ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
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MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: ERM-New England

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

Attn: John McTigue

Project Number: 143.48

Site: RAYTHEON

Laboratory Job Number: L9908794

Invoice Number: 31308

Date Received: 01-NOV-99

Date Reported: 08-NOV-99

Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9908794-01	T-1-4 (0-6")	WAYLAND, MA
L9908794-02	T-8-12 (0-6")	WAYLAND, MA
L9908794-03	T-8-8 (0-6")	WAYLAND, MA
L9908794-04	T-8-B (0-6")	WAYLAND, MA
L9908794-05	T-8-10 (0-6")	WAYLAND, MA
L9908794-06	T-10-16 (0-6")	WAYLAND, MA
L9908794-07	T-10-10 (0-6")	WAYLAND, MA
L9908794-08	T-10-13 (0-6")	WAYLAND, MA
L9908794-09	T-10-6 (0-6")	WAYLAND, MA
L9908794-10	T-10-A (0-6")	WAYLAND, MA

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

Authorized by: _____

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-01
T-1-4 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Solids, Total	43.	%	0.10	30	2540G		05-Nov
Polychlorinated Biphenyls				1	8082	02-Nov	04-Nov
Aroclor 1221	ND	ug/kg	2900				
Aroclor 1232	ND	ug/kg	2900				
Aroclor 1242/1016	ND	ug/kg	2900				
Aroclor 1248	ND	ug/kg	2900				
Aroclor 1254	ND	ug/kg	2900				
Aroclor 1260	44400	ug/kg	2900				
Surrogate Recovery							
2,4,5,6-Tetrachloro-m-xylene	83.0	%					
Decachlorobiphenyl	87.0	%					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-02
T-8-12 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber Glass,2-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	16.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	16.	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	11000	mg/kg	25.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	12.	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	6.9	mg/kg	2.5	1	6010B	03-Nov	04-Nov	TT
Barium, Total	100	mg/kg	2.5	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	ND	mg/kg	1.2	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	2.24	mg/kg	1.25	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	3800	mg/kg	120	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	1800	mg/kg	2.5	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	ND	mg/kg	5.0	1	6010B	03-Nov	04-Nov	TT
Copper, Total	640	mg/kg	2.5	1	6010B	03-Nov	04-Nov	LP
Iron, Total	18000	mg/kg	12.	1	6010B	03-Nov	04-Nov	LP
Lead, Total	540	mg/kg	12.	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	2800	mg/kg	25.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	310	mg/kg	2.5	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	1.7	mg/kg	0.12	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	24.	mg/kg	6.2	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	ND	mg/kg	620	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	5.0	1	6010B	03-Nov	04-Nov	TT
Silver, Total	18.	mg/kg	2.5	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	380	mg/kg	120	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	5.0	1	6010B	03-Nov	04-Nov	TT
Tin, Total	29.	mg/kg	12.	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	59.	mg/kg	2.5	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	150	mg/kg	12.	1	6010B	03-Nov	04-Nov	TT
PAH by GC/MS SIM 8270M				1	8270C-M	02-Nov	06-Nov	MK
Acenaphthene	ND	ug/kg	120					
2-Chloronaphthalene	ND	ug/kg	120					
Fluoranthene	1800	ug/kg	120					
Naphthalene	ND	ug/kg	120					
Benzo(a)anthracene	660	ug/kg	120					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-02
T-8-12 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	
PAH by GC/MS SIM 8270M continued				1	8270C-M	02-Nov	06-Nov	I
Benzo(a,e)pyrene	1200	ug/kg	120					
Benzo(b)fluoranthene	2700	ug/kg	120					
Benzo(k)fluoranthene	1600	ug/kg	120					
Chrysene	1800	ug/kg	120					
Acenaphthylene	ND	ug/kg	120					
Anthracene	ND	ug/kg	120					
Benzo(ghi)perylene	1600	ug/kg	120					
Fluorene	ND	ug/kg	120					
Phenanthrene	700	ug/kg	120					
Dibenzo(a,h)anthracene	430	ug/kg	120					
Indeno(1,2,3-cd)Pyrene	1600	ug/kg	120					
Pyrene	1600	ug/kg	120					
1-Methylnaphthalene	ND	ug/kg	120					
2-Methylnaphthalene	ND	ug/kg	120					
Perylene	210	ug/kg	120					
Biphenyl	ND	ug/kg	120					
Surrogate Recovery								
Nitrobenzene-d5	48.0	%						
2-Fluorobiphenyl	54.0	%						
4-Terphenyl-d14	53.0	%						
Polychlorinated Biphenyls				1	8082	02-Nov	05-Nov	PB
Aroclor 1221	ND	ug/kg	782.					
Aroclor 1232	ND	ug/kg	782.					
Aroclor 1242/1016	ND	ug/kg	782.					
Aroclor 1248	ND	ug/kg	782.					
Aroclor 1254	ND	ug/kg	782.					
Aroclor 1260	ND	ug/kg	782.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	61.0	%						
Decachlorobiphenyl	67.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-02
T-8-12 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbons				46	98-1	02-Nov	04-Nov	HL

Quality Control Information

Condition of sample received: Satisfactory
Sample temperature upon receipt: Received on Ice
Sample extraction method: Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed? YES
Were all performance/acceptance standards for the required procedures achieved? YES
Were significant modifications made to the method as specified in Sect 11.3? NO
Please note to subtract the method blank from the stated result.
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	89.8	mg/kg	62.5
C19-C36 Aliphatics	273.	mg/kg	62.5
C11-C22 Aromatics	86.6	mg/kg	62.5

Surrogate Recovery

Chloro-Octadecane	69.0	%
o-Terphenyl	81.0	%
2-Fluorobiphenyl	97.0	%
2-Bromonaphthalene	81.0	%

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-03
T-8-8 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber Glass,3-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	D
Solids, Total	11.	%	0.10	30	2540G		03-Nov	
Chromium, Hexavalent	ND	mg/kg	23.	1	7196A		05-Nov	
Total Metals				1	3051			
Aluminum, Total	8600	mg/kg	36.	1	6010B	03-Nov	04-Nov	
Antimony, Total	27.	mg/kg	18.	1	6010B	03-Nov	04-Nov	
Arsenic, Total	32.	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Barium, Total	120	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Beryllium, Total	ND	mg/kg	1.8	1	6010B	03-Nov	04-Nov	
Cadmium, Total	4.1	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Calcium, Total	5400	mg/kg	180	1	6010B	03-Nov	04-Nov	
Chromium, Total	6500	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Cobalt, Total	ND	mg/kg	7.2	1	6010B	03-Nov	04-Nov	
Copper, Total	4200	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Iron, Total	8400	mg/kg	18.	1	6010B	03-Nov	04-Nov	
Lead, Total	600	mg/kg	18.	1	6010B	03-Nov	04-Nov	
Magnesium, Total	2100	mg/kg	36.	1	6010B	03-Nov	04-Nov	
Manganese, Total	200	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Mercury, Total	0.73	mg/kg	0.18	1	7471A	05-Nov	08-Nov	
Nickel, Total	28.	mg/kg	9.0	1	6010B	03-Nov	04-Nov	
Potassium, Total	ND	mg/kg	900	1	6010B	03-Nov	04-Nov	
Selenium, Total	ND	mg/kg	7.2	1	6010B	03-Nov	04-Nov	
Silver, Total	92.	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Sodium, Total	450	mg/kg	180	1	6010B	03-Nov	04-Nov	
Thallium, Total	ND	mg/kg	7.2	1	6010B	03-Nov	04-Nov	
Tin, Total	110	mg/kg	18.	1	6010B	03-Nov	04-Nov	
Vanadium, Total	120	mg/kg	3.6	1	6010B	03-Nov	04-Nov	
Zinc, Total	290	mg/kg	18.	1	6010B	03-Nov	04-Nov	
PAH by GC/MS SIM 8270M				1	8270C-M	02-Nov	06-Nov	
Acenaphthene	ND	ug/kg	180					
2-Chloronaphthalene	ND	ug/kg	180					
Fluoranthene	740	ug/kg	180					
Naphthalene	ND	ug/kg	180					
Benzo(a)anthracene	290	ug/kg	180					

