Environmental
Resources
Management

399 Boylston Street, 6th Floor
Boston, MA 02116
(617) 267-8377
(617) 267-6447 (fax)

http://www.erm.com

4 April 2003
Reference: 1922 01

Mr. Brian Monahan
Conservation Commission
Wayland Town Hall
41 Cochituate Road
Wayland, MA 01778

Dear Brian,

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) is pleased to submit this update of Site activities for the former Raytheon facility at 430 Boston Post Road in Wayland, Massachusetts. In accordance with the special condition 33 in the Order of Conditions 322-532, dated 13 August 2002, analytical results from on-going Site investigation activities is presented in this package.

On 27 February 2003, ERM and Raytheon presented polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzo-p-dibenzofurans (PCDFs) analytical data from sediment sampling conducted in August 2002 to the Town of Wayland Public Involvement Plan (PIP) participants. Following this meeting, Raytheon presented a written plan to the Conservation Commission to conduct additional sediment sampling with in the wetland boundary. The purpose of the wetland sediment sampling was conducted to: 1) further assess the extent of PCDD/PCDF impact based on August 2002 analytical data; and 2) provide additional data for the Town of Wayland concerning the area and targeted volume for removal based on proposed clean up criteria. The commission notified Raytheon verbally that additional sampling was covered under the existing Order of Conditions and a modification to the existing Order of Conditions was not required.

On 5 March 2003 and 20 March 2003, ERM collected sediment samples from 36 locations, labeled WS-1 through WS-36 (Figure 1), for laboratory analysis of one or more of the following parameters:

- PCDDs/PCDFs by EPA Method
- Polychlorinated biphenyls (PCBs) by EPA Method 8082
- Polyaromatic hydrocarbons (PAHs) by EPA Method 8270

- Metals by EPA Method 3051

The following is enclosed:

- Draft summary tables from sediment sampling in wetland for PCDDs/PCDFs and PCBs received to date (Table 1); and PAHs and heavy metals (Table 2);
- PCBs, PAHs and heavy metals analytical data; and
- Figure 1 indicating sediment sampling locations.

The remaining sediment data will be transmitted to the commission upon receipt from the laboratory. A preliminary review of the data indicates that the remedial strategy for the site will not be changed based on the enclosed results. Once all the sediment data has been received from the laboratory, a more detailed report will be provided to the commission. In addition, we will discuss all data received to date at the PIP meeting scheduled for May 7, 2003.

Raytheon looks forward to continuing our cooperative effort, during this Site investigation. If you have any questions or comments please contact the undersigned at (617) 267-8377 or Edwin Madera at (978) 440-1813.

Sincerely,

Rachel B. Leary
Project Engineer

John C. Drobinski, P.G., LSP
Principal-in- Charge

rbl
enclosures: Table 1 - 2
Figure 1
Analytical Data

cc: Edwin Madera, Raytheon Company
Benson Gould, CMG
Public Repositories

Tables

Table 1
Summary of Sediment Dioxin-Furan Analytical Results
Former Raytheon Facility
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	WS-1 (6-12") 05-Mar-03	Flags	WS-2 (6-15") 05-Mar-03	Flags	WS-2 (18-24") 05-Mar-03	Flags	WS-4 (18-24") 05-Mar-03	Flags	WS-7 (6-15") 05-Mar-03	Flags	WS-7 (18-24") 05-Mar-03	Flags
Polychlorinated Biphenyls (ug/kg) (EPA Method 8082)	NA		-		NA		NA		NA		-	
Aroclor 1254												
Aroclor 1260												
Total PCBs												
Total Organic Carbon(%)	0.135		0.534		9.83		6.31		1.98		2.42	
Polychlorinated dibenzo-p-dioxins (PCDDs) (pg/g)												
2,3,7,8-TCDD	0.35	u	0.05	u	0.05	u	0.1	u	0.1	u	0.05	u
1,2,3,7,8-PeCDD	0.45	u	0.05	u	0.43	j	0.1	u	0.35	ej	0.05	u
1,2,3,4,7,8-HxCDD	0.3	u	0.04	u	0.5	j	0.05	u	0.56	j	0.05	u
1,2,3,6,7,8-HxCDD	0.3	u	0.04	u	2.9	j	0.05	u	2.7	j	0.05	u
1,2,3,7,8,9-HxCDD	0.3	u	0.04	u	4.1	j	0.05	u	3.7	j	0.05	u
1,2,3,4,6,7,8-HpCDD	2.0	j	1.0	ej	11.8		2.2	j	58.2		1.1	j
OCDD	11.8		7.6	j	46.6		15.6		380		5.3	j
Polychlorinated dibenzo-p-dibenzofurans (PCDFs) (pg/g)												
2,3,7,8-TCDF	0.25	u	0.04	u	0.95	j	0.05	u	0.44	j	0.05	u
1,2,3,7,8-PeCDF	0.25	u	0.035	u	0.22	ej	0.045	u	0.14	ej	0.04	u
2,3,4,7,8-PeCDF	0.25	u	0.31	ej	0.11	ej	0.045	u	0.41	j	0.04	u
1,2,3,4,7,8-HxCDF	0.51	ej	0.82	j	0.36	ej	0.41	j	1.1	j	0.035	u
1,2,3,6,7,8-HxCDF	0.2	u	0.26	ej	0.16	j	0.035	u	0.46	j	0.035	u
2,3,4,6,7,8-HxCDF	0.2	u	0.19	ej	0.035	u	0.04	u	0.48	j	0.035	u
1,2,3,7,8,9-HxCDF	0.25	u	0.03	u	0.27	ej	0.045	u	0.31	j	0.045	u
1,2,3,4,6,7,8-HpCDF	1.7	j	3.3	j	0.55	j	1.2	ej	5.5		0.05	u
1,2,3,4,7,8,9-HpCDF	0.4	u	0.045	u	0.05	u	0.05	u	0.49	ej	0.05	u
OCDF	0.65	u	2.3	j	0.61	ej	1.1	j	9.1	j	0.15	u
Total 2,3,7,8 TCDD Equivalent	1.21		0.45		1.60		0.33		2.32		0.17	

Notes:
NA = Not Analyzed
pg/g=picograms per gram (dry weight basis)
* - Duplicate Sample

Flags
u not detected, value shown is one-half of DL
j concentration less then LMCL
e EMPC = peak did not meet confirmation criteria
d result reported from a dilution of the original extract
b detected in laboratory method blank as well as field sample

Table 1
Summary of Sediment Dioxin-Furan Analytical Results
Former Raytheon Facility
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	WS-11 (18-24") 05-Mar-03	Flags	WS-12 (6-12") 05-Mar-03	Flags	WS-13 (6-18") 05-Mar-03	Flags	WS-14 (6-12") 05-Mar-03	Flags	WS-15 (6-12") 05-Mar-03	Flags	WS-18 (6-12") 05-Mar-03	Flags	WS-20 (6-12") 05-Mar-03	Flags
Polychlorinated Biphenyls (ug/kg) (EPA Method 8082)	NA		NA		-		NA		NA		NA		NA	
Aroclor 1254														
Aroclor 1260														
Total PCBs														
Total Organic Carbon(%)	0.087		10.6		5.32		3.87		11.7		0.395		0.325	
Polychlorinated dibenzo-p-dioxins (PCDDs) (pg/g)														
2,3,7,8-TCDD	0.25	u	0.1	u	0.25	u	0.05	u	0.45	u	0.05	u	0.05	u
1,2,3,7,8-PeCDD	0.35	u	0.15	u	0.35	u	0.05	u	0.55	u	0.05	u	0.1	u
1,2,3,4,7,8-HxCDD	0.25	u	0.64	j	0.25	u	0.045	u	0.5	u	0.05	u	0.05	u
1,2,3,6,7,8-HxCDD	0.25	u	2.5	j	2.4	j	0.5	j	1	j	0.05	u	0.05	u
1,2,3,7,8,9-HxCDD	0.25	u	2.9	j	3.6	j	0.52	ej	1.2	ej	0.05	u	0.05	u
1,2,3,4,6,7,8-HpCDD	0.45	u	38.9		13.0		4.4	j	25.9		0.2	ej	0.1	u
OCDD	0.75	u	236		78.1		22.8		181		1.1	ej	0.8	j
Polychlorinated dibenzo-p-dibenzofurans (PCDFs) (pg/g)														
2,3,7,8-TCDF	0.2	u	0.1	u	0.88	j	0.56	j	0.35	u	0.04	u	0.05	u
1,2,3,7,8-PeCDF	0.15	u	0.05	u	0.15	u	0.03	u	0.3	u	0.035	u	0.045	u
2,3,4,7,8-PeCDF	0.2	u	0.1	u	0.2	u	0.8	j	0.35	u	0.035	u	0.045	u
1,2,3,4,7,8-HxCDF	0.15	u	0.55	j	0.39	ej	2.4	j	0.3	u	0.13	ej	0.035	u
1,2,3,6,7,8-HxCDF	0.15	u	0.05	u	0.15	u	0.98	j	0.3	u	0.03	u	0.035	u
2,3,4,6,7,8-HxCDF	0.2	u	0.1	u	0.15	u	1	j	0.35	u	0.03	u	0.035	u
1,2,3,7,8,9-HxCDF	0.2	u	0.1	u	0.2	u	0.46	j	0.4	u	0.04	u	0.045	u
1,2,3,4,6,7,8-HpCDF	0.25	u	1.9	j	1.5	j	9.5		1.2	j	0.13	ej	0.05	u
1,2,3,4,7,8,9-HpCDF	0.3	u	0.15	u	0.3	u	0.38	ej	0.55	u	0.05	u	0.05	u
OCDF	0.55	u	3.7	j	1.7	j	6.8	j	0.85	u	0.61	j	0.1	u
Total 2,3,7,8 TCDD Equivalent	0.88		1.43		1.67		1.29		1.92		0.17		0.21	

Notes:
NA = Not Analyzed
pg/g=picograms per gram (dry weight basis)
* - Duplicate Sample

Flags
u not detected, value shown is one-half of DL
j concentration less then LMCL
e EMPC = peak did not meet confirmation criteria
d result reported from a dilution of the original extract
b detected in laboratory method blank as well as field sam

Table 1
Summary of Sediment Dioxin-Furan Analytical Results
Former Raytheon Facility
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	WS-27 (6-12") 05-Mar-03	Flags	WS-28 (0-24") 05-Mar-03	Flags
Polychlorinated Biphenyls (ug/kg) (EPA Method 8082)		NA			
Aroclor 1254				13	u
Aroclor 1260				13	u
				26	
Total Organic Carbon(%)		10.3		6.84	
Polychlorinated dibenzo-p-dioxins (PCDDs) (pg/g)					
2,3,7,8-TCDD		0.1	u	0.05	u
1,2,3,7,8-PeCDD		0.1	u	0.05	u
1,2,3,4,7,8-HxCDD		0.05	u	0.19	ej
1,2,3,6,7,8-HxCDD		0.32	j	1.2	j
1,2,3,7,8,9-HxCDD		0.29	ej	1.6	j
1,2,3,4,6,7,8-HpCDD		2.6	j	6.6	
OCDD		13.4		27.4	
Polychlorinated dibenzo-p-dibenzofurans (PCDFs) (pg/g)					
2,3,7,8-TCDF		0.34	ej	0.53	ej
1,2,3,7,8-PeCDF		0.045	u	0.13	ej
2,3,4,7,8-PeCDF		0.045	u	0.18	j
1,2,3,4,7,8-HxCDF		0.27	ej	0.4	j
1,2,3,6,7,8-HxCDF		0.035	u	0.17	j
2,3,4,6,7,8-HxCDF		0.035	u	0.04	u
1,2,3,7,8,9-HxCDF		0.045	u	0.05	u
1,2,3,4,6,7,8-HpCDF		0.53	ej	0.76	j
1,2,3,4,7,8,9-HpCDF		0.05	u	0.05	u
OCDF		0.94	j	0.79	ej
Total 2,3,7,8 TCDD Equivalent		0.40		0.69	

Notes:
NA = Not Analyzed
pg/g=picograms per gram (dry weight basis)
* - Duplicate Sample

Flags
u not detected, value shown is one-half of DL
j concentration less then LMCL
e EMPC = peak did not meet confirmation criteria
d result reported from a dilution of the original extract
b detected in laboratory method blank as well as field sam

Table 2
Summary of Sediment Analytical Results
Former Raytheon Facility
Wayland, Massachusetts

