

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: L0504807
Address: 399 Boylston Street
6th Floor
Boston, MA 02116 Date Received: 04-MAY-2005
Attn: Jeremy Picard Date Reported: 06-MAY-2005
Project Number: 29675 Delivery Method: Alpha
Site: NORTH SOURCE AREA

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? YES

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: L0504807
Date Reported: 06-MAY-2005

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0504807-01	B-520-15-01	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0504807

Report Submission

This report replaces the report issued May 5, 2005. At the client's request, the sample identification has been changed.

MCP Related Narratives

Volatile Organics

L0504807-01 has elevated limits of detection due to the 2500x dilution required by the elevated concentrations of target compounds in the sample.

In reference to question E, the LCS/LCSD % recoveries for Dichlorodifluoromethane, a difficult analyte, are below the acceptance criteria for the method.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0504807-01
 B-520-15-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0505 12:10		BT
Dichlorodifluoromethane	ND	ug/l	12000				
Acetone	ND	ug/l	12000				
Carbon disulfide	ND	ug/l	12000				
2-Butanone	ND	ug/l	12000				
4-Methyl-2-pentanone	ND	ug/l	12000				
2-Hexanone	ND	ug/l	12000				
Bromochloromethane	ND	ug/l	6200				
Tetrahydrofuran	ND	ug/l	25000				
2,2-Dichloropropane	ND	ug/l	6200				
1,2-Dibromoethane	ND	ug/l	5000				
1,3-Dichloropropane	ND	ug/l	6200				
1,1,1,2-Tetrachloroethane	ND	ug/l	1200				
Bromobenzene	ND	ug/l	6200				
n-Butylbenzene	ND	ug/l	1200				
sec-Butylbenzene	ND	ug/l	1200				
tert-Butylbenzene	ND	ug/l	6200				
o-Chlorotoluene	ND	ug/l	6200				
p-Chlorotoluene	ND	ug/l	6200				
1,2-Dibromo-3-chloropropane	ND	ug/l	6200				
Hexachlorobutadiene	ND	ug/l	2500				
Isopropylbenzene	ND	ug/l	1200				
p-Isopropyltoluene	ND	ug/l	1200				
Naphthalene	ND	ug/l	6200				
n-Propylbenzene	ND	ug/l	1200				
1,2,3-Trichlorobenzene	ND	ug/l	6200				
1,2,4-Trichlorobenzene	ND	ug/l	6200				
1,3,5-Trimethylbenzene	ND	ug/l	6200				
1,2,4-Trimethylbenzene	ND	ug/l	6200				
Ethyl ether	ND	ug/l	6200				
Isopropyl Ether	ND	ug/l	5000				
Ethyl-Tert-Butyl-Ether	ND	ug/l	5000				
Tertiary-Amyl Methyl Ether	ND	ug/l	5000				
1,4-Dioxane	ND	ug/l	620000				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	104.	%	70-130				
Toluene-d8	101.	%	70-130				
4-Bromofluorobenzene	109.	%	70-130				
Dibromofluoromethane	99.0	%	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: L0504807

