

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: L0503852  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 12-APR-2005  
Attn: Jeremy Picard Date Reported: 15-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: L0503852  
Date Reported: 15-APR-2005

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0503852-01	MW-40-20050411-01	WAYLAND, MA
L0503852-02	DUP-001-20050411-01	WAYLAND, MA
L0503852-03	MW-214-20050411-01	WAYLAND, MA
L0503852-04	MW-40S-20050411-01	WAYLAND, MA
L0503852-05	MW-102-20050411-01	WAYLAND, MA
L0503852-06	MW-403-20050411-01	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0503852

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Report Submission

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

Metals

L0503852-06 was re-analyzed on a 10x 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.

Volatile Organics

L0503852-05 and -06 have elevated limits of detection due to the 5x dilutions required by the elevated concentrations of target compounds in the samples.

In reference to question E:

The WG199081-2 LCSD has a high % recovery for 2,2-dichloropropane.

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: L0503852-01 Date Collected: 11-APR-2005 10:41  
 MW-40-20050411-01 Date Received : 12-APR-2005  
 Sample Matrix: WATER Date Reported : 15-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	55.	mg/l	2.0	60 6010B	0413 15:30	0415 11:22	RW
Volatile Organics by MCP 8260B				60 8260B		0413 22:30	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	1.4	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				
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	6.5	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				
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: L0503852-01  
 MW-40-20050411-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0413 22:30		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	103.	%		70-130			
Dibromofluoromethane	94.0	%		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: L0503852-02	Date Collected: 11-APR-2005 10:41
DUP-001-20050411-01	Date Received : 12-APR-2005
Sample Matrix: WATER	Date Reported : 15-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	56.	mg/l	2.0	60 6010B	0413 15:30	0415 11:28	RW
Volatile Organics by MCP 8260B				60 8260B			0413 23:06 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	1.5	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				
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	6.3	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				
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: L0503852-02  
DUP-001-20050411-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0413 23.06 RY		
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	99.0	%		70-130			
4-Bromofluorobenzene	104.	%		70-130			
Dibromofluoromethane	95.0	%		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: L0503852-03      Date Collected: 11-APR-2005 15:05  
MW-214-20050411-01      Date Received : 12-APR-2005  
Sample Matrix: WATER      Date Reported : 15-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	51.	mg/l	2.0	60 6010B	0413 15:30	0415 11:31	RW
Volatile Organics by MCP 8260B				60 8260B	0413 23:41		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	0.62	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				
Chloromethane	ND	ug/l	2.5				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	2.3	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	57.	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				
cis-1,2-Dichloroethene	3.1	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: L0503852-03  
 MW-214-20050411-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0413 23:41		RY
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	102.	%		70-130			
Toluene-d8	97.0	%		70-130			
4-Bromofluorobenzene	103.	%		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

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0503852-04 Date Collected: 11-APR-2005 12:30  
 MW-40S-20050411-01 Date Received : 12-APR-2005  
 Sample Matrix: WATER Date Reported : 15-APR-2005  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ID ANAL
Volatile Organics by MCP 8260B				60 8260B		0414 00 18 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			
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	4.5	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			
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: L0503852-04  
 MW-40S-20050411-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0414 00:18		RY
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	99.0	%		70-130			
Toluene-d8	97.0	%		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

