

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: L0413794  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 09-DEC-2004  
Attn: Jeremy Picard Date Reported: 15-DEC-2004  
Project Number: 13606 Delivery Method: Alpha  
Site: RAYTHEON WAYLAND

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? YES
- 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: L0413794  
Date Reported: 15-DEC-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0413794-01	MW-103	WAYLAND
L0413794-02	MW-102	WAYLAND
L0413794-03	MW-104	WAYLAND
L0413794-04	MW-117	WAYLAND
L0413794-05	MW-111	WAYLAND

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0413794

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MCP Related Narratives

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

L0413794-02 has elevated limits of detection due to the 5x dilution required by the elevated concentrations of target compounds in the sample.

Metals

L0413794-01, -04, and -05 were re-analyzed on the following dilutions in order to quantitate the Sodium 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:

L0413794-01: 25x

L0413794-04: 10x

L0413794-05: 5x

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: L0413794-01      Date Collected: 09-DEC-2004 10:10  
 MW-103      Date Received : 09-DEC-2004  
 Sample Matrix: WATER      Date Reported : 15-DEC-2004  
 Condition of Sample: Satisfactory      Field Prep: Field Filtered  
 Number & Type of Containers: 2-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	180	mg/l	10.	1 9251		1211 15:30	ED
Dissolved Metals by MCP 6000/7000 series				60 6010B			
Sodium, Dissolved	>20	mg/l	2	60 6010B	1210 16:00	1213 16:48	RW
Sodium, Dissolved	230	mg/l	50.	60 6010B	1210 16:00	1213 17:23	RW
Volatile Organics by MCP 8260B				60 8260B		1213 17:08	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	0.50	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	2.0	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				

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

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0413794-01  
MW-103

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1213 17:08		RY
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	101.	%		70-130			
Toluene-d8	99.0	%		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: L0413794-02

Date Collected: 09-DEC-2004 09:10

MW-102

Date Received : 09-DEC-2004

Sample Matrix:

WATER

Date Reported : 15-DEC-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	1213 17:43 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	230	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	3.4	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: L0413794-02  
 MW-102

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1213 17:43		RY
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	101.	%		70-130			
Toluene-d8	101.	%		70-130			
4-Bromofluorobenzene	103.	%		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: L0413794-03

Date Collected: 09-DEC-2004 11:35

MW-104

Date Received : 09-DEC-2004

Sample Matrix:

WATER

Date Reported : 15-DEC-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	1214 19:37 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	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				
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: L0413794-03  
 MW-104

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B		1214 19:37	RY
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	111.	%		70-130			
Toluene-d8	101.	%		70-130			
4-Bromofluorobenzene	107.	%		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: L0413794-04  
MW-117  
Sample Matrix: WATER

Date Collected: 09-DEC-2004 14:20  
Date Received : 09-DEC-2004  
Date Reported : 15-DEC-2004

Condition of Sample: Satisfactory

Field Prep: Field Filtered

Number & Type of Containers: 2-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chloride	73.	mg/l	1.0	1 9251		1211 16:12	ED
Dissolved Metals by MCP 6000/7000 series				60 6010B			
Sodium, Dissolved	>20	mg/l	2	60 6010B	1210 16:00	1213 17:01	RW
Sodium, Dissolved	93.	mg/l	20.	60 6010B	1210 16:00	1213 17:26	RW
Volatile Organics by MCP 8260B				60 8260B		1213 18:55	RY
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	2.8	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	1.0	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	11.	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	1.0	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				

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

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0413794-04  
 MW-117

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B continued				60 8260B	1213 18:55		RY
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	106.	%		70-130			
Toluene-d8	101.	%		70-130			
4-Bromofluorobenzene	104.	%		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: L0413794-05 Date Collected: 09-DEC-2004 16:20  
 MW-111 Date Received : 09-DEC-2004  
 Sample Matrix: WATER Date Reported : 15-DEC-2004  
 Condition of Sample: Satisfactory Field Prep: Field Filtered  
 Number & Type of Containers: 1-Plastic