Sample I.D.	WS-5	WS-13	WS-19	WS-23	WS-23	WS-24	WS-36
Depth	(6-18")	(6-18")	(6-18")	(6-12")	(6-12")	(6-18")	(6-16")
Date Sampled	5-Mar-03	5-Mar-03	5-Mar-03	20-Mar-03	20-Mar-03	5-Mar-03	3/5/2003
Comments					DUP-1		
Total Metals (mg/kg)							
Aluminum	7000	7300	8100	8900	8800	3300	8700
Antimony	-	-	-	-	-	-	-
Arsenic	9.5	14	5.6	11	9.7	2.7	6.3
Barium	26	21	18	41	41	12	29
Beryllium	0.32	0.7	0.92	1.1	1.1	-	0.11
Cadmium	0.14	0.41	0.52	2.2	2.2	-	0.11
Calcium	850	2100	640	2800	2600	330	1200
Chromium	21	16	13	110	100	5.3	14
Chromium , Hexavalent	-	-	-	-	-	-	-
Cobalt	2.2	0.93	2	2.6	-	2.1	3.9
Copper	13	18	21	170	160	3.9	6.8
Iron	5900	2500	4700	4500	4100	3600	9600
Lead	12	7.5	11	38	38	1.8	4.4
Magnesium	840	410	840	410	400	840	2400
Manganese	72	57	44	81	79	30	83
Mercury	0.04	0.07	0.03	-	-	-	0.01
Nickel	4.7	3.6	5.8	11	11	4.9	8.1
Potassium	150	75	96	-	-	310	370
Selenium	-	-	-	-	-	-	-
Silver	0.29	-	0.15	4.1	3.8	-	-
Sodium	82	180	110	310	290	-	110
Thallium	-	-	-	-	-	-	-
Vanadium	11	18	12	19	18	5.5	15
Zinc	8.2	3.4	31	94	100	7.3	13
Polyaromatic Hydrocarbons (ug/kg) (EPA Method 8270 M)			-			-	-
Acenaphthene	-	-		99	-		
Fluoranthene	-	100		1800	64		
Benzo(a)anthracene	-	-		870	-		
Benzo(a)pyrene	-	-		760	-		
Benzo(b)fluoranthene	-	180		1000	-		
Benzo(k)fluoranthene	-	67		440	-		
Chrysene	-	87		960	-		
Anthracene	-	-		320	-		
Benzo(ghi)perylene	-	100		480	-		
Fluorene	-	-		110	-		
Phenanthrene	-	-		1400	-		
Dibenzo(a,h)anthracene	-	-		140	-		
Indeno(1,2,3-cd)Pyrene	-	95		540	-		
Pyrene	31	100		1600	-		
Perylene	-	-		170	-		
Benzo(e)Pyrene	-	110		520	-		

Notes:
- = Analytical result below the method detection limit.
mg/kg = milligram per kilogram (parts per million (ppm)).
ug/kg = micrograms per kilogram (parts per billion (ppb)).

Figures

Legend

- Existing Building
- 100' Buffer Zone
- Tree Line
- Delineated Wetland Boundary
- Property Line
- Existing Monitoring Well Location
- Newly Installed Monitoring Well Location
- Sediment Sampling Location (Mar 2003)
- Sediment Sample Location (Aug 2003)

Sudbury River

200 FOOT RIVERFRONT AREA LIMIT

BUFFER ZONE

LIMIT OF BANK

WETLAND NO. 2 ISOLATED WETLANDS

N

MW-268B
MW-268S
MW-268M
MW-268D

MW-269Ma
MW-269S
MW-269D
MW-269Mb

MW-32

HA-101

MW-315S
MW-315D

MW-314D
MW-314S

Areas of Proposed Excavation

Area of Stressed Vegetation

Combined Sewer & Drain Outfall (OF-1)

MW-307

MW-313S
MW-313D

SS-22
SS-21
SS-25
SS-23
SS-26
SS-24

WS-9
WS-29
WS-25
WS-30
WS-10
WS-6
WS-15
WS-1
WS-21
WS-16
WS-7
WS-2
WS-26
WS-31
WS-17
WS-8
WS-3
WS-27
WS-22
WS-11
WS-4
WS-32
WS-23
WS-12
WS-18
WS-28
WS-33
WS-24
WS-5
WS-36
WS-19
WS-13
WS-14
WS-34
WS-20
WS-35

SCALE

50 0 25 50 100 200

Environmental Resources Management	Designed by:
399 Boylston Street Boston, MA 02116 (617) 267-8377	Drawn by: JE
	Checked by: RL
	Reviewed by: JD
	Submitted by:

Revisions

Symbol	Description	Date	Approved
	Dioxin Locs		
	R:\Raytheon\Wayland – 1922\Northern Area Phase I Work Plan\Raytheon – State Plane.dwg		

Former Raytheon Facility
430 Boston Post Road Wayland, MA

Wetland Sediment Sampling Locations Map

Scale: 1"=100' Date: 3/20/03

Drawing No.

Figure No. 3

Contract No. 1922.01

Analytical Data

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: ERM-New England

Address: 399 Boylston Street
6th Floor
Boston, MA 02116

Attn: Ms. Rachel Leary

Project Number: 1922-01-04

Site: RAYTHEON

Laboratory Job Number: L0301967

Date Received: 05-MAR-2003

Date Reported: 12-MAR-2003

Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0301967-01	WS-22 (6-12")	WAYLAND, MA
L0301967-02	WS-31 (6-12")	WAYLAND, MA
L0301967-03	WS-26 (6-12")	WAYLAND, MA
L0301967-04	WS-29 (0-24")	WAYLAND, MA
L0301967-05	WS-25 (0-24")	WAYLAND, MA
L0301967-06	WS-21 (6-12")	WAYLAND, MA
L0301967-07	WS-16 (6-15")	WAYLAND, MA
L0301967-08	WS-32 (6-12")	WAYLAND, MA
L0301967-09	WS-17 (6-12")	WAYLAND, MA
L0301967-10	WS-6 (6-12")	WAYLAND, MA
L0301967-11	WS-10 (6-12")	WAYLAND, MA
L0301967-12	WS-10 (18-24")	WAYLAND, MA
L0301967-13	WS-9 (6-12")	WAYLAND, MA
L0301967-14	WS-30 (0-24")	WAYLAND, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Scott McLean

Scott McLean - Technical Director
This document electronically signed

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0301967

Alpha Report L0301967:

Report Submission

The samples submitted for the analysis of Dioxins were subcontracted to an outside laboratory. A separate report from the subcontractor will be issued as soon as the data becomes available.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-01
WS-22 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 12:30
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	32.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	6.41	%	0.031	13		0310 16:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-02
WS-31 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 11:10
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	35.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	5.63	%	0.028	13		0310 16:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-03 WS-26 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 10:42
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	31.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	9.68	%	0.032	13		0310 16:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-04
WS-29 (0-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 13:20
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	24.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	12.8	%	0.041	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-05
WS-25 (0-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 12:05
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	27.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	12.3	%	0.037	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-06
WS-21 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 11:40
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	28.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	10.8	%	0.035	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-07
WS-16 (6-15")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 11:25
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	26.	%	0.10	30	2540G		0306 12:35	NL
Total Organic Carbon	9.81	%	0.038	13			0311 14:30	DD
Polychlorinated Biphenyls				1	8082	0306 15:50	0311 21:07	AK
Aroclor 1221	ND	ug/kg	962.					
Aroclor 1232	ND	ug/kg	962.					
Aroclor 1242/1016	ND	ug/kg	962.					
Aroclor 1248	ND	ug/kg	962.					
Aroclor 1254	ND	ug/kg	962.					
Aroclor 1260	ND	ug/kg	962.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	90.0	%	30-150					
Decachlorobiphenyl	74.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-08
WS-32 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 12:43
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	34.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	3.65	%	0.029	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-09
WS-17 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 11:00
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	33.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	5.76	%	0.030	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-10
WS-6 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 12:15
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	32.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	5.38	%	0.031	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-11
WS-10 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 10:15
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	26.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	13.5	%	0.038	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-12
WS-10 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 10:15
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	29.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	9.14	%	0.034	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-13
WS-9 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 10:25
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	22.	%	0.10	30 2540G		0306 12:35	NL
Total Organic Carbon	12.4	%	0.045	13		0311 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0301967-14
WS-30 (0-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 11:48
Date Received : 05-MAR-2003
Date Reported : 12-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	30.	%	0.10	30	2540G		0306 12:35	NL
Total Organic Carbon	7.60	%	0.033	13			0311 14:30	DD
Polychlorinated Biphenyls				1	8082	0306 15:50	0311 20:34	AK
Aroclor 1221	ND	ug/kg	833.					
Aroclor 1232	ND	ug/kg	833.					
Aroclor 1242/1016	ND	ug/kg	833.					
Aroclor 1248	ND	ug/kg	833.					
Aroclor 1254	ND	ug/kg	833.					
Aroclor 1260	ND	ug/kg	833.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	90.0	%	30-150					
Decachlorobiphenyl	73.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0301967

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-14 (L0301967-01, WG134715)					
Solids, Total	32.	32.	%	0	
Total Organic Carbon for sample(s) 01-03 (L0301967-01, WG134932)					
Total Organic Carbon	6.41	6.88	%	7	
Total Organic Carbon for sample(s) 04-14 (L0301967-04, WG135024)					
Total Organic Carbon	12.8	12.7	%	1	
Polychlorinated Biphenyls for sample(s) 07,14 (L0301967-14, WG134752)					
Aroclor 1221	ND	ND	ug/kg	NC	50
Aroclor 1232	ND	ND	ug/kg	NC	50
Aroclor 1242/1016	ND	ND	ug/kg	NC	50
Aroclor 1248	ND	ND	ug/kg	NC	50
Aroclor 1254	ND	ND	ug/kg	NC	50
Aroclor 1260	ND	ND	ug/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,4,5,6-Tetrachloro-m-xylene	90.0	91.0	%	1	30-150
Decachlorobiphenyl	73.0	73.0	%	0	30-150

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0301967

Parameter	% Recovery	QC Criteria
Total Organic Carbon LCS for sample(s) 01-03 (WG134932)		
Total Organic Carbon	101	
Total Organic Carbon LCS for sample(s) 04-14 (WG135024)		
Total Organic Carbon	101	
Polychlorinated Biphenyls LCS for sample(s) 07,14 (WG134752)		
Aroclor 1242/1016	90	40-140
Aroclor 1260	93	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	89	30-150
Decachlorobiphenyl	72	30-150

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0301967

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01-03 (WG134932-2)								
Total Organic Carbon	ND	%	0.010	13			0310 16:30	DD
Blank Analysis for sample(s) 04-14 (WG135024-2)								
Total Organic Carbon	ND	%	0.010	13			0311 14:30	DD
Blank Analysis for sample(s) 07,14 (WG134752-1)								
Polychlorinated Biphenyls				1	8082	0306 15:50	0311 18:54	AK
Aroclor 1221	ND	ug/kg	250.					
Aroclor 1232	ND	ug/kg	250.					
Aroclor 1242/1016	ND	ug/kg	250.					
Aroclor 1248	ND	ug/kg	250.					
Aroclor 1254	ND	ug/kg	250.					
Aroclor 1260	ND	ug/kg	250.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	89.0	%	30-150					
Decachlorobiphenyl	69.0	%	30-150					

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Update III, 1997.

13. Determination of Total Organic Carbon in Sediment. U.S. EPA, Region II. July 27, 1988.

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.
METHOD Method number by which analysis was performed.
ID Initials of the analyst.
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES

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(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: ERM-New England

Address: 399 Boylston Street
6th Floor
Boston, MA 02116

Attn: Ms. Rachel Leary

Project Number: 1922-01-04

Site: RAYTHEON

Laboratory Job Number: L0302026

Date Received: 06-MAR-2003

Date Reported: 18-MAR-2003

Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0302026-01	WS-36 (6-16")	WAYLAND, MA
L0302026-02	WS-19 (6-18")	WAYLAND, MA
L0302026-03	WS-4 (6-18")	WAYLAND, MA
L0302026-04	WS-5 (6-18")	WAYLAND, MA
L0302026-05	WS-5 (18-24")	WAYLAND, MA
L0302026-06	WS-22 (18-24")	WAYLAND, MA
L0302026-07	WS-23 (6-12")	WAYLAND, MA
L0302026-08	WS-24 (6-18")	WAYLAND, MA
L0302026-09	WS-12 (6-12")	WAYLAND, MA
L0302026-10	WS-12 (18-24")	WAYLAND, MA
L0302026-11	WS-20 (6-12")	WAYLAND, MA
L0302026-12	WS-18 (6-12")	WAYLAND, MA
L0302026-13	WS-28 (0-24")	WAYLAND, MA
L0302026-14	WS-27 (6-12")	WAYLAND, MA
L0302026-15	WS-14 (6-12")	WAYLAND, MA
L0302026-16	WS-4 (18-24")	WAYLAND, MA
L0302026-17	WS-7 (6-15")	WAYLAND, MA
L0302026-18	WS-7 (18-24")	WAYLAND, MA
L0302026-19	WS-2 (6-15")	WAYLAND, MA
L0302026-20	WS-2 (18-24")	WAYLAND, MA
L0302026-21	WS-1 (6-12")	WAYLAND, MA
L0302026-22	WS-15 (6-12")	WAYLAND, MA
L0302026-23	WS-11 (18-24")	WAYLAND, MA
L0302026-24	WS-13 (6-18")	WAYLAND, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Scott McLean

Scott McLean - Technical Director
This document electronically signed

Laboratory Job Number: L0302026
Date Reported: 18-MAR-2003

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0302026-25	FIELD BLANK-1	WAYLAND, MA
L0302026-26	FIELD BLANK-2	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0302026

Alpha Report L0302026:

Report Submission

This report replaces the report issued March 17, 2003. The results for the analysis of PCB's have been amended.

