

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: L0413681  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 08-DEC-2004  
Attn: Jeremy Picard Date Reported: 13-DEC-2004  
Project Number: 13606 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.

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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



# CHAIN OF CUSTODY

PAGE \_\_\_\_\_ OF \_\_\_\_\_

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

### Client Information

Client: **ERM**

Address: **399 BOYLSTON ST  
BOSTON MA 02166**

Phone: **617-646-7806**

Fax:

Email:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

### Project Information

Project Name: **Raytheon Wayland**

Project Location: **Wayland**

Project #: **13606**

Project Manager: **J. Picard**

ALPHA Quote #:

Turn-Around Time

Standard

Date Due: **12/11**

RUSH (only confirmed if pre-approved)  
Time:

Date Rec'd in Lab: **12/8**

**12/8**

ALPHA Job #: **20419681**

### Report Information - Data Deliverables

FAX  EMAIL  
 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

**8021B, TBE, BENZENE  
Chloride  
8021B Chlorinated**

### 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	ANALYSIS	SAMP. HANDLING	Sample Specific Comments
		Date	Time					
3681-1	MW-228H	12/7/04	10:40	GW	MSH	<input checked="" type="checkbox"/>		
2	MW-219S	12/7/04	13:50	GW	LR	<input checked="" type="checkbox"/>		
3	MW-219D	12/7/04	15:00	GW	MSH	<input checked="" type="checkbox"/>		
4	TB-022	12/10/04	15:45		LTH	<input checked="" type="checkbox"/>		

### QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

**NO**

Relinquished By:

*[Signature]*

Date/Time

**12/10/04 12:00**

Received By:

*[Signature]*

Date/Time

**12/8/04 12:00**

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

Laboratory Job Number: L0413681  
Date Reported: 13-DEC-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0413681-01	MW-220M	WAYLAND, MA
L0413681-02	MW-219S	WAYLAND, MA
L0413681-03	MW-219D	WAYLAND, MA
L0413681-04	TB-002	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0413681

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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

L0413681-01 was re-analyzed on a 5x 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 WG189017-1,2 LCS,LCS D have low recoveries for dichlorodifluoromethane, a difficult analyte.



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

Laboratory Sample Number: L0413681-01  
 MW-220M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1209	21:46	RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	107.	%		70-130			
Toluene-d8	102.	%		70-130			
4-Bromofluorobenzene	104.	%		70-130			
Dibromofluoromethane	101.	%		70-130			
Volatile Organics by MCP 8260B				60 8260B	1210	12:44	RY
Methyl tert butyl ether	260	ug/l	5.0				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	105.	%		70-130			
Toluene-d8	101.	%		70-130			
4-Bromofluorobenzene	102.	%		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

Laboratory Sample Number: L0413681-02  
 MW-219S

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1209 22:22		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	108.	%		70-130			
Toluene-d8	104.	%		70-130			
4-Bromofluorobenzene	100.	%		70-130			
Dibromofluoromethane	103.	%		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:	L0413681-03	Date Collected:	07-DEC-2004 15:00
	MW-219D	Date Received :	08-DEC-2004
Sample Matrix:	WATER	Date Reported :	13-DEC-2004
Condition of Sample:	Satisfactory	Field Prep:	None
Number & Type of Containers: 1-Plastic,2-Vial			

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
Chloride	48.	mg/l	1.0	1 9251		1211 15:06 ED
Volatile Organics by MCP 8260B				60 8260B		1209 22:58 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	4.1	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			
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: L0413681-03  
MW-219D

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1209 22:58 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	107.	%		70-130			
Toluene-d8	102.	%		70-130			
4-Bromofluorobenzene	101.	%		70-130			
Dibromofluoromethane	102.	%		70-130			

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



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0413681-04  
 TB-002

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1209 19:48		TT
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	102.	%		70-130			
Dibromofluoromethane	103.	%		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: L0413681

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Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride	77.	75.	mg/l	3	7

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ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0413681

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Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 01-03 (WG189152)		
Chloride	93	84-110
Chloride SPIKE for sample(s) 01-03 (L0413679-03, WG189152)		
Chloride	85	58-140