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Dissolved Metals by MCP 6000/7000 series				60 6010B			
Sodium, Dissolved	>20	mg/l	2	60 6010B	1210 16:00	1213 17:04	RW
Sodium, Dissolved	38.	mg/l	10.	60 6010B	1210 16:00	1213 17:29	RW

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

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0413794

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chloride for sample(s) 01,04 (L0413563-01, WG189151)					
Chloride	49.	46.	mg/l	6	7

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0413794

Parameter	% Recovery	QC Criteria
Chloride LCS for sample(s) 01,04 (WG189151)		
Chloride	90	84-110
Chloride SPIKE for sample(s) 01,04 (L0413565-01, WG189151)		
Chloride	150	58-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413794

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Dissolved Metals by MCP 6000/7000 series for sample(s) 01,04-05 (WG189105-2, WG189105)					
Sodium, Dissolved	100	100	0	20	75-125
Volatile Organics by MCP 8260B for sample(s) 01-02,04 (WG189312-1, WG189312)					
Methylene chloride	90	89	1	25	70-130
1,1-Dichloroethane	85	90	6	25	70-130
Chloroform	91	91	0	25	70-130
Carbon tetrachloride	97	97	0	25	70-130
1,2-Dichloropropane	95	94	1	25	70-130
Dibromochloromethane	96	91	5	25	70-130
1,1,2-Trichloroethane	94	90	4	25	70-130
Tetrachloroethene	99	94	5	25	70-130
Chlorobenzene	97	93	4	25	70-130
Trichlorofluoromethane	96	95	1	25	70-130
1,2-Dichloroethane	93	90	3	25	70-130
1,1,1-Trichloroethane	95	97	2	25	70-130
Bromodichloromethane	90	90	0	25	70-130
trans-1,3-Dichloropropene	93	91	2	25	70-130
cis-1,3-Dichloropropene	93	92	1	25	70-130
1,1-Dichloropropene	97	98	1	25	70-130
Bromoform	93	89	4	50	70-130
1,1,2,2-Tetrachloroethane	100	93	7	25	70-130
Benzene	94	96	2	25	70-130
Toluene	97	94	3	25	70-130
Ethylbenzene	97	94	3	25	70-130
Chloromethane	87	87	0	50	70-130
Bromomethane	92	96	4	50	70-130
Vinyl chloride	95	94	1	25	70-130
Chloroethane	91	93	2	25	70-130
1,1-Dichloroethene	98	98	0	25	70-130
trans-1,2-Dichloroethene	98	96	2	25	70-130
Trichloroethene	94	92	2	25	70-130
1,2-Dichlorobenzene	96	92	4	25	70-130
1,3-Dichlorobenzene	96	93	3	25	70-130
1,4-Dichlorobenzene	96	92	4	25	70-130
Methyl tert butyl ether	97	97	0	25	70-130
p/m-Xylene	96	92	4	25	70-130
o-Xylene	96	92	4	25	70-130
cis-1,2-Dichloroethene	98	95	3	25	70-130
Dibromomethane	90	90	0	25	70-130
1,2,3-Trichloropropane	94	90	4	25	70-130
Styrene	98	94	4	25	70-130
Dichlorodifluoromethane	94	96	2	50	70-130
Acetone	88	81	8	50	70-130
Carbon disulfide	95	95	0	25	70-130
2-Butanone	88	83	6	50	70-130
4-Methyl-2-pentanone	97	90	7	50	70-130
2-Hexanone	99	91	8	50	70-130
Bromochloromethane	101	96	5	25	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413794

