

ALPHA ANALYTICAL LABORATORIES

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

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

CERTIFICATE OF ANALYSIS

**Client:** ERM-New England **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

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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.

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Authorized by: James Todaro

James Todaro - Laboratory Director  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0307425

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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

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PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ID 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		

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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		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG146614-2)							
Chloride	ND	mg/l	1.0	1 9251		0731 17:53	DD
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
Blank Analysis for sample(s) 01 (WG146293-10)							
Volatile Organics by GC 8021				1 8021B		0730 11:28	MM
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
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**

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**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.



# CHAIN OF CUSTODY

PAGE 1 OF 1

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

### Client Information

Client: **ERM**  
Address: **399 Baylston St  
Boston, MA 02116**

Phone: **617 267 8317**  
Fax: **617 477**

Email: \_\_\_\_\_  
 These samples have been previously analyzed by Alpha

### Project Information

Project Name: **Kaytheon**  
Project Location: **Wayland**  
Project #: **1922.09**  
Project Manager: **T. Pac**  
ALPHA Quote #: \_\_\_\_\_

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)  
Date Due: **8/4** Time: \_\_\_\_\_

### Other Project Specific Requirements/Comments:

**Insolved Cr, Mn, Na have been field filtered**

### Alpha Job #: 20307425

### Billing Information

Same as Client info  PO #:

### Report Information - Data Deliverables

FAX  ADEX  
Criteria Checker: \_\_\_\_\_  
(Default based on Regulatory Criteria Indicated)  
Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
Report to: (if different than Project Manager)

### Regulatory Requirements/Report Limits

State /Fed Program Criteria

TOTAL # BOTTLES	SAMPLE HANDLING
	<input type="checkbox"/> Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please specify below) Sample Specific Comments

ANALYSIS	Container Type	Preservative	Date/Time	Received By
Co/C	V	PP	7/28/03 1700	Steve W...
3 1 1			7/28/03	
2 1 1			7/28/03	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

Shaded Gray Areas For Lab Use Only

Relinquished By: **Swady**  
Date/Time: **7/28/03 1700**  
Container Type: **V**  
Preservative: **PP**  
Date/Time: **7/28/03**  
Received By: **Steve W...**

ALPHA ANALYTICAL LABORATORIES

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

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

CERTIFICATE OF ANALYSIS

**Client:** ERM-New England **Laboratory Job Number:** L0307451  
**Address:** 399 Boylston Street  
6th Floor **Date Received:** 29-JUL-2003  
Boston, MA 02116 **Date Reported:** 05-AUG-2003  
**Attn:** Mr. Tim Pac **Delivery Method:** Alpha  
**Project Number:** 1922.09  
**Site:** RAYTHEON

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0307451-01	MW-101	WAYLAND, MA
L0307451-02	MW-102	WAYLAND, MA
L0307451-03	MW-103	WAYLAND, MA
L0307451-04	MW-213	WAYLAND, MA
L0307451-05	MW-214	WAYLAND, MA
L0307451-06	MW-44S	WAYLAND, MA
L0307451-07	MW-44M	WAYLAND, MA
L0307451-08	MW-44D	WAYLAND, MA
L0307451-09	MW-212	WAYLAND, MA
L0307451-10	MW-212M	WAYLAND, MA
L0307451-11	DUP-1	WAYLAND, MA
L0307451-12	TB	WAYLAND, MA

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

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Authorized by: Scott McLean

Scott McLean - Technical Director  
This document electronically signed



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-01  
MW-101

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 02:11 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	84.0	%		70-130			

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





**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-02  
MW-102

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731	03:03 MM
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	87.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-03  
MW-103

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731	03:56 MM
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	88.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-04  
MW-213

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0730	23:33 MM
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	113.	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-05  
MW-214

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 00:25 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	101.	%	70-130				

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





**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-06  
MW-44S

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 14:01 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	101.	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-07  
MW-44M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 14:53 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	100.	%	70-130				

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-08  
MW-44D

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 11:02 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	111.	%	70-130				

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number:	L0307451-10	Date Collected:	29-JUL-2003 13:35
	MW-212M	Date Received :	29-JUL-2003
Sample Matrix:	WATER	Date Reported :	05-AUG-2003
Condition of Sample:	Satisfactory	Field Prep:	None
Number & Type of Containers:	2-Vial		

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
Volatile Organics by GC 8021				1 8021B	0731 16:38	MM
Bromodichloromethane	1.3	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	2.0	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	96.0	%	70-130			

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





**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307451-11  
DUP-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0731 17:30 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	83.0	%		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: L0307451

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 01-08,11 (L0307451-08, WG146614)					
Chloride	57.	57.	mg/l	0	
Chromium, Hexavalent for sample(s) 01-08,11 (L0307451-08, WG146423)					
Chromium, Hexavalent	ND	ND	mg/l	NC	
Dissolved Metals for sample(s) 01-08,11 (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: L0307451

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 01-08,11 (WG146614)		
Chloride	100	
Chromium, Hexavalent LCS for sample(s) 01-08,11 (WG146423)		
Chromium, Hexavalent	98	
Volatile Organics by GC 8021 LCS for sample(s) 01-05 (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) 11-12 (WG146293)		
Chlorobenzene	115	70-130
1,1-Dichloroethene	108	70-130
Trichloroethene	111	70-130
Surrogate(s)		
4-Bromochlorobenzene	115	70-130
Volatile Organics by GC 8021 LCS for sample(s) 06-10 (WG146717)		
Chlorobenzene	115	70-130
1,1-Dichloroethene	108	70-130
Trichloroethene	111	70-130
Surrogate(s)		
4-Bromochlorobenzene	115	70-130
Chloride SPIKE for sample(s) 01-08,11 (L0307451-08, WG146614)		
Chloride	85	
Chromium, Hexavalent SPIKE for sample(s) 01-08,11 (L0307451-08, WG146423)		
Chromium, Hexavalent	93	
Dissolved Metals SPIKE for sample(s) 01-08,11 (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: L0307451

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
Volatile Organics by GC 8021 for sample(s) 01-05,11-12 (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
Volatile Organics by GC 8021 for sample(s) 06-10 (L0307451-08, WG146717)					
Chlorobenzene	111	108	3	20	70-130
1,1-Dichloroethene	111	107	4	20	70-130
Trichloroethene	105	99	6	20	70-130
Surrogate(s)					
4-Bromochlorobenzene	113	109	4		70-130

**ALPHA ANALYTICAL LABORATORIES**  
**QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0307451

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-08,11 (WG146614-2)							
Chloride	ND	mg/l	1.0	1 9251		0731 17:53	DD
Blank Analysis for sample(s) 01-08,11 (WG146423-1)							
Chromium, Hexavalent	ND	mg/l	0.02	1 7196A		0729 18:35	0729 18:35 JT
Blank Analysis for sample(s) 01-05 (WG146293-12)							
Volatile Organics by GC 8021				1 8021B		0730 22:41	MM
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	99.0	%		70-130			
Blank Analysis for sample(s) 11-12 (WG146293-14)							
Volatile Organics by GC 8021				1 8021B		0731 09:03	MM
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: L0307451

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 11-12 (WG146293-14)							
Volatile Organics by GC 8021 continued				1	8021B	0731 09:03 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				
Blank Analysis for sample(s) 06-10 (WG146717-4)							
Volatile Organics by GC 8021				1	8021B	0731 09:03 MM	
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				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0307451

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 06-10 (WG146717-4)							
Volatile Organics by GC 8021 continued				1	8021B	0731 09:03 MM	
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**

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**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.





ALPHA ANALYTICAL LABORATORIES

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

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

CERTIFICATE OF ANALYSIS

**Client:** ERM-New England **Laboratory Job Number:** L0307493  
**Address:** 399 Boylston Street  
6th Floor  
Boston, MA 02116 **Date Received:** 30-JUL-2003  
**Attn:** Mr. Tim Pac **Date Reported:** 05-AUG-2003  
**Project Number:** 1922.09 **Delivery Method:** Client  
**Site:** RAYTHEON

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0307493-01	MW-104	WAYLAND, MA
L0307493-02	MW-105	WAYLAND, MA
L0307493-03	MW-105M	WAYLAND, MA
L0307493-04	MW-106	WAYLAND, MA
L0307493-05	MW-106M	WAYLAND, MA
L0307493-06	MW-209	WAYLAND, MA
L0307493-07	MW-210	WAYLAND, MA
L0307493-08	MW-211	WAYLAND, MA
L0307493-09	MW-118	WAYLAND, MA
L0307493-10	MW-117	WAYLAND, MA
L0307493-11	TB	WAYLAND, MA
L0307493-12	DUP-2	WAYLAND, MA
L0307493-13	MW-43S	WAYLAND, MA
L0307493-14	MW-43D	WAYLAND, MA

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

---

Authorized by: Scott McLean

Scott McLean - Technical Director  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0307493

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Volatile Organics

L0307493-07 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**

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

Laboratory Sample Number:	L0307493-03	Date Collected:	30-JUL-2003 11:11
	MW-105M	Date Received :	30-JUL-2003
Sample Matrix:	WATER	Date Reported :	05-AUG-2003
Condition of Sample:	Satisfactory	Field Prep:	None
Number & Type of Containers:	2-Vial		

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
Volatile Organics by GC 8021				1 8021B	0731 22:45 MM	
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	102.	%	70-130			

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



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

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

Laboratory Sample Number: L0307493-05	Date Collected: 30-JUL-2003 10:30
MW-106M	Date Received : 30-JUL-2003
Sample Matrix: WATER	Date Reported : 05-AUG-2003
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by GC 8021				1 8021B	0801 00:30 MM	
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	0.55	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.50			
Trichloroethene	0.98	ug/l	0.50			
Trichlorofluoromethane	0.54	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			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307493-06  
MW-209

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0801 03:08 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	85.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number: L0307493-07		Date Collected: 30-JUL-2003 10:48
	MW-210	Date Received : 30-JUL-2003
Sample Matrix: WATER		Date Reported : 05-AUG-2003
Condition of Sample: Satisfactory		Field Prep: None
Number & Type of Containers: 2-Vial		

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by GC 8021				1 8021B	0801 14:20	MM
Bromodichloromethane	0.64	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	0.90	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	2.2	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	108.	%	70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307493-08  
MW-211

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0801 15:13 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	96.0	%	70-130				

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





**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307493-09  
MW-118

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0801 16:05 MM	
Vinyl Chloride	ND	ug/l	8.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	90.0	%	70-130				

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307493-10  
MW-117

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0801 10:40 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	112.	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number: L0307493-11	Date Collected: 22-JUL-2003 13:10
Sample Matrix: TB	Date Received : 30-JUL-2003
Sample Matrix: WATER	Date Reported : 05-AUG-2003
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by GC 8021				1 8021B	0801 17:50 MM	
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	96.0	%	70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307493-12  
DUP-2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0801 16:58 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	86.0	%	70-130				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number:	L0307493-13	Date Collected:	30-JUL-2003 10:10
	MW-43S	Date Received :	30-JUL-2003
Sample Matrix:	WATER	Date Reported :	05-AUG-2003
Condition of Sample:	Satisfactory	Field Prep:	None
Number & Type of Containers:	2-Vial		

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
Volatile Organics by GC 8021				1 8021B	0801 12:25 MM	
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	0.75	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.50			
Trichloroethene	8.2	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	110.	%	70-130			

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





**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0307493-14  
MW-43D

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC 8021 continued				1	8021B	0801 13:17 MM	
Vinyl Chloride	ND	ug/l	2.0				
Surrogate(s)	Recovery			QC Criteria			
4-Bromochlorobenzene	104.	%		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: L0307493

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 06,08-10,12,14 (L0307493-08, WG146615)					
Chloride	220	230	mg/l	4	
Chromium, Hexavalent for sample(s) 06,08-10,12,14 (L0307493-09, WG146541)					
Chromium, Hexavalent	ND	ND	mg/l	NC	
Dissolved Metals for sample(s) 06,08-10,12,14 (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: L0307493

