

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: L0407837
Address: 399 Boylston Street
6th Floor
Boston, MA 02116 Date Received: 19-JUL-2004
Attn: Jeremy Picard Date Reported: 26-JUL-2004
Project Number: 13606.03 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: Scott McLean
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0407837
Date Reported: 26-JUL-2004

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0407837-01	MW-220S	WAYLAND, MA
L0407837-02	MW-220M	WAYLAND, MA
L0407837-03	MW-221M	WAYLAND, MA
L0407837-04	MW-221D	WAYLAND, MA
L0407837-05	FD-08	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0407837

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 Surrogate % Recovery for 4-bromofluorobenzene on -01 is above the acceptance criteria for the method. The sample is non-detect for all target compounds.

**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: L0407837-01	Date Collected: 19-JUL-2004 13:35
MW-220S	Date Received : 19-JUL-2004
Sample Matrix: WATER	Date Reported : 26-JUL-2004
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	0724 17:55 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



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 Fl 6
Boston MA 02116
Phone: 617 646 7800
Fax: 617 267 6447
Email: _____

Project Information

Project Name: Roughneck
Project Location: Weyland, MA
Project #: 13606.03
Project Manager: J Picard
ALPHA Quote #: _____

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due: 7/26 Time: _____

These samples have been previously analyzed by Alpha
Other Project: Specific Requirements/Comments/Detection Limits:

Date Rec'd In Lab: 7/19 ALPHA Job #: 20407837

Report Information - Data Deliverables

FAX EMAIL
 INDEX Add'l Deliverables
Regulatory Requirements/Report Limits

Billing Information

State/Fed Program: _____ Criteria: _____
 Same as Client info PO #: _____

MCPRESUMPTIVE 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?

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Time	Sample Matrix	Samplers Initials	Container Type Preservative	Relinquished By	Date/Time	Received By	Date/Time
2837-1	MW-220S	7/19/04	1335	GW	VR	Z	[Signature]	7/19/04	[Signature]	7/19/04
2	MW-220M	7/19/04	1135	GW	VR	Z	[Signature]	7/19/04	[Signature]	7/19/04
3	MW-221M	7/19/04	1500	GW	VR	Z	[Signature]	7/19/04	[Signature]	7/19/04
4	MW-221D	7/19/04	1515	GW	VR	Z	[Signature]	7/19/04	[Signature]	7/19/04
5	FD-08	7/19/04	2400	GW	VR	Z	[Signature]	7/19/04	[Signature]	7/19/04

ANALYSIS
8021 Volatiles & MTBE, benzene

SAMPLE HANDLING

Filtration
 Done
 Not needed
 Lab to do
 Preservation
 Lab to do
(Please specify beam)

Sample Specific Comments

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

Relinquished By: _____ Date/Time: _____
 Container Type Preservative: V
 Received By: _____ Date/Time: _____

IS YOUR PROJECT MCP?

Relinquished By: [Signature] Date/Time: 7/19/04
 Received By: [Signature] Date/Time: 7/19/04

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
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0407837-01
 MW-220S

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0724 17:55 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	108.	%		70-130			
Toluene-d8	100.	%		70-130			
4-Bromofluorobenzene	136.	%		70-130			
Dibromofluoromethane	105.	%		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:	L0407837-02	Date Collected:	19-JUL-2004 11:35
	MW-220M	Date Received :	19-JUL-2004
Sample Matrix:	WATER	Date Reported :	26-JUL-2004
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	0724 23:23 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	0.75	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: L0407837-02
MW-220M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ID ANAL
Volatile Organics by MCP 8260B continued				60 8260B	0724 23:23 RY	
Surrogate(s)	Recovery			QC Criteria		
1,2-Dichloroethane-d4	117.	%		70-130		
Toluene-d8	99.0	%		70-130		
4-Bromofluorobenzene	107.	%		70-130		
Dibromofluoromethane	112.	%		70-130		

