

**ATTACHMENT B**  
**SUMMARY OF GROUND WATER MONITORING DATA**  
**(2003 TO 2004)**

**CHELSEA SANDWICH, LLC**  
**NPDES PERMIT NO. MA0003280**

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: Tighe & Bond

Laboratory Job Number: L0311850

Address: 4 Barlows Landing Road

Pocasset, MA 02559

Date Received: 19-NOV-2003

Attn: Mr. Rich Geisler

Date Reported: 21-NOV-2003

Project Number: W-33494-01

Delivery Method: Alpha

Site: GLOBAL CHELSEA

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| ALPHA SAMPLE NUMBER | CLIENT IDENTIFICATION | SAMPLE LOCATION  |
|---------------------|-----------------------|------------------|
| L0311850-01         | INFLUENT              | CHELSEA TERMINAL |
| L0311850-02         | EFFLUENT              | CHELSEA TERMINAL |
| L0311850-03         | BLANK                 | CHELSEA TERMINAL |

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  
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: L0311850-01

INFLUENT

Sample Matrix:

WATER

Date Collected: 19-NOV-2003 12:25

Date Received : 19-NOV-2003

Date Reported : 21-NOV-2003

Condition of Sample: Satisfactory

Field Prep: None

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

| PARAMETER                       | RESULT | UNITS    | RDL  | REF METHOD | DATE |            | ID |
|---------------------------------|--------|----------|------|------------|------|------------|----|
|                                 |        |          |      |            | PREP | ANAL       |    |
| Turbidity                       | 90.    | NTU      | 0.20 | 30 2130B   |      | 1119 19:00 | LK |
| Color, Apparent                 | 180    | A.P.C.U. | 50.  | 30 2120B   |      | 1119 19:00 | LK |
| Solids, Total Suspended         | 30.    | mg/l     | 5.0  | 30 2540D   |      | 1120 11:40 | DT |
| Volatile Organics by GC/MS 8260 |        |          |      | 1 8260B    |      | 1120 09:41 | 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                         | 23.    | ug/l     | 0.50 |            |      |            |    |
| Toluene                         | 1.6    | ug/l     | 0.75 |            |      |            |    |
| Ethylbenzene                    | 1.0    | 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  |            |      |            |    |

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

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0311850-01  
INFLUENT

| PARAMETER                                 | RESULT   | UNITS | RDL         | REF METHOD | DATE          |      | ID |
|-------------------------------------------|----------|-------|-------------|------------|---------------|------|----|
|                                           |          |       |             |            | PREP          | ANAL |    |
| Volatile Organics by GC/MS 8260 continued |          |       |             | 1 8260B    | 1120 09-41 BT |      |    |
| p/m-Xylene                                | 7.0      | ug/l  | 0.50        |            |               |      |    |
| o-Xylene                                  | 1.8      | ug/l  | 0.50        |            |               |      |    |
| cis-1,2-Dichloroethene                    | ND       | ug/l  | 0.50        |            |               |      |    |
| Dibromomethane                            | ND       | ug/l  | 5.0         |            |               |      |    |
| 1,4-Dichlorobutane                        | ND       | ug/l  | 5.0         |            |               |      |    |
| Iodomethane                               | 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         |            |               |      |    |
| Vinyl acetate                             | ND       | ug/l  | 5.0         |            |               |      |    |
| 4-Methyl-2-pentanone                      | ND       | ug/l  | 5.0         |            |               |      |    |
| 2-Hexanone                                | ND       | ug/l  | 5.0         |            |               |      |    |
| Ethyl methacrylate                        | ND       | ug/l  | 5.0         |            |               |      |    |
| Acrolein                                  | ND       | ug/l  | 12.         |            |               |      |    |
| Acrylonitrile                             | 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  | 2.5         |            |               |      |    |
| 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                            | 1.8      | ug/l  | 0.50        |            |               |      |    |
| sec-Butylbenzene                          | 1.8      | 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                          | 6.9      | ug/l  | 0.50        |            |               |      |    |
| p-Isopropyltoluene                        | 0.70     | ug/l  | 0.50        |            |               |      |    |
| Naphthalene                               | 8.2      | ug/l  | 2.5         |            |               |      |    |
| n-Propylbenzene                           | 4.2      | 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                    | 5.8      | ug/l  | 2.5         |            |               |      |    |
| trans-1,4-Dichloro-2-butene               | ND       | ug/l  | 2.5         |            |               |      |    |
| Ethyl ether                               | ND       | ug/l  | 2.5         |            |               |      |    |
| Surrogate(s)                              | Recovery |       | QC Criteria |            |               |      |    |
| 1,2-Dichloroethane-d4                     | 97.0     | %     |             |            |               |      |    |
| Toluene-d8                                | 110.     | %     |             |            |               |      |    |
| 4-Bromofluorobenzene                      | 108.     | %     |             |            |               |      |    |
| Dibromofluoromethane                      | 94.0     | %     |             |            |               |      |    |