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 06,08-10,12,14 (WG146615)		
Chloride	97	
Chromium, Hexavalent LCS for sample(s) 06,08-10,12,14 (WG146541)		
Chromium, Hexavalent	100	
Volatile Organics by GC 8021 LCS for sample(s) 01 (WG146717)		
Chlorobenzene	115	70-130
1,1-Dichloroethene	108	70-130
Trichloroethene	111	70-130
Surrogate(s)		
4-Bromochlorobenzene	115	70-130
Volatile Organics by GC 8021 LCS for sample(s) 02-06 (WG146717)		
Chlorobenzene	108	70-130
1,1-Dichloroethene	108	70-130
Trichloroethene	111	70-130
Surrogate(s)		
4-Bromochlorobenzene	97	70-130
Volatile Organics by GC 8021 LCS for sample(s) 07-14 (WG146717)		
Chlorobenzene	102	70-130
1,1-Dichloroethene	107	70-130
Trichloroethene	111	70-130
Surrogate(s)		
4-Bromochlorobenzene	116	70-130
Chloride SPIKE for sample(s) 06,08-10,12,14 (L0307500-01, WG146615)		
Chloride	100	
Chromium, Hexavalent SPIKE for sample(s) 06,08-10,12,14 (L0307493-14, WG146541)		
Chromium, Hexavalent	101	
Dissolved Metals SPIKE for sample(s) 06,08-10,12,14 (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: L0307493

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
Volatile Organics by GC 8021 for sample(s) 01-14 (L0307451-08, WG146717)					
Chlorobenzene	111	108	3	20	70-130
1,1-Dichloroethene	111	107	4	20	70-130
Trichloroethene	105	99	6	20	70-130
Surrogate(s)					
4-Bromochlorobenzene	113	109	4		70-130

**ALPHA ANALYTICAL LABORATORIES**  
**QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0307493

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Blank Analysis for sample(s) 06,08-10,12,14 (WG146615-2)

Chloride	ND	mg/l	1.0	1 9251	0731 17:54	DD
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Blank Analysis for sample(s) 06,08-10,12,14 (WG146541-1)

Chromium, Hexavalent	ND	mg/l	0.02	1 7196A	0730 19:45	0730 19:45 JT
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Blank Analysis for sample(s) 01 (WG146717-4)

Volatile Organics by GC 8021				1 8021B	0731 09:03	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	99.0	%		70-130		

Blank Analysis for sample(s) 02-06 (WG146717-6)

Volatile Organics by GC 8021				1 8021B	0731 21:00	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: L0307493

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02-06 (WG146717-6)							
Volatile Organics by GC 8021 continued				1	8021B	0731	21:00 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	105.	%		70-130			
Blank Analysis for sample(s) 07-14 (WG146717-8)							
Volatile Organics by GC 8021				1	8021B	0801	09:12 MM
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				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0307493

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 07-14 (WG146717-8)							
Volatile Organics by GC 8021 continued				1	8021B	0801 09:12 MM	
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			



**ALPHA ANALYTICAL LABORATORIES**  
**ADDENDUM I**

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**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.





ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
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(508) 898-9220 www.alphalab.com

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

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L0309781  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 30-SEP-2003  
Attn: Mr. Tim Pac Date Reported: 07-OCT-2003  
Project Number: 1922.09 Delivery Method: Alpha  
Site: RAYTHEON-WAYLAND

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. **VPH and EPH methods only:** Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

---

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

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0309781  
Date Reported: 07-OCT-2003

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0309781-01	MW-106M	WAYLAND
L0309781-02	MW-106	WAYLAND
L0309781-03	MW-104	WAYLAND
L0309781-04	MW-212	WAYLAND
L0309781-05	DUP-5	WAYLAND
L0309781-06	MW-212M	WAYLAND
L0309781-07	MW-209	WAYLAND
L0309781-08	MW-102	WAYLAND
L0309781-09	MW-105M	WAYLAND
L0309781-10	MW-105	WAYLAND
L0309781-11	DUP-4	WAYLAND
L0309781-12	MW-43D	WAYLAND
L0309781-13	MW-43S	WAYLAND
L0309781-14	MW-210	WAYLAND
L0309781-15	MW-211	WAYLAND
L0309781-16	MW-103	WAYLAND
L0309781-17	MW-213	WAYLAND

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0309781

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Report Submission

In reference to question F, at the client's request, the samples were analyzed only for the compounds specified on the chain of custody.

Volatile Organics

In reference to question E, the LCS % recovery associated with L0309781-01 through -07, -10 and -11 for Bromomethane at 39% is below the acceptance criteria required for the method. This analyte is considered to be a difficult analyte, therefore no further action was taken.

In reference to question E, the LCS % recoveries associated with L0309781-01 through -07, -10 and -11 for Naphthalene at 59% is below acceptance criteria, and Acetone at 144% is above acceptance criteria. The associated samples are ND for the above mentioned compounds.

In reference to question E, the LCS % recovery associated with L0309781-08 for Bromomethane at 36% is below the acceptance criteria required for the method. This analyte is considered to be a difficult analyte, therefore no further action was taken.

In reference to question E, the LCS % recoveries associated with L0309781-08 for Naphthalene at 66% is below acceptance criteria, and Acetone at 136% is above acceptance criteria. The associated samples are ND for the above mentioned compounds.

L0309781-08 was re-analyzed on dilution in order to quantitate the sample within the range of the calibration. The result is reported as a greater than value for the compound that exceeded the calibration on the initial analysis. The re-analysis was performed only for the compound which exceeded the range of the calibration.

In reference to question E, the LCS % recovery associated with L0309781-12 through -17 for Dichlorodifluoromethane at 142% is above the acceptance criteria required for the method. The associated samples are ND for the above mentioned compound.

In reference to question E, the MS % recovery associated with L0309781-12 through -17 for 1,1,2-Trichloroethane at 133% is above acceptance criteria.

In reference to question E, the MS/MSD % recoveries associated with L0309781-12 through -17 for Bromoform at 142%/145%, and 1,1,2,2-Tertachloroethane at 151%/150% are above acceptance criteria.



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0309781-01  
 MW-106M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001 20:02		BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	95.0	%		70-130			
Toluene-d8	89.0	%		70-130			
4-Bromofluorobenzene	93.0	%		70-130			
Dibromofluoromethane	82.0	%		70-130			

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





**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-02  
MW-106

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001	20:49	BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	94.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	92.0	%		70-130			
Dibromofluoromethane	85.0	%		70-130			

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



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0309781-03  
 MW-104

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001	21:35	BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	95.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	92.0	%		70-130			
Dibromofluoromethane	86.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309781-04	<b>Date Collected:</b> 30-SEP-2003 12:05
MW-212	<b>Date Received :</b> 30-SEP-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 07-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> None
<b>Number &amp; Type of Containers:</b> 2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
Volatile Organics by MCP 8260B				54 8260B	1001 22:21	BT
Methylene chloride	ND	ug/l	5.0			
1,1-Dichloroethane	ND	ug/l	0.75			
Chloroform	ND	ug/l	0.75			
Carbon tetrachloride	ND	ug/l	0.50			
1,2-Dichloropropane	ND	ug/l	1.8			
Dibromochloromethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.75			
Tetrachloroethene	ND	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			
1,2-Dichloroethane	ND	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
Bromodichloromethane	ND	ug/l	0.50			
trans-1,3-Dichloropropene	ND	ug/l	0.50			
Bromoform	ND	ug/l	2.0			
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50			
Chloromethane	ND	ug/l	2.5			
Vinyl chloride	ND	ug/l	1.0			
Chloroethane	ND	ug/l	1.0			
1,1-Dichloroethene	ND	ug/l	0.50			
trans-1,2-Dichloroethene	ND	ug/l	0.75			
Trichloroethene	0.77	ug/l	0.50			
1,2-Dichlorobenzene	ND	ug/l	2.5			
1,3-Dichlorobenzene	ND	ug/l	2.5			
1,4-Dichlorobenzene	ND	ug/l	2.5			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,2-Dibromoethane	ND	ug/l	2.5			
1,3-Dichloropropane	ND	ug/l	2.5			
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50			
o-Chlorotoluene	ND	ug/l	2.5			
p-Chlorotoluene	ND	ug/l	2.5			
Hexachlorobutadiene	ND	ug/l	2.5			
1,2,4-Trichlorobenzene	ND	ug/l	2.5			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-04  
MW-212

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001 22:21		BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	99.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	94.0	%		70-130			
Dibromofluoromethane	93.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number:	L0309781-05	Date Collected:	30-SEP-2003 00:00
	DUP-5	Date Received :	30-SEP-2003
Sample Matrix:	WATER	Date Reported :	07-OCT-2003
Condition of Sample:	Satisfactory	Field Prep:	None
Number & Type of Containers: 2-Vial			

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
Volatile Organics by MCP 8260B				54 8260B	1001 23:08	BT
Methylene chloride	ND	ug/l	5.0			
1,1-Dichloroethane	ND	ug/l	0.75			
Chloroform	ND	ug/l	0.75			
Carbon tetrachloride	ND	ug/l	0.50			
1,2-Dichloropropane	ND	ug/l	1.8			
Dibromochloromethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.75			
Tetrachloroethene	ND	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			
1,2-Dichloroethane	ND	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
Bromodichloromethane	ND	ug/l	0.50			
trans-1,3-Dichloropropene	ND	ug/l	0.50			
Bromoform	ND	ug/l	2.0			
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50			
Chloromethane	ND	ug/l	2.5			
Vinyl chloride	ND	ug/l	1.0			
Chloroethane	ND	ug/l	1.0			
1,1-Dichloroethene	ND	ug/l	0.50			
trans-1,2-Dichloroethene	ND	ug/l	0.75			
Trichloroethene	0.55	ug/l	0.50			
1,2-Dichlorobenzene	ND	ug/l	2.5			
1,3-Dichlorobenzene	ND	ug/l	2.5			
1,4-Dichlorobenzene	ND	ug/l	2.5			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,2-Dibromoethane	ND	ug/l	2.5			
1,3-Dichloropropane	ND	ug/l	2.5			
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50			
o-Chlorotoluene	ND	ug/l	2.5			
p-Chlorotoluene	ND	ug/l	2.5			
Hexachlorobutadiene	ND	ug/l	2.5			
1,2,4-Trichlorobenzene	ND	ug/l	2.5			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-05  
DUP-5

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001 23:08		BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	96.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	94.0	%		70-130			
Dibromofluoromethane	89.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number: L0309781-06		Date Collected: 30-SEP-2003 12:40
	MW-212M	Date Received : 30-SEP-2003
Sample Matrix:	WATER	Date Reported : 07-OCT-2003
Condition of Sample:	Satisfactory	Field Prep: None
Number & Type of Containers: 2-Vial		

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by MCP 8260B				54 8260B	1001 23:54 BT	
Methylene chloride	ND	ug/l	5.0			
1,1-Dichloroethane	ND	ug/l	0.75			
Chloroform	1.2	ug/l	0.75			
Carbon tetrachloride	ND	ug/l	0.50			
1,2-Dichloropropane	ND	ug/l	1.8			
Dibromochloromethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.75			
Tetrachloroethene	ND	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			
1,2-Dichloroethane	ND	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
Bromodichloromethane	0.74	ug/l	0.50			
trans-1,3-Dichloropropene	ND	ug/l	0.50			
Bromoform	ND	ug/l	2.0			
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50			
Chloromethane	ND	ug/l	2.5			
Vinyl chloride	ND	ug/l	1.0			
Chloroethane	ND	ug/l	1.0			
1,1-Dichloroethene	ND	ug/l	0.50			
trans-1,2-Dichloroethene	ND	ug/l	0.75			
Trichloroethene	ND	ug/l	0.50			
1,2-Dichlorobenzene	ND	ug/l	2.5			
1,3-Dichlorobenzene	ND	ug/l	2.5			
1,4-Dichlorobenzene	ND	ug/l	2.5			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,2-Dibromoethane	ND	ug/l	2.5			
1,3-Dichloropropane	ND	ug/l	2.5			
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50			
o-Chlorotoluene	ND	ug/l	2.5			
p-Chlorotoluene	ND	ug/l	2.5			
Hexachlorobutadiene	ND	ug/l	2.5			
1,2,4-Trichlorobenzene	ND	ug/l	2.5			