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 01-02,04 (WG189312-1, WG189312)					
Tetrahydrofuran	99	93	6	25	70-130
2,2-Dichloropropane	105	105	0	25	70-130
1,2-Dibromoethane	94	91	3	25	70-130
1,3-Dichloropropane	95	90	5	25	70-130
1,1,1,2-Tetrachloroethane	95	92	3	25	70-130
Bromobenzene	95	92	3	25	70-130
n-Butylbenzene	99	96	3	25	70-130
sec-Butylbenzene	101	96	5	25	70-130
tert-Butylbenzene	101	97	4	25	70-130
o-Chlorotoluene	95	93	2	25	70-130
p-Chlorotoluene	96	93	3	25	70-130
1,2-Dibromo-3-chloropropane	94	89	5	50	70-130
Hexachlorobutadiene	100	94	6	25	70-130
Isopropylbenzene	98	95	3	25	70-130
p-Isopropyltoluene	103	98	5	25	70-130
Naphthalene	95	95	0	25	70-130
n-Propylbenzene	99	95	4	25	70-130
1,2,3-Trichlorobenzene	96	95	1	25	70-130
1,2,4-Trichlorobenzene	96	92	4	25	70-130
1,3,5-Trimethylbenzene	99	95	4	25	70-130
1,2,4-Trimethylbenzene	97	92	5	25	70-130
Ethyl ether	92	91	1	25	70-130
Isopropyl Ether	94	91	3	25	70-130
Ethyl-Tert-Butyl-Ether	95	94	1	25	70-130
Tertiary-Amyl Methyl Ether	97	95	2	25	70-130
1,4-Dioxane	92	91	1	50	70-130
Surrogate(s)					
1,2-Dichloroethane-d4	95	93	2		70-130
Toluene-d8	99	100	1		70-130
4-Bromofluorobenzene	99	99	0		70-130
Dibromofluoromethane	99	98	1		70-130
Volatile Organics by MCP 8260B for sample(s) 03 (WG189312-4, WG189312)					
Methylene chloride	94	93	1	25	70-130
1,1-Dichloroethane	89	98	10	25	70-130
Chloroform	94	92	2	25	70-130
Carbon tetrachloride	98	97	1	25	70-130
1,2-Dichloropropane	94	94	0	25	70-130
Dibromochloromethane	87	86	1	25	70-130
1,1,2-Trichloroethane	93	94	1	25	70-130
Tetrachloroethene	95	92	3	25	70-130
Chlorobenzene	94	91	3	25	70-130
Trichlorofluoromethane	106	99	7	25	70-130
1,2-Dichloroethane	98	97	1	25	70-130
1,1,1-Trichloroethane	103	101	2	25	70-130
Bromodichloromethane	92	90	2	25	70-130



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413794

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 03 (WG189312-4, WG189312)					
trans-1,3-Dichloropropene	94	96	2	25	70-130
cis-1,3-Dichloropropene	91	91	0	25	70-130
1,1-Dichloropropene	100	98	2	25	70-130
Bromoform	82	82	0	50	70-130
1,1,2,2-Tetrachloroethane	98	94	4	25	70-130
Benzene	98	96	2	25	70-130
Toluene	100	97	3	25	70-130
Ethylbenzene	100	97	3	25	70-130
Chloromethane	101	100	1	50	70-130
Bromomethane	82	88	7	50	70-130
Vinyl chloride	106	107	1	25	70-130
Chloroethane	105	100	5	25	70-130
1,1-Dichloroethene	100	97	3	25	70-130
trans-1,2-Dichloroethene	99	97	2	25	70-130
Trichloroethene	92	92	0	25	70-130
1,2-Dichlorobenzene	92	87	6	25	70-130
1,3-Dichlorobenzene	92	88	4	25	70-130
1,4-Dichlorobenzene	90	87	3	25	70-130
Methyl tert butyl ether	98	100	2	25	70-130
p/m-Xylene	97	95	2	25	70-130
o-Xylene	96	94	2	25	70-130
cis-1,2-Dichloroethene	98	97	1	25	70-130
Dibromomethane	97	95	2	25	70-130
1,2,3-Trichloropropane	94	94	0	25	70-130
Styrene	95	93	2	25	70-130
Dichlorodifluoromethane	108	103	5	50	70-130
Acetone	99	89	11	50	70-130
Carbon disulfide	100	97	3	25	70-130
2-Butanone	93	87	7	50	70-130
4-Methyl-2-pentanone	87	82	6	50	70-130
2-Hexanone	100	94	6	50	70-130
Bromochloromethane	98	94	4	25	70-130
Tetrahydrofuran	104	100	4	25	70-130
2,2-Dichloropropane	99	112	12	25	70-130
1,2-Dibromoethane	92	91	1	25	70-130
1,3-Dichloropropane	94	95	1	25	70-130
1,1,1,2-Tetrachloroethane	90	89	1	25	70-130
Bromobenzene	91	87	4	25	70-130
n-Butylbenzene	104	98	6	25	70-130
sec-Butylbenzene	102	98	4	25	70-130
tert-Butylbenzene	101	96	5	25	70-130
o-Chlorotoluene	100	96	4	25	70-130
p-Chlorotoluene	99	96	3	25	70-130
1,2-Dibromo-3-chloropropane	90	90	0	50	70-130
Hexachlorobutadiene	98	86	13	25	70-130
Isopropylbenzene	98	95	3	25	70-130
p-Isopropyltoluene	99	93	6	25	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0413794