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

Laboratory Sample Number: L9908794-03
T-8-8 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	02-Nov	06-Nov	MK
Benzo(a,e)pyrene	420	ug/kg	180					
Benzo(b)fluoranthene	860	ug/kg	180					
Benzo(k)fluoranthene	620	ug/kg	180					
Chrysene	760	ug/kg	180					
Acenaphthylene	ND	ug/kg	180					
Anthracene	270	ug/kg	180					
Benzo(ghi)perylene	460	ug/kg	180					
Fluorene	ND	ug/kg	180					
Phenanthrene	280	ug/kg	180					
Dibenzo(a,h)anthracene	ND	ug/kg	180					
Indeno(1,2,3-cd)Pyrene	480	ug/kg	180					
Pyrene	640	ug/kg	180					
1-Methylnaphthalene	ND	ug/kg	180					
2-Methylnaphthalene	ND	ug/kg	180					
Perylene	320	ug/kg	180					
Biphenyl	ND	ug/kg	180					
Surrogate Recovery								
Nitrobenzene-d5	47.0	%						
2-Fluorobiphenyl	45.0	%						
4-Terphenyl-d14	49.0	%						
Polychlorinated Biphenyls				1	8082	02-Nov	05-Nov	PB
Aroclor 1221	ND	ug/kg	1140					
Aroclor 1232	ND	ug/kg	1140					
Aroclor 1242/1016	ND	ug/kg	1140					
Aroclor 1248	ND	ug/kg	1140					
Aroclor 1254	ND	ug/kg	1140					
Aroclor 1260	2070	ug/kg	1140					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	65.0	%						
Decachlorobiphenyl	70.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-03
T-8-8 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Extractable Petroleum Hydrocarbons				46	98-1	02-Nov	04-Nov

Quality Control Information

Condition of sample received: Satisfactory
Sample temperature upon receipt: Received on Ice
Sample extraction method: Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed? YES
Were all performance/acceptance standards for the required procedures achieved? YES
Were significant modifications made to the method as specified in Sect 11.3? NO
Please note to subtract the method blank from the stated result.
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	147.	mg/kg	90.9
C19-C36 Aliphatics	243.	mg/kg	90.9
C11-C22 Aromatics	ND	mg/kg	90.9

Surrogate Recovery

Chloro-Octadecane	61.0	%
o-Terphenyl	46.0	%
2-Fluorobiphenyl	99.0	%
2-Bromonaphthalene	72.0	%

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-04
T-8-B (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber Glass,3-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	19.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	13.	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	6400	mg/kg	21.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	10.	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	3.6	mg/kg	2.1	1	6010B	03-Nov	04-Nov	TT
Barium, Total	100	mg/kg	2.1	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	ND	mg/kg	1.0	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	4.3	mg/kg	2.1	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	5400	mg/kg	100	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	450	mg/kg	2.1	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	6.0	mg/kg	4.1	1	6010B	03-Nov	04-Nov	TT
Copper, Total	610	mg/kg	2.1	1	6010B	03-Nov	04-Nov	LP
Iron, Total	8200	mg/kg	10.	1	6010B	03-Nov	04-Nov	LP
Lead, Total	240	mg/kg	10.	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	1400	mg/kg	21.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	590	mg/kg	2.1	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	0.26	mg/kg	0.10	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	19.	mg/kg	5.2	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	ND	mg/kg	520	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	4.1	1	6010B	03-Nov	04-Nov	TT
Silver, Total	30.	mg/kg	2.1	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	310	mg/kg	100	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	4.1	1	6010B	03-Nov	04-Nov	TT
Tin, Total	20.	mg/kg	10.	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	35.	mg/kg	2.1	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	200	mg/kg	10.	1	6010B	03-Nov	04-Nov	TT
PAH by GC/MS SIM 8270M				1	8270C-M	02-Nov	06-Nov	MK
Acenaphthene	ND	ug/kg	100					
2-Chloronaphthalene	ND	ug/kg	100					
Fluoranthene	1900	ug/kg	100					
Naphthalene	ND	ug/kg	100					
Benzo(a)anthracene	640	ug/kg	100					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-04
T-8-B (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	
PAH by GC/MS SIM 8270M continued				1	8270C-M	02-Nov	06-Nov	I
Benzo(a,e)pyrene	1100	ug/kg	100					
Benzo(b)fluoranthene	1800	ug/kg	100					
Benzo(k)fluoranthene	1200	ug/kg	100					
Chrysene	1500	ug/kg	100					
Acenaphthylene	ND	ug/kg	100					
Anthracene	ND	ug/kg	100					
Benzo(ghi)perylene	1100	ug/kg	100					
Fluorene	ND	ug/kg	100					
Phenanthrene	610	ug/kg	100					
Dibenzo(a,h)anthracene	330	ug/kg	100					
Indeno(1,2,3-cd)Pyrene	1100	ug/kg	100					
Pyrene	1600	ug/kg	100					
1-Methylnaphthalene	ND	ug/kg	100					
2-Methylnaphthalene	ND	ug/kg	100					
Perylene	190	ug/kg	100					
Biphenyl	ND	ug/kg	100					
Surrogate Recovery								
Nitrobenzene-d5	42.0	%						
2-Fluorobiphenyl	49.0	%						
4-Terphenyl-d14	51.0	%						
Polychlorinated Biphenyls				1	8082	02-Nov	05-Nov	PB
Aroclor 1221	ND	ug/kg	658.					
Aroclor 1232	ND	ug/kg	658.					
Aroclor 1242/1016	ND	ug/kg	658.					
Aroclor 1248	ND	ug/kg	658.					
Aroclor 1254	ND	ug/kg	658.					
Aroclor 1260	1050	ug/kg	658.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	64.0	%						
Decachlorobiphenyl	63.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-04
T-8-B (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbons				46	98-1	02-Nov	04-Nov	HL

Quality Control Information

Condition of sample received: Satisfactory
Sample temperature upon receipt: Received on Ice
Sample extraction method: Extracted Per the Method

Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO

Please note to subtract the method blank from the stated result.
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	52.6
C19-C36 Aliphatics	175.	mg/kg	52.6
C11-C22 Aromatics	234.	mg/kg	52.6

Surrogate Recovery

Chloro-Octadecane	62.0	%
o-Terphenyl	78.0	%
2-Fluorobiphenyl	85.0	%
2-Bromonaphthalene	56.0	%