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

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0309781-06  
 MW-212M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001 23:54		BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	97.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	93.0	%		70-130			
Dibromofluoromethane	87.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-07  
MW-209

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002 00:41		BT
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	96.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	94.0	%		70-130			
Dibromofluoromethane	88.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309781-08	<b>Date Collected:</b> 30-SEP-2003 16:45
	<b>Date Received :</b> 30-SEP-2003
<b>Sample Matrix:</b> MW-102 WATER	<b>Date Reported :</b> 07-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> Field Filtered
<b>Number &amp; Type of Containers:</b> 2-Plastic,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	320	mg/l	10.	1 9251		1003 18:58	DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1001 11:20	1001 11:20 JT
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1003 12:22	RW
Manganese, Dissolved	0.07	mg/l	0.01	54 6010B		1003 12:22	RW
Sodium, Dissolved	67.	mg/l	10.	54 6010B		1003 14:45	RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	1.7	ug/l	0.75				
Chloroform	1.4	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	1.0	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	6.5	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	>100	ug/l	.5				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	14.	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-08  
MW-102

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002	01:27	BT
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	97.0	%		70-130			
Toluene-d8	92.0	%		70-130			
4-Bromofluorobenzene	95.0	%		70-130			
Dibromofluoromethane	92.0	%		70-130			
Volatile Organics by MCP 8260B				54 8260B	1002	20:23	BT
Trichloroethene	490	ug/l	10.				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	95.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	95.0	%		70-130			
Dibromofluoromethane	86.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309781-09	<b>Date Collected:</b> 30-SEP-2003 09:40
MW-105M	<b>Date Received :</b> 30-SEP-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 07-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> None
<b>Number &amp; Type of Containers:</b> 2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by MCP 8260B				54 8260B	1002 21:09	BT
Methylene chloride	ND	ug/l	5.0			
1,1-Dichloroethane	ND	ug/l	0.75			
Chloroform	ND	ug/l	0.75			
Carbon tetrachloride	ND	ug/l	0.50			
1,2-Dichloropropane	ND	ug/l	1.8			
Dibromochloromethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.75			
Tetrachloroethene	ND	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			
1,2-Dichloroethane	ND	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
Bromodichloromethane	ND	ug/l	0.50			
trans-1,3-Dichloropropene	ND	ug/l	0.50			
Bromoform	ND	ug/l	2.0			
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50			
Chloromethane	ND	ug/l	2.5			
Vinyl chloride	ND	ug/l	1.0			
Chloroethane	ND	ug/l	1.0			
1,1-Dichloroethene	ND	ug/l	0.50			
trans-1,2-Dichloroethene	ND	ug/l	0.75			
Trichloroethene	1.1	ug/l	0.50			
1,2-Dichlorobenzene	ND	ug/l	2.5			
1,3-Dichlorobenzene	ND	ug/l	2.5			
1,4-Dichlorobenzene	ND	ug/l	2.5			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,2-Dibromoethane	ND	ug/l	2.5			
1,3-Dichloropropane	ND	ug/l	2.5			
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50			
o-Chlorotoluene	ND	ug/l	2.5			
p-Chlorotoluene	ND	ug/l	2.5			
Hexachlorobutadiene	ND	ug/l	2.5			
1,2,4-Trichlorobenzene	ND	ug/l	2.5			

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

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0309781-09  
 MW-105M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002 21:09		BT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	93.0	%		70-130			
Toluene-d8	90.0	%		70-130			
4-Bromofluorobenzene	96.0	%		70-130			
Dibromofluoromethane	85.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number:	L0309781-10	Date Collected:	30-SEP-2003 10:45
	MW-105	Date Received :	30-SEP-2003
Sample Matrix:	WATER	Date Reported :	07-OCT-2003
Condition of Sample:	Satisfactory	Field Prep:	Field Filtered
Number & Type of Containers: 2-Plastic,2-Vial			

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	220	mg/l	10.	1 9251		1003 19:00	DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	0.40	mg/l	0.02	55 7196A		1001 11:20	1001 11:20 JT
Dissolved Metals							
Chromium, Dissolved	0.37	mg/l	0.01	54 6010B		1003 12:26	RW
Manganese, Dissolved	0.06	mg/l	0.01	54 6010B		1003 12:26	RW
Sodium, Dissolved	330	mg/l	100	54 6010B		1003 14:49	RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	5.0		54 8260B	1002 03:00	BT
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	1.2	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	35.	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	0.97	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-10  
MW-105

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002 03:00		BT
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	99.0	%		70-130			
Toluene-d8	93.0	%		70-130			
4-Bromofluorobenzene	97.0	%		70-130			
Dibromofluoromethane	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: L0309781-11  
DUP-4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002 03:46		BT
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	98.0	%		70-130			
Toluene-d8	93.0	%		70-130			
4-Bromofluorobenzene	96.0	%		70-130			
Dibromofluoromethane	90.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309781-12	<b>Date Collected:</b> 30-SEP-2003 11:45
MW-43D	<b>Date Received :</b> 30-SEP-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 07-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> Field Filtered
<b>Number &amp; Type of Containers:</b> 2-Plastic,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	54.	mg/l	1.0	1 9251			1003 19:36 DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A			1001 11:20 1001 11:20 JT
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B			1003 12:33 RW
Manganese, Dissolved	ND	mg/l	0.01	54 6010B			1003 12:33 RW
Sodium, Dissolved	17.	mg/l	4.0	54 6010B			1003 15:07 RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-12  
MW-43D

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002 11:05 RY		
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	90.0	%		70-130			
Toluene-d8	96.0	%		70-130			
4-Bromofluorobenzene	117.	%		70-130			
Dibromofluoromethane	101.	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309781-13	<b>Date Collected:</b> 30-SEP-2003 12:20
MW-43S	<b>Date Received :</b> 30-SEP-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 07-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> None
<b>Number &amp; Type of Containers:</b> 2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B				54 8260B		1002 11:40	RY
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	1.2	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	28.	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				

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

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0309781-13  
 MW-43S

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1002 11:40		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	90.0	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	117.	%		70-130			
Dibromofluoromethane	104.	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309781-14	<b>Date Collected:</b> 30-SEP-2003 12:40
MW-210	<b>Date Received :</b> 30-SEP-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 07-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> None
<b>Number &amp; Type of Containers:</b> 2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
Volatile Organics by MCP 8260B				54 8260B	1001 20:06	RY
Methylene chloride	ND	ug/l	5.0			
1,1-Dichloroethane	ND	ug/l	0.75			
Chloroform	ND	ug/l	0.75			
Carbon tetrachloride	ND	ug/l	0.50			
1,2-Dichloropropane	ND	ug/l	1.8			
Dibromochloromethane	ND	ug/l	0.50			
1,1,2-Trichloroethane	ND	ug/l	0.75			
Tetrachloroethene	0.50	ug/l	0.50			
Chlorobenzene	ND	ug/l	0.50			
1,2-Dichloroethane	ND	ug/l	0.50			
1,1,1-Trichloroethane	ND	ug/l	0.50			
Bromodichloromethane	ND	ug/l	0.50			
trans-1,3-Dichloropropene	ND	ug/l	0.50			
cis-1,3-Dichloropropene	ND	ug/l	0.50			
Bromoform	ND	ug/l	2.0			
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50			
Chloromethane	ND	ug/l	2.5			
Vinyl chloride	ND	ug/l	1.0			
Chloroethane	ND	ug/l	1.0			
1,1-Dichloroethene	ND	ug/l	0.50			
trans-1,2-Dichloroethene	ND	ug/l	0.75			
Trichloroethene	6.6	ug/l	0.50			
1,2-Dichlorobenzene	ND	ug/l	2.5			
1,3-Dichlorobenzene	ND	ug/l	2.5			
1,4-Dichlorobenzene	ND	ug/l	2.5			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,2-Dibromoethane	ND	ug/l	2.5			
1,3-Dichloropropane	ND	ug/l	2.5			
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50			
o-Chlorotoluene	ND	ug/l	2.5			
p-Chlorotoluene	ND	ug/l	2.5			
Hexachlorobutadiene	ND	ug/l	2.5			
1,2,4-Trichlorobenzene	ND	ug/l	2.5			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-14  
MW-210

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001 20:06 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	110.	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	111.	%		70-130			
Dibromofluoromethane	106.	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-15  
MW-211

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001	20:41	RY
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	113.	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	110.	%		70-130			
Dibromofluoromethane	106.	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-16  
MW-103

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001 21:16 RY		
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	111.	%		70-130			
Toluene-d8	100.	%		70-130			
4-Bromofluorobenzene	113.	%		70-130			
Dibromofluoromethane	107.	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309781-17  
MW-213

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1001	21:50	RY
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	111.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	112.	%		70-130			
Dibromofluoromethane	107.	%		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: L0309781

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 07-08,10-12,15-17 (L0309781-15, WG152383)					
Chloride	89.	90.	mg/l	1	7
Hexavalent Chromium by MCP 7196A for sample(s) 07-08,10-12,15-17 (L0309781-15, WG152176)					
Chromium, Hexavalent	ND	ND	mg/l	NC	20
Dissolved Metals for sample(s) 07-08,10-12,15-17 (L0309781-15, WG152224)					
Chromium, Dissolved	ND	ND	mg/l	NC	20
Manganese, Dissolved	0.01	0.01	mg/l	5	20
Sodium, Dissolved	110	110	mg/l	0	20

**ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

Laboratory Job Number: L0309781

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 07-08,10-12,15-17 (WG152383)		
Chloride	100	84-110
Hexavalent Chromium by MCP 7196A LCS for sample(s) 07-08,10-12,15-17 (WG152176)		
Chromium, Hexavalent	101	80-120
Dissolved Metals LCS for sample(s) 07-08,10-12,15-17 (WG152224)		
Chromium, Dissolved	95	80-120
Manganese, Dissolved	96	80-120
Sodium, Dissolved	100	80-120
Volatile Organics by MCP 8260B LCS for sample(s) 01-07,10-11 (WG152129)		
Methylene chloride	84	70-130
1,1-Dichloroethane	97	70-130
Chloroform	93	70-130
Carbon tetrachloride	96	70-130
1,2-Dichloropropane	96	70-130
Dibromochloromethane	88	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	95	70-130
Chlorobenzene	97	70-130
Trichlorofluoromethane	98	70-130
1,2-Dichloroethane	96	70-130
1,1,1-Trichloroethane	97	70-130
Bromodichloromethane	92	70-130
trans-1,3-Dichloropropene	86	70-130
cis-1,3-Dichloropropene	89	70-130
1,1-Dichloropropene	92	70-130
Bromoform	88	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Benzene	86	70-130
Toluene	96	70-130
Ethylbenzene	98	70-130
Chloromethane	94	70-130
Bromomethane	39	70-130
Vinyl chloride	96	70-130
Chloroethane	95	70-130
1,1-Dichloroethene	91	70-130
trans-1,2-Dichloroethene	92	70-130
Trichloroethene	95	70-130
1,2-Dichlorobenzene	94	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	94	70-130
Methyl tert butyl ether	98	70-130
p/m-Xylene	97	70-130
o-Xylene	98	70-130
cis-1,2-Dichloroethene	98	70-130
Dibromomethane	99	70-130
1,2,3-Trichloropropane	95	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 01-07,10-11 (WG152129)		
Styrene	99	70-130
Dichlorodifluoromethane	100	70-130
Acetone	144	70-130
Carbon disulfide	88	70-130
2-Butanone	122	70-130
4-Methyl-2-pentanone	93	70-130
2-Hexanone	97	70-130
Bromochloromethane	99	70-130
Tetrahydrofuran	96	70-130
2,2-Dichloropropane	97	70-130
1,2-Dibromoethane	97	70-130
1,3-Dichloropropane	96	70-130
1,1,1,2-Tetrachloroethane	97	70-130
Bromobenzene	96	70-130
n-Butylbenzene	88	70-130
sec-Butylbenzene	94	70-130
tert-Butylbenzene	94	70-130
o-Chlorotoluene	99	70-130
p-Chlorotoluene	92	70-130
1,2-Dibromo-3-chloropropane	91	70-130
Hexachlorobutadiene	96	70-130
Isopropylbenzene	91	70-130
p-Isopropyltoluene	93	70-130
Naphthalene	59	70-130
n-Propylbenzene	93	70-130
1,2,3-Trichlorobenzene	85	70-130
1,2,4-Trichlorobenzene	86	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	98	70-130
Ethyl ether	98	70-130
Isopropyl Ether	90	70-130
Ethyl-Tert-Butyl-Ether	90	70-130
Tertiary-Amyl Methyl Ether	93	70-130
1,4-Dioxane	117	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	95	70-130
Dibromofluoromethane	94	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 08 (WG152263)		
Methylene chloride	81	70-130
1,1-Dichloroethane	94	70-130
Chloroform	90	70-130
Carbon tetrachloride	92	70-130
1,2-Dichloropropane	94	70-130
Dibromochloromethane	89	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 08 (WG152263)		
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	94	70-130
Chlorobenzene	94	70-130
Trichlorofluoromethane	97	70-130
1,2-Dichloroethane	97	70-130
1,1,1-Trichloroethane	94	70-130
Bromodichloromethane	90	70-130
trans-1,3-Dichloropropene	85	70-130
cis-1,3-Dichloropropene	86	70-130
1,1-Dichloropropene	90	70-130
Bromoform	93	70-130
1,1,2,2-Tetrachloroethane	107	70-130
Benzene	84	70-130
Toluene	93	70-130
Ethylbenzene	95	70-130
Chloromethane	91	70-130
Bromomethane	36	70-130
Vinyl chloride	95	70-130
Chloroethane	95	70-130
1,1-Dichloroethene	89	70-130
trans-1,2-Dichloroethene	90	70-130
Trichloroethene	94	70-130
1,2-Dichlorobenzene	93	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	93	70-130
Methyl tert butyl ether	99	70-130
p/m-Xylene	94	70-130
o-Xylene	95	70-130
cis-1,2-Dichloroethene	95	70-130
Dibromomethane	99	70-130
1,2,3-Trichloropropane	100	70-130
Styrene	97	70-130
Dichlorodifluoromethane	101	70-130
Acetone	136	70-130
Carbon disulfide	89	70-130
2-Butanone	125	70-130
4-Methyl-2-pentanone	102	70-130
2-Hexanone	107	70-130
Bromochloromethane	99	70-130
Tetrahydrofuran	97	70-130
2,2-Dichloropropane	95	70-130
1,2-Dibromoethane	97	70-130
1,3-Dichloropropane	99	70-130
1,1,1,2-Tetrachloroethane	96	70-130
Bromobenzene	94	70-130
n-Butylbenzene	85	70-130
sec-Butylbenzene	91	70-130
tert-Butylbenzene	92	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 08 (WG152263)		
o-Chlorotoluene	95	70-130
p-Chlorotoluene	90	70-130
1,2-Dibromo-3-chloropropane	102	70-130
Hexachlorobutadiene	92	70-130
Isopropylbenzene	89	70-130
p-Isopropyltoluene	90	70-130
Naphthalene	66	70-130
n-Propylbenzene	91	70-130
1,2,3-Trichlorobenzene	86	70-130
1,2,4-Trichlorobenzene	87	70-130
1,3,5-Trimethylbenzene	94	70-130
1,2,4-Trimethylbenzene	95	70-130
Ethyl ether	95	70-130
Isopropyl Ether	86	70-130
Ethyl-Tert-Butyl-Ether	88	70-130
Tertiary-Amyl Methyl Ether	94	70-130
1,4-Dioxane	121	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	85	70-130
4-Bromofluorobenzene	89	70-130
Dibromofluoromethane	89	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 09 (WG152436)		
Methylene chloride	81	70-130
1,1-Dichloroethane	94	70-130
Chloroform	90	70-130
Carbon tetrachloride	92	70-130
1,2-Dichloropropane	94	70-130
Dibromochloromethane	89	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	94	70-130
Chlorobenzene	94	70-130
1,2-Dichloroethane	97	70-130
1,1,1-Trichloroethane	94	70-130
Bromodichloromethane	90	70-130
trans-1,3-Dichloropropene	85	70-130
Bromoform	93	70-130
1,1,2,2-Tetrachloroethane	107	70-130
Chloromethane	91	70-130
Vinyl chloride	95	70-130
Chloroethane	95	70-130
1,1-Dichloroethene	89	70-130
trans-1,2-Dichloroethene	90	70-130
Trichloroethene	94	70-130
1,2-Dichlorobenzene	93	70-130
1,3-Dichlorobenzene	92	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 09 (WG152436)		
1,4-Dichlorobenzene	93	70-130
cis-1,2-Dichloroethene	95	70-130
Dichlorodifluoromethane	101	70-130
1,2-Dibromoethane	97	70-130
1,3-Dichloropropane	99	70-130
1,1,1,2-Tetrachloroethane	96	70-130
o-Chlorotoluene	95	70-130
p-Chlorotoluene	90	70-130
Hexachlorobutadiene	92	70-130
1,2,4-Trichlorobenzene	87	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	85	70-130
4-Bromofluorobenzene	89	70-130
Dibromofluoromethane	89	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 08 (WG152263)		
Methylene chloride	84	70-130
1,1-Dichloroethane	97	70-130
Chloroform	93	70-130
Carbon tetrachloride	96	70-130
1,2-Dichloropropane	96	70-130
Dibromochloromethane	88	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	95	70-130
Chlorobenzene	97	70-130
1,2-Dichloroethane	96	70-130
1,1,1-Trichloroethane	97	70-130
Bromodichloromethane	92	70-130
trans-1,3-Dichloropropene	86	70-130
Bromoform	88	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Chloromethane	94	70-130
Vinyl chloride	96	70-130
Chloroethane	95	70-130
1,1-Dichloroethene	91	70-130
trans-1,2-Dichloroethene	92	70-130
Trichloroethene	95	70-130
1,2-Dichlorobenzene	94	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	94	70-130
cis-1,2-Dichloroethene	98	70-130
Dichlorodifluoromethane	100	70-130
1,2-Dibromoethane	97	70-130
1,3-Dichloropropane	96	70-130
1,1,1,2-Tetrachloroethane	97	70-130
o-Chlorotoluene	99	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 08 (WG152263)		
p-Chlorotoluene	92	70-130
Hexachlorobutadiene	96	70-130
1,2,4-Trichlorobenzene	86	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	95	70-130
Dibromofluoromethane	94	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 12-13 (WG152219)		
Methylene chloride	83	70-130
1,1-Dichloroethane	96	70-130
Chloroform	94	70-130
Carbon tetrachloride	101	70-130
1,2-Dichloropropane	98	70-130
Dibromochloromethane	88	70-130
1,1,2-Trichloroethane	106	70-130
Tetrachloroethene	99	70-130
Chlorobenzene	99	70-130
1,2-Dichloroethane	87	70-130
1,1,1-Trichloroethane	98	70-130
Bromodichloromethane	95	70-130
trans-1,3-Dichloropropene	88	70-130
cis-1,3-Dichloropropene	94	70-130
Bromoform	116	70-130
1,1,2,2-Tetrachloroethane	105	70-130
Chloromethane	77	70-130
Vinyl chloride	104	70-130
Chloroethane	99	70-130
1,1-Dichloroethene	101	70-130
trans-1,2-Dichloroethene	97	70-130
Trichloroethene	99	70-130
1,2-Dichlorobenzene	92	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	92	70-130
cis-1,2-Dichloroethene	104	70-130
Dichlorodifluoromethane	115	70-130
1,2-Dibromoethane	95	70-130
1,3-Dichloropropane	97	70-130
1,1,1,2-Tetrachloroethane	95	70-130
o-Chlorotoluene	102	70-130
p-Chlorotoluene	100	70-130
Hexachlorobutadiene	98	70-130
1,2,4-Trichlorobenzene	84	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 12-13 (WG152219)		
Surrogate(s)		
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130
Dibromofluoromethane	102	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 14-17 (WG152219)		
Methylene chloride	87	70-130
1,1-Dichloroethane	109	70-130
Chloroform	108	70-130
Carbon tetrachloride	119	70-130
1,2-Dichloropropane	107	70-130
Dibromochloromethane	104	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	102	70-130
Chlorobenzene	101	70-130
1,2-Dichloroethane	111	70-130
1,1,1-Trichloroethane	116	70-130
Bromodichloromethane	109	70-130
trans-1,3-Dichloropropene	98	70-130
cis-1,3-Dichloropropene	103	70-130
Bromoform	123	70-130
1,1,2,2-Tetrachloroethane	107	70-130
Chloromethane	117	70-130
Vinyl chloride	119	70-130
Chloroethane	113	70-130
1,1-Dichloroethene	107	70-130
trans-1,2-Dichloroethene	100	70-130
Trichloroethene	105	70-130
1,2-Dichlorobenzene	101	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	102	70-130
cis-1,2-Dichloroethene	105	70-130
Dichlorodifluoromethane	142	70-130
1,2-Dibromoethane	102	70-130
1,3-Dichloropropane	104	70-130
1,1,1,2-Tetrachloroethane	107	70-130
o-Chlorotoluene	106	70-130
p-Chlorotoluene	106	70-130
Hexachlorobutadiene	108	70-130
1,2,4-Trichlorobenzene	97	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130
Dibromofluoromethane	103	70-130



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309781

Continued

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Parameter	% Recovery	QC Criteria
Chloride SPIKE for sample(s) 07-08,10-12,15-17 (L0309781-15, WG152383)		
Chloride	100	58-140
Hexavalent Chromium by MCP 7196A SPIKE for sample(s) 07-08,10-12,15-17 (L0309781-15, WG152176)		
Chromium, Hexavalent	100	75-125
Dissolved Metals SPIKE for sample(s) 07-08,10-12,15-17 (L0309781-15, WG152224)		
Chromium, Dissolved	90	75-125
Manganese, Dissolved	92	75-125
Sodium, Dissolved	100	75-125

