-2	36.7		36.7			
Zinc	7440-66-6	22.2		22.2			
Field ID Num: S24; Lab ID Num: 718703; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	90		90			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1450		1450			
Antimony	7440-36-0	1.5	J	1.5		Qualify	1,3

Project Name: A4639300
SDG: 121055
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Arsenic	7440-38-2	12.8		12.8			
Barium	7440-39-3	6.5	J	6.5		Qualify	1,2
Beryllium	7440-41-7	0.097	J	0.097		Qualify	1
Calcium	7440-70-2	444	J	444		Qualify	4
Cobalt	7440-48-4	0.66	J	0.66		Qualify	1
Chromium	7440-47-3	16.6		16.6			
Copper	7440-50-8	29.4		29.4			
Iron	7439-89-6	6590		6590			
Magnesium	7439-95-4	234	J	234		Qualify	1
Manganese	7439-96-5	17.7	J	17.7		Qualify	4
Sodium	7440-23-5	16.3	J	16.3		Qualify	1,5
Nickel	7440-02-0	1.8	J	1.8		Qualify	1
Lead	7439-92-1	61.5	J	61.5		Qualify	4
Potassium	7440-09-7	346	J	346		Qualify	1
Vanadium	7440-62-2	11.1		11.1			
Zinc	7440-66-6	20		20			
Field ID Num: S23; Lab ID Num: 718702; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	92.7		92.7			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2040		2040			
Antimony	7440-36-0	0.73	J	0.73		Qualify	1,3
Arsenic	7440-38-2	3.3		3.3			
Barium	7440-39-3	4.3	J	4.3		Qualify	1,2
Beryllium	7440-41-7	0.2	J	0.2		Qualify	1
Calcium	7440-70-2	2430	J	2430		Qualify	4
Cobalt	7440-48-4	1.6	J	1.6		Qualify	1
Chromium	7440-47-3	9.7		9.7			
Copper	7440-50-8	3.5		3.5			
Iron	7439-89-6	8390		8390			
Magnesium	7439-95-4	885		885			
Manganese	7439-96-5	41.5	J	41.5		Qualify	4
Sodium	7440-23-5	47.6	J	47.6		Qualify	1,5
Nickel	7440-02-0	3.7		3.7			
Lead	7439-92-1	15.8	J	15.8		Qualify	4
Potassium	7440-09-7	928		928			
Vanadium	7440-62-2	11.2		11.2			
Zinc	7440-66-6	11.2		11.2			
Field ID Num: S22; Lab ID Num: 718701; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	80.6		80.6			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	5820		5820			
Antimony	7440-36-0	1.9	J	1.9		Qualify	1,3
Arsenic	7440-38-2	8.6		8.6			
Barium	7440-39-3	60.7		60.7			

Project Name: A4639300
SDG: 121055
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Beryllium	7440-41-7	0.18	J	0.18		Qualify	1
Calcium	7440-70-2	661	J	661		Qualify	4
Cobalt	7440-48-4	1.1	J	1.1		Qualify	1
Chromium	7440-47-3	18.8		18.8			
Copper	7440-50-8	17.5		17.5			
Iron	7439-89-6	19400		19400			
Magnesium	7439-95-4	657		657			
Manganese	7439-96-5	23.6	J	23.6		Qualify	4
Sodium	7440-23-5	172	J	172		Qualify	1,5
Nickel	7440-02-0	3.4	J	3.4		Qualify	1
Lead	7439-92-1	61.6	J	61.6		Qualify	4
Potassium	7440-09-7	973		973			
Vanadium	7440-62-2	34.6		34.6			
Zinc	7440-66-6	15		15			
Field ID Num: S21; Lab ID Num: 718700; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	98.9		98.9			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1160		1160			
Antimony	7440-36-0	20.2	J	20.2		Qualify	3
Arsenic	7440-38-2	16.1		16.1			
Barium	7440-39-3	8.7	J	8.7		Qualify	1
Beryllium	7440-41-7	0.18	J	0.18		Qualify	1
Calcium	7440-70-2	698	J	698		Qualify	4
Cobalt	7440-48-4	1.1	J	1.1		Qualify	1
Chromium	7440-47-3	11.9		11.9			
Copper	7440-50-8	13.4		13.4			
Iron	7439-89-6	19200		19200			
Magnesium	7439-95-4	472		472			
Manganese	7439-96-5	60.4	J	60.4		Qualify	4
Sodium	7440-23-5	91.5	J	91.5		Qualify	1,5
Nickel	7440-02-0	3.6		3.6			
Lead	7439-92-1	378	J	378		Qualify	4
Potassium	7440-09-7	186	J	186		Qualify	1
Vanadium	7440-62-2	18.9		18.9			
Zinc	7440-66-6	33.1		33.1			

FOOTNOTES

1. The reported concentration is quantitatively qualified because it is above the Method Detection Level (MDL) but below the Contract Required Quantitation Limit (CRQL).

2. The positive result is qualified "J" and may be biased low, the nondetected results are qualified "UJ" and the detection limits may be estimated due to negative drifting of this analyte in the preparation blank.

3. The reported concentration is quantitatively qualified and may be biased low or the detection limit for the nondetected result may be estimated because the %recovery for the sample spike analysis was below the QA/QC limits of 75-125%.

4. The reported concentration is quantitatively qualified because the Relative %Difference between the sample and sample duplicate results was greater than 20%.

5. The reported concentration is quantitatively qualified because the %Difference between the sample result and the Sample Serial Dilution result for this analyte was greater than 10%.

State of New Jersey

Jon S. Corzine
Governor

Department of Environmental Protection

Lisa P. Jackson
Commissioner

MEMORANDUM

TO: Kevin Schick, Bureau Chief
Bureau of Environmental Evaluation and Risk Assessment

THROUGH: Greg Toffoli, Section Chief GT 9/4/07
Office of Data Quality
Hazardous Site Science Element

SEP 04 2007

FROM: Carol Pillsbury CP 9/4/07
Office of Data Quality
Hazardous Site Science Element

SUBJECT: Quality Assurance Review –Margaret Creek Lead Contamination (SDG 121058) Site. STL Budington, Colchester, VT analyzed sixteen nonaqueous samples for TAL Metals according to USEPA CLP SOW ILM05.3.

Field ID	Laboratory ID	Sample Date	Matrix
S37	718739	07/24/2007	NONAQUEOUS
S38	718740	07/24/2007	NONAQUEOUS
S39	718741	07/24/2007	NONAQUEOUS
S40	718742	07/24/2007	NONAQUEOUS
S41	718743	07/24/2007	NONAQUEOUS
S42	718744	07/24/2007	NONAQUEOUS
S43	718745	07/24/2007	NONAQUEOUS
S44	718746	07/24/2007	NONAQUEOUS
S45	718747	07/24/2007	NONAQUEOUS
S46	718748	07/24/2007	NONAQUEOUS
S47	718749	07/24/2007	NONAQUEOUS
S48	718750	07/24/2007	NONAQUEOUS
S49	718751	07/24/2007	NONAQUEOUS
S50	718752	07/24/2007	NONAQUEOUS
S51	718753	07/24/2007	NONAQUEOUS
S52	718754	07/24/2007	NONAQUEOUS

The Office of Data Quality, Hazardous Site Science Element, Division of Remediation Management and Response has reviewed the above listed nonaqueous samples according to Full CLP Deliverable Requirements as specified in the Technical Requirements for Site Remediation, N.J.A.C. 7:26E. A Target Analyte Summary List is provided for your convenience. Specific comments are provided below:

Metals

The metals data are acceptable with the qualifications resulting from QA/QC outliers in the following analyses: sample spike, sample duplicate, serial dilution, negative drifting and preparation blank.

Should you have any questions regarding this review, please contact this office at 633-0752.

C. Ed Putnam, RPDE
Jerry Schoenleber, EMS
Mindy Mumford, OCR

Project Name: A4639300
SDG: 121058
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Field ID Num: S52; Lab ID Num: 718754; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	86.9		86.9			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	4820		4820			
Antimony	7440-36-0	5.3	UJ	5.3		Qualify	4
Arsenic	7440-38-2	6.3		6.3			
Barium	7440-39-3	18.8		18.8			
Beryllium	7440-41-7	0.24	J	0.24		Qualify	1
Cadmium	7440-43-9	0.2	J	0.2		Qualify	1
Calcium	7440-70-2	507		507			
Chromium	7440-47-3	11.5		11.5			
Cobalt	7440-48-4	1.4	J	1.4		Qualify	1
Copper	7440-50-8	10		10			
Iron	7439-89-6	11400	J	11400		Qualify	5
Magnesium	7439-95-4	579		579			
Manganese	7439-96-5	74.6		74.6			
Nickel	7440-02-0	4.4		4.4			
Potassium	7440-09-7	710		710			
Selenium	7782-49-2	3.1	UJ	3.1		Qualify	2
Lead	7439-92-1	25.1	J	25.1		Qualify	5
Vanadium	7440-62-2	24.9		24.9			
Zinc	7440-66-6	23.6	J	23.6		Qualify	6
Field ID Num: S51; Lab ID Num: 718753; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	92		92			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	7170		7170			
Antimony	7440-36-0	5	UJ	5		Qualify	4
Arsenic	7440-38-2	9		9			
Barium	7440-39-3	34.4		34.4			
Beryllium	7440-41-7	0.42		0.42			
Cadmium	7440-43-9	0.28	J	0.28		Qualify	1
Calcium	7440-70-2	669		669			
Chromium	7440-47-3	24.5		24.5			
Cobalt	7440-48-4	3.6	J	3.6		Qualify	1
Copper	7440-50-8	27.3		27.3			
Iron	7439-89-6	23100	J	23100		Qualify	5
Magnesium	7439-95-4	1370		1370			
Manganese	7439-96-5	85.4		85.4			
Nickel	7440-02-0	9.5		9.5			
Potassium	7440-09-7	1120		1120			
Selenium	7782-49-2	2.9	UJ	2.9		Qualify	2
Lead	7439-92-1	40.1	J	40.1		Qualify	5
Sodium	7440-23-5	73.3	J	73.3		Qualify	1
Thallium	7440-28-0	0.55	J	0.55		Qualify	1
Vanadium	7440-62-2	35.7		35.7			
Zinc	7440-66-6	32.3	J	32.3		Qualify	6

