

ALPHA ANALYTICAL LABORATORIES

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

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L9508812
Address: 205 Portland Street Invoice Number: 78918
Boston, MA 02114 Date Received: 15-NOV-95
Attn: Don Maggioli Date Reported: 16-NOV-95
Project Number: 143-40 Delivery Method: Alpha
Site: Raytheon

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9508812-01	HA-1/0.5-1.0	Wayland, MA

Soil

Authorized by: James R. Roth
James R. Roth, PhD - Laboratory Manager

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9508812-01
 Date Collected: 20-OCT-95
 Sample Matrix: HA-1/0.5-1.0
 Date Received : 15-NOV-95
 SOIL
 Date Reported : 16-NOV-95
 Condition of Sample: Satisfactory
 Field Prep: None
 Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	91.	%	0.10	3	2540B		16-Nov ST
Polychlorinated Biphenyls				1	8080	15-Nov 16-Nov	DB
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	85.0	%					
Decachlorobiphenyl	84.0	%					

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

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9508945-01
 Date Collected: 13-OCT-95
 SB-8,S-2(6.5-8.5)
 Date Received : 20-NOV-95
 Sample Matrix: SOIL
 Date Reported : 22-NOV-95
 Condition of Sample: Satisfactory
 Field Prep: None
 Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES		ID
						PREP	ANALYSIS	
Solids, Total	93.	%	0.10	3	2540B		22-Nov	ST
Total Metals				1	3005/3050			
Arsenic, Total	5.2	mg/kg	0.20	1	6010		21-Nov	21-Nov GF
Barium, Total	9.5	mg/kg	2.0	1	6010		21-Nov	21-Nov GF
Cadmium, Total	5.2	mg/kg	0.40	1	6010		21-Nov	21-Nov GF
Chromium, Total	220	mg/kg	0.80	1	6010		21-Nov	21-Nov GF
Lead, Total	57.	mg/kg	2.0	1	6010		21-Nov	21-Nov GF
Mercury, Total	ND	mg/kg	0.25	1	7470/7471		21-Nov	22-Nov DM
Selenium, Total	ND	mg/kg	0.40	1	6010		21-Nov	21-Nov GF
Silver, Total	3.0	mg/kg	0.40	1	6010		21-Nov	21-Nov GF
Polychlorinated Biphenyls				1	8080		21-Nov	22-Nov
Arochlor 1221	ND	ug/kg	1300					
Arochlor 1232	ND	ug/kg	1300					
Arochlor 1242/PCB 1016	ND	ug/kg	1300					
Arochlor 1248	ND	ug/kg	1300					
Arochlor 1254	ND	ug/kg	1300					
Arochlor 1260	4000	ug/kg	1300					
Arochlor 1262	ND	ug/kg	1300					
Arochlor 1268	ND	ug/kg	1300					
SURROGATE RECOVERY								
2,4,5,6-Tetrachloro-m-xylene	75.0	%						
Decachlorobiphenyl	80.0	%						

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9508945-05 Date Collected: 13-OCT-95
 SB-8A,S-5(8.5-10.5) Date Received : 20-NOV-95
 Sample Matrix: SOIL Date Reported : 22-NOV-95
 Condition of Sample: Satisfactory Field Prep: None
 Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	95.	%	0.10	3	2540B	22-Nov	ST
Total Metals				1	3005/3050		
Arsenic, Total	3.5	mg/kg	0.20	1	6010	21-Nov	21-Nov GF
Barium, Total	12.	mg/kg	2.0	1	6010	21-Nov	21-Nov GF
Cadmium, Total	ND	mg/kg	0.40	1	6010	21-Nov	21-Nov GF
Chromium, Total	13.	mg/kg	0.80	1	6010	21-Nov	21-Nov GF
Lead, Total	2.5	mg/kg	2.0	1	6010	21-Nov	21-Nov GF
Mercury, Total	ND	mg/kg	0.25	1	7470/7471	21-Nov	22-Nov DM
Selenium, Total	ND	mg/kg	0.40	1	6010	21-Nov	21-Nov GF
Silver, Total	ND	mg/kg	0.40	1	6010	21-Nov	21-Nov GF
Polychlorinated Biphenyls				1	8080	21-Nov	22-Nov GF
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	93.0	%					
Decachlorobiphenyl	87.0	%					

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9508945

Parameter	Value 1	Value 2	RPD	Units
Total Metals	DUPLICATE for sample(s) 01-05			
Mercury, Total	ND	ND	NC	mg/kg

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L9508945

Parameter	% Recovery
Total Metals	SPIKE for sample(s) 01-05
Arsenic, Total	88
Barium, Total	94
Cadmium, Total	80
Chromium, Total	75
Lead, Total	85
Total Metals	SPIKE for sample(s) 01-05
Mercury, Total	90

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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.



Sample Chain of Custody

W.O.No.: 145		Project Name: Southern Wayhill				Number of Containers						Remarks
Sampler: C. G. ...		ERM T.R. Number	Date	Time	COMP	GRAB	Sample Location	PCB	BOD	TO Metals		
	11/17/95						S-2 (6.5-8.5)	X	X			Standard two week turnaround unless otherwise notified
	11/17/95						S-3 (8.5-10.5)	X	X			
	11/17/95						S-4 (10.5-12.5)	X	X			
	11/17/95						S-3 (4.5-6.5)	X	X			
	11/17/95						S-5 (8.5-10.5)	X	X			
Sample Relinquished	Date	Time	Sample Received by:		Date	Time	Reason for Transfer					
<i>[Signature]</i>	11/17/95		<i>[Signature]</i>		11/20/95	11:45						
<i>[Signature]</i>	11/20/95	11:20	<i>[Signature]</i>		11/20/95	16:35						

COPIES: White & Yellow copies accompany sample shipment to laboratory. Yellow copy retained by laboratory. White copy to be returned to ERM for files. Pink copy retained by sampler. Gold copy extra copy as needed (warehouse).

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CERTIFICATE OF ANALYSIS

CONF.
SAMPLES
DW-05
AND
2013 SUMP

Client: Laidlaw Environmental Services

Laboratory Job Number: L9509688

Address: 221 Sutton Street

Invoice Number: 79889

North Andover, MA 01845

Date Received: 19-DEC-95

Attn: Dave Danis

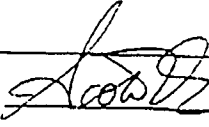
Date Reported: 22-DEC-95

Project Number: 47131

Delivery Method: Alpha

Site: Raytheon- Wayland, MA

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9509688-01	47131-01	Bottom
L9509688-02	47131-02	Front Wall
L9509688-03	47131-03	Right Wall
L9509688-04	47131-04	Back Wall
L9509688-05	47131-05	Left Wall
L9509688-06	47131-08	2.13 Sump Pit

Authorized by: 

James R. Roth, PhD - Laboratory Manager

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509688-01
 47131-01

Date Collected: 18-DEC-95
 Date Received : 19-DEC-95
 Date Reported : 22-DEC-95

Sample Matrix: SOIL

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	95.	%	0.10	3	2540B	21-Dec	ST
Polychlorinated Biphenyls				1	8080	19-Dec	21-Dec DB
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	101.	%					
Decachlorobiphenyl	91.0	%					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509688-02