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0309781

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
Volatile Organics by MCP 8260B for sample(s) 12-17 (L0309781-15, WG152219)					
Methylene chloride	89	85	4	20	70-130
1,1-Dichloroethane	100	92	8	20	70-130
Chloroform	100	94	6	20	70-130
Carbon tetrachloride	97	90	7	20	70-130
1,2-Dichloropropane	107	101	6	20	70-130
Dibromochloromethane	110	110	0	20	70-130
1,1,2-Trichloroethane	133	130	2	20	70-130
Tetrachloroethene	107	101	6	20	70-130
Chlorobenzene	118	113	4	20	70-130
1,2-Dichloroethane	96	91	6	20	70-130
1,1,1-Trichloroethane	97	90	8	20	70-130
Bromodichloromethane	105	101	4	20	70-130
trans-1,3-Dichloropropene	109	105	4	20	70-130
cis-1,3-Dichloropropene	103	98	5	20	70-130
Bromoform	142	145	2	20	70-130
1,1,2,2-Tetrachloroethane	151	150	1	20	70-130
Chloromethane	83	81	2	20	70-130
Vinyl chloride	108	100	8	20	70-130
Chloroethane	106	99	7	20	70-130
1,1-Dichloroethene	105	95	10	20	70-130
trans-1,2-Dichloroethene	103	95	8	20	70-130
Trichloroethene	101	92	9	20	70-130
1,2-Dichlorobenzene	120	116	3	20	70-130
1,3-Dichlorobenzene	120	115	4	20	70-130
1,4-Dichlorobenzene	119	114	4	20	70-130
cis-1,2-Dichloroethene	111	102	8	20	70-130
Dichlorodifluoromethane	126	122	3	20	70-130
1,2-Dibromoethane	120	117	3	20	70-130
1,3-Dichloropropane	122	119	2	20	70-130
1,1,1,2-Tetrachloroethane	115	109	5	20	70-130
o-Chlorotoluene	122	117	4	20	70-130
p-Chlorotoluene	123	116	6	20	70-130
Hexachlorobutadiene	112	109	3	20	70-130
1,2,4-Trichlorobenzene	109	109	0	20	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	87	86	1		70-130
Toluene-d8	98	98	0		70-130
4-Bromofluorobenzene	103	103	0		70-130
Dibromofluoromethane	95	95	0		70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 07-08,10-12,15-17 (WG152383-2)							
Chloride	ND	mg/l	1.0	1 9251		1003 17:38	DD
Blank Analysis for sample(s) 07-08,10-12,15-17 (WG152176-1)							
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1001 11:20	1001 11:20 JT
Blank Analysis for sample(s) 07-08,10-12,15-17 (WG152224-3)							
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1003 12:11	RW
Manganese, Dissolved	ND	mg/l	0.01	54 6010B		1003 12:11	RW
Sodium, Dissolved	ND	mg/l	2.0	54 6010B		1003 12:11	RW
Blank Analysis for sample(s) 01-07,10-11 (WG152129-4)							
Volatile Organics by MCP 8260B							
				54 8260B		1001 17:43	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
1,1-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Bromomethane	ND	ug/l	1.0				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-07,10-11 (WG152129-4)							
Volatile Organics by MCP 8260B continued				54 8260B		1001 17:43	BT
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	0.50				
o-Xylene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,2,3-Trichloropropane	ND	ug/l	5.0				
Styrene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
Acetone	ND	ug/l	5.0				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	5.0				
4-Methyl-2-pentanone	ND	ug/l	5.0				
2-Hexanone	ND	ug/l	5.0				
Bromochloromethane	ND	ug/l	2.5				
Tetrahydrofuran	ND	ug/l	10.				
2,2-Dichloropropane	ND	ug/l	2.5				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
Bromobenzene	ND	ug/l	2.5				
n-Butylbenzene	ND	ug/l	0.50				
sec-Butylbenzene	ND	ug/l	0.50				
tert-Butylbenzene	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
Isopropylbenzene	ND	ug/l	0.50				
p-Isopropyltoluene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	2.5				
n-Propylbenzene	ND	ug/l	0.50				
1,2,3-Trichlorobenzene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
1,3,5-Trimethylbenzene	ND	ug/l	2.5				
1,2,4-Trimethylbenzene	ND	ug/l	2.5				
Ethyl ether	ND	ug/l	2.5				
Isopropyl Ether	ND	ug/l	2.0				
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0				
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0				
1,4-Dioxane	ND	ug/l	250				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	94.0	%	70-130				
Toluene-d8	92.0	%	70-130				
4-Bromofluorobenzene	96.0	%	70-130				
Dibromofluoromethane	79.0	%	70-130				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 14-17 (WG152219-4)							
Volatile Organics by MCP 8260B				54 8260B		1001 17:13 RY	
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				

Surrogate(s)	Recovery		QC Criteria
1,2-Dichloroethane-d4	106.	%	70-130
Toluene-d8	102.	%	70-130
4-Bromofluorobenzene	108.	%	70-130
Dibromofluoromethane	104.	%	70-130

Blank Analysis for sample(s) 12-13 (WG152219-6)							
Volatile Organics by MCP 8260B				54 8260B		1002 10:31 RY	
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				

**ALPHA ANALYTICAL LABORATORIES**  
**QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 12-13 (WG152219-6)							
Volatile Organics by MCP 8260B continued				54 8260B		1002 10:31	RY
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	90.0	%	70-130				
Toluene-d8	96.0	%	70-130				
4-Bromofluorobenzene	117.	%	70-130				
Dibromofluoromethane	100.	%	70-130				

Blank Analysis for sample(s) 08 (WG152263-4)							
Volatile Organics by MCP 8260B				54 8260B		1001 17:43	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 08 (WG152263-4)							
Volatile Organics by MCP 8260B continued				54 8260B		1001 17:43	BT
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	94.0	%	70-130				
Toluene-d8	92.0	%	70-130				
4-Bromofluorobenzene	96.0	%	70-130				
Dibromofluoromethane	79.0	%	70-130				
Blank Analysis for sample(s) 08 (WG152263-6)							
Volatile Organics by MCP 8260B				54 8260B		1002 18:51	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 08 (WG152263-6)							
Volatile Organics by MCP 8260B continued				54 8260B		1002 18:51	BT
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
1,1-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Bromomethane	ND	ug/l	1.0				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	0.50				
o-Xylene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,2,3-Trichloropropane	ND	ug/l	5.0				
Styrene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
Acetone	ND	ug/l	5.0				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	5.0				
4-Methyl-2-pentanone	ND	ug/l	5.0				
2-Hexanone	ND	ug/l	5.0				
Bromochloromethane	ND	ug/l	2.5				
Tetrahydrofuran	ND	ug/l	10.				
2,2-Dichloropropane	ND	ug/l	2.5				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
Bromobenzene	ND	ug/l	2.5				
n-Butylbenzene	ND	ug/l	0.50				
sec-Butylbenzene	ND	ug/l	0.50				
tert-Butylbenzene	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
Isopropylbenzene	ND	ug/l	0.50				
p-Isopropyltoluene	ND	ug/l	0.50				



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 08 (WG152263-6)							
Volatile Organics by MCP 8260B continued				54 8260B		1002 18:51	BT
Naphthalene	ND	ug/l	2.5				
n-Propylbenzene	ND	ug/l	0.50				
1,2,3-Trichlorobenzene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
1,3,5-Trimethylbenzene	ND	ug/l	2.5				
1,2,4-Trimethylbenzene	ND	ug/l	2.5				
Ethyl ether	ND	ug/l	2.5				
Isopropyl Ether	ND	ug/l	2.0				
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0				
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0				
1,4-Dioxane	ND	ug/l	250				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	94.0	%	70-130				
Toluene-d8	89.0	%	70-130				
4-Bromofluorobenzene	94.0	%	70-130				
Dibromofluoromethane	85.0	%	70-130				
Blank Analysis for sample(s) 09 (WG152436-6)							
Volatile Organics by MCP 8260B				54 8260B		1002 18:51	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309781

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 09 (WG152436-6)							
Volatile Organics by MCP 8260B continued				54 8260B		1002 18:51	BT
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	94.0	%		70-130			
Toluene-d8	89.0	%		70-130			
4-Bromofluorobenzene	94.0	%		70-130			
Dibromofluoromethane	85.0	%		70-130			

**ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I**

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**REFERENCES**

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.
55. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. 30 July 2003.

**GLOSSARY OF TERMS AND SYMBOLS**

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

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

**LIMITATION OF LIABILITIES**

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

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

**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

**Laboratory Job Number: L0309781**

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0309781-01A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-01B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-02A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-02B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-03A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-03B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-04A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-04B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-05A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-05B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-06A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-06B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-07A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-07B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-07C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-07D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-08A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-08B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-08C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-08D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-09A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-09B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-10A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-10B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-10C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-10D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-11A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-11B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-11C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-11D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-12A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-12B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-12C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-12D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-13A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-13B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-14A	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-14B	Vial Na2S2O3 preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-15A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-15B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-15C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196

**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

Laboratory Job Number: L0309781

Continued

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Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0309781-15D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-15E	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-15F	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-16A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-16B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-16C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-16D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309781-17A	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-17B	Vial HCl preserved	A	NA	1.7 C	Y	Absent	MCP-8260
L0309781-17C	Plastic 250ml unpreserved	A	7	1.7 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309781-17D	Plastic 250ml HNO3 preserved	A	<2	1.7 C	Y	Absent	CR-SI, MN-SI, NA-SI

**Container Comments**

Container ID    Comments

---



# CHAIN OF CUSTODY

PAGE 1 OF 2

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

### Client Information

Client: **ERM - Boston**

Address: **399 Boylston St 6th Floor**

**Boston, MA 02116**

Phone: **617 267 8377**

Fax: **617 267 6447**

Email:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

*(in Preservative) = H<sub>10</sub>O<sub>8</sub>S<sub>2</sub>Na<sub>2</sub>*

### Project Information

Project Name: **Raytheon - Wayland**

Project Location: **Wayland**

Project #: **001422-07-008**

Project Manager: **J. P. ... T. Pac**

ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: **10/7/03** Time:

Date Recd In Lab:

**9/30/03**

ALPHA Job #: **00309781**

### Report Information - Data Deliverables

FAX  EMAIL  Add'l Deliverables

### Regulatory Requirements/Report Limits

State/Fed Program

Criteria

### Billing Information

Same as Client info PO #:

### MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

Yes  No Are MCP Analytical Methods Required?  
 Yes  No Are Drinking Water Samples Submitted?  
 Yes  No Have you met minimum field QC requirements?

**ANALYSIS**  
8021C  
8021C  
C/ & C+6  
Diss. **Cr, Mn, Na**

### SAMPLE HANDLING

Filtration  
 Done  
 Not needed  
 Lab to do  
 Preservation  
 Lab to do  
(please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
C9781	MW-106M	9/30/03	0940	GW	JTF
2	MW-106	9/30/03	1100	GW	JTF
3	MW-104	9/30/03	1145	GW	JTF
4	MW-212	9/30/03	1205	GW	JTF
5	Dup-5	9/30/03	2400	GW	JTF
6	MW-212M	9/30/03	1240	GW	JTF
7	MW-209	9/30/03	1510	GW	JTF
8	MW-102	9/30/03	1645	GW	JTF
9	MW-105M	9/30/03	0940	GW	JFlat
10	MW-105	9/30/03	1045	GW	JFlat

Container Type	Preservative	0	1	2	3
V	V	V	V	V	V
D	B	A	C		

Relinquished By:

*[Signature]*

Date/Time

**9/30/03 1243**

Accepted By:

*[Signature]*

Date/Time

**9/30/03 1838**

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT

**MCP ?**

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

*field filtered using 0.5 micron filter*

Sample Specific Comments

1

2

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22



# CHAIN OF CUSTODY

PAGE 2 OF 2

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

### Client Information

Client: ERM - Boston

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

Phone: 617 267 8377

Fax: 617 267 6447

Email:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Cl in Preservative) = H<sub>12</sub>Og<sub>52</sub>Na<sub>2</sub>

### Project Information

Project Name: Raytheon - Wayland

Project Location: Wayland

Project #: 0001420272 15922.C9

Project Manager: F. Perard - TRC

ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 10/7/03 Time:

Date Rec'd in Lab: 9/30/03

ALPHA Job #: LO309781

### Report Information - Data Deliverables

FAX  EMAIL WAS OK  
 ADEX  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

State/Fed Program Criteria

### MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

Yes  No Are MCP Analytical Methods Required?  
 Yes  No Are Drinking Water Samples Submitted?  
 Yes  No Have you met minimum field QC requirements?

