# APPENDIX C: ALPHA ANALYTICAL LABORATORIES REPORTS AND ANALYTICAL DATA

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ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0910702 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Lee Weishar |
| Project Name: | NBH WATER QUALITY MONITORING |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/11/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0910702-01 | S-09G-G001-0-0 | NEW BEDFORD | 08/05/09 10:00 |
| L0910702-02 | S-09G-G002-0-0REP | NEW BEDFORD | 08/05/09 12:05 |
| L0910702-03 | S-09G-G002-0-0 | NEW BEDFORD | 08/05/09 11:45 |
| L0910702-04 | S-09G-G003-0-0 | NEW BEDFORD | 08/05/09 13:15 |
| L0910702-05 | S-09G-G001-0-0 AIR DRIED | NEW BEDFORD | 08/05/09 10:00 |
| L0910702-06 | S-09G-G002-0-0REP AIR DRIED | NEW BEDFORD | 08/05/09 12:05 |
| L0910702-07 | S-09G-G002-0-0 AIR DRIED | NEW BEDFORD | 08/05/09 11:45 |
| L0910702-08 | S-09G-G003-0-0 AIR DRIED | NEW BEDFORD | 08/05/09 13:15 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
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**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the original report issued on September 15, 2009. The report was ammended to include revised Grain Size data.

PCB CONGENERS BY 8082
L0910702-05 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The surrogates were diluted out of the sample due to the dilution required. The surrogates were not recovered for L0910702-05 due to the dilutions required to quantitate the sample. Re-

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
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**Case Narrative (continued)**

extraction is not required; therefore, the results of the original analysis are reported.

L0910702-06 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The re-analysis was performed only for the compound that exceeded the calibration range.The surrogate recoveries for L0910702-06 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

L0910702-07 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The re-analysis was performed only for the compound that exceeded the calibration rangeThe surrogate recoveries for L0910702-07 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

The surrogate recoveries for L0910702-08 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.
L0910702-08 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The re-analysis was performed only for the compound that exceeded the calibration range.

The WG376956-1 Method Blank associated with L0910702-05,L0910702-06,L0910702-07,L0910702-08 has concentrations above the reporting limits for several congeners; however, the associated samples have high concentrations of the affected compounds. The associated samples are reported and no qualification of the results is required.

The WG376956-2 LCS recoveries associated with L0910702-05,L0910702-06,L0910702-07,L0910702-08 were outside the acceptance criteria for several compounds. The results of the original analyses are reported; however, all results are considered to have a potentially high bias for cl2-bz#8(157%),cl3-bz#18(226%),cl4-bz#52(168%), cl3-bz#28(194%).

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|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
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**Case Narrative (continued)**

The WG376956-3 LCSD recoveries associated with L0910702-05,L0910702-06,L0910702-07,L0910702-08 were above the acceptance criteria for cl3-bz#28(208%), cl2-bz#8(170%),cl3-bz#18(257%),cl4-bz#52(187%). The results of the original analyses are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henik

Title: Technical Director/Representative Date: 02/11/10

# ORGANICS

# PCBS

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|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-05 | Date Collected: | 08/05/09 10:00 |
| Client ID: | S-09G-G001-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 05:45 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 13300 | | ug/kg | 1940 | 1000 |
| Cl4-BZ#52 | 16100 | | ug/kg | 1940 | 1000 |

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|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-05 | Date Collected: | 08/05/09 10:00 |
| Client ID: | S-09G-G001-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 05:45 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 9400 | | ug/kg | 1940 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-05 R | Date Collected: | 08/05/09 10:00 |
| Client ID: | S-09G-G001-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 14:33 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2480 | | ug/kg | 194 | 100 |
| Cl4-BZ#66 | 3540 | | ug/kg | 194 | 100 |
| Cl5-BZ#101 | 2990 | | ug/kg | 194 | 100 |
| Cl5-BZ#118 | 1810 | | ug/kg | 194 | 100 |
| Cl6-BZ#128 | 359 | | ug/kg | 194 | 100 |
| Cl6-BZ#138 | 1740 | | ug/kg | 194 | 100 |
| Cl7-BZ#170 | 304 | | ug/kg | 194 | 100 |
| Cl7-BZ#180 | 393 | | ug/kg | 194 | 100 |
| Cl7-BZ#187 | 492 | | ug/kg | 194 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 194 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 194 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 194 | 100 |

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|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-05 R | Date Collected: | 08/05/09 10:00 |
| Client ID: | S-09G-G001-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 14:33 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 3350 | | ug/kg | 194 | 100 |
| Cl5-BZ#105 | 387 | | ug/kg | 194 | 100 |
| Cl6-BZ#153 | 2230 | | ug/kg | 194 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
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**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-06 | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 06:26 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 9680 | | ug/kg | 2130 | 1000 |
| Cl3-BZ#28 | 40200 | | ug/kg | 2130 | 1000 |
| Cl4-BZ#66 | 13200 | | ug/kg | 2130 | 1000 |
| Cl5-BZ#101 | 12200 | | ug/kg | 2130 | 1000 |
| Cl5-BZ#118 | 6200 | | ug/kg | 2130 | 1000 |
| Cl6-BZ#138 | 5960 | | ug/kg | 2130 | 1000 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-06 | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 06:26 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 13800 | | ug/kg | 2130 | 1000 |
| Cl6-BZ#153 | 8450 | | ug/kg | 2130 | 1000 |

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|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
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**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-06 R2 | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 00:21 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#52 | 46800 | | ug/kg | 4250 | 2000 |

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|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-06 R2 | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 00:21 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 27300 | | ug/kg | 4250 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-06 R | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 15:14 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#128 | 687 | | ug/kg | 213 | 100 |
| Cl7-BZ#170 | 638 | | ug/kg | 213 | 100 |
| Cl7-BZ#180 | 864 | | ug/kg | 213 | 100 |
| Cl7-BZ#187 | 1070 | | ug/kg | 213 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 213 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 213 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 213 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-06 R | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 15:14 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 655 | | ug/kg | 213 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-07 | Date Collected: | 08/05/09 11:45 |
| Client ID: | S-09G-G002-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 07:07 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 8980 | | ug/kg | 2070 | 1000 |
| Cl3-BZ#28 | 35400 | | ug/kg | 2070 | 1000 |
| Cl4-BZ#66 | 12900 | | ug/kg | 2070 | 1000 |
| Cl5-BZ#101 | 11300 | | ug/kg | 2070 | 1000 |
| Cl5-BZ#118 | 6090 | | ug/kg | 2070 | 1000 |
| Cl6-BZ#138 | 5750 | | ug/kg | 2070 | 1000 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-07 | Date Collected: | 08/05/09 11:45 |
| Client ID: | S-09G-G002-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 07:07 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 24400 | | ug/kg | 2070 | 1000 |
| Cl4-BZ#44 | 13600 | | ug/kg | 2070 | 1000 |
| Cl6-BZ#153 | 7920 | | ug/kg | 2070 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-07 R2 | Date Collected: | 08/05/09 11:45 |
| Client ID: | S-09G-G002-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 01:01 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#52 | 50800 | | ug/kg | 4140 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-07 R | Date Collected: | 08/05/09 11:45 |
| Client ID: | S-09G-G002-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 15:54 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#128 | 797 | | ug/kg | 207 | 100 |
| Cl7-BZ#170 | 684 | | ug/kg | 207 | 100 |
| Cl7-BZ#180 | 926 | | ug/kg | 207 | 100 |
| Cl7-BZ#187 | 1140 | | ug/kg | 207 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 207 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 207 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 207 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-07 R | Date Collected: | 08/05/09 11:45 |
| Client ID: | S-09G-G002-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 15:54 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 720 | | ug/kg | 207 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-08 | Date Collected: | 08/05/09 13:15 |
| Client ID: | S-09G-G003-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 09:49 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 90% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 2210 | | ug/kg | 181 | 100 |
| Cl4-BZ#52 | 2220 | | ug/kg | 181 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-08 R | Date Collected: | 08/05/09 13:15 |
| Client ID: | S-09G-G003-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 17:56 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 90% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 277 | | ug/kg | 90.7 | 50 |
| Cl4-BZ#66 | 1470 | | ug/kg | 90.7 | 50 |
| Cl5-BZ#101 | 1480 | | ug/kg | 90.7 | 50 |
| Cl5-BZ#118 | 1220 | | ug/kg | 90.7 | 50 |
| Cl6-BZ#128 | 252 | | ug/kg | 90.7 | 50 |
| Cl6-BZ#138 | 976 | | ug/kg | 90.7 | 50 |
| Cl7-BZ#170 | 153 | | ug/kg | 90.7 | 50 |
| Cl7-BZ#180 | 211 | | ug/kg | 90.7 | 50 |
| Cl8-BZ#195 | ND | | ug/kg | 90.7 | 50 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 90.7 | 50 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 90.7 | 50 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-08 R | Date Collected: | 08/05/09 13:15 |
| Client ID: | S-09G-G003-0-0 AIR DRIED | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 17:56 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 90% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 700 | | ug/kg | 90.7 | 50 |
| Cl4-BZ#44 | 790 | | ug/kg | 90.7 | 50 |
| Cl5-BZ#105 | 319 | | ug/kg | 90.7 | 50 |
| Cl6-BZ#153 | 948 | | ug/kg | 90.7 | 50 |
| Cl7-BZ#187 | 200 | | ug/kg | 90.7 | 50 |

| | | |
|---|---|---|
| DBOB | **0** | 50-125 |
| BZ 198 | **0** | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3570 |
| Analytical Date: | 09/04/09 19:37 | Extraction Date: | 08/25/09 13:37 |
| Analyst: | JS | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 08/25/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG376956-1 | | | | |
| Cl3-BZ#28 | 2.01 | | ug/kg | 1.67 |
| Cl4-BZ#44 | ND | | ug/kg | 1.67 |
| Cl4-BZ#66 | ND | | ug/kg | 1.67 |
| Cl5-BZ#101 | ND | | ug/kg | 1.67 |
| Cl5-BZ#105 | ND | | ug/kg | 1.67 |
| Cl5-BZ#118 | ND | | ug/kg | 1.67 |
| Cl6-BZ#128 | ND | | ug/kg | 1.67 |
| Cl6-BZ#138 | ND | | ug/kg | 1.67 |
| Cl7-BZ#170 | ND | | ug/kg | 1.67 |
| Cl7-BZ#180 | ND | | ug/kg | 1.67 |
| Cl7-BZ#187 | ND | | ug/kg | 1.67 |
| Cl8-BZ#195 | ND | | ug/kg | 1.67 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.67 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.67 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 81 | | 50-125 |
| BZ 198 | 96 | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3570 |
| Analytical Date: | 09/04/09 19:37 | Extraction Date: | 08/25/09 13:37 |
| Analyst: | JS | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 08/25/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG376956-1 | | | | |
| Cl2-BZ#8 | 2.03 | | ug/kg | 1.67 |
| Cl3-BZ#18 | 3.95 | | ug/kg | 1.67 |
| Cl4-BZ#52 | 2.10 | | ug/kg | 1.67 |
| Cl6-BZ#153 | ND | | ug/kg | 1.67 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 81 | | 50-125 |
| BZ 198 | 96 | | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG376956-2 WG376956-3 | | | | | | | | |
| Cl3-BZ#28 | **194** | | **208** | | 40-120 | 7 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 91 | | 76 | | 50-125 |
| BZ 198 | 109 | | 101 | | 50-125 |

| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG376956-2 WG376956-3 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cl2-BZ#8 | **157** | | **170** | | 40-120 | 8 | | 30 |
| Cl3-BZ#18 | **226** | | **257** | | 40-120 | 13 | | 30 |
| Cl4-BZ#44 | 115 | | 117 | | 40-120 | 2 | | 30 |
| Cl4-BZ#52 | **168** | | **187** | | 40-120 | 11 | | 30 |
| Cl4-BZ#66 | 108 | | 104 | | 40-120 | 4 | | 30 |
| Cl5-BZ#101 | 106 | | 98 | | 40-120 | 8 | | 30 |
| Cl5-BZ#105 | 98 | | 90 | | 40-120 | 9 | | 30 |
| Cl5-BZ#118 | 101 | | 93 | | 40-120 | 8 | | 30 |
| Cl6-BZ#128 | 107 | | 94 | | 40-120 | 13 | | 30 |