The analysis of Dioxins was subcontracted to an outside laboratory. The results will be issued as a separate report from the subcontractor.

Polychlorinated Biphenyls

Alpha Sample L0302026-03 was re-analyzed on dilution in order to quantitate the sample within the range of the calibration. The results are reported as greater than values for any compound that exceeded the calibration on the initial analysis. The re-analyses were performed only for those compounds which exceeded the range of the calibration.

Polynuclear Aromatic Hydrocarbons

The matrix spike duplicate percent recoveries associated with Alpha Samples L0302026-01, -02, -04, -08 and -24 are below the acceptance criteria for the method due to a poor soxhlet extraction. This is believed to be an isolated incident and not indicative of the other samples in the batch. This is shown by the acceptable surrogate recoveries in the samples, as well as in the matrix spike. These low recoveries are resulting in high RPDs between the MS/MSD.

Total Metals

The matrix spike percent recoveries for the analyses of Aluminum, Copper, Iron and Manganese associated with Alpha Samples L0302026-01, -02, -04, 08 and -24 are invalid because the sample concentration is greater than four times the spike amount added.

The matrix spike percent recovery for the analysis of Sodium associated with Alpha Samples L0302026-25 and -26 is invalid because the sample concentration is greater than four times the spike amount added.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-01
WS-36 (6-16")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:55
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	76.	%	0.10	30	2540G		0307 16:50	NL
Total Organic Carbon	0.434	%	0.013	13			0313 14:00	DD
Chromium, Hexavalent	ND	mg/kg	1.0	1	7196A		0312 21:00	JT
Total Metals				1	3051			
Aluminum, Total	8700	mg/kg	6.7	1	6010B	0312 14:15	0313 09:01	RW
Antimony, Total	ND	mg/kg	0.67	1	6010B	0312 14:15	0313 08:19	RW
Arsenic, Total	6.3	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Barium, Total	29.	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Beryllium, Total	0.11	mg/kg	0.06	1	6010B	0312 14:15	0313 08:19	RW
Cadmium, Total	0.11	mg/kg	0.06	1	6010B	0312 14:15	0313 08:19	RW
Calcium, Total	1200	mg/kg	1.3	1	6010B	0312 14:15	0313 08:19	RW
Chromium, Total	14.	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Cobalt, Total	3.9	mg/kg	0.27	1	6010B	0312 14:15	0313 08:19	RW
Copper, Total	6.8	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Iron, Total	9600	mg/kg	3.4	1	6010B	0312 14:15	0313 09:01	RW
Lead, Total	4.4	mg/kg	0.67	1	6010B	0312 14:15	0313 08:19	RW
Magnesium, Total	2400	mg/kg	1.3	1	6010B	0312 14:15	0313 08:19	RW
Manganese, Total	83.	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Mercury, Total	0.01	mg/kg	0.00	1	7471A	0312 13:05	0313 11:52	DM
Nickel, Total	8.1	mg/kg	0.34	1	6010B	0312 14:15	0313 08:19	RW
Potassium, Total	370	mg/kg	34.	1	6010B	0312 14:15	0313 08:19	RW
Selenium, Total	ND	mg/kg	1.3	1	6010B	0312 14:15	0313 08:19	RW
Silver, Total	ND	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Sodium, Total	110	mg/kg	27.	1	6010B	0312 14:15	0313 08:19	RW
Thallium, Total	ND	mg/kg	0.27	1	6010B	0312 14:15	0313 08:19	RW
Vanadium, Total	15.	mg/kg	0.13	1	6010B	0312 14:15	0313 08:19	RW
Zinc, Total	13.	mg/kg	0.67	1	6010B	0312 14:15	0313 08:19	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0307 15:20	0312 03:47	HL
Acenaphthene	ND	ug/kg	26.					
2-Chloronaphthalene	ND	ug/kg	26.					
Fluoranthene	ND	ug/kg	26.					
Naphthalene	ND	ug/kg	26.					
Benzo(a)anthracene	ND	ug/kg	26.					
Benzo(a)pyrene	ND	ug/kg	26.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-01
WS-36 (6-16")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0307 15:20	0312 03:47	HL
Benzo(b)fluoranthene	ND	ug/kg	26.					
Benzo(k)fluoranthene	ND	ug/kg	26.					
Chrysene	ND	ug/kg	26.					
Acenaphthylene	ND	ug/kg	26.					
Anthracene	ND	ug/kg	26.					
Benzo(ghi)perylene	ND	ug/kg	26.					
Fluorene	ND	ug/kg	26.					
Phenanthrene	ND	ug/kg	26.					
Dibenzo(a,h)anthracene	ND	ug/kg	26.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	26.					
Pyrene	ND	ug/kg	26.					
1-Methylnaphthalene	ND	ug/kg	26.					
2-Methylnaphthalene	ND	ug/kg	26.					
Perylene	ND	ug/kg	26.					
Biphenyl	ND	ug/kg	26.					
Benzo(e)Pyrene	ND	ug/kg	26.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	68.0	%	23-120					
2-Fluorobiphenyl	64.0	%	30-120					
4-Terphenyl-d14	79.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 19:30	AK
Aroclor 1221	ND	ug/kg	25.3					
Aroclor 1232	ND	ug/kg	25.3					
Aroclor 1242/1016	ND	ug/kg	25.3					
Aroclor 1248	ND	ug/kg	25.3					
Aroclor 1254	ND	ug/kg	25.3					
Aroclor 1260	ND	ug/kg	25.3					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	92.0	%	30-150					
Decachlorobiphenyl	73.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-02
WS-19 (6-18")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:53
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	59.	%	0.10	30	2540G		0307 16:50	NL
Total Organic Carbon	2.27	%	0.016	13			0313 14:00	DD
Chromium, Hexavalent	ND	mg/kg	1.4	1	7196A		0312 21:00	JT
Total Metals				1	3051			
Aluminum, Total	8100	mg/kg	7.3	1	6010B	0312 14:15	0313 09:05	RW
Antimony, Total	ND	mg/kg	0.73	1	6010B	0312 14:15	0313 08:23	RW
Arsenic, Total	5.6	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Barium, Total	18.	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Beryllium, Total	0.92	mg/kg	0.07	1	6010B	0312 14:15	0313 08:23	RW
Cadmium, Total	0.52	mg/kg	0.07	1	6010B	0312 14:15	0313 08:23	RW
Calcium, Total	640	mg/kg	1.5	1	6010B	0312 14:15	0313 08:23	RW
Chromium, Total	13.	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Cobalt, Total	2.0	mg/kg	0.29	1	6010B	0312 14:15	0313 08:23	RW
Copper, Total	21.	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Iron, Total	4700	mg/kg	3.6	1	6010B	0312 14:15	0313 09:05	RW
Lead, Total	11.	mg/kg	0.73	1	6010B	0312 14:15	0313 08:23	RW
Magnesium, Total	840	mg/kg	1.5	1	6010B	0312 14:15	0313 08:23	RW
Manganese, Total	44.	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Mercury, Total	0.03	mg/kg	0.01	1	7471A	0312 13:05	0313 11:52	DM
Nickel, Total	5.8	mg/kg	0.36	1	6010B	0312 14:15	0313 08:23	RW
Potassium, Total	96.	mg/kg	36.	1	6010B	0312 14:15	0313 08:23	RW
Selenium, Total	ND	mg/kg	1.5	1	6010B	0312 14:15	0313 08:23	RW
Silver, Total	0.15	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Sodium, Total	110	mg/kg	29.	1	6010B	0312 14:15	0313 08:23	RW
Thallium, Total	ND	mg/kg	0.29	1	6010B	0312 14:15	0313 08:23	RW
Vanadium, Total	12.	mg/kg	0.15	1	6010B	0312 14:15	0313 08:23	RW
Zinc, Total	31.	mg/kg	0.73	1	6010B	0312 14:15	0313 08:23	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0307 15:20	0312 04:36	HL
Acenaphthene	ND	ug/kg	34.					
2-Chloronaphthalene	ND	ug/kg	34.					
Fluoranthene	ND	ug/kg	34.					
Naphthalene	ND	ug/kg	34.					
Benzo(a)anthracene	ND	ug/kg	34.					
Benzo(a)pyrene	ND	ug/kg	34.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-02
WS-19 (6-18")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0307 15:20	0312 04:36	HL
Benzo(b)fluoranthene	ND	ug/kg	34.					
Benzo(k)fluoranthene	ND	ug/kg	34.					
Chrysene	ND	ug/kg	34.					
Acenaphthylene	ND	ug/kg	34.					
Anthracene	ND	ug/kg	34.					
Benzo(ghi)perylene	ND	ug/kg	34.					
Fluorene	ND	ug/kg	34.					
Phenanthrene	ND	ug/kg	34.					
Dibenzo(a,h)anthracene	ND	ug/kg	34.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	34.					
Pyrene	ND	ug/kg	34.					
1-Methylnaphthalene	ND	ug/kg	34.					
2-Methylnaphthalene	ND	ug/kg	34.					
Perylene	ND	ug/kg	34.					
Biphenyl	ND	ug/kg	34.					
Benzo(e)Pyrene	ND	ug/kg	34.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	61.0	%	23-120					
2-Fluorobiphenyl	75.0	%	30-120					
4-Terphenyl-d14	88.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 19:58	AK
Aroclor 1221	ND	ug/kg	27.3					
Aroclor 1232	ND	ug/kg	27.3					
Aroclor 1242/1016	ND	ug/kg	27.3					
Aroclor 1248	ND	ug/kg	27.3					
Aroclor 1254	ND	ug/kg	27.3					
Aroclor 1260	ND	ug/kg	27.3					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	80.0	%	30-150					
Decachlorobiphenyl	65.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-03
WS-4 (6-18")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:25
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	78.	%	0.10	30	2540G		0307 16:50	NL
Total Organic Carbon	0.872	%	0.012	13			0313 14:00	DD
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 20:26	AK
Aroclor 1221	ND	ug/kg	25.6					
Aroclor 1232	ND	ug/kg	25.6					
Aroclor 1242/1016	ND	ug/kg	25.6					
Aroclor 1248	ND	ug/kg	25.6					
Aroclor 1254	ND	ug/kg	25.6					
Aroclor 1260	>500	ug/kg	25.6					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	70.0	%	30-150					
Decachlorobiphenyl	64.0	%	30-150					
Polychlorinated Biphenyls				1	8082	0311 17:30	0314 08:34	AK
Aroclor 1260	724.	ug/kg	256.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-04
WS-5 (6-18")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:05
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	65.	%	0.10	30	2540G		0307 16:50	NL
Total Organic Carbon	1.66	%	0.015	13			0313 14:00	DD
Chromium, Hexavalent	ND	mg/kg	1.2	1	7196A		0312 21:00	JT
Total Metals				1	3051			
Aluminum, Total	7000	mg/kg	1.4	1	6010B	0312 14:15	0313 08:44	RW
Antimony, Total	ND	mg/kg	0.72	1	6010B	0312 14:15	0313 08:44	RW
Arsenic, Total	9.5	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Barium, Total	26.	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Beryllium, Total	0.32	mg/kg	0.07	1	6010B	0312 14:15	0313 08:44	RW
Cadmium, Total	0.14	mg/kg	0.07	1	6010B	0312 14:15	0313 08:44	RW
Calcium, Total	850	mg/kg	1.4	1	6010B	0312 14:15	0313 08:44	RW
Chromium, Total	21.	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Cobalt, Total	2.2	mg/kg	0.29	1	6010B	0312 14:15	0313 08:44	RW
Copper, Total	13.	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Iron, Total	5900	mg/kg	0.72	1	6010B	0312 14:15	0313 08:44	RW
Lead, Total	12.	mg/kg	0.72	1	6010B	0312 14:15	0313 08:44	RW
Magnesium, Total	840	mg/kg	1.4	1	6010B	0312 14:15	0313 08:44	RW
Manganese, Total	72.	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Mercury, Total	0.04	mg/kg	0.01	1	7471A	0312 13:05	0313 11:52	DM
Nickel, Total	4.7	mg/kg	0.36	1	6010B	0312 14:15	0313 08:44	RW
Potassium, Total	150	mg/kg	36.	1	6010B	0312 14:15	0313 08:44	RW
Selenium, Total	ND	mg/kg	1.4	1	6010B	0312 14:15	0313 08:44	RW
Silver, Total	0.29	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Sodium, Total	82.	mg/kg	29.	1	6010B	0312 14:15	0313 08:44	RW
Thallium, Total	ND	mg/kg	0.29	1	6010B	0312 14:15	0313 08:44	RW
Vanadium, Total	11.	mg/kg	0.14	1	6010B	0312 14:15	0313 08:44	RW
Zinc, Total	8.2	mg/kg	0.72	1	6010B	0312 14:15	0313 08:44	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0307 15:20	0312 05:25	HL
Acenaphthene	ND	ug/kg	31.					
2-Chloronaphthalene	ND	ug/kg	31.					
Fluoranthene	ND	ug/kg	31.					
Naphthalene	ND	ug/kg	31.					
Benzo(a)anthracene	ND	ug/kg	31.					
Benzo(a)pyrene	ND	ug/kg	31.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-04
WS-5 (6-18")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0307 15:20	0312 05:25	HL
Benzo(b)fluoranthene	ND	ug/kg	31.					
Benzo(k)fluoranthene	ND	ug/kg	31.					
Chrysene	ND	ug/kg	31.					
Acenaphthylene	ND	ug/kg	31.					
Anthracene	ND	ug/kg	31.					
Benzo(ghi)perylene	ND	ug/kg	31.					
Fluorene	ND	ug/kg	31.					
Phenanthrene	ND	ug/kg	31.					
Dibenzo(a,h)anthracene	ND	ug/kg	31.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	31.					
Pyrene	31.	ug/kg	31.					
1-Methylnaphthalene	ND	ug/kg	31.					
2-Methylnaphthalene	ND	ug/kg	31.					
Perylene	ND	ug/kg	31.					
Biphenyl	ND	ug/kg	31.					
Benzo(e)Pyrene	ND	ug/kg	31.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	71.0	%	23-120					
2-Fluorobiphenyl	78.0	%	30-120					
4-Terphenyl-d14	75.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 20:55	AK
Aroclor 1221	ND	ug/kg	27.5					
Aroclor 1232	ND	ug/kg	27.5					
Aroclor 1242/1016	ND	ug/kg	27.5					
Aroclor 1248	ND	ug/kg	27.5					
Aroclor 1254	ND	ug/kg	27.5					
Aroclor 1260	37.3	ug/kg	27.5					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	78.0	%	30-150					
Decachlorobiphenyl	58.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-05
WS-5 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:05
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	82.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	0.158	%	0.012	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-06
WS-22 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 12:35
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	28.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	8.82	%	0.035	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-07
WS-23 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 13:05
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	33.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	5.88	%	0.030	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-08
WS-24 (6-18")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:10
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	81.	%	0.10	30	2540G		0307 16:50	NL
Total Organic Carbon	0.086	%	0.012	13			0313 14:00	DD
Chromium, Hexavalent	ND	mg/kg	0.99	1	7196A		0312 21:00	JT
Total Metals				1	3051			
Aluminum, Total	3300	mg/kg	1.3	1	6010B	0312 14:15	0313 08:48	RW
Antimony, Total	ND	mg/kg	0.66	1	6010B	0312 14:15	0313 08:48	RW
Arsenic, Total	2.7	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Barium, Total	12.	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Beryllium, Total	ND	mg/kg	0.06	1	6010B	0312 14:15	0313 08:48	RW
Cadmium, Total	ND	mg/kg	0.06	1	6010B	0312 14:15	0313 08:48	RW
Calcium, Total	330	mg/kg	1.3	1	6010B	0312 14:15	0313 08:48	RW
Chromium, Total	5.3	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Cobalt, Total	2.1	mg/kg	0.27	1	6010B	0312 14:15	0313 08:48	RW
Copper, Total	3.9	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Iron, Total	3600	mg/kg	0.66	1	6010B	0312 14:15	0313 08:48	RW
Lead, Total	1.8	mg/kg	0.66	1	6010B	0312 14:15	0313 08:48	RW
Magnesium, Total	840	mg/kg	1.3	1	6010B	0312 14:15	0313 08:48	RW
Manganese, Total	30.	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Mercury, Total	ND	mg/kg	0.01	1	7471A	0312 13:05	0313 11:52	DM
Nickel, Total	4.9	mg/kg	0.33	1	6010B	0312 14:15	0313 08:48	RW
Potassium, Total	310	mg/kg	33.	1	6010B	0312 14:15	0313 08:48	RW
Selenium, Total	ND	mg/kg	1.3	1	6010B	0312 14:15	0313 08:48	RW
Silver, Total	ND	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Sodium, Total	ND	mg/kg	27.	1	6010B	0312 14:15	0313 08:48	RW
Thallium, Total	ND	mg/kg	0.27	1	6010B	0312 14:15	0313 08:48	RW
Vanadium, Total	5.5	mg/kg	0.13	1	6010B	0312 14:15	0313 08:48	RW
Zinc, Total	7.3	mg/kg	0.66	1	6010B	0312 14:15	0313 08:48	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0307 15:20	0312 06:14	HL
Acenaphthene	ND	ug/kg	25.					
2-Chloronaphthalene	ND	ug/kg	25.					
Fluoranthene	ND	ug/kg	25.					
Naphthalene	ND	ug/kg	25.					
Benzo(a)anthracene	ND	ug/kg	25.					
Benzo(a)pyrene	ND	ug/kg	25.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-08
WS-24 (6-18")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0307 15:20	0312 06:14	HL
Benzo(b)fluoranthene	ND	ug/kg	25.					
Benzo(k)fluoranthene	ND	ug/kg	25.					
Chrysene	ND	ug/kg	25.					
Acenaphthylene	ND	ug/kg	25.					
Anthracene	ND	ug/kg	25.					
Benzo(ghi)perylene	ND	ug/kg	25.					
Fluorene	ND	ug/kg	25.					
Phenanthrene	ND	ug/kg	25.					
Dibenzo(a,h)anthracene	ND	ug/kg	25.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	25.					
Pyrene	ND	ug/kg	25.					
1-Methylnaphthalene	ND	ug/kg	25.					
2-Methylnaphthalene	ND	ug/kg	25.					
Perylene	ND	ug/kg	25.					
Biphenyl	ND	ug/kg	25.					
Benzo(e)Pyrene	ND	ug/kg	25.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	84.0	%	23-120					
2-Fluorobiphenyl	79.0	%	30-120					
4-Terphenyl-d14	86.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 21:23	AK
Aroclor 1221	ND	ug/kg	24.7					
Aroclor 1232	ND	ug/kg	24.7					
Aroclor 1242/1016	ND	ug/kg	24.7					
Aroclor 1248	ND	ug/kg	24.7					
Aroclor 1254	ND	ug/kg	24.7					
Aroclor 1260	ND	ug/kg	24.7					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	79.0	%	30-150					
Decachlorobiphenyl	70.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-09
WS-12 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:55
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	34.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	10.6	%	0.029	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-10
WS-12 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:55
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	47.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	3.47	%	0.021	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-11
WS-20 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:45
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	80.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	0.325	%	0.012	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-12
WS-18 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:30
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	81.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	0.395	%	0.012	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-13
WS-28 (0-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 12:20
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	32.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	6.84	%	0.031	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-14
WS-27 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 13:25
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	28.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	10.3	%	0.035	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-15
WS-14 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 14:50
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	53.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	3.87	%	0.018	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-16
WS-4 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:25
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	48.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	6.31	%	0.020	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-17
WS-7 (6-15")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:45
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	60.	%	0.10		30 2540G		0307 16:50	NL
Total Organic Carbon	1.98	%	0.016		13		0313 14:00	DD
Polychlorinated Biphenyls					1 8082	0314 16:00	0317 10:34	AK
Aroclor 1221	ND	ug/kg	26.0					
Aroclor 1232	ND	ug/kg	26.0					
Aroclor 1242/1016	ND	ug/kg	26.0					
Aroclor 1248	ND	ug/kg	26.0					
Aroclor 1254	ND	ug/kg	26.0					
Aroclor 1260	83.0	ug/kg	26.0					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	77.0	%	30-150					
Decachlorobiphenyl	67.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-18
WS-7 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:45
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	59.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	2.42	%	0.016	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-19
WS-2 (6-15")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:50
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	73.	%	0.10	30	2540G		0307 16:50	NL
Total Organic Carbon	0.534	%	0.013	13			0313 14:00	DD
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 22:19	AK
Aroclor 1221	ND	ug/kg	25.4					
Aroclor 1232	ND	ug/kg	25.4					
Aroclor 1242/1016	ND	ug/kg	25.4					
Aroclor 1248	ND	ug/kg	25.4					
Aroclor 1254	ND	ug/kg	25.4					
Aroclor 1260	ND	ug/kg	25.4					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	73.0	%	30-150					
Decachlorobiphenyl	60.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-20
WS-2 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:50
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	35.	%	0.10	30 2540G		0307 16:50	NL
Total Organic Carbon	9.83	%	0.028	13		0313 14:00	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-21
WS-1 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:01
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	74.	%	0.10	30 2540G		0307 17:15	NL
Total Organic Carbon	0.135	%	0.013	13		0314 09:30	JC