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01 (WG201153-1, WG201153-2)					
Methylene chloride	87	86	1	25	70-130
1,1-Dichloroethane	93	90	3	25	70-130
Chloroform	92	89	3	25	70-130
Carbon tetrachloride	90	87	3	25	70-130
1,2-Dichloropropane	93	90	3	25	70-130
Dibromochloromethane	92	84	9	25	70-130
1,1,2-Trichloroethane	100	90	11	25	70-130
Tetrachloroethene	92	89	3	25	70-130
Chlorobenzene	95	90	5	25	70-130
Trichlorofluoromethane	88	89	1	25	70-130
1,2-Dichloroethane	89	85	5	25	70-130
1,1,1-Trichloroethane	87	84	4	25	70-130
Bromodichloromethane	88	84	5	25	70-130
trans-1,3-Dichloropropene	92	85	8	25	70-130
cis-1,3-Dichloropropene	90	86	5	25	70-130
1,1-Dichloropropene	87	90	3	25	70-130
Bromoform	92	81	13	50	70-130
1,1,2,2-Tetrachloroethane	96	87	10	25	70-130
Benzene	92	90	2	25	70-130
Toluene	94	90	4	25	70-130
Ethylbenzene	95	92	3	25	70-130
Chloromethane	75	73	3	50	70-130
Bromomethane	80	70	13	50	70-130
Vinyl chloride	83	82	1	25	70-130
Chloroethane	89	93	4	25	70-130
1,1-Dichloroethene	85	87	2	25	70-130
trans-1,2-Dichloroethene	86	92	7	25	70-130
Trichloroethene	91	89	2	25	70-130
1,2-Dichlorobenzene	98	89	10	25	70-130
1,3-Dichlorobenzene	97	90	7	25	70-130
1,4-Dichlorobenzene	95	91	4	25	70-130
Methyl tert butyl ether	92	86	7	25	70-130
p/m-Xylene	98	94	4	25	70-130
o-Xylene	99	95	4	25	70-130
cis-1,2-Dichloroethene	93	90	3	25	70-130
Dibromomethane	95	89	7	25	70-130
1,2,3-Trichloropropane	98	87	12	25	70-130
Styrene	90	84	7	25	70-130
Dichlorodifluoromethane	62	63	2	50	70-130
Acetone	106	105	1	50	70-130
Carbon disulfide	81	86	6	25	70-130
2-Butanone	120	113	6	50	70-130
4-Methyl-2-pentanone	89	88	1	50	70-130
2-Hexanone	109	102	7	50	70-130
Bromochloromethane	86	82	5	25	70-130
Tetrahydrofuran	89	82	8	25	70-130
2,2-Dichloropropane	89	86	3	25	70-130
1,2-Dibromoethane	93	82	13	25	70-130

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0504807

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01 (WG201153-1, WG201153-2)					
1,3-Dichloropropane	95	89	7	25	70-130
1,1,1,2-Tetrachloroethane	91	83	9	25	70-130
Bromobenzene	97	90	7	25	70-130
n-Butylbenzene	92	88	4	25	70-130
sec-Butylbenzene	97	93	4	25	70-130
tert-Butylbenzene	97	93	4	25	70-130
o-Chlorotoluene	96	90	6	25	70-130
p-Chlorotoluene	94	89	5	25	70-130
1,2-Dibromo-3-chloropropane	91	79	14	50	70-130
Hexachlorobutadiene	92	85	8	25	70-130
Isopropylbenzene	92	88	4	25	70-130
p-Isopropyltoluene	92	87	6	25	70-130
Naphthalene	90	80	12	25	70-130
n-Propylbenzene	96	93	3	25	70-130
1,2,3-Trichlorobenzene	91	82	10	25	70-130
1,2,4-Trichlorobenzene	90	81	11	25	70-130
1,3,5-Trimethylbenzene	97	92	5	25	70-130
1,2,4-Trimethylbenzene	98	93	5	25	70-130
Ethyl ether	91	84	8	25	70-130
Isopropyl Ether	85	81	5	25	70-130
Ethyl-Tert-Butyl-Ether	86	80	7	25	70-130
Tertiary-Amyl Methyl Ether	88	81	8	25	70-130
1,4-Dioxane	85	80	6	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	100	99	1		70-130
Toluene-d8	101	103	2		70-130
4-Bromofluorobenzene	100	102	2		70-130
Dibromofluoromethane	99	99	0		70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0504807

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG201153-3)							
Volatile Organics by MCP 8260B				60 8260B		0505 10:21	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				
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.				

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0504807

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG201153-3)							
Volatile Organics by MCP 8260B continued				60 8260B	0505 10:21		BT
2,2-Dichloropropane	ND	ug/l	2.5				
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	102.	%		70-130			
Toluene-d8	102.	%		70-130			
4-Bromofluorobenzene	107.	%		70-130			
Dibromofluoromethane	98.0	%		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: L0504807

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
L0504807-01A	Vial HCl preserved	A	N/A	2.9 C	Y	Absent	MCP-8260-04
L0504807-01B	Vial HCl preserved	A	N/A	2.9 C	Y	Absent	MCP-8260-04
L0504807-01C	Vial HCl preserved	A	N/A	2.9 C	Y	Absent	MCP-8260-04

Container Comments

Container ID Comments
