

Field Activity Summary 740 Belleville Ave New Bedford MA Former Aerovox facility

On March 9, 2010, HETI observed two URAM excavations, one occurring on Hadley Street adjacent to the 740 Belleville Avenue property and the other occurring at the Aerovox Site. Both excavations were related to the repair of a leaking subsurface fire-suppression water line at the Aerovox facility.

The Hadley Street excavation was performed to install a gate valve on the water line feeding the site so that the water supply to the Site could be shut off repair a burst water line. Approximately 15 cubic yards of soil were excavated and returned to this excavation. Soils from this excavation were stockpiled immediately adjacent to the excavation on the paved asphalt on Hadley Street, and the soils were scraped back into the excavation upon completion of the gate valve installation. Water present in the excavation was pumped north onto the paved parking lot of the site, where it eventually flowed into Aerovox catch basins where siltation controls had been installed. The two catch basins on-site receiving water from the excavations were surrounded by absorbent booms and hay bales to prevent sediment from entering the basins (see **Attachment B - Site Photos**).

The second excavation was located approximately 40 feet south of the Aerovox building on-site. This excavation was performed to repair a leak at an intersection of subsurface water pipes. Approximately 20 cubic yards of soil were excavated and returned to this excavation. Soils were stockpiled immediately adjacent to the excavation on plastic sheeting. Water present in the excavation was pumped east onto the paved parking lot, where it eventually flowed into the protected catch basins described above. Upon completion of the pipe repair, the excavated soils were scraped back into the excavation, and the excavation was covered with plastic sheeting, weighted-down around the edges.

A stockpile of approximately 5-8 cubic yards of soil from a previous excavation to perform initial emergency repairs on the leaking water pipes remained on-site adjacent to the excavation. The stockpile was located on top of plastic sheeting, and was covered with plastic sheeting. The stockpiled material was sampled for disposal characterization. The analytical results of this characterization are included as **Attachment C**.

On March 10, 2010, HETI visited the site to observe post-excavation conditions and met with a New Bedford Department of Public Infrastructure (DPI) employee. The pooled water from dewatering the excavations had not yet fully infiltrates through the hay bales that had been placed around the catch basins.

On April 15, 2010, the New Bedford DPI scraped remaining dried sediment off the paved asphalt, and placed this material along with the erosion controls (hay bales and absorbent

boom) and the soil stockpile, totally 22 tons, into a dump trailer that was transported to Wayne Disposal Inc Site #2 Landfill, where the contents were disposed of as PCB waste. The hazardous Waste manifest for this material is included as **Attachment D**.

On Friday, May 14 2010, the New Bedford DPI completed the repaving of the excavated areas to complete the URAM process. See **Attachment D - Site Photos** for the condition of the location after excavation areas were repaved. With the completion of the repaving of excavated areas this URAM is considered complete.



Address: 740 Belleville Avenue, New Bedford, Massachusetts

HETI Project: 013-179



Description:

The line break excavation adjacent to the former Aerovox building, at the start of excavation.



Description:

The gate valve excavation in the foreground, with the line break excavation in the background (looking north).

Address: 740 Belleville Avenue, New Bedford, Massachusetts

HETI Project: 013-179



Description:

View of sedimentation controls (hay bales and absorbent boom) surrounding one of catch basins in paved parking area to which the excavation dewatering fluids drained.



Description:

View of backfilled and covered line break excavation on the left, and the stockpile from the previous excavation on the right.

Address: 740 Belleville Avenue, New Bedford, Massachusetts

HETI Project: 013-179



Description:

Backfilled and cordoned-off gate valve excavation on Hadley Street.



Description:

Line break excavation backfilled and soil stockpile from initial excavation removed.

Address: 740 Belleville Avenue, New Bedford, Massachusetts

HETI Project: 013-179



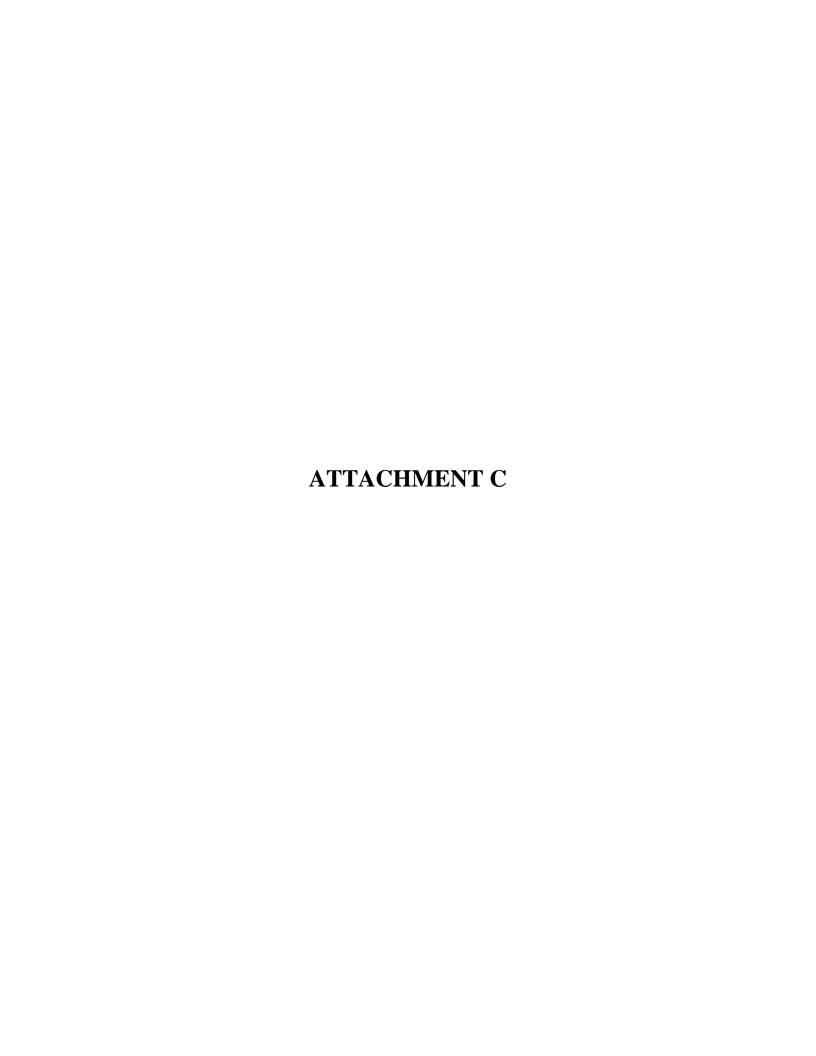
Description:

Completed pavement repair over gate valve excavation on Hadley Street.



Description:

Completed pavement repair over line break excavation.



Groundwater Analytical, Inc. P.O.Box 1200 228 Main Street Buzzards Bay, MA 02532 **GROUNDWATER ANALYTICAL**

Telephone: (508) 759-4441 FAX: (508) 759-4475

e-mail

То:	Kevin Scully		From:	e-mail reporting GW	VA
	Hydro-Environ	mental	Pages:	27	
e-mail:	kevins@hydroe	environmental.	Date:	03/17/2010 16:31:12	2
Re:	131767		CC:		
	Urgent	☐ For Review	□ Pleas	e Comment	☐ Please Reply
• Comm	nents:				

Final Project Report for Acrovox, New Bedford, MA/013-179, Lab ID 131767, Received 03-10-10

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March 17, 2010

Mr. Kevin Scully Hydro-Environmental Technologies, Inc. 54 Nonset Path Acton, MA 01720

LABORATORY REPORT

Project: Acrovox, New Bedford, MA/013-179

Lab ID: **131767** Received: **03-10-10**

Dear Kevin:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/ Enclosures



Sample Receipt Report

Project: Acrovox, New Bedford, MA/013-179 Delivery: GWA Courier Temperature: 3.°C
Client: Hydro-Environmental Technologies, Inc.
Lab ID: 131767 Delivery: GWA Courier Temperature: 3.°C
Chain of Custody: Present
Lab Receipt: 03-10-10 Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
131767-1	Stockpile		Soil	3/9/10 20:00	EPA 8260B V	olatile Organics	with Oxygen	ates	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1215514	40 mL VOA Vial	Droducts	BX35329	Methanol	R-6067B	12-14-09	n/a		
C1225408	40 mL VOA Vial	Proline	BX35549	NaHSO4	R-5468B	12-30-09	n/a		
C1225381	40 mL VOA Vial	Proline	BX35549	NaHSO4	R-5468B	12-30-09	n/a		
C1225885	40 mL VOA Vial	Proline	BX35553	NaHSO4	R-5468C	01-08-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
131767-2	Stockpile		Soil	3/9/10 20:00	EPA 6010B/7471A 5 RCRA Metals				
					EPA 8082 PC	EPA 8082 PCBs			
					TPH by GC E	PA 8015B Mod			
					EPA 9045C Corrosivity				
					EPA 1010 Mo	d Ignitability			
					EPA SW-846,	Chp.7 Reactivity	/		
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1227761	250 mL Amber Glass	Scientific	BX35684	None	n/a	n/a	n/a		
C1227750	250 mL Amber Glass	Specialist	BX35684	None	n/a	n/a	n/a		