Project Name: A4639300
SDG: 121058
Project Number: A4639300

Laboratory Name: STL-Budington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Field ID Num: S50; Lab ID Num: 718752; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	90.4		90.4			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2470		2470			
Antimony	7440-36-0	5	UJ	5		Qualify	4
Arsenic	7440-38-2	10.2		10.2			
Barium	7440-39-3	6.9	J	6.9		Qualify	1
Beryllium	7440-41-7	0.21	J	0.21		Qualify	1
Cadmium	7440-43-9	0.37	J	0.37		Qualify	1
Calcium	7440-70-2	64.2	J	64.2		Qualify	1
Chromium	7440-47-3	20.8		20.8			
Cobalt	7440-48-4	0.73	J	0.73		Qualify	1
Copper	7440-50-8	31.8		31.8			
Iron	7439-89-6	42000	J	42000		Qualify	5
Magnesium	7439-95-4	213	J	213		Qualify	1
Manganese	7439-96-5	30.3		30.3			
Nickel	7440-02-0	3.8		3.8			
Potassium	7440-09-7	332	J	332		Qualify	1
Selenium	7782-49-2	2.9	UJ	2.9		Qualify	2
Lead	7439-92-1	24.8	J	24.8		Qualify	5
Thallium	7440-28-0	0.41	J	0.41		Qualify	1
Vanadium	7440-62-2	38.1		38.1			
Zinc	7440-66-6	33	J	33		Qualify	6
Field ID Num: S49; Lab ID Num: 718751; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	95.1		95.1			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	443		443			
Antimony	7440-36-0	4.8	UJ	4.8		Qualify	4
Arsenic	7440-38-2	2.3		2.3			
Barium	7440-39-3	2.2	J	2.2		Qualify	1
Beryllium	7440-41-7	0.094	J	0.094		Qualify	1
Calcium	7440-70-2	468		468			
Chromium	7440-47-3	5		5			
Cobalt	7440-48-4	0.26	J	0.26		Qualify	1
Copper	7440-50-8	3.7		3.7			
Iron	7439-89-6	3870	J	3870		Qualify	5
Magnesium	7439-95-4	150	J	150		Qualify	1
Manganese	7439-96-5	30.2		30.2			
Nickel	7440-02-0	0.82	J	0.82		Qualify	1
Potassium	7440-09-7	81.4	J	81.4		Qualify	1
Selenium	7782-49-2	2.8	UJ	2.8		Qualify	2
Lead	7439-92-1	4.1	J	4.1		Qualify	5
Sodium	7440-23-5	388	J	388		Qualify	1
Vanadium	7440-62-2	6.5		6.5			
Zinc	7440-66-6	10.7	J	10.7		Qualify	6
Field ID Num: S48; Lab ID Num: 718750; Sampling Date: 07/24/2007; Matrix: SOIL							

Project Name: A4639300
SDG: 121058
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	97.8		97.8			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	238		238			
Antimony	7440-36-0	4.7	UJ	4.7		Qualify	4
Arsenic	7440-38-2	1.3		1.3			
Barium	7440-39-3	1.1	J	1.1		Qualify	1
Beryllium	7440-41-7	0.063	J	0.063		Qualify	1
Calcium	7440-70-2	42.8	JB	42.8		Qualify	1,3
Chromium	7440-47-3	2.8		2.8			
Copper	7440-50-8	1	J	1		Qualify	1
Iron	7439-89-6	2600	J	2600		Qualify	5
Magnesium	7439-95-4	39	J	39		Qualify	1
Manganese	7439-96-5	16.8		16.8			
Nickel	7440-02-0	0.52	J	0.52		Qualify	1
Potassium	7440-09-7	42.6	J	42.6		Qualify	1
Selenium	7782-49-2	2.8	UJ	2.8		Qualify	2
Lead	7439-92-1	3.1	J	3.1		Qualify	5
Vanadium	7440-62-2	4.2		4.2			
Zinc	7440-66-6	7.2	J	7.2		Qualify	6
Field ID Num: S47; Lab ID Num: 718749; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	92.4		92.4			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1360		1360			
Antimony	7440-36-0	5	UJ	5		Qualify	4
Arsenic	7440-38-2	8.7		8.7			
Barium	7440-39-3	1.8	J	1.8		Qualify	1
Beryllium	7440-41-7	0.22	J	0.22		Qualify	1
Cadmium	7440-43-9	0.38	J	0.38		Qualify	1
Calcium	7440-70-2	573		573			
Chromium	7440-47-3	11.7		11.7			
Cobalt	7440-48-4	1.6	J	1.6		Qualify	1
Copper	7440-50-8	3.9		3.9			
Iron	7439-89-6	32800	J	32800		Qualify	5
Magnesium	7439-95-4	392	J	392		Qualify	1
Manganese	7439-96-5	66		66			
Nickel	7440-02-0	4.2		4.2			
Potassium	7440-09-7	166	J	166		Qualify	1
Selenium	7782-49-2	2.9	UJ	2.9		Qualify	2
Lead	7439-92-1	6.5	J	6.5		Qualify	5
Sodium	7440-23-5	867		867			
Vanadium	7440-62-2	29.3		29.3			
Zinc	7440-66-6	34.4	J	34.4		Qualify	6
Field ID Num: S46; Lab ID Num: 718748; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	82.7		82.7			

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	892		892			
Antimony	7440-36-0	5.5	UJ	5.5		Qualify	4
Arsenic	7440-38-2	4.7		4.7			
Barium	7440-39-3	6.2	J	6.2		Qualify	1
Beryllium	7440-41-7	0.089	J	0.089		Qualify	1
Cadmium	7440-43-9	0.061	J	0.061		Qualify	1
Calcium	7440-70-2	284	J	284		Qualify	1
Chromium	7440-47-3	3.7		3.7			
Cobalt	7440-48-4	0.29	J	0.29		Qualify	1
Copper	7440-50-8	7.5		7.5			
Iron	7439-89-6	4510	J	4510		Qualify	5
Magnesium	7439-95-4	82.1	J	82.1		Qualify	1
Manganese	7439-96-5	7.2		7.2			
Nickel	7440-02-0	1.7	J	1.7		Qualify	1
Potassium	7440-09-7	166	J	166		Qualify	1
Selenium	7782-49-2	3.2	UJ	3.2		Qualify	2
Lead	7439-92-1	36.2	J	36.2		Qualify	5
Vanadium	7440-62-2	8.2		8.2			
Zinc	7440-66-6	8.1	J	8.1		Qualify	6
Field ID Num: S45; Lab ID Num: 718747; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	87		87			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1400		1400			
Antimony	7440-36-0	0.42	J	0.42		Qualify	1,4
Arsenic	7440-38-2	7.3		7.3			
Barium	7440-39-3	4.5	J	4.5		Qualify	1
Beryllium	7440-41-7	0.16	J	0.16		Qualify	1
Cadmium	7440-43-9	0.34	J	0.34		Qualify	1
Calcium	7440-70-2	434	J	434		Qualify	1
Chromium	7440-47-3	21.5		21.5			
Cobalt	7440-48-4	2.5	J	2.5		Qualify	1
Copper	7440-50-8	26.2		26.2			
Iron	7439-89-6	26600	J	26600		Qualify	5
Lead	7439-92-1	63.8	J	63.8		Qualify	5
Magnesium	7439-95-4	334	J	334		Qualify	1
Manganese	7439-96-5	56.9		56.9			
Nickel	7440-02-0	5.2		5.2			
Potassium	7440-09-7	188	J	188		Qualify	1
Selenium	7782-49-2	3.1	UJ	3.1		Qualify	2
Sodium	7440-23-5	164	J	164		Qualify	1
Vanadium	7440-62-2	26.2		26.2			
Zinc	7440-66-6	36.4	J	36.4		Qualify	6
Field ID Num: S44; Lab ID Num: 718746; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	82.6		82.6			
ICPAES Metals (mg/Kg)							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor 1.00							
Aluminum	7429-90-5	3540		3540			
Antimony	7440-36-0	5.5	UJ	5.5		Qualify	4
Arsenic	7440-38-2	4.6		4.6			
Barium	7440-39-3	14.5	J	14.5		Qualify	1
Beryllium	7440-41-7	0.17	J	0.17		Qualify	1
Cadmium	7440-43-9	0.12	J	0.12		Qualify	1
Calcium	7440-70-2	736		736			
Chromium	7440-47-3	7.8		7.8			
Cobalt	7440-48-4	1	J	1		Qualify	1
Copper	7440-50-8	9		9			
Iron	7439-89-6	9720	J	9720		Qualify	5
Lead	7439-92-1	24.1	J	24.1		Qualify	5
Magnesium	7439-95-4	455	J	455		Qualify	1
Manganese	7439-96-5	54.8		54.8			
Nickel	7440-02-0	3	J	3		Qualify	1
Potassium	7440-09-7	418	J	418		Qualify	1
Selenium	7782-49-2	3.2	UJ	3.2		Qualify	2
Vanadium	7440-62-2	16.6		16.6			
Zinc	7440-66-6	19.9	J	19.9		Qualify	6
Field ID Num: S43; Lab ID Num: 718745; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	69.3		69.3			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	5990		5990			
Antimony	7440-36-0	6.7	UJ	6.7		Qualify	4
Arsenic	7440-38-2	3.7		3.7			
Barium	7440-39-3	38.6		38.6			
Beryllium	7440-41-7	0.27	J	0.27		Qualify	1
Cadmium	7440-43-9	0.27	J	0.27		Qualify	1
Calcium	7440-70-2	12700		12700			
Chromium	7440-47-3	17.5		17.5			
Cobalt	7440-48-4	1.7	J	1.7		Qualify	1
Copper	7440-50-8	27.5		27.5			
Iron	7439-89-6	8850	J	8850		Qualify	5
Lead	7439-92-1	34	J	34		Qualify	5
Magnesium	7439-95-4	924		924			
Manganese	7439-96-5	120		120			
Nickel	7440-02-0	6.5		6.5			
Potassium	7440-09-7	729		729			
Selenium	7782-49-2	3.9	UJ	3.9		Qualify	2
Silver	7440-22-4	0.5	J	0.5		Qualify	1
Vanadium	7440-62-2	18.1		18.1			
Zinc	7440-66-6	50.7	J	50.7		Qualify	6
Field ID Num: S42; Lab ID Num: 718744; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	85.2		85.2			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							