# Lab Control Sample Analysis

**Batch Quality Control**

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG376956-2 WG376956-3 | | | | | | | | |
| Cl6-BZ#138 | 105 | | 96 | | 40-120 | 9 | | 30 |
| Cl6-BZ#153 | 100 | | 93 | | 40-120 | 7 | | 30 |
| Cl7-BZ#170 | 103 | | 96 | | 40-120 | 7 | | 30 |
| Cl7-BZ#180 | 109 | | 96 | | 40-120 | 13 | | 30 |
| Cl8-BZ#195 | 103 | | 95 | | 40-120 | 8 | | 30 |
| Cl9-BZ#206 | 117 | | 109 | | 40-120 | 7 | | 30 |
| Cl10-BZ#209 | 109 | | 101 | | 40-120 | 8 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 91 | | 76 | | 50-125 |
| BZ 198 | 109 | | 101 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

**SAMPLE RESULTS**

Lab ID: L0910702-01
Client ID: S-09G-G001-0-0
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 10:00
Date Received: 08/05/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 23.5 | | % | 0.100 | 1 | - | 08/06/09 08:15 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-02 | Date Collected: | 08/05/09 12:05 |
| Client ID: | S-09G-G002-0-0REP | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 27.2 | | % | 0.100 | 1 | - | 08/06/09 08:15 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-03 | Date Collected: | 08/05/09 11:45 |
| Client ID: | S-09G-G002-0-0 | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 27.5 | | % | 0.100 | 1 | - | 08/06/09 08:15 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910702-04 | Date Collected: | 08/05/09 13:15 |
| Client ID: | S-09G-G003-0-0 | Date Received: | 08/05/09 |
| Sample Location: | NEW BEDFORD | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 31.8 | | % | 0.100 | 1 | - | 08/06/09 08:15 | 30,2540G | KB |

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

**SAMPLE RESULTS**

Lab ID: L0910702-05
Client ID: S-09G-G001-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 10:00
Date Received: 08/05/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab | | | | | | | | | |
| Total Organic Carbon (Rep1) | 6.30 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 6.78 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Grain Size (Wentworth Method) - Mansfield Lab | | | | | | | | | |
| Gravel (>2.00mm) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 2.60 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 2.50 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 4.70 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 5.40 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 84.8 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 84.8 | | % | 0.100 | 1 | - | 08/10/09 14:12 | 30,2540G | KB |

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

**SAMPLE RESULTS**

Lab ID: L0910702-06
Client ID: S-09G-G002-0-0REP AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 12:05
Date Received: 08/05/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.14 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 5.12 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Grain Size (Wentworth Method) - Mansfield Lab | | | | | | | | | |
| Gravel (>2.00mm) | 0.100 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 2.30 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 2.30 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 3.30 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 3.40 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 88.6 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 77.6 | | % | 0.100 | 1 | - | 08/10/09 14:12 | 30,2540G | KB |

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

**SAMPLE RESULTS**

Lab ID: L0910702-07
Client ID: S-09G-G002-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 11:45
Date Received: 08/05/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.33 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 5.36 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Grain Size (Wentworth Method) - Mansfield Lab | | | | | | | | | |
| Gravel (>2.00mm) | 0.400 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 9.00 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 9.00 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 6.20 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 5.30 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 69.7 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 78.3 | | % | 0.100 | 1 | - | 08/10/09 14:12 | 30,2540G | KB |

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910702
**Report Date:** 02/11/10

**SAMPLE RESULTS**

Lab ID: L0910702-08
Client ID: S-09G-G003-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 13:15
Date Received: 08/05/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.89 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 3.00 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Grain Size (Wentworth Method) - Mansfield Lab | | | | | | | | | |
| Gravel (>2.00mm) | 0.200 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 4.00 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.90 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 8.40 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 9.60 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 73.8 | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/12/09 00:00 | 12,D422(M) | SE |
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 90.2 | | % | 0.100 | 1 | - | 08/10/09 14:12 | 30,2540G | KB |

**Project Name:** NBH WATER QUALITY MONITORING **Lab Number:** L0910702

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

## Method Blank Analysis
### Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 05-08 Batch: WG374439-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | ND | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |

# Lab Duplicate Analysis
**Batch Quality Control**

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0910702
**Report Date:** 02/11/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG374111-2 QC Sample: L0910702-01 Client ID: S-09G-G001-0-0 | | | | | | |
| Solids, Total | 23.5 | 23.6 | % | 0 | | 20 |
| General Chemistry - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG374661-1 QC Sample: L0910702-07 Client ID: S-09G-G002-0-0 AIR DRIED | | | | | | |
| Solids, Total | 78.3 | 78.7 | % | 1 | | 20 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG374439-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 109 | | 75-125 |
| Total Organic Carbon (Rep2) | 110 | | 75-125 |

**Project Name:** NBH WATER QUALITY MONITORING **Lab Number:** L0910702
**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0910702-01A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-01B | Glass 100ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-02A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-02B | Glass 100ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-03A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-03B | Glass 100ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-04A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-04B | Glass 100ml unpreserved | A | N/A | 5 | Y | Absent | A2-TS(7) |
| L0910702-05A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0910702-05B | 6x8 Ziploc Bag | A | N/A | 5 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0910702-06A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0910702-06B | 6x8 Ziploc Bag | A | N/A | 5 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0910702-07A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0910702-07B | 6x8 Ziploc Bag | A | N/A | 5 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0910702-07C | Glass 100ml unpreserved | A | N/A | 5 | Y | Absent | - |
| L0910702-08A | Glass 250ml unpreserved | A | N/A | 5 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0910702-08B | 6x8 Ziploc Bag | A | N/A | 5 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |

*Hold days indicated by values in parentheses

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0910702
**Report Date:** 02/11/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|

**Container Comments**

| | |
|---|---|
| L0910702-01B | EMPTY |
| L0910702-02B | EMPTY |
| L0910702-04B | EMPTY |
| L0910702-05B | USED ENTIRE BAG |
| L0910702-06B | USED ENTIRE BAG |
| L0910702-07B | USED ENTIRE BAG |
| L0910702-08B | USED ENTIRE BAG |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910702 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**REFERENCES**


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

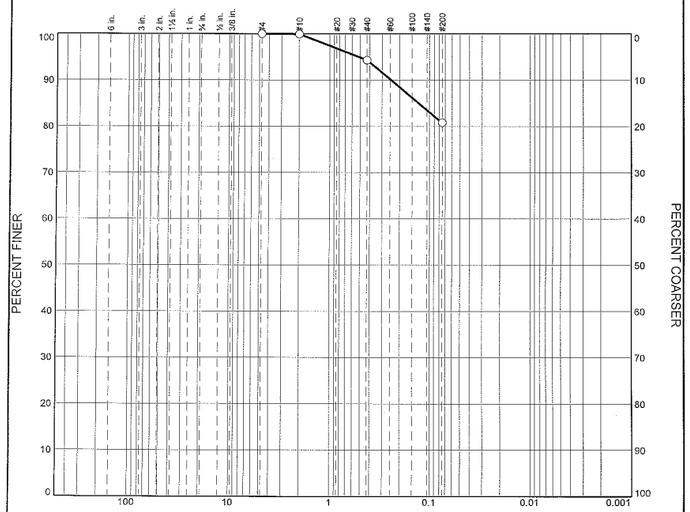

**LIMITATION OF LIABILITIES**

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# ASTM 422D Bulk Sediment

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 2.5 | 4.7 | 5.4 | | | | | 84.8 | |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.1286 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910702 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
○ **Source of Sample:** S-09G-G001-0-0 **Sample Number:** L0910702-05

Date: ○

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Project**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0910702
**Location:** S-09G-G001-0-0
**Sample Number:** L0910702-05
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =** 17.41
**Tare Wt. =** 4.04
**Minus #200 from wash =** 71.9%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 51.66 | 4.14 | #4 | 522.38 | 522.38 | 100.0 | 0.0 |
| | | #10 | 485.19 | 485.17 | 100.0 | 0.0 |
| | | #40 | 362.35 | 359.68 | 94.3 | 5.7 |
| | | #200 | 352.09 | 345.65 | 80.8 | 19.2 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 2.5 | 4.7 | 5.4 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.1286 | 0.2439 | 0.5099 |

| Fineness Modulus |
|---|
| 0.29 |

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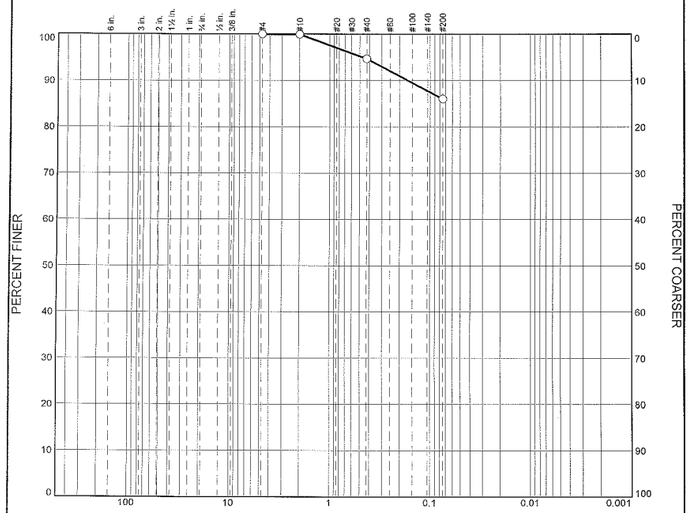
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.0 | 0.1 | 2.3 | 2.3 | 3.3 | 3.4 | | | | | 88.6 | |

| X | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910702 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
○ **Source of Sample:** S-09G-G002-0-0REP **Sample Number:** L0910702-06

