

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: L0500418  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 13-JAN-2005  
Attn: Jeremy Picard Date Reported: 14-JAN-2005  
Project Number: Delivery Method: Client  
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? YES
- 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.

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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  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0500418  
Date Reported: 14-JAN-2005

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0500418-01	MW-220M-011305-01	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0500418

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MCP Related Narratives

Report Submission

In reference to question F, the samples were analyzed only for the compounds specified on the chain of custody.

**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:	L0500418-01	Date Collected:	13-JAN-2005 11:35
	MW-220M-011305-01	Date Received :	13-JAN-2005
Sample Matrix:	WATER	Date Reported :	14-JAN-2005
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				60 8260B	0113 14:22	TT
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			
Benzene	0.53	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			
Methyl tert butyl ether	ND	ug/l	1.0			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Dichlorodifluoromethane	ND	ug/l	5.0			
1,2-Dibromoethane	ND	ug/l	2.0			
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	1.0			
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: L0500418-01  
MW-220M-011305-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0113 14:22		TT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	84.0	%		70-130			
Toluene-d8	100.	%		70-130			
4-Bromofluorobenzene	100.	%		70-130			
Dibromofluoromethane	95.0	%		70-130			

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

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0500418

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01 (WG191627-4, WG191627)					
Methylene chloride	102	100	2	25	70-130
1,1-Dichloroethane	95	94	1	25	70-130
Chloroform	93	91	2	25	70-130
Carbon tetrachloride	92	90	2	25	70-130
1,2-Dichloropropane	97	95	2	25	70-130
Dibromochloromethane	92	94	2	25	70-130
1,1,2-Trichloroethane	97	101	4	25	70-130
Tetrachloroethene	97	93	4	25	70-130
Chlorobenzene	102	101	1	25	70-130
Trichlorofluoromethane	92	90	2	25	70-130
1,2-Dichloroethane	88	89	1	25	70-130
1,1,1-Trichloroethane	93	89	4	25	70-130
Bromodichloromethane	92	90	2	25	70-130
trans-1,3-Dichloropropene	92	95	3	25	70-130
cis-1,3-Dichloropropene	97	95	2	25	70-130
1,1-Dichloropropene	93	92	1	25	70-130
Bromoform	87	92	6	50	70-130
1,1,2,2-Tetrachloroethane	97	103	6	25	70-130
Benzene	102	100	2	25	70-130
Toluene	102	102	0	25	70-130
Ethylbenzene	98	96	2	25	70-130
Chloromethane	88	87	1	50	70-130
Bromomethane	100	96	4	50	70-130
Vinyl chloride	93	88	6	25	70-130
Chloroethane	103	99	4	25	70-130
1,1-Dichloroethene	101	97	4	25	70-130
trans-1,2-Dichloroethene	103	100	3	25	70-130
Trichloroethene	98	96	2	25	70-130
1,2-Dichlorobenzene	92	94	2	25	70-130
1,3-Dichlorobenzene	96	99	3	25	70-130
1,4-Dichlorobenzene	93	94	1	25	70-130
Methyl tert butyl ether	90	92	2	25	70-130
p/m-Xylene	103	104	1	25	70-130
o-Xylene	104	103	1	25	70-130
cis-1,2-Dichloroethene	103	102	1	25	70-130
Dibromomethane	98	102	4	25	70-130
1,2,3-Trichloropropane	97	100	3	25	70-130
Styrene	103	103	0	25	70-130
Dichlorodifluoromethane	79	76	4	50	70-130
Acetone	76	74	3	50	70-130
Carbon disulfide	100	98	2	25	70-130
2-Butanone	84	79	6	50	70-130
4-Methyl-2-pentanone	78	73	7	50	70-130
2-Hexanone	79	76	4	50	70-130
Bromochloromethane	105	103	2	25	70-130
Tetrahydrofuran	87	90	3	25	70-130
2,2-Dichloropropane	92	89	3	25	70-130
1,2-Dibromoethane	101	103	2	25	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0500418