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-22
WS-15 (6-12")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:40
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	28.	%	0.10	30 2540G		0307 17:15	NL
Total Organic Carbon	11.7	%	0.035	13		0314 09:30	JC

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-23
WS-11 (18-24")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:35
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	80.	%	0.10	30 2540G		0307 17:15	NL
Total Organic Carbon	0.087	%	0.012	13		0314 09:30	JC

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-24
WS-13 (6-18")
Sample Matrix: SOIL

Date Collected: 05-MAR-2003 15:20
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	40.	%	0.10	30	2540G		0307 17:15	NL
Total Organic Carbon	5.32	%	0.025	13			0314 09:30	JC
Chromium, Hexavalent	ND	mg/kg	2.0	1	7196A		0312 21:00	JT
Total Metals				1	3051			
Aluminum, Total	7300	mg/kg	1.8	1	6010B	0312 14:15	0313 08:52	RW
Antimony, Total	ND	mg/kg	0.92	1	6010B	0312 14:15	0313 08:52	RW
Arsenic, Total	14.	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Barium, Total	21.	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Beryllium, Total	0.70	mg/kg	0.09	1	6010B	0312 14:15	0313 08:52	RW
Cadmium, Total	0.41	mg/kg	0.09	1	6010B	0312 14:15	0313 08:52	RW
Calcium, Total	2100	mg/kg	1.8	1	6010B	0312 14:15	0313 08:52	RW
Chromium, Total	16.	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Cobalt, Total	0.93	mg/kg	0.37	1	6010B	0312 14:15	0313 08:52	RW
Copper, Total	18.	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Iron, Total	2500	mg/kg	0.92	1	6010B	0312 14:15	0313 08:52	RW
Lead, Total	7.5	mg/kg	0.92	1	6010B	0312 14:15	0313 08:52	RW
Magnesium, Total	410	mg/kg	1.8	1	6010B	0312 14:15	0313 08:52	RW
Manganese, Total	57.	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Mercury, Total	0.07	mg/kg	0.01	1	7471A	0312 13:05	0313 11:52	DM
Nickel, Total	3.6	mg/kg	0.46	1	6010B	0312 14:15	0313 08:52	RW
Potassium, Total	75.	mg/kg	46.	1	6010B	0312 14:15	0313 08:52	RW
Selenium, Total	ND	mg/kg	1.8	1	6010B	0312 14:15	0313 08:52	RW
Silver, Total	ND	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Sodium, Total	180	mg/kg	37.	1	6010B	0312 14:15	0313 08:52	RW
Thallium, Total	ND	mg/kg	0.37	1	6010B	0312 14:15	0313 08:52	RW
Vanadium, Total	18.	mg/kg	0.18	1	6010B	0312 14:15	0313 08:52	RW
Zinc, Total	3.4	mg/kg	0.92	1	6010B	0312 14:15	0313 08:52	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0307 15:20	0312 07:03	HL
Acenaphthene	ND	ug/kg	50.					
2-Chloronaphthalene	ND	ug/kg	50.					
Fluoranthene	100	ug/kg	50.					
Naphthalene	ND	ug/kg	50.					
Benzo(a)anthracene	ND	ug/kg	50.					
Benzo(a)pyrene	ND	ug/kg	50.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-24
WS-13 (6-18")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0307 15:20	0312 07:03	HL
Benzo(b)fluoranthene	180	ug/kg	50.					
Benzo(k)fluoranthene	67.	ug/kg	50.					
Chrysene	87.	ug/kg	50.					
Acenaphthylene	ND	ug/kg	50.					
Anthracene	ND	ug/kg	50.					
Benzo(ghi)perylene	100	ug/kg	50.					
Fluorene	ND	ug/kg	50.					
Phenanthrene	ND	ug/kg	50.					
Dibenzo(a,h)anthracene	ND	ug/kg	50.					
Indeno(1,2,3-cd)Pyrene	95.	ug/kg	50.					
Pyrene	100	ug/kg	50.					
1-Methylnaphthalene	ND	ug/kg	50.					
2-Methylnaphthalene	ND	ug/kg	50.					
Perylene	ND	ug/kg	50.					
Biphenyl	ND	ug/kg	50.					
Benzo(e)Pyrene	110	ug/kg	50.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	57.0	%	23-120					
2-Fluorobiphenyl	71.0	%	30-120					
4-Terphenyl-d14	75.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 22:48	AK
Aroclor 1221	ND	ug/kg	34.7					
Aroclor 1232	ND	ug/kg	34.7					
Aroclor 1242/1016	ND	ug/kg	34.7					
Aroclor 1248	ND	ug/kg	34.7					
Aroclor 1254	ND	ug/kg	34.7					
Aroclor 1260	ND	ug/kg	34.7					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	65.0	%	30-150					
Decachlorobiphenyl	51.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-25
FIELD BLANK-1
Sample Matrix: WATER