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: L0311850-02

EFFLUENT

Sample Matrix:

WATER

Date Collected: 19-NOV-2003 12:30

Date Received : 19-NOV-2003

Date Reported : 21-NOV-2003

Condition of Sample: Satisfactory

Field Prep: None

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

| PARAMETER                               | RESULT | UNITS    | RDL  | REF METHOD | DATE |               | ID |
|-----------------------------------------|--------|----------|------|------------|------|---------------|----|
|                                         |        |          |      |            | PREP | ANAL          |    |
| Turbidity                               | 0.24   | NTU      | 0.20 | 30 2130B   |      | 1119 19:00 LK |    |
| Color, Apparent                         | 6.0    | A.P.C.U. | 5.0  | 30 2120B   |      | 1119 19:00 LK |    |
| Solids, Total Suspended                 | ND     | mg/l     | 5.0  | 30 2540D   |      | 1120 11:40 DT |    |
| <b>Volatiles Organics by GC/MS 8260</b> |        |          |      |            |      |               |    |
| Methylene chloride                      | ND     | ug/l     | 5.0  | 1 8260B    |      | 1120 11:14 BT |    |
| 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  |            |      |               |    |

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

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

**Laboratory Sample Number:** L0311850-02  
**EFFLUENT**

| PARAMETER                                 | RESULT   | UNITS | RDL         | REF METHOD | DATE<br>PREP ANAL | ID |
|-------------------------------------------|----------|-------|-------------|------------|-------------------|----|
| Volatile Organics by GC/MS 8260 continued |          |       |             | 1 8260B    | 1120 11-14 BT     |    |
| 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         |            |                   |    |
| 1,4-Dichlorobutane                        | ND       | ug/l  | 5.0         |            |                   |    |
| Iodomethane                               | 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         |            |                   |    |
| Vinyl acetate                             | ND       | ug/l  | 5.0         |            |                   |    |
| 4-Methyl-2-pentanone                      | ND       | ug/l  | 5.0         |            |                   |    |
| 2-Hexanone                                | ND       | ug/l  | 5.0         |            |                   |    |
| Ethyl methacrylate                        | ND       | ug/l  | 5.0         |            |                   |    |
| Acrolein                                  | ND       | ug/l  | 12.         |            |                   |    |
| Acrylonitrile                             | 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  | 2.5         |            |                   |    |
| 1,3-Dichloropropane                       | ND       | ug/l  | 2.5         |            |                   |    |
| 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         |            |                   |    |
| trans-1,4-Dichloro-2-butene               | ND       | ug/l  | 2.5         |            |                   |    |
| Ethyl ether                               | ND       | ug/l  | 2.5         |            |                   |    |
| Surrogate(s)                              | Recovery |       | QC Criteria |            |                   |    |
| 1,2-Dichloroethane-d4                     | 103.     | %     |             |            |                   |    |
| Toluene-d8                                | 101.     | %     |             |            |                   |    |
| 4-Bromofluorobenzene                      | 94.0     | %     |             |            |                   |    |
| Dibromofluoromethane                      | 103.     | %     |             |            |                   |    |

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: L0311850-03

Date Collected: 19-NOV-2003 09:50

Sample Matrix: BLANK  
WATER

Date Received : 19-NOV-2003

Date Reported : 21-NOV-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Vial

| PARAMETER                       | RESULT | UNITS | RDL  | REF METHOD | DATE<br>PREP  | ID<br>ANAL |
|---------------------------------|--------|-------|------|------------|---------------|------------|
| Volatile Organics by GC/MS 8260 |        |       |      | 1 8260B    | 1120 12-01 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  |            |               |            |
| 1,4-Dichlorobutane              | ND     | ug/l  | 5.0  |            |               |            |
| Iodomethane                     | 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: L0311850-03  
BLANK

