

ALPHA ANALYTICAL LABORATORIES

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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: L0503947
Address: 399 Boylston Street
6th Floor Date Received: 13-APR-2005
Boston, MA 02116
Attn: Jeremy Picard Date Reported: 19-APR-2005
Project Number: 28046 Delivery Method: Alpha
Site: FORMER RAYTHEON FACILITY

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: L0503947
Date Reported: 19-APR-2005

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0503947-01	MW-33S-20050412-01	WAYLAND, MA
L0503947-02	MW-33M-20050412-01	WAYLAND, MA
L0503947-03	MW-111-20050412-01	WAYLAND, MA
L0503947-04	MW-113-20050412-01	WAYLAND, MA
L0503947-05	MW-115-20050412-01	WAYLAND, MA
L0503947-06	MW-109-20050412-01	WAYLAND, MA
L0503947-07	MW-107-20050412-01	WAYLAND, MA
L0503947-08	TB-001-20050412-01	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0503947

Report Submission

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

Volatile Organics

The following were re-analyzed on 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.

L0503947-03 (40X)

L0503947-05 (10X)

L0503947-01 and -07 have elevated limits of detection due to the 2x dilutions required by the elevated concentrations of target compounds in the sample.

In reference to question E:

The WG199416-5 LCSD has a low recovery for chloromethane, a difficult analyte.

The LCS/LCSD % RPD for 1,1-dichloroethane is above acceptable limits.

Metals

L0503947-04 was re-analyzed on a 10x dilution for Na 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.

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: L0503947-01 Date Collected: 12-APR-2005 08:28
 MW-33S-20050412-01 Date Received : 13-APR-2005
 Sample Matrix: WATER Date Reported : 19-APR-2005
 Condition of Sample: Satisfactory Field Prep: Field Filtered
 Number & Type of Containers: 1-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Dissolved Metals by MCP 6000/7000 series				60 6010B			
Sodium, Dissolved	6.8	mg/l	2.0	60 6010B	0415 17:00	0418 16:26	RW
Volatile Organics by MCP 8260B				60 8260B		0418 14:59	RY
Methylene chloride	ND	ug/l	10.				
1,1-Dichloroethane	ND	ug/l	1.5				
Chloroform	ND	ug/l	1.5				
Carbon tetrachloride	ND	ug/l	1.0				
1,2-Dichloropropane	ND	ug/l	3.5				
Dibromochloromethane	ND	ug/l	1.0				
1,1,2-Trichloroethane	ND	ug/l	1.5				
Tetrachloroethene	ND	ug/l	1.0				
Chlorobenzene	ND	ug/l	1.0				
1,2-Dichloroethane	ND	ug/l	1.0				
1,1,1-Trichloroethane	22.	ug/l	1.0				
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.0				
cis-1,3-Dichloropropene	ND	ug/l	1.0				
Bromoform	ND	ug/l	4.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Chloromethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	1.1	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
Trichloroethene	73.	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
cis-1,2-Dichloroethene	ND	ug/l	1.0				
Dichlorodifluoromethane	ND	ug/l	10.				
1,2-Dibromoethane	ND	ug/l	4.0				
1,3-Dichloropropane	ND	ug/l	5.0				
1,1,1,2-Tetrachloroethane	ND	ug/l	1.0				
o-Chlorotoluene	ND	ug/l	5.0				
p-Chlorotoluene	ND	ug/l	5.0				
Hexachlorobutadiene	ND	ug/l	2.0				
1,2,4-Trichlorobenzene	ND	ug/l	5.0				

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503947-01
 MW-33S-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0418 14:59 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	102.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	106.	%		70-130			
Dibromofluoromethane	98.0	%		70-130			

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503947-02
 MW-33M-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60-8260B	0415 18:09 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	104.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	105.	%		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: L0503947-03 Date Collected: 12-APR-2005 11:28
 MW-111-20050412-01 Date Received : 13-APR-2005
 Sample Matrix: WATER Date Reported : 19-APR-2005
 Condition of Sample: Satisfactory Field Prep: Field Filtered
 Number & Type of Containers: 1-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ANAL	ID
Dissolved Metals by MCP 6000/7000 series				60 6010B			
Sodium, Dissolved	53.	mg/l	2.0	60 6010B	0415 17:00	0418 16:42	RW
Volatile Organics by MCP 8260B				60 8260B		0415 18:44	RY
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	3.3	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	>100	ug/l	.5				
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				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	32.	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	>100	ug/l	.5				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	4.9	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: L0503947-03
 MW-111-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0415 18:44		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	116.	%		70-130			
Toluene-d8	100.	%		70-130			
4-Bromofluorobenzene	106.	%		70-130			
Dibromofluoromethane	108.	%		70-130			
Volatile Organics by MCP 8260B				60 8260B	0418 13:46		RY
1,1,1-Trichloroethane	280	ug/l	20.				
Trichloroethene	860	ug/l	20.				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	114.	%		70-130			
Toluene-d8	97.0	%		70-130			
4-Bromofluorobenzene	98.0	%		70-130			
Dibromofluoromethane	109.	%		70-130			