Data Certification

Project: Acrovox, New Bedford, MA/013-179 Lab ID: 131767
Client: Hydro-Environmental Technologies, Inc. Received: 03-10-10 17:30

		MA DEP C	Compendium of	Analytical					
Proje	ect Location:	n/a			M	A DEP RTN:	n	/a	
This	Form provides ce	rtifications for the following o	data set:						
EPA	8260B:	131767-1							
EPA	8082:	131767-2							
EPA	6010B:	131767-2							
EPA	7470A/1A:	131767-2							
	ple Matrices:	Groundwater () Soil/Se	ediment (X)	Drinking W	ater ()	Other	()		
	9 SW-846	8260B (X)	8151A ()		330 ()	6010B	(X)	7470A/1A	
Meth	nods Used	8270C ()	8081A ()		/PH ()	6020A	()	9012A ²	
	ecified in MA DEP endium of Analytical	8082 (X)	8021B ()	L	PH ()	7000 S ³	()	Other	()
Metho		List Release Tracking Number (RTN SW-846 Method 9012A (Equivalen		P Physiologica	lly Available C	zanide (PAC) Metl	nod		
(check	all that apply)	3. S - SW-846 Methods 7000 Series.							
	An affirmative res	ponse to questions A, B, C ar	nd D is required	for "Presui	mptive Cert	ainty" status.			
A.	Were all sam	ples received by the laborato	ry in a conditio	n consisten	t with				
		d on the Chain-of-Custody do	•				Y	es	
		,							
B.		QC procedures required for t							
		his report followed, including							
	standards or	narrative QC data that did not	meet appropria	ite periorm	ance		V	es	
	standards or	guidenness						<u></u>	
C.		alytical data included in this re							
		tive Certainty," as described i							
		AM VII A, Quality Assurance		ntrol Guide	elines				
	for the Acqu	isition and Reporting of Analy	ytical Data ?				Y	es	
D.	VPH and EPI	H methods only: Was the VP	H or EPH meth	od run with	out				
	significant m	odifications, as specified in Se	ection 11.3?				n	/a	
	A response to que	estions E and F below is requi	red for "Presum	ptive Certa	inty" status				
E.		performance standards and re			•				
	•	thods achieved?		.5 .66			N	lo	
F.		for all analyte-list compounds	s/elements for tl	ne specified	k				
	method(s) re	ported?					N	lo	
	All No answers a	re addressed in the attached	Project Narrati	ve.					
I, th	e undersigned,	attest under the pains and	penalties of p	erjury that	t, based up	on my pers	onal		
inqu	iry of those res	ponsible for obtaining the	information, t	he materia	ıl containe	d in this			
anal	ytical report is,	to the best of my knowledg	ge and belief,	accurate a	ind compl	ete.			
		, Λ							
Sign	ature:	50111		Position:	Operat	ions Manage	r		
	4		_		·	O			
Print	ed Name:	Eric H. Jerisen		Date:	03-17-	10			
		 							



EPA Method 8260B Volatile Organics by GC/MS

Field ID: Stockpile Matrix: Soil

Project: Acrovox, New Bedford, MA/013-179 Container: 40 mL VOA Vial Client: Hydro-Environmental Technologies, Inc. Preservation: Methanol/ Cool

 Laboratory ID:
 131767-1
 QC Batch ID:
 VM1-2787-E

 Sampled:
 03-09-10 20:00
 Instrument ID:
 MS-1 HP 5890

 Received:
 03-10-10 17:30
 Sample Weight:
 14 g

Analyzed: 03-12-10 10:53 Final Volume: 15 mL
Analyst: LMG % Solids: 79

Dilution Factor: 1 Page: 1 of 2

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL	ug/Kg	660
74-87-3	Chloromethane	BRL	ug/Kg	660
75-01-4	Vinyl Chloride	BRL	ug/Kg	660
74-83-9	Bromomethane	BRL	ug/Kg	660
75-00-3	Chloroethane	BRL	ug/Kg	660
75-69-4	Trichlorofluoromethane	BRL	ug/Kg	660
60-29-7	Diethyl Ether	BRL	ug/Kg	660
75-35-4	1,1-Dichloroethene	BRL	ug/Kg	330
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL	ug/Kg	3,300
67-64-1	Acetone	BRL	ug/Kg	3,300
75-15-0	Carbon Disulfide	BRL	ug/Kg	3,300
75-09-2	Methylene Chloride	BRL	ug/Kg	1,300
107-13-1	Acrylonitrile	BRL	ug/Kg	330
156-60-5	trans-1,2-Dichloroethene	BRL	ug/Kg	330
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL	ug/Kg	330
75-34-3	1,1-Dichloroethane	BRL	ug/Kg	330
594-20-7	2,2-Dichloropropane	BRL	ug/Kg	330
156-59-2	cis-1,2-Dichloroethene	1,000	ug/Kg	330
78-93-3	2-Butanone (MEK)	BRL	ug/Kg	3,300
74-97-5	Bromochloromethane	BRL	ug/Kg	330
109-99-9	Tetrahydrofuran (THF)	BRL	ug/Kg	3,300
67-66-3	Chloroform	BRL	ug/Kg	330
71-55-6	1,1,1-Trichloroethane	BRL	ug/Kg	330
56-23-5	Carbon Tetrachloride	BRL	ug/Kg	330
563-58-6	1,1-Dichloropropene	BRL	ug/Kg	330
71-43-2	Benzene	BRL	ug/Kg	330
107-06-2	1,2-Dichloroethane	BRL	ug/Kg	330
79-01-6	Trichloroethene	810	ug/Kg	330
78-87-5	1,2-Dichloropropane	BRL	ug/Kg	330
74-95-3	Dibromomethane	BRL	ug/Kg	330
75-27-4	Bromodichloromethane	BRL	ug/Kg	330
123-91-1	1,4-Dioxane	BRL	ug/Kg	330,000
10061-01-5	cis-1,3-Dichloropropene	BRL	ug/Kg	330,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL	ug/Kg	3,300
108-88-3	Toluene	BRL	ug/Kg ug/Kg	330
10061-02-6	trans-1,3-Dichloropropene	BRL	ug/Kg ug/Kg	330
79-00-5	1,1,2-Trichloroethane	BRL	ug/Kg ug/Kg	330
127-18-4	Tetrachloroethene	1.400	ug/Kg ug/Kg	330
142-28-9	1,3-Dichloropropane	BRL	ug/Kg ug/Kg	330
591-78-6	2-Hexanone	BRL	ug/Kg ug/Kg	3,300
124-48-1	Dibromochloromethane	BRI	ug/Kg ug/Kg	3,300
	1,2-Dibromoethane (EDB)	BRL	ug/Kg ug/Kg	330
106-93-4 108-90-7	Chlorobenzene	BRL		330
		BRL	ug/Kg	
630-20-6	1,1,1,2-Tetrachloroethane		ug/Kg	330
100-41-4	Ethylbenzene	BRL	ug/Kg	330
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL	ug/Kg	330



EPA Method 8260B Volatile Organics by GC/MS

Field ID: Stockpile Matrix: Soil

 Project:
 Acrovox, New Bedford, MA/013-179
 Container:
 40 mL VOA Vial

 Client:
 Hydro-Environmental Technologies, Inc.
 Preservation:
 Methanol/ Cool

 Laboratory ID:
 131767-1
 QC Batch ID:
 VM1-2787-E

 Sampled:
 03-09-10 20:00
 Instrument ID:
 MS-1 HP 5890

 Received:
 03-10-10 17:30
 Sample Weight:
 14 g

 Received:
 03-10-10
 17:30
 Sample Weight:
 14 g

 Analyzed:
 03-12-10
 10:53
 Final Volume:
 15 mL

 Analyst:
 LMG
 % Solids:
 79

Dilution Factor: 1 Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	ortho-Xylene	BRL		ug/Kg	330
100-42-5	Styrene	BRL		ug/Kg	330
75-25-2	Bromoform	BRL		ug/Kg	330
98-82-8	Isopropylbenzene	BRL		ug/Kg	330
108-86-1	Bromobenzene	BRL		ug/Kg	330
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	330
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	330
110-57-6	trans-1,4-Dichloro-2-butene	BRL		ug/Kg	3,300
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	330
95-49-8	2-Chlorotoluene	BRL		ug/Kg	330
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	330
106-43-4	4-Chlorotoluene	BRL		ug/Kg	330
98-06-6	tert-Butylbenzene	BRL		ug/Kg	330
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	330
135-98-8	sec-Butylbenzene	BRL		ug/Kg	330
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	330
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	330
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	330
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	330
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	330
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	330
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	330
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	330
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	330
91-20-3	Naphthalene	BRL		ug/Kg	330
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	330
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	13,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	330
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	330
994-05-8	tert - Amyl Methyl Ether (TAME)	BRL		ug/Kg	330

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	91 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	1,900	76 %	70 - 130 %
Toluene-d ₈	2,500	2,300	90 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	105 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.



