

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: L0503950
Address: 399 Boylston Street
6th Floor
Boston, MA 02116 Date Received: 13-APR-2005
Attn: Jeremy Picard Date Reported: 19-APR-2005
Project Number: 28047 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: Ellen M. Collins
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0503950
Date Reported: 19-APR-2005

| ALPHA SAMPLE NUMBER | CLIENT IDENTIFICATION | SAMPLE LOCATION |
|---------------------|-----------------------|-----------------|
| L0503950-01 | MW-219M-20050412-01 | WAYLAND, MA |

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0503950

MCP Related Narratives

Report Submission

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

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: L0503950-01 Date Collected: 12-APR-2005 17:12
 MW-219M-20050412-01 Date Received : 13-APR-2005
 Sample Matrix: WATER Date Reported : 19-APR-2005
 Condition of Sample: Satisfactory Field Prep: None
 Number & Type of Containers: 2-Vial

| PARAMETER | RESULT | UNITS | RDL | REF METHOD | DATE | | ID |
|--------------------------------|--------|-------|------|------------|---------------|------|----|
| | | | | | PREP | ANAL | |
| Volatile Organics by MCP 8260B | | | | 60 8260B | 0418 11:19 RY | | |
| Methylene chloride | ND | ug/l | 5.0 | | | | |
| 1,1-Dichloroethane | ND | ug/l | 0.75 | | | | |
| Chloroform | ND | ug/l | 0.75 | | | | |
| Carbon tetrachloride | ND | ug/l | 0.50 | | | | |
| 1,2-Dichloropropane | ND | ug/l | 1.8 | | | | |
| Dibromochloromethane | ND | ug/l | 0.50 | | | | |
| 1,1,2-Trichloroethane | ND | ug/l | 0.75 | | | | |
| Tetrachloroethene | ND | ug/l | 0.50 | | | | |
| Chlorobenzene | ND | ug/l | 0.50 | | | | |
| 1,2-Dichloroethane | ND | ug/l | 0.50 | | | | |
| 1,1,1-Trichloroethane | ND | ug/l | 0.50 | | | | |
| Bromodichloromethane | ND | ug/l | 0.50 | | | | |
| trans-1,3-Dichloropropene | ND | ug/l | 0.50 | | | | |
| cis-1,3-Dichloropropene | ND | ug/l | 0.50 | | | | |
| Bromoform | ND | ug/l | 2.0 | | | | |
| 1,1,2,2-Tetrachloroethane | ND | ug/l | 0.50 | | | | |
| Benzene | ND | ug/l | 0.50 | | | | |
| Chloromethane | ND | ug/l | 2.5 | | | | |
| Vinyl chloride | ND | ug/l | 1.0 | | | | |
| Chloroethane | ND | ug/l | 1.0 | | | | |
| 1,1-Dichloroethene | ND | ug/l | 0.50 | | | | |
| trans-1,2-Dichloroethene | ND | ug/l | 0.75 | | | | |
| Trichloroethene | ND | ug/l | 0.50 | | | | |
| 1,2-Dichlorobenzene | ND | ug/l | 2.5 | | | | |
| 1,3-Dichlorobenzene | ND | ug/l | 2.5 | | | | |
| 1,4-Dichlorobenzene | ND | ug/l | 2.5 | | | | |
| Methyl tert butyl ether | ND | ug/l | 1.0 | | | | |
| cis-1,2-Dichloroethene | ND | ug/l | 0.50 | | | | |
| Dichlorodifluoromethane | ND | ug/l | 5.0 | | | | |
| 1,2-Dibromoethane | ND | ug/l | 2.0 | | | | |
| 1,3-Dichloropropane | ND | ug/l | 2.5 | | | | |
| 1,1,1,2-Tetrachloroethane | ND | ug/l | 0.50 | | | | |
| o-Chlorotoluene | ND | ug/l | 2.5 | | | | |
| p-Chlorotoluene | ND | ug/l | 2.5 | | | | |
| Hexachlorobutadiene | ND | ug/l | 1.0 | | | | |
| 1,2,4-Trichlorobenzene | ND | ug/l | 2.5 | | | | |

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

**ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0503950-01
MW-219M-20050412-01

| PARAMETER | RESULT | UNITS | RDL | REF METHOD | DATE | | ID |
|--|----------|-------|-----|-------------|------------|------|----|
| | | | | | PREP | ANAL | |
| Volatile Organics by MCP 8260B continued | | | | 60 8260B | 0418 11:19 | | RY |
| Surrogate (s) | Recovery | | | QC Criteria | | | |
| 1,2-Dichloroethane-d4 | 108. | % | | 70-130 | | | |
| Toluene-d8 | 97.0 | % | | 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
 QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0503950