Date Collected: 18-DEC-95

Sample Matrix: 47131-02
SOIL

Date Received : 19-DEC-95

Date Reported : 22-DEC-95

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES		ID
						PREP	ANALYSIS	
Solids, Total	95.	%	0.10	3	2540B		21-Dec	ST
Polychlorinated Biphenyls					8080		19-Dec	21-Dec DB
Arochlor 1221	ND	ug/kg	250					
Arochlor 1232	ND	ug/kg	250					
Arochlor 1242/PCB 1016	ND	ug/kg	250					
Arochlor 1248	ND	ug/kg	250					
Arochlor 1254	ND	ug/kg	250					
Arochlor 1260	ND	ug/kg	250					
Arochlor 1262	ND	ug/kg	250					
Arochlor 1268	ND	ug/kg	250					
SURROGATE RECOVERY								
2,4,5,6-Tetrachloro-m-xylene	98.0	%						
Decachlorobiphenyl	88.0	%						

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509688-03
 47131-03
 Sample Matrix: SOIL
 Condition of Sample: Satisfactory
 Number & Type of Containers: 1 Glass

Date Collected: 18-DEC-95
 Date Received : 19-DEC-95
 Date Reported : 22-DEC-95
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	94.	%	0.10	3	2540B	21-Dec	ST
Polychlorinated Biphenyls							
					8080	19-Dec	DB
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	90.0	%					
Decachlorobiphenyl	94.0	%					

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509688-04

Date Collected: 18-DEC-95

Sample Matrix: 47131-04

Date Received : 19-DEC-95

SOIL

Date Reported : 22-DEC-95

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	93.	%	0.10	3	2540B		21-Dec ST
Polychlorinated Biphenyls				1	8080	19-Dec	21-Dec D3
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	95.0	%					
Decachlorobiphenyl	102.	%					

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509688-05
 47131-05

Date Collected: 18-DEC-95
 Date Received : 19-DEC-95
 Date Reported : 22-DEC-95

Sample Matrix: SOIL

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	95.	%	0.10	3	2540B		
Polychlorinated Biphenyls				1	B080	19-Dec	21-Dec DB
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCE 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	98.0	%					
Decachlorobiphenyl	95.0	%					

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509688-06
 47131-08
 Sample Matrix: SOIL
 Condition of Sample: Satisfactory
 Number & Type of Containers: 1 Glass

Date Collected: 18-DEC-95
 Date Received: 19-DEC-95
 Date Reported: 22-DEC-95
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	92.	%	0.10	3	2540B	21-Dec	ST
Polychlorinated Biphenyls				1	8080	19-Dec	21-Dec DB
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	94.0	%					
Decachlorobiphenyl	82.0	%					

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

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

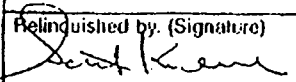
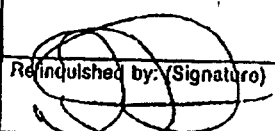
GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

ID Initials of the analyst.

CHAIN OF CUSTODY

Company Name Landline Environmental		Project No. 47131		Project Name Raytheon		TURN TIME <input type="checkbox"/> Standard (2 wks.) <input checked="" type="checkbox"/> Other <u>2 DAY</u>		ESS-LAB PROJECT ID															
Contact Person DAVE DANIS		Address 221 Sutton ST		City N. Andover MA		Telephone 508-683-1002		# of Cont 6		Type P		Preserv.											
Purchase Order Number 79910		FAX Number 508-682-3871						Analysis Request PEB															
ESS-LAB Sample No.	Date	Collection Time	COMP.	GRAB	MATRIX	Sample Identification																	
	12-18-95	4 ⁰⁰ PM		S		47131-01	Bottom		✓														
	12-18-95	4 ⁰⁰		S		47131-02	Front wall		✓														
	12-18-95	4 ⁰⁰		S		47131-03	Right wall		✓														
	12-18-95	4 ⁰⁰		S		47131-04	BACK wall		✓														
	12-18-95	4 ⁰⁰		S		47131-05	Left wall		✓														
	12-18-95	4 ⁰⁰		S		47131-08	2.13 Sump pit.		✓														
Container Type: P-Poly G-Glass S-Sterile V-VOA				Matrix: DW-Drinking Water S-Solid GW-Ground Water WW-Wastewater																			
Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				Cooler Temp:				Comments:															
Relinquished by: (Signature) 		Date/Time 12/19/95 7 ⁰⁰ PM		Received by: (Signature) [Signature]		Date/Time []		Relinquished by: (Signature) 		Date/Time 12/19/12		Received by: (Signature) [Signature]		Date/Time 12/05/12-1995									
Relinquished by: (Signature) [Signature]		Date/Time []		Received by: (Signature) [Signature]		Date/Time 12/19/1530		Relinquished by: (Signature) [Signature]		Date/Time []		Received by: (Signature) [Signature]		Date/Time []									

ALPHA ANALYTICAL LABORATORIES

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

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: ERM-New England

Laboratory Job Number: L9509734

Address: 205 Portland Street
Boston, MA 02114

Invoice Number: 80025

Date Received: 21-DEC-95

Attn: John Drobinski

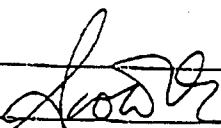
Date Reported: 28-DEC-95

Project Number: 143-40

Delivery Method: Alpha

Site: Raytheon

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9509734-01	MW-11, SS-4 (14'-16')	Wayland, MA
L9509734-02	MW-10, SS-2 (6'-8')	Wayland, MA

Authorized by: 

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509734-01
 Sample Matrix: MW-11, SS-4 (14'-16')
 SOIL
 Condition of Sample: Satisfactory
 Number & Type of Containers: 1 Vial, 1 Glass

Date Collected: 21-DEC-95
 Date Received: 21-DEC-95
 Date Reported: 28-DEC-95
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	86.	%	0.10	3	2540B		
Volatile Organics by GC/MS				1	8250	27-Dec	ST
Methylene chloride	ND	ug/kg	2500			22-Dec	DB
1,1-Dichloroethane	ND	ug/kg	750				
Chloroform	ND	ug/kg	750				
Carbon tetrachloride	ND	ug/kg	500				
1,2-Dichloropropane	ND	ug/kg	1800				
Dibromochloromethane	ND	ug/kg	500				
1,1,2-Trichloroethane	ND	ug/kg	750				
2-Chloroethylvinyl ether	ND	ug/kg	5000				
Tetrachloroethene	ND	ug/kg	750				
Chlorobenzene	ND	ug/kg	1800				
Trichlorofluoromethane	ND	ug/kg	2500				
1,2-Dichloroethane	ND	ug/kg	750				
1,1,1-Trichloroethane	ND	ug/kg	500				
Bromodichloromethane	ND	ug/kg	500				
trans-1,3-Dichloropropene	ND	ug/kg	750				
cis-1,3-Dichloropropene	ND	ug/kg	500				
Bromoform	ND	ug/kg	500				
1,1,2,2-Tetrachloroethane	ND	ug/kg	500				
Benzene	ND	ug/kg	500				
Toluene	ND	ug/kg	750				
Ethylbenzene	7400	ug/kg	500				
Chloromethane	ND	ug/kg	5000				
Bromomethane	ND	ug/kg	1000				
Vinyl chloride	ND	ug/kg	1800				
Chloroethane	ND	ug/kg	1000				
1,1-Dichloroethene	ND	ug/kg	750				
trans-1,2-Dichloroethene	ND	ug/kg	750				
Trichloroethene	ND	ug/kg	500				
1,2-Dichlorobenzene	6700	ug/kg	5000				
1,3-Dichlorobenzene	ND	ug/kg	5000				
1,4-Dichlorobenzene	ND	ug/kg	5000				
Methyl tert butyl ether	ND	ug/kg	5000				
Xylenes	79000	ug/kg	500				
cis-1,2-Dichloroethene	ND	ug/kg	500				
Dibromomethane	ND	ug/kg	5000				

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSISLaboratory Sample Number: L9509734-01
MW-11, SS-4 (14'-16')