| PARAMETER                                 | RESULT   | UNITS | RDL  | REF METHOD  | DATE          |      | ID |
|-------------------------------------------|----------|-------|------|-------------|---------------|------|----|
|                                           |          |       |      |             | PREP          | ANAL |    |
| Volatile Organics by GC/MS 8260 continued |          |       |      | 1 8268B     | 1120 11-01 BT |      |    |
| 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  |             |               |      |    |
| Vinyl acetate                             | ND       | ug/l  | 5.0  |             |               |      |    |
| 4-Methyl-2-pentanone                      | ND       | ug/l  | 5.0  |             |               |      |    |
| 2-Hexanone                                | ND       | ug/l  | 5.0  |             |               |      |    |
| Ethyl methacrylate                        | ND       | ug/l  | 12.  |             |               |      |    |
| Acrolein                                  | ND       | ug/l  | 5.0  |             |               |      |    |
| Acrylonitrile                             | ND       | ug/l  | 2.5  |             |               |      |    |
| Bromochloromethane                        | ND       | ug/l  | 10.  |             |               |      |    |
| Tetrahydrofuran                           | ND       | ug/l  | 2.5  |             |               |      |    |
| 2,2-Dichloropropane                       | ND       | ug/l  | 2.5  |             |               |      |    |
| 1,2-Dibromoethane                         | ND       | ug/l  | 2.5  |             |               |      |    |
| 1,3-Dichloropropane                       | ND       | ug/l  | 0.50 |             |               |      |    |
| 1,1,1,2-Tetrachloroethane                 | ND       | ug/l  | 2.5  |             |               |      |    |
| Bromobenzene                              | ND       | ug/l  | 0.50 |             |               |      |    |
| n-Butylbenzene                            | ND       | ug/l  | 0.50 |             |               |      |    |
| sec-Butylbenzene                          | ND       | ug/l  | 2.5  |             |               |      |    |
| tert-Butylbenzene                         | ND       | ug/l  | 2.5  |             |               |      |    |
| o-Chlorotoluene                           | ND       | ug/l  | 2.5  |             |               |      |    |
| o-Chlorotoluene                           | ND       | ug/l  | 2.5  |             |               |      |    |
| 1,2-Dibromo-3-chloropropane               | ND       | ug/l  | 1.0  |             |               |      |    |
| Hexachlorobutadiene                       | ND       | ug/l  | 0.50 |             |               |      |    |
| Isopropylbenzene                          | ND       | ug/l  | 0.50 |             |               |      |    |
| p-Isopropyltoluene                        | ND       | ug/l  | 2.5  |             |               |      |    |
| Naphthalene                               | ND       | ug/l  | 0.50 |             |               |      |    |
| n-Propylbenzene                           | ND       | ug/l  | 2.5  |             |               |      |    |
| 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  |             |               |      |    |
| trans-1,4-Dichloro-2-butene               | ND       | ug/l  | 2.5  |             |               |      |    |
| Ethyl ether                               | ND       | ug/l  | 2.5  |             |               |      |    |
| Surrogate(s)                              | Recovery |       |      | QC Criteria |               |      |    |
| 1,2-Dichloroethane-d4                     | 104.     | %     |      |             |               |      |    |
| Toluene-d8                                | 99.0     | %     |      |             |               |      |    |
| 4-Bromofluorobenzene                      | 96.0     | %     |      |             |               |      |    |
| Dibromofluoromethane                      | 107.     | %     |      |             |               |      |    |

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

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0311850

| Parameter                                                   | Value 1 | Value 2 | Units    | RPD | RPD Limits |
|-------------------------------------------------------------|---------|---------|----------|-----|------------|
| Turbidity for sample(s) 01-02 (L0311850-01, WG156846)       |         |         |          |     |            |
| Turbidity                                                   | 90.     | 90.     | NTU      | 0   |            |
| Color, Apparent for sample(s) 01-02 (L0311850-01, WG156860) |         |         |          |     |            |
| Color, Apparent                                             | 180     | 180     | A.P.C.U. | 0   |            |

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0311850

| Parameter | % Recovery | QC Criteria |
|-----------|------------|-------------|
|-----------|------------|-------------|

Turbidity LCS for sample(s) 01-02 (WG156946)

|           |     |  |
|-----------|-----|--|
| Turbidity | 103 |  |
|-----------|-----|--|