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0503852-05 Date Collected: 11-APR-2005 15:52  
 MW-102-20050411-01 Date Received : 12-APR-2005  
 Sample Matrix: WATER Date Reported : 15-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	0414 00:53 RY		
Methylene chloride	ND	ug/l	25.				
1,1-Dichloroethane	ND	ug/l	3.8				
Chloroform	ND	ug/l	3.8				
Carbon tetrachloride	ND	ug/l	2.5				
1,2-Dichloropropane	ND	ug/l	8.8				
Dibromochloromethane	ND	ug/l	2.5				
1,1,2-Trichloroethane	ND	ug/l	3.8				
Tetrachloroethene	ND	ug/l	2.5				
Chlorobenzene	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	2.5				
1,1,1-Trichloroethane	ND	ug/l	2.5				
Bromodichloromethane	ND	ug/l	2.5				
trans-1,3-Dichloropropene	ND	ug/l	2.5				
cis-1,3-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	10.				
1,1,2,2-Tetrachloroethane	ND	ug/l	2.5				
Chloromethane	ND	ug/l	12.				
Vinyl chloride	ND	ug/l	5.0				
Chloroethane	ND	ug/l	5.0				
1,1-Dichloroethene	ND	ug/l	2.5				
trans-1,2-Dichloroethene	ND	ug/l	3.8				
Trichloroethene	240	ug/l	2.5				
1,2-Dichlorobenzene	ND	ug/l	12.				
1,3-Dichlorobenzene	ND	ug/l	12.				
1,4-Dichlorobenzene	ND	ug/l	12.				
cis-1,2-Dichloroethene	3.6	ug/l	2.5				
Dichlorodifluoromethane	ND	ug/l	25.				
1,2-Dibromoethane	ND	ug/l	10.				
1,3-Dichloropropane	ND	ug/l	12.				
1,1,1,2-Tetrachloroethane	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	12.				
p-Chlorotoluene	ND	ug/l	12.				
Hexachlorobutadiene	ND	ug/l	5.0				
1,2,4-Trichlorobenzene	ND	ug/l	12.				

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

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0503852-05  
 MW-102-20050411-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0414 00:53 RY		
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	100.	%		70-130			
4-Bromofluorobenzene	104.	%		70-130			
Dibromofluoromethane	96.0	%		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: L0503852-06	Date Collected: 11-APR-2005 17:29
MW-403-20050411-01	Date Received : 12-APR-2005
Sample Matrix: WATER	Date Reported : 15-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	>90	mg/l	2	60 6010B	0413 15:30	0415 11:34	RW
Sodium, Dissolved	200	mg/l	20.	60 6010B	0413 15:30	0415 12:10	RW
Volatile Organics by MCP 8260B				60 8260B		0414 01:28	RY
Methylene chloride	ND	ug/l	25.				
1,1-Dichloroethane	ND	ug/l	3.8				
Chloroform	ND	ug/l	3.8				
Carbon tetrachloride	ND	ug/l	2.5				
1,2-Dichloropropane	ND	ug/l	8.8				
Dibromochloromethane	ND	ug/l	2.5				
1,1,2-Trichloroethane	ND	ug/l	3.8				
Tetrachloroethene	12.	ug/l	2.5				
Chlorobenzene	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	2.5				
1,1,1-Trichloroethane	ND	ug/l	2.5				
Bromodichloromethane	ND	ug/l	2.5				
trans-1,3-Dichloropropene	ND	ug/l	2.5				
cis-1,3-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	10.				
1,1,2,2-Tetrachloroethane	ND	ug/l	2.5				
Chloromethane	ND	ug/l	12.				
Vinyl chloride	ND	ug/l	5.0				
Chloroethane	ND	ug/l	5.0				
1,1-Dichloroethene	ND	ug/l	2.5				
trans-1,2-Dichloroethene	ND	ug/l	3.8				
Trichloroethene	320	ug/l	2.5				
1,2-Dichlorobenzene	ND	ug/l	12.				
1,3-Dichlorobenzene	ND	ug/l	12.				
1,4-Dichlorobenzene	ND	ug/l	12.				
cis-1,2-Dichloroethene	12.	ug/l	2.5				
Dichlorodifluoromethane	ND	ug/l	25.				
1,2-Dibromoethane	ND	ug/l	10.				
1,3-Dichloropropane	ND	ug/l	12.				
1,1,1,2-Tetrachloroethane	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	12.				
p-Chlorotoluene	ND	ug/l	12.				
Hexachlorobutadiene	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: L0503852-06  
 MW-403-20050411-01

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	0414 01:28 FY		
1,2,4-Trichlorobenzene	ND	ug/l	12.				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	102.	%	70-130				
Toluene-d8	98.0	%	70-130				
4-Bromofluorobenzene	100.	%	70-130				
Dibromofluoromethane	96.0	%	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: L0503852

