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: J. Picard

Project Number: 1922.07.2

Site: RAYTHEON

Laboratory Job Number: L0309910

Date Received: 02-OCT-2003

Date Reported: 09-OCT-2003

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? 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

Laboratory Job Number: L0309910
Date Reported: 09-OCT-2003

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0309910-01	DEP-19S	WAYLAND, MA
L0309910-02	DEP-19M	WAYLAND, MA
L0309910-03	DEP-19D	WAYLAND, MA
L0309910-04	DEP-20	WAYLAND, MA
L0309910-05	DEP-21	WAYLAND, MA
L0309910-06	DUP-10	WAYLAND, MA

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0309910

MCP Related Narratives

Volatile Organics

In reference to question F, at the client's request, only those compounds specified on the chain of custody are reported.

In reference to question E:

The LCS % recovery for Bromoform (135%) associated with L0309910-01 is above the acceptance criteria for the method. All associated samples are non-detect for this compound.

The LCS % recovery for Bromomethane (55%) associated with L0309910-02 through -06 is below the acceptance criteria for the method. This compound is considered "difficult".

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: L0309910-01
DEP-19S
Sample Matrix: WATER

Date Collected: 02-OCT-2003 12:30
Date Received : 02-OCT-2003
Date Reported : 09-OCT-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B				54 8260B		1004 01:11	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	2.5				
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	2.5				
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: L0309910-01
DEP-19S

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B continued				54 8260B		1004 01:11	RY
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	90.0	%	70-130				
Toluene-d8	96.0	%	70-130				
4-Bromofluorobenzene	110.	%	70-130				
Dibromofluoromethane	101.	%	70-130				

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

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

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

Laboratory Sample Number: L0309910-02
DEP-19M
Sample Matrix: WATER

Date Collected: 02-OCT-2003 12:15
Date Received : 02-OCT-2003
Date Reported : 09-OCT-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B				54 8260B		1005 15:39	BT
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	0.74	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				
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	5.6	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	29.	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
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	2.5				
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: L0309910-02
DEP-19M

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B continued				54 8260B		1005 15:39	BT
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	94.0	%	70-130				
Toluene-d8	90.0	%	70-130				
4-Bromofluorobenzene	94.0	%	70-130				
Dibromofluoromethane	93.0	%	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: L0309910-03
DEP-19D
Sample Matrix: WATER

Date Collected: 02-OCT-2003 12:10
Date Received : 02-OCT-2003
Date Reported : 09-OCT-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B				54 8260B		1005 16:25	BT
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				
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	1.0	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	1.4	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
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	2.5				
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: L0309910-03
DEP-19D

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B continued				54 8260B		1005 16:25	BT
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	95.0	%	70-130				
Toluene-d8	90.0	%	70-130				
4-Bromofluorobenzene	94.0	%	70-130				
Dibromofluoromethane	91.0	%	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: L0309910-04
DEP-20
Sample Matrix: WATER

Date Collected: 02-OCT-2003 10:30
Date Received : 02-OCT-2003
Date Reported : 09-OCT-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B				54 8260B		1005 17:12	BT
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				
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	2.5				
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	2.5				
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: L0309910-04
DEP-20

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B continued				54 8260B		1005 17:12	BT
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	97.0	%	70-130				
Toluene-d8	91.0	%	70-130				
4-Bromofluorobenzene	96.0	%	70-130				
Dibromofluoromethane	91.0	%	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: L0309910-05
DEP-21
Sample Matrix: WATER

Date Collected: 02-OCT-2003 11:00
Date Received : 02-OCT-2003
Date Reported : 09-OCT-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B				54 8260B		1005 17:58	BT
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	0.94	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				
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	3.9	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	16.	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
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	2.5				
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: L0309910-05
DEP-21

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B continued				54 8260B		1005 17:58	BT
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	95.0	%	70-130				
Toluene-d8	90.0	%	70-130				
4-Bromofluorobenzene	96.0	%	70-130				
Dibromofluoromethane	93.0	%	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: L0309910-06
DUP-10
Sample Matrix: WATER

Date Collected: 02-OCT-2003 00:00
Date Received : 02-OCT-2003
Date Reported : 09-OCT-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B				54 8260B		1005 18:44	BT
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				
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	0.99	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	1.4	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
1,2-Dibromoethane	ND	ug/l	2.5				
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	2.5				
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: L0309910-06
DUP-10