**Date:** ○

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Project**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0910702
**Location:** S-09G-G002-0-0REP
**Sample Number:** L0910702-06
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =** 15.36
**Tare Wt. =** 4.14
**Minus #200 from wash =** 77.2%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 53.26 | 4.15 | #4 | 521.51 | 521.51 | 100.0 | 0.0 |
| | | #10 | 482.49 | 482.46 | 99.9 | 0.1 |
| | | #40 | 380.86 | 378.29 | 94.7 | 5.3 |
| | | #200 | 351.97 | 347.70 | 86.0 | 14.0 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.1 | 2.3 | 2.3 | 3.3 | 3.4 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 0.1662 | 0.4637 |

| Fineness Modulus |
|---|
| 0.24 |

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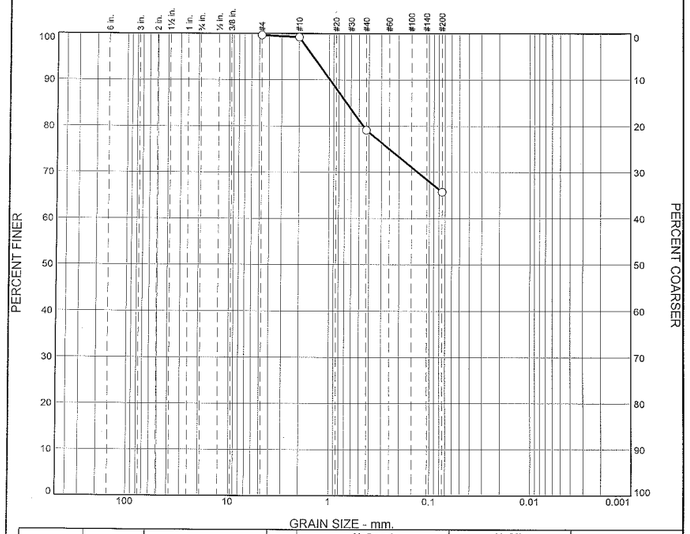
# Particle Size Distribution Report




| % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.4 | 9.0 | 9.0 | 6.2 | 5.3 | | | | | 69.7 | |

| Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.6682 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| | | |

**Project No.** L0910702 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Source of Sample:** S-09G-G002-0-0 **Sample Number:** L0910702-07

**Date:**

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Project**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0910702
**Location:** S-09G-G002-0-0
**Sample Number:** L0910702-07
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =** 32.72
**Tare Wt. =** 4.32
**Minus #200 from wash =** 54.4%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.35 | 4.02 | #4 | 522.58 | 522.38 | 99.7 | 0.3 |
| | | #10 | 485.45 | 485.17 | 99.2 | 0.8 |
| | | #40 | 372.21 | 359.68 | 79.1 | 20.9 |
| | | #200 | 354.00 | 345.65 | 65.7 | 34.3 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.4 | 9.0 | 9.0 | 6.2 | 5.3 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.4546 | 0.6682 | 0.9822 | 1.4438 |

| Fineness Modulus |
|---|
| 0.77 |

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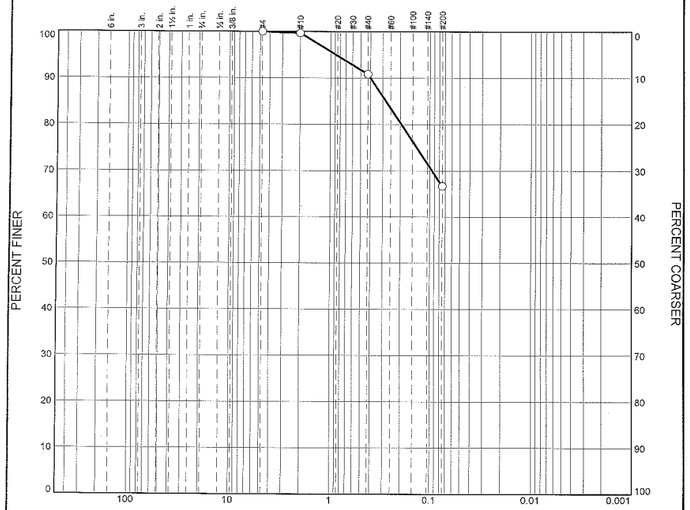
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.1 | 0.2 | 4.0 | 3.9 | 8.4 | 9.6 | | | | 73.8 | | |

| Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.2796 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910702 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
○ **Source of Sample:** S-09G-G003-0-0 **Sample Number:** L0910702-08

**Date:** ○

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Project**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0910702
**Location:** S-09G-G003-0-0
**Sample Number:** L0910702-08
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare** =26.13
**Tare Wt.** = 4.11
**Minus #200 from wash** =63.9%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 64.98 | 4.05 | #4 | 521.51 | 521.51 | 100.0 | 0.0 |
| | | #10 | 482.65 | 482.46 | 99.7 | 0.3 |
| | | #40 | 383.69 | 378.29 | 90.8 | 9.2 |
| | | #200 | 362.40 | 347.70 | 66.7 | 33.3 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.1 | 0.2 | 4.0 | 3.9 | 8.4 | 9.6 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.1951 | 0.2796 | 0.4005 | 0.8815 |

| Fineness Modulus |
|---|
| 0.48 |

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## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

02111018:11

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
☐ These samples have been Previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TO-0010 NBH Task 4.0 Sed Traps
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Date Rec'd in Lab:

ALPHA Job #: L0910702

**Report Information Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State/Fed Program: fed
Criteria:

Other Project Specific Requirements/Comments/Detection Limits:
Level III data report & Project-specific EDD

**ANALYSIS**

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 PCB congeners NOAA 18 | TOC | grainsize | | | | | | | | | | field identifier (~~Sample-Specific Comments~~) | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1 | S-09G-G001-0-0 | 08/05/09 | 10:00 | SED | KGM | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-001 | 1 |
| | S-09G-G001-0-0 | 08/05/09 | 10:00 | SED | KGM | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-001 | 1 |
| | S-09G-G001-0-0 | 08/05/09 | 10:00 | SED | KGM | ☐ | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-001 | 1 |
| -2 | S-09G-G002-0-0REP | 08/05/09 | 12:05 | SED | KGM | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002REP | 1 |
| | S-09G-G002-0-0REP | 08/05/09 | 12:05 | SED | KGM | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002REP | 1 |
| | S-09G-G002-0-0REP | 08/05/09 | 12:05 | SED | KGM | ☐ | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002REP | 1 |
| | S-09G-G002-0-0MSMSD | 08/05/09 | 12:05 | SED | KGM | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002 MS/MSD | 1 |
| -3 | S-09G-G002-0-0 | 08/05/09 | 11:45 | SED | KGM | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002 | 1 |
| | S-09G-G002-0-0 | 08/05/09 | 11:45 | SED | KGM | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002 | 1 |
| | S-09G-G002-0-0 | 08/05/09 | 11:45 | SED | KGM | ☐ | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-002 | 1 |
| | | | | | Container Type | G | G | O | - | - | - | - | - | - | - | - | - | | |
| | | | | | Preservative | A | A | A | - | - | - | - | - | - | - | - | - | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Kaleen McCann | 8/5 14:10 | Jonathan Tucker | 8/5/09 2:40p |
| Jonathan Tucker | 8/5 15:26 | [illegible] | 8/5/09 1526 |

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.

FORM NO: 01-01(I-NJ) (rev. 29-APR-09)

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

02111018:11

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0910702

**Project Information**

Project Name: NBH Water Quality Monitoring

Project Location: New Bedford Harbor

Project #: TO-0010 NBH Task 4.0 Sed Traps

Project Manager: Dave Walsh

ALPHA Quote #:

**Report Information Data Deliverables**

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Client Information**

Client: Woods Hole Group

Address: 81 Technology Park Drive

E. Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: dwalsh@whgrp.com

☐ These samples have been Previously analyzed by Alpha

**Regulatory Requirements/Report Limits**

| State/Fed Program | Criteria |
|---|---|
| fed | |

**Turn-Around Time**

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Level III data report & Project-specific EDD

**ANALYSIS**

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 PCB congeners NOAA 18 | TOC | grainsize | | | | | | | | | | Sample Specific Comments (field identifier) | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4 | S-09G-G003-0-0 | 08/05/09 | 13:15 | SED | KGM | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-003 | 1 |
| | S-09G-G003-0-0 | 08/05/09 | 13:15 | SED | KGM | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-003 | 1 |
| | S-09G-G003-0-0 | 08/05/09 | 13:15 | SED | KGM | ☐ | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ST-003 | 1 |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | Container Type | G | G | O | - | - | - | - | - | - | - | - | - | | |
| | | | | | Preservative | A | A | A | - | - | - | - | - | - | - | - | - | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Faith McCann | 8/5 14:10 | Jennifer Fuller | 8/5 14:10 |
| Jennifer Fuller | 8/5 15:26 | [illegible] | 8/5/09 1526 |

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.

FORM NO: 01-01(I-NJ)
(rev. 29-APR-09)

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0910950 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Lee Weishar |
| Project Name: | NBH WATER QUALITY MONITORING |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/11/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0910950-01 | S-09G-T001-0-0COMP | NEW BEDFORD, MA | 08/07/09 10:30 |
| L0910950-02 | S-09G-T002-0-0COMP | NEW BEDFORD, MA | 08/07/09 12:20 |
| L0910950-03 | S-09G-T003-0-0COMP | NEW BEDFORD, MA | 08/07/09 13:00 |
| L0910950-04 | S-09G-T001-0-0COMP AIR DRIED | NEW BEDFORD, MA | 08/07/09 10:30 |
| L0910950-05 | S-09G-T002-0-0COMP AIR DRIED | NEW BEDFORD, MA | 08/07/09 12:20 |
| L0910950-06 | S-09G-T003-0-0COMP AIR DRIED | NEW BEDFORD, MA | 08/07/09 13:00 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

Report Submission

This report replaces the original report issued on September 15, 2009. The report was ammended to include revised Grain Size data.

PCB CONGENERS

The WG376956-1 Method Blank associated with L0910950-04,L0910950-05,L0910950-06 has concentrations above the reporting limits for several congeners; however, the associated samples have high

**Case Narrative (continued)**

concentrations of the affected compounds. The associated samples are reported and no qualification of the results is required.

The WG376956-2/-3 LCS/LCSD recoveries associated with L0910950-04,L0910950-05,L0910950-06 were above the acceptance criteria for ,cl3-bz#28(194%)/(208%). The results of the original analyses are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The WG376956-2/-3 LCS/LCSD recoveries associated with L0910950-04,L0910950-05,L0910950-06 were outside the acceptance criteria for several compounds. The results of the original analyses are reported; however, all results are considered to have a potentially high bias for cl2-bz#8(157%)/(170%),cl3-bz#18(226%)/(257%),cl4-bz#49(162%)/(178%),cl4-bz#52(168%)/(187%).