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0407837-03
 MW-221M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0725 11:28		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	103.	%		70-130			
Toluene-d8	104.	%		70-130			
4-Bromofluorobenzene	122.	%		70-130			
Dibromofluoromethane	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: L0407837-04
MW-221D

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0725 12:05 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	130.	%		70-130			
Dibromofluoromethane	100.	%		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: L0407837-05	Date Collected: 19-JUL-2004 00:00
FD-08	Date Received : 19-JUL-2004
Sample Matrix: WATER	Date Reported : 26-JUL-2004
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		0725 12:41	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	6.2	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	3.8	ug/l	1.0				
cis-1,2-Dichloroethene	1.2	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: L0407837-05
 FD-08

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0725 12:41		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	106.	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	130.	%		70-130			
Dibromofluoromethane	104.	%		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: L0407837

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01 (WG176597-1, WG176597)					
Methylene chloride	93	90	3	25	70-130
1,1-Dichloroethane	84	84	0	25	70-130
Chloroform	102	96	6	25	70-130
Carbon tetrachloride	101	92	9	25	70-130
1,2-Dichloropropane	94	90	4	25	70-130
Dibromochloromethane	98	97	1	25	70-130
1,1,2-Trichloroethane	98	100	2	25	70-130
Tetrachloroethene	100	96	4	25	70-130
Chlorobenzene	100	94	6	25	70-130
1,2-Dichloroethane	98	93	5	25	70-130
1,1,1-Trichloroethane	104	93	11	25	70-130
Bromodichloromethane	102	93	9	25	70-130
trans-1,3-Dichloropropene	96	95	1	25	70-130
cis-1,3-Dichloropropene	95	91	4	25	70-130
Bromoform	106	105	1	50	70-130
1,1,2,2-Tetrachloroethane	99	96	3	25	70-130
Benzene	97	88	10	25	70-130
Chloromethane	92	83	10	50	70-130
Vinyl chloride	89	82	8	25	70-130
Chloroethane	78	75	4	25	70-130
1,1-Dichloroethene	82	78	5	25	70-130
trans-1,2-Dichloroethene	91	86	6	25	70-130
Trichloroethene	96	87	10	25	70-130
1,2-Dichlorobenzene	98	95	3	25	70-130
1,3-Dichlorobenzene	103	95	8	25	70-130
1,4-Dichlorobenzene	101	93	8	25	70-130
Methyl tert butyl ether	94	94	0	25	70-130
cis-1,2-Dichloroethene	92	88	4	25	70-130
Dichlorodifluoromethane	102	94	8	50	70-130
1,2-Dibromoethane	96	97	1	25	70-130
1,3-Dichloropropane	96	95	1	25	70-130
1,1,1,2-Tetrachloroethane	99	100	1	25	70-130
o-Chlorotoluene	102	96	6	25	70-130
p-Chlorotoluene	104	95	9	25	70-130
Hexachlorobutadiene	102	98	4	25	70-130
1,2,4-Trichlorobenzene	100	102	2	25	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	103	100	3		70-130
Toluene-d8	102	102	0		70-130
4-Bromofluorobenzene	98	98	0		70-130
Dibromofluoromethane	100	97	3		70-130
Volatile Organics by MCP 8260B for sample(s) 02 (WG176598-1, WG176598)					
Methylene chloride	100	103	3	25	70-130
1,1-Dichloroethane	103	110	7	25	70-130
Chloroform	106	109	3	25	70-130
Carbon tetrachloride	109	116	6	25	70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0407837