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**ALPHA ANALYTICAL LABORATORIES**  
**QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS**

Laboratory Job Number: L0413681

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 04 (WG189017-1, WG189017)					
Methylene chloride	100	95	5	25	70-130
1,1-Dichloroethane	103	97	6	25	70-130
Chloroform	89	86	3	25	70-130
Carbon tetrachloride	107	102	5	25	70-130
1,2-Dichloropropane	105	101	4	25	70-130
Dibromochloromethane	100	96	4	25	70-130
1,1,2-Trichloroethane	103	102	1	25	70-130
Tetrachloroethene	110	102	8	25	70-130
Chlorobenzene	107	102	5	25	70-130
Trichlorofluoromethane	109	101	8	25	70-130
1,2-Dichloroethane	100	99	1	25	70-130
1,1,1-Trichloroethane	104	96	8	25	70-130
Bromodichloromethane	90	90	0	25	70-130
trans-1,3-Dichloropropene	105	103	2	25	70-130
cis-1,3-Dichloropropene	103	104	1	25	70-130
1,1-Dichloropropene	107	100	7	25	70-130
Bromoform	103	105	2	50	70-130
1,1,2,2-Tetrachloroethane	100	101	1	25	70-130
Benzene	106	100	6	25	70-130
Toluene	110	102	8	25	70-130
Ethylbenzene	112	105	6	25	70-130
Chloromethane	87	81	7	50	70-130
Bromomethane	108	105	3	50	70-130
Vinyl chloride	96	88	9	25	70-130
Chloroethane	95	90	5	25	70-130
1,1-Dichloroethene	105	98	7	25	70-130
trans-1,2-Dichloroethene	104	99	5	25	70-130
Trichloroethene	106	98	8	25	70-130
1,2-Dichlorobenzene	109	105	4	25	70-130
1,3-Dichlorobenzene	110	106	4	25	70-130
1,4-Dichlorobenzene	109	104	5	25	70-130
Methyl tert butyl ether	107	107	0	25	70-130
p/m-Xylene	117	108	8	25	70-130
o-Xylene	114	110	4	25	70-130
cis-1,2-Dichloroethene	106	101	5	25	70-130
Dibromomethane	101	103	2	25	70-130
1,2,3-Trichloropropane	100	104	4	25	70-130
Styrene	110	106	4	25	70-130
Dichlorodifluoromethane	67	62	8	50	70-130
Acetone	98	91	7	50	70-130
Carbon disulfide	94	88	7	25	70-130
2-Butanone	105	101	4	50	70-130
4-Methyl-2-pentanone	105	96	9	50	70-130
2-Hexanone	102	91	11	50	70-130
Bromochloromethane	109	108	1	25	70-130
Tetrahydrofuran	88	98	11	25	70-130
2,2-Dichloropropane	106	98	8	25	70-130
1,2-Dibromoethane	105	105	0	25	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413681