L0910950-04 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The surrogate recoveries for L0910950-04 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

The surrogate recoveries for L0910950-05 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.
L0910950-05 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L0910950-06 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The surrogate recoveries for L0910950-06 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.'

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative (continued)**

Grain Size

The WG376563-1 Laboratory Duplicate RPD associated with L0910950-04,L0910950-05,L0910950-06 is outside the acceptance criteria for Gravel (67%), % Very Coarse Sand (41%), % Coarse Sand (40%), % Medium Sand (38%), % Fine Sand (39%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henik

Title: Technical Director/Representative Date: 02/11/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-04 | Date Collected: | 08/07/09 10:30 |
| Client ID: | S-09G-T001-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 18:37 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 71% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 1600 | | ug/kg | 116 | 50 |
| Cl3-BZ#18 | ND | | ug/kg | 116 | 50 |
| Cl3-BZ#28 | ND | | ug/kg | 116 | 50 |
| Cl4-BZ#52 | ND | | ug/kg | 116 | 50 |
| Cl4-BZ#66 | 2070 | | ug/kg | 116 | 50 |
| Cl5-BZ#101 | 1680 | | ug/kg | 116 | 50 |
| Cl5-BZ#118 | 940 | | ug/kg | 116 | 50 |
| Cl6-BZ#128 | ND | | ug/kg | 116 | 50 |
| Cl6-BZ#138 | 930 | | ug/kg | 116 | 50 |
| Cl7-BZ#180 | 205 | | ug/kg | 116 | 50 |
| Cl7-BZ#187 | 271 | | ug/kg | 116 | 50 |
| Cl8-BZ#195 | ND | | ug/kg | 116 | 50 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 116 | 50 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 116 | 50 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-04 | Date Collected: | 08/07/09 10:30 |
| Client ID: | S-09G-T001-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 18:37 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 71% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 2160 | | ug/kg | 116 | 50 |
| Cl5-BZ#105 | 199 | | ug/kg | 116 | 50 |
| Cl6-BZ#153 | 1250 | | ug/kg | 116 | 50 |
| Cl7-BZ#170 | 199 | | ug/kg | 116 | 50 |

| | | |
|---|---|---|
| DBOB | **0** | 50-125 |
| BZ 198 | **0** | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-05 | Date Collected: | 08/07/09 12:20 |
| Client ID: | S-09G-T002-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 09:08 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 6340 | | ug/kg | 1930 | 1000 |
| Cl3-BZ#28 | 29200 | | ug/kg | 1930 | 1000 |
| Cl4-BZ#52 | 36100 | | ug/kg | 1930 | 1000 |
| Cl4-BZ#66 | 11400 | | ug/kg | 1930 | 1000 |
| Cl5-BZ#101 | 9600 | | ug/kg | 1930 | 1000 |
| Cl5-BZ#118 | 5440 | | ug/kg | 1930 | 1000 |
| Cl6-BZ#138 | 5350 | | ug/kg | 1930 | 1000 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-05 | Date Collected: | 08/07/09 12:20 |
| Client ID: | S-09G-T002-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 09:08 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 19800 | | ug/kg | 1930 | 1000 |
| Cl4-BZ#44 | 11300 | | ug/kg | 1930 | 1000 |
| Cl6-BZ#153 | 7340 | | ug/kg | 1930 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-05 | Date Collected: | 08/07/09 12:20 |
| Client ID: | S-09G-T002-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 19:17 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#128 | 700 | | ug/kg | 193 | 100 |
| Cl7-BZ#170 | 616 | | ug/kg | 193 | 100 |
| Cl7-BZ#180 | 828 | | ug/kg | 193 | 100 |
| Cl7-BZ#187 | 1020 | | ug/kg | 193 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 193 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 193 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 193 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-05 | Date Collected: | 08/07/09 12:20 |
| Client ID: | S-09G-T002-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 19:17 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 85% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 619 | | ug/kg | 193 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-06 | Date Collected: | 08/07/09 13:00 |
| Client ID: | S-09G-T003-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 11:10 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 297 | | ug/kg | 210 | 100 |
| Cl3-BZ#28 | 2140 | | ug/kg | 210 | 100 |
| Cl4-BZ#52 | 2300 | | ug/kg | 210 | 100 |
| Cl4-BZ#66 | 1840 | | ug/kg | 210 | 100 |
| Cl5-BZ#101 | 1760 | | ug/kg | 210 | 100 |
| Cl5-BZ#118 | 1650 | | ug/kg | 210 | 100 |
| Cl6-BZ#128 | 336 | | ug/kg | 210 | 100 |
| Cl6-BZ#138 | 1300 | | ug/kg | 210 | 100 |
| Cl7-BZ#180 | 275 | | ug/kg | 210 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 210 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 210 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 210 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | | 50-125 |
| BZ 198 | **0** | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-06 | Date Collected: | 08/07/09 13:00 |
| Client ID: | S-09G-T003-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 08/25/09 13:37 |
| Analytical Date: | 09/05/09 11:10 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 08/25/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 1050 | | ug/kg | 210 | 100 |
| Cl4-BZ#44 | 901 | | ug/kg | 210 | 100 |
| Cl5-BZ#105 | 431 | | ug/kg | 210 | 100 |
| Cl6-BZ#153 | 1280 | | ug/kg | 210 | 100 |
| Cl7-BZ#170 | 233 | | ug/kg | 210 | 100 |
| Cl7-BZ#187 | 251 | | ug/kg | 210 | 100 |

| | | |
|---|---|---|
| DBOB | **0** | 50-125 |
| BZ 198 | **0** | 50-125 |

**Project Name:** NBH WATER QUALITY MONITORING **Lab Number:** L0910950
**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

## Method Blank Analysis
**Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 09/04/09 19:37
Analyst: JS

Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG376956-1 | | | | |
| Cl3-BZ#28 | 2.01 | | ug/kg | 1.67 |
| Cl4-BZ#44 | ND | | ug/kg | 1.67 |
| Cl4-BZ#66 | ND | | ug/kg | 1.67 |
| Cl5-BZ#101 | ND | | ug/kg | 1.67 |
| Cl5-BZ#105 | ND | | ug/kg | 1.67 |
| Cl5-BZ#118 | ND | | ug/kg | 1.67 |
| Cl6-BZ#128 | ND | | ug/kg | 1.67 |
| Cl6-BZ#138 | ND | | ug/kg | 1.67 |
| Cl7-BZ#170 | ND | | ug/kg | 1.67 |
| Cl7-BZ#180 | ND | | ug/kg | 1.67 |
| Cl7-BZ#187 | ND | | ug/kg | 1.67 |
| Cl8-BZ#195 | ND | | ug/kg | 1.67 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.67 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.67 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 81 | | 50-125 |
| BZ 198 | 96 | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3570 |
| Analytical Date: | 09/04/09 19:37 | Extraction Date: | 08/25/09 13:37 |
| Analyst: | JS | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 08/25/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG376956-1 | | | | |
| Cl2-BZ#8 | 2.03 | | ug/kg | 1.67 |
| Cl3-BZ#18 | 3.95 | | ug/kg | 1.67 |
| Cl4-BZ#52 | 2.10 | | ug/kg | 1.67 |
| Cl6-BZ#153 | ND | | ug/kg | 1.67 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 81 | | 50-125 |
| BZ 198 | 96 | | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910950
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG376956-2 WG376956-3 | | | | | | | | |
| Cl3-BZ#28 | **194** | | **208** | | 40-120 | 7 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 91 | | 76 | | 50-125 |
| BZ 198 | 109 | | 101 | | 50-125 |

| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG376956-2 WG376956-3 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cl2-BZ#8 | **157** | | **170** | | 40-120 | 8 | | 30 |
| Cl3-BZ#18 | **226** | | **257** | | 40-120 | 13 | | 30 |
| Cl4-BZ#44 | 115 | | 117 | | 40-120 | 2 | | 30 |
| Cl4-BZ#52 | **168** | | **187** | | 40-120 | 11 | | 30 |
| Cl4-BZ#66 | 108 | | 104 | | 40-120 | 4 | | 30 |
| Cl5-BZ#101 | 106 | | 98 | | 40-120 | 8 | | 30 |
| Cl5-BZ#105 | 98 | | 90 | | 40-120 | 9 | | 30 |
| Cl5-BZ#118 | 101 | | 93 | | 40-120 | 8 | | 30 |
| Cl6-BZ#128 | 107 | | 94 | | 40-120 | 13 | | 30 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0910950
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG376956-2 WG376956-3 | | | | | | | | |
| Cl6-BZ#138 | 105 | | 96 | | 40-120 | 9 | | 30 |
| Cl6-BZ#153 | 100 | | 93 | | 40-120 | 7 | | 30 |
| Cl7-BZ#170 | 103 | | 96 | | 40-120 | 7 | | 30 |
| Cl7-BZ#180 | 109 | | 96 | | 40-120 | 13 | | 30 |
| Cl8-BZ#195 | 103 | | 95 | | 40-120 | 8 | | 30 |
| Cl9-BZ#206 | 117 | | 109 | | 40-120 | 7 | | 30 |
| Cl10-BZ#209 | 109 | | 101 | | 40-120 | 8 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 91 | | 76 | | 50-125 |
| BZ 198 | 109 | | 101 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-01 | Date Collected: | 08/07/09 10:30 |
| Client ID: | S-09G-T001-0-0COMP | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 32.1 | | % | 0.100 | 1 | - | 08/10/09 12:41 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-02 | Date Collected: | 08/07/09 12:20 |
| Client ID: | S-09G-T002-0-0COMP | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 38.2 | | % | 0.100 | 1 | - | 08/10/09 12:41 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-03 | Date Collected: | 08/07/09 13:00 |
| Client ID: | S-09G-T003-0-0COMP | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 45.1 | | % | 0.100 | 1 | - | 08/10/09 12:41 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-04 | Date Collected: | 08/07/09 10:30 |
| Client ID: | S-09G-T001-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 6.98 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 6.76 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.100 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.00 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.00 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 2.70 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 2.40 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 88.8 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 70.8 | | % | 0.100 | 1 | - | 08/14/09 09:35 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-05 | Date Collected: | 08/07/09 12:20 |
| Client ID: | S-09G-T002-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.02 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.99 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.100 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.50 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.60 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 4.80 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 5.20 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 82.8 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 85.3 | | % | 0.100 | 1 | - | 08/14/09 09:35 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0910950-06 | Date Collected: | 08/07/09 13:00 |
| Client ID: | S-09G-T003-0-0COMP AIR DRIED | Date Received: | 08/07/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.72 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.17 | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.200 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 6.80 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 6.90 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 6.20 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 6.10 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 73.7 | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 08/21/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 77.8 | | % | 0.100 | 1 | - | 08/14/09 09:35 | 30,2540G | KB |