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Dissolved Metals by MCP 6000/7000 series for sample(s) 01-03,06 (WG199028-2, WG199028-3)					
Sodium, Dissolved	100	100	0	20	75-125
Volatile Organics by MCP 8260B for sample(s) 01-06 (WG199081-1, WG199081-2)					
Methylene chloride	99	99	0	25	70-130
1,1-Dichloroethane	109	113	4	25	70-130
Chloroform	109	110	1	25	70-130
Carbon tetrachloride	109	109	0	25	70-130
1,2-Dichloropropane	100	99	1	25	70-130
Dibromochloromethane	104	97	7	25	70-130
1,1,2-Trichloroethane	103	96	7	25	70-130
Tetrachloroethene	106	97	9	25	70-130
Chlorobenzene	106	97	9	25	70-130
Trichlorofluoromethane	112	111	1	25	70-130
1,2-Dichloroethane	105	108	3	25	70-130
1,1,1-Trichloroethane	109	107	2	25	70-130
Bromodichloromethane	101	101	0	25	70-130
trans-1,3-Dichloropropene	106	95	11	25	70-130
cis-1,3-Dichloropropene	99	102	3	25	70-130
1,1-Dichloropropene	106	107	1	25	70-130
Bromoform	105	98	7	50	70-130
1,1,2,2-Tetrachloroethane	108	101	7	25	70-130
Benzene	102	103	1	25	70-130
Toluene	105	94	11	25	70-130
Ethylbenzene	105	97	8	25	70-130
Chloromethane	81	75	8	50	70-130
Bromomethane	105	110	5	50	70-130
Vinyl chloride	96	98	2	25	70-130
Chloroethane	97	100	3	25	70-130
1,1-Dichloroethene	109	109	0	25	70-130
trans-1,2-Dichloroethene	108	108	0	25	70-130
Trichloroethene	100	104	4	25	70-130
1,2-Dichlorobenzene	107	100	7	25	70-130
1,3-Dichlorobenzene	109	101	8	25	70-130
1,4-Dichlorobenzene	108	100	8	25	70-130
Methyl tert butyl ether	109	111	2	25	70-130
p/m-Xylene	104	93	11	25	70-130
o-Xylene	107	97	10	25	70-130
cis-1,2-Dichloroethene	103	104	1	25	70-130
Dibromomethane	104	108	4	25	70-130
1,2,3-Trichloropropane	114	107	6	25	70-130
Styrene	108	98	10	25	70-130
Dichlorodifluoromethane	91	90	1	50	70-130
Acetone	112	100	11	50	70-130
Carbon disulfide	102	101	1	25	70-130
2-Butanone	114	103	10	50	70-130
4-Methyl-2-pentanone	96	92	4	50	70-130
2-Hexanone	111	99	11	50	70-130
Bromochloromethane	110	112	2	25	70-130



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0503852

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01-06 (WG199081-1, WG199081-2)					
Tetrahydrofuran	105	102	3	25	70-130
2,2-Dichloropropane	130	136	5	25	70-130
1,2-Dibromoethane	105	98	7	25	70-130
1,3-Dichloropropane	104	97	7	25	70-130
1,1,1,2-Tetrachloroethane	106	97	9	25	70-130
Bromobenzene	114	107	6	25	70-130
n-Butylbenzene	107	97	10	25	70-130
sec-Butylbenzene	105	96	9	25	70-130
tert-Butylbenzene	109	100	9	25	70-130
o-Chlorotoluene	108	99	9	25	70-130
p-Chlorotoluene	106	96	10	25	70-130
1,2-Dibromo-3-chloropropane	101	101	0	50	70-130
Hexachlorobutadiene	112	101	10	25	70-130
Isopropylbenzene	109	97	12	25	70-130
p-Isopropyltoluene	106	96	10	25	70-130
Naphthalene	112	106	6	25	70-130
n-Propylbenzene	106	99	7	25	70-130
1,2,3-Trichlorobenzene	112	110	2	25	70-130
1,2,4-Trichlorobenzene	109	104	5	25	70-130
1,3,5-Trimethylbenzene	106	98	8	25	70-130
1,2,4-Trimethylbenzene	105	98	7	25	70-130
Ethyl ether	103	104	1	25	70-130
Isopropyl Ether	95	96	1	25	70-130
Ethyl-Tert-Butyl-Ether	96	98	2	25	70-130
Tertiary-Amyl Methyl Ether	92	94	2	25	70-130
1,4-Dioxane	103	105	2	50	70-130
Surrogate (s)					
1,2-Dichloroethane-d4	105	108	3		70-130
Toluene-d8	97	96	1		70-130
4-Bromofluorobenzene	101	100	1		70-130
Dibromofluoromethane	102	105	3		70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0503852