Volatile Organics by GC/MS 8260 LCS for sample(s) 01-03 (WG156417)

|                       |     |  |
|-----------------------|-----|--|
| Chlorobenzene         | 103 |  |
| Benzene               | 103 |  |
| Toluene               | 107 |  |
| 1,1-Dichloroethene    | 85  |  |
| Trichloroethene       | 94  |  |
| Surrogate(s)          |     |  |
| 1,2-Dichloroethane-d4 | 106 |  |
| Toluene-d8            | 110 |  |
| 4-Bromofluorobenzene  | 97  |  |
| Dibromofluoromethane  | 109 |  |

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0311850

| Parameter                                                                   | MS % | MSD % | RPD | RPD Limit | MS/MSD Limits |
|-----------------------------------------------------------------------------|------|-------|-----|-----------|---------------|
| Volatile Organics by GC/MS 8260 For sample(s) 01-03 (L0311578-01, WG156417) |      |       |     |           |               |
| Chlorobenzene                                                               | 111  | 112   | 1   |           |               |
| Benzene                                                                     | 100  | 102   | 2   |           |               |
| Toluene                                                                     | 108  | 110   | 2   |           |               |
| 1,1-Dichloroethene                                                          | 89   | 93    | 4   |           |               |
| Trichloroethene                                                             | 98   | 102   | 4   |           |               |
| Surrogate(s)                                                                |      |       |     |           |               |
| 1,2-Dichloroethane-d4                                                       | 104  | 106   | 2   |           |               |
| Toluene-d8                                                                  | 97   | 99    | 2   |           |               |
| 4-Bromofluorobenzene                                                        | 74   | 76    | 3   |           |               |
| Dibromofluoromethane                                                        | 104  | 106   | 2   |           |               |

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0311850

| PARAMETER                                        | RESULT | UNITS | RDL  | REF METHOD | DATE<br>PREP ANAL | ID |
|--------------------------------------------------|--------|-------|------|------------|-------------------|----|
| Blank Analysis for sample(s) 01-02 (WG156946-1)  |        |       |      |            |                   |    |
| Turbidity                                        | ND     | NTU   | 0.20 | 30 2130B   | 1119 19:00        | LK |
| Blank Analysis for sample(s) 01-02 (WG156842-1)  |        |       |      |            |                   |    |
| Solids, Total Suspended                          | ND     | mg/l  | 5.0  | 30 2540D   | 1120 11:40        | DT |
| Blank Analysis for sample(s) 01-03 (WG156417-10) |        |       |      |            |                   |    |
| Volatile Organics by GC/MS 8260                  |        |       |      |            |                   |    |
| Methylene chloride                               | ND     | ug/l  | 5.0  | 1 8260B    | 1120 08:54        | BT |
| 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  |            |                   |    |
| 1,4-Dichlorobutane                               | ND     | ug/l  | 5.0  |            |                   |    |
| Iodomethane                                      | ND     | ug/l  | 5.0  |            |                   |    |
| 1,2,3-Trichloropropane                           | ND     | ug/l  | 5.0  |            |                   |    |

**ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0311850

Continued

| PARAMETER                                        | RESULT   | UNITS | RDL         | REF METHOD | DATE          | ID   |
|--------------------------------------------------|----------|-------|-------------|------------|---------------|------|
|                                                  |          |       |             |            | PREP          | ANAL |
| Blank Analysis for sample(s) 01-03 (WG156417-10) |          |       |             |            |               |      |
| Volatile Organics by GC/MS 8260 continued        |          |       |             | 1 8260B    | 1120 08:54 BT |      |
| 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         |            |               |      |
| Vinyl acetate                                    | ND       | ug/l  | 5.0         |            |               |      |
| 4-Methyl-2-pentanone                             | ND       | ug/l  | 5.0         |            |               |      |
| 2-Hexanone                                       | ND       | ug/l  | 5.0         |            |               |      |
| Ethyl methacrylate                               | ND       | ug/l  | 5.0         |            |               |      |
| Acrolein                                         | ND       | ug/l  | 12.         |            |               |      |
| Acrylonitrile                                    | 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  | 2.5         |            |               |      |
| 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  | 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         |            |               |      |
| trans-1,4-Dichloro-2-butene                      | ND       | ug/l  | 2.5         |            |               |      |
| Ethyl ether                                      | ND       | ug/l  | 2.5         |            |               |      |
| Surrogate(s)                                     | Recovery |       | QC Criteria |            |               |      |
| 1,2-Dichloroethane-d4                            | 112.     | %     |             |            |               |      |
| Toluene-d8                                       | 99.0     | %     |             |            |               |      |
| 4-Bromofluorobenzene                             | 92.0     | %     |             |            |               |      |
| Dibromofluoromethane                             | 119.     | %     |             |            |               |      |

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

**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 its 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.



# IS YOUR PROJECT MSP?

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time will not start until any ambiguity is resolved. All samples submitted subject to Alpha's Payment Terms. See reverse for details.