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-05
T-8-10 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber Glass,2-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	
Solids, Total	14.	%	0.10	30	2540G		03-Nov	
Chromium, Hexavalent	240	mg/kg	8.9	1	7196A		05-Nov	
Total Metals				1	3051			
Aluminum, Total	9800	mg/kg	28.	1	6010B	03-Nov	04-Nov	
Antimony, Total	21.	mg/kg	14.	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	17.	mg/kg	2.8	1	6010B	03-Nov	04-Nov	TT
Barium, Total	120	mg/kg	2.8	1	6010B	03-Nov	04-Nov	
Beryllium, Total	ND	mg/kg	1.4	1	6010B	03-Nov	04-Nov	
Cadmium, Total	3.7	mg/kg	2.8	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	3300	mg/kg	140	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	5200	mg/kg	2.8	1	6010B	03-Nov	04-Nov	
Cobalt, Total	ND	mg/kg	5.7	1	6010B	03-Nov	04-Nov	
Copper, Total	2800	mg/kg	2.8	1	6010B	03-Nov	04-Nov	LP
Iron, Total	11000	mg/kg	14.	1	6010B	03-Nov	04-Nov	
Lead, Total	460	mg/kg	14.	1	6010B	03-Nov	04-Nov	
Magnesium, Total	1400	mg/kg	28.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	180	mg/kg	2.8	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	2.1	mg/kg	0.14	1	7471A	05-Nov	08-Nov	
Nickel, Total	17.	mg/kg	7.1	1	6010B	03-Nov	04-Nov	
Potassium, Total	ND	mg/kg	710	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	5.7	1	6010B	03-Nov	04-Nov	TT
Silver, Total	200	mg/kg	2.8	1	6010B	03-Nov	04-Nov	
Sodium, Total	260	mg/kg	140	1	6010B	03-Nov	04-Nov	
Thallium, Total	ND	mg/kg	5.7	1	6010B	03-Nov	04-Nov	TT
Tin, Total	66.	mg/kg	14.	1	6010B	03-Nov	04-Nov	
Vanadium, Total	74.	mg/kg	2.8	1	6010B	03-Nov	04-Nov	
Zinc, Total	130	mg/kg	14.	1	6010B	03-Nov	04-Nov	
PAH by GC/MS SIM 8270M				1	8270C-M	02-Nov	06-Nov	
Acenaphthene	ND	ug/kg	140					
2-Chloronaphthalene	ND	ug/kg	140					
Fluoranthene	780	ug/kg	140					
Naphthalene	ND	ug/kg	140					
Benzo(a)anthracene	300	ug/kg	140					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-05
T-8-10 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	02-Nov	06-Nov	MK
Benzo(a,e)pyrene	480	ug/kg	140					
Benzo(b)fluoranthene	950	ug/kg	140					
Benzo(k)fluoranthene	750	ug/kg	140					
Chrysene	810	ug/kg	140					
Acenaphthylene	ND	ug/kg	140					
Anthracene	310	ug/kg	140					
Benzo(ghi)perylene	600	ug/kg	140					
Fluorene	ND	ug/kg	140					
Phenanthrene	310	ug/kg	140					
Dibenzo(a,h)anthracene	180	ug/kg	140					
Indeno(1,2,3-cd)Pyrene	610	ug/kg	140					
Pyrene	720	ug/kg	140					
1-Methylnaphthalene	ND	ug/kg	140					
2-Methylnaphthalene	ND	ug/kg	140					
Perylene	ND	ug/kg	140					
Biphenyl	ND	ug/kg	140					
Surrogate Recovery								
Nitrobenzene-d5	47.0	%						
2-Fluorobiphenyl	50.0	%						
4-Terphenyl-d14	51.0	%						
Polychlorinated Biphenyls				1	8082	02-Nov	06-Nov	PB
Aroclor 1221	ND	ug/kg	892.					
Aroclor 1232	ND	ug/kg	892.					
Aroclor 1242/1016	ND	ug/kg	892.					
Aroclor 1248	ND	ug/kg	892.					
Aroclor 1254	ND	ug/kg	892.					
Aroclor 1260	1200	ug/kg	892.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	58.0	%						
Decachlorobiphenyl	71.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-05
T-8-10 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbons				46	98-1	02-Nov	04-Nov	

Quality Control Information

Condition of sample received: Satisfactory
Sample temperature upon receipt: Received on Ice
Sample extraction method: Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed? YES
Were all performance/acceptance standards for the required procedures achieved? YES
Were significant modifications made to the method as specified in Sect 11.3? NO
Please note to subtract the method blank from the stated result.
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	166.	mg/kg	71.4
C19-C36 Aliphatics	298.	mg/kg	71.4
C11-C22 Aromatics	ND	mg/kg	71.4

Surrogate Recovery

Chloro-Octadecane	54.0	%
o-Terphenyl	66.0	%
2-Fluorobiphenyl	79.0	%
2-Bromonaphthalene	59.0	%

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-06
T-10-16 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	26.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	9.6	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	25000	mg/kg	15.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	7.7	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	18.	mg/kg	1.5	1	6010B	03-Nov	04-Nov	TT
Barium, Total	140	mg/kg	1.5	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	1.8	mg/kg	0.77	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	3.0	mg/kg	1.5	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	4300	mg/kg	77.	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	90.	mg/kg	1.5	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	12.	mg/kg	3.1	1	6010B	03-Nov	04-Nov	TT
Copper, Total	150	mg/kg	1.5	1	6010B	03-Nov	04-Nov	LP
Iron, Total	24000	mg/kg	7.7	1	6010B	03-Nov	04-Nov	LP
Lead, Total	720	mg/kg	7.7	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	6200	mg/kg	15.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	240	mg/kg	1.5	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	1.3	mg/kg	0.07	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	35.	mg/kg	3.8	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	780	mg/kg	380	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	3.1	1	6010B	03-Nov	04-Nov	TT
Silver, Total	1.35	mg/kg	0.766	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	300	mg/kg	77.	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	3.1	1	6010B	03-Nov	04-Nov	TT
Tin, Total	ND	mg/kg	7.7	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	82.	mg/kg	1.5	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	300	mg/kg	7.7	1	6010B	03-Nov	04-Nov	TT
Polychlorinated Biphenyls				1	8082	02-Nov	05-Nov	PB
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.					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-06
T-10-16 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	TD
Polychlorinated Biphenyls continued				1	8082	02-Nov	05-Nov	B
Aroclor 1260	ND	ug/kg	962.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	81.0	%						
Decachlorobiphenyl	76.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-07
T-10-10 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	12.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	21.	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	8100	mg/kg	33.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	17.	mg/kg	17.	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	11.	mg/kg	3.3	1	6010B	03-Nov	04-Nov	TT
Barium, Total	100	mg/kg	3.3	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	ND	mg/kg	1.7	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	4.4	mg/kg	3.3	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	4000	mg/kg	170	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	4200	mg/kg	3.3	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	ND	mg/kg	6.7	1	6010B	03-Nov	04-Nov	TT
Copper, Total	2700	mg/kg	3.3	1	6010B	03-Nov	04-Nov	LP
Iron, Total	6000	mg/kg	17.	1	6010B	03-Nov	04-Nov	LP
Lead, Total	510	mg/kg	17.	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	1600	mg/kg	33.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	220	mg/kg	3.3	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	0.92	mg/kg	0.17	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	24.	mg/kg	8.3	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	ND	mg/kg	830	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	6.7	1	6010B	03-Nov	04-Nov	TT
Silver, Total	160	mg/kg	3.3	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	380	mg/kg	170	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	6.7	1	6010B	03-Nov	04-Nov	TT
Tin, Total	54.	mg/kg	17.	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	77.	mg/kg	3.3	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	160	mg/kg	17.	1	6010B	03-Nov	04-Nov	TT
Polychlorinated Biphenyls				1	8082	02-Nov	06-Nov	PB
Aroclor 1221	ND	ug/kg	1040					
Aroclor 1232	ND	ug/kg	1040					
Aroclor 1242/1016	ND	ug/kg	1040					
Aroclor 1248	ND	ug/kg	1040					
Aroclor 1254	ND	ug/kg	1040					