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE	PREP ANALYSIS	II	
Volatile Organics by GC/MS continued							22-Dec	22-Dec	DB
1,4-Dichlorobutane	ND	ug/kg	5000						
Iodomethane	ND	ug/kg	5000						
1,2,3-Trichloropropane	ND	ug/kg	5000						
Styrene	ND	ug/kg	500						
Dichlorodifluoromethane	ND	ug/kg	5000						
Acetone	ND	ug/kg	5000						
Carbon Disulfide	ND	ug/kg	5000						
2-Butanone	ND	ug/kg	2300						
Vinyl Acetate	ND	ug/kg	5000						
4-Methyl-2-pentanone	ND	ug/kg	5000						
2-Hexanone	ND	ug/kg	5000						
Ethyl methacrylate	ND	ug/kg	5000						
Acrolein	ND	ug/kg	13000						
Acrylonitrile	ND	ug/kg	5000						
Bromochloromethane	ND	ug/kg	2500						
2,2-Dichloropropane	ND	ug/kg	2500						
1,2-Dibromoethane	ND	ug/kg	2500						
1,3-Dichloropropane	ND	ug/kg	2500						
1,1,1,2-Tetrachloroethane	ND	ug/kg	2500						
Bromobenzene	ND	ug/kg	2500						
n-Butylbenzene	ND	ug/kg	2500						
sec-Butylbenzene	6700	ug/kg	2500						
tert-Butylbenzene	ND	ug/kg	2500						
o-Chlorotoluene	ND	ug/kg	2500						
p-Chlorotoluene	ND	ug/kg	2500						
1,2-Dibromo-3-chloropropane	ND	ug/kg	2500						
Hexachlorobutadiene	ND	ug/kg	2500						
Isopropylbenzene	7600	ug/kg	2500						
p-Isopropyltoluene	8700	ug/kg	2500						
Naphthalene	70000	ug/kg	2500						
n-Propylbenzene	ND	ug/kg	2500						
1,2,3-Trichlorobenzene	ND	ug/kg	2500						
1,2,4-Trichlorobenzene	ND	ug/kg	2500						
1,3,5-Trimethylbenzene	44000	ug/kg	2500						
1,2,4-Trimethylbenzene	150000	ug/kg	2500						
trans-1,4-Dichloro-2-butene	ND	ug/kg	2500						
Ethyl ether	ND	ug/kg	13000						
SURROGATE RECOVERY									
Toluene-d8	99.0	%							
4-Bromofluorobenzene	98.0	%							
Dibromofluoromethane	105.	%							

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9509734-01
 MW-11, SS-4 (14'-16')

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES	ID
						PREP ANALYSIS	
Hydrocarbon Scan GC 8100 Modified							
				1	8100M	22-Dec 26-Dec	DB
Mineral Spirits	ND	mg/kg	500				
Gasoline	ND	mg/kg	500				
Fuel Oil #2/Diesel	ND	mg/kg	500				
Fuel Oil #4	ND	mg/kg	500				
Fuel Oil #6	48000	mg/kg	500				
Motor Oil	ND	mg/kg	500				
Kerosene	ND	mg/kg	500				
SURROGATE RECOVERY							
o-Terphenyl	77.0	%					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9509734-02
 Sample Matrix: MW-10, SS-2 (6'-8')
 SOIL
 Condition of Sample: Satisfactory
 Number & Type of Containers: 1 Glass

Date Collected: 21-DEC-95
 Date Received : 21-DEC-95
 Date Reported : 28-DEC-95
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Solids, Total	90.	%	0.10	3	2540B	27-Dec	ST
Polychlorinated Biphenyls				1	8080	26-Dec	27-Dec DB
Arochlor 1221	ND	ug/kg	250				
Arochlor 1232	ND	ug/kg	250				
Arochlor 1242/PCB 1016	ND	ug/kg	250				
Arochlor 1248	ND	ug/kg	250				
Arochlor 1254	ND	ug/kg	250				
Arochlor 1260	ND	ug/kg	250				
Arochlor 1262	ND	ug/kg	250				
Arochlor 1268	ND	ug/kg	250				
SURROGATE RECOVERY							
2,4,5,6-Tetrachloro-m-xylene	123.	%					
Decachlorobiphenyl	109.	%					

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9509734

Parameter	Value 1	Value 2	RPD	Units
Solids Total	DUPLICATE for sample(s) 01-02			
	87.	87.	0	%

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9509734

Parameter	MS %	MSD %	RPD
Volatile Organics by GC/MS Spike Recovery MS/MSD for sample(s) 01			
1,1-Dichloroethene	104	102	2
Trichloroethene	101	104	3
Benzene	96	102	6
Toluene	99	103	4
Chlorobenzene	99	105	6

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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.
-

ALPHA

Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 56041

Sheet 1 of 1

Company Name:
ERM-New England

Project Number: 143,40

Project Name/Location:
Raytheon, Wayland

Date Received in Lab: 12/21
Date Rec: 12/28/95
RUSH

Company Address:
205 Portland St
Boston, MA

Phone Number:
(617) 742-8228
FAX No.: (617) 720-5742

Project Manager:
John D Robinski

Alpha Job Number: (Lab use only)
9509734

ALPHA Lab (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers)						Solubles - F.F.	Sampling Date	Sampling Time	Analysis Requested
				Unpres.	Ice	Nitric	Sulfuric	HCl	Other				
				MATRIX / SOURCE CODES MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water R = River Stream S = Soil SG = Sludge B = Bottom Sediment X1 = Other _____ X2 = Other _____									
9734/1	MW-11, 55-4(14'-16')	1V, 1G	S	2						12/21/95	2:10	TPH-8100, VOI VOI 8260 (TS)	
2	MW-10, 55-2 (6'-8')	1G	S	1						12/21/95	10:45	PCBS (TS)	
												(HOLD)	
2-Day turnaround													

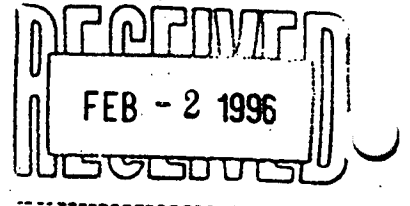
Signature: John R D Caputo
Affiliation: Geologist
Date: _____ Time: _____

ADDITIONAL COMMENTS:
2-Day turnaround on all samples
Please fax to ERM @ (617) 720-5742
and
Grace Huang (508) 440-2051

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	John R D Caputo	Grace Huang	12-21-95	4:08
2	Grace Huang	John R D Caputo	12/21	20:20
3				
4				

ALPHA ANALYTICAL LABORATORIES

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



MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: ERM-New England

Laboratory Job Number: L9600545

Address: 205 Portland Street
Boston, MA 02114

Invoice Number: 80726

Date Received: 25-JAN-96

Attn: John McTigue

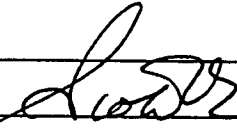
Date Reported: 01-FEB-96

Project Number: 143-40

Delivery Method: Alpha

Site: Raytheon

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9600545-01	MW-19,S-8,19-21'	Wayland, MA
L9600545-02	MW-15,S-6,11-13'	Wayland, MA
L9600545-03	MW-12,S-7,13-15'	Wayland, MA
L9600545-04	MW-20,S-5,8-10'	Wayland, MA

Authorized by: 

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9600545-01
 MW-19,S-8,19-21'
 Sample Matrix: SOIL