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503947-04
 MW-113-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0418 12:33		RY
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	102.	%		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: L0503947-05 Date Collected: 12-APR-2005 14:30
 MW-115-20050412-01 Date Received : 13-APR-2005
 Sample Matrix: WATER Date Reported : 19-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	0415 19:55 RY		
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	2.5	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	>100	ug/l	.5				
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				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	7.2	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	>100	ug/l	.5				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
cis-1,2-Dichloroethene	1.3	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: L0503947-05
MW-115-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0415 19:55		RY
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	113.	%		70-130			
Toluene-d8	94.0	%		70-130			
4-Bromofluorobenzene	104.	%		70-130			
Dibromofluoromethane	110.	%		70-130			
Volatile Organics by MCP 8260B				60 8260B	0418 14:22		RY
1,1,1-Trichloroethane	190	ug/l		5.0			
Trichloroethene	270	ug/l		5.0			
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	112.	%		70-130			
Toluene-d8	97.0	%		70-130			
4-Bromofluorobenzene	104.	%		70-130			
Dibromofluoromethane	107.	%		70-130			

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503947-06
 MW-109-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0419 13:09 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	104.	%		70-130			
Toluene-d8	96.0	%		70-130			
4-Bromofluorobenzene	102.	%		70-130			
Dibromofluoromethane	99.0	%		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: L0503947-07 Date Collected: 12-APR-2005 16:47
 MW-107-20050412-01 Date Received : 13-APR-2005
 Sample Matrix: WATER Date Reported : 19-APR-2005
 Condition of Sample: Satisfactory Field Prep: Field Filtered
 Number & Type of Containers: 1-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ANAL	ID
Dissolved Metals by MCP 6000/7000 series				60 6010B			
Sodium, Dissolved	64.	mg/l	2.0	60 6010B	0415 17:00	0418 16:49	RW
Volatile Organics by MCP 8260B				60 8260B		0415 21:06	RY
Methylene chloride	ND	ug/l	10.				
1,1-Dichloroethane	ND	ug/l	1.5				
Chloroform	ND	ug/l	1.5				
Carbon tetrachloride	ND	ug/l	1.0				
1,2-Dichloropropane	ND	ug/l	3.5				
Dibromochloromethane	ND	ug/l	1.0				
1,1,2-Trichloroethane	ND	ug/l	1.5				
Tetrachloroethene	ND	ug/l	1.0				
Chlorobenzene	ND	ug/l	1.0				
1,2-Dichloroethane	ND	ug/l	1.0				
1,1,1-Trichloroethane	ND	ug/l	1.0				
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.0				
cis-1,3-Dichloropropene	ND	ug/l	1.0				
Bromoform	ND	ug/l	4.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Chloromethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	ND	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
Trichloroethene	66.	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
cis-1,2-Dichloroethene	11.	ug/l	1.0				
Dichlorodifluoromethane	ND	ug/l	10.				
1,2-Dibromoethane	ND	ug/l	4.0				
1,3-Dichloropropane	ND	ug/l	5.0				
1,1,1,2-Tetrachloroethane	ND	ug/l	1.0				
o-Chlorotoluene	ND	ug/l	5.0				
p-Chlorotoluene	ND	ug/l	5.0				
Hexachlorobutadiene	ND	ug/l	2.0				
1,2,4-Trichlorobenzene	ND	ug/l	5.0				

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503947-07
 MW-107-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0415 21:06		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	110.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	105.	%		70-130			
Dibromofluoromethane	104.	%		70-130			

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

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503947-08
 TB-001-20050412-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
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Volatile Organics by MCP 8260B continued				60 8260B	0415 21:42 RT	
Surrogate (s)	Recovery			QC Criteria		
1,2-Dichloroethane-d4	109.	%		70-130		
Toluene-d8	97.0	%		70-130		
4-Bromofluorobenzene	103.	%		70-130		
Dibromofluoromethane	101.	%		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: L0503947

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Dissolved Metals by MCP 6000/7000 series for sample(s) 01-04,06-07 (WG199322-2, WG199322-3)					
Sodium, Dissolved	110	110	0	20	75-125
Volatile Organics by MCP 8260B for sample(s) 02-03,05,07-08 (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 LCS/LCSD ANALYSIS