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01 (WG191627-4, WG191627)					
1,3-Dichloropropane	99	102	3	25	70-130
1,1,1,2-Tetrachloroethane	96	95	1	25	70-130
Bromobenzene	97	101	4	25	70-130
n-Butylbenzene	94	94	0	25	70-130
sec-Butylbenzene	95	96	1	25	70-130
tert-Butylbenzene	97	96	1	25	70-130
o-Chlorotoluene	97	96	1	25	70-130
p-Chlorotoluene	94	94	0	25	70-130
1,2-Dibromo-3-chloropropane	86	95	10	50	70-130
Hexachlorobutadiene	86	90	5	25	70-130
Isopropylbenzene	96	96	0	25	70-130
p-Isopropyltoluene	96	94	2	25	70-130
Naphthalene	100	107	7	25	70-130
n-Propylbenzene	96	95	1	25	70-130
1,2,3-Trichlorobenzene	99	103	4	25	70-130
1,2,4-Trichlorobenzene	97	102	5	25	70-130
1,3,5-Trimethylbenzene	95	95	0	25	70-130
1,2,4-Trimethylbenzene	92	92	0	25	70-130
Ethyl ether	102	105	3	25	70-130
Isopropyl Ether	89	89	0	25	70-130
Ethyl-Tert-Butyl-Ether	90	90	0	25	70-130
Tertiary-Amyl Methyl Ether	93	95	2	25	70-130
1,4-Dioxane	99	112	12	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	85	86	1		70-130
Toluene-d8	98	99	1		70-130
4-Bromofluorobenzene	97	98	1		70-130
Dibromofluoromethane	95	96	1		70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0500418

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG191627-6)							
Volatile Organics by MCP 8260B				60 8260B		0113 08:02	TT
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				
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				



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0500418

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG191627-6)							
Volatile Organics by MCP 8260B continued				60 8260B	0113 08:02 TT		
1,2-Dibromoethane	ND	ug/l	2.0				
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	1.0				
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	88.0	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	98.0	%		70-130			
Dibromofluoromethane	95.0	%		70-130			

**ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I**

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**REFERENCES**

60. Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). May 2004.

**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.  
NI Not Ignitable.  
ug/cart Micrograms per Cartridge.

**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: L0500418

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Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
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A	Absent
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**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0500418-01A	Vial HCl preserved	A	NA	5 C	Y	Absent	MCP-8260-04
L0500418-01B	Vial HCl preserved	A	NA	5 C	Y	Absent	MCP-8260-04

**Container Comments**

Container ID	Comments
L0500418-01A	Temp. Probe
L0500418-01B	Temp. Probe



CHAIN OF CUSTODY

PAGE 1 OF 1

Eight Walkup Drive Westborough, MA 01581
TEL: 508-898-9220 FAX: 508-893-9193

Client Information

Client: ERM

Address: 399 Brighton Street

Boston, MA 02116

Phone: 617-646-7800

Fax:

Email:

Other Project Specific Requirements/Comments/Detection Limits:

Project Information

Project Name: Raytheon Wayland

Project Location: Wayland MA

Project #:

Project Manager: Jeremy Picard

ALPHA Quote #:

Turn-Around Time

Standard

Date Due: 1/13/05

Date Rec'd in Lab: 1/13/05

Report Information - Data Deliverables

FAX EMAIL

ADEx Add'l Deliverables

ALPHA Job #: 10500418

Billing Information

Same as Client Info PO #:

Regulatory Requirements/Report Limits

State/Fed Program Criteria

MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

Are MCP Analytical Methods Required?

Are Drinking Water Samples Submitted?

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

Table with columns: ALPHA Lab ID (Lab Use Only), Sample ID, Collection Date, Time, Sample Matrix, Sampler's Initials. Row 1: 0418, 1, MW-ZZDM-01305-01, 1/13/05, 1135, G-W, ERM 2.

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

MCP?

Relinquished By:

Container Type Preservative

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.