Date Collected: 24-JAN-96
 Date Received : 25-JAN-96
 Date Reported : 01-FEB-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Solids, Total	80.	%	0.10	3	2540B	26-Jan
Hydrocarbon Scan GC 8100 Modified				1	8100M	26-Jan 30-Jan
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	113.	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9600545-03
MW-12,S-7,13-15'
Sample Matrix: SOIL

Date Collected: 23-JAN-96
Date Received : 25-JAN-96
Date Reported : 01-FEB-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Vial,1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Solids, Total	82.	%	0.10	3	2540B	29-Jan
Volatile Organics by GC/MS				1	8260	29-Jan 29-Jan
Methylene chloride	ND	ug/kg	25.			
1,1-Dichloroethane	ND	ug/kg	7.5			
Chloroform	ND	ug/kg	7.5			
Carbon tetrachloride	ND	ug/kg	5.0			
1,2-Dichloropropane	ND	ug/kg	18.			
Dibromochloromethane	ND	ug/kg	5.0			
1,1,2-Trichloroethane	ND	ug/kg	7.5			
2-Chloroethylvinyl ether	ND	ug/kg	50.			
Tetrachloroethene	ND	ug/kg	7.5			
Chlorobenzene	ND	ug/kg	18.			
Trichlorofluoromethane	ND	ug/kg	25.			
1,2-Dichloroethane	ND	ug/kg	7.5			
1,1,1-Trichloroethane	ND	ug/kg	5.0			
Bromodichloromethane	ND	ug/kg	5.0			
trans-1,3-Dichloropropene	ND	ug/kg	7.5			
cis-1,3-Dichloropropene	ND	ug/kg	5.0			
Bromoform	ND	ug/kg	5.0			
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0			
Benzene	ND	ug/kg	5.0			
Toluene	ND	ug/kg	7.5			
Ethylbenzene	ND	ug/kg	5.0			
Chloromethane	ND	ug/kg	50.			
Bromomethane	ND	ug/kg	10.			
Vinyl chloride	ND	ug/kg	18.			
Chloroethane	ND	ug/kg	10.			
1,1-Dichloroethene	ND	ug/kg	7.5			
trans-1,2-Dichloroethene	ND	ug/kg	7.5			
Trichloroethene	ND	ug/kg	5.0			
1,2-Dichlorobenzene	ND	ug/kg	50.			
1,3-Dichlorobenzene	ND	ug/kg	50.			
1,4-Dichlorobenzene	ND	ug/kg	50.			
Methyl tert butyl ether	ND	ug/kg	50.			
Xylenes	ND	ug/kg	5.0			
cis-1,2-Dichloroethene	ND	ug/kg	5.0			
Dibromomethane	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: L9600545-03
MW-12, S-7, 13-15'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260	29-Jan 29-Jan	DB
1,4-Dichlorobutane	ND	ug/kg	50.				
Iodomethane	ND	ug/kg	50.				
1,2,3-Trichloropropane	ND	ug/kg	50.				
Styrene	ND	ug/kg	5.0				
Dichlorodifluoromethane	ND	ug/kg	50.				
Acetone	ND	ug/kg	50.				
Carbon Disulfide	ND	ug/kg	50.				
2-Butanone	ND	ug/kg	23.				
Vinyl Acetate	ND	ug/kg	50.				
4-Methyl-2-pentanone	ND	ug/kg	50.				
2-Hexanone	ND	ug/kg	50.				
Ethyl methacrylate	ND	ug/kg	50.				
Acrolein	ND	ug/kg	130				
Acrylonitrile	ND	ug/kg	50.				
Bromochloromethane	ND	ug/kg	25.				
2,2-Dichloropropane	ND	ug/kg	25.				
1,2-Dibromoethane	ND	ug/kg	25.				
1,3-Dichloropropane	ND	ug/kg	25.				
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.				
Bromobenzene	ND	ug/kg	25.				
n-Butylbenzene	ND	ug/kg	25.				
sec-Butylbenzene	ND	ug/kg	25.				
tert-Butylbenzene	ND	ug/kg	25.				
o-Chlorotoluene	ND	ug/kg	25.				
p-Chlorotoluene	ND	ug/kg	25.				
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.				
Hexachlorobutadiene	ND	ug/kg	25.				
Isopropylbenzene	ND	ug/kg	25.				
p-Isopropyltoluene	ND	ug/kg	25.				
Naphthalene	ND	ug/kg	25.				
n-Propylbenzene	ND	ug/kg	25.				
1,2,3-Trichlorobenzene	ND	ug/kg	25.				
1,2,4-Trichlorobenzene	ND	ug/kg	25.				
1,3,5-Trimethylbenzene	ND	ug/kg	25.				
1,2,4-Trimethylbenzene	ND	ug/kg	25.				
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.				
Ethyl ether	ND	ug/kg	130				
SURROGATE RECOVERY							
Toluene-d8	92.0	%					
4-Bromofluorobenzene	90.0	%					
Dibromofluoromethane	94.0	%					

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9600545-03
MW-12,S-7,13-15'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Hydrocarbon Scan GC 8100 Modified				1	8100M	26-Jan 30-Jan
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	95.0	%				

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9600545-04 Date Collected: 25-JAN-96
 MW-20,S-5,8-10' Date Received : 25-JAN-96
 Sample Matrix: SOIL Date Reported : 01-FEB-96
 Condition of Sample: Satisfactory Field Prep: None
 Number & Type of Containers: 1 Vial,1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	II
Solids, Total	98.	%	0.10	3	2540B	29-Jan	ST
Volatile Organics by GC/MS							DE
Methylene chloride	ND	ug/kg	25.				
1,1-Dichloroethane	ND	ug/kg	7.5				
Chloroform	ND	ug/kg	7.5				
Carbon tetrachloride	ND	ug/kg	5.0				
1,2-Dichloropropane	ND	ug/kg	18.				
Dibromochloromethane	ND	ug/kg	5.0				
1,1,2-Trichloroethane	ND	ug/kg	7.5				
2-Chloroethylvinyl ether	ND	ug/kg	50.				
Tetrachloroethene	ND	ug/kg	7.5				
Chlorobenzene	ND	ug/kg	18.				
Trichlorofluoromethane	ND	ug/kg	25.				
1,2-Dichloroethane	ND	ug/kg	7.5				
1,1,1-Trichloroethane	ND	ug/kg	5.0				
Bromodichloromethane	ND	ug/kg	5.0				
trans-1,3-Dichloropropene	ND	ug/kg	7.5				
cis-1,3-Dichloropropene	ND	ug/kg	5.0				
Bromoform	ND	ug/kg	5.0				
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0				
Benzene	ND	ug/kg	5.0				
Toluene	ND	ug/kg	7.5				
Ethylbenzene	ND	ug/kg	5.0				
Chloromethane	ND	ug/kg	50.				
Bromomethane	ND	ug/kg	10.				
Vinyl chloride	ND	ug/kg	18.				
Chloroethane	ND	ug/kg	10.				
1,1-Dichloroethene	ND	ug/kg	7.5				
trans-1,2-Dichloroethene	ND	ug/kg	7.5				
Trichloroethene	ND	ug/kg	5.0				
1,2-Dichlorobenzene	ND	ug/kg	50.				
1,3-Dichlorobenzene	ND	ug/kg	50.				
1,4-Dichlorobenzene	ND	ug/kg	50.				
Methyl tert butyl ether	ND	ug/kg	50.				
Xylenes	ND	ug/kg	5.0				
cis-1,2-Dichloroethene	ND	ug/kg	5.0				
Dibromomethane	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: L9600545-04
MW-20,S-5,8-10'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Volatile Organics by GC/MS continued				1	B260	29-Jan 29-Jan
1,4-Dichlorobutane	ND	ug/kg	50.			
Iodomethane	ND	ug/kg	50.			
1,2,3-Trichloropropane	ND	ug/kg	50.			
Styrene	ND	ug/kg	5.0			
Dichlorodifluoromethane	ND	ug/kg	50.			
Acetone	ND	ug/kg	50.			
Carbon Disulfide	ND	ug/kg	50.			
2-Butanone	ND	ug/kg	23.			
Vinyl Acetate	ND	ug/kg	50.			
4-Methyl-2-pentanone	ND	ug/kg	50.			
2-Hexanone	ND	ug/kg	50.			
Ethyl methacrylate	ND	ug/kg	50.			
Acrolein	ND	ug/kg	130			
Acrylonitrile	ND	ug/kg	50.			
Bromochloromethane	ND	ug/kg	25.			
2,2-Dichloropropane	ND	ug/kg	25.			
1,2-Dibromoethane	ND	ug/kg	25.			
1,3-Dichloropropane	ND	ug/kg	25.			
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.			
Bromobenzene	ND	ug/kg	25.			
n-Butylbenzene	66.	ug/kg	25.			
sec-Butylbenzene	ND	ug/kg	25.			
tert-Butylbenzene	ND	ug/kg	25.			
o-Chlorotoluene	ND	ug/kg	25.			
p-Chlorotoluene	ND	ug/kg	25.			
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.			
Hexachlorobutadiene	ND	ug/kg	25.			
Isopropylbenzene	ND	ug/kg	25.			
p-Isopropyltoluene	31.	ug/kg	25.			
Naphthalene	460	ug/kg	25.			
n-Propylbenzene	ND	ug/kg	25.			
1,2,3-Trichlorobenzene	ND	ug/kg	25.			
1,2,4-Trichlorobenzene	ND	ug/kg	25.			
1,3,5-Trimethylbenzene	55.	ug/kg	25.			
1,2,4-Trimethylbenzene	140	ug/kg	25.			
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.			
Ethyl ether	ND	ug/kg	130			