Project Name: A4639300
SDG: 121058
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Aluminum	7429-90-5	1910		1910			
Antimony	7440-36-0	5.3	UJ	5.3		Qualify	4
Arsenic	7440-38-2	2.8		2.8			
Barium	7440-39-3	10.7	J	10.7		Qualify	1
Beryllium	7440-41-7	0.1	J	0.1		Qualify	1
Cadmium	7440-43-9	0.13	J	0.13		Qualify	1
Calcium	7440-70-2	378	J	378		Qualify	1
Chromium	7440-47-3	6.9		6.9			
Cobalt	7440-48-4	0.37	J	0.37		Qualify	1
Copper	7440-50-8	8.2		8.2			
Iron	7439-89-6	16500	J	16500		Qualify	5
Lead	7439-92-1	22.7	J	22.7		Qualify	5
Magnesium	7439-95-4	196	J	196		Qualify	1
Manganese	7439-96-5	20.9		20.9			
Nickel	7440-02-0	1.8	J	1.8		Qualify	1
Potassium	7440-09-7	200	J	200		Qualify	1
Selenium	7782-49-2	3.1	UJ	3.1		Qualify	2
Vanadium	7440-62-2	14.5		14.5			
Zinc	7440-66-6	22.9	J	22.9		Qualify	6
Field ID Num: S41; Lab ID Num: 718743; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	62.2		62.2			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	8390		8390			
Antimony	7440-36-0	7.3	UJ	7.3		Qualify	4
Arsenic	7440-38-2	3.5		3.5			
Barium	7440-39-3	50.8		50.8			
Beryllium	7440-41-7	0.33	J	0.33		Qualify	1
Cadmium	7440-43-9	0.29	J	0.29		Qualify	1
Calcium	7440-70-2	5360		5360			
Chromium	7440-47-3	23.3		23.3			
Cobalt	7440-48-4	3.3	J	3.3		Qualify	1
Copper	7440-50-8	39.7		39.7			
Iron	7439-89-6	14400	J	14400		Qualify	5
Lead	7439-92-1	33.9	J	33.9		Qualify	5
Magnesium	7439-95-4	1620		1620			
Manganese	7439-96-5	213		213			
Nickel	7440-02-0	9.9		9.9			
Potassium	7440-09-7	920		920			
Selenium	7782-49-2	4.3	UJ	4.3		Qualify	2
Silver	7440-22-4	0.5	J	0.5		Qualify	1
Sodium	7440-23-5	247	J	247		Qualify	1
Vanadium	7440-62-2	23.2		23.2			
Zinc	7440-66-6	51.6	J	51.6		Qualify	6
Field ID Num: S40; Lab ID Num: 718742; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	91.6		91.6			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Aluminum	7429-90-5	873		873			
Antimony	7440-36-0	5	UJ	5		Qualify	4
Arsenic	7440-38-2	2.4		2.4			
Barium	7440-39-3	4	J	4		Qualify	1
Beryllium	7440-41-7	0.073	J	0.073		Qualify	1
Cadmium	7440-43-9	0.07	J	0.07		Qualify	1
Calcium	7440-70-2	241	J	241		Qualify	1
Chromium	7440-47-3	5		5			
Cobalt	7440-48-4	0.31	J	0.31		Qualify	1
Copper	7440-50-8	3.4		3.4			
Iron	7439-89-6	5990	J	5990		Qualify	5
Lead	7439-92-1	35.6	J	35.6		Qualify	5
Magnesium	7439-95-4	86.5	J	86.5		Qualify	1
Manganese	7439-96-5	8.6		8.6			
Nickel	7440-02-0	1	J	1		Qualify	1
Potassium	7440-09-7	120	J	120		Qualify	1
Selenium	7782-49-2	2.9	UJ	2.9		Qualify	2
Vanadium	7440-62-2	8.7		8.7			
Zinc	7440-66-6	4.9	JB	4.9		Qualify	1,3,6
Field ID Num: S39; Lab ID Num: 718741; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	93.1		93.1			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	9150		9150			
Antimony	7440-36-0	5	UJ	5		Qualify	4
Arsenic	7440-38-2	6		6			
Barium	7440-39-3	43.3		43.3			
Beryllium	7440-41-7	0.55		0.55			
Cadmium	7440-43-9	0.37	J	0.37		Qualify	1
Calcium	7440-70-2	1940		1940			
Chromium	7440-47-3	17.7		17.7			
Cobalt	7440-48-4	5.4		5.4			
Copper	7440-50-8	35.3		35.3			
Iron	7439-89-6	17300	J	17300		Qualify	5
Lead	7439-92-1	48	J	48		Qualify	5
Magnesium	7439-95-4	1640		1640			
Manganese	7439-96-5	244		244			
Nickel	7440-02-0	13		13			
Potassium	7440-09-7	1080		1080			
Selenium	7782-49-2	2.9	UJ	2.9		Qualify	2
Sodium	7440-23-5	228	J	228		Qualify	1
Vanadium	7440-62-2	27.8		27.8			
Zinc	7440-66-6	38.9	J	38.9		Qualify	6
Field ID Num: S38; Lab ID Num: 718740; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	83.4		83.4			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1230		1230			

Project Name: A4639300
SDG: 121058
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Aluminum	7429-90-5	9150		9150			
Arsenic	7440-38-2	6		6			
Barium	7440-39-3	43.3		43.3			
Beryllium	7440-41-7	0.55		0.55			
Cadmium	7440-43-9	0.37	J	0.37			
Calcium	7440-70-2	1940		1940			
Chromium	7440-47-3	17.7		17.7			
Cobalt	7440-48-4	5.4		5.4			
Copper	7440-50-8	35.3		35.3			
Iron	7439-89-6	17300		17300			
Lead	7439-92-1	48		48			
Magnesium	7439-95-4	1640		1640			
Manganese	7439-96-5	244		244			
Nickel	7440-02-0	13		13			
Potassium	7440-09-7	1080		1080			
Sodium	7440-23-5	228	J	228			
Vanadium	7440-62-2	27.8		27.8			
Zinc	7440-66-6	38.9		38.9			
Field ID Num: S38; Lab ID Num: 718740; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	83.4		83.4			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1230		1230			
Arsenic	7440-38-2	2.8		2.8			
Barium	7440-39-3	7.8	J	7.8			
Beryllium	7440-41-7	0.083	J	0.083			
Cadmium	7440-43-9	0.084	J	0.084			
Calcium	7440-70-2	211	J	211			
Chromium	7440-47-3	4.8		4.8			
Cobalt	7440-48-4	0.23	J	0.23			
Copper	7440-50-8	6.3		6.3			
Iron	7439-89-6	5530		5530			
Lead	7439-92-1	59.9		59.9			
Magnesium	7439-95-4	103	J	103			
Manganese	7439-96-5	9.2		9.2			
Nickel	7440-02-0	1.5	J	1.5			
Potassium	7440-09-7	153	J	153			
Vanadium	7440-62-2	9.2		9.2			
Zinc	7440-66-6	10		10			
Field ID Num: S37; Lab ID Num: 718739; Sampling Date: 07/24/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	87.2		87.2			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	6030		6030			
Arsenic	7440-38-2	6.1		6.1			
Barium	7440-39-3	19.4		19.4			
Beryllium	7440-41-7	0.31	J	0.31			
Cadmium	7440-43-9	0.53		0.53			