**Project Name:** NBH WATER QUALITY MONITORING **Lab Number:** L0910950

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

## Method Blank Analysis
**Batch Quality Control**

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 04-06 Batch: WG376251-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | ND | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 08/20/09 09:00 | 1,9060 | NR |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** NBH WATER QUALITY MONITORING
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0910950
**Report Date:** 02/11/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG374619-1 QC Sample: L0910950-01 Client ID: S-09G-T001-0-0COMP | | | | | | |
| Solids, Total | 32.1 | 32.5 | % | 1 | | 20 |
| General Chemistry - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG375456-1 QC Sample: L0910950-04 Client ID: S-09G-T001-0-0COMP AIR DRIED | | | | | | |
| Solids, Total | 70.8 | 70.6 | % | 0 | | 20 |
| Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG376563-1 QC Sample: L0910950-06 Client ID: S-09G-T003-0-0COMP AIR DRIED | | | | | | |
| Gravel (>2.00mm) | 0.2 | 0.100 | % | **67** | Q | 20 |
| Very Coarse Sand (1.00-2.00 mm) | 6.8 | 4.50 | % | **41** | Q | 20 |
| Coarse Sand (0.50-1.00 mm) | 6.9 | 4.60 | % | **40** | Q | 20 |
| Medium Sand (0.25-0.50 mm) | 6.2 | 4.20 | % | **38** | Q | 20 |
| Fine Sand (0.125-0.25 mm) | 6.1 | 4.10 | % | **39** | Q | 20 |
| Very Fine Sand (0.063-0.125 mm) | ND | ND | % | NC | | 20 |
| Silt - (1.95-62.5 um) | 73.7 | 82.5 | % | 11 | | 20 |
| Clay - (<1.95 um) | ND | ND | % | NC | | 20 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG376251-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 109 | | 75-125 |
| Total Organic Carbon (Rep2) | 110 | | 75-125 |

**Project Name:** NBH WATER QUALITY MONITORING **Lab Number:** L0910950
**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0910950-01A | Glass 500ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0910950-02A | Glass 1000ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0910950-03A | Glass 1000ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0910950-04A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |
| L0910950-05A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |
| L0910950-05B | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |
| L0910950-06A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |
| L0910950-06B | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |

**Container Comments**

| | |
|---|---|
| L0910950-01A | EMPTY |
| L0910950-02A | EMPTY |
| L0910950-03A | EMPTY |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | · Not detected at the reported detection limit for the sample. |
| NI | · Not Ignitable. |
| RDL | · Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | · Spectra identified as "Aldol Condensation Product". |
| **B** | · The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | · Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | · Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | · The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | · The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | · The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | · Analytical results are from sample re-analysis. |
| **RE** | · Analytical results are from sample re-extraction. |
| **J** | · Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NBH WATER QUALITY MONITORING | **Lab Number:** | L0910950 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**REFERENCES**


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

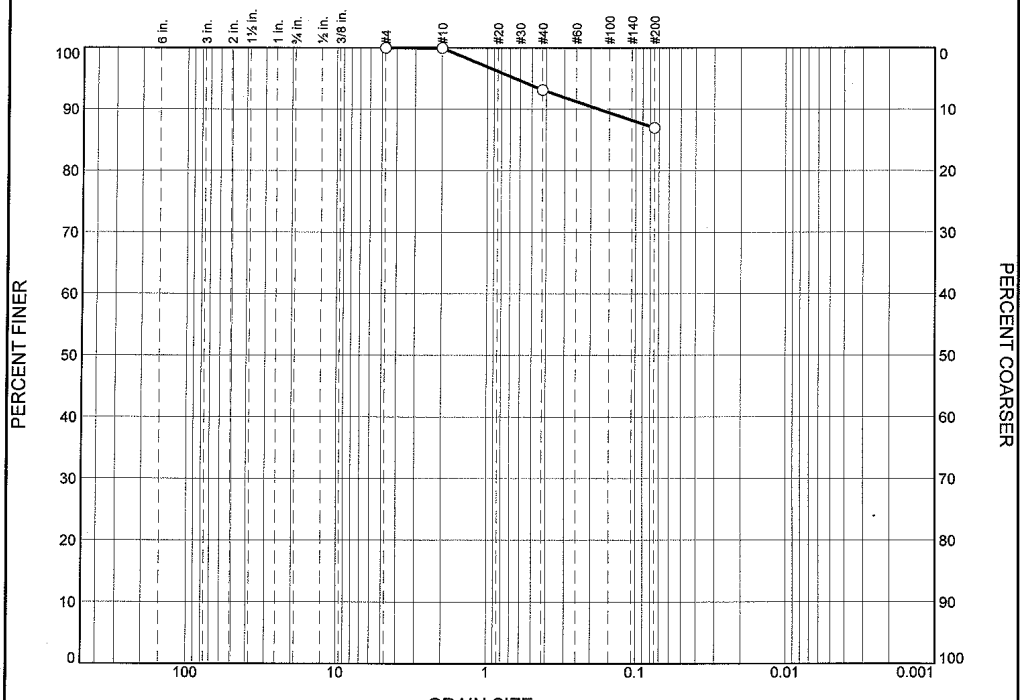

**LIMITATION OF LIABILITIES**

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# ASTM 422D Bulk Sediment

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.1 | 3.0 | 3.0 | 2.7 | 2.4 | | | | 88.8 | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910950 **Client:** Woods Hole Group
**Project:** NBH Task 4.0

○ **Source of Sample:** S-09G-T001-0-0COMP **Sample Number:** L0910950-04

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

Page 34 of 44

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH Task 4.0
**Project Number:** L0910950
**Location:** S-09G-T001-0-0COMP
**Sample Number:** L0910950-04
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** **Dry Sample and Tare =** 18.42
**Tare Wt. =** 3.95
**Minus #200 from wash =** 82.0%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 84.22 | 3.92 | #4 | 521.49 | 521.49 | 100.0 | 0.0 |
| | | #10 | 482.50 | 482.45 | 99.9 | 0.1 |
| | | #40 | 383.85 | 378.39 | 93.1 | 6.9 |
| | | #200 | 352.68 | 347.72 | 87.0 | 13.0 |

### Fractional Components

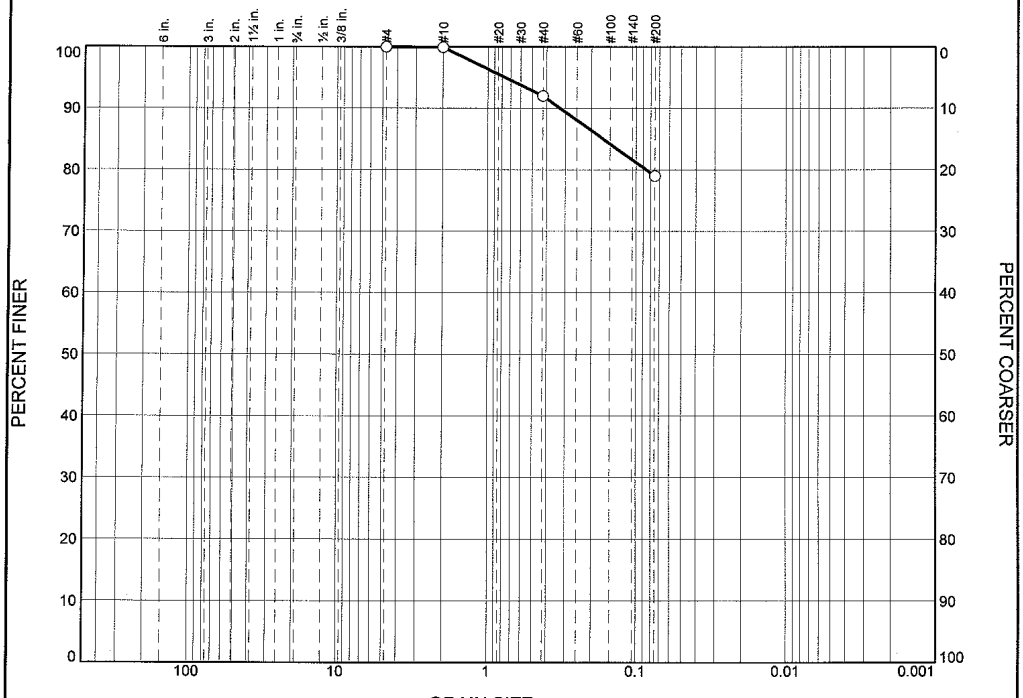
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.1 | 3.0 | 3.0 | 2.7 | 2.4 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 0.1761 | 0.6495 |

| Fineness Modulus |
|---|
| 0.26 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.1 | 3.5 | 3.6 | 4.8 | 5.2 | | | | | 82.8 | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1669 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910950 **Client:** Woods Hole Group
**Project:** NBH Task 4.0

○ **Source of Sample:** S-09G-T002-0-0COMP **Sample Number:** L0910950-05

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH Task 4.0
**Project Number:** L0910950
**Location:** S-09G-T002-0-0COMP
**Sample Number:** L0910950-05
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** **Dry Sample and Tare =** 22.20
**Tare Wt. =** 3.94
**Minus #200 from wash =** 65.2%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 56.43 | 3.92 | #4 | 522.32 | 522.32 | 100.0 | 0.0 |
| | | #10 | 485.19 | 485.15 | 99.9 | 0.1 |
| | | #40 | 363.71 | 359.56 | 92.0 | 8.0 |
| | | #200 | 352.47 | 345.63 | 79.0 | 21.0 |

### Fractional Components

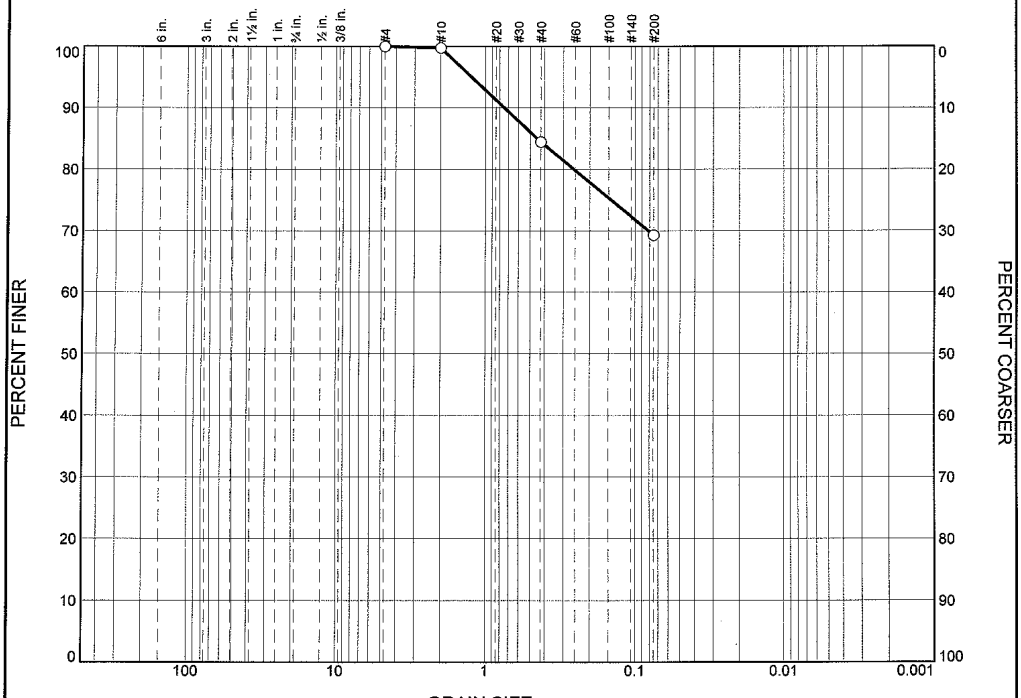
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.1 | 3.5 | 3.6 | 4.8 | 5.2 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0857 | 0.1669 | 0.3247 | 0.7620 |

| Fineness Modulus |
|---|
| 0.35 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.1 | 0.2 | 6.8 | 6.9 | 6.2 | 6.1 | | | | | 73.7 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.4501 | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910950 **Client:** Woods Hole Group
**Project:** NBH Task 4.0

