

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
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MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L0503945
Address: 399 Boylston Street
6th Floor
Boston, MA 02116 Date Received: 13-APR-2005
Attn: Jeremy Picard Date Reported: 18-APR-2005
Project Number: 28047 Delivery Method: Alpha
Site: RAYTHEON WAYLAND

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: L0503945
Date Reported: 18-APR-2005

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0503945-01	MW-220S-20050412-01	WAYLAND, MA
L0503945-02	MW-220M-20050412-01	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0503945

MCP Related Narratives

Report Submission

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

Volatile Organics

In reference to question E:

The LCSD % recovery for Chloromethane, a difficult analyte, is below the acceptance criteria for the method.

The LCS/LCSD RPDs for 1,1-Dichloroethane and Chloromethane are above 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: L0503945-01 Date Collected: 12-APR-2005 14:50
MW-220S-20050412-01 Date Received : 13-APR-2005
Sample Matrix: WATER Date Reported : 18-APR-2005
Condition of Sample: Satisfactory Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B				60 8260B	0416 01:49 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				
Benzene	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				
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: L0503945-01
MW-220S-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0416 01:49		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	103.	%		70-130			
Toluene-d8	97.0	%		70-130			
4-Bromofluorobenzene	104.	%		70-130			
Dibromofluoromethane	97.0	%		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:	L0503945-02	Date Collected:	12-APR-2005 15:50
	MW-220M-20050412-01	Date Received :	13-APR-2005
Sample Matrix:	WATER	Date Reported :	18-APR-2005
Condition of Sample:	Satisfactory	Field Prep:	None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B				60 8260B		0416 02:25 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				
Benzene	0.70	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: L0503945-02
MW-220M-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0416 02:25 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	104.	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	103.	%		70-130			
Dibromofluoromethane	97.0	%		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: L0503945

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01-02 (WG199416-4, WG199416-5)					
Methylene chloride	100	98	2	25	70-130
1,1-Dichloroethane	84	111	28	25	70-130
Chloroform	109	104	5	25	70-130
Carbon tetrachloride	112	115	3	25	70-130
1,2-Dichloropropane	102	98	4	25	70-130
Dibromochloromethane	98	96	2	25	70-130
1,1,2-Trichloroethane	96	93	3	25	70-130
Tetrachloroethene	104	105	1	25	70-130
Chlorobenzene	101	99	2	25	70-130
1,2-Dichloroethane	107	103	4	25	70-130
1,1,1-Trichloroethane	111	112	1	25	70-130
Bromodichloromethane	100	99	1	25	70-130
trans-1,3-Dichloropropene	91	94	3	25	70-130
cis-1,3-Dichloropropene	96	98	2	25	70-130
Bromoform	101	101	0	50	70-130
1,1,2,2-Tetrachloroethane	97	100	3	25	70-130
Benzene	105	104	1	25	70-130
Chloromethane	91	60	41	50	70-130
Vinyl chloride	103	80	25	25	70-130
Chloroethane	98	88	11	25	70-130
1,1-Dichloroethene	104	97	7	25	70-130
trans-1,2-Dichloroethene	106	98	8	25	70-130
Trichloroethene	103	101	2	25	70-130
1,2-Dichlorobenzene	98	104	6	25	70-130
1,3-Dichlorobenzene	100	104	4	25	70-130
1,4-Dichlorobenzene	98	103	5	25	70-130
Methyl tert butyl ether	84	101	18	25	70-130
cis-1,2-Dichloroethene	104	97	7	25	70-130
Dichlorodifluoromethane	86	88	2	50	70-130
1,2-Dibromoethane	98	98	0	25	70-130
1,3-Dichloropropane	94	92	2	25	70-130
1,1,1,2-Tetrachloroethane	100	102	2	25	70-130
o-Chlorotoluene	99	103	4	25	70-130
p-Chlorotoluene	97	102	5	25	70-130
Hexachlorobutadiene	100	102	2	25	70-130
1,2,4-Trichlorobenzene	104	110	6	25	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	110	100	10		70-130
Toluene-d8	96	98	2		70-130
4-Bromofluorobenzene	101	102	1		70-130
Dibromofluoromethane	105	99	6		70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0503945

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG199416-6)							
Volatile Organics by MCP 8260B				60 8260B	0415 16:56 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				
Benzene	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				
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				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	99.0	%	70-130				
Toluene-d8	96.0	%	70-130				
4-Bromofluorobenzene	102.	%	70-130				
Dibromofluoromethane	93.0	%	70-130				

**ALPHA ANALYTICAL LABORATORIES
ADDENDUM I**

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: L0503945

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
L0503945-01A	Vial HCl preserved	A	NA	2.7 C	Y	Absent	MCP-8260-04
L0503945-01B	Vial HCl preserved	A	NA	2.7 C	Y	Absent	MCP-8260-04
L0503945-02A	Vial HCl preserved	A	NA	2.7 C	Y	Absent	MCP-8260-04
L0503945-02B	Vial HCl preserved	A	NA	2.7 C	Y	Absent	MCP-8260-04

Container Comments

Container ID	Comments
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CHAIN OF CUSTODY

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

Client Information

Client: **ERM**

Address: **399 Bolton St 6th Floor
Boston, MA 02116**

Phone: **617 646 7800**

Fax: **617 267 8377**

Email: **tin.davce@erm.com**

Other Project Specific Requirements/Comments/Detection Limits: **MCP**

Project Information

Project Name: **Raytheon**

Project Location: **Weymouth, MA**

Project #: **28047**

Project Manager: **Seremy Picard**

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: **4/20/05** Time:

Date Rec'd in Lab: **4/13/05**

ALPHA Job #: **LOS03945**

Report Information - Data Deliverables

FAX EMAIL

ADDEX Add'l Deliverables

Regulatory Requirements/Report Limits

State / Fed Program

MCP

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
VOCs (8021B) CuVcs, MIBz, Benzene

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	Container Type	Date/Time	Received By:	Date/Time	Sample Specific Comments
		Date	Time							
03945-1	MW-2205-20050412-01	4/12/05	14:50	WG	TD	V	4/13/05 15:10	Received By: [Signature]	4/13/05 16:00	
	2 MW-2205-20050412-01	4/12/05	15:50	WG	TD	R	4/13/05 15:10	Received By: [Signature]	4/13/05 16:00	

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT

MCP ?

Relinquished By:

[Signature] TIM DAVCE

Date/Time

4/13/05 15:10

Received By:

[Signature]

Date/Time

4/13/05 16:00

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.