Project Name: A4639300
SDG: 121058
Project Number: A4639300

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Calcium	7440-70-2	122	J	122			
Chromium	7440-47-3	20.8		20.8			
Cobalt	7440-48-4	0.83	J	0.83			
Copper	7440-50-8	10.1		10.1			
Iron	7439-89-6	19600		19600			
Lead	7439-92-1	17.8		17.8			
Magnesium	7439-95-4	214	J	214			
Manganese	7439-96-5	21.6		21.6			
Nickel	7440-02-0	3.1	J	3.1			
Potassium	7440-09-7	437	J	437			
Thallium	7440-28-0	0.46	J	0.46			
Vanadium	7440-62-2	29.7		29.7			
Zinc	7440-66-6	11		11			

FOOTNOTES

1. The reported concentration is quantitatively qualified because it is above the Method Detection Level (MDL) but below the Contract Required Quantitation Limit (CRQL).

2. The positive result is qualified "J" and may be biased low, the nondetected results are qualified "UJ" and the detection limits may be estimated due to negative drifting of this analyte in the preparation blank.

3. The reported concentration in the sample is greater than 3X the value in the method/preparation blank and is considered "real". However, the reported value must be quantitatively qualified "J" due to method/preparation blank contamination. The "B" qualifier alerts the end-user to the presence of this analyte in the method/preparation blank.

4. The reported concentration is quantitatively qualified and may be biased low or the detection limit for the nondetected result may be estimated because the %recovery for the sample spike analysis was below the QA/QC limits of 75-125%.

5. The reported concentration is quantitatively qualified because the Relative %Difference between the sample and sample duplicate results was greater than 20%.

6. The reported concentration is quantitatively qualified because the %Difference between the sample result and the Sample Serial Dilution result for this analyte was greater than 10%.

State of New Jersey

Department of Environmental Protection

Jon S. Corzine
Governor

Lisa P. Jackson
Commissioner

MEMORANDUM

TO: Ed Putnam
Remedial Planning and Design Element

THROUGH: Greg Toffoli, Section Chief GT 8/16/07
Office of Data Quality
Hazardous Site Science Element

AUG 16 2007

FROM: Carol Pillsbury CP 8/16/07
Office of Data Quality
Hazardous Site Science Element

SUBJECT: Quality Assurance Review –Laurence Harbor Petroleum (SDG 120128) Site. STL Burlington, Colchester, VT analyzed seventeen nonaqueous samples for TAL Metals according to USEPA CLP SOW ILM05.3.

Field ID	Laboratory ID	Sample Date	Matrix
S13	711256	05/23/2007	NONAQUEOUS
S5A	711257	05/23/2007	NONAQUEOUS
S5C	711258	05/23/2007	NONAQUEOUS
S6A	711259	05/23/2007	NONAQUEOUS
S6B	711260	05/23/2007	NONAQUEOUS
S6C	711261	05/23/2007	NONAQUEOUS
S7A	711262	05/23/2007	NONAQUEOUS
S7B	711263	05/23/2007	NONAQUEOUS
S8A	711264	05/23/2007	NONAQUEOUS
S8B	711265	05/23/2007	NONAQUEOUS
S8C	711266	05/23/2007	NONAQUEOUS
S9A	711267	05/23/2007	NONAQUEOUS
S9B	711268	05/23/2007	NONAQUEOUS
S9C	711269	05/23/2007	NONAQUEOUS
DUP1 S11	711270	05/23/2007	NONAQUEOUS
DUP2 S12	711271	05/23/2007	NONAQUEOUS
DUP3 S17	711272	05/23/2007	NONAQUEOUS

The Office of Data Quality, Hazardous Site Science Element, Division of Remediation Management and Response has reviewed the above listed nonaqueous samples according to Full CLP Deliverable Requirements as specified in the Technical Requirements for Site Remediation, N.J.A.C. 7:26E. A Target Analyte Summary List is provided for your convenience. Specific comments are provided below:

Metals

Samples S6B (711260), S7B (711263), S8B (711265), S9B (711268), S9C (711269), DUP1 (711270) and DUP2 (711271) were analyzed undiluted and at 100 fold dilutions because lead, sodium and zinc were present at levels above the linear range of the instrument. The dilution analyses were sufficient to bring the concentrations of lead and zinc within the linear range. The dilutions were too extensive for sodium in the above listed samples and the detection limits were elevated above the Contract Required Quantitation Limits (CRQLs). A 50-fold dilution would have been more appropriate for sodium. The nondetected results and detection levels for sodium in the above mentioned samples are suspect.

The remaining metals data are acceptable with the qualifications resulting from QA/QC outliers in the following analyses: sample spike, sample duplicate, serial dilution and preparation blank.

Should you have any questions regarding this review, please contact this office at 633-0752.

C. Dave Diblee, SAS

Project Name: 32950000
SDG: 120128
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Field ID Num: DUP3; Lab ID Num: 711272; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	92.5		92.5			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1670	J	1670		Qualify	3
Antimony	7440-36-0	68.3	J	68.3		Qualify	2,3
Arsenic	7440-38-2	54.5	J	54.5		Qualify	3,7
Barium	7440-39-3	9.4	J	9.4		Qualify	1,3
Beryllium	7440-41-7	0.32	JB	0.32		Qualify	1,5
Cadmium	7440-43-9	0.22	J	0.22		Qualify	1
Calcium	7440-70-2	4810	J	4810		Qualify	3
Chromium	7440-47-3	14.3		14.3			
Cobalt	7440-48-4	1.9	J	1.9		Qualify	1
Copper	7440-50-8	47.2	J	47.2		Qualify	3
Iron	7439-89-6	30600	J	30600		Qualify	3
Magnesium	7439-95-4	436		436			
Manganese	7439-96-5	160	J	160		Qualify	2,3
Nickel	7440-02-0	7.1		7.1			
Potassium	7440-09-7	225	JB	225		Qualify	1,5
Lead	7439-92-1	1090	J	1090		Qualify	3
Sodium	7440-23-5	479		479			
Vanadium	7440-62-2	30.3	J	30.3		Qualify	3
Zinc	7440-66-6	66.9	J	66.9		Qualify	3,4
Field ID Num: DUP2; Lab ID Num: 711271; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	86		86			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.041	J	0.041		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1470	J	1470		Qualify	3
Antimony	7440-36-0	934	J	934		Qualify	2,3
Arsenic	7440-38-2	161	J	161		Qualify	3,7
Barium	7440-39-3	173	J	173		Qualify	3
Beryllium	7440-41-7	0.22	JB	0.22		Qualify	1,5
Cadmium	7440-43-9	10.3		10.3			
Calcium	7440-70-2	633	J	633		Qualify	3
Chromium	7440-47-3	8.2		8.2			
Cobalt	7440-48-4	3.9	J	3.9		Qualify	1
Copper	7440-50-8	140	J	140		Qualify	3
Iron	7439-89-6	16800	J	16800		Qualify	3
Magnesium	7439-95-4	137	J	137		Qualify	1
Manganese	7439-96-5	87.5	J	87.5		Qualify	2,3
Nickel	7440-02-0	15.2		15.2			

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Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Potassium	7440-09-7	266	JB	266		Qualify	1,5
Lead	7439-92-1	43700	J	43700		Qualify	3
Silver	7440-22-4	1.4		1.4			
Selenium	7782-49-2	0.95	J	0.95		Qualify	1
Thallium	7440-28-0	1.2	J	1.2		Qualify	1
Vanadium	7440-62-2	11.7	J	11.7		Qualify	3
Zinc	7440-66-6	274	J	274		Qualify	3,4,8
Field ID Num: DUF1; Lab ID Num: 711270; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	92.2		92.2			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.04	J	0.04		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3520	J	3520		Qualify	3
Antimony	7440-36-0	833	J	833		Qualify	2,3
Arsenic	7440-38-2	391	J	391		Qualify	3,7
Barium	7440-39-3	197	J	197		Qualify	3
Beryllium	7440-41-7	0.46		0.46			
Cadmium	7440-43-9	1		1			
Calcium	7440-70-2	4240	J	4240		Qualify	3
Chromium	7440-47-3	41		41			
Cobalt	7440-48-4	56.7		56.7			
Copper	7440-50-8	903	J	903		Qualify	3
Iron	7439-89-6	87400	J	87400		Qualify	3
Magnesium	7439-95-4	1530		1530			
Manganese	7439-96-5	436	J	436		Qualify	2,3
Nickel	7440-02-0	227		227			
Potassium	7440-09-7	462	J	462		Qualify	5
Lead	7439-92-1	12600	J	12600		Qualify	3
Silver	7440-22-4	0.73	J	0.73		Qualify	1
Vanadium	7440-62-2	81.3	J	81.3		Qualify	3
Zinc	7440-66-6	470	J	470		Qualify	3,4,8
Field ID Num: S9C; Lab ID Num: 711269; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	93.7		93.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.024	J	0.024		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3020	J	3020		Qualify	3
Antimony	7440-36-0	1240	J	1240		Qualify	2,3
Arsenic	7440-38-2	227	J	227		Qualify	3,7
Barium	7440-39-3	208	J	208		Qualify	3
Beryllium	7440-41-7	0.47		0.47			
Cadmium	7440-43-9	2		2			