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 04 (WG189017-1, WG189017)					
1,3-Dichloropropane	104	102	2	25	70-130
1,1,1,2-Tetrachloroethane	108	104	4	25	70-130
Bromobenzene	112	106	6	25	70-130
n-Butylbenzene	118	111	6	25	70-130
sec-Butylbenzene	122	116	5	25	70-130
tert-Butylbenzene	110	105	5	25	70-130
o-Chlorotoluene	114	106	7	25	70-130
p-Chlorotoluene	113	107	5	25	70-130
1,2-Dibromo-3-chloropropane	89	94	5	50	70-130
Hexachlorobutadiene	125	116	7	25	70-130
Isopropylbenzene	121	112	8	25	70-130
p-Isopropyltoluene	110	103	7	25	70-130
Naphthalene	112	122	9	25	70-130
n-Propylbenzene	117	109	7	25	70-130
1,2,3-Trichlorobenzene	108	121	11	25	70-130
1,2,4-Trichlorobenzene	112	115	3	25	70-130
1,3,5-Trimethylbenzene	119	113	5	25	70-130
1,2,4-Trimethylbenzene	119	111	7	25	70-130
Ethyl ether	93	95	2	25	70-130
Isopropyl Ether	98	97	1	25	70-130
Ethyl-Tert-Butyl-Ether	101	102	1	25	70-130
Tertiary-Amyl Methyl Ether	102	104	2	25	70-130
1,4-Dioxane	99	115	15	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	111	96	14		70-130
Toluene-d8	114	103	10		70-130
4-Bromofluorobenzene	113	106	6		70-130
Dibromofluoromethane	111	99	11		70-130
Volatile Organics by MCP 8260B for sample(s) 01-03 (WG189074-1, WG189074)					
Methylene chloride	84	86	2	25	70-130
1,1-Dichloroethane	86	93	8	25	70-130
Chloroform	82	88	7	25	70-130
Carbon tetrachloride	88	96	9	25	70-130
1,2-Dichloropropane	87	92	6	25	70-130
Dibromochloromethane	90	93	3	25	70-130
1,1,2-Trichloroethane	84	92	9	25	70-130
Tetrachloroethene	88	94	7	25	70-130
Chlorobenzene	89	93	4	25	70-130
Trichlorofluoromethane	97	99	2	25	70-130
1,2-Dichloroethane	91	94	3	25	70-130
1,1,1-Trichloroethane	85	93	9	25	70-130
Bromodichloromethane	87	92	6	25	70-130
trans-1,3-Dichloropropene	87	95	9	25	70-130
cis-1,3-Dichloropropene	89	92	3	25	70-130
1,1-Dichloropropene	86	95	10	25	70-130



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413681

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01-03 (WG189074-1, WG189074)					
Bromoform	87	90	3	50	70-130
1,1,2,2-Tetrachloroethane	86	90	5	25	70-130
Benzene	86	92	7	25	70-130
Toluene	87	92	6	25	70-130
Ethylbenzene	88	96	9	25	70-130
Chloromethane	86	90	5	50	70-130
Bromomethane	81	99	20	50	70-130
Vinyl chloride	88	95	8	25	70-130
Chloroethane	82	85	4	25	70-130
1,1-Dichloroethene	86	92	7	25	70-130
trans-1,2-Dichloroethene	91	91	0	25	70-130
Trichloroethene	84	90	7	25	70-130
1,2-Dichlorobenzene	86	91	6	25	70-130
1,3-Dichlorobenzene	86	91	6	25	70-130
1,4-Dichlorobenzene	89	94	5	25	70-130
Methyl tert butyl ether	85	92	8	25	70-130
p/m-Xylene	88	98	11	25	70-130
o-Xylene	88	95	8	25	70-130
cis-1,2-Dichloroethene	83	88	6	25	70-130
Dibromomethane	88	86	2	25	70-130
1,2,3-Trichloropropane	87	94	8	25	70-130
Styrene	92	98	6	25	70-130
Dichlorodifluoromethane	80	88	10	50	70-130
Acetone	128	92	33	50	70-130
Carbon disulfide	91	92	1	25	70-130
2-Butanone	104	102	2	50	70-130
4-Methyl-2-pentanone	94	96	2	50	70-130
2-Hexanone	84	104	21	50	70-130
Bromochloromethane	82	90	9	25	70-130
Tetrahydrofuran	89	88	1	25	70-130
2,2-Dichloropropane	85	92	8	25	70-130
1,2-Dibromoethane	90	92	2	25	70-130
1,3-Dichloropropane	88	94	7	25	70-130
1,1,1,2-Tetrachloroethane	93	97	4	25	70-130
Bromobenzene	87	92	6	25	70-130
n-Butylbenzene	88	95	8	25	70-130
sec-Butylbenzene	86	92	7	25	70-130
tert-Butylbenzene	83	90	8	25	70-130
o-Chlorotoluene	86	92	7	25	70-130
p-Chlorotoluene	86	92	7	25	70-130
1,2-Dibromo-3-chloropropane	93	94	1	50	70-130
Hexachlorobutadiene	84	92	9	25	70-130
Isopropylbenzene	89	97	9	25	70-130
p-Isopropyltoluene	86	93	8	25	70-130
Naphthalene	99	94	5	25	70-130
n-Propylbenzene	84	92	9	25	70-130
1,2,3-Trichlorobenzene	91	92	1	25	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413681