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Blank Analysis for sample(s) 01-03,06 (WG199028-1)  
 Dissolved Metals by MCP 6000/7000 series 60 6010B

Sodium, Dissolved	ND	mg/l	2.0	60 6010B	0413 15:30 0415 11:00	RW
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Blank Analysis for sample(s) 01-06 (WG199081-3)  
 Volatile Organics by MCP 8260B 60 8260B      0413 17:42 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
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

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0503852

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-06 (WG199081-3)							
Volatile Organics by MCP 8260B continued							
				60 8260B		0413 17:42	RY
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				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	107.	%		70-130			
Toluene-d8	98.0	%		70-130			
4-Bromofluorobenzene	101.	%		70-130			
Dibromofluoromethane	106.	%		70-130			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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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: L0503852

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
L0503852-01A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-01B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-01C	Plastic 250ml HNO3 preserved	A	<2	2.2 C	Y	Absent	MCP-NA-6010S
L0503852-02A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-02B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-02C	Plastic 250ml HNO3 preserved	A	<2	2.2 C	Y	Absent	MCP-NA-6010S
L0503852-03A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-03B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-03C	Plastic 250ml HNO3 preserved	A	<2	2.2 C	Y	Absent	MCP-NA-6010S
L0503852-04A	Vial Na2S2O3 preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-04B	Vial Na2S2O3 preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-05A	Vial Na2S2O3 preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-05B	Vial Na2S2O3 preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-06A	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-06B	Vial HCl preserved	A	N/A	2.2 C	Y	Absent	MCP-8260-04
L0503852-06C	Plastic 250ml HNO3 preserved	A	<2	2.2 C	Y	Absent	MCP-NA-6010S

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY

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

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

### Client Information

Client: **ERPM**

Address: **399 Baylboro St.**

**6th Floor, Boston, MA**

Phone: **617-646-7800**

Fax:

Email:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

### Project Information

Project Name: **Former Raytheon Facility**

Project Location: **Weyland, MA**

Project #: **28046**

Project Manager: **Picardi**

ALPHA Quote #:

### Turn-Around Time

Standard

RUSH (only confirmed if pre-approved)

Date Due: **4/19**

Time:

Date Rec'd In Lab: **4/12**

### Report Information - Data Deliverables

FAX  EMAIL

ADEX  Add'l Deliverables

### Regulatory Requirements/Report Limits

State / Fed Program

**MCP**

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?

### Billing Information

Same as Client Info

PO #:

ALPHA Job #: **20703812**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	MCP PRESUMPTIVE CERTAINTY	Regulatory Requirements/Report Limits	State / Fed Program	Criteria	Billing Information	PO #:
		Date	Time									
38521	MW-40-20050411-01	4/11/05	10:41	GW	MT	2 1	2 1					
2	DOP-001-20050411-01	4/11/05	10:41	GW	MT	2 1	2 1					
3	MW-214-20050411-01	4/11/05	15:05	GW	MT	2 1	2 1					
4	MW-405-20050411-01	4/11/05	12:30	GW	MT	2 2	2 2					
	MW-102-20050411-01	4/11/05	15:52	GW	MT	2 2	2 2					
6	MW-403-20050411-01	4/11/05	17:29	GW	MT	2 1	2 1					

**ANALYSIS**  
CVOCs by 8021 B  
Dissolved Solids by 690 B  
CVOC's by 8021 B

**SAMPLE HANDLING**  
 Filtration  
 Done  
 Not needed  
 Lab to do  
 Preservation  
 Lab to do  
(Please specify below)

Sample Specific Comments

Field Blank

Field Blank

Field Blank

Field Blank

Field Blank

Field Blank

Field Blank

### QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

Container Type	V	P	V
Preservative	B	C	O

IS YOUR PROJECT MCP?

Requested By:

Date/Time: **4/12/05 1:18**

Received By:

Date/Time: **4/12/05 1:18**

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.