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

Laboratory Sample Number: L9908794-07
T-10-10 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	TD
Polychlorinated Biphenyls continued				1	8082	02-Nov	06-Nov	B
Aroclor 1260	2120	ug/kg	1040					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	69.0	%						
Decachlorobiphenyl	80.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-08
T-10-13 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	33.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	7.6	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	7000	mg/kg	12.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	6.0	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	3.5	mg/kg	1.2	1	6010B	03-Nov	04-Nov	TT
Barium, Total	28.	mg/kg	1.2	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	0.68	mg/kg	0.60	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	1.05	mg/kg	0.603	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	1800	mg/kg	60.	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	36.	mg/kg	1.2	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	ND	mg/kg	2.4	1	6010B	03-Nov	04-Nov	TT
Copper, Total	28.	mg/kg	1.2	1	6010B	03-Nov	04-Nov	LP
Iron, Total	4000	mg/kg	6.0	1	6010B	03-Nov	04-Nov	LP
Lead, Total	120	mg/kg	6.0	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	650	mg/kg	12.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	110	mg/kg	1.2	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	ND	mg/kg	0.06	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	7.7	mg/kg	3.0	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	ND	mg/kg	300	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	2.4	1	6010B	03-Nov	04-Nov	TT
Silver, Total	ND	mg/kg	0.603	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	210	mg/kg	60.	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	2.4	1	6010B	03-Nov	04-Nov	TT
Tin, Total	ND	mg/kg	6.0	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	18.	mg/kg	1.2	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	34.	mg/kg	6.0	1	6010B	03-Nov	04-Nov	TT
Polychlorinated Biphenyls				1	8082	02-Nov	05-Nov	PB
Aroclor 1221	ND	ug/kg	658.					
Aroclor 1232	ND	ug/kg	658.					
Aroclor 1242/1016	ND	ug/kg	658.					
Aroclor 1248	ND	ug/kg	658.					
Aroclor 1254	ND	ug/kg	658.					

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

Laboratory Sample Number: L9908794-08
T-10-13 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	TD
Polychlorinated Biphenyls continued				1	8082	02-Nov	05-Nov	B
Aroclor 1260	ND	ug/kg	658.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	82.0	%						
Decachlorobiphenyl	76.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-09
T-10-6 (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	25.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	10.	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	7500	mg/kg	16.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	7.9	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	3.9	mg/kg	1.6	1	6010B	03-Nov	04-Nov	TT
Barium, Total	68.	mg/kg	1.6	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	0.82	mg/kg	0.79	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	3.1	mg/kg	1.6	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	2700	mg/kg	79.	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	280	mg/kg	1.6	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	ND	mg/kg	3.2	1	6010B	03-Nov	04-Nov	TT
Copper, Total	250	mg/kg	1.6	1	6010B	03-Nov	04-Nov	LP
Iron, Total	3400	mg/kg	7.9	1	6010B	03-Nov	04-Nov	LP
Lead, Total	150	mg/kg	7.9	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	670	mg/kg	16.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	160	mg/kg	1.6	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	0.72	mg/kg	0.08	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	12.	mg/kg	3.9	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	ND	mg/kg	390	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	3.2	1	6010B	03-Nov	04-Nov	TT
Silver, Total	12.	mg/kg	1.6	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	300	mg/kg	79.	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	3.2	1	6010B	03-Nov	04-Nov	TT
Tin, Total	8.0	mg/kg	7.9	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	25.	mg/kg	1.6	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	65.	mg/kg	7.9	1	6010B	03-Nov	04-Nov	TT
Polychlorinated Biphenyls				1	8082	02-Nov	05-Nov	PB
Aroclor 1221	ND	ug/kg	1000					
Aroclor 1232	ND	ug/kg	1000					
Aroclor 1242/1016	ND	ug/kg	1000					
Aroclor 1248	ND	ug/kg	1000					
Aroclor 1254	ND	ug/kg	1000					

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

Laboratory Sample Number: L9908794-09
T-10-6 (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Polychlorinated Biphenyls continued				1	8082	02-Nov	05-Nov	
Aroclor 1260	ND	ug/kg	1000					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	79.0	%						
Decachlorobiphenyl	80.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908794-10
T-10-A (0-6")
Sample Matrix: SOIL

Date Collected: 01-NOV-1999
Date Received : 01-NOV-1999
Date Reported : 08-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	23.	%	0.10	30	2540G		03-Nov	RS
Chromium, Hexavalent	ND	mg/kg	11.	1	7196A		05-Nov	JT
Total Metals				1	3051			
Aluminum, Total	7500	mg/kg	17.	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	8.6	1	6010B	03-Nov	04-Nov	TT
Arsenic, Total	5.1	mg/kg	1.7	1	6010B	03-Nov	04-Nov	TT
Barium, Total	130	mg/kg	1.7	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	ND	mg/kg	0.86	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	4.4	mg/kg	1.7	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	2100	mg/kg	86.	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	290	mg/kg	1.7	1	6010B	03-Nov	04-Nov	TT
Cobalt, Total	8.5	mg/kg	3.4	1	6010B	03-Nov	04-Nov	TT
Copper, Total	500	mg/kg	1.7	1	6010B	03-Nov	04-Nov	LP
Iron, Total	8100	mg/kg	8.6	1	6010B	03-Nov	04-Nov	LP
Lead, Total	250	mg/kg	8.6	1	6010B	03-Nov	04-Nov	TT
Magnesium, Total	1200	mg/kg	17.	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	1000	mg/kg	1.7	1	6010B	03-Nov	04-Nov	LP
Mercury, Total	1.6	mg/kg	0.08	1	7471A	05-Nov	08-Nov	DM
Nickel, Total	17.	mg/kg	4.3	1	6010B	03-Nov	04-Nov	TT
Potassium, Total	ND	mg/kg	430	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	3.4	1	6010B	03-Nov	04-Nov	TT
Silver, Total	23.	mg/kg	1.7	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	300	mg/kg	86.	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	3.4	1	6010B	03-Nov	04-Nov	TT
Tin, Total	10.	mg/kg	8.6	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	32.	mg/kg	1.7	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	150	mg/kg	8.6	1	6010B	03-Nov	04-Nov	TT
Polychlorinated Biphenyls				1	8082	02-Nov	06-Nov	PB
Aroclor 1221	ND	ug/kg	544.					
Aroclor 1232	ND	ug/kg	544.					
Aroclor 1242/1016	ND	ug/kg	544.					
Aroclor 1248	ND	ug/kg	544.					
Aroclor 1254	ND	ug/kg	544.					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908794-10
T-10-A (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Polychlorinated Biphenyls continued				1	8082	02-Nov	06-Nov	DR
Aroclor 1260	1170	ug/kg	544.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	73.0	%						
Decachlorobiphenyl	75.0	%						