EPA Method 8015B (Modified) Total Petroleum Hydrocarbons by GC/FID

Field ID: Stockpile Matrix: Soil

Project: Acrovox, New Bedford, MA/013-179 Container: 250 mL Amber Glass

Client: Hydro-Environmental Technologies, Inc. Preservation: Cool

 Laboratory ID:
 131767-2
 QC Batch ID:
 HF-3073-M

 Sampled:
 03-09-10
 20:00
 Instrument ID:
 GC4 HP 5890

Received: 03-10-10 17:30 Sample Weight: 16 g 03-15-10 14:30 Final Volume: Extracted: 1 mL 03-16-10 06:31 Dilution Factor: Analyzed: 1 % Solids: Analyst: MB 79

Analyte	Concentration Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	450	mg/Kg	72

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	3.2	1.8	55 %	30 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the

basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.

Sample extraction performed by EPA Method 3546. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be

reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.



EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: Stockpile Matrix: Soil

Project: Acrovox, New Bedford, MA/013-179 Container: 250 mL Amber Glass

Client: Hydro-Environmental Technologies, Inc. Preservation: Cool

Laboratory ID: 131767-02 QC Batch ID: PB-3396-P

Sampled: 03-09-10 20:00 Instrument ID: GC-11 Agilent 6890

03-10-10 17:30 Received: Sample Weight: 15 g Extracted: 03-12-10 08:30 Final Volume: 10 mL 79 Cleaned Up: 03-13-10 13:00 Percent Solids: 03-16-10 11:51 Analyzed: Dilution Factor: 100

Analyst: AWG

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL	ug/Kg	10,000
11104-28-2	Aroclor 1221	BRL	ug/Kg	10,000
11141-16-5	Aroclor 1232	BRL	ug/Kg	10,000
53469-21-9	Aroclor 1242	BRL	ug/Kg	10,000
12672-29-6	Aroclor 1248	BRL	ug/Kg	10,000
11097-69-1	Aroclor 1254	220,000 e 1C (210000)*	ug/Kg	10,000
11096-82-5	Aroclor 1260	BRL	ug/Kg	10,000
37324-23-5	Aroclor 1262 [†]	BRL	ug/Kg	10,000
11100-14-4	Aroclor 1268 [†]	BRL	ug/Kg	10,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-m -xylene	17	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	17	n/a	d	30 - 150 %
Second	Tetrachloro-m -xylene	17	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	17	n/a	d	30 - 150 %

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A. Results are reported on a dry weight basis.

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Non-target analyte. Result is based on a single mid-range calibration standard.
- Confirmatory column quantification.
- 1C Concentration reported from first column.
- d Surrogate recovery not measurable due to required sample dilution.
- e Indicates concentration exceeded calibration range for the analyte.



EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: Stockpile Matrix: Soil

Project: Acrovox, New Bedford, MA/013-179 Container: 250 mL Amber Glass

Client: Hydro-Environmental Technologies, Inc. Preservation: Cool

Laboratory ID: 131767-02RA1 QC Batch ID: PB-3396-P

Sampled: 03-09-10 20:00 Instrument ID: GC-11 Agilent 6890

03-10-10 17:30 Received: Sample Weight: 15 g Extracted: 03-12-10 08:30 Final Volume: 10 mL 79 Cleaned Up: 03-13-10 13:00 Percent Solids: 03-16-10 13:04 Analyzed: Dilution Factor: 200

Analyst: AWG

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	20,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	20,000
11141-16-5	Aroclor 1232	BRL	ug/Kg	20,000	
53469-21-9	Aroclor 1242	BRL	ug/Kg	20,000	
12672-29-6	Aroclor 1248	BRL		ug/Kg	20,000
11097-69-1	Aroclor 1254	210,000	2C (200000)*	ug/Kg	20,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	20,000
37324-23-5	Aroclor 1262 [†]	BRL		ug/Kg	20,000
11100-14-4	Aroclor 1268 [†]	BRL		ug/Kg	20,000

QC Surrogate	Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-m -xylene	17	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	17	n/a	d	30 - 150 %
Second	Tetrachloro-m -xylene	17	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	17	n/a	d	30 - 150 %

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A. Results are reported on a dry weight basis.

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- † Non-target analyte. Result is based on a single mid-range calibration standard.
- Confirmatory column quantification.
- 2C Concentration reported from second column.
- d Surrogate recovery not measurable due to required sample dilution.



Inorganic Chemistry

Field ID: Stockpile Matrix: Soil

Project: Acrovox, New Bedford, MA/013-179 Received: 03-10-10 17:30

Client: Hydro-Environmental Technologies, Inc.

Lab ID:	131767-02 San	npled:	03-09-10 20:00	% Solids:	79	Con	tainer:	250 mL Amb	er Glass	Preservation:	Coc	ol
	Analyte		Result	Units	RL	DF	Weight	Analyzed	QC Batch	Method	Inst	Analyst
Corros	ivity (as pH)		6.6	рН	NA	1	20 g	03-17-10 15:00	PH-1046-S	EPA 9045C	2	JK
Ignitab	ility (as Flashpoint)		> 165	°F	70	1	100 g	03-17-10 15:00	FP-1045-S	EPA 1010 Mod	3	JK
Reactiv	ve Cyanide		BRL	mg/Kg	50	1	10 g	03-17-10 15:00	RC-0937-S	SW-846 Chp. 7.3.3	1	JK
Reactiv	ve Sulfide		BRL	mg/Kg	100	1	10 g	03-17-10 15:00	RS-0937-S	SW-846 Chp. 7.3.4	n/a	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the

Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating

Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Results are reported on a dry weight basis.

Report Notations:

Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be

reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Reporting Limit.

DF Dilution Factor.

Instrument ID: Milton Roy Spectronic 401 1

2 Instrument ID: Accumet AR50

3 Instrument ID: Boekel 152800 Flash Point Tester



Trace Metals

Field ID: Stockpile Matrix: Soil

Project: Acrovox, New Bedford, MA / 013-179 Container: 250 mL Amber Glass

Client: **Hydro-Environmental Technologies, Inc.** Preservation: **Cool**

Laboratory ID: 131767-2 Percent Solids: 79

Sampled: **03-09-10 20:00**Received: **03-10-10 17:30**

Analysis Method QC Batch ID Sample Weight Prep Method **Prepared** Instrument ID <u>Analyst</u> MB-01807-S EPA 3050B 03-11-10 00:00 0.49 g MP EPA 6010B¹ ICP-1 PE 3000 EPA 7471A² MP-2526-S EPA 7471A 03-16-10 00:00 0.6 g CVAA-1 PE FIMS MP

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	BRL	mg/Kg	3.1	1	03-11-10 19:51	EPA 6010B ¹
7440-43-9	Cadmium, Total	BRL	mg/Kg	0.51	1	03-11-10 19:51	EPA 6010B ¹
7440-47-3	Chromium, Total	25	mg/Kg	1	1	03-11-10 19:51	EPA 6010B ¹
7439-92-1	Lead, Total	160	mg/Kg	5.1	1	03-11-10 19:51	EPA 6010B ¹
7439-97-6	Mercury, Total	0.050	mg/Kg	0.016	1	03-17-10 15:19	EPA 7471A ²

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be

reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.



Project Narrative

Project: Acrovox, New Bedford, MA/013-179 Lab ID: 131767

Client: Hydro-Environmental Technologies, Inc. Received: 03-10-10 17:30

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1. EPA 6010B Note: Sample 131767-2. Sample was analyzed for selected target analytes, as requested by client.
- 2. EPA 8082 Non-conformance: Sample 131767-2. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Sample was reanalyzed and reported with all analytes within calibration.
- 3. EPA 8082 Non-conformance: Samples 131767-2 and -2RA1. Samples did not have measureable surrogate recoveries due to required sample dilution.
- 4. EPA 8082 Note: Samples 131767-2 and -2RA1. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.