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

ALPHA ANALYTICAL LABORATORIES
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0503950

| PARAMETER | RESULT | UNITS | RDL | REF METHOD | DATE PREP ANAL | ID |
|-----------|--------|-------|-----|------------|------------------------|----|
|-----------|--------|-------|-----|------------|------------------------|----|

Blank Analysis for sample(s) 01 (WG199416-9)

| | | |
|--------------------------------|----------|---------------|
| Volatile Organics by MCP 8260B | 60.8260B | 0418 09:29 RY |
|--------------------------------|----------|---------------|

| | | | |
|---------------------------|----|------|------|
| Methylene chloride | ND | ug/l | 5.0 |
| 1,1-Dichloroethane | ND | ug/l | 0.75 |
| Chloroform | ND | ug/l | 0.75 |
| Carbon tetrachloride | ND | ug/l | 0.50 |
| 1,2-Dichloropropane | ND | ug/l | 1.8 |
| Dibromochloromethane | ND | ug/l | 0.50 |
| 1,1,2-Trichloroethane | ND | ug/l | 0.75 |
| Tetrachloroethene | ND | ug/l | 0.50 |
| Chlorobenzene | ND | ug/l | 0.50 |
| 1,2-Dichloroethane | ND | ug/l | 0.50 |
| 1,1,1-Trichloroethane | ND | ug/l | 0.50 |
| Bromodichloromethane | ND | ug/l | 0.50 |
| trans-1,3-Dichloropropene | ND | ug/l | 0.50 |
| cis-1,3-Dichloropropene | ND | ug/l | 0.50 |
| Bromoform | ND | ug/l | 2.0 |
| 1,1,2,2-Tetrachloroethane | ND | ug/l | 0.50 |
| Benzene | ND | ug/l | 0.50 |
| Chloromethane | ND | ug/l | 2.5 |
| Vinyl chloride | ND | ug/l | 1.0 |
| Chloroethane | ND | ug/l | 1.0 |
| 1,1-Dichloroethene | ND | ug/l | 0.50 |
| trans-1,2-Dichloroethene | ND | ug/l | 0.75 |
| Trichloroethene | ND | ug/l | 0.50 |
| 1,2-Dichlorobenzene | ND | ug/l | 2.5 |
| 1,3-Dichlorobenzene | ND | ug/l | 2.5 |
| 1,4-Dichlorobenzene | ND | ug/l | 2.5 |
| Methyl tert butyl ether | ND | ug/l | 1.0 |
| cis-1,2-Dichloroethene | ND | ug/l | 0.50 |
| Dichlorodifluoromethane | ND | ug/l | 5.0 |
| 1,2-Dibromoethane | ND | ug/l | 2.0 |
| 1,3-Dichloropropane | ND | ug/l | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | ug/l | 0.50 |
| o-Chlorotoluene | ND | ug/l | 2.5 |
| p-Chlorotoluene | ND | ug/l | 2.5 |
| Hexachlorobutadiene | ND | ug/l | 1.0 |
| 1,2,4-Trichlorobenzene | ND | ug/l | 2.5 |

| Surrogate (s) | Recovery | QC Criteria |
|-----------------------|----------|-------------|
| 1,2-Dichloroethane-d4 | 99.0 % | 70-130 |
| Toluene-d8 | 99.0 % | 70-130 |
| 4-Bromofluorobenzene | 101. % | 70-130 |
| Dibromofluoromethane | 97.0 % | 70-130 |

**ALPHA ANALYTICAL LABORATORIES
ADDENDUM I**

REFERENCES

60. Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). May 2004.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.
METHOD Method number by which analysis was performed.
ID Initials of the analyst.
ND Not detected in comparison to the reported detection limit.
NI Not Ignitable.
ug/cart Micrograms per Cartridge.

LIMITATION OF LIABILITIES

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

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

ALPHA ANALYTICAL LABORATORIES
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0503950

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 |
|--------------|--------------------|--------|----|-------|------|--------|-------------|
| L0503950-01A | Vial HCl preserved | A | NA | 2.7 C | Y | Absent | MCP-8260-04 |
| L0503950-01B | Vial HCl preserved | A | NA | 2.7 C | Y | Absent | MCP-8260-04 |

Container Comments

| Container ID | Comments |
|--------------|----------|
|--------------|----------|