SURROGATE RECOVERY

Toluene-d8	84.0	%
4-Bromofluorobenzene	114.	%
Dibromofluoromethane	92.0	%

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9600545-04
 MW-20,S-5,8-10'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES	ID
							PREP ANALYSIS
Hydrocarbon Scan GC 8100 Modified				1	8100M	26-Jan 30-Jan	DB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	16000	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
SURROGATE RECOVERY							
o-Terphenyl	79.0	%					

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9600545

Parameter	Value 1	Value 2	RPD	Units
Solids, Total	DUPLICATE for sample(s) 01-02			
	88.	89.	1	±
Solids, Total	DUPLICATE for sample(s) 03-04			
	88.	89.	1	±

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9600545

Parameter	MS %	MSD %	RPD
Volatile Organics by GC/MS Spike Recovery MS/MSD for sample(s) 03-04			
1,1-Dichloroethene	110	115	4
Trichloroethene	97	101	4
Benzene	102	107	5
Toluene	99	102	3
Chlorobenzene	97	102	5

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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.

ALPHA

Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 30553

Sheet of

Company Name:
ERM - New England

Project Number: 143-40

Project Name/Location:
Raytheon, Wayland

Date Received in Lab: 1/25

Date Due: Rush
2/1

P.O. Number: 143-40

Company Address:
205 Portland St
Boston, MA 02114

Phone Number:
(617) 742-6220
FAX No.: 720-5742

Project Manager:
John McTigue

Alpha Job Number: (Lab use only)
9600545

ALPHA Lab # (Lab Use Only)	Sample I.D.	Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other	Containers (number/type)	Matrix/Source	Method Preserve. (number of containers)						Solubles - F.F.	Sampling		MATRIX / SOURCE CODES MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water R = River Stream S = Soil SG = Sludge B = Bottom Sediment X1 = Other _____ X2 = Other _____	Analysis Requested
					Unpres.	Ice	Nitric	Sulfuric	HCl	Other		Date	Time		
545	1 MW-19, S-8, 14'-21'	1G	S	X							1/24/96	3:20	TPH-8100	(TS)	
	2 MW-15, S-6, 11'-13'	1G	S	X							1/24/96	11:15	TPH-8100		
	3 MW-12, S-7, 13'-15'	1G, 1V	S	X							1/23/96	9:40	TPH-8100, VOC 8260		
	4 MW-20, S-5, 8'-10'	1G, 1V	S	X							1/23/96	11:30	TPH-8100, VOC 8260		

Sampler's Signature: John R. D'Agosto Affiliation: Geologist Date: 1/26/96 Time:

ADDITIONAL COMMENTS:
Please Fax results to our office

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	<u>John R. D'Agosto</u>	<u>John Bogdan</u>	1-25-96	1607
2	<u>John Bogdan</u>	<u>John Bogdan</u>	1/25/96	1720
3				
4				

ALPHA ANALYTICAL LABORATORIES

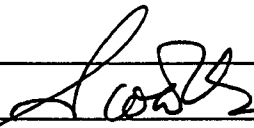
Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L9601615
Address: 205 Portland Street Invoice Number: 81832
Boston, MA 02114 Date Received: 18-MAR-96
Attn: J.W. McTigue Date Reported: 25-MAR-96
Project Number: 143-40 Delivery Method: Alpha
Site: Raytheon

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9601615-01	TP-6, S-1, 7-9'	Wayland, MA
L9601615-02	TP-3, S-1	Wayland, MA

Authorized by: 