Received By:

| Relinquished By    | Date/Time | Received By:       | Date/Time |
|--------------------|-----------|--------------------|-----------|
| <i>[Signature]</i> | 11/10/95  | <i>[Signature]</i> | 11/17/95  |
| <i>[Signature]</i> | 11/19/95  | <i>[Signature]</i> | 11/19/95  |

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: Tighe & Bond

Laboratory Job Number: L0311852

Address: 4 Barlows Landing Road

Pocasset, MA 02559

Date Received: 19-NOV-2003

Attn: Mr. Rich Geisler

Date Reported: 24-NOV-2003

Project Number: W-33494-01

Delivery Method: Alpha

Site: GLOBAL CHELSEA

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| ALPHA SAMPLE NUMBER | CLIENT IDENTIFICATION | SAMPLE LOCATION  |
|---------------------|-----------------------|------------------|
| L0311852-01         | INFLUENT              | CHELSEA TERMINAL |
| L0311852-02         | EFFLUENT              | CHELSEA TERMINAL |

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  
NARRATIVE REPORT**

Laboratory Job Number: L0311852

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PAH

L0311852-01 has elevated limits of detection due to the 10x dilution required by the elevated concentrations of target compounds in the sample.

**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: L0311852-01

Date Collected: 19-NOV-2003 12:25

Sample Matrix: INFLUENT

Date Received : 19-NOV-2003

Sample Matrix: WATER

Date Reported : 24-NOV-2003

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 4-Amber

| PARAMETER                    | RESULT   | UNITS | RDL         | REF METHOD | DATE       |            | ID |
|------------------------------|----------|-------|-------------|------------|------------|------------|----|
|                              |          |       |             |            | PREP       | ANAL       |    |
| PAH by GC/MS SIM 8270M       |          |       |             | 1 8270C-M  | 1120 10:20 | 1122 03:58 | HL |
| Acenaphthene                 | 26.      | ug/l  | 2.0         |            |            |            |    |
| 2-Chloronaphthalene          | ND       | ug/l  | 2.0         |            |            |            |    |
| Fluoranthene                 | 6.3      | ug/l  | 2.0         |            |            |            |    |
| Naphthalene                  | 2.1      | ug/l  | 2.0         |            |            |            |    |
| Benzo (a) anthracene         | ND       | ug/l  | 2.0         |            |            |            |    |
| Benzo (a) pyrene             | ND       | ug/l  | 2.0         |            |            |            |    |
| Benzo (b) fluoranthene       | ND       | ug/l  | 2.0         |            |            |            |    |
| Benzo (k) fluoranthene       | ND       | ug/l  | 2.0         |            |            |            |    |
| Chrysene                     | ND       | ug/l  | 2.0         |            |            |            |    |
| Acenaphthylene               | ND       | ug/l  | 2.0         |            |            |            |    |
| Anthracene                   | 5.8      | ug/l  | 2.0         |            |            |            |    |
| Benzo (ghi) perylene         | ND       | ug/l  | 2.0         |            |            |            |    |
| fluorene                     | 13.      | ug/l  | 2.0         |            |            |            |    |
| Phenanthrene                 | 12.      | ug/l  | 2.0         |            |            |            |    |
| Dibenzo (a, h) anthracene    | ND       | ug/l  | 2.0         |            |            |            |    |
| Indeno (1, 2, 3- cd) Pyrene  | ND       | ug/l  | 2.0         |            |            |            |    |
| Pyrene                       | 4.7      | ug/l  | 2.0         |            |            |            |    |
| 1-Methylnaphthalene          | 68.      | ug/l  | 2.0         |            |            |            |    |
| 2-Methylnaphthalene          | 5.7      | ug/l  | 2.0         |            |            |            |    |
| Perylene                     | ND       | ug/l  | 2.0         |            |            |            |    |
| Biphenyl                     | ND       | ug/l  | 2.0         |            |            |            |    |
| Benzo (e) Pyrene             | ND       | ug/l  | 2.0         |            |            |            |    |
| Surrogate(s)                 | Recovery |       | QC Criteria |            |            |            |    |
| Nitrobenzene-d5              | 60.0     | %     | 23-120      |            |            |            |    |
| 2-Fluorobiphenyl             | 76.0     | %     | 43-120      |            |            |            |    |
| 4-Terphenyl-d14              | 85.0     | %     | 33-120      |            |            |            |    |
| Hydrocarbon Scan by GC 8100M |          |       |             | 1 8100M    | 1120 09:00 | 1121 03:27 | JH |
| Mineral Spirits              | ND       | mg/l  | 0.10        |            |            |            |    |
| Gasoline                     | ND       | mg/l  | 0.10        |            |            |            |    |
| Fuel Oil #2/Diesel           | ND       | mg/l  | 0.10        |            |            |            |    |
| Fuel Oil #4                  | ND       | mg/l  | 0.10        |            |            |            |    |
| Fuel Oil #6                  | ND       | mg/l  | 0.10        |            |            |            |    |
| Motor Oil                    | ND       | mg/l  | 0.10        |            |            |            |    |
| Kerosene                     | ND       | mg/l  | 0.10        |            |            |            |    |
| Transformer Oil              | ND       | mg/l  | 0.10        |            |            |            |    |
| Unknown Hydrocarbon          | 5.1      | mg/l  | 0.10        |            |            |            |    |