GROUNDWATER	228 Main Street, P.O. Box 1200 Buzzards Bay, MA 02532 Telephone (508) 759-4441 • FAX (508) 759-4475 www.groundwateranalytical.com	CHAIN-OF-CUSTODY RECORD AND WORK ORDER		
Project Name: Acrovox	Firm:	TURNAROUND	ANALYSIS REQUEST	
New Redford MA	HE(1	s/ix	etats Petroleum Mydrocarbon Haz.	General Chemistry Other
Project Number:	Address: St Marset Da. H.	■ 5 Business Days □ RUSH (RAN- (Rush requires Rush Authorization Number)	Alay	
Sampler Name:	City / State / Zip::	Pelease Email to: Kevins Dhylocavia	CP C	- abin
Deant Somewille	Actm, M4 01720	□ Please FAX to:	Soe C	allable Cya.
Project Manager: Kev.'n Scully	Telephone: 978-263 - 4044	BILLING	Page	evA 🗆 abinsy3 ale
INSTRUCTIONS: Use separate line for each container (except replicates).	each container (except replicates).	☐ Third Party Billing: PDB ☐ GWA Quote: PDB	25 FAHE OF STANDER FOR STANDER	elly Availab
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REMARKS / SPECIAL INSTRUCTIONS		DATA QUALITY OBJECTIVES	CHAIN-OF-CUSTODY RECORD	
MYES □ NO MCP Data Certification required	d. Regulatory Program	Project Specific QC	NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereo	rse hereof.
□ YES ☑ NO MCP Drinking Water Sample Included. (Notatile analyses require duplicate collection and Trip Blanks) □ Analyze Duplicates and Trips Blanks only if positive results.	nduded. State Standard Deliverables and Trip Blanks). CT MCP GW-1/S-1 PWS Form positive results. DME MCP GW-2/S-2 MWRA	Many regulatory programs and EPA methods require project specific QC includes Sample Duplicates, nn Matrix Spikes, and/or Matrix Spike Duplicates, Laboratory QC is nnt project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS. MSD	Reliquished by Sampler: Date Time Received by: 3/9/fp 71:30 HE(72 Cold Strate of the sampler): Reinflushed by: Date Time Received by:	Receipt Temperature: C to Enfertionated 2-8-C Recommended Container Count:
ES DNO CT RCP Data Certification required.		and Sample Duplicate requires an additional sample aliquot. Project Specific QC Required Selection of QC Sample	File Than \$10/10 V 330 Claw Maddlegau. Retinquished by. Date Time Received by Laboratory:	Shipping/Airbill .
matrices 12 o	ON Dredge Material UV Dredge Material UV Aste charachuruta	Sample Duplicate Matrix Spike Matrix Spike Matrix Spike Duplicate	Alan Mandagau 3 0 10 5:30 Venture Jealin Number Number Cust	Custody Seal
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* Note: Vol sample is grab, amber jus were emposited



Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.



Quality Control Report Laboratory Control Sample

 Category:
 EPA 8015B Mod TPH
 Instrument ID:
 GC4 HP 5890

 QC Batch ID:
 HF-3073-M
 Extracted:
 03-15-10 14:30

 Matrix:
 Soil
 Analyzed:
 03-16-10 02:53

Units: mg/Kg Analyst: MB

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	130	110	85 %	60 - 140 %
OC Company Company	Spiked	Manageral	D	061: "
QC Surrogate Compound	эрікеа	Measured	Recovery	QC Limits

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the

basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.

Sample extraction performed by EPA Method 3546.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,

or alternatively based upon the historical average recovery plus or minus three standard deviation units.



Quality Control Report Method Blank

 Category:
 EPA 8015B Mod TPH
 Instrument ID:
 GC4 HP 5890

 QC Batch ID:
 HF-3073-M
 Extracted:
 03-15-10 14:30

 Matrix:
 Soil
 Analyzed:
 03-16-10 01:58

Analyst: MB

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/Kg	60
OC Surragata Compound	Spiked Massured Passyare			C Limita

 QC Surrogate Compound
 Spiked
 Measured
 Recovery
 QC Limits

 ortho-Terphenyl
 2.7
 2.3
 87 %
 30 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the

basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.

Sample extraction performed by EPA Method 3546.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be

reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.



Quality Control Report Laboratory Control Samples

LCSD LCSD

EPA 8082 Instrument ID: GC-11 Agilent 6890 Instrument ID: GC-11 Agilent 6890 Category: QC Batch ID: PB-3396-P Extracted: 03-12-10 08:30 Extracted: 03-12-10 08:30 Cleaned Up: 03-13-10 13:00 Matrix: Soil 03-13-10 13:00 Cleaned Up: Units: 03-15-10 17:31 Analyzed: 03-15-10 17:55 ug/Kg Analyzed: Analyst: **AWG** Analyst: **AWG**

	LCS						LCS Duplicate								
CAS Number	Analyte	Spiked	Mea	sured	Reco	very	Spiked	Mea	sured	Reco	very	RI	D	QC Lir	mits
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col	Spike	RPD
12674-11-2	Aroclor 1016	330	310	280	93%	85%	330	300	260	89%	77%	4 %	10 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	330	310	300	93%	89%	330	310	290	92%	88%	1 %	0 %	40 - 140%	30 %

QC Surrogate Compound					Surro	gate Rec	covery				QC Limits
Tetrachloro-m -xylene	13	11	11	85%	81%	13	10	9.8	79%	73%	30 - 150 %
Decachlorobiphenyl	13	14	15	108%	111%	13	14	15	108%	111%	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,

or alternatively based upon the historical average recovery plus or minus three standard deviation units.



Quality Control Report Method Blank

 Category:
 EPA Method 8082
 Instrument ID:
 GC-11 Agilent 6890

 QC Batch ID:
 PB-3396-P
 Extracted:
 03-12-10 08:30

Matrix: Soil Cleaned Up: 03-13-10 13:00
Analyzed: 03-15-10 17:08

Analyst: AWG

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL	ug/Kg	80
11104-28-2	Aroclor 1221	BRL	ug/Kg	80
11141-16-5	Aroclor 1232	BRL	ug/Kg	80
53469-21-9	Aroclor 1242	BRL	ug/Kg	80
12672-29-6	Aroclor 1248	BRL	ug/Kg	80
11097-69-1	Aroclor 1254	BRL	ug/Kg	80
11096-82-5	Aroclor 1260	BRL	ug/Kg	80
37324-23-5	Aroclor 1262 [†]	BRL	ug/Kg	80
11100-14-4	Aroclor 1268 [†]	BRL	ug/Kg	80

QC Surrogate	Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-m-xylene	13	12	87 %	30 - 150 %
Column	Decachlorobiphenyl	13	15	109 %	30 - 150 %
Second	Tetrachloro-m-xylene	13	11	84 %	30 - 150 %
Column	Decachlorobiphenyl	13	15	113 %	30 - 150 %

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.



Quality Control Report Laboratory Control Samples

Metals Category: Matrix: Soil Units: mg/Kg

Sample Type	<u>Method</u>	QC Batch ID	Prep Method	<u>Prepared</u>	<u>Analyzed</u>	Instrument ID	<u>Analyst</u>
LCS	EPA 6010B	MB-1807-SL	EPA 3050B	03-11-10 00:00	03-11-10 19:28	ICP-1 PE 3000	JK
LCS	EPA 7471A	MP-2526-SL	EPA 7471A	03-16-10 00:00	03-17-10 15:12	CVAA-1 PE FIMS	MP
LCSD	EPA 6010B	MB-1807-SL	EPA 3050B	03-11-10 00:00	03-11-10 19:44	ICP-1 PE 3000	JK
LCSD	EPA 7471A	MP-2526-SL	EPA 7471A	03-16-10 00:00	03-17-10 15:16	CVAA-1 PE FIMS	MP

CAS Number	Analyte		LCS			LCS	Duplicate		QC Lin	nits	Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	88	91	103%	88	92	104%	0 %	78-122 %	30 %	EPA 6010B
7440-43-9	Cadmium	91	99	109%	91	97	107%	1 %	80-120 %	30 %	EPA 6010B
7440-47-3	Chromium	140	160	111%	140	160	111%	0 %	81-119 %	30 %	EPA 6010B
7439-92-1	Lead	100	110	110%	100	120	116%	3 %	79-121 %	30 %	EPA 6010B
7439-97-6	Mercury	6.8	6.8	100%	6.8	6.3	93%	4 %	72-128 %	30 %	EPA 7471A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. **Report Notations:**



Quality Control Report Method Blank

Category: **Metals** Matrix: **Soil**

Analysis Method	QC Batch ID	Prep Method	<u>Prepared</u>	Sample Volume	Instrument ID	<u>Analyst</u>
EPA 6010B	MB-1807-SB	EPA 3050B	03-11-10 00:00	0.5 g	ICP-1 PE 3000	JK
EPA 7471A	MP-2526-SB	EPA 7471A	03-16-10 00:00	0.6 g	CVAA-1 PE FIMS	MP

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic	BRL	mg/Kg	3.0	1	03-11-10 19:23	EPA 6010B
7440-43-9	Cadmium	BRL	mg/Kg	0.50	1	03-11-10 19:23	EPA 6010B
7440-47-3	Chromium	BRL	mg/Kg	1	1	03-11-10 19:23	EPA 6010B
7439-92-1	Lead	BRL	mg/Kg	5.0	1	03-11-10 19:23	EPA 6010B
7439-97-6	Mercury	BRL	mg/Kg	0.017	1	03-17-10 15:12	EPA 7471A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.