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 02 (WG176598-1, WG176598)					
1,2-Dichloropropane	102	104	2	25	70-130
Dibromochloromethane	104	105	1	25	70-130
1,1,2-Trichloroethane	104	102	2	25	70-130
Tetrachloroethene	104	109	5	25	70-130
Chlorobenzene	102	105	3	25	70-130
1,2-Dichloroethane	115	117	2	25	70-130
1,1,1-Trichloroethane	110	114	4	25	70-130
Bromodichloromethane	110	111	1	25	70-130
trans-1,3-Dichloropropene	103	106	3	25	70-130
cis-1,3-Dichloropropene	102	104	2	25	70-130
Bromoform	105	109	4	50	70-130
1,1,2,2-Tetrachloroethane	99	101	2	25	70-130
Benzene	101	104	3	25	70-130
Chloromethane	113	106	6	50	70-130
Vinyl chloride	118	128	8	25	70-130
Chloroethane	123	122	1	25	70-130
1,1-Dichloroethene	100	107	7	25	70-130
trans-1,2-Dichloroethene	102	107	5	25	70-130
Trichloroethene	102	108	6	25	70-130
1,2-Dichlorobenzene	100	103	3	25	70-130
1,3-Dichlorobenzene	100	103	3	25	70-130
1,4-Dichlorobenzene	99	101	2	25	70-130
Methyl tert butyl ether	94	97	3	25	70-130
cis-1,2-Dichloroethene	102	108	6	25	70-130
Dichlorodifluoromethane	100	104	4	50	70-130
1,2-Dibromoethane	101	104	3	25	70-130
1,3-Dichloropropane	101	103	2	25	70-130
1,1,1,2-Tetrachloroethane	109	112	3	25	70-130
o-Chlorotoluene	104	107	3	25	70-130
p-Chlorotoluene	101	103	2	25	70-130
Hexachlorobutadiene	102	108	6	25	70-130
1,2,4-Trichlorobenzene	88	85	3	25	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	116	113	3		70-130
Toluene-d8	100	99	1		70-130
4-Bromofluorobenzene	99	101	2		70-130
Dibromofluoromethane	111	106	5		70-130
Volatile Organics by MCP 8260B for sample(s) 03-05 (WG176603-1, WG176603)					
Methylene chloride	92	88	4	25	70-130
1,1-Dichloroethane	87	83	5	25	70-130
Chloroform	103	97	6	25	70-130
Carbon tetrachloride	102	91	11	25	70-130
1,2-Dichloropropane	98	91	7	25	70-130
Dibromochloromethane	105	95	10	25	70-130
1,1,2-Trichloroethane	104	98	6	25	70-130

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0407837

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 03-05 (WG176603-1, WG176603)					
Tetrachloroethene	107	92	15	25	70-130
Chlorobenzene	106	94	12	25	70-130
Trichlorofluoromethane	91	80	13	25	70-130
1,2-Dichloroethane	100	94	6	25	70-130
1,1,1-Trichloroethane	103	93	10	25	70-130
Bromodichloromethane	108	99	9	25	70-130
trans-1,3-Dichloropropene	101	95	6	25	70-130
cis-1,3-Dichloropropene	100	93	7	25	70-130
1,1-Dichloropropene	91	85	7	25	70-130
Bromoform	118	105	12	50	70-130
1,1,2,2-Tetrachloroethane	103	98	5	25	70-130
Benzene	97	89	9	25	70-130
Toluene	100	91	9	25	70-130
Ethylbenzene	103	94	9	25	70-130
Chloromethane	86	82	5	50	70-130
Bromomethane	70	71	1	50	70-130
Vinyl chloride	88	78	12	25	70-130
Chloroethane	77	73	5	25	70-130
1,1-Dichloroethene	84	76	10	25	70-130
trans-1,2-Dichloroethene	89	81	9	25	70-130
Trichloroethene	97	88	10	25	70-130
1,2-Dichlorobenzene	105	92	13	25	70-130
1,3-Dichlorobenzene	108	97	11	25	70-130
1,4-Dichlorobenzene	105	94	11	25	70-130
Methyl tert butyl ether	91	88	3	25	70-130
p/m-Xylene	108	94	14	25	70-130
o-Xylene	102	92	10	25	70-130
cis-1,2-Dichloroethene	96	88	9	25	70-130
Dibromomethane	104	99	5	25	70-130
1,2,3-Trichloropropane	104	97	7	25	70-130
Styrene	103	93	10	25	70-130
Dichlorodifluoromethane	97	85	13	50	70-130
Acetone	97	91	6	50	70-130
Carbon disulfide	87	78	11	25	70-130
2-Butanone	102	104	2	50	70-130
4-Methyl-2-pentanone	101	101	0	50	70-130
2-Hexanone	100	96	4	50	70-130
Bromochloromethane	105	97	8	25	70-130
Tetrahydrofuran	86	83	4	25	70-130
2,2-Dichloropropane	104	94	10	25	70-130
1,2-Dibromoethane	103	97	6	25	70-130
1,3-Dichloropropane	100	95	5	25	70-130
1,1,1,2-Tetrachloroethane	107	98	9	25	70-130
Bromobenzene	104	92	12	25	70-130
n-Butylbenzene	103	89	15	25	70-130
sec-Butylbenzene	106	90	16	25	70-130
tert-Butylbenzene	104	93	11	25	70-130