Date Collected: 05-MAR-2003 14:00
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,2-Plastic,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Total Organic Carbon	ND	mg/l	0.50	1	9060		0307 13:16	DT
Chromium, Hexavalent	ND	mg/l	0.02	1	7196A	0306 21:50	0306 21:50	AJ
Total Metals				1	3015			
Aluminum, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 11:09	RW
Antimony, Total	ND	mg/l	0.050	1	6010B	0307 12:30	0310 11:09	RW
Arsenic, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:09	RW
Barium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:09	RW
Beryllium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:09	RW
Cadmium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:09	RW
Calcium, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 11:09	RW
Chromium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:09	RW
Cobalt, Total	ND	mg/l	0.02	1	6010B	0307 12:30	0310 11:09	RW
Copper, Total	0.01	mg/l	0.01	1	6010B	0307 12:30	0310 11:09	RW
Iron, Total	ND	mg/l	0.05	1	6010B	0307 12:30	0310 11:09	RW
Lead, Total	ND	mg/l	0.010	1	6010B	0307 12:30	0310 11:09	RW
Magnesium, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 11:09	RW
Manganese, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:09	RW
Mercury, Total	ND	mg/l	0.0005	1	7470A	0307 17:00	0310 10:54	DM
Nickel, Total	ND	mg/l	0.025	1	6010B	0307 12:30	0310 11:09	RW
Potassium, Total	ND	mg/l	2.5	1	6010B	0307 12:30	0310 11:09	RW
Selenium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:09	RW
Silver, Total	ND	mg/l	0.007	1	6010B	0307 12:30	0310 11:09	RW
Sodium, Total	ND	mg/l	2.0	1	6010B	0307 12:30	0310 11:09	RW
Thallium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:09	RW
Vanadium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:09	RW
Zinc, Total	ND	mg/l	0.05	1	6010B	0307 12:30	0310 11:09	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0311 11:45	0311 18:35	HL
Acenaphthene	ND	ug/l	0.20					
2-Chloronaphthalene	ND	ug/l	0.20					
Fluoranthene	ND	ug/l	0.20					
Naphthalene	ND	ug/l	0.20					
Benzo(a)anthracene	ND	ug/l	0.20					
Benzo(a)pyrene	ND	ug/l	0.20					
Benzo(b)fluoranthene	ND	ug/l	0.20					
Benzo(k)fluoranthene	ND	ug/l	0.20					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-25
FIELD BLANK-1

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0311 11:45	0311 18:35	HL
Chrysene	ND	ug/l	0.20					
Acenaphthylene	ND	ug/l	0.20					
Anthracene	ND	ug/l	0.20					
Benzo(ghi)perylene	ND	ug/l	0.20					
Fluorene	ND	ug/l	0.20					
Phenanthrene	ND	ug/l	0.20					
Dibenzo(a,h)anthracene	ND	ug/l	0.20					
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.20					
Pyrene	ND	ug/l	0.20					
1-Methylnaphthalene	ND	ug/l	0.20					
2-Methylnaphthalene	ND	ug/l	0.20					
Perylene	ND	ug/l	0.20					
Biphenyl	ND	ug/l	0.20					
Benzo(e)Pyrene	ND	ug/l	0.20					

Surrogate(s)	Recovery		QC Criteria
Nitrobenzene-d5	47.0	%	23-120
2-Fluorobiphenyl	50.0	%	43-120
4-Terphenyl-d14	79.0	%	33-120

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302026-26
FIELD BLANK-2
Sample Matrix: WATER

Date Collected: 05-MAR-2003 16:10
Date Received : 06-MAR-2003
Date Reported : 18-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,2-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Total Organic Carbon	ND	mg/l	0.50	1	9060		0307 13:16	DT
Chromium, Hexavalent	ND	mg/l	0.02	1	7196A	0306 21:50	0306 21:50	AJ
Total Metals				1	3015			
Aluminum, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 11:13	RW
Antimony, Total	ND	mg/l	0.050	1	6010B	0307 12:30	0310 11:13	RW
Arsenic, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:13	RW
Barium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:13	RW
Beryllium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:13	RW
Cadmium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:13	RW
Calcium, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 11:13	RW
Chromium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:13	RW
Cobalt, Total	ND	mg/l	0.02	1	6010B	0307 12:30	0310 11:13	RW
Copper, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:13	RW
Iron, Total	ND	mg/l	0.05	1	6010B	0307 12:30	0310 11:13	RW
Lead, Total	ND	mg/l	0.010	1	6010B	0307 12:30	0310 11:13	RW
Magnesium, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 11:13	RW
Manganese, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:13	RW
Mercury, Total	ND	mg/l	0.0005	1	7470A	0307 17:00	0310 10:55	DM
Nickel, Total	ND	mg/l	0.025	1	6010B	0307 12:30	0310 11:13	RW
Potassium, Total	ND	mg/l	2.5	1	6010B	0307 12:30	0310 11:13	RW
Selenium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:13	RW
Silver, Total	ND	mg/l	0.007	1	6010B	0307 12:30	0310 11:13	RW
Sodium, Total	ND	mg/l	2.0	1	6010B	0307 12:30	0310 11:13	RW
Thallium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 11:13	RW
Vanadium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 11:13	RW
Zinc, Total	ND	mg/l	0.05	1	6010B	0307 12:30	0310 11:13	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0311 11:45	0311 19:23	HL
Acenaphthene	ND	ug/l	0.20					
2-Chloronaphthalene	ND	ug/l	0.20					
Fluoranthene	ND	ug/l	0.20					
Naphthalene	1.7	ug/l	0.20					
Benzo(a)anthracene	ND	ug/l	0.20					
Benzo(a)pyrene	ND	ug/l	0.20					
Benzo(b)fluoranthene	ND	ug/l	0.20					
Benzo(k)fluoranthene	ND	ug/l	0.20					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302026-26
FIELD BLANK-2

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0311 11:45	0311 19:23	HL
Chrysene	ND	ug/l	0.20					
Acenaphthylene	ND	ug/l	0.20					
Anthracene	ND	ug/l	0.20					
Benzo(ghi)perylene	ND	ug/l	0.20					
Fluorene	ND	ug/l	0.20					
Phenanthrene	ND	ug/l	0.20					
Dibenzo(a,h)anthracene	ND	ug/l	0.20					
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.20					
Pyrene	ND	ug/l	0.20					
1-Methylnaphthalene	ND	ug/l	0.20					
2-Methylnaphthalene	ND	ug/l	0.20					
Perylene	ND	ug/l	0.20					
Biphenyl	ND	ug/l	0.20					
Benzo(e)Pyrene	ND	ug/l	0.20					

Surrogate(s)	Recovery		QC Criteria
Nitrobenzene-d5	59.0	%	23-120
2-Fluorobiphenyl	61.0	%	43-120
4-Terphenyl-d14	76.0	%	33-120

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0302026

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-20 (L0302026-01, WG134833)					
Solids, Total	76.	76.	%	0	
Solids, Total for sample(s) 21-24 (L0302013-01, WG134834)					
Solids, Total	85.	85.	%	0	
Total Organic Carbon for sample(s) 25-26 (L0302026-26, WG134846)					
Total Organic Carbon	ND	ND	mg/l	NC	
Total Organic Carbon for sample(s) 01-20 (L0302026-06, WG135260)					
Total Organic Carbon	8.82	9.14	%	4	
Chromium, Hexavalent for sample(s) 25-26 (L0302026-25, WG134771)					
Chromium, Hexavalent	ND	ND	mg/l	NC	
Chromium, Hexavalent for sample(s) 01-02,04,08,24 (L0302026-04, WG135041)					
Chromium, Hexavalent	ND	ND	mg/kg	NC	
Total Metals for sample(s) 25-26 (L0302030-01, WG134887)					
Aluminum, Total	ND	ND	mg/l	NC	20
Arsenic, Total	0.010	0.011	mg/l	9	20
Calcium, Total	78.	81.	mg/l	4	20
Copper, Total	ND	ND	mg/l	NC	20
Iron, Total	58.	60.	mg/l	3	20
Lead, Total	ND	ND	mg/l	NC	20
Magnesium, Total	17.	18.	mg/l	6	20
Manganese, Total	2.8	2.9	mg/l	4	20
Potassium, Total	11.	12.	mg/l	9	20
Silver, Total	ND	ND	mg/l	NC	20
Zinc, Total	ND	ND	mg/l	NC	20
Total Metals for sample(s) 01-02,04,08,24 (L0302151-01, WG135182)					
Arsenic, Total	7.2	7.3	mg/kg	1	35
Barium, Total	47.	44.	mg/kg	7	35
Cadmium, Total	ND	ND	mg/kg	NC	35
Chromium, Total	14.	13.	mg/kg	7	35
Lead, Total	130	130	mg/kg	0	35
Selenium, Total	ND	ND	mg/kg	NC	35
Silver, Total	ND	ND	mg/kg	NC	35
Total Metals for sample(s) 25-26 (L0301932-02, WG134842)					
Mercury, Total	ND	ND	mg/l	NC	35
Total Metals for sample(s) 01-02,04,08,24 (L0302026-01, WG135108)					
Mercury, Total	0.01	ND	mg/kg	NC	45

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0302026

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Polychlorinated Biphenyls for sample(s) 01-04,08,19,24 (L0302026-08, WG135296)					
Aroclor 1221	ND	ND	ug/kg	NC	50
Aroclor 1232	ND	ND	ug/kg	NC	50
Aroclor 1242/1016	ND	ND	ug/kg	NC	50
Aroclor 1248	ND	ND	ug/kg	NC	50
Aroclor 1254	ND	ND	ug/kg	NC	50
Aroclor 1260	ND	ND	ug/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,4,5,6-Tetrachloro-m-xylene	79.0	82.0	%	4	30-150
Decachlorobiphenyl	70.0	72.0	%	3	30-150
Polychlorinated Biphenyls for sample(s) 17 (L0302026-17, WG135447)					
Aroclor 1221	ND	ND	ug/kg	NC	50
Aroclor 1232	ND	ND	ug/kg	NC	50
Aroclor 1242/1016	ND	ND	ug/kg	NC	50
Aroclor 1248	ND	ND	ug/kg	NC	50
Aroclor 1254	ND	ND	ug/kg	NC	50
Aroclor 1260	83.0	85.6	ug/kg	3	50
Surrogate(s)	Recovery				QC Criteria
2,4,5,6-Tetrachloro-m-xylene	77.0	73.0	%	5	30-150
Decachlorobiphenyl	67.0	64.0	%	5	30-150

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0302026

Parameter	% Recovery	QC Criteria
Total Organic Carbon LCS for sample(s) 25-26 (WG134846)		
Total Organic Carbon	98	
Total Organic Carbon LCS for sample(s) 01-20 (WG135260)		
Total Organic Carbon	106	
Total Organic Carbon LCS for sample(s) 21-24 (WG135428)		
Total Organic Carbon	99	
Chromium, Hexavalent LCS for sample(s) 25-26 (WG134771)		
Chromium, Hexavalent	98	
Chromium, Hexavalent LCS for sample(s) 01-02,04,08,24 (WG135041)		
Chromium, Hexavalent	98	
Total Metals LCS for sample(s) 25-26 (WG134887)		
Aluminum, Total	110	75-125
Antimony, Total	103	75-125
Arsenic, Total	105	75-125
Barium, Total	105	75-125
Beryllium, Total	103	75-125
Cadmium, Total	111	75-125
Calcium, Total	100	75-125
Chromium, Total	105	75-125
Cobalt, Total	104	75-125
Copper, Total	104	75-125
Iron, Total	100	75-125
Lead, Total	107	75-125
Magnesium, Total	110	75-125
Manganese, Total	104	75-125
Nickel, Total	101	75-125
Potassium, Total	100	75-125
Selenium, Total	107	75-125
Silver, Total	93	75-125
Sodium, Total	120	75-125
Thallium, Total	105	75-125
Vanadium, Total	104	75-125
Zinc, Total	104	75-125
Total Metals LCS for sample(s) 01-02,04,08,24 (WG135182)		
Aluminum, Total	106	70-140
Antimony, Total	96	70-140
Arsenic, Total	106	70-140
Barium, Total	98	70-140
Beryllium, Total	96	70-140
Cadmium, Total	100	70-140
Calcium, Total	101	70-140
Chromium, Total	96	70-140
Cobalt, Total	96	70-140