Quality Control Report Laboratory Control Samples

LCSD

 Category:
 EPA Method 8260B
 Instrument ID:
 MS-1 HP 5890
 Instrument ID:
 MS-1 HP 5890

 QC Batch ID:
 VM1-2787-E
 Analyzed:
 03-12-10 07:18
 Analyzed:
 03-12-10 07:54

Matrix: Soil Analyst: LMG Analyst: LMG

Units: ug/kg Page: 1 of 2

CAS Number	Analyte		LCS			LCS	Duplicate		QC Lin	nits
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	2,500	2,300	91 %	2,500	2,200	89 %	3 %	70 - 130 %	25%
74-87-3	Chloromethane	2,500	2,300	91 %	2,500	2,000	82 %	10 %	70 - 130 %	25%
75-01-4	Vinyl Chloride	2,500	2,300	91 %	2,500	2,100	85 %	7 %	70 - 130 %	25%
74-83-9	Bromomethane	2,500	2,400	95 %	2,500	2,200	86 %	10 %	70 - 130 %	25%
75-00-3	Chloroethane	2,500	2,500	99 %	2,500	2,200	90 %	9 %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	2,500	2,300	93 %	2,500	2,000	81 %	13 %	70 - 130 %	25%
60-29-7	Diethyl Ether	5,000	4,400	89 %	5,000	4,100	83 %	7 %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	2,500	2,200	87 %	2,500	2,000	81 %	6 %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	5,000	4,600	93 %	5,000	4,200	83 %	11 %	70 - 130 %	25%
67-64-1	Acetone	5,000	4,300	87 %	5,000	4,000	81 %	7 %	70 - 130 %	25%
75-15-0	Carbon Disulfide	5,000	4,100	82 %	5,000	3,800	75 %	8 %	70 - 130 %	25%
75-09-2	Methylene Chloride	2,500	2,300	94 %	2,500	2,200	87 %	7 %	70 - 130 %	25%
107-13-1	Acrylonitrile	2,500	2,500	101 %	2,500	2,400	98 %	4 %	70 - 130 %	25%
156-60-5	trans-1,2-Dichloroethene	2,500	2,300	93 %	2,500	2,100	85 %	8 %	70 - 130 %	25%
1634-04-4	Methyl tert-butyl Ether (MTBE)	2,500	2,300	90 %	2,500	2,200	86 %	5 %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	2,500	2,400	96 %	2,500	2,200	89 %	8 %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	2,500	2,200	88 %	2,500	2,000	80 %	10 %	70 - 130 %	25%
156-59-2	cis-1,2-Dichloroethene	2,500	2,400	97 %	2,500	2,300	94 %	4 %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	5,000	4,400	88 %	5,000	4,200	84 %	4 %	70 - 130 %	25%
74-97-5	Bromochloromethane	2,500	2,500	99 %	2,500	2,400	94 %	5 %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	5,000	4,600	93 %	5,000	4,500	90 %	3 %	70 - 130 %	25%
67-66-3	Chloroform	2,500	2,400	96 %	2,500	2,200	90 %	7 %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	2,500	2,400	95 %	2,500	2,300	91 %	5 %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	2,500	2,400	95 %	2,500	2,200	89 %	7 %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	2,500	2,200	89 %	2,500	2,100	83 %	8 %	70 - 130 %	25%
71-43-2	Benzene	2,500	2,400	94 %	2,500	2,300	90 %	4 %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	2,500	2,400	96 %	2,500	2,300	94 %	2 %	70 - 130 %	25%
79-01-6	Trichloroethene	2,500	2,300	93 %	2,500	2,200	88 %	5 %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	2,500	2,400	98 %	2,500	2,200	89 %	10 %	70 - 130 %	25%
74-95-3	Dibromomethane	2,500	2,400	95 %	2,500	2,300	91 %	4 %	70 - 130 %	25%
75-27-4	Bromodichloromethane	2,500	2,600	106 %	2,500	2,500	100 %	5 %	70 - 130 %	25%
123-91-1	1,4-Dioxane	50,000	48,000	96 %	50,000	49,000	99 %	3 %	70 - 130 %	25%
10061-01-5	cis-1,3-Dichloropropene	2,500	2,500	100 %	2,500	2,400	96 %	4 %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	5,000	4,600	92 %	5,000	4,400	88 %	5 %	70 - 130 %	25%
108-88-3	Toluene	2,500	2,500	98 %	2,500	2,300	90 %	8 %	70 - 130 %	25%
10061-02-6	trans-1,3-Dichloropropene	2,500	2,100	85 %	2,500	2,000	80 %	6 %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	2,500	2,300	92 %	2,500	2,200	87 %	6 %	70 - 130 %	25%
127-18-4	Tetrachloroethene	2,500	2,300	92 %	2,500	2,100	83 %	10 %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	2,500	2,400	95 %	2,500	2,200	89 %	7 %	70 - 130 %	25%
591-78-6	2-Hexanone	5,000	4,600	92 %	5,000	4,100	83 %	11 %	70 - 130 %	25%
124-48-1	Dibromochloromethane	2,500	2,500	102 %	2,500	2,300	92 %	10 %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	2,500	2,400	96 %	2,500	2,200	88 %	9 %	70 - 130 %	25%
108-90-7	Chlorobenzene	2,500	2,300	94 %	2,500	2,200	88 %	6 %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	2,500	2,400	96 %	2,500	2,300	90 %	6 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2,500	2,300	92 %	2,500	2,100	85 %	7 %	70 - 130 %	25%
108-38-3/106-42-3	meta- Xylene and para- Xylene	5,000	4,400	88 %	5,000	4,300	86 %	3 %	70 - 130 %	25%
95-47-6	ortho-Xylene	2,500	2,300	93 %	2,500	2,200	88 %	6 %	70 - 130 %	25%
100-42-5	Styrene	2,500	2,400	98 %	2,500	2,300	91 %	7 %	70 - 130 %	25%
75-25-2	Bromoform	2,500	2,700	109 %	2,500	2,600	102 %	7 %	70 - 130 %	25%



Quality Control Report Laboratory Control Samples

LCSD

EPA Method 8260B Category: QC Batch ID: VM1-2787-E

Instrument ID: Analyzed:

MS-1 HP 5890 03-12-10 07:18

Analyzed:

Instrument ID: MS-1 HP 5890 03-12-10 07:54

Matrix: Soil Units: ug/kg Analyst:

LMG

Analyst:

LMG Page: 2 of 2

CAS Number	Analyte		LCS			LCS	QC Limits			
	,	Spiked		Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	2,500	2,000	79 %	2,500	2,000	78 %	1 %	70 - 130 %	25%
108-86-1	Bromobenzene	2,500	2,300	94 %	2,500	2,300	91 %	2 %	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	2,500	2,200	88 %	2,500	2,200	87 %	0 %	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	2,500	2,400	98 %	2,500	2,400	98 %	0 %	70 - 130 %	25%
110-57-6	trans -1,4-Dichloro-2-butene	10,000	12,000	119 %	10,000	12,000	117 %	1 %	70 - 130 %	25%
103-65-1	n -Propylbenzene	2,500	2,000	82 %	2,500	2,000	81 %	1 %	70 - 130 %	25%
95-49-8	2-Chlorotoluene	2,500	2,200	89 %	2,500	2,100	83 %	7 %	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	2,500	2,300	90 %	2,500	2,200	88 %	3 %	70 - 130 %	25%
106-43-4	4-Chlorotoluene	2,500	2,300	91 %	2,500	2,200	88 %	3 %	70 - 130 %	25%
98-06-6	tert- Butylbenzene	2,500	2,200	88 %	2,500	2,100	84 %	4 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2,500	2,300	93 %	2,500	2,200	87 %	7 %	70 - 130 %	25%
135-98-8	sec -Butylbenzene	2,500	2,200	88 %	2,500	2,100	84 %	4 %	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	2,500	2,200	89 %	2,500	2,200	86 %	3 %	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	2,500	2,300	90 %	2,500	2,200	86 %	4 %	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	2,500	2,300	91 %	2,500	2,200	88 %	3 %	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	2,500	2,100	83 %	2,500	2,000	82 %	1 %	70 - 130 %	25%
104-51-8	n -Butylbenzene	2,500	2,200	86 %	2,500	2,100	84 %	3 %	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	2,500	2,300	90 %	2,500	2,200	89 %	1 %	70 - 130 %	25%
108-70-3	1,3,5-Trichlorobenzene	2,500	2,200	89 %	2,500	2,000	80 %	12 %	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	2,500	2,300	92 %	2,500	2,000	82 %	12 %	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	2,500	1,900	75 %	2,500	1,900	77 %	2 %	70 - 130 %	25%
91-20-3	Naphthalene	2,500	2,200	89 %	2,500	2,300	92 %	4 %	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	2,500	2,200	90 %	2,500	2,200	89 %	0 %	70 - 130 %	25%
75-65-0	tert-Butyl Alcohol (TBA)	50,000	44,000	88 %	50,000	43,000	85 %	3 %	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	2,500	2,300	93 %	2,500	2,200	89 %	5 %	70 - 130 %	25%
637-92-3	Ethyl tert-butyl Ether (ETBE)	2,500	2,000	82 %	2,500	2,000	82 %	0 %	70 - 130 %	25%
994-05-8	tert - Amyl Methyl Ether (TAME)	2,500	2,000	80 %	2,500	2,000	80 %	0 %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,600	105 %	2,500	2,300	93 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,300	91 %	2,500	2,100	83 %	70 - 130 %
Toluene-d ₈	2,500	2,600	106 %	2,500	2,400	94 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	105 %	2,500	2,500	99 %	70 - 130 %

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A.

Report Notations:

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.



Quality Control Report Method Blank

 Category:
 EPA Method 8260B
 Instrument ID:
 MS-1 HP 5890

 QC Batch ID:
 VM1-2787-E
 Analyzed:
 03-12-10 08:30

Matrix: Soil Analyst: LMG

Page: 1 of 2

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL	ug/Kg	500
74-87-3	Chloromethane	BRL	ug/Kg	500
75-01-4	Vinyl Chloride	BRL	ug/Kg	500
74-83-9	Bromomethane	BRL	ug/Kg	500
75-00-3	Chloroethane	BRL	ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL	ug/Kg	500
60-29-7	Diethyl Ether	BRL	ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL	ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL	ug/Kg	2,500
67-64-1	Acetone	BRL	ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL	ug/Kg	2,500
75-09-2	Methylene Chloride	BRL	ug/Kg	1,000
107-13-1	Acrylonitrile	BRL	ug/Kg	250
156-60-5	trans- 1,2-Dichloroethene	BRL	ug/Kg	250
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL	ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL	ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL	ug/Kg	250
156-59-2	cis-1,2-Dichloroethene	BRL	ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL	ug/Kg	2,500
74-97-5	Bromochloromethane	BRL	ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL	ug/Kg	2,500
67-66-3	Chloroform	BRL	ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL	ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL	ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL	ug/Kg	250
71-43-2	Benzene	BRL	ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL	ug/Kg	250
79-01-6	Trichloroethene	BRL	ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL	ug/Kg	250
74-95-3	Dibromomethane	BRL	ug/Kg	250
75-27-4	Bromodichloromethane	BRL	ug/Kg	250
123-91-1	1,4-Dioxane	BRL	ug/Kg	250,000
10061-01-5	cis-1,3-Dichloropropene	BRL	ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL	ug/Kg	2,500
108-88-3	Toluene	BRL	ug/Kg	250
10061-02-6	trans- 1,3-Dichloropropene	BRL	ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL	ug/Kg	250
127-18-4	Tetrachloroethene	BRL	ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL	ug/Kg	250
591-78-6	2-Hexanone	BRL	ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL	ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL	ug/Kg	250
108-90-7	Chlorobenzene	BRL	ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL	ug/Kg	250
100-41-4	Ethylbenzene	BRL	ug/Kg	250
08-38-3/106-42-3	meta- Xylene and para- Xylene	BRL	ug/Kg	250
95-47-6	ortho- Xylene	BRL	ug/Kg	250
100-42-5	Styrene	BRL	ug/Kg	250
75-25-2	Bromoform	BRL	ug/Kg	250



Quality Control Report Method Blank

 Category:
 EPA Method 8260B
 Instrument ID:
 MS-1 HP 5890

 QC Batch ID:
 VM1-2787-E
 Analyzed:
 03-12-10 08:30

Matrix: Soil Analyst: LMG

Page: 2 of 2

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL	ug/Kg	250
108-86-1	Bromobenzene	BRL	ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL	ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL	ug/Kg	250
110-57-6	trans -1,4-Dichloro-2-butene	BRL	ug/Kg	2,500
103-65-1	n -Propylbenzene	BRL	ug/Kg	250
95-49-8	2-Chlorotoluene	BRL	ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL	ug/Kg	250
106-43-4	4-Chlorotoluene	BRL	ug/Kg	250
98-06-6	tert-Butylbenzene	BRL	ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL	ug/Kg	250
135-98-8	sec-Butylbenzene	BRL	ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL	ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL	ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL	ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL	ug/Kg	250
104-51-8	<i>n</i> -Butylbenzene	BRL	ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL	ug/Kg	250
108-70-3	1,3,5-Trichlorobenzene	BRL	ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL	ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL	ug/Kg	250
91-20-3	Naphthalene	BRL	ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL	ug/Kg	250
75-65-0	tert -Butyl Alcohol (TBA)	BRL	ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL	ug/Kg	250
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL	ug/Kg	250
994-05-8	tert - Amyl Methyl Ether (TAME)	BRL	ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	96 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,000	80 %	70 - 130 %
Toluene-d ₈	2,500	2,300	92 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	107 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.



Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

CONNECTICUT

Department of Health Services, PH-0586

Potable Water, Wastewater, Solid Waste and Soil

http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Potable Water and Non-Potable Water