○ **Source of Sample:** S-09G-T003-0-0COMP **Sample Number:** L0910950-06

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH Task 4.0
**Project Number:** L0910950
**Location:** S-09G-T003-0-0COMP
**Sample Number:** L0910950-06
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** Dry Sample and Tare = 24.01
Tare Wt. = 4.07
Minus #200 from wash = 55.8%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 49.01 | 3.85 | #4 | 521.49 | 521.49 | 100.0 | 0.0 |
| | | #10 | 482.57 | 482.45 | 99.7 | 0.3 |
| | | #40 | 385.30 | 378.39 | 84.4 | 15.6 |
| | | #200 | 354.57 | 347.72 | 69.3 | 30.7 |

### Fractional Components

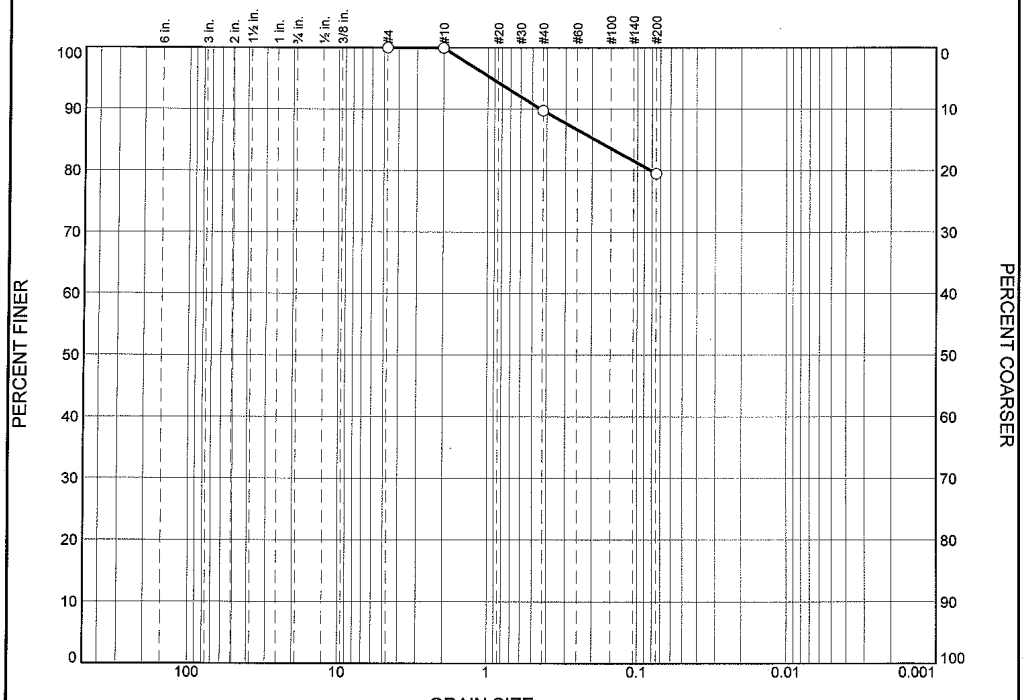
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.1 | 0.2 | 6.8 | 6.9 | 6.2 | 6.1 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.2560 | 0.4501 | 0.7466 | 1.2385 |

| Fineness Modulus |
|---|
| 0.61 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.0 | 0.1 | 4.5 | 4.6 | 4.2 | 4.1 | | | | 82.5 | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1899 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0910950 **Client:** Woods Hole Group
**Project:** NBH Task 4.0

○ **Source of Sample:** S-09G-T003-0-0COMP **Sample Number:** WG376563-1

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH Task 4.0
**Project Number:** L0910950
**Location:** S-09G-T003-0-0COMP
**Sample Number:** WG376563-1
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** **Dry Sample and Tare =** 20.75
**Tare Wt. =** 4.03
**Minus #200 from wash =** 69.6%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 58.97 | 3.88 | #4 | 522.32 | 522.32 | 100.0 | 0.0 |
| | | #10 | 485.18 | 485.15 | 99.9 | 0.1 |
| | | #40 | 365.17 | 359.56 | 89.8 | 10.2 |
| | | #200 | 351.28 | 345.63 | 79.5 | 20.5 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.1 | 4.5 | 4.6 | 4.2 | 4.1 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0815 | 0.1899 | 0.4407 | 0.9427 |

| Fineness Modulus |
|---|
| 0.40 |

Alpha Analytical

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02111018:31

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0910950

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TO-0010·NBH Task 4.0 Sed Traps
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
** ESI has process sed Trap samples to provide composite samples (comp) to Alpha
** Level III data report & Project-Specific EDD

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 | Grain Size | TOC | PCB congeners NOAA 18 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| L0910950 -1 | S-09G-T001-0-0COMP | 8/7/09 | 10:30 | SED | KAJ | ✓ | ✓ | ✓ | | 1 |
| -2 | S-09G-T002-0-0COMP | ↓ | 12:20 | SED | KAJ | ✓ | ✓ | ✓ | | 1 |
| -3 | S-09G-T003-0-0COMP | ↓ | 13:00 | SED | KAJ | ✓ | ✓ | ✓ | | 1 |

| Container Type | G | A | A |
|---|---|---|---|
| Preservative | A | A | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 8/7/09 1420 | [signature] | 8/7/09 1420 |
| [signature] | 8/7/09 1730 | [signature] | 8/7/09 1830 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0912660 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | NEW BEDFORD HARBOR |
| Project Number: | TO-0010 |
| Report Date: | 02/04/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010

**Lab Number:** L0912660
**Report Date:** 02/04/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0912660-01 | S-09S-G001-0-0 | NEW BEDFORD, MA | 09/09/09 10:58 |
| L0912660-02 | S-09S-G002-0-0 | NEW BEDFORD, MA | 09/09/09 12:08 |
| L0912660-03 | S-09S-G002-0-0 REP | NEW BEDFORD, MA | 09/09/09 12:08 |
| L0912660-04 | S-09S-G003-0-0 | NEW BEDFORD, MA | 09/09/09 13:37 |
| L0912660-05 | S-09S-G001-0-0 AD | NEW BEDFORD, MA | 09/09/09 13:37 |
| L0912660-06 | S-09S-G002-0-0 AD | NEW BEDFORD, MA | 09/09/09 13:37 |
| L0912660-07 | S-09S-G002-0-0 REP AD | NEW BEDFORD, MA | 09/09/09 13:37 |
| L0912660-08 | S-09S-G003-0-0 AD | NEW BEDFORD, MA | 09/09/09 13:37 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

Report Submission

This report replaces the original report issued on October 14, 2009. The report was ammended to include revised Grain Size data.

PCB Congeners

All samples required a dilution due to the high levels of target compounds. This resulted in the extraction surrogates being diluted from the sample. Results over calibration are denoted with an "E" qualifier.

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**Case Narrative (continued)**

The WG381060-3 LCS/LCSD RPD(s) associated with L0912660-05,L0912660-06,L0912660-07,L0912660-08 are above the acceptance criteria for cl3-bz#18(35%); however, the individual LCS/LCSD recoveries are within method limits. The results of the associated samples are reported.

The WG381060-4/-5 MS/MSD recoveries were outside the acceptance criteria for several compounds; however, the associated LCS/LCSD recoveries were within criteria.

Grain Size

The WG381842-1 Laboratory Duplicate RPD is outside the acceptance criteria for sieve,gravel(67%),% very coarse sand(133%),% coarse sand(86%),% medium sand(37%),% fine sand(48%),% very fine sand(52%),silt(22%),clay(56%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

TOC

The WG381843 MS#1 recovery is128% above the acceptance criteria. MS#2 is 121% recovery which is within acceptance limits. All remaining QC is within QC limits.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henil