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Calcium	7440-70-2	2310	J	2310		Qualify	3
Chromium	7440-47-3	36.9		36.9			
Cobalt	7440-48-4	4.6		4.6			
Copper	7440-50-8	609	J	609		Qualify	3
Iron	7439-89-6	65400	J	65400		Qualify	3
Magnesium	7439-95-4	926		926			
Manganese	7439-96-5	260	J	260		Qualify	2,3
Nickel	7440-02-0	23.4		23.4			
Potassium	7440-09-7	480	JB	480		Qualify	5
Lead	7439-92-1	24000	J	24000		Qualify	3
Silver	7440-22-4	0.87		0.87			
Thallium	7440-28-0	0.42	J	0.42		Qualify	1
Vanadium	7440-62-2	52.4	J	52.4		Qualify	3
Zinc	7440-66-6	428	J	428		Qualify	3,4,8
Field ID Num: S9B; Lab ID Num: 711268; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	86.8		86.8			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.026	J	0.026		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	4360	J	4360		Qualify	3
Antimony	7440-36-0	738	J	738		Qualify	2,3
Arsenic	7440-38-2	362	J	362		Qualify	3,7
Barlum	7440-39-3	95.4	J	95.4		Qualify	3
Beryllium	7440-41-7	0.54		0.54			
Cadmium	7440-43-9	2.8		2.8			
Calcium	7440-70-2	6910	J	6910		Qualify	3
Chromium	7440-47-3	35		35			
Cobalt	7440-48-4	7.5		7.5			
Copper	7440-50-8	709	J	709		Qualify	3
Iron	7439-89-6	106000	J	106000		Qualify	3
Magnesium	7439-95-4	3020		3020			
Manganese	7439-96-5	294	J	294		Qualify	2,3
Nickel	7440-02-0	69.8		69.8			
Potassium	7440-09-7	482	JB	482		Qualify	5
Lead	7439-92-1	19600	J	19600		Qualify	3
Silver	7440-22-4	0.95		0.95			
Selenium	7782-49-2	0.24	J	0.24		Qualify	1
Vanadium	7440-62-2	72.7	J	72.7		Qualify	3
Zinc	7440-66-6	480	J	480		Qualify	3,4,8
Field ID Num: S9A; Lab ID Num: 711267; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	93.4		93.4			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.068		0.068			

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	6380	J	6380		Qualify	3
Antimony	7440-36-0	2.8	J	2.8		Qualify	1,2,3
Arsenic	7440-38-2	10.3	J	10.3		Qualify	3,7
Barium	7440-39-3	31.6	J	31.6		Qualify	3
Beryllium	7440-41-7	0.43		0.43			
Calcium	7440-70-2	258	J	258		Qualify	3
Chromium	7440-47-3	25.6		25.6			
Cobalt	7440-48-4	2.6	J	2.6		Qualify	1
Copper	7440-50-8	16.6	J	16.6		Qualify	3
Iron	7439-89-6	24900	J	24900		Qualify	3
Lead	7439-92-1	38.3	J	38.3		Qualify	3
Magnesium	7439-95-4	1280		1280			
Manganese	7439-96-5	64.1	J	64.1		Qualify	2,3
Nickel	7440-02-0	6.7		6.7			
Potassium	7440-09-7	1330		1330			
Sodium	7440-23-5	312	JB	312		Qualify	1,5
Vanadium	7440-62-2	37.2	J	37.2		Qualify	3
Zinc	7440-66-6	26.4	J	26.4		Qualify	3,4
Field ID Num: S8C; Lab ID Num: 711266; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	91.2		91.2			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	1680	J	1680		Qualify	3
Antimony	7440-36-0	285	J	285		Qualify	2,3
Arsenic	7440-38-2	225	J	225		Qualify	3,7
Barium	7440-39-3	15.7	J	15.7		Qualify	1,3
Beryllium	7440-41-7	0.33	J	0.33		Qualify	1
Cadmium	7440-43-9	1.1		1.1			
Calcium	7440-70-2	469	J	469		Qualify	3
Chromium	7440-47-3	21.8		21.8			
Cobalt	7440-48-4	2.8	J	2.8		Qualify	1
Copper	7440-50-8	204	J	204		Qualify	3
Iron	7439-89-6	34000	J	34000		Qualify	3
Lead	7439-92-1	4690	J	4690		Qualify	3
Magnesium	7439-95-4	517		517			
Manganese	7439-96-5	99.7	J	99.7		Qualify	2,3
Nickel	7440-02-0	17.1		17.1			
Potassium	7440-09-7	268	J	268		Qualify	1
Silver	7440-22-4	0.29	J	0.29		Qualify	1
Sodium	7440-23-5	1230		1230			
Vanadium	7440-62-2	35	J	35		Qualify	3
Zinc	7440-66-6	112	J	112		Qualify	3,4
Field ID Num: S8B; Lab ID Num: 711265; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor: 1.0							
Solids, Percent	SRP 141	95.2		95.2			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2490	J	2490		Qualify	3
Antimony	7440-36-0	5870	J	5870		Qualify	2,3
Arsenic	7440-38-2	521	J	521		Qualify	3,7
Barium	7440-39-3	37.5	J	37.5		Qualify	3
Beryllium	7440-41-7	0.45		0.45			
Cadmium	7440-43-9	2.9		2.9			
Calcium	7440-70-2	3910	J	3910		Qualify	3
Chromium	7440-47-3	29		29			
Cobalt	7440-48-4	4.2		4.2			
Copper	7440-50-8	332	J	332		Qualify	3
Iron	7439-89-6	42800	J	42800		Qualify	3
Magnesium	7439-95-4	805		805			
Manganese	7439-96-5	147	J	147		Qualify	2,3
Nickel	7440-02-0	21.8		21.8			
Potassium	7440-09-7	285	J	285		Qualify	1
Lead	7439-92-1	78900	J	78900		Qualify	3
Silver	7440-22-4	5.7		5.7			
Thallium	7440-28-0	1.7	J	1.7		Qualify	1
Vanadium	7440-62-2	55.2	J	55.2		Qualify	3
Zinc	7440-66-6	240	J	240		Qualify	3,4,8
Field ID Num: S8A; Lab ID Num: 711264; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	91.7		91.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.017	J	0.017		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3490	J	3490		Qualify	3
Antimony	7440-36-0	22.8	J	22.8		Qualify	2,3
Arsenic	7440-38-2	23.9	J	23.9		Qualify	3,7
Barium	7440-39-3	17.5	J	17.5		Qualify	3
Beryllium	7440-41-7	0.28	J	0.28		Qualify	1
Cadmium	7440-43-9	0.31	J	0.31		Qualify	1
Calcium	7440-70-2	1350	J	1350		Qualify	3
Chromium	7440-47-3	19.1		19.1			
Cobalt	7440-48-4	3.3	J	3.3		Qualify	1
Copper	7440-50-8	244	J	244		Qualify	3
Iron	7439-89-6	17400	J	17400		Qualify	3
Lead	7439-92-1	1240	J	1240		Qualify	3
Magnesium	7439-95-4	908		908			
Manganese	7439-96-5	77.9	J	77.9		Qualify	2,3
Nickel	7440-02-0	11.5		11.5			

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Potassium	7440-09-7	433		433			
Silver	7440-22-4	0.25	J	0.25		Qualify	1
Sodium	7440-23-5	103	JB	103		Negate	6
Vanadium	7440-62-2	25.9	J	25.9		Qualify	3
Zinc	7440-66-6	54.1	J	54.1		Qualify	3,4
Field ID Num: S7B; Lab ID Num: 711263; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	87.7		87.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	5420	J	5420		Qualify	3
Antimony	7440-36-0	294	J	294		Qualify	2,3
Arsenic	7440-38-2	286	J	286		Qualify	3,7
Barium	7440-39-3	239	J	239		Qualify	3
Beryllium	7440-41-7	1		1			
Cadmium	7440-43-9	2		2			
Calcium	7440-70-2	2740	J	2740		Qualify	3
Chromium	7440-47-3	54.4		54.4			
Cobalt	7440-48-4	4.7		4.7			
Copper	7440-50-8	210	J	210		Qualify	3
Iron	7439-89-6	70900	J	70900		Qualify	3
Lead	7439-92-1	16800	J	16800		Qualify	3
Magnesium	7439-95-4	918		918			
Manganese	7439-96-5	542	J	542		Qualify	2,3
Nickel	7440-02-0	29.5		29.5			
Potassium	7440-09-7	565		565			
Silver	7440-22-4	0.4	J	0.4		Qualify	1
Thallium	7440-28-0	0.89	J	0.89		Qualify	1
Vanadium	7440-62-2	103	J	103		Qualify	3
Zinc	7440-66-6	683	J	683		Qualify	3,4
Field ID Num: S7A; Lab ID Num: 711262; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	96.3		96.3			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.13		0.13			
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	6780	J	6780		Qualify	3
Antimony	7440-36-0	1.5	J	1.5		Qualify	1,2,3
Arsenic	7440-38-2	7.3	J	7.3		Qualify	3,7
Barium	7440-39-3	41.5	J	41.5		Qualify	3
Beryllium	7440-41-7	0.45		0.45			
Cadmium	7440-43-9	0.17	J	0.17		Qualify	1
Calcium	7440-70-2	770	J	770		Qualify	3
Chromium	7440-47-3	19.2		19.2			