Continued

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by MCP 8260B for sample(s) 03 (WG189312-4, WG189312)					
Naphthalene	80	80	0	25	70-130
n-Propylbenzene	102	99	3	25	70-130
1,2,3-Trichlorobenzene	79	79	0	25	70-130
1,2,4-Trichlorobenzene	82	79	4	25	70-130
1,3,5-Trimethylbenzene	101	96	5	25	70-130
1,2,4-Trimethylbenzene	99	94	5	25	70-130
Ethyl ether	91	92	1	25	70-130
Isopropyl Ether	88	89	1	25	70-130
Ethyl-Tert-Butyl-Ether	86	86	0	25	70-130
Tertiary-Amyl Methyl Ether	84	85	1	25	70-130
1,4-Dioxane	108	107	1	50	70-130
Surrogate (s)					
1,2-Dichloroethane-d4	105	102	3		70-130
Toluene-d8	103	103	0		70-130
4-Bromofluorobenzene	106	103	3		70-130
Dibromofluoromethane	99	101	2		70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413794

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01,04 (WG189151-1)							
Chloride	ND	mg/l	1.0	1 9251		1211 13:56	ED
Blank Analysis for sample(s) 01,04-05 (WG189105-1)							
Dissolved Metals by MCP 6000/7000 series 60 6010B							
Sodium, Dissolved	ND	mg/l	2.0	60 6010B	1210 16:00	1213 15:36	RW
Blank Analysis for sample(s) 01-02,04 (WG189312-3)							
Volatile Organics by MCP 8260B 60 8260B 1213 16:32 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				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413794

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Blank Analysis for sample(s) 01-02,04 (WG189312-3)

Volatile Organics by MCP 8260B continued	60 8260B	1213 16:32 RY
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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

Surrogate (s)	Recovery		QC Criteria
1,2-Dichloroethane-d4	95.0	%	70-130
Toluene-d8	97.0	%	70-130
4-Bromofluorobenzene	100.	%	70-130
Dibromofluoromethane	97.0	%	70-130

Blank Analysis for sample(s) 03 (WG189312-6)

Volatile Organics by MCP 8260B	60 8260B	1214 17:51 RY
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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

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413794

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03 (WG189312-6)							
Volatile Organics by MCP 8260B continued							
				60.8260B		1214	17:51 RY
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				
n-Butylbenzene	ND	ug/l	0.50				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0413794