ANALYSIS  
8021C  
Cl & Cr + 6  
Dis. Cr, Mn, Na  
8021C

### SAMPLE HANDLING

Filtration  
 Done  
 Not needed  
 Lab to do  
 Preservation  
 Lab to do  
(please specify below)

### Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Date	Time	Container Type	Preservative	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	Sample Specific Comments
		Date	Time												
09781	11 Dup-4	9/30/03	2400	GW	JFLat	9/30/03	1145	GW	JFLat	2 1 1	[Signature]	9/30/03	[Signature]	9/30/03	
	12 MW-43D	9/30/03	1145	GW	JFLat	9/30/03	1220	GW	JFLat	2 1 1					
	13 MW-43S	9/30/03	1220	GW	JFLat	9/30/03	1240	GW	JFLat	2 1 1					
	14 MW-21D	9/30/03	1240	GW	JFLat	9/30/03	1445	GW	JFLat	2 1 1					* Field filtered using 0.45 micron filter
	15 MW-211	9/30/03	1445	GW	JFLat	9/30/03	1445	GW	JFLat	2 1 1					
	15 MW-211-M51D	9/30/03	1445	GW	JFLat	9/30/03	1545	GW	JFLat	2 1 1					
	16 MW-103	9/30/03	1545	GW	JFLat	9/30/03	1645	GW	JFLat	2 1 1					
	17 MW-213	9/30/03	1645	GW	JFLat	9/30/03	1645	GW	JFLat	2 1 1					

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ?

Relinquished By:

Date/Time

Received By:

Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

ALPHA ANALYTICAL LABORATORIES

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

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

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L0309904  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 02-OCT-2003  
Attn: Mr. Tim Pac Date Reported: 09-OCT-2003  
Project Number: 1922.09 Delivery Method: Alpha  
Site: RAYTHEON

---

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. **VPH and EPH methods only:** Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

---

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  
This document electronically signed



ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0309904  
Date Reported: 09-OCT-2003

---

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0309904-01	MW-101	WAYLAND, MA
L0309904-02	MW-107	WAYLAND, MA
L0309904-03	MW-108	WAYLAND, MA
L0309904-04	MW-214	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0309904

---

Report Submission

In reference to question F, at the client's request, the samples were analyzed only for the compounds specified on the chain of custody.

Volatile Organics

In reference to question E, the LCS % recovery for Bromomethane at 40% on -01 through -03, and at 55% on -04 is below the acceptance criteria required for the method. This analyte is considered to be a difficult analyte, therefore no further action was taken.

In reference to question E, the LCS % recovery for Naphthalene at 64% is below acceptance criteria, and Acetone at 147% is above acceptance criteria.

Dissolved Metals

Due to high Na concentrations, -01 and -02 were diluted 5x prior to re-analysis and -03 and -04 were diluted 2x prior to analysis.

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309904-01	<b>Date Collected:</b> 02-OCT-2003 11:50
MW-101	<b>Date Received :</b> 02-OCT-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 09-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> Field Filtered
<b>Number &amp; Type of Containers:</b> 2-Plastic,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	66.	mg/l	1.0	1 9251		1003 17:52	DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	0.11	mg/l	0.02	55 7196A		1002 19:35	1002 19:35 JT
Dissolved Metals							
Chromium, Dissolved	0.10	mg/l	0.01	54 6010B		1008 09:06	RW
Manganese, Dissolved	0.04	mg/l	0.01	54 6010B		1008 09:06	RW
Sodium, Dissolved	>20	mg/l	2	54 6010B		1008 09:06	RW
Sodium, Dissolved	50.	mg/l	10.	54 6010B		1008 09:41	RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	5.0		54 8260B	1003 22:40	BT
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	2.0	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309904-01  
MW-101

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1003 22:40		BT
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	91.0	%		70-130			
Toluene-d8	87.0	%		70-130			
4-Bromofluorobenzene	93.0	%		70-130			
Dibromofluoromethane	87.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES**  
**CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309904-02  
 MW-107

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1003 23:26		BT
Dichlorodifluoromethane	ND	ug/l	10.				
1,2-Dibromoethane	ND	ug/l	5.0				
1,3-Dichloropropane	ND	ug/l	5.0				
1,1,1,2-Tetrachloroethane	ND	ug/l	1.0				
o-Chlorotoluene	ND	ug/l	5.0				
p-Chlorotoluene	ND	ug/l	5.0				
Hexachlorobutadiene	ND	ug/l	5.0				
1,2,4-Trichlorobenzene	ND	ug/l	5.0				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	91.0	%		70-130			
Toluene-d8	86.0	%		70-130			
4-Bromofluorobenzene	93.0	%		70-130			
Dibromofluoromethane	84.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309904-03  
MW-108

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1004 00:12 BT		
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	91.0	%		70-130			
Toluene-d8	86.0	%		70-130			
4-Bromofluorobenzene	92.0	%		70-130			
Dibromofluoromethane	84.0	%		70-130			

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



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309904-04	<b>Date Collected:</b> 02-OCT-2003 11:05
MW-214	<b>Date Received :</b> 02-OCT-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 09-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> Field Filtered
<b>Number &amp; Type of Containers:</b> 2-Plastic,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	120	mg/l	10.	1 9251		1003 18:20	DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1002 19:35	1002 19:35 JT
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1008 09:27	RW
Manganese, Dissolved	0.99	mg/l	0.01	54 6010B		1008 09:27	RW
Sodium, Dissolved	>20	mg/l	2	54 6010B		1008 09:27	RW
Sodium, Dissolved	31.	mg/l	4.0	54 6010B		1008 09:52	RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	5.0		54 8260B	1005 13:20	BT
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	3.8	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	77.	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	4.6	ug/l	0.50				

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

**ALPHA ANALYTICAL LABORATORIES**  
**CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309904-04  
 MW-214

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1005 13:20		BT
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	98.0	%		70-130			
Toluene-d8	91.0	%		70-130			
4-Bromofluorobenzene	95.0	%		70-130			
Dibromofluoromethane	93.0	%		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: L0309904

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 01-04 (L0309904-03, WG152385)					
Chloride	44.	14.	mg/l	0	7
Hexavalent Chromium by MCP 7196A for sample(s) 01-04 (L0309904-01, WG152276)					
Chromium, Hexavalent	0.11	0.11	mg/l	0	20

**ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

**Laboratory Job Number: L0309904**

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 01-04 (WG152385)		
Chloride	100	84-110
Hexavalent Chromium by MCP 7196A LCS for sample(s) 01-04 (WG152276)		
Chromium, Hexavalent	99	80-120
Dissolved Metals LCS for sample(s) 01-04 (WG152591)		
Chromium, Dissolved	95	80-120
Manganese, Dissolved	96	80-120
Sodium, Dissolved	100	80-120
Volatile Organics by MCP 8260B LCS for sample(s) 04 (WG152436)		
Methylene chloride	82	70-130
1,1-Dichloroethane	96	70-130
Chloroform	95	70-130
Carbon tetrachloride	100	70-130
1,2-Dichloropropane	98	70-130
Dibromochloromethane	90	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	96	70-130
Chlorobenzene	96	70-130
Trichlorofluoromethane	102	70-130
1,2-Dichloroethane	99	70-130
1,1,1-Trichloroethane	101	70-130
Bromodichloromethane	95	70-130
trans-1,3-Dichloropropene	86	70-130
cis-1,3-Dichloropropene	91	70-130
1,1-Dichloropropene	96	70-130
Bromoform	90	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Benzene	87	70-130
Toluene	95	70-130
Ethylbenzene	98	70-130
Chloromethane	85	70-130
Bromomethane	55	70-130
Vinyl chloride	92	70-130
Chloroethane	96	70-130
1,1-Dichloroethene	93	70-130
trans-1,2-Dichloroethene	93	70-130
Trichloroethene	98	70-130
1,2-Dichlorobenzene	93	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	95	70-130
Methyl tert butyl ether	98	70-130
p/m-Xylene	97	70-130
o-Xylene	97	70-130
cis-1,2-Dichloroethene	100	70-130
Dibromomethane	100	70-130
1,2,3-Trichloropropane	98	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309904

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 04 (WG152436)		
Styrene	99	70-130
Dichlorodifluoromethane	91	70-130
Acetone	133	70-130
Carbon disulfide	90	70-130
2-Butanone	110	70-130
4-Methyl-2-pentanone	95	70-130
2-Hexanone	91	70-130
Bromochloromethane	99	70-130
Tetrahydrofuran	94	70-130
2,2-Dichloropropane	101	70-130
1,2-Dibromoethane	99	70-130
1,3-Dichloropropane	98	70-130
1,1,1,2-Tetrachloroethane	98	70-130
Bromobenzene	95	70-130
n-Butylbenzene	89	70-130
sec-Butylbenzene	93	70-130
tert-Butylbenzene	94	70-130
o-Chlorotoluene	95	70-130
p-Chlorotoluene	93	70-130
1,2-Dibromo-3-chloropropane	95	70-130
Hexachlorobutadiene	93	70-130
Isopropylbenzene	91	70-130
p-Isopropyltoluene	93	70-130
Naphthalene	75	70-130
n-Propylbenzene	94	70-130
1,2,3-Trichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	90	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	98	70-130
Ethyl ether	95	70-130
Isopropyl Ether	89	70-130
Ethyl-Tert-Butyl-Ether	90	70-130
Tertiary-Amyl Methyl Ether	93	70-130
1,4-Dioxane	112	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	98	70-130
Dibromofluoromethane	100	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 02-03 (WG152436)		
Methylene chloride	82	70-130
1,1-Dichloroethane	97	70-130
Chloroform	93	70-130
Carbon tetrachloride	98	70-130
1,2-Dichloropropane	97	70-130
Dibromochloromethane	99	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309904

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 02-03 (WG152436)		
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	98	70-130
Chlorobenzene	102	70-130
1,2-Dichloroethane	96	70-130
1,1,1-Trichloroethane	98	70-130
Bromodichloromethane	96	70-130
trans-1,3-Dichloropropene	91	70-130
Bromoform	105	70-130
1,1,2,2-Tetrachloroethane	120	70-130
Chloromethane	90	70-130
Vinyl chloride	98	70-130
Chloroethane	96	70-130
1,1-Dichloroethene	92	70-130
trans-1,2-Dichloroethene	93	70-130
Trichloroethene	96	70-130
1,2-Dichlorobenzene	104	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	102	70-130
cis-1,2-Dichloroethene	98	70-130
Dichlorodifluoromethane	102	70-130
1,2-Dibromoethane	105	70-130
1,3-Dichloropropane	103	70-130
1,1,1,2-Tetrachloroethane	107	70-130
o-Chlorotoluene	102	70-130
p-Chlorotoluene	101	70-130
Hexachlorobutadiene	101	70-130
1,2,4-Trichlorobenzene	92	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	94	70-130
Dibromofluoromethane	92	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 01 (WG152263)		
Methylene chloride	82	70-130
1,1-Dichloroethane	97	70-130
Chloroform	93	70-130
Carbon tetrachloride	98	70-130
1,2-Dichloropropane	97	70-130
Dibromochloromethane	99	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	98	70-130
Chlorobenzene	102	70-130
Trichlorofluoromethane	102	70-130
1,2-Dichloroethane	96	70-130
1,1,1-Trichloroethane	98	70-130
Bromodichloromethane	96	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309904

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 01 (WG152263)		
trans-1,3-Dichloropropene	91	70-130
cis-1,3-Dichloropropene	91	70-130
1,1-Dichloropropene	94	70-130
Bromoform	105	70-130
1,1,2,2-Tetrachloroethane	120	70-130
Benzene	86	70-130
Toluene	97	70-130
Ethylbenzene	101	70-130
Chloromethane	90	70-130
Bromomethane	40	70-130
Vinyl chloride	98	70-130
Chloroethane	96	70-130
1,1-Dichloroethene	92	70-130
trans-1,2-Dichloroethene	93	70-130
Trichloroethene	96	70-130
1,2-Dichlorobenzene	104	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	102	70-130
Methyl tert butyl ether	102	70-130
p/m-Xylene	101	70-130
o-Xylene	102	70-130
cis-1,2-Dichloroethene	98	70-130
Dibromomethane	99	70-130
1,2,3-Trichloropropane	111	70-130
Styrene	106	70-130
Dichlorodifluoromethane	102	70-130
Acetone	147	70-130
Carbon disulfide	91	70-130
2-Butanone	128	70-130
4-Methyl-2-pentanone	102	70-130
2-Hexanone	111	70-130
Bromochloromethane	99	70-130
Tetrahydrofuran	98	70-130
2,2-Dichloropropane	96	70-130
1,2-Dibromoethane	105	70-130
1,3-Dichloropropane	103	70-130
1,1,1,2-Tetrachloroethane	107	70-130
Bromobenzene	103	70-130
n-Butylbenzene	90	70-130
sec-Butylbenzene	99	70-130
tert-Butylbenzene	100	70-130
o-Chlorotoluene	102	70-130
p-Chlorotoluene	101	70-130
1,2-Dibromo-3-chloropropane	108	70-130
Hexachlorobutadiene	101	70-130
Isopropylbenzene	96	70-130
p-Isopropyltoluene	98	70-130
Naphthalene	64	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309904