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Cobalt	7440-48-4	4		4			
Copper	7440-50-8	19.4	J	19.4		Qualify	3
Iron	7439-89-6	16900	J	16900		Qualify	3
Lead	7439-92-1	83.6	J	83.6		Qualify	3
Magnesium	7439-95-4	1510		1510			
Manganese	7439-96-5	108	J	108		Qualify	2,3
Nickel	7440-02-0	8.8		8.8			
Potassium	7440-09-7	1080		1080			
Sodium	7440-23-5	251	J	251		Qualify	1
Vanadium	7440-62-2	30.5	J	30.5		Qualify	3
Zinc	7440-66-6	35.3	J	35.3		Qualify	3,4
Field ID Num: S6C; Lab ID Num: 711261; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	92.3		92.3			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.022	J	0.022		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2500	J	2500		Qualify	3
Antimony	7440-36-0	331	J	331		Qualify	2,3
Arsenic	7440-38-2	123	J	123		Qualify	3,7
Barium	7440-39-3	14.2	J	14.2		Qualify	1,3
Beryllium	7440-41-7	0.46		0.46			
Cadmium	7440-43-9	0.49		0.49			
Calcium	7440-70-2	576	J	576		Qualify	3
Chromium	7440-47-3	29.3		29.3			
Cobalt	7440-48-4	2.8	J	2.8		Qualify	1
Copper	7440-50-8	117	J	117		Qualify	3
Iron	7439-89-6	44700	J	44700		Qualify	3
Lead	7439-92-1	8300	J	8300		Qualify	3
Magnesium	7439-95-4	702		702			
Manganese	7439-96-5	101	J	101		Qualify	2,3
Nickel	7440-02-0	17.2		17.2			
Potassium	7440-09-7	492		492			
Silver	7440-22-4	0.24	J	0.24		Qualify	1
Sodium	7440-23-5	1700		1700			
Vanadium	7440-62-2	62.6	J	62.6		Qualify	3
Zinc	7440-66-6	90.7	J	90.7		Qualify	3,4
Field ID Num: S6B; Lab ID Num: 711260; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	82.6		82.6			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.02	J	0.02		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	3430	J	3430		Qualify	3

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Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Antimony	7440-36-0	246	J	246		Qualify	2,3
Arsenic	7440-38-2	205	J	205		Qualify	3,7
Barium	7440-39-3	64	J	64		Qualify	3
Beryllium	7440-41-7	0.58		0.58			
Cadmium	7440-43-9	6.8		6.8			
Calcium	7440-70-2	8290	J	8290		Qualify	3
Chromium	7440-47-3	46.8		46.8			
Cobalt	7440-48-4	4.4	J	4.4		Qualify	1
Copper	7440-50-8	411	J	411		Qualify	3
Iron	7439-89-6	62900	J	62900		Qualify	3
Lead	7439-92-1	12800	J	12800		Qualify	3
Magnesium	7439-95-4	833		833			
Manganese	7439-96-5	171	J	171		Qualify	2,3
Nickel	7440-02-0	23.8		23.8			
Potassium	7440-09-7	410	J	410		Qualify	1
Silver	7440-22-4	0.62	J	0.62		Qualify	1
Thallium	7440-28-0	0.79	J	0.79		Qualify	1
Vanadium	7440-62-2	75.1	J	75.1		Qualify	3
Zinc	7440-66-6	234	J	234		Qualify	3,4,8
Field ID Num: S6A; Lab ID Num: 711259; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	93.3		93.3			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.048	J	0.048		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	4850	J	4850		Qualify	3
Antimony	7440-36-0	4.8	J	4.8		Qualify	1,2,3
Arsenic	7440-38-2	9.7	J	9.7		Qualify	3,7
Barium	7440-39-3	21.5	J	21.5		Qualify	3
Beryllium	7440-41-7	0.38	J	0.38		Qualify	1
Cadmium	7440-43-9	0.76		0.76			
Calcium	7440-70-2	1100	J	1100		Qualify	3
Chromium	7440-47-3	13.2		13.2			
Cobalt	7440-48-4	2.5	J	2.5		Qualify	1
Copper	7440-50-8	39.4	J	39.4		Qualify	3
Iron	7439-89-6	15500	J	15500		Qualify	3
Lead	7439-92-1	962	J	962		Qualify	3
Magnesium	7439-95-4	1330		1330			
Manganese	7439-96-5	71.4	J	71.4		Qualify	2,3
Nickel	7440-02-0	8		8			
Potassium	7440-09-7	682		682			
Silver	7440-22-4	0.16	J	0.16		Qualify	1
Sodium	7440-23-5	126	JB	126		Negate	6
Vanadium	7440-62-2	25.5	J	25.5		Qualify	3
Zinc	7440-66-6	79.7	J	79.7		Qualify	3,4
Field ID Num: SSC; Lab ID Num: 711258; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							

Project Name: 32950000
SDG: 120128
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location: Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Dilution Factor: 1.0							
Solids, Percent	SRP 141	85.3		85.3			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2810	J	2810		Qualify	3
Antimony	7440-36-0	94.1	J	94.1		Qualify	2,3
Arsenic	7440-38-2	61.3	J	61.3		Qualify	3,7
Barium	7440-39-3	16.9	J	16.9		Qualify	1,2,3
Beryllium	7440-41-7	0.51		0.51			
Cadmium	7440-43-9	0.8		0.8			
Calcium	7440-70-2	808	J	808		Qualify	3
Chromium	7440-47-3	50.2		50.2			
Cobalt	7440-48-4	3.3	J	3.3		Qualify	1
Copper	7440-50-8	147	J	147		Qualify	3
Iron	7439-89-6	60500	J	60500		Qualify	3
Lead	7439-92-1	3470	J	3470		Qualify	3
Magnesium	7439-95-4	806		806			
Manganese	7439-96-5	107	J	107		Qualify	2,3
Nickel	7440-02-0	17.5		17.5			
Potassium	7440-09-7	385	J	385		Qualify	1
Silver	7440-22-4	0.21	J	0.21		Qualify	1
Sodium	7440-23-5	1900		1900			
Vanadium	7440-62-2	58.7	J	58.7		Qualify	3
Zinc	7440-66-6	105	J	105		Qualify	3,4
Field ID Num: S5A; Lab ID Num: 711257; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	85.7		85.7			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
Mercury	7439-97-6	0.037	J	0.037		Qualify	1
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	5930	J	5930		Qualify	3
Antimony	7440-36-0	3.3	J	3.3		Qualify	1,2,3
Arsenic	7440-38-2	7.7	J	7.7		Qualify	3,7
Barium	7440-39-3	28.7	J	28.7		Qualify	3
Beryllium	7440-41-7	0.38	J	0.38		Qualify	1
Cadmium	7440-43-9	0.12	J	0.12		Qualify	1
Calcium	7440-70-2	657	J	657		Qualify	3
Chromium	7440-47-3	14.3		14.3			
Cobalt	7440-48-4	3.3	J	3.3		Qualify	1
Copper	7440-50-8	21.4	J	21.4		Qualify	3
Iron	7439-89-6	15600	J	15600		Qualify	3
Lead	7439-92-1	182	J	182		Qualify	3
Magnesium	7439-95-4	1230		1230			
Manganese	7439-96-5	141	J	141		Qualify	2,3
Nickel	7440-02-0	6.4		6.4			