Laboratory Job Number: L0503947

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01,03-06 (WG199416-7, WG199416-8)					
Methylene chloride	91	95	4	25	70-130
1,1-Dichloroethane	89	87	2	25	70-130
Chloroform	101	98	3	25	70-130
Carbon tetrachloride	106	103	3	25	70-130
1,2-Dichloropropane	90	92	2	25	70-130
Dibromochloromethane	82	82	0	25	70-130
1,1,2-Trichloroethane	82	81	1	25	70-130
Tetrachloroethene	93	90	3	25	70-130
Chlorobenzene	86	87	1	25	70-130
1,2-Dichloroethane	100	99	1	25	70-130
1,1,1-Trichloroethane	104	100	4	25	70-130
Bromodichloromethane	89	90	1	25	70-130
trans-1,3-Dichloropropene	82	82	0	25	70-130
cis-1,3-Dichloropropene	86	90	5	25	70-130
Bromoform	84	80	5	50	70-130
1,1,2,2-Tetrachloroethane	76	79	4	25	70-130
Benzene	94	95	1	25	70-130
Chloromethane	83	87	5	50	70-130
Vinyl chloride	94	93	1	25	70-130
Chloroethane	88	90	2	25	70-130
1,1-Dichloroethene	102	98	4	25	70-130
trans-1,2-Dichloroethene	99	98	1	25	70-130
Trichloroethene	93	93	0	25	70-130
1,2-Dichlorobenzene	85	87	2	25	70-130
1,3-Dichlorobenzene	86	86	0	25	70-130
1,4-Dichlorobenzene	85	84	1	25	70-130
Methyl tert butyl ether	86	91	6	25	70-130
cis-1,2-Dichloroethene	96	94	2	25	70-130
Dichlorodifluoromethane	84	82	2	50	70-130
1,2-Dibromoethane	85	86	1	25	70-130
1,3-Dichloropropane	82	80	2	25	70-130
1,1,1,2-Tetrachloroethane	87	85	2	25	70-130
o-Chlorotoluene	88	86	2	25	70-130
p-Chlorotoluene	83	83	0	25	70-130
Hexachlorobutadiene	87	83	5	25	70-130
1,2,4-Trichlorobenzene	90	92	2	25	70-130
Surrogate (s)					
1,2-Dichloroethane-d4	110	110	0		70-130
Toluene-d8	97	97	0		70-130
4-Bromofluorobenzene	99	99	0		70-130
Dibromofluoromethane	111	107	4		70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0503947

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
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Blank Analysis for sample(s) 01-04,06-07 (WG199322-1)
Dissolved Metals by MCP 6000/7000 series 60 6010B

Sodium, Dissolved	ND	mg/l	2.0	60 6010B	0415 17:00 0418 16:10	RW
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Blank Analysis for sample(s) 02-03,05,07-08 (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

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0503947

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
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Blank Analysis for sample(s) 02-03,05,07-08 (WG199416-6)						
Volatile Organics by MCP 8260B continued						
Dibromofluoromethane	93.0	%	70-130	60 8260B		0415 16:56 RY

Blank Analysis for sample(s) 01,03-06 (WG199416-9)						
Volatile Organics by MCP 8260B						
Methylene chloride	ND	ug/l	5.0			0418 09:29 RY
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	99.0	%	70-130
4-Bromofluorobenzene	101.	%	70-130
Dibromofluoromethane	97.0	%	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: L0503947

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
L0503947-01A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-01B	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-01C	Plastic 250ml HNO3 preserved	A	<2	2.7 C	Y	Absent	MCP-NA-6010S
L0503947-02A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-02B	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-02C	Plastic 250ml HNO3 preserved	A	<2	2.7 C	Y	Absent	MCP-NA-6010S
L0503947-03A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-03B	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-03C	Plastic 250ml HNO3 preserved	A	<2	2.7 C	Y	Absent	MCP-NA-6010S
L0503947-04A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-04B	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-04C	Plastic 250ml HNO3 preserved	A	<2	2.7 C	Y	Absent	MCP-NA-6010S
L0503947-05A	Vial Na2S2O3 preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-05B	Vial Na2S2O3 preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-06A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-06B	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-06C	Plastic 250ml HNO3 preserved	A	<2	2.7 C	Y	Absent	MCP-NA-6010S
L0503947-07A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-07B	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04
L0503947-07C	Plastic 250ml HNO3 preserved	A	<2	2.7 C	Y	Absent	MCP-NA-6010S
L0503947-08A	Vial HCl preserved	A	N/A	2.7 C	Y	Absent	MCP-8260-04

Container Comments

Container ID Comments