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9908794

Parameter	Value 1	Value 2	RPD	Units
Solids, Total for sample(s) 01				
Solids, Total	89.	89.	0	%
Total Metals for sample(s) 02-10				
Aluminum, Total	7500	7500	0	mg/kg
Antimony, Total	ND	ND	NC	mg/kg
Arsenic, Total	3.9	4.2	7	mg/kg
Barium, Total	68.	70.	3	mg/kg
Beryllium, Total	0.82	0.83	1	mg/kg
Cadmium, Total	3.1	3.5	12	mg/kg
Calcium, Total	2700	2700	0	mg/kg
Chromium, Total	280	290	4	mg/kg
Cobalt, Total	ND	ND	NC	mg/kg
Copper, Total	250	280	11	mg/kg
Iron, Total	3400	3500	3	mg/kg
Lead, Total	150	160	6	mg/kg
Magnesium, Total	670	670	0	mg/kg
Manganese, Total	160	170	6	mg/kg
Nickel, Total	12.	12.	0	mg/kg
Potassium, Total	ND	ND	NC	mg/kg
Selenium, Total	ND	ND	NC	mg/kg
Silver, Total	12.	13.	8	mg/kg
Sodium, Total	300	320	6	mg/kg
Thallium, Total	ND	ND	NC	mg/kg
Tin, Total	8.0	10.	22	mg/kg
Vanadium, Total	25.	26.	4	mg/kg
Zinc, Total	65.	70.	7	mg/kg
Total Metals for sample(s) 02-10				
Mercury, Total	0.72	0.76	5	mg/kg
Polychlorinated Biphenyls for sample(s) 01-10				
Aroclor 1221	ND	ND	NC	ug/kg
Aroclor 1232	ND	ND	NC	ug/kg
Aroclor 1242/1016	ND	ND	NC	ug/kg
Aroclor 1248	ND	ND	NC	ug/kg
Aroclor 1254	ND	ND	NC	ug/kg
Aroclor 1260	ND	ND	NC	ug/kg
Surrogate Recovery				
2,4,5,6-Tetrachloro-m-xylene	52.0	49.0	6	%
Decachlorobiphenyl	52.0	48.0	8	%
Extractable Petroleum Hydrocarbons for sample(s) 02-05				
C9-C18 Aliphatics	ND	ND	NC	mg/kg
C19-C36 Aliphatics	ND	ND	NC	mg/kg
C11-C22 Aromatics	ND	ND	NC	mg/kg
C11-C22 Aromatics, Adjusted	ND	ND	NC	mg/kg
Naphthalene	ND	ND	NC	mg/kg

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9908794

Continued

Parameter	Value 1	Value 2	RPD	Units
Extractable Petroleum Hydrocarbons for sample(s) 02-05				
2-Methylnaphthalene	ND	ND	NC	mg/kg
Acenaphthalene	ND	ND	NC	mg/kg
Acenaphthene	ND	ND	NC	mg/kg
Fluorene	ND	ND	NC	mg/kg
Phenanthrene	ND	ND	NC	mg/kg
Anthracene	ND	ND	NC	mg/kg
Fluoranthene	ND	ND	NC	mg/kg
Pyrene	ND	ND	NC	mg/kg
Benzo(a)anthracene	ND	ND	NC	mg/kg
Chrysene	ND	ND	NC	mg/kg
Benzo(b)fluoranthene	ND	ND	NC	mg/kg
Benzo(k)fluoranthene	ND	ND	NC	mg/kg
Benzo(a)pyrene	ND	ND	NC	mg/kg
Indeno(1,2,3-cd)Pyrene	ND	ND	NC	mg/kg
Dibenzo(a,h)anthracene	ND	ND	NC	mg/kg
Benzo(ghi)perylene	ND	ND	NC	mg/kg
Surrogate Recovery				
Chloro-Octadecane	68.0	57.0	18	%
o-Terphenyl	79.0	62.0	24	%
2-Fluorobiphenyl	92.0	78.0	16	%
2-Bromonaphthalene	54.0	36.0	40	%

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L9908794

Parameter	% Recovery
Chromium, Hexavalent LCS for sample(s) 02-10	
Chromium, Hexavalent	99
Total Metals LCS for sample(s) 02-10	
Aluminum, Total	110
Antimony, Total	89
Arsenic, Total	96
Barium, Total	98
Beryllium, Total	93
Cadmium, Total	90
Calcium, Total	93
Chromium, Total	97
Cobalt, Total	95
Copper, Total	98
Lead, Total	94
Magnesium, Total	91
Manganese, Total	110
Nickel, Total	94
Potassium, Total	83
Selenium, Total	91
Silver, Total	63
Sodium, Total	96
Thallium, Total	100
Tin, Total	97
Vanadium, Total	99
Zinc, Total	98
Total Metals LCS for sample(s) 02-10	
Mercury, Total	97
PAH by GC/MS SIM 8270M LCS for sample(s) 02-05	
Acenaphthene	74
Pyrene	73
Surrogate Recovery	
Nitrobenzene-d5	52
2-Fluorobiphenyl	61
4-Terphenyl-d14	62
Polychlorinated Biphenyls LCS for sample(s) 01-10	
Aroclor 1242/1016	82
Aroclor 1260	77
Surrogate Recovery	
2,4,5,6-Tetrachloro-m-xylene	69
Decachlorobiphenyl	74

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L9908794

Continued

Parameter	% Recovery
Extractable Petroleum Hydrocarbons LCS for sample(s) 02-05	
Naphthalene	81
Acenaphthene	94
Anthracene	95
Pyrene	90
Chrysene	89
Nonane (C9)	57
Tetradecane (C14)	97
Nonadecane (C19)	90
Eicosane (C20)	98
Octacosane (C28)	78
Surrogate Recovery	
Chloro-Octadecane	82
o-Terphenyl	95
2-Fluorobiphenyl	100
2-Bromonaphthalene	57
Total Metals SPIKE for sample(s) 02-10	
Arsenic, Total	85
Barium, Total	95
Beryllium, Total	99
Cadmium, Total	86
Calcium, Total	92
Cobalt, Total	93
Lead, Total	90
Magnesium, Total	92
Manganese, Total	120
Nickel, Total	93
Potassium, Total	100
Selenium, Total	120
Sodium, Total	92
Thallium, Total	100
Vanadium, Total	100
Zinc, Total	100

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9908794

Parameter	MS %	MSD %	RPD
PAH by GC/MS SIM 8270M for sample(s) 02-05			
Acenaphthene	78	90	14
Pyrene	77	94	20