Project Name: 32950000
SDG: 120128
Project Number: 32950000

Laboratory Name: STL-Burlington
Laboratory Location:. Colchester, VT

Analyte	CAS Number	Laboratory Reported Conc.	Q	QA Reported Conc.	Retention Time NT Only	QA Decision	Footnotes
Potassium	7440-09-7	886		886			
Sodium	7440-23-5	975		975			
Vanadium	7440-62-2	25.6	J	25.6		Qualify	3
Zinc	7440-66-6	37.2	J	37.2		Qualify	3,4
Field ID Num: S13; Lab ID Num: 711256; Sampling Date: 05/23/2007; Matrix: SOIL							
Solids (%)							
Dilution Factor: 1.0							
Solids, Percent	SRP 141	87		87			
Mercury (mg/Kg)							
Dilution Factor: 1.00							
ICPAES Metals (mg/Kg)							
Dilution Factor: 1.00							
Aluminum	7429-90-5	2350	J	2350		Qualify	3
Antimony	7440-36-0	29.3	J	29.3		Qualify	2,3
Arsenic	7440-38-2	18.4	J	18.4		Qualify	3,7
Barium	7440-39-3	31.1	J	31.1		Qualify	3
Beryllium	7440-41-7	0.15	J	0.15		Qualify	1
Cadmium	7440-43-9	0.64		0.64			
Calcium	7440-70-2	100	JB	100		Qualify	1,3,5
Chromium	7440-47-3	8.2		8.2			
Cobalt	7440-48-4	0.69	J	0.69		Qualify	1
Copper	7440-50-8	47.1	J	47.1		Qualify	3
Iron	7439-89-6	5190	J	5190		Qualify	3
Lead	7439-92-1	3740	J	3740		Qualify	3
Magnesium	7439-95-4	80.3	J	80.3		Qualify	1
Manganese	7439-96-5	19.9	J	19.9		Qualify	2,3
Nickel	7440-02-0	2.5	J	2.5		Qualify	1
Potassium	7440-09-7	395	J	395		Qualify	1
Selenium	7782-49-2	0.26	J	0.26		Qualify	1
Vanadium	7440-62-2	19.2	JB	19.2		Qualify	3
Zinc	7440-66-6	16	JB	16		Qualify	3,4,5

FOOTNOTES

1. The reported concentration is quantitatively qualified because it is above the Method Detection Level (MDL) but below the Contract Required Quantitation Limit (CRQL).

2. The reported concentration is quantitatively qualified and may be biased low or the detection limit for the nondetected result may be estimated because the %recovery for the sample spike analysis was below the QA/QC limits of 75-125%.

3. The reported concentration is quantitatively qualified because the Relative %Difference between the sample and sample duplicate results was greater than 20%.

4. The reported concentration is quantitatively qualified because the %Difference between the sample result and the Sample Serial Dilution result for this analyte was greater than 10%.

5. The reported concentration in the sample is greater than 3X the value in the method/preparation blank and is considered "real". However, the reported value must be quantitatively qualified "J" due to method/preparation blank contamination. The "B" qualifier alerts the end-user to the presence of this analyte in the method/preparation blank.

6. The reported concentration in the sample is less than 3 X the value in the method/preparation blank. It is the policy of ODQ to negate the reported value due to probable contamination unrelated to the actual sample.

7. The reported concentration is quantitatively qualified and may be biased high because the %recovery for the sample spike analysis was above the QA/QC limits of 75-125%.

8. The reported concentration of this analyte is taken from a dilution analysis. The concentration is above the MDL but below the elevated CRQL.

9. The non detected result for this analyte is suspect because the sample was diluted too extensively.

State of New Jersey

JON S. CORZINE
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION PROGRAM
BUREAU OF ENVIRONMENTAL MEASUREMENTS AND SITE ASSESSMENT
P.O. BOX 407
TRENTON, NEW JERSEY 08625-0407

LISA P. JACKSON
Commissioner

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PHONE: 609-588-3104

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SUBJECT XY coordinates

COMMENTS: Nick - I spoke to Fred M. and Tuesday, June 10th @ 0900 hrs looks good. Please let me know if that needs to change. See you then. Jerry

NUMBER OF PAGES: 3 incl. cover

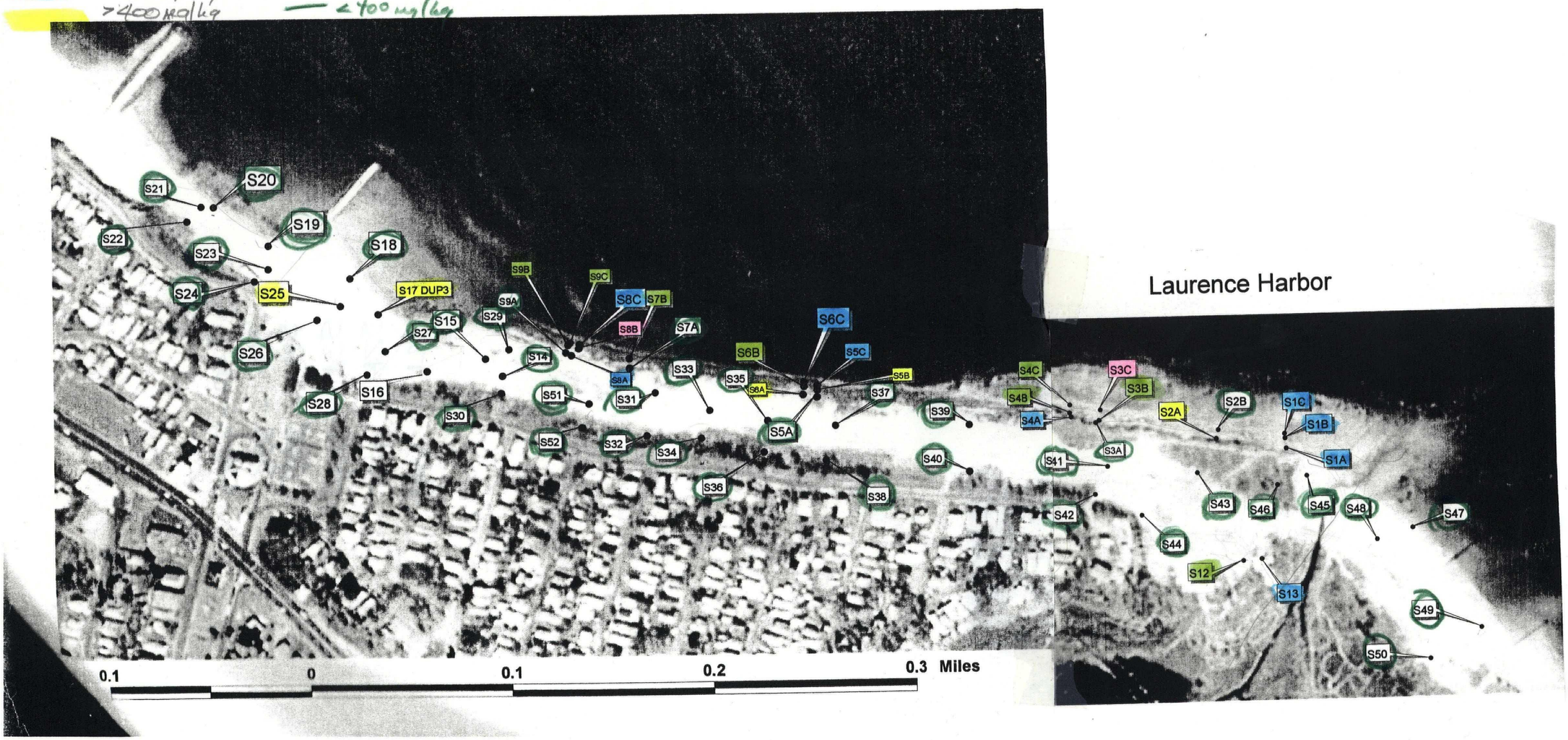
COMMENT	XCOORD	YCOORD
S12	565268.5645	591313.9679
S13	565314.2268	591317.4684
S1A	565378.8678	591587.4065
S1B	565376.2869	591612.2413
S1C	565375.0964	691623.7261
S2A	565207.4269	591614.7405
S2B	565212.4060	591636.5734
S3A	564911.5569	591660.8651
S3B	564919.7720	591666.5750
S3C	564922.6459	591692.2527
S4A	564851.0748	591676.1494
S4B	564847.9786	591685.8139
S4C	564848.0152	591705.8968
S5A	564178.1662	591745.4872
S5B	564179.2532	591764.5172
SSC	564179.2824	591776.3766
S6A	564143.3375	591752.1182
S6B	564145.0557	591774.0528
S6C	564145.5280	591786.3696
S7A	563689.4428	591828.1323
S7B	563689.6124	591853.5723
S8A	563538.4737	591863.1821
S8B	563556.9352	591880.8704
S8C	563559.6347	591892.2699
S9C	563534.9434	591896.3434
S9B	563529.4923	591890.4343
S9A	563524.3062	591871.1108
S16	563159.9851	591825.8764
S15	563314.1525	591856.8058
S14	563357.2374	591812.0040
S17 DUP3	563034.6560	591977.9685
S18	562960.2502	592073.2847
S19	562749.5245	592161.5944
S20	562606.7368	592265.5047

COMMENT	XCOORD	YCOORD
S45	565428.5205	591518.9818
S46	565355.8366	591497.9430
S47	565687.8592	591385.1547
S48	565600.3526	591358.5484
S49	565851.6195	591135.9984
S50	565724.3899	591062.2330
S43	565158.7851	591531.5993
S44	565019.5120	591430.8981
S41	564938.2106	591662.6516
S41	564906.9549	591484.5920
S39	564576.3324	591666.3468
S40	564576.1592	591543.8674
S37	564225.3226	591670.0381
S38	564199.7583	591579.8214
S36	564038.7688	591603.4004
S35	564049.0882	591685.2389
S34	563875.7393	591641.4886
S33	563898.8211	591715.1638
S31	563756.1585	591762.7248
S32	563732.8528	591650.7729
S52	563564.5046	591673.8873
S51	563582.1411	591736.3480
S30	563354.0575	591766.5132
S29	663374.6423	591881.3881
S27	563051.3960	591880.3714
S28	563003.3300	591819.7736
S25	562935.3352	592000.0592
S26	562873.5856	591964.0915
S23	562749.0658	592099.7828
S26A	562873.6861	591965.2195
S24	562713.1933	592067.7102
821	562573.6921	592256.5386
S22	562536.4547	592228.2025