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0302026

Continued

Parameter	% Recovery	QC Criteria
Total Metals LCS for sample(s) 01-02,04,08,24 (WG135182)		
Copper, Total	98	70-140
Iron, Total	98	70-140
Lead, Total	104	70-140
Magnesium, Total	106	70-140
Manganese, Total	96	70-140
Nickel, Total	91	70-140
Potassium, Total	84	70-140
Selenium, Total	106	70-140
Silver, Total	93	70-140
Sodium, Total	96	70-140
Thallium, Total	102	70-140
Vanadium, Total	96	70-140
Zinc, Total	96	70-140
Total Metals LCS for sample(s) 25-26 (WG134842)		
Mercury, Total	105	70-130
Total Metals LCS for sample(s) 01-02,04,08,24 (WG135108)		
Mercury, Total	107	60-140
PAH by GC/MS SIM 8270M LCS for sample(s) 01-02,04,08,24 (WG135440)		
Acenaphthene	81	31-137
2-Chloronaphthalene	83	
Fluoranthene	100	
Anthracene	81	
Pyrene	110	35-142
Surrogate(s)		
Nitrobenzene-d5	106	23-120
2-Fluorobiphenyl	89	30-120
4-Terphenyl-d14	94	18-120
PAH by GC/MS SIM 8270M LCS for sample(s) 25-26 (WG135441)		
Acenaphthene	73	46-118
2-Chloronaphthalene	65	
Fluoranthene	97	
Anthracene	72	
Pyrene	97	26-127
Surrogate(s)		
Nitrobenzene-d5	72	23-120
2-Fluorobiphenyl	64	43-120
4-Terphenyl-d14	78	33-120
PAH by GC/MS SIM 8270M LCS for sample(s) 25-26 (WG135441)		
Acenaphthene	73	46-118
2-Chloronaphthalene	66	
Fluoranthene	92	

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0302026

Continued

Parameter	% Recovery	QC Criteria
PAH by GC/MS SIM 8270M LCS for sample(s) 25-26 (WG135441)		
Anthracene	73	
Pyrene	92	26-127
Surrogate(s)		
Nitrobenzene-d5	65	23-120
2-Fluorobiphenyl	65	43-120
4-Terphenyl-d14	75	33-120
Polychlorinated Biphenyls LCS for sample(s) 01-04,08,19,24 (WG135296)		
Aroclor 1242/1016	79	40-140
Aroclor 1260	81	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	75	30-150
Decachlorobiphenyl	72	30-150
Polychlorinated Biphenyls LCS for sample(s) 17 (WG135447)		
Aroclor 1242/1016	82	40-140
Aroclor 1260	88	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	86	30-150
Decachlorobiphenyl	81	30-150
Chromium, Hexavalent SPIKE for sample(s) 25-26 (L0302026-25, WG134771)		
Chromium, Hexavalent	96	
Chromium, Hexavalent SPIKE for sample(s) 01-02,04,08,24 (L0302026-08, WG135041)		
Chromium, Hexavalent	91	
Total Metals SPIKE for sample(s) 25-26 (L0302030-02, WG134887)		
Aluminum, Total	115	75-125
Antimony, Total	101	75-125
Arsenic, Total	101	75-125
Barium, Total	105	75-125
Beryllium, Total	100	75-125
Cadmium, Total	106	75-125
Calcium, Total	90	75-125
Chromium, Total	100	75-125
Cobalt, Total	100	75-125
Copper, Total	104	75-125
Iron, Total	100	75-125
Lead, Total	103	75-125
Magnesium, Total	110	75-125
Manganese, Total	100	75-125
Nickel, Total	96	75-125
Potassium, Total	96	75-125
Selenium, Total	102	75-125

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0302026

Continued

Parameter	% Recovery	QC Criteria
Total Metals SPIKE for sample(s) 25-26 (L0302030-02, WG134887)		
Silver, Total	103	75-125
Sodium, Total	70	75-125
Thallium, Total	100	75-125
Vanadium, Total	104	75-125
Zinc, Total	98	75-125
Total Metals SPIKE for sample(s) 01-02,04,08,24 (L0302151-02, WG135182)		
Aluminum, Total	0	70-140
Antimony, Total	84	70-140
Arsenic, Total	95	70-140
Barium, Total	95	70-140
Beryllium, Total	102	70-140
Cadmium, Total	97	70-140
Calcium, Total	116	70-140
Chromium, Total	93	70-140
Cobalt, Total	93	70-140
Copper, Total	511	70-140
Iron, Total	0	70-140
Lead, Total	100	70-140
Magnesium, Total	116	70-140
Manganese, Total	46	70-140
Nickel, Total	88	70-140
Potassium, Total	116	70-140
Selenium, Total	95	70-140
Silver, Total	101	70-140
Sodium, Total	128	70-140
Thallium, Total	72	70-140
Vanadium, Total	93	70-140
Zinc, Total	93	70-140
Total Metals SPIKE for sample(s) 25-26 (L0301932-03, WG134842)		
Mercury, Total	114	70-130
Total Metals SPIKE for sample(s) 01-02,04,08,24 (L0302026-02, WG135108)		
Mercury, Total	100	60-140

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0302026

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
PAH by GC/MS SIM 8270M for sample(s) 01-02,04,08,24 (L0302026-08, WG135440)					
Acenaphthene	74	18	122	50	31-137
2-Chloronaphthalene	75	19	119	50	
Fluoranthene	97	23	123	50	
Anthracene	74	17	125	50	
Pyrene	110	24	128	50	35-142
Surrogate(s)					
Nitrobenzene-d5	84	20	123		23-120
2-Fluorobiphenyl	77	20	118		30-120
4-Terphenyl-d14	89	19	130		18-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0302026

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 25-26 (WG134846-1)								
Total Organic Carbon	ND	mg/l	0.50	1	9060		0307 13:16	DT
Blank Analysis for sample(s) 01-20 (WG135260-2)								
Total Organic Carbon	ND	%	0.010	13			0313 14:00	DD
Blank Analysis for sample(s) 21-24 (WG135428-1)								
Total Organic Carbon	ND	%	0.010	13			0314 09:30	JC
Blank Analysis for sample(s) 25-26 (WG134771-1)								
Chromium, Hexavalent	ND	mg/l	0.02	1	7196A	0306 21:50	0306 21:50	AJ
Blank Analysis for sample(s) 01-02,04,08,24 (WG135041-1)								
Chromium, Hexavalent	ND	mg/kg	0.80	1	7196A		0312 21:00	JT
Blank Analysis for sample(s) 25-26 (WG134887-3)								
Total Metals				1	3015			
Aluminum, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 10:59	RW
Antimony, Total	ND	mg/l	0.050	1	6010B	0307 12:30	0310 10:59	RW
Arsenic, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 10:59	RW
Barium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 10:59	RW
Beryllium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 10:59	RW
Cadmium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 10:59	RW
Calcium, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 10:59	RW
Chromium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 10:59	RW
Cobalt, Total	ND	mg/l	0.02	1	6010B	0307 12:30	0310 10:59	RW
Copper, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 10:59	RW
Iron, Total	ND	mg/l	0.05	1	6010B	0307 12:30	0310 10:59	RW
Lead, Total	ND	mg/l	0.010	1	6010B	0307 12:30	0310 10:59	RW
Magnesium, Total	ND	mg/l	0.10	1	6010B	0307 12:30	0310 10:59	RW
Manganese, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 10:59	RW
Nickel, Total	ND	mg/l	0.025	1	6010B	0307 12:30	0310 10:59	RW
Potassium, Total	ND	mg/l	2.5	1	6010B	0307 12:30	0310 10:59	RW
Selenium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 10:59	RW
Silver, Total	ND	mg/l	0.007	1	6010B	0307 12:30	0310 10:59	RW
Sodium, Total	ND	mg/l	2.0	1	6010B	0307 12:30	0310 10:59	RW
Thallium, Total	ND	mg/l	0.005	1	6010B	0307 12:30	0310 10:59	RW
Vanadium, Total	ND	mg/l	0.01	1	6010B	0307 12:30	0310 10:59	RW
Zinc, Total	ND	mg/l	0.05	1	6010B	0307 12:30	0310 10:59	RW

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0302026

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01-02,04,08,24 (WG135182-3)								
Total Metals				1	3051			
Aluminum, Total	ND	mg/kg	4.0	1	6010B	0312 14:15	0313 07:45	RW
Antimony, Total	ND	mg/kg	2.0	1	6010B	0312 14:15	0313 07:45	RW
Arsenic, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Barium, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Beryllium, Total	ND	mg/kg	0.20	1	6010B	0312 14:15	0313 07:45	RW
Cadmium, Total	ND	mg/kg	0.20	1	6010B	0312 14:15	0313 07:45	RW
Calcium, Total	ND	mg/kg	4.0	1	6010B	0312 14:15	0313 07:45	RW
Chromium, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Cobalt, Total	ND	mg/kg	0.80	1	6010B	0312 14:15	0313 07:45	RW
Copper, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Iron, Total	ND	mg/kg	2.0	1	6010B	0312 14:15	0313 07:45	RW
Lead, Total	ND	mg/kg	2.0	1	6010B	0312 14:15	0313 07:45	RW
Magnesium, Total	ND	mg/kg	4.0	1	6010B	0312 14:15	0313 07:45	RW
Manganese, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Nickel, Total	ND	mg/kg	1.0	1	6010B	0312 14:15	0313 07:45	RW
Potassium, Total	ND	mg/kg	100	1	6010B	0312 14:15	0313 07:45	RW
Selenium, Total	ND	mg/kg	0.80	1	6010B	0312 14:15	0313 07:45	RW
Silver, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Sodium, Total	ND	mg/kg	80.	1	6010B	0312 14:15	0313 07:45	RW
Thallium, Total	ND	mg/kg	0.80	1	6010B	0312 14:15	0313 07:45	RW
Vanadium, Total	ND	mg/kg	0.40	1	6010B	0312 14:15	0313 07:45	RW
Zinc, Total	ND	mg/kg	2.0	1	6010B	0312 14:15	0313 07:45	RW
Blank Analysis for sample(s) 25-26 (WG134842-4)								
Total Metals								
Mercury, Total	ND	mg/l	0.0005	1	7470A	0307 17:00	0310 10:41	DM
Blank Analysis for sample(s) 01-02,04,08,24 (WG135108-4)								
Total Metals								
Mercury, Total	ND	mg/kg	0.03	1	7471A	0312 13:05	0313 11:52	DM
Blank Analysis for sample(s) 01-02,04,08,24 (WG135440-1)								
PAH by GC/MS SIM 8270M				1	8270C-M	0307 15:20	0312 00:30	HL
Acenaphthene	ND	ug/kg	20.					
2-Chloronaphthalene	ND	ug/kg	20.					
Fluoranthene	ND	ug/kg	20.					
Naphthalene	ND	ug/kg	20.					
Benzo(a)anthracene	ND	ug/kg	20.					
Benzo(a)pyrene	ND	ug/kg	20.					
Benzo(b)fluoranthene	ND	ug/kg	20.					
Benzo(k)fluoranthene	ND	ug/kg	20.					
Chrysene	ND	ug/kg	20.					
Acenaphthylene	ND	ug/kg	20.					
Anthracene	ND	ug/kg	20.					