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01-03 (WG189074-1, WG189074)					
1,2,4-Trichlorobenzene	90	93	3	25	70-130
1,3,5-Trimethylbenzene	87	94	8	25	70-130
1,2,4-Trimethylbenzene	88	94	7	25	70-130
Ethyl ether	88	91	3	25	70-130
Isopropyl Ether	82	88	7	25	70-130
Ethyl-Tert-Butyl-Ether	80	85	6	25	70-130
Tertiary-Amyl Methyl Ether	80	87	8	25	70-130
1,4-Dioxane	90	90	0	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	101	105	4		70-130
Toluene-d8	100	103	3		70-130
4-Bromofluorobenzene	101	101	0		70-130
Dibromofluoromethane	101	103	2		70-130
Volatile Organics by MCP 8260B for sample(s) 01 (WG189074-2, WG189074)					
Methylene chloride	86	82	1	25	70-130
1,1-Dichloroethane	93	86	2	25	70-130
Chloroform	88	82	0	25	70-130
Carbon tetrachloride	96	87	1	25	70-130
1,2-Dichloropropane	92	88	0	25	70-130
Dibromochloromethane	93	93	6	25	70-130
1,1,2-Trichloroethane	92	90	1	25	70-130
Tetrachloroethene	94	87	0	25	70-130
Chlorobenzene	93	90	0	25	70-130
Trichlorofluoromethane	99	86	3	25	70-130
1,2-Dichloroethane	94	90	5	25	70-130
1,1,1-Trichloroethane	93	86	2	25	70-130
Bromodichloromethane	92	89	2	25	70-130
trans-1,3-Dichloropropene	95	91	1	25	70-130
cis-1,3-Dichloropropene	92	90	2	25	70-130
1,1-Dichloropropene	95	86	0	25	70-130
Bromoform	90	92	11	50	70-130
1,1,2,2-Tetrachloroethane	90	90	2	25	70-130
Benzene	92	84	0	25	70-130
Toluene	92	87	0	25	70-130
Ethylbenzene	96	89	1	25	70-130
Chloromethane	90	73	9	50	70-130
Bromomethane	99	79	3	50	70-130
Vinyl chloride	95	80	2	25	70-130
Chloroethane	85	75	5	25	70-130
1,1-Dichloroethene	92	80	2	25	70-130
trans-1,2-Dichloroethene	91	81	0	25	70-130
Trichloroethene	90	85	5	25	70-130
1,2-Dichlorobenzene	91	87	2	25	70-130
1,3-Dichlorobenzene	91	88	2	25	70-130
1,4-Dichlorobenzene	94	88	1	25	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413681