Scott McLean - Laboratory Director

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601615-01 Date Collected: 15-MAR-96
 TP-6, S-1, 7-9' Date Received: 18-MAR-96
 Sample Matrix: SOIL Date Reported: 25-MAR-96
 Condition of Sample: Satisfactory Field Prep: None
 Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	II
Solids, Total	85.	%	0.10	3	2540B	21-Mar	S'
Volatile Organics by GC/MS				1	8260	21-Mar 21-Mar	DI
Methylene chloride	ND	ug/kg	25.				
1,1-Dichloroethane	ND	ug/kg	7.5				
Chloroform	ND	ug/kg	7.5				
Carbon tetrachloride	ND	ug/kg	5.0				
1,2-Dichloropropane	ND	ug/kg	18.				
Dibromochloromethane	ND	ug/kg	5.0				
1,1,2-Trichloroethane	ND	ug/kg	7.5				
2-Chloroethylvinyl ether	ND	ug/kg	50.				
Tetrachloroethene	ND	ug/kg	7.5				
Chlorobenzene	ND	ug/kg	18.				
Trichlorofluoromethane	ND	ug/kg	25.				
1,2-Dichloroethane	ND	ug/kg	7.5				
1,1,1-Trichloroethane	ND	ug/kg	5.0				
Bromodichloromethane	ND	ug/kg	5.0				
trans-1,3-Dichloropropene	ND	ug/kg	7.5				
cis-1,3-Dichloropropene	ND	ug/kg	5.0				
Bromoform	ND	ug/kg	5.0				
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0				
Benzene	ND	ug/kg	5.0				
Toluene	ND	ug/kg	7.5				
Ethylbenzene	ND	ug/kg	5.0				
Chloromethane	ND	ug/kg	50.				
Bromomethane	ND	ug/kg	10.				
Vinyl chloride	ND	ug/kg	18.				
Chloroethane	ND	ug/kg	10.				
1,1-Dichloroethene	ND	ug/kg	7.5				
trans-1,2-Dichloroethene	ND	ug/kg	7.5				
Trichloroethene	ND	ug/kg	5.0				
1,2-Dichlorobenzene	ND	ug/kg	50.				
1,3-Dichlorobenzene	ND	ug/kg	50.				
1,4-Dichlorobenzene	ND	ug/kg	50.				
Methyl tert butyl ether	ND	ug/kg	50.				
Xylenes	ND	ug/kg	5.0				
cis-1,2-Dichloroethene	ND	ug/kg	5.0				
Dibromomethane	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: L9601615-01
TP-6, S-1, 7-9'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYST
Volatile Organics by GC/MS continued				1	8260	21-Mar 21-Mar
1,4-Dichlorobutane	ND	ug/kg	50.			
Iodomethane	ND	ug/kg	50.			
1,2,3-Trichloropropane	ND	ug/kg	50.			
Styrene	ND	ug/kg	5.0			
Dichlorodifluoromethane	ND	ug/kg	50.			
Acetone	ND	ug/kg	50.			
Carbon Disulfide	ND	ug/kg	50.			
2-Butanone	ND	ug/kg	23.			
Vinyl Acetate	ND	ug/kg	50.			
4-Methyl-2-pentanone	ND	ug/kg	50.			
2-Hexanone	ND	ug/kg	50.			
Ethyl methacrylate	ND	ug/kg	50.			
Acrolein	ND	ug/kg	130			
Acrylonitrile	ND	ug/kg	50.			
Bromochloromethane	ND	ug/kg	25.			
2,2-Dichloropropane	ND	ug/kg	25.			
1,2-Dibromoethane	ND	ug/kg	25.			
1,3-Dichloropropane	ND	ug/kg	25.			
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.			
Bromobenzene	ND	ug/kg	25.			
n-Butylbenzene	ND	ug/kg	25.			
sec-Butylbenzene	ND	ug/kg	25.			
tert-Butylbenzene	ND	ug/kg	25.			
o-Chlorotoluene	ND	ug/kg	25.			
p-Chlorotoluene	ND	ug/kg	25.			
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.			
Hexachlorobutadiene	ND	ug/kg	25.			
Isopropylbenzene	ND	ug/kg	25.			
p-Isopropyltoluene	ND	ug/kg	25.			
Naphthalene	ND	ug/kg	25.			
n-Propylbenzene	ND	ug/kg	25.			
1,2,3-Trichlorobenzene	ND	ug/kg	25.			
1,2,4-Trichlorobenzene	ND	ug/kg	25.			
1,3,5-Trimethylbenzene	ND	ug/kg	25.			
1,2,4-Trimethylbenzene	ND	ug/kg	25.			
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.			
Ethyl ether	ND	ug/kg	130			
SURROGATE RECOVERY						
Toluene-d8	99.0	%				
4-Bromofluorobenzene	110.	%				
Dibromofluoromethane	103.	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L9601615-01
TP-6, S-1, 7-9'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	II
Hydrocarbon Scan GC 8100 Modified				1	8100M	19-Mar 20-Mar	DI
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
SURROGATE RECOVERY							
o-Terphenyl	84.0	%					

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601615-02	Date Collected: 15-MAR-96
TP-3, S-1	Date Received : 18-MAR-96
Sample Matrix: SOIL	Date Reported : 25-MAR-96
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 3 Vial	

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Solids, Total	87.	%	0.10	3	2540B	21-Mar
Volatile Organics by GC/MS				1	8260	22-Mar 22-Mar
Methylene chloride	ND	ug/kg	250			
1,1-Dichloroethane	ND	ug/kg	75.			
Chloroform	ND	ug/kg	75.			
Carbon tetrachloride	ND	ug/kg	50.			
1,2-Dichloropropane	ND	ug/kg	180			
Dibromochloromethane	ND	ug/kg	50.			
1,1,2-Trichloroethane	ND	ug/kg	75.			
2-Chloroethylvinyl ether	ND	ug/kg	500			
Tetrachloroethene	ND	ug/kg	75.			
Chlorobenzene	ND	ug/kg	180			
Trichlorofluoromethane	ND	ug/kg	250			
1,2-Dichloroethane	ND	ug/kg	75.			
1,1,1-Trichloroethane	ND	ug/kg	50.			
Bromodichloromethane	ND	ug/kg	50.			
trans-1,3-Dichloropropene	ND	ug/kg	75.			
cis-1,3-Dichloropropene	ND	ug/kg	50.			
Bromoform	ND	ug/kg	50.			
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.			
Benzene	ND	ug/kg	50.			
Toluene	ND	ug/kg	75.			
Ethylbenzene	ND	ug/kg	50.			
Chloromethane	ND	ug/kg	500			
Bromomethane	ND	ug/kg	100			
Vinyl chloride	ND	ug/kg	180			
Chloroethane	ND	ug/kg	100			
1,1-Dichloroethene	ND	ug/kg	75.			
trans-1,2-Dichloroethene	ND	ug/kg	75.			
Trichloroethene	ND	ug/kg	50.			
1,2-Dichlorobenzene	ND	ug/kg	500			
1,3-Dichlorobenzene	ND	ug/kg	500			
1,4-Dichlorobenzene	ND	ug/kg	500			
Methyl tert butyl ether	ND	ug/kg	500			
Xylenes	ND	ug/kg	50.			
cis-1,2-Dichloroethene	ND	ug/kg	50.			
Dibromomethane	ND	ug/kg	500			

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9601615-02
TP-3, S-1

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Volatile Organics by GC/MS continued				1	8260	22-Mar 22-Mar
1,4-Dichlorobutane	ND	ug/kg	500			
Iodomethane	ND	ug/kg	500			
1,2,3-Trichloropropane	ND	ug/kg	500			
Styrene	ND	ug/kg	50.			
Dichlorodifluoromethane	ND	ug/kg	500			
Acetone	ND	ug/kg	500			
Carbon Disulfide	ND	ug/kg	500			
2-Butanone	ND	ug/kg	230			
Vinyl Acetate	ND	ug/kg	500			
4-Methyl-2-pentanone	ND	ug/kg	500			
2-Hexanone	ND	ug/kg	500			
Ethyl methacrylate	ND	ug/kg	500			
Acrolein	ND	ug/kg	1300			
Acrylonitrile	ND	ug/kg	500			
Bromochloromethane	ND	ug/kg	250			
2,2-Dichloropropane	ND	ug/kg	250			
1,2-Dibromoethane	ND	ug/kg	250			
1,3-Dichloropropane	ND	ug/kg	250			
1,1,1,2-Tetrachloroethane	ND	ug/kg	250			
Bromobenzene	ND	ug/kg	250			
n-Butylbenzene	ND	ug/kg	250			
sec-Butylbenzene	ND	ug/kg	250			
tert-Butylbenzene	ND	ug/kg	250			
o-Chlorotoluene	ND	ug/kg	250			
p-Chlorotoluene	ND	ug/kg	250			
1,2-Dibromo-3-chloropropane	ND	ug/kg	250			
Hexachlorobutadiene	ND	ug/kg	250			
Isopropylbenzene	ND	ug/kg	250			
p-Isopropyltoluene	ND	ug/kg	250			
Naphthalene	ND	ug/kg	250			
n-Propylbenzene	29000	ug/kg	250			
1,2,3-Trichlorobenzene	ND	ug/kg	250			
1,2,4-Trichlorobenzene	370	ug/kg	250			
1,3,5-Trimethylbenzene	ND	ug/kg	250			
1,2,4-Trimethylbenzene	ND	ug/kg	250			
trans-1,4-Dichloro-2-butene	ND	ug/kg	250			
Ethyl ether	ND	ug/kg	1300			
SURROGATE RECOVERY						
Toluene-d8	97.0	%				
4-Bromofluorobenzene	108.	%				
Dibromofluoromethane	99.0	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L9601615-02
TP-3, S-1

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSI
Hydrocarbon Scan GC 8100 Modified				1	8100M	19-Mar 21-Ma
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
Unknown Hydrocarbon	8600	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	103.	%				

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9601615

Parameter	Value 1	Value 2	RPD	Units
Solids, Total	DUPLICATE for sample(s) 01-02			
	87.	88.	1	%

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9601615

Parameter	MS %	MSD %	RPD
-----------	------	-------	-----

Volatile Organics by GC/MS Spike Recovery MS/MSD for sample(s) 01-02

1,1-Dichloroethene	93	105	12
Trichloroethene	102	103	1
Benzene	93	96	3
Toluene	99	97	2
Chlorobenzene	102	99	3

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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.