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L9908794

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	
Blank Analysis for sample(s) 02-10								
Chromium, Hexavalent	ND	mg/kg	0.50	1	7196A		05-Nov	JT
Blank Analysis for sample(s) 02-10								
Total Metals				1	3051			
Aluminum, Total	ND	mg/kg	4.0	1	6010B	03-Nov	04-Nov	LP
Antimony, Total	ND	mg/kg	2.0	1	6010B	03-Nov	04-Nov	LT
Arsenic, Total	ND	mg/kg	0.40	1	6010B	03-Nov	04-Nov	TT
Barium, Total	ND	mg/kg	0.40	1	6010B	03-Nov	04-Nov	LP
Beryllium, Total	ND	mg/kg	0.20	1	6010B	03-Nov	04-Nov	LP
Cadmium, Total	ND	mg/kg	0.200	1	6010B	03-Nov	04-Nov	TT
Calcium, Total	ND	mg/kg	20.	1	6010B	03-Nov	04-Nov	LP
Chromium, Total	ND	mg/kg	0.40	1	6010B	03-Nov	04-Nov	LT
Cobalt, Total	ND	mg/kg	0.80	1	6010B	03-Nov	04-Nov	LT
Copper, Total	ND	mg/kg	0.40	1	6010B	03-Nov	04-Nov	LP
Iron, Total	ND	mg/kg	2.0	1	6010B	03-Nov	04-Nov	LP
Lead, Total	ND	mg/kg	2.0	1	6010B	03-Nov	04-Nov	LT
Magnesium, Total	ND	mg/kg	4.0	1	6010B	03-Nov	04-Nov	LP
Manganese, Total	ND	mg/kg	0.40	1	6010B	03-Nov	04-Nov	LP
Nickel, Total	ND	mg/kg	1.0	1	6010B	03-Nov	04-Nov	LT
Potassium, Total	ND	mg/kg	100	1	6010B	03-Nov	04-Nov	LP
Selenium, Total	ND	mg/kg	0.80	1	6010B	03-Nov	04-Nov	TT
Silver, Total	ND	mg/kg	0.200	1	6010B	03-Nov	04-Nov	TT
Sodium, Total	ND	mg/kg	20.	1	6010B	03-Nov	04-Nov	LP
Thallium, Total	ND	mg/kg	0.80	1	6010B	03-Nov	04-Nov	LT
Tin, Total	ND	mg/kg	2.0	1	6010B	03-Nov	04-Nov	LP
Vanadium, Total	ND	mg/kg	0.40	1	6010B	03-Nov	04-Nov	TT
Zinc, Total	ND	mg/kg	2.0	1	6010B	03-Nov	04-Nov	LT
Blank Analysis for sample(s) 02-10								
Total Metals								
Mercury, Total	ND	mg/kg	0.25	1	7471A	05-Nov	08-Nov	DM
Blank Analysis for sample(s) 02-05								
PAH by GC/MS SIM 8270M				1	8270C-M	02-Nov	05-Nov	JK
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,e)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: L9908794

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Blank Analysis for sample(s) 02-05								
PAH by GC/MS SIM 8270M continued				1	8270C-M	02-Nov	05-Nov	MK
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.					
Surrogate Recovery								
Nitrobenzene-d5	62.0	%						
2-Fluorobiphenyl	70.0	%						
4-Terphenyl-d14	72.0	%						
Blank Analysis for sample(s) 01-10								
Polychlorinated Biphenyls				1	8082	02-Nov	03-Nov	PB
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 Recovery								
2,4,5,6-Tetrachloro-m-xylene	77.0	%						
Decachlorobiphenyl	76.0	%						
Blank Analysis for sample(s) 02-05								
Extractable Petroleum Hydrocarbons				46	98-1	02-Nov	02-Nov	HL
C9-C18 Aliphatics	ND	mg/kg	10.0					
C19-C36 Aliphatics	ND	mg/kg	10.0					
C11-C22 Aromatics	ND	mg/kg	10.0					
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0					
Naphthalene	ND	mg/kg	0.500					
2-Methylnaphthalene	ND	mg/kg	0.500					
Acenaphthalene	ND	mg/kg	0.500					
Acenaphthene	ND	mg/kg	0.500					
Fluorene	ND	mg/kg	0.500					
Phenanthrene	ND	mg/kg	0.500					
Anthracene	ND	mg/kg	0.500					
Fluoranthene	ND	mg/kg	0.500					
Pyrene	ND	mg/kg	0.500					
Benzo(a)anthracene	ND	mg/kg	0.500					

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L9908794

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Blank Analysis for sample(s) 02-05							
Extractable Petroleum Hydrocarbons continued				46	98-1	02-Nov	02-Nov
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(ghi)perylene	ND	mg/kg	0.500				
Surrogate Recovery							
Chloro-Octadecane	84.0	%					
o-Terphenyl	91.0	%					
2-Fluorobiphenyl	92.0	%					
2-Bromonaphthalene	62.0	%					

REFERENCES

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

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

46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.

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.

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, Inc.

Eight Walkup Drive Westborough, MA 01581
PH: 508.898.9220 FAX: 508.898.9193 www.alphalab.com

CHAIN OF CUSTODY

№ 001884 Sheet 1 of 1

ALPHA Job #: [illegible]

Date Rec'd in Lab: 11/1

Client Name: ERM
Client Address: 399 Boylston St. 6th Fl.
Boston MA 02116
Phone #: (617) 267-8377 FAX #: (617) 267-6447

Project Name: Raytheon -
Project Location: Wayland
Project #: 143.48
Project Manager: John McTigue

Report To: John McTigue
Bill To: Same
PO#: 143.48

☐ Standard TAT
☐ RUSH TAT_____ (# DAYS)
☐ FAX Results
☐ State Forms
☐ Smart Report

Comments (Please note specific method, detection limit or reporting requirements.)

Analysis per Alpha BID - See Scott or call John McTigue

SILT = 8755

ANALYSIS REQUEST

ALPHA Lab ID	Sample ID	Matrix/Source *	Sampling Date	Sampling Time	Sampler's Initials	Solubles: Field Filtered? (Y/N)	PCBs 8082	Total Metals + List	PAHs 8270 +	EPH	TOC
	T-1-4 (0-6")	Sediment	11/1/99	10:25	RBC	N/A	1				1
	T-8-12 (0-6")			10:15			1	1	1	1	1
	T-8-8 (0-6")			9:45			1	1	1	1	1
	T-8-B (0-6")			9:00			1	1	1	1	1
	T-8-10 (0-6")			9:25			1	1	1	1	1
	T-10-16 (0-6")			11:55			1	1			1
	T-10-10 (0-6")			11:45			1				1
	T-10-13 (0-6")			11:50			1				1
	T-10-6 (0-6")			11:35			1				1
	T-10-A (0-6")						1				1
	# of Containers:						10	3	4	4	10
	Container Type: *						A	A	A	A	A
	Preservative:						A	A	A	A	

Transfers Relinquished By:	Date	Time	Transfers Accepted By:
Rachel Blumenthal	11/1/99	13:07	Dave Sa
Dave Sa	11/1/99	16:45	Jim Keller

All samples submitted are subject to Alpha's standard Terms and Conditions.

* See Reverse side for Matrix, Container and Preservative Codes.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: ERM-New England

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

Attn: John McTigue

Project Number: 143.48

Site: RAYTHEON

Laboratory Job Number: L9908894

Invoice Number: 31391

Date Received: 03-NOV-99

Date Reported: 10-NOV-99

Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9908894-01	T-7-F (0-6")	WAYLAND, MA

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

Authorized by: _____

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9908894-01
T-7-F (0-6")
Sample Matrix: SOIL

Date Collected: 02-NOV-1999
Date Received : 03-NOV-1999
Date Reported : 10-NOV-99