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by MCP 8260B continued				54 8260B		1005 18:44	BT
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	95.0	%	70-130				
Toluene-d8	90.0	%	70-130				
4-Bromofluorobenzene	93.0	%	70-130				
Dibromofluoromethane	89.0	%	70-130				

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

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309910

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 02-06 (WG152436)		
Methylene chloride	82	70-130
1,1-Dichloroethane	96	70-130
Chloroform	95	70-130
Carbon tetrachloride	100	70-130
1,2-Dichloropropane	98	70-130
Dibromochloromethane	90	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	96	70-130
Chlorobenzene	96	70-130
Trichlorofluoromethane	102	70-130
1,2-Dichloroethane	99	70-130
1,1,1-Trichloroethane	101	70-130
Bromodichloromethane	95	70-130
trans-1,3-Dichloropropene	86	70-130
cis-1,3-Dichloropropene	91	70-130
1,1-Dichloropropene	96	70-130
Bromoform	90	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Benzene	87	70-130
Toluene	95	70-130
Ethylbenzene	98	70-130
Chloromethane	85	70-130
Bromomethane	55	70-130
Vinyl chloride	92	70-130
Chloroethane	96	70-130
1,1-Dichloroethene	93	70-130
trans-1,2-Dichloroethene	93	70-130
Trichloroethene	98	70-130
1,2-Dichlorobenzene	93	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	95	70-130
Methyl tert butyl ether	98	70-130
p/m-Xylene	97	70-130
o-Xylene	97	70-130
cis-1,2-Dichloroethene	100	70-130
Dibromomethane	100	70-130
1,2,3-Trichloropropane	98	70-130
Styrene	99	70-130
Dichlorodifluoromethane	91	70-130
Acetone	133	70-130
Carbon disulfide	90	70-130
2-Butanone	110	70-130
4-Methyl-2-pentanone	95	70-130
2-Hexanone	91	70-130
Bromochloromethane	99	70-130
Tetrahydrofuran	94	70-130
2,2-Dichloropropane	101	70-130
1,2-Dibromoethane	99	70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309910

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 02-06 (WG152436)		
1,3-Dichloropropane	98	70-130
1,1,1,2-Tetrachloroethane	98	70-130
Bromobenzene	95	70-130
n-Butylbenzene	89	70-130
sec-Butylbenzene	93	70-130
tert-Butylbenzene	94	70-130
o-Chlorotoluene	95	70-130
p-Chlorotoluene	93	70-130
1,2-Dibromo-3-chloropropane	95	70-130
Hexachlorobutadiene	93	70-130
Isopropylbenzene	91	70-130
p-Isopropyltoluene	93	70-130
Naphthalene	75	70-130
n-Propylbenzene	94	70-130
1,2,3-Trichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	90	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	98	70-130
Ethyl ether	95	70-130
Isopropyl Ether	89	70-130
Ethyl-Tert-Butyl-Ether	90	70-130
Tertiary-Amyl Methyl Ether	93	70-130
1,4-Dioxane	112	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	98	70-130
Dibromofluoromethane	100	70-130
Volatile Organics by MCP 8260B LCS for sample(s) 01 (WG152482)		
Methylene chloride	94	70-130
1,1-Dichloroethane	101	70-130
Chloroform	99	70-130
Carbon tetrachloride	106	70-130
1,2-Dichloropropane	102	70-130
Dibromochloromethane	110	70-130
1,1,2-Trichloroethane	124	70-130
Tetrachloroethene	110	70-130
Chlorobenzene	117	70-130
1,2-Dichloroethane	91	70-130
1,1,1-Trichloroethane	101	70-130
Bromodichloromethane	103	70-130
trans-1,3-Dichloropropene	103	70-130
cis-1,3-Dichloropropene	101	70-130
Bromoform	135	70-130
1,1,2,2-Tetrachloroethane	129	70-130
Chloromethane	79	70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0309910

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B LCS for sample(s) 01 (WG152482)		
Vinyl chloride	111	70-130
Chloroethane	103	70-130
1,1-Dichloroethene	105	70-130
trans-1,2-Dichloroethene	104	70-130
Trichloroethene	102	70-130
1,2-Dichlorobenzene	115	70-130
1,3-Dichlorobenzene	114	70-130
1,4-Dichlorobenzene	115	70-130
cis-1,2-Dichloroethene	109	70-130
Dichlorodifluoromethane	123	70-130
1,2-Dibromoethane	113	70-130
1,3-Dichloropropane	115	70-130
1,1,1,2-Tetrachloroethane	114	70-130
o-Chlorotoluene	122	70-130
p-Chlorotoluene	123	70-130
Hexachlorobutadiene	116	70-130
1,2,4-Trichlorobenzene	100	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130
Dibromofluoromethane	95	70-130