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0302026

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01-02,04,08,24 (WG135440-1)								
PAH by GC/MS SIM 8270M continued				1	8270C-M	0307 15:20	0312 00:30	HL
Benzo(ghi)perylene	ND	ug/kg	20.					
Fluorene	ND	ug/kg	20.					
Phenanthrene	ND	ug/kg	20.					
Dibenzo(a,h)anthracene	ND	ug/kg	20.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	20.					
Pyrene	ND	ug/kg	20.					
1-Methylnaphthalene	ND	ug/kg	20.					
2-Methylnaphthalene	ND	ug/kg	20.					
Perylene	ND	ug/kg	20.					
Biphenyl	ND	ug/kg	20.					
Benzo(e)Pyrene	ND	ug/kg	20.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	61.0	%	23-120					
2-Fluorobiphenyl	61.0	%	30-120					
4-Terphenyl-d14	89.0	%	18-120					
Blank Analysis for sample(s) 25-26 (WG135441-1)								
PAH by GC/MS SIM 8270M				1	8270C-M	0311 11:45	0311 16:10	HL
Acenaphthene	ND	ug/l	0.20					
2-Chloronaphthalene	ND	ug/l	0.20					
Fluoranthene	ND	ug/l	0.20					
Naphthalene	ND	ug/l	0.20					
Benzo(a)anthracene	ND	ug/l	0.20					
Benzo(a)pyrene	ND	ug/l	0.20					
Benzo(b)fluoranthene	ND	ug/l	0.20					
Benzo(k)fluoranthene	ND	ug/l	0.20					
Chrysene	ND	ug/l	0.20					
Acenaphthylene	ND	ug/l	0.20					
Anthracene	ND	ug/l	0.20					
Benzo(ghi)perylene	ND	ug/l	0.20					
Fluorene	ND	ug/l	0.20					
Phenanthrene	ND	ug/l	0.20					
Dibenzo(a,h)anthracene	ND	ug/l	0.20					
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.20					
Pyrene	ND	ug/l	0.20					
1-Methylnaphthalene	ND	ug/l	0.20					
2-Methylnaphthalene	ND	ug/l	0.20					
Perylene	ND	ug/l	0.20					
Biphenyl	ND	ug/l	0.20					
Benzo(e)Pyrene	ND	ug/l	0.20					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	60.0	%	23-120					
2-Fluorobiphenyl	65.0	%	43-120					
4-Terphenyl-d14	81.0	%	33-120					

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0302026

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01-04,08,19,24 (WG135296-1)								
Polychlorinated Biphenyls				1	8082	0311 17:30	0313 18:05	AK
Aroclor 1221	ND	ug/kg	25.0					
Aroclor 1232	ND	ug/kg	25.0					
Aroclor 1242/1016	ND	ug/kg	25.0					
Aroclor 1248	ND	ug/kg	25.0					
Aroclor 1254	ND	ug/kg	25.0					
Aroclor 1260	ND	ug/kg	25.0					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	73.0	%	30-150					
Decachlorobiphenyl	70.0	%	30-150					
Blank Analysis for sample(s) 17 (WG135447-1)								
Polychlorinated Biphenyls				1	8082	0314 16:00	0317 09:08	AK
Aroclor 1221	ND	ug/kg	25.0					
Aroclor 1232	ND	ug/kg	25.0					
Aroclor 1242/1016	ND	ug/kg	25.0					
Aroclor 1248	ND	ug/kg	25.0					
Aroclor 1254	ND	ug/kg	25.0					
Aroclor 1260	ND	ug/kg	25.0					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	83.0	%	30-150					
Decachlorobiphenyl	79.0	%	30-150					

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Update III, 1997.

13. Determination of Total Organic Carbon in Sediment. U.S. EPA, Region II. July 27, 1988.

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.
METHOD Method number by which analysis was performed.
ID Initials of the analyst.
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: ERM-New England

Address: 399 Boylston Street
6th Floor
Boston, MA 02116

Attn: Ms. Rachel Leary

Project Number: 000192201-04

Site: RAYTHEON

Laboratory Job Number: L0302520

Date Received: 20-MAR-2003

Date Reported: 27-MAR-2003

Delivery Method: Client

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0302520-01	WS-35 (6-12")	WAYLAND, MA
L0302520-02	WS-34 (6-12")	WAYLAND, MA
L0302520-03	WS-33 (6-12")	WAYLAND, MA
L0302520-04	WS-23 (6-12")	WAYLAND, MA
L0302520-05	WS-8 (6-12")	WAYLAND, MA
L0302520-06	WS-3 (6-12")	WAYLAND, MA
L0302520-07	DUP-1	WAYLAND, MA
L0302520-08	DUP-2	WAYLAND, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: James Todaro

James Todaro - Technical Director
This document electronically signed

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0302520

Total Metals

The MS % recovery for the analysis of Chromium is outside the in-house acceptance criteria for the method. A post analytical spike was performed with an acceptable recovery of 98%.

The MS % recovery for the analysis of Zinc is outside the in-house acceptance criteria for the method. A post analytical spike was performed with an acceptable recovery of 96%.

The MS % recoveries for the analyses of Aluminum, Iron, Magnesium and Manganese are invalid because the sample concentration is greater than four times the spike amount added.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-01
WS-35 (6-12")
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 14:00
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	37.	%	0.10	30 2540G		0321 15:05	NL
Total Organic Carbon	6.32	%	0.027	13		0324 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-02
WS-34 (6-12")
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 14:15
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	36.	%	0.10	30 2540G		0321 15:05	NL
Total Organic Carbon	5.69	%	0.027	13		0324 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-03
WS-33 (6-12")
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 14:40
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	36.	%	0.10	30 2540G		0321 15:05	NL
Total Organic Carbon	5.58	%	0.027	13		0324 14:30	DD

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-04
WS-23 (6-12")
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 15:00
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	32.	%	0.10	30	2540G		0321 15:05	NL
Total Organic Carbon	10.9	%	0.031	13			0324 14:30	DD
Chromium, Hexavalent	ND	mg/kg	2.5	1	7196A		0321 23:00	JT
Total Metals				1	3051			
Aluminum, Total	8900	mg/kg	12.	1	6010B	0321 15:25	0324 10:16	RW
Antimony, Total	ND	mg/kg	6.2	1	6010B	0321 15:25	0324 10:16	RW
Arsenic, Total	11.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Barium, Total	41.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Beryllium, Total	1.1	mg/kg	0.62	1	6010B	0321 15:25	0324 10:16	RW
Cadmium, Total	2.2	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Calcium, Total	2800	mg/kg	12.	1	6010B	0321 15:25	0324 10:16	RW
Chromium, Total	110	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Cobalt, Total	2.6	mg/kg	2.5	1	6010B	0321 15:25	0324 10:16	RW
Copper, Total	170	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Iron, Total	4500	mg/kg	6.2	1	6010B	0321 15:25	0324 10:16	RW
Lead, Total	38.	mg/kg	6.2	1	6010B	0321 15:25	0324 10:16	RW
Magnesium, Total	410	mg/kg	12.	1	6010B	0321 15:25	0324 10:16	RW
Manganese, Total	81.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Mercury, Total	ND	mg/kg	0.26	1	7471A	0325 15:20	0326 11:44	DM
Nickel, Total	11.	mg/kg	3.1	1	6010B	0321 15:25	0324 10:16	RW
Potassium, Total	ND	mg/kg	310	1	6010B	0321 15:25	0324 10:16	RW
Selenium, Total	ND	mg/kg	2.5	1	6010B	0321 15:25	0324 10:16	RW
Silver, Total	4.1	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Sodium, Total	310	mg/kg	250	1	6010B	0321 15:25	0324 10:16	RW
Thallium, Total	ND	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Vanadium, Total	19.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:16	RW
Zinc, Total	94.	mg/kg	6.2	1	6010B	0321 15:25	0324 10:16	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0321 12:10	0322 14:39	HL
Acenaphthene	99.	ug/kg	62.					
2-Chloronaphthalene	ND	ug/kg	62.					
Fluoranthene	1800	ug/kg	62.					
Naphthalene	ND	ug/kg	62.					
Benzo(a)anthracene	870	ug/kg	62.					
Benzo(a)pyrene	760	ug/kg	62.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302520-04
WS-23 (6-12")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0321 12:10	0322 14:39	HL
Benzo(b)fluoranthene	1000	ug/kg	62.					
Benzo(k)fluoranthene	440	ug/kg	62.					
Chrysene	960	ug/kg	62.					
Acenaphthylene	ND	ug/kg	62.					
Anthracene	320	ug/kg	62.					
Benzo(ghi)perylene	480	ug/kg	62.					
Fluorene	110	ug/kg	62.					
Phenanthrene	1400	ug/kg	62.					
Dibenzo(a,h)anthracene	140	ug/kg	62.					
Indeno(1,2,3-cd)Pyrene	540	ug/kg	62.					
Pyrene	1600	ug/kg	62.					
1-Methylnaphthalene	ND	ug/kg	62.					
2-Methylnaphthalene	ND	ug/kg	62.					
Perylene	170	ug/kg	62.					
Biphenyl	ND	ug/kg	62.					
Benzo(e)Pyrene	520	ug/kg	62.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	50.0	%	23-120					
2-Fluorobiphenyl	61.0	%	30-120					
4-Terphenyl-d14	69.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0321 18:57	0324 17:32	AK
Aroclor 1221	ND	ug/kg	391.					
Aroclor 1232	ND	ug/kg	391.					
Aroclor 1242/1016	ND	ug/kg	391.					
Aroclor 1248	ND	ug/kg	391.					
Aroclor 1254	ND	ug/kg	391.					
Aroclor 1260	ND	ug/kg	391.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	85.0	%	30-150					
Decachlorobiphenyl	85.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-05
WS-8 (6-12")
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 15:57
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	30.	%	0.10		30 2540G		0321 15:05	NL
Total Organic Carbon	11.7	%	0.033		13		0321 12:00	JC
Polychlorinated Biphenyls					1 8082	0321 18:57	0324 18:01	AK
Aroclor 1221	ND	ug/kg	417.					
Aroclor 1232	ND	ug/kg	417.					
Aroclor 1242/1016	ND	ug/kg	417.					
Aroclor 1248	ND	ug/kg	417.					
Aroclor 1254	ND	ug/kg	417.					
Aroclor 1260	ND	ug/kg	417.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	100.	%	30-150					
Decachlorobiphenyl	102.	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-06
WS-3 (6-12")
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 16:20
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	65.	%	0.10	30	2540G		0321 15:05	NL
Total Organic Carbon	1.02	%	0.015	13			0324 14:30	DD
Polychlorinated Biphenyls				1	8082	0321 18:57	0324 18:29	AK
Aroclor 1221	ND	ug/kg	192.					
Aroclor 1232	ND	ug/kg	192.					
Aroclor 1242/1016	ND	ug/kg	192.					
Aroclor 1248	ND	ug/kg	192.					
Aroclor 1254	ND	ug/kg	192.					
Aroclor 1260	520.	ug/kg	192.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	92.0	%	30-150					
Decachlorobiphenyl	95.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-07
DUP-1
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 00:00
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 3-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	32.	%	0.10	30	2540G		0321 15:05	NL
Total Organic Carbon	11.2	%	0.031	13			0324 14:30	DD
Chromium, Hexavalent	ND	mg/kg	2.5	1	7196A		0321 23:00	JT
Total Metals				1	3051			
Aluminum, Total	8800	mg/kg	12.	1	6010B	0321 15:25	0324 10:21	RW
Antimony, Total	ND	mg/kg	6.2	1	6010B	0321 15:25	0324 10:21	RW
Arsenic, Total	9.7	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Barium, Total	41.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Beryllium, Total	1.1	mg/kg	0.62	1	6010B	0321 15:25	0324 10:21	RW
Cadmium, Total	2.2	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Calcium, Total	2600	mg/kg	12.	1	6010B	0321 15:25	0324 10:21	RW
Chromium, Total	100	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Cobalt, Total	ND	mg/kg	2.5	1	6010B	0321 15:25	0324 10:21	RW
Copper, Total	160	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Iron, Total	4100	mg/kg	6.2	1	6010B	0321 15:25	0324 10:21	RW
Lead, Total	38.	mg/kg	6.2	1	6010B	0321 15:25	0324 10:21	RW
Magnesium, Total	400	mg/kg	12.	1	6010B	0321 15:25	0324 10:21	RW
Manganese, Total	79.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Mercury, Total	ND	mg/kg	0.25	1	7471A	0325 15:20	0326 11:44	DM
Nickel, Total	11.	mg/kg	3.1	1	6010B	0321 15:25	0324 10:21	RW
Potassium, Total	ND	mg/kg	310	1	6010B	0321 15:25	0324 10:21	RW
Selenium, Total	ND	mg/kg	2.5	1	6010B	0321 15:25	0324 10:21	RW
Silver, Total	3.8	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Sodium, Total	290	mg/kg	250	1	6010B	0321 15:25	0324 10:21	RW
Thallium, Total	ND	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Vanadium, Total	18.	mg/kg	1.2	1	6010B	0321 15:25	0324 10:21	RW
Zinc, Total	100	mg/kg	6.2	1	6010B	0321 15:25	0324 10:21	RW
PAH by GC/MS SIM 8270M				1	8270C-M	0321 12:10	0322 15:35	HL
Acenaphthene	ND	ug/kg	62.					
2-Chloronaphthalene	ND	ug/kg	62.					
Fluoranthene	64.	ug/kg	62.					
Naphthalene	ND	ug/kg	62.					
Benzo(a)anthracene	ND	ug/kg	62.					
Benzo(a)pyrene	ND	ug/kg	62.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0302520-07
DUP-1