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

**CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0311852-01  
INFLUENT

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

|                                        |          |   |  |             |         |            |               |
|----------------------------------------|----------|---|--|-------------|---------|------------|---------------|
| Hydrocarbon Scan by GC 8100M continued |          |   |  |             | 1 8100M | 1120 09:00 | 1121 03:27 JB |
| Surrogate(s)                           | Recovery |   |  | QC Criteria |         |            |               |
| o-Terphenyl                            | 81.0     | % |  | 40-140      |         |            |               |

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:** L0311852-02

**Date Collected:** 19-NOV-2003 12:30

**Sample Matrix:** EFFLUENT

**Date Received :** 19-NOV-2003

**Condition of Sample:** Satisfactory

**Date Reported :** 24-NOV-2003

**Field Prep:** None

**Number & Type of Containers:** 4-Amber

| PARAMETER                    | RESULT   | UNITS | RDL  | REF METHOD  | DATE    |            | ID            |
|------------------------------|----------|-------|------|-------------|---------|------------|---------------|
|                              |          |       |      |             | PREP    | ANAL       |               |
| PAH by GC/MS SIM 8270M       |          |       |      | 1           | 8270C-M | 1120 18:20 | 1122 03:14 HL |
| Acenaphthene                 | ND       | ug/l  | 0.20 |             |         |            |               |
| 2-Chloronaphthalene          | ND       | ug/l  | 0.20 |             |         |            |               |
| Fluoranthene                 | ND       | ug/l  | 0.20 |             |         |            |               |
| Naphthalene                  | ND       | ug/l  | 0.20 |             |         |            |               |
| Benzo (a) anthracene         | ND       | ug/l  | 0.20 |             |         |            |               |
| Benzo (a) pyrene             | ND       | ug/l  | 0.20 |             |         |            |               |
| Benzo (b) fluoranthene       | ND       | ug/l  | 0.20 |             |         |            |               |
| Benzo (k) fluoranthene       | ND       | ug/l  | 0.20 |             |         |            |               |
| Chrysene                     | ND       | ug/l  | 0.20 |             |         |            |               |
| Acenaphthylene               | ND       | ug/l  | 0.20 |             |         |            |               |
| Anthracene                   | ND       | ug/l  | 0.20 |             |         |            |               |
| Benzo (ghi) perylene         | ND       | ug/l  | 0.20 |             |         |            |               |
| Fluorene                     | ND       | ug/l  | 0.20 |             |         |            |               |
| Phenanthrene                 | ND       | ug/l  | 0.20 |             |         |            |               |
| Dibenzo (a, h) anthracene    | ND       | ug/l  | 0.20 |             |         |            |               |
| Indeno (1,2,3-cd) Pyrene     | ND       | ug/l  | 0.20 |             |         |            |               |
| Pyrene                       | ND       | ug/l  | 0.20 |             |         |            |               |
| 1-Methylnaphthalene          | ND       | ug/l  | 0.20 |             |         |            |               |
| 2-Methylnaphthalene          | ND       | ug/l  | 0.20 |             |         |            |               |
| Perylene                     | ND       | ug/l  | 0.20 |             |         |            |               |
| Biphenyl                     | ND       | ug/l  | 0.20 |             |         |            |               |
| Benzo (e) Pyrene             | ND       | ug/l  | 0.20 |             |         |            |               |
| Surrogate(s)                 | Recovery |       |      | QC Criteria |         |            |               |
| Nitrobenzene-d5              | 49.0     | %     |      | 23-120      |         |            |               |
| 2-Fluorobiphenyl             | 49.0     | %     |      | 43-120      |         |            |               |
| 4-Terphenyl-d14              | 87.0     | %     |      | 33-120      |         |            |               |
| Hydrocarbon Scan by GC 8100M |          |       |      | 1           | 8100M   | 1120 09:00 | 1121 04:31 JB |
| Mineral Spirits              | ND       | mg/l  | 0.10 |             |         |            |               |
| Gasoline                     | ND       | mg/l  | 0.10 |             |         |            |               |
| Fuel Oil #2/Diesel           | ND       | mg/l  | 0.10 |             |         |            |               |
| Fuel Oil #4                  | ND       | mg/l  | 0.10 |             |         |            |               |
| Fuel Oil #6                  | ND       | mg/l  | 0.10 |             |         |            |               |
| Motor Oil                    | ND       | mg/l  | 0.10 |             |         |            |               |
| Kerosene                     | ND       | mg/l  | 0.10 |             |         |            |               |
| Transformer Oil              | ND       | mg/l  | 0.10 |             |         |            |               |
| Unknown Hydrocarbon          | ND       | mg/l  | 0.10 |             |         |            |               |