Title: Technical Director/Representative Date: 02/04/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-05 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G001-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/02/09 22:58 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 77% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#52 | 13000 | | ug/kg | 4300 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-05 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G001-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 19:47 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 77% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2350 | E | ug/kg | 107 | 25 |
| Cl3-BZ#18 | 4300 | E | ug/kg | 107 | 25 |
| Cl3-BZ#28 | 8940 | E | ug/kg | 107 | 25 |
| Cl4-BZ#52 | 9350 | E | ug/kg | 107 | 25 |
| Cl4-BZ#66 | 2840 | E | ug/kg | 107 | 25 |
| Cl5-BZ#101 | 2040 | | ug/kg | 107 | 25 |
| Cl5-BZ#118 | 1380 | | ug/kg | 107 | 25 |
| Cl6-BZ#128 | 264 | | ug/kg | 107 | 25 |
| Cl6-BZ#138 | 1180 | | ug/kg | 107 | 25 |
| Cl7-BZ#170 | 185 | | ug/kg | 107 | 25 |
| Cl7-BZ#180 | 253 | | ug/kg | 107 | 25 |
| Cl7-BZ#187 | 327 | | ug/kg | 107 | 25 |
| Cl8-BZ#195 | ND | | ug/kg | 107 | 25 |
| Cl9-BZ#206 | ND | | ug/kg | 107 | 25 |
| Cl10-BZ#209 | ND | | ug/kg | 107 | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-05 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G001-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 19:47 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 77% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 2550 | E | ug/kg | 107 | 25 |
| Cl5-BZ#105 | 270 | | ug/kg | 107 | 25 |
| Cl6-BZ#153 | 1480 | | ug/kg | 107 | 25 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-05 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G001-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/09/09 22:05 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 77% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2180 | | ug/kg | 430 | 100 |
| Cl3-BZ#18 | 5650 | | ug/kg | 430 | 100 |
| Cl3-BZ#28 | 8170 | | ug/kg | 430 | 100 |
| Cl4-BZ#52 | 9680 | E | ug/kg | 430 | 100 |
| Cl4-BZ#66 | 2910 | | ug/kg | 430 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-05 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G001-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/09/09 22:05 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 77% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 3060 | | ug/kg | 430 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-06 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 20:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 89% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 4400 | E | ug/kg | 37.0 | 25 |
| Cl3-BZ#18 | 9660 | E | ug/kg | 37.0 | 25 |
| Cl3-BZ#28 | 22000 | E | ug/kg | 37.0 | 25 |
| Cl4-BZ#44 | 5220 | E | ug/kg | 37.0 | 25 |
| Cl4-BZ#52 | 20800 | E | ug/kg | 37.0 | 25 |
| Cl4-BZ#66 | 6420 | E | ug/kg | 37.0 | 25 |
| Cl5-BZ#101 | 5950 | E | ug/kg | 37.0 | 25 |
| Cl5-BZ#105 | 346 | | ug/kg | 37.0 | 25 |
| Cl5-BZ#118 | 2810 | E | ug/kg | 37.0 | 25 |
| Cl6-BZ#128 | 502 | | ug/kg | 37.0 | 25 |
| Cl6-BZ#138 | 2590 | E | ug/kg | 37.0 | 25 |
| Cl7-BZ#170 | 438 | | ug/kg | 37.0 | 25 |
| Cl7-BZ#180 | 609 | | ug/kg | 37.0 | 25 |
| Cl7-BZ#187 | 765 | E | ug/kg | 37.0 | 25 |
| Cl8-BZ#195 | ND | | ug/kg | 37.0 | 25 |
| Cl9-BZ#206 | 107 | | ug/kg | 37.0 | 25 |
| Cl10-BZ#209 | ND | | ug/kg | 37.0 | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-06 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 20:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 89% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#153 | 2060 | E | ug/kg | 37.0 | 25 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-06 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/09/09 02:07 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 89% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 8990 | | ug/kg | 2960 | 2000 |
| Cl3-BZ#18 | 18200 | | ug/kg | 2960 | 2000 |
| Cl3-BZ#28 | 38000 | | ug/kg | 2960 | 2000 |
| Cl4-BZ#52 | 44400 | | ug/kg | 2960 | 2000 |
| Cl5-BZ#118 | 5860 | | ug/kg | 2960 | 2000 |
| Cl6-BZ#138 | 5440 | | ug/kg | 2960 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-06 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/09/09 02:07 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 89% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 14100 | | ug/kg | 2960 | 2000 |
| Cl4-BZ#66 | 12700 | | ug/kg | 2960 | 2000 |
| Cl5-BZ#101 | 9930 | | ug/kg | 2960 | 2000 |
| Cl6-BZ#153 | 8460 | | ug/kg | 2960 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-06 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/09/09 22:45 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 89% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl7-BZ#187 | 1020 | | ug/kg | 148 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-07 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 REP AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/03/09 00:19 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 6820 | | ug/kg | 1690 | 1000 |
| Cl3-BZ#28 | 25400 | | ug/kg | 1690 | 1000 |
| Cl4-BZ#52 | 30400 | | ug/kg | 1690 | 1000 |
| Cl4-BZ#66 | 8600 | | ug/kg | 1690 | 1000 |
| Cl5-BZ#101 | 7580 | | ug/kg | 1690 | 1000 |
| Cl5-BZ#118 | 3930 | | ug/kg | 1690 | 1000 |
| Cl6-BZ#138 | 3600 | | ug/kg | 1690 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-07 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 REP AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/03/09 00:19 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 16400 | | ug/kg | 1690 | 1000 |
| Cl4-BZ#44 | 9350 | | ug/kg | 1690 | 1000 |
| Cl6-BZ#153 | 5460 | | ug/kg | 1690 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-07 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 REP AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 21:08 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 4140 | E | ug/kg | 42.2 | 25 |
| Cl3-BZ#18 | 10200 | E | ug/kg | 42.2 | 25 |
| Cl3-BZ#28 | 18300 | E | ug/kg | 42.2 | 25 |
| Cl4-BZ#44 | 5140 | E | ug/kg | 42.2 | 25 |
| Cl4-BZ#52 | 21100 | E | ug/kg | 42.2 | 25 |
| Cl4-BZ#66 | 6090 | E | ug/kg | 42.2 | 25 |
| Cl5-BZ#101 | 5010 | E | ug/kg | 42.2 | 25 |
| Cl5-BZ#105 | 332 | | ug/kg | 42.2 | 25 |
| Cl5-BZ#118 | 2700 | E | ug/kg | 42.2 | 25 |
| Cl6-BZ#128 | 497 | | ug/kg | 42.2 | 25 |
| Cl6-BZ#138 | 2550 | E | ug/kg | 42.2 | 25 |
| Cl7-BZ#170 | 434 | | ug/kg | 42.2 | 25 |
| Cl7-BZ#180 | 599 | E | ug/kg | 42.2 | 25 |
| Cl7-BZ#187 | 721 | | ug/kg | 42.2 | 25 |
| Cl8-BZ#195 | ND | | ug/kg | 42.2 | 25 |
| Cl9-BZ#206 | 110 | | ug/kg | 42.2 | 25 |
| Cl10-BZ#209 | ND | | ug/kg | 42.2 | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-07 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G002-0-0 REP AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 21:08 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 78% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#153 | 2060 | E | ug/kg | 42.2 | 25 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-08 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G003-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 21:48 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 259 | | ug/kg | 39.9 | 25 |
| Cl3-BZ#28 | 1830 | E | ug/kg | 39.9 | 25 |
| Cl4-BZ#52 | 1860 | E | ug/kg | 39.9 | 25 |
| Cl4-BZ#66 | 1400 | E | ug/kg | 39.9 | 25 |
| Cl5-BZ#101 | 1430 | E | ug/kg | 39.9 | 25 |
| Cl5-BZ#105 | 252 | | ug/kg | 39.9 | 25 |
| Cl5-BZ#118 | 1100 | E | ug/kg | 39.9 | 25 |
| Cl6-BZ#128 | 193 | | ug/kg | 39.9 | 25 |
| Cl6-BZ#138 | 765 | | ug/kg | 39.9 | 25 |
| Cl7-BZ#170 | 114 | | ug/kg | 39.9 | 25 |
| Cl7-BZ#180 | 154 | | ug/kg | 39.9 | 25 |
| Cl7-BZ#187 | 131 | | ug/kg | 39.9 | 25 |
| Cl8-BZ#195 | ND | | ug/kg | 39.9 | 25 |
| Cl9-BZ#206 | ND | | ug/kg | 39.9 | 25 |
| Cl10-BZ#209 | ND | | ug/kg | 39.9 | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-08 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G003-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 21:48 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 760 | | ug/kg | 39.9 | 25 |
| Cl4-BZ#44 | 633 | | ug/kg | 39.9 | 25 |
| Cl6-BZ#153 | 676 | | ug/kg | 39.9 | 25 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-08 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G003-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/10/09 00:06 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 1830 | | ug/kg | 160 | 100 |
| Cl4-BZ#52 | 1870 | | ug/kg | 160 | 100 |
| Cl4-BZ#66 | 1390 | | ug/kg | 160 | 100 |
| Cl5-BZ#118 | 1200 | | ug/kg | 160 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912660-08 | Date Collected: | 09/09/09 13:37 |
| Client ID: | S-09S-G003-0-0 AD | Date Received: | 09/09/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/10/09 00:06 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#101 | 1160 | | ug/kg | 160 | 100 |
| Cl6-BZ#153 | 949 | | ug/kg | 160 | 100 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0912660
**Project Number:** TO-0010 **Report Date:** 02/04/10

## Method Blank Analysis
**Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 10/02/09 20:56
Analyst: JR

Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG381060-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206 | ND | | ug/kg | 1.33 |
| Cl10-BZ#209 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 78 | | 50-125 |
| BZ 198 | 88 | | 50-125 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0912660
**Project Number:** TO-0010 **Report Date:** 02/04/10

## Method Blank Analysis
**Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 10/02/09 20:56
Analyst: JR

Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG381060-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 78 | | 50-125 |
| BZ 198 | 88 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381060-4 WG381060-5 QC Sample: L0912754-06 Client ID: MS Sample | | | | | | | | | | | | |
| Cl2-BZ#8 | 373 | 3390 | 4710 | **128** | Q | 3990 | 106 | | 40-120 | 19 | | 30 |
| Cl3-BZ#18 | ND | 3390 | 6040 | **165** | Q | 5070 | **136** | Q | 40-120 | 19 | | 30 |
| Cl3-BZ#28 | 2380E | 3390 | 6710 | **128** | Q | 5970 | 106 | | 40-120 | 19 | | 30 |
| Cl4-BZ#44 | 923 | 3390 | 5470 | **134** | Q | 4510 | 106 | | 40-120 | 23 | | 30 |
| Cl4-BZ#52 | 2300E | 3390 | 7520 | **154** | Q | 6240 | 116 | | 40-120 | 28 | | 30 |
| Cl4-BZ#66 | 1660E | 3390 | 6360 | **139** | Q | 5340 | 108 | | 40-120 | 25 | | 30 |
| Cl5-BZ#101 | 1750E | 3390 | 6820 | **150** | Q | 5560 | 112 | | 40-120 | 29 | | 30 |
| Cl5-BZ#105 | 299 | 3390 | 4350 | 120 | | 3830 | 104 | | 40-120 | 14 | | 30 |
| Cl5-BZ#118 | 1370E | 3390 | 5990 | **136** | Q | 5000 | 107 | | 40-120 | 24 | | 30 |
| Cl6-BZ#128 | 250 | 3390 | 4130 | 115 | | 3580 | 98 | | 40-120 | 16 | | 30 |
| Cl6-BZ#138 | 989E | 3390 | 5220 | **125** | Q | 4410 | 101 | | 40-120 | 21 | | 30 |
| Cl6-BZ#153 | 846E | 3390 | 5970 | **151** | Q | 4630 | 111 | | 40-120 | **31** | Q | 30 |
| Cl7-BZ#180 | 206 | 3390 | 4420 | **124** | Q | 3630 | 101 | | 40-120 | 20 | | 30 |
| Cl7-BZ#187 | ND | 3390 | 4410 | **126** | Q | 3690 | 104 | | 40-120 | 19 | | 30 |
| Cl9-BZ#206 | ND | 3390 | 4040 | 119 | | 3490 | 103 | | 40-120 | 14 | | 30 |
| Cl10-BZ#209 | ND | 3390 | 4170 | **123** | Q | 3490 | 103 | | 40-120 | 18 | | 30 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| BZ 198 | **0** | QQ | **0** | QQ | 50-125 |
| DBOB | **0** | QQ | **0** | QQ | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG381060-2 WG381060-3 | | | | | | | | |
| Cl2-BZ#8 | 64 | | 75 | | 40-120 | 16 | | 30 |
| Cl3-BZ#28 | 74 | | 90 | | 40-120 | 20 | | 30 |
| Cl4-BZ#44 | 76 | | 86 | | 40-120 | 12 | | 30 |
| Cl4-BZ#52 | 76 | | 88 | | 40-120 | 15 | | 30 |
| Cl4-BZ#66 | 77 | | 87 | | 40-120 | 12 | | 30 |
| Cl5-BZ#101 | 80 | | 90 | | 40-120 | 12 | | 30 |
| Cl5-BZ#105 | 80 | | 87 | | 40-120 | 8 | | 30 |
| Cl5-BZ#118 | 85 | | 96 | | 40-120 | 12 | | 30 |
| Cl6-BZ#128 | 86 | | 94 | | 40-120 | 9 | | 30 |
| Cl6-BZ#138 | 87 | | 96 | | 40-120 | 10 | | 30 |
| Cl6-BZ#153 | 82 | | 93 | | 40-120 | 13 | | 30 |
| Cl7-BZ#170 | 86 | | 91 | | 40-120 | 6 | | 30 |
| Cl7-BZ#180 | 87 | | 94 | | 40-120 | 8 | | 30 |
| Cl7-BZ#187 | 84 | | 95 | | 40-120 | 12 | | 30 |
| Cl8-BZ#195 | 83 | | 89 | | 40-120 | 7 | | 30 |
| Cl9-BZ#206 | 95 | | 103 | | 40-120 | 8 | | 30 |
| Cl10-BZ#209 | 88 | | 94 | | 40-120 | 7 | | 30 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG381060-2 WG381060-3 | | | | | | | | |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 67 | | 74 | | 50-125 |
| BZ 198 | 89 | | 88 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-01
Client ID: S-09S-G001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 10:58
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 23.7 | | % | 0.100 | 1 | - | 09/11/09 11:12 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-02
Client ID: S-09S-G002-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 12:08
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 27.9 | | % | 0.100 | 1 | - | 09/11/09 11:12 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-03
Client ID: S-09S-G002-0-0 REP
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 12:08
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 27.6 | | % | 0.100 | 1 | - | 09/11/09 11:12 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-04
Client ID: S-09S-G003-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 33.3 | | % | 0.100 | 1 | - | 09/11/09 11:12 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-05
Client ID: S-09S-G001-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 6.96 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| Total Organic Carbon (Rep2) | 8.72 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.200 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 1.20 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 2.30 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 3.70 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 7.60 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 12.4 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 27.4 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 45.2 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 76.6 | | % | 0.100 | 1 | - | 09/17/09 09:27 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-06
Client ID: S-09S-G002-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.60 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| Total Organic Carbon (Rep2) | 5.77 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.200 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 0.500 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 1.50 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 1.60 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 1.80 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 9.20 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 48.8 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 36.3 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 88.9 | | % | 0.100 | 1 | - | 09/17/09 09:27 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-07
Client ID: S-09S-G002-0-0 REP AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.79 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| Total Organic Carbon (Rep2) | 5.76 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.500 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 2.30 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.80 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 3.70 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 3.10 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 8.00 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 43.0 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 33.3 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 78.1 | | % | 0.100 | 1 | - | 09/17/09 09:27 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