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	0321 12:10	0322 15:35	HL
Benzo(b)fluoranthene	ND	ug/kg	62.					
Benzo(k)fluoranthene	ND	ug/kg	62.					
Chrysene	ND	ug/kg	62.					
Acenaphthylene	ND	ug/kg	62.					
Anthracene	ND	ug/kg	62.					
Benzo(ghi)perylene	ND	ug/kg	62.					
Fluorene	ND	ug/kg	62.					
Phenanthrene	ND	ug/kg	62.					
Dibenzo(a,h)anthracene	ND	ug/kg	62.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	62.					
Pyrene	ND	ug/kg	62.					
1-Methylnaphthalene	ND	ug/kg	62.					
2-Methylnaphthalene	ND	ug/kg	62.					
Perylene	ND	ug/kg	62.					
Biphenyl	ND	ug/kg	62.					
Benzo(e)Pyrene	ND	ug/kg	62.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	50.0	%	23-120					
2-Fluorobiphenyl	58.0	%	30-120					
4-Terphenyl-d14	61.0	%	18-120					
Polychlorinated Biphenyls				1	8082	0321 18:57	0324 18:58	AK
Aroclor 1221	ND	ug/kg	391.					
Aroclor 1232	ND	ug/kg	391.					
Aroclor 1242/1016	ND	ug/kg	391.					
Aroclor 1248	ND	ug/kg	391.					
Aroclor 1254	ND	ug/kg	391.					
Aroclor 1260	ND	ug/kg	391.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	95.0	%	30-150					
Decachlorobiphenyl	96.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0302520-08
DUP-2
Sample Matrix: SOIL

Date Collected: 20-MAR-2003 00:00
Date Received : 20-MAR-2003
Date Reported : 27-MAR-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	31.	%	0.10	30	2540G		0321 15:05	NL
Total Organic Carbon	9.03	%	0.032	13			0324 14:30	DD
Polychlorinated Biphenyls				1	8082	0321 18:57	0324 19:27	AK
Aroclor 1221	ND	ug/kg	403.					
Aroclor 1232	ND	ug/kg	403.					
Aroclor 1242/1016	ND	ug/kg	403.					
Aroclor 1248	ND	ug/kg	403.					
Aroclor 1254	ND	ug/kg	403.					
Aroclor 1260	ND	ug/kg	403.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	103.	%	30-150					
Decachlorobiphenyl	97.0	%	30-150					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0302520

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-08 (L0302520-01, WG135882)					
Solids, Total	37.	37.	%	0	
Total Organic Carbon for sample(s) 05 (L0302520-05, WG135923)					
Total Organic Carbon	11.7	11.5	%	2	
Total Organic Carbon for sample(s) 01-04,06-08 (L0302520-01, WG136043)					
Total Organic Carbon	6.32	6.22	%	2	
Chromium, Hexavalent for sample(s) 04,07 (L0302381-01, WG135886)					
Chromium, Hexavalent	ND	ND	mg/kg	NC	
Total Metals for sample(s) 04,07 (L0302516-01, WG135972)					
Arsenic, Total	3.2	3.0	mg/kg	6	35
Barium, Total	29.	27.	mg/kg	7	35
Cadmium, Total	ND	ND	mg/kg	NC	35
Chromium, Total	9.9	9.1	mg/kg	8	35
Lead, Total	14.	18.	mg/kg	25	35
Selenium, Total	ND	ND	mg/kg	NC	35
Silver, Total	ND	ND	mg/kg	NC	35
Total Metals for sample(s) 04,07 (L0302516-01, WG136114)					
Mercury, Total	ND	ND	mg/kg	NC	45
Polychlorinated Biphenyls for sample(s) 04-08 (L0302520-08, WG135915)					
Aroclor 1221	ND	ND	ug/kg	NC	50
Aroclor 1232	ND	ND	ug/kg	NC	50
Aroclor 1242/1016	ND	ND	ug/kg	NC	50
Aroclor 1248	ND	ND	ug/kg	NC	50
Aroclor 1254	ND	ND	ug/kg	NC	50
Aroclor 1260	ND	ND	ug/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,4,5,6-Tetrachloro-m-xylene	103.	88.0	%	16	30-150
Decachlorobiphenyl	97.0	86.0	%	12	30-150

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0302520

Parameter	% Recovery	QC Criteria
Total Organic Carbon LCS for sample(s) 05 (WG135923)		
Total Organic Carbon	103	
Total Organic Carbon LCS for sample(s) 01-04,06-08 (WG136043)		
Total Organic Carbon	106	
Chromium, Hexavalent LCS for sample(s) 04,07 (WG135886)		
Chromium, Hexavalent	98	
Total Metals LCS for sample(s) 04,07 (WG135972)		
Aluminum, Total	105	70-140
Antimony, Total	101	70-140
Arsenic, Total	111	70-140
Barium, Total	101	70-140
Beryllium, Total	101	70-140
Cadmium, Total	104	70-140
Calcium, Total	96	70-140
Chromium, Total	99	70-140
Cobalt, Total	101	70-140
Copper, Total	101	70-140
Iron, Total	107	70-140
Lead, Total	108	70-140
Magnesium, Total	106	70-140
Manganese, Total	116	70-140
Nickel, Total	96	70-140
Potassium, Total	86	70-140
Selenium, Total	113	70-140
Silver, Total	101	70-140
Sodium, Total	111	70-140
Thallium, Total	109	70-140
Vanadium, Total	101	70-140
Zinc, Total	101	70-140
Total Metals LCS for sample(s) 04,07 (WG136114)		
Mercury, Total	100	60-140
PAH by GC/MS SIM 8270M LCS for sample(s) 04,07 (WG135900)		
Acenaphthene	72	31-137
2-Chloronaphthalene	64	
Fluoranthene	86	
Anthracene	75	
Pyrene	86	35-142
Surrogate(s)		
Nitrobenzene-d5	66	23-120
2-Fluorobiphenyl	66	30-120
4-Terphenyl-d14	75	18-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0302520

Continued

Parameter	% Recovery	QC Criteria
Polychlorinated Biphenyls LCS for sample(s) 04-08 (WG135915)		
Aroclor 1242/1016	86	40-140
Aroclor 1260	88	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	87	30-150
Decachlorobiphenyl	97	30-150
Chromium, Hexavalent SPIKE for sample(s) 04,07 (L0302381-02, WG135886)		
Chromium, Hexavalent	90	
Total Metals SPIKE for sample(s) 04,07 (L0302516-01, WG135972)		
Aluminum, Total	55	70-140
Antimony, Total	89	70-140
Arsenic, Total	94	70-140
Barium, Total	90	70-140
Beryllium, Total	93	70-140
Cadmium, Total	96	70-140
Chromium, Total	68	70-140
Cobalt, Total	86	70-140
Copper, Total	97	70-140
Iron, Total	0	70-140
Lead, Total	104	70-140
Magnesium, Total	44	70-140
Manganese, Total	0	70-140
Nickel, Total	80	70-140
Potassium, Total	95	70-140
Selenium, Total	102	70-140
Silver, Total	96	70-140
Sodium, Total	126	70-140
Thallium, Total	96	70-140
Vanadium, Total	84	70-140
Zinc, Total	58	70-140
Total Metals SPIKE for sample(s) 04,07 (L0302516-01, WG136114)		
Mercury, Total	140	60-140

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0302520

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
PAH by GC/MS SIM 8270M for sample(s) 04,07 (L0302516-01, WG135900)					
Acenaphthene	82	85	4	50	31-137
2-Chloronaphthalene	77	79	3	50	
Fluoranthene	78	86	10	50	
Anthracene	70	75	7	50	
Pyrene	80	86	7	50	35-142
Surrogate(s)					
Nitrobenzene-d5	85	70	19		23-120
2-Fluorobiphenyl	79	82	4		30-120
4-Terphenyl-d14	68	73	7		18-120

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0302520

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 05 (WG135923-2)								
Total Organic Carbon	ND	%	0.010	13			0321 12:00	JC
Blank Analysis for sample(s) 01-04,06-08 (WG136043-2)								
Total Organic Carbon	ND	%	0.010	13			0324 14:30	DD
Blank Analysis for sample(s) 04,07 (WG135886-1)								
Chromium, Hexavalent	ND	mg/kg	0.80	1	7196A		0321 23:00	JT
Blank Analysis for sample(s) 04,07 (WG135972-3)								
Total Metals				1	3051			
Aluminum, Total	ND	mg/kg	4.0	1	6010B	0321 15:25	0324 09:54	RW
Antimony, Total	ND	mg/kg	2.0	1	6010B	0321 15:25	0324 09:54	RW
Arsenic, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Barium, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Beryllium, Total	ND	mg/kg	0.20	1	6010B	0321 15:25	0324 09:54	RW
Cadmium, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Calcium, Total	ND	mg/kg	4.0	1	6010B	0321 15:25	0324 09:54	RW
Chromium, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Cobalt, Total	ND	mg/kg	0.80	1	6010B	0321 15:25	0324 09:54	RW
Copper, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Iron, Total	ND	mg/kg	2.0	1	6010B	0321 15:25	0324 09:54	RW
Lead, Total	ND	mg/kg	2.0	1	6010B	0321 15:25	0324 09:54	RW
Magnesium, Total	ND	mg/kg	4.0	1	6010B	0321 15:25	0324 09:54	RW
Manganese, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Nickel, Total	ND	mg/kg	1.0	1	6010B	0321 15:25	0324 09:54	RW
Potassium, Total	ND	mg/kg	100	1	6010B	0321 15:25	0324 09:54	RW
Selenium, Total	ND	mg/kg	0.80	1	6010B	0321 15:25	0324 09:54	RW
Silver, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Sodium, Total	ND	mg/kg	80.	1	6010B	0321 15:25	0324 09:54	RW
Thallium, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Vanadium, Total	ND	mg/kg	0.40	1	6010B	0321 15:25	0324 09:54	RW
Zinc, Total	ND	mg/kg	2.0	1	6010B	0321 15:25	0324 09:54	RW
Blank Analysis for sample(s) 04,07 (WG136114-4)								
Total Metals								
Mercury, Total	ND	mg/kg	0.08	1	7471A	0325 15:20	0326 11:44	DM
Blank Analysis for sample(s) 04,07 (WG135900-1)								
PAH by GC/MS SIM 8270M				1	8270C-M	0321 12:10	0322 10:10	HL
Acenaphthene	ND	ug/kg	20.					
2-Chloronaphthalene	ND	ug/kg	20.					
Fluoranthene	ND	ug/kg	20.					
Naphthalene	ND	ug/kg	20.					

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0302520

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 04,07 (WG135900-1)								
PAH by GC/MS SIM 8270M continued				1	8270C-M	0321 12:10	0322 10:10	HL
Benzo(a)anthracene	ND	ug/kg	20.					
Benzo(a)pyrene	ND	ug/kg	20.					
Benzo(b)fluoranthene	ND	ug/kg	20.					
Benzo(k)fluoranthene	ND	ug/kg	20.					
Chrysene	ND	ug/kg	20.					
Acenaphthylene	ND	ug/kg	20.					
Anthracene	ND	ug/kg	20.					
Benzo(ghi)perylene	ND	ug/kg	20.					
Fluorene	ND	ug/kg	20.					
Phenanthrene	ND	ug/kg	20.					
Dibenzo(a,h)anthracene	ND	ug/kg	20.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	20.					
Pyrene	ND	ug/kg	20.					
1-Methylnaphthalene	ND	ug/kg	20.					
2-Methylnaphthalene	ND	ug/kg	20.					
Perylene	ND	ug/kg	20.					
Biphenyl	ND	ug/kg	20.					
Benzo(e)Pyrene	ND	ug/kg	20.					
Surrogate(s)	Recovery		QC Criteria					
Nitrobenzene-d5	58.0	%	23-120					
2-Fluorobiphenyl	55.0	%	30-120					
4-Terphenyl-d14	61.0	%	18-120					
Blank Analysis for sample(s) 04-08 (WG135915-1)								
Polychlorinated Biphenyls				1	8082	0321 18:57	0324 16:07	AK
Aroclor 1221	ND	ug/kg	125.					
Aroclor 1232	ND	ug/kg	125.					
Aroclor 1242/1016	ND	ug/kg	125.					
Aroclor 1248	ND	ug/kg	125.					
Aroclor 1254	ND	ug/kg	125.					
Aroclor 1260	ND	ug/kg	125.					
Surrogate(s)	Recovery		QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	87.0	%	30-150					
Decachlorobiphenyl	95.0	%	30-150					

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Update III, 1997.

13. Determination of Total Organic Carbon in Sediment. U.S. EPA, Region II. July 27, 1988.

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.
METHOD Method number by which analysis was performed.
ID Initials of the analyst.
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

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