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0407837

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 03-05 (WG176603-1, WG176603)					
o-Chlorotoluene	107	93	14	25	70-130
p-Chlorotoluene	107	94	13	25	70-130
1,2-Dibromo-3-chloropropane	105	98	7	50	70-130
Hexachlorobutadiene	102	92	10	25	70-130
Isopropylbenzene	108	94	14	25	70-130
p-Isopropyltoluene	102	88	15	25	70-130
Naphthalene	99	97	2	25	70-130
n-Propylbenzene	109	93	16	25	70-130
1,2,3-Trichlorobenzene	102	101	1	25	70-130
1,2,4-Trichlorobenzene	103	98	5	25	70-130
1,3,5-Trimethylbenzene	105	90	15	25	70-130
1,2,4-Trimethylbenzene	104	92	12	25	70-130
Ethyl ether	80	75	6	25	70-130
Isopropyl Ether	90	86	5	25	70-130
Ethyl-Tert-Butyl-Ether	90	85	6	25	70-130
Tertiary-Amyl Methyl Ether	90	88	2	25	70-130
1,4-Dioxane	96	94	2	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	102	102	0		70-130
Toluene-d8	100	98	2		70-130
4-Bromofluorobenzene	97	101	4		70-130
Dibromofluoromethane	101	99	2		70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0407837

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG176597-3)							
Volatile Organics by MCP 8260B				60 8260B	0724 12:42 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	103.	%	70-130				
Toluene-d8	102.	%	70-130				
4-Bromofluorobenzene	117.	%	70-130				
Dibromofluoromethane	101.	%	70-130				

Blank Analysis for sample(s) 02 (WG176598-3)

Volatile Organics by MCP 8260B				60 8260B	0724 15:08 RY		
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0407837

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02 (WG176598-3)							
Volatile Organics by MCP 8260B continued				60 8260B	0724 15:08 RY		
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	113.	%	70-130				
Toluene-d8	99.0	%	70-130				
4-Bromofluorobenzene	111.	%	70-130				
Dibromofluoromethane	108.	%	70-130				
Blank Analysis for sample(s) 03-05 (WG176603-3)							
Volatile Organics by MCP 8260B				60 8260B	0725 10:27 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: L0407837

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03-05 (WG176603-3)							
Volatile Organics by MCP 8260B continued				60 8260B		0725 10:27	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				
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	2.0				
1,3-Dichloropropane	ND	ug/l	2.5				
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50				
Bromobenzene	ND	ug/l	2.5				

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0407837

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03-05 (WG176603-3)							
Volatile Organics by MCP 8260B continued				60 8260B		0725 10:27	RY
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	103.	%	70-130				
Toluene-d8	102.	%	70-130				
4-Bromofluorobenzene	120.	%	70-130				
Dibromofluoromethane	102.	%	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.

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: L0407837

Were project specific reporting limits specified? NO

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0407837-01A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-01B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-02A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-02B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-03A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-03B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-04A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-04B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-05A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0407837-05B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04

Container Comments

Container ID	Comments
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