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

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0311852-02  
EFFLUENT

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

|                                        |          |   |  |             |                          |  |
|----------------------------------------|----------|---|--|-------------|--------------------------|--|
| Hydrocarbon Scan by GC 8100M continued |          |   |  | 1 8100M     | 1120 09:00 1121 04:31 JB |  |
| Surrogate(s)                           | Recovery |   |  | QC Criteria |                          |  |
| o-Terphenyl                            | 87.0     | % |  | 40-140      |                          |  |

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

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0311852

| Parameter                                                                | Value 1  | Value 2 | Units | RPD | RPD Limits  |
|--------------------------------------------------------------------------|----------|---------|-------|-----|-------------|
| Hydrocarbon Scan by GC 8100M for sample(s) 01-02 (L0311852-02, W0156967) |          |         |       |     |             |
| Mineral Spirits                                                          | ND       | ND      | mg/l  | NC  | 40          |
| Gasoline                                                                 | ND       | ND      | mg/l  | NC  | 40          |
| Fuel Oil #2/Diesel                                                       | ND       | ND      | mg/l  | NC  | 40          |
| Fuel Oil #4                                                              | ND       | ND      | mg/l  | NC  | 40          |
| Fuel Oil #6                                                              | ND       | ND      | mg/l  | NC  | 40          |
| Motor Oil                                                                | ND       | ND      | mg/l  | NC  | 40          |
| Kerosene                                                                 | ND       | ND      | mg/l  | NC  | 40          |
| Transformer Oil                                                          | ND       | ND      | mg/l  | NC  | 40          |
| Unknown Hydrocarbon                                                      | ND       | ND      | mg/l  | NC  | 40          |
| Surrogate(s)                                                             | Recovery |         |       |     | QC Criteria |
| o-Terphenyl                                                              | 87.0     | 98.0    | %     | 12  | 40-140      |

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0311852

| Parameter | % Recovery | QC Criteria |
|-----------|------------|-------------|
|-----------|------------|-------------|

PAH by GC/MS SIM 8270M LCS for sample(s) 01-02 (WG157028)

|                     |    |        |
|---------------------|----|--------|
| Acenaphthene        | 68 | 46-118 |
| 2-Chloronaphthalene | 63 |        |
| Fluoranthene        | 86 |        |
| Anthracene          | 57 |        |
| Pyrene              | 89 | 26-127 |
| Surrogate(s)        |    |        |
| Nitrobenzene-d5     | 71 | 23-120 |
| 2-Fluorobiphenyl    | 64 | 43-120 |
| 4-Terphenyl-d14     | 78 | 33-120 |

Hydrocarbon Scan by GC 8100M LCS for sample(s) 01-02 (WG156967)

|                 |     |        |
|-----------------|-----|--------|
| Petroleum Spike | 105 | 40-140 |
| Surrogate(s)    |     |        |
| o-Terphenyl     | 100 | 40-140 |