http://public.dep.state.ma.us/labcert/labcert.aspx

Department of Labor,
Division of Occupational Safety, AA000195

http://www.mass.gov/dos/forms/la-rpt list aa.pdf

Asbestos Analytical Services, Class A

NEW HAMPSHIRE

Department of Environmental Services, 202708

http://www4.egov.nh.gov/DES/NHELAP

Potable Water, Non-Potable Water, Solid and Chemical Materials

NEW YORK

Department of Health, 11754

http://www.wadsworth.org/labcert/elap/comm.html

Potable Water, Non-Potable Water, Solid and Hazardous Waste

RHODE ISLAND

Department of Health,

Division of Laboratories, LAO00054

http://www.health.ri.gov/labs/outofstatelabs.pdf

Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921

Foreign soil import permit

VERMONT

Department of Health, VT-87643

http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Potable Water



Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)		Non-Potable Water (Wastewater)	
Analyte	Method	Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1	Antimony	EPA 200.7
1,2-Dibromoethane	EPA 504.1	Antimony	EPA 200.8
Alkalinity, Total	SM 2320-B	Arsenic	EPA 200.7
Antimony	EPA 200.8	Arsenic	EPA 200.8
Arsenic	EPA 200.8	Beryllium	EPA 200.7
Barium	EPA 200.7	Beryllium	EPA 200.8
Barium	EPA 200.8	Beta-BHC	EPA 608
Beryllium	EPA 200.7	Biochemical Oxygen Demand	SM 5210-B
Beryllium	EPA 200.8	Cadmium	EPA 200.7
Cadmium	EPA 200.7	Cadmium	EPA 200.8
Cadmium	EPA 200.8	Calcium	EPA 200.7
Calcium	EPA 200.7	Chemical Oxygen Demand	SM 5220-D
Chlorine, Residual Free	SM 4500-CL-G	Chlordane	EPA 608
Chromium	EPA 200.7	Chloride	EPA 300.0
Copper	EPA 200.7	Chlorine, Total Residual	SM 4500-CL-G
Copper	EPA 200.8	Chromium	EPA 200.7
Cyanide, Total	Lachat 10-204-00-1-A	Chromium	EPA 200.8
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223	Cobalt	EPA 200.7
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G	Cobalt	EPA 200.8
Fecal Coliform (Source Water)	MF SM 9222-D	Copper	EPA 200.7
Fluoride	EPA 300.0	Copper	EPA 200.8
Fluoride	SM 4500-F-C	Cyanide, Total	Lachat 10-204-00-1-A
Heterotrophic Plate Count	SM 9215-B	DDD	EPA 608
Lead	EPA 200.8	DDE	EPA 608
Mercury	EPA 245.1	DDT	EPA 608
Nickel	EPA 200.7	Delta-BHC	EPA 608
Nickel	EPA 200.8	Dieldrin	EPA 608
Nitrate-N	EPA 300.0	Endosulfan I	EPA 608
Nitrate-N	Lachat 10-107-04-1-C	Endosulfan II	EPA 608
Nitrite-N	EPA 300.0	Endosulfan Sulfate	EPA 608
Nitrite-N	Lachat 10-107-04-1-C	Endrin	EPA 608
pH	SM 4500-H-B	Endrin Aldehyde	EPA 608
Selenium	EPA 200.8	Fluoride	EPA 300.0
Silver	EPA 200.7	Gamma-BHC	EPA 608
Silver	EPA 200.8	Hardness (CaCO3), Total	EPA 200.7
Sodium	EPA 200.7	Hardness (CaCO3), Total	SM 2340-B
Sulfate	EPA 300.0	Heptachlor	EPA 608
Thallium	EPA 200.8	Heptachlor Epoxide	EPA 608
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223	Iron	EPA 200.7
Total Coliform (Treatment and Distribution)	MF SM 9222-B	Kjeldahl-N	Lachat 10-107-06-02-D
Total Dissolved Solids	SM 2540-C	Lead	EPA 200.7
Trihalomethanes	EPA 524.2	Magnesium	EPA 200.7
Turbidity	SM 2130-B	Manganese	EPA 200.7
Volatile Organic Compounds	EPA 524.2	Manganese	EPA 200.8
		Mercury	EPA 245.1
Non-Potable Water (Wastewater)		Molybdenum	EPA 200.7
Analyte	Method	Molybdenum	EPA 200.8
		Nickel	EPA 200.7
Aldrin	FDA 609	Nickel	EPA 200.7
Aldrin Alkalinity, Total	EPA 608 SM 2320-B	Nickei Nitrate-N	EPA 200.8 EPA 300.0
Alpha-BHC	SM 2320-B EPA 608	Nitrate-N Nitrate-N	Lachat 10-107-04-1-C
Aluminum	EPA 200.7	Non-Filterable Residue	SM 2540-D
And Ammonia-N	Lachat 10-107-06-1-B	Oil and Grease	EPA 1664
/ AITHHOTHA-IN	Laciidi 10-10/-00-1-D	Oil allu Glease	LFA 1004



Certifications and Approvals

MASSACHUSETTS

Non-Potable Water (Wastewater)

Analyte

Sulfate

Zinc

Zinc

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Method

EPA 300.0

EPA 200.7 EPA 200.8

Orthophosphate	Lachat 10-115-01-1-A
рН	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7

Groundwater Analytical, Inc. P.O.Box 1200 228 Main Street Buzzards Bay, MA 02532 **GROUNDWATER ANALYTICAL**

Telephone: (508) 759-4441 FAX: (508) 759-4475

e-mail

То:	Kevin Scully		From:	e-mail reporting GW	⁷ A
	Hydro-Environi	nental	Pages:	13	
e-mail: kevins@hydroenvironmental.			Date:	04/02/2010 14:29:18	3
Re:	132162		CC:		
□ Urgent		☐ For Review	☐ Pleas	e Comment	☐ Please Reply
● Comn	nents:				

Final Project Report for Acrovox, 740 Belleville Ave/013-179, Lab ID 132162, Received 03-10-10

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Confidential



Groundwater Analytical, Inc. P.O. Box 1200 228 Main Street Buzzards Bay, MA 02532

Telephone (508) 759-4441 FAX (508) 759-4475 www.groundwateranalytical.com

April 2, 2010

Mr. Kevin Scully Hydro-Environmental Technologies, Inc. 54 Nonset Path Acton, MA 01720

LABORATORY REPORT

Project: Acrovox, 740 Belleville Ave/013-179

Lab ID: **132162** Received: **03-10-10**

Dear Kevin:

Enclosed are the analytical results for the above referenced project. The project was processed for Rush 3 Business Day turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/elm Enclosures



Sample Receipt Report

Project: Acrovox, 740 Belleville Ave/013-179 Client: Hydro-Environmental Technologies, Inc. Lab ID: **132162** Lab Receipt: **03-10-10**

Delivery: **GWA Courier** Airbill: n/a

Temperature: 3°C Chain of Custody: **Present** Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
132162-1	Stockpile		Soil	3/9/10 20:00	EPA 6010B TCLP Pb				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1206784	250 mL Glass	n/a	n/a	None	n/a	n/a	n/a		



Toxicity Characteristic Leaching Procedure (TCLP) Trace Metals

Field ID: Stockpile Matrix: TCLP Leachate
Project: Acrovox, 740 Belleville Ave/013-179 Container: 250 mL Glass

Client: **Hydro-Environmental Technologies, Inc.** Preservation: **Cool**

Laboratory ID: 132162-1 Date Leached: 03-31-10 17:00

Sampled: 03-09-10 20:00 TCLP Fluid: 1

Received: **03-10-10 17:30**

Analysis MethodQC Batch IDPrep MethodPreparedSample VolumeInstrument IDAnalystEPA 6010B1MB-4021-WEPA 3010A04-01-10 00:0050 mLICP-1 PE 3000MP

 CAS Number
 Analyte
 Concentration
 Notes
 Units
 RCRA Limit
 Reporting Limit
 DF
 Analyzed
 Method

 7439-92-1
 Lead
 3.6
 mg/L
 5.0
 0.3
 10
 04-01-10
 16:42
 EPA 6010B¹

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and

Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111,

(1994), and 40 C.F.R. 136, Appendix C (1990).

Sample leached in accordance with EPA Method 1311 prior to determinative analysis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be

reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RCRA Limit indicates maximum concentration of contaminant under the TCLP Rule, as specified

at 40 C.F.R. 261.24, Table 1.

DF Dilution Factor.



TCLP Matrix Spike Trace Metals

Field ID: Stockpile Parent Sample Matrix Spike Project: Acrovox, 740 Belleville Ave/013-179 132162-1 132162-1MS Laboratory ID: Client: Hydro-Environmental Technologies, Inc. 03-09-10 20:00 03-09-10 20:00 Sampled: Matrix: **TCLP Leachate** Received: 03-10-10 17:30 03-10-10 17:30 03-31-10 17:00 250 mL Glass 03-31-10 17:00 Container: Leached:

Preservation: Cool TCLP Fluid: 1 1

Method QC Batch ID Prep Method **Prepared** <u>Volume</u> DF **Analyzed** Instrument ID **Analyst** EPA 6010B 04-01-10 16:58 ICP-1 PE 3000 MP MB-4021-W EPA 3010A 04-01-10 00:00 50 mL 10

CAS Number	Analyte	Unspiked Sample (mg/L)	MS Spiked (mg/L)	MS Measured (mg/L)	MS Recovery	QC Limits	Method
7439-92-1	Lead	3.6	5.0	9.1	111 %	75-125%	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample leached in accordance with EPA Method 1311 prior to determinative analysis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.



Project Narrative

Project: Acrovox, 740 Belleville Ave/013-179 Lab ID: 132162

Client: **Hydro-Environmental Technologies, Inc.** Received: **03-10-10 17:30**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. Sample 131767-2 was reassigned laboratory number 132162-1 and analyzed for TCLP Lead on a 3 day turnaround time, with a due date of 4-2-10, per Kevin Scully 3-30-10.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. No method modifications, non-conformances or analytical issues were noted.



Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.



Quality Control Report Laboratory Control Samples

Category: Metals
Matrix: Aqueous
Units: mg/L

Sample Type Method QC Batch ID Prep Method Prepared **Analyzed** Instrument ID **Analyst** LCS EPA 6010B MB-4021-WL EPA 3010A 04-01-10 00:00 04-01-10 16:33 ICP-1 PE 3000 JK 04-01-10 00:00 04-01-10 16:37 ĴΚ ICP-1 PE 3000 LCSD EPA 6010B MB-4021-WL EPA 3010A

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD		
7439-92-1	Lead	5.0	4.7	94%	5.0	5.1	101%	4 %	80-120 %	20 %	EPA 6010B	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,

or alternatively based upon the historical average recovery plus or minus three standard deviation units.