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309910

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 02-06 (WG152436-8)							
Volatile Organics by MCP 8260B				54 8260B		1005 11:47	BT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Chloroform	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,2-Dichloropropane	ND	ug/l	1.8				
Dibromochloromethane	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
Chlorobenzene	ND	ug/l	0.50				
Trichlorofluoromethane	ND	ug/l	2.5				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Bromodichloromethane	ND	ug/l	0.50				
trans-1,3-Dichloropropene	ND	ug/l	0.50				
cis-1,3-Dichloropropene	ND	ug/l	0.50				
1,1-Dichloropropene	ND	ug/l	2.5				
Bromoform	ND	ug/l	2.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Chloromethane	ND	ug/l	2.5				
Bromomethane	ND	ug/l	1.0				
Vinyl chloride	ND	ug/l	1.0				
Chloroethane	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
trans-1,2-Dichloroethene	ND	ug/l	0.75				
Trichloroethene	ND	ug/l	0.50				
1,2-Dichlorobenzene	ND	ug/l	2.5				
1,3-Dichlorobenzene	ND	ug/l	2.5				
1,4-Dichlorobenzene	ND	ug/l	2.5				
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	0.50				
o-Xylene	ND	ug/l	0.50				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,2,3-Trichloropropane	ND	ug/l	5.0				
Styrene	ND	ug/l	0.50				
Dichlorodifluoromethane	ND	ug/l	5.0				
Acetone	ND	ug/l	5.0				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	5.0				
4-Methyl-2-pentanone	ND	ug/l	5.0				
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				

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309910

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 02-06 (WG152436-8)							
Volatile Organics by MCP 8260B continued				54 8260B		1005 11:47	BT
1,2-Dibromoethane	ND	ug/l	2.5				
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	2.5				
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	94.0	%	70-130				
Toluene-d8	91.0	%	70-130				
4-Bromofluorobenzene	95.0	%	70-130				
Dibromofluoromethane	90.0	%	70-130				
Blank Analysis for sample(s) 01 (WG152482-4)							
Volatile Organics by MCP 8260B				54 8260B		1003 15:21	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				

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0309910

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Blank Analysis for sample(s) 01 (WG152482-4)							
Volatile Organics by MCP 8260B continued				54 8260B		1003 15:21	RY
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	2.5				
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	2.5				
1,2,4-Trichlorobenzene	ND	ug/l	2.5				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	86.0	%	70-130				
Toluene-d8	98.0	%	70-130				
4-Bromofluorobenzene	114.	%	70-130				
Dibromofluoromethane	97.0	%	70-130				

REFERENCES

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: L0309910

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
L0309910-01A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-01B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-02A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-02B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-03A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-03B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-04A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-04B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-05A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-05B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-06A	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260
L0309910-06B	Vial HCl preserved	A	NA	1.5 C	Y	Absent	MCP-8260

Container Comments

Container ID	Comments

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 10/2/03

ALPHA Job #: L0309910

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

Client Information

Client: ERM
Address: 399 Boylston St FL6
Boston, MA 02116
Phone: 617 267 8377
Fax: 617 267 6447
Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Raytheon
Project Location: Wayland, MA
Project #: 1922.07.2
Project Manager: JReard
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 10/9/03 Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables hard copy

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:

ANALYSIS: 8021C

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TOTAL # BOTTLES	Sample Specific Comments
09910 1	DEP-19S	10/2/03	1230	MW	VZ	2	2
2	DEP-19M	10/2/03	1215	MW	MC	2	2
3	DEP-19D	10/2/03	1210	MW	VZ	2	2
4	DEP-20	10/2/03	1030	MW	MC	2	2
5	DEP-21	10/2/03	1100	MW	VZ	2	2
6	DUP-10	10/2/03	2400	MW	VZ	2	2

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ?

Container Type V
Preservative B

Relinquished By:	Date/Time	Received By:	Date/Time
	10/2/03 1720		10/2 1720
	10/2/03 1820		

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.