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01 (WG189074-2, WG189074)					
Methyl tert butyl ether	92	86	2	25	70-130
p/m-Xylene	98	91	3	25	70-130
o-Xylene	95	90	2	25	70-130
cis-1,2-Dichloroethene	88	81	1	25	70-130
Dibromomethane	86	89	3	25	70-130
1,2,3-Trichloropropane	94	90	5	25	70-130
Styrene	98	93	1	25	70-130
Dichlorodifluoromethane	88	70	3	50	70-130
Acetone	92	87	33	50	70-130
Carbon disulfide	92	78	10	25	70-130
2-Butanone	102	98	2	50	70-130
4-Methyl-2-pentanone	96	90	5	50	70-130
2-Hexanone	104	102	1	50	70-130
Bromochloromethane	90	84	1	25	70-130
Tetrahydrofuran	88	89	2	25	70-130
2,2-Dichloropropane	92	82	0	25	70-130
1,2-Dibromoethane	92	91	6	25	70-130
1,3-Dichloropropane	94	92	3	25	70-130
1,1,1,2-Tetrachloroethane	97	96	6	25	70-130
Bromobenzene	92	84	0	25	70-130
n-Butylbenzene	95	85	1	25	70-130
sec-Butylbenzene	92	86	2	25	70-130
tert-Butylbenzene	90	83	0	25	70-130
o-Chlorotoluene	92	88	3	25	70-130
p-Chlorotoluene	92	87	5	25	70-130
1,2-Dibromo-3-chloropropane	94	93	1	50	70-130
Hexachlorobutadiene	92	81	4	25	70-130
Isopropylbenzene	97	91	1	25	70-130
p-Isopropyltoluene	93	85	1	25	70-130
Naphthalene	94	93	4	25	70-130
n-Propylbenzene	92	87	2	25	70-130
1,2,3-Trichlorobenzene	92	85	5	25	70-130
1,2,4-Trichlorobenzene	93	85	3	25	70-130
1,3,5-Trimethylbenzene	94	87	0	25	70-130
1,2,4-Trimethylbenzene	94	88	2	25	70-130
Ethyl ether	91	86	5	25	70-130
Isopropyl Ether	88	78	0	25	70-130
Ethyl-Tert-Butyl-Ether	85	78	4	25	70-130
Tertiary-Amyl Methyl Ether	87	80	6	25	70-130
1,4-Dioxane	90	92	7	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	105	103	2		70-130
Toluene-d8	103	101	2		70-130
4-Bromofluorobenzene	101	98	3		70-130
Dibromofluoromethane	103	104	1		70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413681

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG189152-1)							
Chloride	ND	mg/l	1.0	1 9251		1211 14:54	ED
Blank Analysis for sample(s) 04 (WG189017-3)							
Volatile Organics by MCP 8260B				60 8260B		1209 10:34	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				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413681

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 04 (WG189017-3)							
Volatile Organics by MCP 8260B continued				60 8260B		1209 10:34	TT
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				
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	99.0	%	70-130				
Toluene-d8	101.	%	70-130				
4-Bromofluorobenzene	102.	%	70-130				
Dibromofluoromethane	102.	%	70-130				
Blank Analysis for sample(s) 01-03 (WG189074-3)							
Volatile Organics by MCP 8260B				60 8260B		1209 12:48	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				
Trichlorofluoromethane	ND	ug/l	2.5				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413681

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG189074-3)							
Volatile Organics by MCP 8260B continued				60 8260B		1209 12:48 RY	
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				
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				

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

Laboratory Job Number: L0413681

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG189074-3)							
Volatile Organics by MCP 8260B continued				60 8260B	1209 12:48		RY
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	104.	%	70-130				
Toluene-d8	104.	%	70-130				
4-Bromofluorobenzene	102.	%	70-130				
Dibromofluoromethane	103.	%	70-130				
Blank Analysis for sample(s) 01 (WG189074-6)							
Volatile Organics by MCP 8260B				60 8260B	1210 12:08		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				
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				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413681

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG189074-6)							
Volatile Organics by MCP 8260B continued				60 8260B		1210 12:08	RY
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				
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				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413681

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG189074-6)							
Volatile Organics by MCP 8260B continued				60 8260B		1210 12:08	RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	106.	%		70-130			
Toluene-d8	102.	%		70-130			
4-Bromofluorobenzene	101.	%		70-130			
Dibromofluoromethane	101.	%		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.
  
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.

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: L0413681

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
L0413681-01A	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04
L0413681-01B	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04
L0413681-01C	Plastic 250ml unpreserved	A	=7	1.4 C	Y	Absent	CL-9251
L0413681-01D	Vial HCl preserved	A	NA	1.4 C	Y	Absent	MCP-8260-04
L0413681-01E	Vial HCl preserved	A	NA	1.4 C	Y	Absent	MCP-8260-04
L0413681-02A	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04
L0413681-02B	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04
L0413681-02C	Plastic 250ml unpreserved	A	=7	1.4 C	Y	Absent	CL-9251
L0413681-03A	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04
L0413681-03B	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04
L0413681-03C	Plastic 250ml unpreserved	A	=7	1.4 C	Y	Absent	CL-9251
L0413681-04A	Vial HCl preserved	A	N/A	1.4 C	Y	Absent	MCP-8260-04

Container Comments

Container ID	Comments
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