Quality Control Report Method Blank

Category: Metals
Matrix: Aqueous

 Analysis Method
 QC Batch ID
 Prep Method
 Prepared
 Sample Volume
 Instrument ID
 Analyst

 EPA 6010B
 MB-4021-WB
 EPA 3010A
 04-01-10 00:00
 50 mL
 ICP-1 PE 3000
 JK

CAS Number	Analyte	Concentration Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead	BRL	mg/L	0.005	1	04-01-10 16:29	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be

reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.



Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

CONNECTICUT

Department of Health Services, PH-0586

Potable Water, Wastewater, Solid Waste and Soil

http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Potable Water and Non-Potable Water

http://public.dep.state.ma.us/labcert/labcert.aspx

Department of Labor,
Division of Occupational Safety, AA000195

http://www.mass.gov/dos/forms/la-rpt list aa.pdf

Asbestos Analytical Services, Class A

NEW HAMPSHIRE

Department of Environmental Services, 202708

http://www4.egov.nh.gov/DES/NHELAP

Potable Water, Non-Potable Water, Solid and Chemical Materials

NEW YORK

Department of Health, 11754

http://www.wadsworth.org/labcert/elap/comm.html

Potable Water, Non-Potable Water, Solid and Hazardous Waste

RHODE ISLAND

Department of Health,

Division of Laboratories, LAO00054

Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry

 $http:/\!/www.health.ri.gov/labs/outofstatelabs.pdf$

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921

Foreign soil import permit

VERMONT

Department of Health, VT-87643

http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Potable Water



Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)		Non-Potable Water (Wastewater)			
Analyte	Method	Analyte	Method		
1,2-Dibromo-3-Chloropropane	EPA 504.1	Antimony	EPA 200.7		
1,2-Dibromoethane	EPA 504.1	Antimony	EPA 200.8		
Alkalinity, Total	SM 2320-B	Arsenic	EPA 200.7		
Antimony	EPA 200.8	Arsenic	EPA 200.8		
Arsenic	EPA 200.8	Beryllium	EPA 200.7		
Barium	EPA 200.7	Beryllium	EPA 200.8		
Barium	EPA 200.8	Beta-BHC	EPA 608		
Beryllium	EPA 200.7	Biochemical Oxygen Demand	SM 5210-B		
Beryllium	EPA 200.8	Cadmium	EPA 200.7		
Cadmium	EPA 200.7	Cadmium	EPA 200.8		
Cadmium	EPA 200.8	Calcium	EPA 200.7		
Calcium	EPA 200.7	Chemical Oxygen Demand	SM 5220-D		
Chlorine, Residual Free	SM 4500-CL-G	Chlordane	EPA 608		
Chromium	EPA 200.7	Chloride	EPA 300.0		
Copper	EPA 200.7	Chlorine, Total Residual	SM 4500-CL-G		
Copper	EPA 200.8	Chromium	EPA 200.7		
Cyanide, Total	Lachat 10-204-00-1-A	Chromium	EPA 200.8		
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223	Cobalt	EPA 200.7		
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G	Cobalt	EPA 200.8		
Fecal Coliform (Source Water)	MF SM 9222-D	Copper	EPA 200.7		
Fluoride	EPA 300.0	Copper	EPA 200.8		
Fluoride	SM 4500-F-C	Cyanide, Total	Lachat 10-204-00-1-A		
Heterotrophic Plate Count	SM 9215-B	DDD	EPA 608		
Lead	EPA 200.8	DDE	EPA 608		
Mercury	EPA 245.1	DDT	EPA 608		
Nickel	EPA 200.7	Delta-BHC	EPA 608		
Nickel	EPA 200.8	Dieldrin	EPA 608		
Nitrate-N	EPA 300.0	Endosulfan I	EPA 608		
Nitrate-N	Lachat 10-107-04-1-C	Endosulfan II	EPA 608		
Nitrite-N	EPA 300.0	Endosulfan Sulfate	EPA 608		
Nitrite-N	Lachat 10-107-04-1-C	Endrin	EPA 608		
pH	SM 4500-H-B	Endrin Aldehyde	EPA 608		
Selenium	EPA 200.8	Fluoride	EPA 300.0		
Silver	EPA 200.7	Gamma-BHC	EPA 608		
Silver	EPA 200.8	Hardness (CaCO3), Total	EPA 200.7		
Sodium	EPA 200.7	Hardness (CaCO3), Total	SM 2340-B		
Sulfate	EPA 300.0	Heptachlor	EPA 608		
Thallium	EPA 200.8	Heptachlor Epoxide	EPA 608		
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223	Iron	EPA 200.7		
Total Coliform (Treatment and Distribution)	MF SM 9222-B	Kjeldahl-N	Lachat 10-107-06-02-D		
Total Dissolved Solids	SM 2540-C	Lead	EPA 200.7		
Trihalomethanes	EPA 524.2	Magnesium	EPA 200.7		
Turbidity	SM 2130-B	Manganese	EPA 200.7		
Volatile Organic Compounds	EPA 524.2	Manganese	EPA 200.8		
		Mercury	EPA 245.1		
Non-Potable Water (Wastewater)		Molybdenum	EPA 200.7		
Analyte	Method	Molybdenum	EPA 200.8		
		Nickel	EPA 200.7		
Aldrin	FDA 609	Nickel	EPA 200.7		
Aldrin Alkalinity, Total	EPA 608 SM 2320-B	Nickei Nitrate-N	EPA 200.8 EPA 300.0		
Alpha-BHC	SM 2320-B EPA 608	Nitrate-N Nitrate-N	Lachat 10-107-04-1-C		
Aluminum	EPA 200.7	Non-Filterable Residue	SM 2540-D		
And Ammonia-N	Lachat 10-107-06-1-B	Oil and Grease	EPA 1664		
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Certifications and Approvals

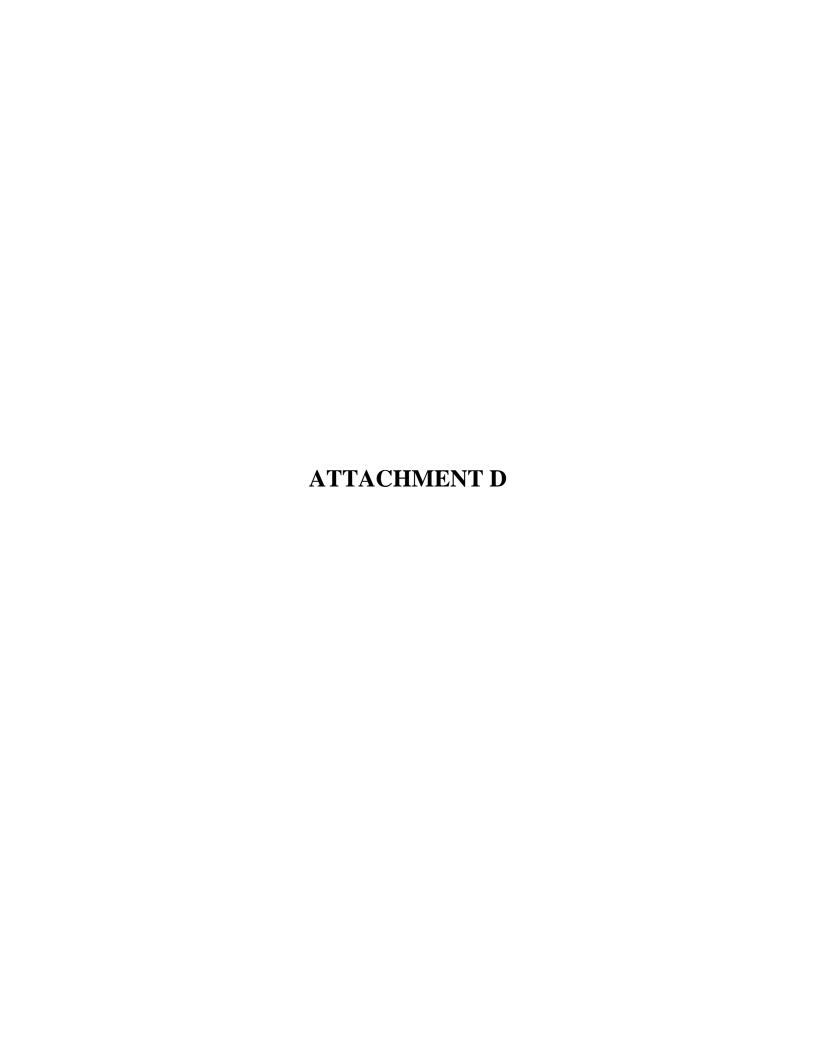
MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable	Water	(Wastewater)
Analyte		

Non-rotable water (wastewater)	
Analyte	Method
Orthophosphate	Lachat 10-115-01-1-/
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-E
Phosphorus, Total	Lachat 10-115-01-1-0
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8



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