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03 (WG189312-6)							
Volatile Organics by MCP 8260B continued							
				60 8260B		1214 17:51	RY
sec-Butylbenzene	ND	ug/l	0.50				
tert-Butylbenzene	ND	ug/l	2.5				
o-Chlorotoluene	ND	ug/l	2.5				
p-Chlorotoluene	ND	ug/l	2.5				
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5				
Hexachlorobutadiene	ND	ug/l	1.0				
Isopropylbenzene	ND	ug/l	0.50				
p-Isopropyltoluene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	2.5				
n-Propylbenzene	ND	ug/l	0.50				
1,2,3-Trichlorobenzene	ND	ug/l	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
1,3,5-Trimethylbenzene	ND	ug/l	2.5				
1,2,4-Trimethylbenzene	ND	ug/l	2.5				
Ethyl ether	ND	ug/l	2.5				
Isopropyl Ether	ND	ug/l	2.0				
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0				
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0				
1,4-Dioxane	ND	ug/l	250				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	102.	%		70-130			
Toluene-d8	103.	%		70-130			
4-Bromofluorobenzene	107.	%		70-130			
Dibromofluoromethane	95.0	%		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: L0413794

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0413794-01A	Vial Na2S2O3 preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-01B	Vial Na2S2O3 preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-01C	Plastic 250ml unpreserved	B	=7	2.0 C	Y	Absent	CL-9251
L0413794-01D	Plastic 250ml HNO3 preserved	B	<2	2.0 C	Y	Absent	MCP-NA-6010S
L0413794-02A	Vial Na2S2O3 preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-02B	Vial Na2S2O3 preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-03A	Vial Na2S2O3 preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-03B	Vial Na2S2O3 preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-04A	Vial HCl preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-04B	Vial HCl preserved	A	N/A	2.0 C	Y	Absent	MCP-8260-04
L0413794-04C	Plastic 250ml unpreserved	B	=7	2.0 C	Y	Absent	CL-9251
L0413794-04D	Plastic 250ml HNO3 preserved	B	<2	2.0 C	Y	Absent	MCP-NA-6010S
L0413794-05A	Plastic 250ml HNO3 preserved	B	<2	2.0 C	Y	Absent	MCP-NA-6010S

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY

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

### Client Information

Client: **ERM - BOSTON**

Address: **599 BOSTON ST. 6TH FLOOR  
 BOSTON, MA 02116**

Phone: **(617) 646-7800**

Fax: **(617) 267-6447**

Email: **jeremy.p.sand@erm.com**

Other Project Specific Requirements/Comments/Detection Limits:  
**PRESERVATIVE "0" = SODIUM THIOSULFATE (H<sub>2</sub>O & N<sub>2</sub>S<sub>2</sub>)**

### Project Information

Project Name: **FEMER PATHEON FACILITY**

Project Location: **WAYLAND**

Project #: **13606**

Project Manager: **S. PICARD**

ALPHA Quote #:

### Turn-Around Time

Standard

RUSH (only confirmed if pre-approved!)

Date Due: **12/16**

Time:

Date Rec'd In Lab: **12/9**

### Report Information - Data Deliverables

FAX

EMAIL

ADEX

Add'l Deliverables

### Billing Information

Same as Client Info

PO #:

ALPHA Job #: **20413794**

### 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?

### 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	MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED	SAMPLE HANDLING	Sample Specific Comments
		Date	Time						
37941	MW-103	12/9/04	10:10	GW	SF	8021B CHLORINATES CHLORIDE SODIUM 8021B CHLORINATES	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do <input type="checkbox"/> Lab to do	
2	MW-102	12/9/04	09:10	GW	SF				
3	MW-104	12/9/04	11:35	GW	SF				
4	MW-117	12/9/04	14:20	GW	SF				
4	MW-111	12/9/04	16:20	GW	SF				

### QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

Container Type	V	P	P	V
Preservative	0	A	C	B

Relinquished By:

Date/Time

Received By:

Date/Time

IS YOUR PROJECT MCP?

*[Signature]*  
 12/9/04 1725  
 12/9/04 1840

*[Signature]*  
 12/9/04 1735  
 12/9/04 1840

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.