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

Address: 399 Boylston Street
6th Floor
Boston, MA 02116

Attn: Jeremy Picard

Project Number: 13606.03.02

Site: RAYTHEON

Laboratory Job Number: L0404453

Date Received: 29-APR-2004

Date Reported: 06-MAY-2004

Delivery Method: Alpha

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: L0404453
Date Reported: 06-MAY-2004

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0404453-01	MW-268M	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0404453

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.

Non-MCP Related Narratives

Sulfate

L0404453-01 has an elevated limit of detection due to the 2x dilution required for the sample to fall within the calibration curve.

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: L0404453-01
MW-268M
Sample Matrix: WATER

Date Collected: 29-APR-2004 11:45
Date Received : 29-APR-2004
Date Reported : 06-MAY-2004

Condition of Sample: Satisfactory

Field Prep: Field Filtered

Number & Type of Containers: 2-Plastic

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Alkalinity, Total	81.	mg CaCO3/L	2.0	30	2320B		0405 15:03	ED
Chloride	32.	mg/l	1.0	1	9251		0503 22:41	DD
Nitrogen, Nitrate	ND	mg/l	0.10	30	4500NO3-F		0430 02:47	DD
Sulfate	64.	mg/l	20.	1	9038		0505 19:00	JT
Dissolved Metals								
Iron, Dissolved	26.	mg/l	0.05	54	6010B		0506 09:19	RW
Manganese, Dissolved	0.49	mg/l	0.01	54	6010B		0506 09:19	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: L0404453

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Alkalinity, Total for sample(s) 01 (L0404136-14, WG169785)					
Alkalinity, Total	40.	41.	mg CaCO3/L	2	4
Chloride for sample(s) 01 (L0404456-04, WG169564)					
Chloride	120	120	mg/l	0	7
Nitrogen, Nitrate for sample(s) 01 (L0404442-03, WG169308)					
Nitrogen, Nitrate	ND	ND	mg/l	NC	6
Sulfate for sample(s) 01 (L0404450-04, WG169823)					
Sulfate	75.	75.	mg/l	0	14

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0404453

Parameter	% Recovery	QC Criteria
Alkalinity, Total LCS for sample(s) 01 (WG169785)		
Alkalinity, Total	103	85-115
Chloride LCS for sample(s) 01 (WG169564)		
Chloride	100	84-110
Nitrogen, Nitrate LCS for sample(s) 01 (WG169308)		
Nitrogen, Nitrate	98	88-105
Sulfate LCS for sample(s) 01 (WG169823)		
Sulfate	95	84-108
Dissolved Metals LCS for sample(s) 01 (WG169847)		
Iron, Dissolved	110	80-120
Manganese, Dissolved	108	80-120
Alkalinity, Total SPIKE for sample(s) 01 (L0404136-11, WG169785)		
Alkalinity, Total	101	86-116
Chloride SPIKE for sample(s) 01 (L0404456-04, WG169564)		
Chloride	50	58-140
Nitrogen, Nitrate SPIKE for sample(s) 01 (L0404442-02, WG169308)		
Nitrogen, Nitrate	98	83-120
Sulfate SPIKE for sample(s) 01 (L0404136-10, WG169823)		
Sulfate	112	55-147

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0404453

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01 (WG169785-1)								
Alkalinity, Total	ND	mg CaCO3/L	2.0	30	2320B		0405 15:03	ED
Blank Analysis for sample(s) 01 (WG169564-2)								
Chloride	ND	mg/l	1.0	1	9251		0503 20:36	DD
Blank Analysis for sample(s) 01 (WG169308-2)								
Nitrogen, Nitrate	ND	mg/l	0.10	30	4500NO3-F		0430 01:38	DD
Blank Analysis for sample(s) 01 (WG169823-1)								
Sulfate	ND	mg/l	10.	1	9038		0505 19:00	JT
Blank Analysis for sample(s) 01 (WG169847-1)								
Dissolved Metals								
Iron, Dissolved	ND	mg/l	0.05	54	6010B		0506 09:10	RW
Manganese, Dissolved	ND	mg/l	0.01	54	6010B		0506 09:10	RW

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.
METHOD Method number by which analysis was performed.
ID Initials of the analyst.
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0404453

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
L0404453-01A	Plastic 250ml HNO3 preserved	A	<2	1.8 C	N	Absent	FE-SI, MN-SI
L0404453-01B	Plastic 250ml unpreserved	A	7	1.8 C	Y	Absent	ALK-T-2320, CL-9251, NO3-4500, SO4-9038

Container Comments

Container ID	Comments
L0404453-01A	pH=4 added HNO3 to pH <2

CHAIN OF CUSTODY PAGE 1 OF 1

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

Date Rec'd in Lab: 4/29/04

ALPHA Job #: L0404453

Client Information

Client: ERM
Address: 399 Boylston St FL6
Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: theresa.kennedy@erm.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Raytheon
Project Location: Wayland, MA
Project #: 13606.03.02
Project Manager: J Picard
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 5/6/04 Time:

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?

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: diss glass (methane, ethene, ethane)	diss Fe *	Cl, NO3, SO4, Alk	SAMPLE HANDLING: Filtration (Done / Not needed / Lab to do) Preservation (Lab to do) (Please specify below)	Sample Specific Comments	TOTAL # BOTTLES
C4453 1	MW-26SM	4/29/04	1145	GW	LR	2	1	1		* field filtered using 0.45 micron filters	4

Container Type	V	P	P
Preservative	B	C	A

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ?

Relinquished By:	Date/Time	Received By:	Date/Time
	4/29/04 1730		4/29/04 1730
	4/30/04 1520		4/30/04 1520

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.

FORM nO 07-03 Mid