010001

ALPHA
Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD
and ANALYSIS REQUEST RECORD

No. 51894
Sheet 1 of 1

Company Name:
ERM - NEW ENGLAND

Project Number:
143.40
P.O. Number:

Project Name/Location:
RAYTHEON / WAYLAND

Date Received in Lab:
3/18

Date Due:
RUSH
3/25

Company Address:
205 PORTLAND ST, BOSTON

Phone Number:
617 742 8228
FAX No.: 720 5467

Project Manager:
JW MCTIGUE

Alpha Job Number: (Lab use only)
9601615

ALPHA Lab# (Lab Use Only)	Sample I.D.	Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers)						Solubles - F.F.	Sampling		MATRIX / SOURCE CODES MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water R = River Stream S = Soil SG = Sludge B = Bottom Sediment X1 = Other _____ X2 = Other _____	Analysis Requested
					Unpres.	Ice	Nitric	Sulfuric	HCl	Other		Date	Time		
1615.1	TP-6, S-1, 7-9		1/G	S	X	X						15 MAR 96	08:20	VOCs 8260, TPH 8100	HOLD LEFTOVER SAMPLE
2	TP-3, S-1		3/VOA	S	X	X						15 MAR 96	10:30	VOCs 8260, TPH 8100	HOLD LEFTOVER SAMPLE

Sampler's Signature: *Crates for J. D'Agostino* ERM
Date: 18 MAR 96
Time: 12:45

ADDITIONAL COMMENTS:
PLEASE HOLD ADD'L (LEFTOVER) SAMPLE FOR POSSIBLE ADDITIONAL ANALYSES.

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	<i>Crates</i>	<i>[Signature]</i>	3-18-96	1505
2	<i>[Signature]</i>	<i>[Signature]</i>	3/18	1550
3				
4				

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601937-01
TP-3, S-3, 3'-4'
Sample Matrix: SOIL

Date Collected: 02-APR-96
Date Received : 02-APR-96
Date Reported : 02-APR-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSI
Solids, Total	81.	%	0.10	3	2540B	02-Ap
Volatile Organics by GC/MS				1	8260	02-Apr 02-Ap
Methylene chloride	ND	ug/kg	25.			
1,1-Dichloroethane	ND	ug/kg	7.5			
Chloroform	ND	ug/kg	7.5			
Carbon tetrachloride	ND	ug/kg	5.0			
1,2-Dichloropropane	ND	ug/kg	18.			
Dibromochloromethane	ND	ug/kg	5.0			
1,1,2-Trichloroethane	ND	ug/kg	7.5			
2-Chloroethylvinyl ether	ND	ug/kg	50.			
Tetrachloroethene	ND	ug/kg	7.5			
Chlorobenzene	ND	ug/kg	18.			
Trichlorofluoromethane	ND	ug/kg	25.			
1,2-Dichloroethane	ND	ug/kg	7.5			
1,1,1-Trichloroethane	ND	ug/kg	5.0			
Bromodichloromethane	ND	ug/kg	5.0			
trans-1,3-Dichloropropene	ND	ug/kg	7.5			
cis-1,3-Dichloropropene	ND	ug/kg	5.0			
Bromoform	ND	ug/kg	5.0			
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0			
Benzene	ND	ug/kg	5.0			
Toluene	ND	ug/kg	7.5			
Ethylbenzene	ND	ug/kg	5.0			
Chloromethane	ND	ug/kg	50.			
Bromomethane	ND	ug/kg	10.			
Vinyl chloride	ND	ug/kg	18.			
Chloroethane	ND	ug/kg	10.			
1,1-Dichloroethene	ND	ug/kg	7.5			
trans-1,2-Dichloroethene	ND	ug/kg	7.5			
Trichloroethene	ND	ug/kg	5.0			
1,2-Dichlorobenzene	ND	ug/kg	50.			
1,3-Dichlorobenzene	ND	ug/kg	50.			
1,4-Dichlorobenzene	ND	ug/kg	50.			
Methyl tert butyl ether	ND	ug/kg	50.			
Xylenes	ND	ug/kg	5.0			
cis-1,2-Dichloroethene	ND	ug/kg	5.0			
Dibromomethane	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: L9601937-01
TP-3,S-3,3'-4'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Volatile Organics by GC/MS continued				1	8260	02-Apr 02-Apr
1,4-Dichlorobutane	ND	ug/kg	50.			
Iodomethane	ND	ug/kg	50.			
1,2,3-Trichloropropane	ND	ug/kg	50.			
Styrene	ND	ug/kg	5.0			
Dichlorodifluoromethane	ND	ug/kg	50.			
Acetone	ND	ug/kg	50.			
Carbon Disulfide	ND	ug/kg	50.			
2-Butanone	ND	ug/kg	23.			
Vinyl Acetate	ND	ug/kg	50.			
4-Methyl-2-pentanone	ND	ug/kg	50.			
2-Hexanone	ND	ug/kg	50.			
Ethyl methacrylate	ND	ug/kg	50.			
Acrolein	ND	ug/kg	130			
Acrylonitrile	ND	ug/kg	50.			
Bromochloromethane	ND	ug/kg	25.			
2,2-Dichloropropane	ND	ug/kg	25.			
1,2-Dibromoethane	ND	ug/kg	25.			
1,3-Dichloropropane	ND	ug/kg	25.			
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.			
Bromobenzene	ND	ug/kg	25.			
n-Butylbenzene	ND	ug/kg	25.			
sec-Butylbenzene	ND	ug/kg	25.			
tert-Butylbenzene	ND	ug/kg	25.			
o-Chlorotoluene	ND	ug/kg	25.			
p-Chlorotoluene	ND	ug/kg	25.			
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.			
Hexachlorobutadiene	ND	ug/kg	25.			
Isopropylbenzene	ND	ug/kg	25.			
p-Isopropyltoluene	ND	ug/kg	25.			
Naphthalene	ND	ug/kg	25.			
n-Propylbenzene	ND	ug/kg	25.			
1,2,3-Trichlorobenzene	ND	ug/kg	25.			
1,2,4-Trichlorobenzene	ND	ug/kg	25.			
1,3,5-Trimethylbenzene	ND	ug/kg	25.			
1,2,4-Trimethylbenzene	ND	ug/kg	25.			
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.			
Ethyl ether	ND	ug/kg	130			
SURROGATE RECOVERY						
Toluene-d8	99.0	%				
4-Bromofluorobenzene	95.0	%				
Dibromofluoromethane	103.	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L9601937-01
TP-3, S-3, 3'-4'

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Hydrocarbon Scan GC 8100 Modified				1	8100M	02-Apr 02-Apr
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	100.	%				

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9601937

Parameter	Value 1	Value 2	RPD	Units
Solids, Total	DUPLICATE for sample(s) 01			
	84.	87.	4	±

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9601937

Parameter	MS %	MSD %	RPD
-----------	------	-------	-----

Volatile Organics by GC/MS Spike Recovery MS/MSD for sample(s) 01

1,1-Dichloroethene	93	105	12
Trichloroethene	102	103	1
Benzene	93	96	3
Toluene	99	97	2
Chlorobenzene	102	99	3