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber Glass,3-Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	TT
Solids, Total	24.	%	0.10	30	2540G		10-Nov	
Chromium, Hexavalent	ND	mg/kg	10.	1	7196A		05-Nov	
Total Metals				1	3051			
Aluminum, Total	6200	mg/kg	16.	1	6010B	04-Nov	09-Nov	
Antimony, Total	ND	mg/kg	8.3	1	6010B	04-Nov	05-Nov	TT
Arsenic, Total	5.9	mg/kg	1.6	1	6010B	04-Nov	05-Nov	TT
Barium, Total	52.	mg/kg	1.6	1	6010B	04-Nov	05-Nov	
Beryllium, Total	0.91	mg/kg	0.83	1	6010B	04-Nov	05-Nov	
Cadmium, Total	3.7	mg/kg	1.6	1	6010B	04-Nov	05-Nov	TT
Calcium, Total	4200	mg/kg	83.	1	6010B	04-Nov	09-Nov	LP
Chromium, Total	52.	mg/kg	1.6	1	6010B	04-Nov	05-Nov	
Cobalt, Total	3.4	mg/kg	3.3	1	6010B	04-Nov	05-Nov	
Copper, Total	94.	mg/kg	1.6	1	6010B	04-Nov	05-Nov	TT
Iron, Total	3800	mg/kg	8.3	1	6010B	04-Nov	09-Nov	
Lead, Total	97.	mg/kg	8.3	1	6010B	04-Nov	05-Nov	
Magnesium, Total	540	mg/kg	16.	1	6010B	04-Nov	09-Nov	
Manganese, Total	260	mg/kg	1.6	1	6010B	04-Nov	09-Nov	LP
Mercury, Total	0.12	mg/kg	0.08	1	7471A	09-Nov	10-Nov	
Nickel, Total	12.	mg/kg	4.1	1	6010B	04-Nov	05-Nov	
Potassium, Total	ND	mg/kg	410	1	6010B	04-Nov	09-Nov	LP
Selenium, Total	ND	mg/kg	3.3	1	6010B	04-Nov	05-Nov	TT
Silver, Total	3.1	mg/kg	1.6	1	6010B	04-Nov	05-Nov	
Sodium, Total	250	mg/kg	83.	1	6010B	04-Nov	09-Nov	
Thallium, Total	ND	mg/kg	3.3	1	6010B	04-Nov	05-Nov	TT
Tin, Total	ND	mg/kg	8.3	1	6010B	04-Nov	09-Nov	
Vanadium, Total	19.	mg/kg	1.6	1	6010B	04-Nov	05-Nov	
Zinc, Total	120	mg/kg	8.3	1	6010B	04-Nov	05-Nov	
PAH by GC/MS SIM 8270M				1	8270C-M	04-Nov	06-Nov	
Acenaphthene	ND	ug/kg	83.					
2-Chloronaphthalene	ND	ug/kg	83.					
Fluoranthene	92.	ug/kg	83.					
Naphthalene	ND	ug/kg	83.					
Benzo(a)anthracene	ND	ug/kg	83.					

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

Laboratory Sample Number: L9908894-01
T-7-F (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
PAH by GC/MS SIM 8270M continued				1	8270C-M	04-Nov	06-Nov	MK
Benzo(a,e)pyrene	ND	ug/kg	83.					
Benzo(b)fluoranthene	140	ug/kg	83.					
Benzo(k)fluoranthene	130	ug/kg	83.					
Chrysene	ND	ug/kg	83.					
Acenaphthylene	ND	ug/kg	83.					
Anthracene	ND	ug/kg	83.					
Benzo(ghi)perylene	ND	ug/kg	83.					
Fluorene	ND	ug/kg	83.					
Phenanthrene	ND	ug/kg	83.					
Dibenzo(a,h)anthracene	ND	ug/kg	83.					
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	83.					
Pyrene	ND	ug/kg	83.					
1-Methylnaphthalene	ND	ug/kg	83.					
2-Methylnaphthalene	ND	ug/kg	83.					
Perylene	ND	ug/kg	83.					
Biphenyl	ND	ug/kg	83.					
Surrogate Recovery								
Nitrobenzene-d5	56.0	%						
2-Fluorobiphenyl	51.0	%						
4-Terphenyl-d14	48.0	%						
Polychlorinated Biphenyls				1	8082	04-Nov	06-Nov	PB
Aroclor 1221	ND	ug/kg	520.					
Aroclor 1232	ND	ug/kg	520.					
Aroclor 1242/1016	ND	ug/kg	520.					
Aroclor 1248	ND	ug/kg	520.					
Aroclor 1254	ND	ug/kg	520.					
Aroclor 1260	ND	ug/kg	520.					
Surrogate Recovery								
2,4,5,6-Tetrachloro-m-xylene	65.0	%						
Decachlorobiphenyl	70.0	%						

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9908894-01
T-7-F (0-6")

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	TD
Extractable Petroleum Hydrocarbons				46	98-1	04-Nov	05-Nov	L

Quality Control Information

Condition of sample received: Satisfactory
Sample temperature upon receipt: Received on Ice
Sample extraction method: Extracted Per the Method

Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO

Please note to subtract the method blank from the stated result.
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	41.7
C19-C36 Aliphatics	42.4	mg/kg	41.7
C11-C22 Aromatics	59.9	mg/kg	41.7

Surrogate Recovery

Chloro-Octadecane	63.0	%
o-Terphenyl	68.0	%
2-Fluorobiphenyl	107.	%
2-Bromonaphthalene	83.0	%

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9908894

Parameter	Value 1	Value 2	RPD	Units
Total Metals for sample(s) 01				
Aluminum, Total	6200	6900	11	mg/kg
Antimony, Total	ND	ND	NC	mg/kg
Arsenic, Total	5.9	6.9	16	mg/kg
Barium, Total	52.	53.	2	mg/kg
Beryllium, Total	0.91	0.92	1	mg/kg
Cadmium, Total	3.7	4.9	28	mg/kg
Calcium, Total	4200	4200	0	mg/kg
Chromium, Total	52.	50.	4	mg/kg
Cobalt, Total	3.4	3.8	11	mg/kg
Copper, Total	94.	92.	2	mg/kg
Iron, Total	3800	4400	15	mg/kg
Lead, Total	97.	91.	6	mg/kg
Magnesium, Total	540	700	26	mg/kg
Manganese, Total	260	270	4	mg/kg
Nickel, Total	12.	12.	0	mg/kg
Potassium, Total	ND	ND	NC	mg/kg
Selenium, Total	ND	ND	NC	mg/kg
Silver, Total	3.1	2.8	10	mg/kg
Sodium, Total	250	310	21	mg/kg
Thallium, Total	ND	ND	NC	mg/kg
Tin, Total	ND	ND	NC	mg/kg
Vanadium, Total	19.	19.	0	mg/kg
Zinc, Total	120	140	15	mg/kg
Total Metals for sample(s) 01				
Mercury, Total	0.12	ND	NC	mg/kg
Polychlorinated Biphenyls for sample(s) 01				
Aroclor 1221	ND	ND	NC	ug/kg
Aroclor 1232	ND	ND	NC	ug/kg
Aroclor 1242/1016	ND	ND	NC	ug/kg
Aroclor 1248	ND	ND	NC	ug/kg
Aroclor 1254	ND	ND	NC	ug/kg
Aroclor 1260	ND	ND	NC	ug/kg
Surrogate Recovery				
2,4,5,6-Tetrachloro-m-xylene	119.	103.	14	%
Decachlorobiphenyl	116.	117.	0	%
Extractable Petroleum Hydrocarbons for sample(s) 01				
C9-C18 Aliphatics	11.6	ND	NC	mg/kg
C19-C36 Aliphatics	ND	ND	NC	mg/kg
C11-C22 Aromatics	13.8	14.5	5	mg/kg
Surrogate Recovery				
Chloro-Octadecane	90.0	83.0	8	%
o-Terphenyl	106.	104.	2	%
2-Fluorobiphenyl	123.	123.	0	%

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9908894

Continued

Parameter	Value 1	Value 2	RPD	Units
Extractable Petroleum Hydrocarbons for sample(s) 01				
2-Bromonaphthalene	105.	105.	0	%

