

ALPHA ANALYTICAL LABORATORIES

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

CERTIFICATE OF ANALYSIS

Client: ERM-New England **Laboratory Job Number:** L0307425
Address: 399 Boylston Street
6th Floor **Date Received:** 28-JUL-2003
Boston, MA 02116 **Date Reported:** 04-AUG-2003
Attn: Mr. Tim Pac **Delivery Method:** Alpha
Project Number: 1922.09
Site: RAYTHEON

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0307425-01	MW-107	WAYLAND
L0307425-02	MW-108	WAYLAND

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

Authorized by: James Todaro

James Todaro - Laboratory Director
This document electronically signed

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0307425

Volatile Organics

L0307425-01 has an elevated limit of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307425-01
MW-107

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0730 20:55 MM	
Vinyl Chloride	ND	ug/l	4.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	92.0	%	70-130				

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307425-02
MW-108

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 01:18 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	80.0	%		70-130			

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

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0307425

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 01-02 (L0307451-08, WG146614)					
Chloride	57.	57.	mg/l	0	
Chromium, Hexavalent for sample(s) 01-02 (L0307425-01, WG146338)					
Chromium, Hexavalent	ND	ND	mg/l	NC	
Dissolved Metals for sample(s) 01-02 (L0307425-01, WG146455)					
Chromium, Dissolved	ND	ND	mg/l	NC	20
Manganese, Dissolved	4.7	0.02	mg/l	4	20
Sodium, Dissolved	44.	18.	mg/l	0	20

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0307425

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 01-02 (WG146614)		
Chloride	100	
Chromium, Hexavalent LCS for sample(s) 01-02 (WG146338)		
Chromium, Hexavalent	100	
Volatile Organics by GC 8021 LCS for sample(s) 02 (WG146293)		
Chlorobenzene	111	70-130
1,1-Dichloroethene	109	70-130
Trichloroethene	102	70-130
Surrogate(s)		
4-Bromochlorobenzene	91	70-130
Volatile Organics by GC 8021 LCS for sample(s) 01 (WG146293)		
Chlorobenzene	102	70-130
1,1-Dichloroethene	102	70-130
Trichloroethene	98	70-130
Surrogate(s)		
4-Bromochlorobenzene	105	70-130
Chloride SPIKE for sample(s) 01-02 (L0307451-08, WG146614)		
Chloride	85	
Chromium, Hexavalent SPIKE for sample(s) 01-02 (L0307425-02, WG146338)		
Chromium, Hexavalent	101	
Dissolved Metals SPIKE for sample(s) 01-02 (L0307425-02, WG146455)		
Chromium, Dissolved	100	75-125
Manganese, Dissolved	84	75-125
Sodium, Dissolved	110	75-125

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0307425

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
Volatile Organics by GC 8021 for sample(s) 01-02 (L0307246-01, WG146293)					
Chlorobenzene	96	105	9	20	70-130
1,1-Dichloroethene	105	111	6	20	70-130
Trichloroethene	97	102	6	20	70-130
Surrogate(s)					
4-Bromochlorobenzene	95	96	1		70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0307425

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
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Blank Analysis for sample(s) 01-02 (WG146614-2)

Chloride	ND	mg/l	1.0	1 9251	0731 17:53	DD
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Blank Analysis for sample(s) 01-02 (WG146338-1)

Chromium, Hexavalent	ND	mg/l	0.02	1 7196A	0728 21:50	0728 21:50 JT
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Blank Analysis for sample(s) 01 (WG146293-10)

Volatile Organics by GC 8021				1 8021B	0730 11:28	MM
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Bromodichloromethane	ND	ug/l	0.50			
Bromoform	ND	ug/l	0.50			
Carbon tetrachloride	ND	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			
Dibromochloromethane	ND	ug/l	5.0			
Bromomethane/Chloroethane	ND	ug/l	5.0			
Chloroform	ND	ug/l	0.50			
1,2-Dichlorobenzene	ND	ug/l	0.50			
1,3-Dichlorobenzene	ND	ug/l	0.50			
1,4-Dichlorobenzene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,1-Dichloroethane	ND	ug/l	0.50			
1,2-Dichloroethane	ND	ug/l	0.50			
1,1-Dichloroethene	ND	ug/l	0.50			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
trans-1,2-Dichloroethene	ND	ug/l	0.50			
1,2-Dichloropropane	ND	ug/l	0.50			
cis-1,3-Dichloropropene	ND	ug/l	0.50			
trans-1,3-Dichloropropene	ND	ug/l	0.50			
Methylene chloride	ND	ug/l	5.0			
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50			
Tetrachloroethene	ND	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.50			
Trichloroethene	ND	ug/l	0.50			
Trichlorofluoromethane	ND	ug/l	0.50			
2-Chloroethylvinyl ether	ND	ug/l	5.0			
Chloromethane	ND	ug/l	5.0			
Vinyl Chloride	ND	ug/l	2.0			

Surrogate(s)	Recovery			QC Criteria		
4-Bromochlorobenzene	103.	%		70-130		

Blank Analysis for sample(s) 02 (WG146293-12)

Volatile Organics by GC 8021				1 8021B	0730 22:41	MM
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Bromodichloromethane	ND	ug/l	0.50			
Bromoform	ND	ug/l	0.50			
Carbon tetrachloride	ND	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0307425

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02 (WG146293-12)							
Volatile Organics by GC 8021 continued				1	8021B	0730	22:41 MM
Dibromochloromethane	ND	ug/l	5.0				
Bromomethane/Chloroethane	ND	ug/l	5.0				
Chloroform	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	0.50				
1,3-Dichlorobenzene	ND	ug/l	0.50				
1,4-Dichlorobenzene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1-Dichloroethene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Methylene chloride	ND	ug/l	5.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Tetrachloroethene	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.50				
Trichloroethene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	0.50				
2-Chloroethylvinyl ether	ND	ug/l	5.0				
Chloromethane	ND	ug/l	5.0				
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	99.0	%		70-130			

ALPHA ANALYTICAL LABORATORIES
ADDENDUM I

REFERENCES

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

GLOSSARY OF TERMS AND SYMBOLS

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

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

LIMITATION OF LIABILITIES

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

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