>50,000 mg/kg
>10,000 mg/kg
>1,000 mg/kg
>400 mg/kg
— <400 mg/kg

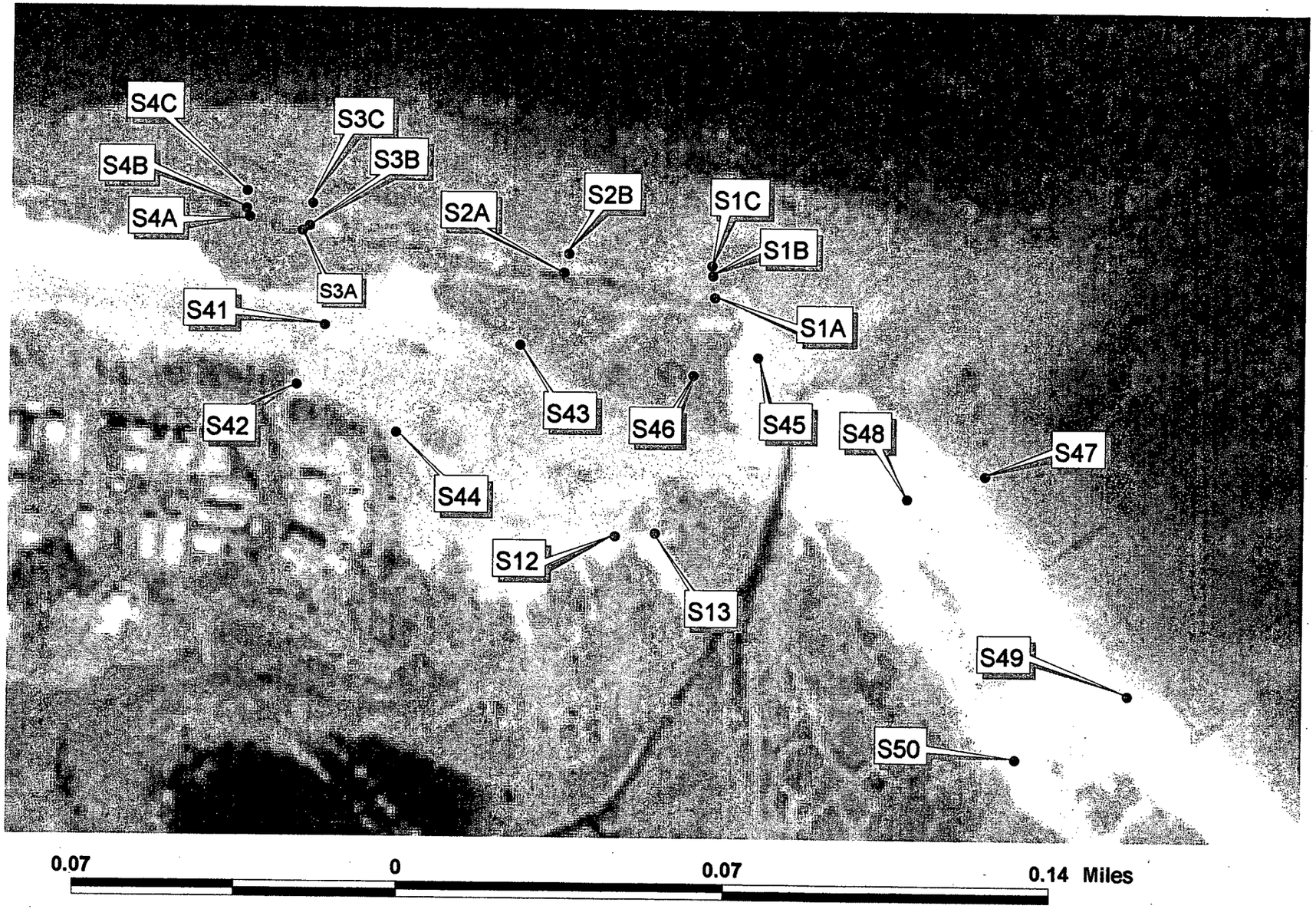
Lead concentrations

Laurence Harbor



Map I

Laurence Harbor



New Jersey Department of Environmental Protection

Site Remediation Program

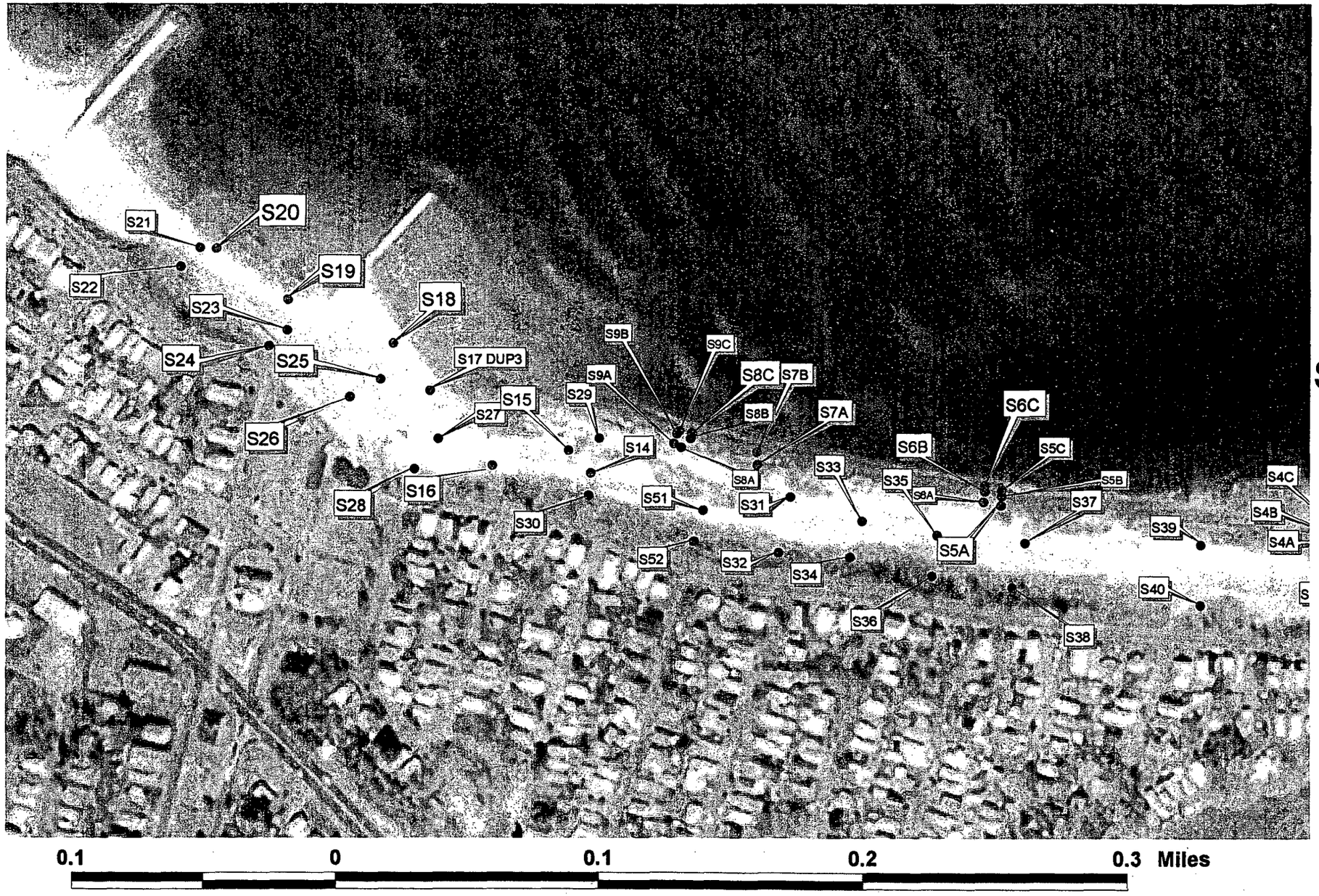
Eastern Quadrant Sampling Locations

May 23, 2007 Sampling Locations

July 24, 2007 Sampling Locations

N
W
E
S

Laurence Harbor



New Jersey Department of Environmental Protection

Site Remediation Program

Western Quadrant Sampling Locations

May 23, 2007 Sampling Locations

July 24, 2007 Sampling Locations

N
W
E
S

NJDEP samples - Lawrence Harbor seawall

	4B	3B	3C	Dupe 1 (S1)
Sb	4,730	864	12,900	833
As	3,350	544	850	391
Cu	3,590	1,130	1,220	903
Fe	217,000	78,100	101,000	87,400
Pb	25,100	39,900	142,000	12,600
Zn	655	394	347	470