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 01 (WG152263)		
n-Propylbenzene	99	70-130
1,2,3-Trichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	92	70-130
1,3,5-Trimethylbenzene	101	70-130
1,2,4-Trimethylbenzene	103	70-130
Ethyl ether	99	70-130
Isopropyl Ether	91	70-130
Ethyl-Tert-Butyl-Ether	92	70-130
Tertiary-Amyl Methyl Ether	97	70-130
1,4-Dioxane	105	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	94	70-130
Dibromofluoromethane	92	70-130
Chloride SPIKE for sample(s) 01-04 (L0309929-13, WG152385)		
Chloride	120	58-140
Hexavalent Chromium by MCP 7196A SPIKE for sample(s) 01-04 (L0309904-03, WG152276)		
Chromium, Hexavalent	100	75-125



**ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0309904

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-04 (WG152385-2)							
Chloride	ND	mg/l	1.0	1 9251		1003 17:39	DD
Blank Analysis for sample(s) 01-04 (WG152276-1)							
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1002 19:35	1002 19:35 JT
Blank Analysis for sample(s) 01-04 (WG152591-1)							
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1008 08:30	RW
Manganese, Dissolved	ND	mg/l	0.01	54 6010B		1008 08:30	RW
Sodium, Dissolved	ND	mg/l	2.0	54 6010B		1008 08:30	RW
Blank Analysis for sample(s) 01 (WG152263-8)							
Volatile Organics by MCP 8260B							
				54 8260B		1003 14:57	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
1,1-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Bromomethane	ND	ug/l	1.0				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309904

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG152263-8)							
Volatile Organics by MCP 8260B continued				54 8260B		1003 14:57	BT
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	0.50				
o-Xylene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,2,3-Trichloropropane	ND	ug/l	5.0				
Styrene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
Acetone	ND	ug/l	5.0				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	5.0				
4-Methyl-2-pentanone	ND	ug/l	5.0				
2-Hexanone	ND	ug/l	5.0				
Bromochloromethane	ND	ug/l	2.5				
Tetrahydrofuran	ND	ug/l	10.				
2,2-Dichloropropane	ND	ug/l	2.5				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
Bromobenzene	ND	ug/l	2.5				
n-Butylbenzene	ND	ug/l	0.50				
sec-Butylbenzene	ND	ug/l	0.50				
tert-Butylbenzene	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
Isopropylbenzene	ND	ug/l	0.50				
p-Isopropyltoluene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	2.5				
n-Propylbenzene	ND	ug/l	0.50				
1,2,3-Trichlorobenzene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
1,3,5-Trimethylbenzene	ND	ug/l	2.5				
1,2,4-Trimethylbenzene	ND	ug/l	2.5				
Ethyl ether	ND	ug/l	2.5				
Isopropyl Ether	ND	ug/l	2.0				
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0				
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0				
1,4-Dioxane	ND	ug/l	250				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	96.0	%	70-130				
Toluene-d8	93.0	%	70-130				
4-Bromofluorobenzene	102.	%	70-130				
Dibromofluoromethane	87.0	%	70-130				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309904

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02-03 (WG152436-2)							
Volatile Organics by MCP 8260B				54 8260B		1003 14:57	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	96.0	%	70-130				
Toluene-d8	93.0	%	70-130				
4-Bromofluorobenzene	102.	%	70-130				
Dibromofluoromethane	87.0	%	70-130				

Blank Analysis for sample(s) 04 (WG152436-8)							
Volatile Organics by MCP 8260B				54 8260B		1005 11:47	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309904

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 04 (WG152436-8)							
Volatile Organics by MCP 8260B continued				54 8260B		1005 11:47	BT
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
1,1-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Bromomethane	ND	ug/l	1.0				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	0.50				
o-Xylene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,2,3-Trichloropropane	ND	ug/l	5.0				
Styrene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
Acetone	ND	ug/l	5.0				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	5.0				
4-Methyl-2-pentanone	ND	ug/l	5.0				
2-Hexanone	ND	ug/l	5.0				
Bromochloromethane	ND	ug/l	2.5				
Tetrahydrofuran	ND	ug/l	10.				
2,2-Dichloropropane	ND	ug/l	2.5				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
Bromobenzene	ND	ug/l	2.5				
n-Butylbenzene	ND	ug/l	0.50				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309904

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 04 (WG152436-8)							
Volatile Organics by MCP 8260B continued				54 8260B		1005 11:47	BT
sec-Butylbenzene	ND	ug/l	0.50				
tert-Butylbenzene	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
Isopropylbenzene	ND	ug/l	0.50				
p-Isopropyltoluene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	2.5				
n-Propylbenzene	ND	ug/l	0.50				
1,2,3-Trichlorobenzene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
1,3,5-Trimethylbenzene	ND	ug/l	2.5				
1,2,4-Trimethylbenzene	ND	ug/l	2.5				
Ethyl ether	ND	ug/l	2.5				
Isopropyl Ether	ND	ug/l	2.0				
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0				
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0				
1,4-Dioxane	ND	ug/l	250				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	94.0	%	70-130				
Toluene-d8	91.0	%	70-130				
4-Bromofluorobenzene	95.0	%	70-130				
Dibromofluoromethane	90.0	%	70-130				

**ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I**

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**REFERENCES**

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.
55. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. 30 July 2003.

**GLOSSARY OF TERMS AND SYMBOLS**

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

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

**LIMITATION OF LIABILITIES**

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

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

**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

**Laboratory Job Number: L0309904**

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0309904-01A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-01B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-01C	Plastic 250ml unpreserved	A	7	1.5 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309904-01D	Plastic 250ml HNO3 preserved	A	<2	1.5 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309904-02A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-02B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-02C	Plastic 250ml unpreserved	A	7	1.5 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309904-02D	Plastic 250ml HNO3 preserved	A	<2	1.5 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309904-03A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-03B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-03C	Plastic 250ml unpreserved	A	7	1.5 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309904-03D	Plastic 250ml HNO3 preserved	A	<2	1.5 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309904-04A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-04B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309904-04C	Plastic 250ml unpreserved	A	7	1.5 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309904-04D	Plastic 250ml HNO3 preserved	A	<2	1.5 C	Y	Absent	CR-SI, MN-SI, NA-SI

**Container Comments**

Container ID	Comments



# CHAIN OF CUSTODY

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

### Client Information

Client: GRW  
Address: 399 Bayston St Fl 6  
Boston, MA 02116

Phone: 617 267 8377

Fax: 617 267 6447

Email:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

### Project Information

Project Name: Bayston

Project Location: Weymouth, MA

Project #: 1922809

Project Manager: TPac

ALPHA Quote #:

### Turn-Around Time

Standard

RUSH (only confirmed if pre-approved)

Date Due: 10/1/03

Time:

Date Rec'd In Lab: 10/2/03

ALPHA Job #: 10809904

### Report Information - Data Deliverables

FAX  EMAIL

TRADEX  Add'l Deliverables hand

### Regulatory Requirements/Report Limits

State / Fed Program

Criteria

### Billing Information

Same as Client Info

PO #:

### MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

Yes  No Are MCP Analytical Methods Required?  
 Yes  No Are Drinking Water Samples Submitted?  
 Yes  No Have you met minimum field QC requirements?

### SAMPLE HANDLING

- Filtration
- Done
- Not needed
- Lab to do
- Preservation
- Lab to do

(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample IC	Collector		Sample Matrix	Sampler's Initials	Analysis	Sample Specific Comments
		Date	Time				
09904.1	MW-101	10/2/03	1150	MW	NS	2 1 1	
2	MW-107	10/2/03	952	MW	WS	2 1 1	
3	MW-108	10/2/03	940	MW	JTF	2 1 1	
4	MW-214	10/2/03	1105	MW	JTF	2 1 1	fields filtered using 0.45 micron filter

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

Container Type Preservative

V P P  
B A C

Relinquished By

Date/Time

Received By

Date/Time

*View* Relinquished By: *View* Received By: *View*

10/1/03 11:20  
10/2/03 11:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



ALPHA ANALYTICAL LABORATORIES

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

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

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L0309996  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 03-OCT-2003  
Attn: Mr. Tim Pac Date Reported: 10-OCT-2003  
Project Number: 1922.09.2 Delivery Method: Alpha  
Site: RAYTHEON

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. **VPH and EPH methods only:** Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

---

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

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0309996

Date Reported: 10-OCT-2003

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0309996-01	MW-117	WAYLAND, MA
L0309996-02	MW-118	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0309996

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MCP Related Narratives

Metals

In reference to question F, at the client's request, the samples were analyzed only for Dissolved Chromium, Manganese and Sodium.

Due to elevated Sodium concentrations, L0309996-01 required a 5x dilution, and L0309996-02 required a 10x dilution, prior to re-analysis for Sodium.

Volatile Organics

In reference to question F, at the client's request, only those compounds specified on the chain of custody are reported.

L0309996-02 has elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.

In reference to question E, the LCS % recovery for Bromomethane (34%) is below the acceptance criteria for the method.

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

Laboratory Sample Number:	L0309996-01	Date Collected:	03-OCT-2003 09:10
	MW-117	Date Received :	03-OCT-2003
Sample Matrix:	WATER	Date Reported :	10-OCT-2003
Condition of Sample:	Satisfactory	Field Prep:	Field Filtered
Number & Type of Containers: 2-Plastic,2-Vial			

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	56.	mg/l	1.0	1 9251		1009 20:42	DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1004 01:30	1004 01:30 JT
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1008 10:16	RW
Manganese, Dissolved	ND	mg/l	0.01	54 6010B		1008 10:16	RW
Sodium, Dissolved	70.	mg/l	10.	54 6010B		1008 10:13	RW
Sodium, Dissolved	>20	mg/l	2	54 6010B		1008 10:16	RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	5.0			1007 02:25	BT
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	4.8	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	0.65	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	1.8	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	2.0	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	ND	ug/l	0.50				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309996-01  
MW-117

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1007 02:25		BT
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	92.0	%		70-130			
Toluene-d8	90.0	%		70-130			
4-Bromofluorobenzene	95.0	%		70-130			
Dibromofluoromethane	89.0	%		70-130			