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L9908894

Parameter	% Recovery
Chromium, Hexavalent LCS for sample(s) 01	
Chromium, Hexavalent	99
Total Metals LCS for sample(s) 01	
Aluminum, Total	100
Antimony, Total	91
Arsenic, Total	90
Barium, Total	98
Beryllium, Total	100
Cadmium, Total	92
Calcium, Total	100
Chromium, Total	94
Cobalt, Total	92
Copper, Total	100
Lead, Total	94
Magnesium, Total	95
Manganese, Total	110
Nickel, Total	92
Potassium, Total	87
Selenium, Total	86
Silver, Total	64
Sodium, Total	95
Thallium, Total	100
Tin, Total	96
Vanadium, Total	98
Zinc, Total	95
Total Metals LCS for sample(s) 01	
Mercury, Total	93
PAH by GC/MS SIM 8270M LCS for sample(s) 01	
Acenaphthene	79
Pyrene	82
Surrogate Recovery	
Nitrobenzene-d5	74
2-Fluorobiphenyl	67
4-Terphenyl-d14	68
Polychlorinated Biphenyls LCS for sample(s) 01	
Aroclor 1242/1016	107
Aroclor 1260	115
Surrogate Recovery	
2,4,5,6-Tetrachloro-m-xylene	93
Decachlorobiphenyl	110

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L9908894

Continued

Parameter	% Recovery
Extractable Petroleum Hydrocarbons LCS for sample(s) 01	
Naphthalene	97
Acenaphthene	110
Anthracene	111
Pyrene	102
Chrysene	89
Nonane (C9)	87
Tetradecane (C14)	125
Nonadecane (C19)	111
Eicosane (C20)	136
Octacosane (C28)	104
Surrogate Recovery	
Chloro-Octadecane	93
o-Terphenyl	105
2-Fluorobiphenyl	127
2-Bromonaphthalene	111
Total Metals SPIKE for sample(s) 01	
Arsenic, Total	110
Barium, Total	97
Beryllium, Total	98
Cadmium, Total	110
Calcium, Total	98
Chromium, Total	92
Cobalt, Total	91
Copper, Total	88
Lead, Total	87
Magnesium, Total	100
Manganese, Total	98
Nickel, Total	93
Potassium, Total	100
Selenium, Total	120
Silver, Total	77
Sodium, Total	95
Thallium, Total	93
Vanadium, Total	94
Zinc, Total	110
Total Metals SPIKE for sample(s) 01	
Mercury, Total	100

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9908894

Parameter	MS %	MSD %	RPD
PAH by GC/MS SIM 8270M for sample(s) 01			
Acenaphthene	82	82	0
Pyrene	58	66	13

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L9908894

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	
Blank Analysis for sample(s) 01								
Chromium, Hexavalent	ND	mg/kg	0.50	1	7196A		05-Nov	TT
Blank Analysis for sample(s) 01								
Total Metals				1	3051			
Aluminum, Total	ND	mg/kg	4.0	1	6010B	04-Nov	09-Nov	LP
Antimony, Total	ND	mg/kg	2.0	1	6010B	04-Nov	05-Nov	TT
Arsenic, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Barium, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Beryllium, Total	ND	mg/kg	0.20	1	6010B	04-Nov	05-Nov	TT
Cadmium, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Calcium, Total	ND	mg/kg	20.	1	6010B	04-Nov	09-Nov	LP
Chromium, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Cobalt, Total	ND	mg/kg	0.80	1	6010B	04-Nov	05-Nov	TT
Copper, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Iron, Total	ND	mg/kg	2.0	1	6010B	04-Nov	09-Nov	LP
Lead, Total	ND	mg/kg	2.0	1	6010B	04-Nov	05-Nov	TT
Magnesium, Total	ND	mg/kg	4.0	1	6010B	04-Nov	09-Nov	LP
Manganese, Total	ND	mg/kg	0.40	1	6010B	04-Nov	09-Nov	LP
Nickel, Total	ND	mg/kg	1.0	1	6010B	04-Nov	05-Nov	TT
Potassium, Total	ND	mg/kg	100	1	6010B	04-Nov	09-Nov	LP
Selenium, Total	ND	mg/kg	0.80	1	6010B	04-Nov	05-Nov	TT
Silver, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Sodium, Total	ND	mg/kg	20.	1	6010B	04-Nov	09-Nov	LP
Thallium, Total	ND	mg/kg	0.80	1	6010B	04-Nov	05-Nov	TT
Tin, Total	ND	mg/kg	2.0	1	6010B	04-Nov	09-Nov	LP
Vanadium, Total	ND	mg/kg	0.40	1	6010B	04-Nov	05-Nov	TT
Zinc, Total	ND	mg/kg	2.0	1	6010B	04-Nov	05-Nov	TT
Blank Analysis for sample(s) 01								
Total Metals								
Mercury, Total	ND	mg/kg	0.25	1	7471A	09-Nov	10-Nov	DM
Blank Analysis for sample(s) 01								
PAH by GC/MS SIM 8270M				1	8270C-M	04-Nov	06-Nov	MC
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,e)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: L9908894

Continued

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Blank Analysis for sample(s) 01								
PAH by GC/MS SIM 8270M continued				1	8270C-M	04-Nov	06-Nov	MK
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.					
2,6-Dimethylnaphthalene	ND	ug/kg	20.					
1-Methylphenanthrene	ND	ug/kg	20.					
Surrogate Recovery								
Nitrobenzene-d5	68.0	%						
2-Fluorobiphenyl	68.0	%						
4-Terphenyl-d14	67.0	%						
Blank Analysis for sample(s) 01								
Polychlorinated Biphenyls				1	8082	04-Nov	05-Nov	PB
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 Recovery								
2,4,5,6-Tetrachloro-m-xylene	95.0	%						
Decachlorobiphenyl	113.	%						
Blank Analysis for sample(s) 01								
Extractable Petroleum Hydrocarbons				46	98-1	04-Nov	04-Nov	HL
C9-C18 Aliphatics	ND	mg/kg	10.0					
C19-C36 Aliphatics	ND	mg/kg	10.0					
C11-C22 Aromatics	13.0	mg/kg	10.0					
Surrogate Recovery								
Chloro-Octadecane	82.0	%						
o-Terphenyl	100.	%						
2-Fluorobiphenyl	127.	%						
2-Bromonaphthalene	105.	%						

REFERENCES

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

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

46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.

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.

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, Inc.

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CHAIN OF CUSTODY

№ 002459 Sheet 1 of 1

Date Rec'd in Lab: 11/3

Client Name: ERM
Client Address: 399 Boylston St. 6th Fl. Boston, MA
Phone #: (617) 267-6377 FAX #: (617) 267-6447

Project Name: Raytheon - Wayland
Project Location: Wayland
Project #: 143.48
Project Manager: John McTigue

Report To: John McTigue
Bill To: Same
PO#: 143.48

☐ Standard TAT
☐ RUSH TAT____ (# DAYS)
☐ FAX Results
☐ State Forms
☐ Smart Report

Comments (Please note specific method, detection limit or reporting requirements.)

Analysis per Alpha Quote - See Scott

SM1.1 & 8095

ANALYSIS REQUEST

Alpha Lab ID	Sample ID	Matrix/Source *	Sampling Date	Sampling Time	Sampler's Initials	Solubles: Field Filtered? (Y/N)	PCBs 8082	Total Metals + List	EPH	PAH	TOC					
	T-7-F (0-6"	SED.	11/2/11	11:50	RBC	NA	✓	✓	✓	✓	✓					
	# of Containers:						1	1	1	1	1					
	Container Type: *						A	A	A	A	A					
	Preservative: *						A	A	A	A	A					

	Time	Date
Transfers Accepted By:	4:15pm	11/3/11
Transfers Relinquished By:	4:15pm	11/3/11

All samples submitted are subject to Alpha's standard Terms and Conditions.

* See Reverse side for Matrix, Container, and Preservative Codes.

Form No.: 01-01