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0311852

| Parameter                                                           | MS % | MSD % | RPD | RPD Limit | MS/MSD Limits |
|---------------------------------------------------------------------|------|-------|-----|-----------|---------------|
| PAH by GC/MS SIM 8270M for sample(s) 01-02 (L0311852-02, WGL157028) |      |       |     |           |               |
| Acenaphthene                                                        | 63   | 54    | 15  | 40        | 46-118        |
| 2-Chloronaphthalene                                                 | 59   | 54    | 9   | 40        |               |
| Fluoranthene                                                        | 86   | 81    | 6   | 40        |               |
| Anthracene                                                          | 59   | 54    | 9   | 40        |               |
| Pyrene                                                              | 90   | 81    | 11  | 40        | 26-127        |
| Surrogate(s)                                                        |      |       |     |           |               |
| Nitrobenzene-d5                                                     | 56   | 58    | 4   |           | 23-120        |
| 2-Fluorobiphenyl                                                    | 60   | 52    | 14  |           | 43-120        |
| 4-Terphenyl-d14                                                     | 77   | 71    | 8   |           | 33-120        |

**ALPHA ANALYTICAL LABORATORIES**  
**QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0311852

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

Blank Analysis for sample(s) 01-02 (WG157028-1)

PAH by GC/MS SIM 8270M 1 8270C-M 1120 18:20 1122 00:18 HL

|                            |    |      |      |
|----------------------------|----|------|------|
| Acenaphthene               | ND | ug/l | 0.20 |
| 2-Chloronaphthalene        | ND | ug/l | 0.20 |
| Fluoranthene               | ND | ug/l | 0.20 |
| Naphthalene                | ND | ug/l | 0.20 |
| Benzo(a) anthracene        | ND | ug/l | 0.20 |
| Benzo(a) pyrene            | ND | ug/l | 0.20 |
| Benzo(b) fluoranthene      | ND | ug/l | 0.20 |
| Benzo(k) fluoranthene      | ND | ug/l | 0.20 |
| Chrysene                   | ND | ug/l | 0.20 |
| Acenaphthylene             | ND | ug/l | 0.20 |
| Anthracene                 | ND | ug/l | 0.20 |
| Benzo(ghi)perylene         | ND | ug/l | 0.20 |
| Fluorene                   | ND | ug/l | 0.20 |
| Phenanthrene               | ND | ug/l | 0.20 |
| Dibenzo (a, h) anthracene  | ND | ug/l | 0.20 |
| Indeno (1, 2, 3-cd) Pyrene | ND | ug/l | 0.20 |
| Pyrene                     | ND | ug/l | 0.20 |
| 1-Methylnaphthalene        | ND | ug/l | 0.20 |
| 2-Methylnaphthalene        | ND | ug/l | 0.20 |
| Perylene                   | ND | ug/l | 0.20 |
| Biphenyl                   | ND | ug/l | 0.20 |
| Benzo(e) Pyrene            | ND | ug/l | 0.20 |

| Surrogate(s)     | Recovery |   | QC Criteria |
|------------------|----------|---|-------------|
| Nitrobenzene-d5  | 66.0     | % | 23-120      |
| 2-Fluorobiphenyl | 67.0     | % | 43-120      |
| 4-Terphenyl-d14  | 83.0     | % | 33-120      |

Blank Analysis for sample(s) 01-02 (WG156967-1)

Hydrocarbon Scan by GC 8100M 1 8100M 1120 09:06 1120 22:10 JB

|                     |    |      |      |
|---------------------|----|------|------|
| Mineral Spirits     | ND | mg/l | 0.10 |
| Gasoline            | ND | mg/l | 0.10 |
| Fuel Oil #2/Diesel  | ND | mg/l | 0.10 |
| Fuel Oil #4         | ND | mg/l | 0.10 |
| Fuel Oil #6         | ND | mg/l | 0.10 |
| Motor Oil           | ND | mg/l | 0.10 |
| Kerosene            | ND | mg/l | 0.10 |
| Transformer Oil     | ND | mg/l | 0.10 |
| Unknown Hydrocarbon | ND | mg/l | 0.10 |

| Surrogate(s) | Recovery |   | QC Criteria |
|--------------|----------|---|-------------|
| o-Terphenyl  | 103.     | % | 40-140      |

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.

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.

4-311852

**er Project Specific Requirements/Comments/Detection Limits:**

Date Due: Feb 2 1961 Time: 11:15 AM

### Criteria

**PO #:**

**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

[illegible]

**QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY**

**Container Type**

**Preservative**

**IS YOUR  
PROJECT  
MCP ?**

Relinquished By:

Date/Time

Received By:

**Date/Time**

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.