**ALPHA ANALYTICAL LABORATORIES
ADDENDUM I**

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 60689
Sheet 1 of 1

Company Name: ERM-New England

Project Number: 143.40

Project Name/Location: Raytheon, Wayland

Date Received in Lab: 4/2
Date Delivered: 4/2/96

Company Address: 205 Portland St
Boston, MA 02114

Phone Number: 617 742-8228
FAX No.: 720-5742

Project Manager: John McTigue

Alpha Job Number: (Lab Use Only) 9601937

ALPHA Lab# (Lab Use Only)	Sample I.D.	Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers)						Solubles - F.F.	Sampling		MATRIX / SOURCE CODES MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water R = River Stream S = Soil SG = Sludge B = Bottom Sediment X1 = Other _____ X2 = Other _____	Analysis Requested
					Unpres.	Ice	Nitric	Sulfuric	HCl	Other		Date	Time		
<u>1937.1</u>	<u>TP-3, S-3, 3'-4'</u>		<u>ZV</u>	<u>S</u>	<u>2</u>							<u>4/2/96</u>	<u>8:15</u>	<u>TPH-B100 (IN a VOA) VOC-B260</u>	
														<u>24 hour turn</u>	

Signature: John R. D'Agost Affiliation: Geologist Date: 4/2/96 Time: 9:00

ADDITIONAL COMMENTS:
Please Fax results to our office
today

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
<u>1</u>	<u>John R. D'Agost</u>	<u>Johnson</u>	<u>4/2</u>	<u>8:55 am</u>
<u>2</u>				
<u>3</u>				

ALPHA ANALYTICAL LABORATORIES

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

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L9601812
Address: 205 Portland Street Invoice Number: 82017
Boston, MA 02114 Date Received: 27-MAR-96
Attn: John McTigue Date Reported: 02-APR-96
Project Number: 143-40 Delivery Method: Alpha
Site: Raytheon

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9601812-01	SB-29, S-7, 19-20'	Wayland, MA
L9601812-02	SB-29, S-5, 14-16'	Wayland, MA
L9601812-03	SB-26, S-2, 15-17.5'	Wayland, MA
L9601812-04	SB-27, S-4, 17-18'	Wayland, MA
L9601812-05	SB-28, S-5, 14-15'	Wayland, MA
L9601812-06	SB-30, S-3, 15-17.5'	Wayland, MA

Authorized by: 

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601812-02 Date Collected: 20-MAR-96
SB-29, S-5, 14-16' Date Received : 27-MAR-96
Sample Matrix: SOIL Date Reported : 02-APR-96
Condition of Sample: Satisfactory Field Prep: None
Number & Type of Containers: 1 Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	I
Solids, Total	96.	%	0.10	3	2540B	29-Mar	S
Hydrocarbon Scan GC 8100 Modified				1	8100M	28-Mar 30-Mar	D
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Unknown Hydrocarbon as Fuel Oil #6	22000	mg/kg	100				
SURROGATE RECOVERY							
o-Terphenyl	135.	%					

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601812-03	Date Collected: 21-MAR-96
Sample Matrix: SB-26, S-2, 15-17.5'	Date Received : 27-MAR-96
Sample Matrix: SOIL	Date Reported : 02-APR-96
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1 Glass	

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Solids, Total	82.	%	0.10	3	2540B	29-Mar
Hydrocarbon Scan GC 8100 Modified				1	8100M	28-Mar 30-Mar
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
Unknown Hydrocarbon as Fuel Oil #6	15000	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	108.	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601812-04	Date Collected: 22-MAR-96
Sample Matrix: SB-27, S-4, 17-18'	Date Received : 27-MAR-96
Sample Matrix: SOIL	Date Reported : 02-APR-96
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1 Glass	

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Solids, Total	96.	%	0.10	3	2540B	29-Mar
Hydrocarbon Scan GC B100 Modified				1	B100M	28-Mar 30-Mar
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
Unknown Hydrocarbon as Fuel Oil #6	8900	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	145.	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601812-05	Date Collected: 19-MAR-96
Sample Matrix: SB-28, S-5, 14-15'	Date Received : 27-MAR-96
Sample Matrix: SOIL	Date Reported : 02-APR-96
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1 Glass	

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS:
Solids, Total	97.	%	0.10	3	2540B	29-Mar
Hydrocarbon Scan GC 8100 Modified				1	8100M	28-Mar 30-Mar
Mineral Spirits	ND	mg/kg	100			
Gasoline	ND	mg/kg	100			
Fuel Oil #2/Diesel	ND	mg/kg	100			
Fuel Oil #4	ND	mg/kg	100			
Fuel Oil #6	ND	mg/kg	100			
Motor Oil	ND	mg/kg	100			
Kerosene	ND	mg/kg	100			
Unknown Hydrocarbon as Fuel Oil #6	12000	mg/kg	100			
SURROGATE RECOVERY						
o-Terphenyl	113.	%				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9601812-06
 SB-30, S-3, 15-17.5'
 Sample Matrix: SOIL
 Condition of Sample: Satisfactory
 Number & Type of Containers: 1 Glass

Date Collected: 21-MAR-96
 Date Received : 27-MAR-96
 Date Reported : 02-APR-96
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS	II
Solids, Total	85.	%	0.10	3	2540B	29-Mar	S7
Hydrocarbon Scan GC 8100 Modified				1	8100M	28-Mar 30-Mar	DE
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
SURROGATE RECOVERY							
o-Terphenyl	87.0	%					

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9601812

Parameter	Value 1	Value 2	RPD	Units
Solids, Total	DUPLICATE for sample(s) 01-06			
	96.	95.	1	%

**ALPHA ANALYTICAL LABORATORIES
ADDENDUM I**

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.
3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

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

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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

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CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 60127
Sheet 1 of 1

Company Name: ERM-New England	Project Number: 143.40	Project Name/Location: Raytheon, wayland	Date Received in Lab: 3/27	Date Due: 4/3/12
Company Address: 205 Portland St Boston, MA 02114	Phone Number: (617) 742-8228	Project Manager: John McTigue	Alpha Job Number: (Lab use only) 9601812	
	FAX No.: 720-5742			

ALPHA Lab (Lab Use Only)	Sample I.D.	Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers)						Solubles - F.F.	Sampling		MATRIX / SOURCE CODES				
					Unpres.	Ice	Nitric	Sulfuric	HCl	Other		Date	Time	MW = Monitoring Well	RO = Runoff	O = Outfall	W = Well	LF = Landfill
															Analysis Requested			
	1812-1 SB-29, S-7, 19'-20'	1G	1G	S	1						3/27/12	3:35	TPH-8100	TS				
	2 SB-29, S-5 14'-16'	1G	1G	S	1						3/27/12	3:10	TPH-8100					
	3 SB-26, S-2, 15'-17.5'	1G	1G	S	1						3/27/12	1:00	TPH-8100					
	4 SB-27, S-4, 17'-18'	1G	1G	S	1						3/27/12	1:45	TPH-8100					
	5 SB-28, S-5, 14'-15'	1G	1G	S	1						3/27/12	8:00	TPH-8100					
	6 SB-30, S-3, 15'-17.5'	1G	1G	S	1						3/27/12	3:45	TPH-8100					

Signature: John R. D'Agostino	Attestation: Geologist	Date: 3/27/12	Time: 4:00	NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
ADDITIONAL COMMENTS: Please Fax results to our office				1	John R. D'Agostino	[Signature]	3-27-12	1415
				2	[Signature]	[Signature]	3/27	1705
				3				