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

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

<b>Laboratory Sample Number:</b> L0309996-02	<b>Date Collected:</b> 03-OCT-2003 10:00
MW-118	<b>Date Received :</b> 03-OCT-2003
<b>Sample Matrix:</b> WATER	<b>Date Reported :</b> 10-OCT-2003
<b>Condition of Sample:</b> Satisfactory	<b>Field Prep:</b> Field Filtered
<b>Number &amp; Type of Containers:</b> 2-Plastic,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	170	mg/l	10.	1 9251		1009 21:20	DD
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1004 01:30	1004 01:30 JT
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1008 10:30	RW
Manganese, Dissolved	0.03	mg/l	0.01	54 6010B		1008 10:30	RW
Sodium, Dissolved	>20	mg/l	2	54 6010B		1008 10:30	RW
Sodium, Dissolved	120	mg/l	20.	54 6010B		1008 10:37	RW
Volatile Organics by MCP 8260B							
Methylene chloride	ND	ug/l	12.				
1,1-Dichloroethane	ND	ug/l	1.9				
Chloroform	ND	ug/l	1.9				
Carbon tetrachloride	ND	ug/l	1.2				
1,2-Dichloropropane	ND	ug/l	4.4				
Dibromochloromethane	ND	ug/l	1.2				
1,1,2-Trichloroethane	ND	ug/l	1.9				
Tetrachloroethene	ND	ug/l	1.2				
Chlorobenzene	ND	ug/l	1.2				
1,2-Dichloroethane	ND	ug/l	1.2				
1,1,1-Trichloroethane	ND	ug/l	1.2				
Bromodichloromethane	ND	ug/l	1.2				
trans-1,3-Dichloropropene	ND	ug/l	1.2				
Bromoform	ND	ug/l	5.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.2				
Chloromethane	ND	ug/l	6.2				
Vinyl chloride	ND	ug/l	2.5				
Chloroethane	ND	ug/l	2.5				
1,1-Dichloroethene	ND	ug/l	1.2				
trans-1,2-Dichloroethene	ND	ug/l	1.9				
Trichloroethene	110	ug/l	1.2				
1,2-Dichlorobenzene	ND	ug/l	6.2				
1,3-Dichlorobenzene	ND	ug/l	6.2				
1,4-Dichlorobenzene	ND	ug/l	6.2				
cis-1,2-Dichloroethene	1.4	ug/l	1.2				

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0309996-02  
MW-118

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				54 8260B	1007 03:10		BT
Dichlorodifluoromethane	ND	ug/l	12.				
1,2-Dibromoethane	ND	ug/l	6.2				
1,3-Dichloropropane	ND	ug/l	6.2				
1,1,1,2-Tetrachloroethane	ND	ug/l	1.2				
o-Chlorotoluene	ND	ug/l	6.2				
p-Chlorotoluene	ND	ug/l	6.2				
Hexachlorobutadiene	ND	ug/l	6.2				
1,2,4-Trichlorobenzene	ND	ug/l	6.2				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	90.0	%		70-130			
Toluene-d8	89.0	%		70-130			
4-Bromofluorobenzene	92.0	%		70-130			
Dibromofluoromethane	85.0	%		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: L0309996

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 01-02 (L0310039-01, WG152945)					
Chloride	6.4	6.3	mg/l	2	7
Hexavalent Chromium by MCP 7196A for sample(s) 01-02 (L0309996-02, WG152488)					
Chromium, Hexavalent	ND	ND	mg/l	NC	20



**ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

**Laboratory Job Number: L0309996**

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 01-02 (WG152945)		
Chloride	100	84-110
Hexavalent Chromium by MCP 7196A LCS for sample(s) 01-02 (WG152488)		
Chromium, Hexavalent	102	80-120
Dissolved Metals LCS for sample(s) 01-02 (WG152585)		
Chromium, Dissolved	95	80-120
Manganese, Dissolved	96	80-120
Sodium, Dissolved	100	80-120
Volatile Organics by MCP 8260B LCS for sample(s) 01-02 (WG152627)		
Methylene chloride	85	70-130
1,1-Dichloroethane	100	70-130
Chloroform	98	70-130
Carbon tetrachloride	100	70-130
1,2-Dichloropropane	101	70-130
Dibromochloromethane	93	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	100	70-130
Chlorobenzene	100	70-130
Trichlorofluoromethane	101	70-130
1,2-Dichloroethane	100	70-130
1,1,1-Trichloroethane	102	70-130
Bromodichloromethane	98	70-130
trans-1,3-Dichloropropene	91	70-130
cis-1,3-Dichloropropene	96	70-130
1,1-Dichloropropene	97	70-130
Bromoform	93	70-130
1,1,2,2-Tetrachloroethane	93	70-130
Benzene	90	70-130
Toluene	100	70-130
Ethylbenzene	102	70-130
Chloromethane	79	70-130
Bromomethane	34	70-130
Vinyl chloride	91	70-130
Chloroethane	97	70-130
1,1-Dichloroethene	95	70-130
trans-1,2-Dichloroethene	97	70-130
Trichloroethene	103	70-130
1,2-Dichlorobenzene	97	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	98	70-130
Methyl tert butyl ether	95	70-130
p/m-Xylene	102	70-130
o-Xylene	102	70-130
cis-1,2-Dichloroethene	102	70-130
Dibromomethane	104	70-130
1,2,3-Trichloropropane	98	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309996

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 01-02 (WG152627)		
Styrene	103	70-130
Dichlorodifluoromethane	83	70-130
Acetone	73	70-130
Carbon disulfide	91	70-130
2-Butanone	72	70-130
4-Methyl-2-pentanone	90	70-130
2-Hexanone	71	70-130
Bromochloromethane	103	70-130
Tetrahydrofuran	94	70-130
2,2-Dichloropropane	102	70-130
1,2-Dibromoethane	101	70-130
1,3-Dichloropropane	100	70-130
1,1,1,2-Tetrachloroethane	102	70-130
Bromobenzene	99	70-130
n-Butylbenzene	94	70-130
sec-Butylbenzene	98	70-130
tert-Butylbenzene	98	70-130
o-Chlorotoluene	99	70-130
p-Chlorotoluene	97	70-130
1,2-Dibromo-3-chloropropane	104	70-130
Hexachlorobutadiene	98	70-130
Isopropylbenzene	95	70-130
p-Isopropyltoluene	97	70-130
Naphthalene	73	70-130
n-Propylbenzene	98	70-130
1,2,3-Trichlorobenzene	90	70-130
1,2,4-Trichlorobenzene	93	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	102	70-130
Ethyl ether	91	70-130
Isopropyl Ether	87	70-130
Ethyl-Tert-Butyl-Ether	87	70-130
Tertiary-Amyl Methyl Ether	91	70-130
1,4-Dioxane	108	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	95	70-130
Dibromofluoromethane	92	70-130
Chloride SPIKE for sample(s) 01-02 (L0310039-07, WG152945)		
Chloride	95	58-140
Hexavalent Chromium by MCP 7196A SPIKE for sample(s) 01-02 (L0309996-01, WG152488)		
Chromium, Hexavalent	100	75-125

**ALPHA ANALYTICAL LABORATORIES**  
**QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0309996

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG152945-2)							
Chloride	ND	mg/l	1.0	1 9251		1009 20:56	DD
Blank Analysis for sample(s) 01-02 (WG152488-1)							
Hexavalent Chromium by MCP 7196A							
Chromium, Hexavalent	ND	mg/l	0.02	55 7196A		1004 01:30	1004 01:30 JT
Blank Analysis for sample(s) 01-02 (WG152585-1)							
Dissolved Metals							
Chromium, Dissolved	ND	mg/l	0.01	54 6010B		1008 09:57	RW
Manganese, Dissolved	ND	mg/l	0.01	54 6010B		1008 09:57	RW
Sodium, Dissolved	ND	mg/l	2.0	54 6010B		1008 09:57	RW
Blank Analysis for sample(s) 01-02 (WG152627-2)							
Volatile Organics by MCP 8260B							
				54 8260B		1006 17:11	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
1,1-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Bromomethane	ND	ug/l	1.0				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309996

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG152627-2)							
Volatile Organics by MCP 8260B continued				54 8260B		1006 17:11 BT	
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	0.50				
o-Xylene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,2,3-Trichloropropane	ND	ug/l	5.0				
Styrene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
Acetone	ND	ug/l	5.0				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	5.0				
4-Methyl-2-pentanone	ND	ug/l	5.0				
2-Hexanone	ND	ug/l	5.0				
Bromochloromethane	ND	ug/l	2.5				
Tetrahydrofuran	ND	ug/l	10.				
2,2-Dichloropropane	ND	ug/l	2.5				
1,2-Dibromoethane	ND	ug/l	2.5				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
Bromobenzene	ND	ug/l	2.5				
n-Butylbenzene	ND	ug/l	0.50				
sec-Butylbenzene	ND	ug/l	0.50				
tert-Butylbenzene	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	2.5				
Isopropylbenzene	ND	ug/l	0.50				
p-Isopropyltoluene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	2.5				
n-Propylbenzene	ND	ug/l	0.50				
1,2,3-Trichlorobenzene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
1,3,5-Trimethylbenzene	ND	ug/l	2.5				
1,2,4-Trimethylbenzene	ND	ug/l	2.5				
Ethyl ether	ND	ug/l	2.5				
Isopropyl Ether	ND	ug/l	2.0				
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0				
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0				
1,4-Dioxane	ND	ug/l	250				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	93.0	%	70-130				
Toluene-d8	89.0	%	70-130				
4-Bromofluorobenzene	94.0	%	70-130				
Dibromofluoromethane	82.0	%	70-130				

**ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I**

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**REFERENCES**

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.
55. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. 30 July 2003.

**GLOSSARY OF TERMS AND SYMBOLS**

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

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

**LIMITATION OF LIABILITIES**

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

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

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0309996

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Were project specific reporting limits specified? YES

**Cooler Information**

Cooler Custody Seal

---

A Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0309996-01A	Vial HCl preserved	A	NA	4.1 C	Y	Absent	MCP-8260
L0309996-01B	Vial HCl preserved	A	NA	4.1 C	Y	Absent	MCP-8260
L0309996-01C	Plastic 250ml unpreserved	A	7	4.1 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309996-01D	Plastic 250ml HNO3 preserved	A	<2	4.1 C	Y	Absent	CR-SI, MN-SI, NA-SI
L0309996-02A	Vial HCl preserved	A	NA	4.1 C	Y	Absent	MCP-8260
L0309996-02B	Vial HCl preserved	A	NA	4.1 C	Y	Absent	MCP-8260
L0309996-02C	Plastic 250ml unpreserved	A	7	4.1 C	Y	Absent	CL-9251, MCP-HEXCR-7196
L0309996-02D	Plastic 250ml HNO3 preserved	A	<2	4.1 C	Y	Absent	CR-SI, MN-SI, NA-SI

**Container Comments**

Container ID Comments

---



# CHAIN OF CUSTODY

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

### Client Information

Client: **ERN**

Address: **399 Brighton St Flg**

Phone: **Boston MA 02116**

Fax: **617 267 8377**

Email: **617 267 6442**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

### Project Information

Project Name: **Kayfleen**

Project Location: **Weymouth MA**

Project #: **1922-09-2**

Project Manager: **TPac**

ALPHA Quote #:

### Turn-Around Time

Standard

RUSH (only confirmed if pre-approved)

Date Due: **10/10/03** Time:

Date Rec'd in Lab: **10/3/03**

### Report Information - Data Deliverables

FAX  EMAIL

BADEX  Radiol Deliverables **hard copy**

### Regulatory Requirements/Report Limits

State /Fed Program

Criteria

ALPHA Job #: **0309996**

### Billing Information

Same as Client info PO #:

### MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

- Yes  No Are MCP Analytical Methods Required?
- Yes  No Are Drinking Water Samples Submitted?
- Yes  No Have you met minimum field QC requirements?

**ANALYSIS**  
8021C  
Cl, Cr, Pb  
diss Mn, Cr, Ni

**SAMPLE HANDLING**  
Filtration  
 Done  
 Not needed  
Lab to do  
Preservation  
 Lab to do  
(Please specify below)

Sample Specific Comments

T  
O  
T  
A  
L  
#  
B  
O  
T  
T  
L  
E  
S

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Date	Time	Container Type	Preservative	Date/Time	Received By:	Date/Time	Sample Specific Comments
		Date	Time										
030996.1	MW-117	10/3/03	9/10	MW	VZ	10/3/03	1000	VPP	BACJ	10/3/03	[Signature]	10/3/03	4
2	MW-118	10/3/03	1000	MW	VZ	10/3/03		VPP	BACJ	10/3/03	[Signature]	10/3/03	4

4 fields filtered using OHS micron filter

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

PROJECT MCP?

Relinquished By: [Signature]

Container Type: VPP Preservative: BACJ

Date/Time: 10/3/03

Received By: [Signature]

Date/Time: 10/3/03

10/3/03 1555 [Signature] 10/3/03 1401 [Signature] 10/3/03 10/3/03

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.