**SAMPLE RESULTS**

Lab ID: L0912660-08
Client ID: S-09S-G003-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 3.36 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| Total Organic Carbon (Rep2) | 3.14 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 2.20 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 4.00 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 2.90 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 5.10 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 13.0 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 14.9 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 43.3 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 14.1 | | % | 0.100 | 1 | - | 09/28/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 82.1 | | % | 0.100 | 1 | - | 09/17/09 09:27 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0912660

**Project Number:** TO-0010 **Report Date:** 02/04/10

## Method Blank Analysis
**Batch Quality Control**

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 05-08 Batch: WG381843-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | ND | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NA |

## Matrix Spike Analysis
### Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912660
**Report Date:** 02/04/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381843-4 QC Sample: L0912660-06 Client ID: S-09S-G002-0-0 AD | | | | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.60 | 2.19 | 8.41 | **128** | | - | - | | 75-125 | - | | 25 |
| Total Organic Carbon (Rep2) | 5.77 | 1.43 | 7.34 | 121 | | - | - | | 75-125 | - | | 25 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010

**Lab Number:** L0912660
**Report Date:** 02/04/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG379299-1 QC Sample: L0912660-04 Client ID: S-09S-G003-0-0 | | | | | | |
| Solids, Total | 33.3 | 34.1 | % | 2 | | 20 |
| General Chemistry - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG380152-1 QC Sample: L0912660-05 Client ID: S-09S-G001-0-0 AD | | | | | | |
| Solids, Total | 76.6 | 75.5 | % | 1 | | 20 |
| Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381842-1 QC Sample: L0912660-06 Client ID: S-09S-G002-0-0 AD | | | | | | |
| Gravel (>2.00mm) | 0.2 | 0.100 | % | **67** | Q | 20 |
| Very Coarse Sand (1.00-2.00 mm) | 0.5 | 0.100 | % | **133** | Q | 20 |
| Coarse Sand (0.50-1.00 mm) | 1.5 | 0.600 | % | **86** | Q | 20 |
| Medium Sand (0.25-0.50 mm) | 1.6 | 1.10 | % | **37** | Q | 20 |
| Fine Sand (0.125-0.25 mm) | 1.8 | 1.10 | % | **48** | Q | 20 |
| Very Fine Sand (0.063-0.125 mm) | 9.2 | 15.7 | % | **52** | Q | 20 |
| Silt - (1.95-62.5 um) | 48.8 | 60.8 | % | **22** | Q | 20 |
| Clay - (<1.95 um) | 36.3 | 20.5 | % | **56** | Q | 20 |
| Total Organic Carbon - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381843-3 QC Sample: L0912660-06 Client ID: S-09S-G002-0-0 AD | | | | | | |
| Total Organic Carbon (Rep1) | 5.60 | 5.65 | % | 1 | | 25 |
| Total Organic Carbon (Rep2) | 5.77 | 5.97 | % | 3 | | 25 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG381843-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 118 | | 75-125 |
| Total Organic Carbon (Rep2) | 119 | | 75-125 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0912660
**Project Number:** TO-0010 **Report Date:** 02/04/10

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0912660-01A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-01B | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-01C | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-01D | Bag | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-02A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-02B | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-02C | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-02D | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-02E | Bag | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-03A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-03B | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-03C | Bag | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-04A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-04B | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-04C | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-04D | Bag | A | N/A | 2 | Y | Absent | A2-TS(7) |
| L0912660-05A | Glass 250ml unpreserved split | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28) |
| L0912660-05B | Bag | A | N/A | 2 | Y | Absent | - |
| L0912660-06A | Glass 250ml unpreserved split | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0912660-06B | Bag | A | N/A | 2 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7) |
| L0912660-07A | Glass 250ml unpreserved split | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0912660-07B | Bag | A | N/A | 2 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7) |
| L0912660-08A | Glass 250ml unpreserved split | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |

*Hold days indicated by values in parentheses

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010

**Lab Number:** L0912660
**Report Date:** 02/04/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0912660-08B | Bag | A | N/A | 2 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7) |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | · Not detected at the reported detection limit for the sample. |
| NI | · Not Ignitable. |
| RDL | · Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | · Spectra identified as "Aldol Condensation Product". |
| **B** | · The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | · Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | · Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | · The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | · The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | · The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | · Analytical results are from sample re-analysis. |
| **RE** | · Analytical results are from sample re-extraction. |
| **J** | · Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912660 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/04/10 |

**REFERENCES**


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

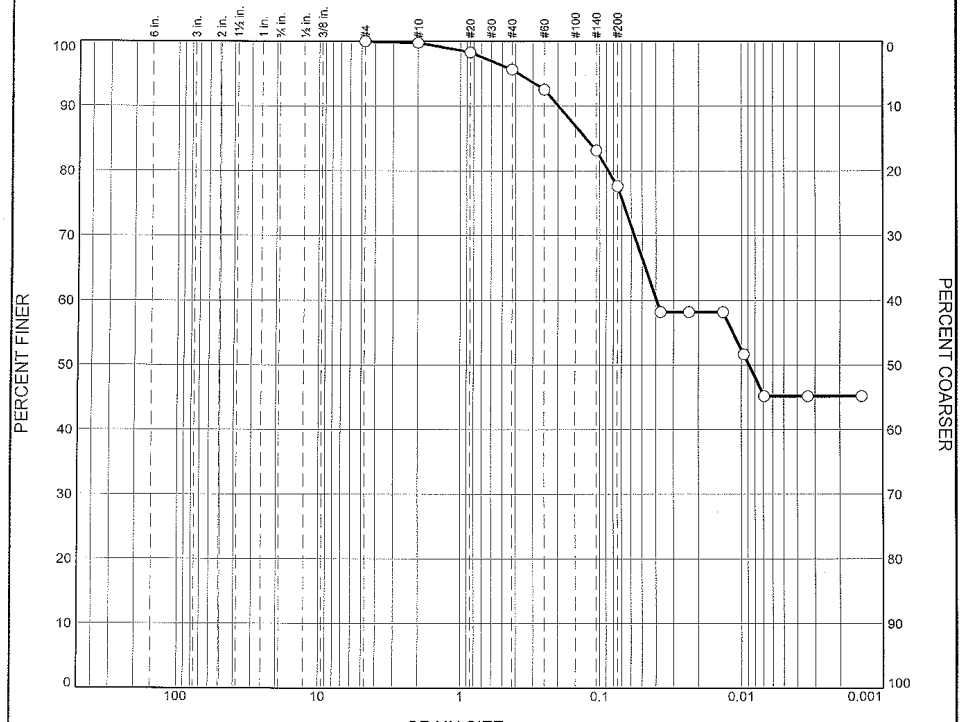

**LIMITATION OF LIABILITIES**

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# Wet Sieve Hydrometer
# ASTM D422

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.0 | 0.2 | 1.2 | 2.3 | 3.7 | 7.6 | 12.4 | 14.4 | 0.0 | 10.6 | 2.4 | 45.2 |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.1253 | 0.0395 | 0.0088 | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912660 **Client:** WOODS HOLE GROUP

**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-G001-0-0 **Sample Number:** L0912660-05

**Date:** ○

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Project**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** WOODS HOLE GROUP
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912660
**Location:** S-09S-G001-0-0
**Sample Number:** L0912660-05
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =**10.64
**Tare Wt. =** 4.06
**Minus #200 from wash =**65.6%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 19.13 | 0.00 | #4 | 521.92 | 521.92 | 100.0 | 0.0 |
| | | #10 | 484.87 | 484.83 | 99.8 | 0.2 |
| | | #20 | 405.84 | 405.56 | 98.3 | 1.7 |
| | | #40 | 359.75 | 359.24 | 95.7 | 4.3 |
| | | #60 | 366.78 | 366.19 | 92.6 | 7.4 |
| | | #140 | 344.73 | 342.93 | 83.2 | 16.8 |
| | | #200 | 346.39 | 345.33 | 77.6 | 22.4 |

### Hydrometer Test Data

**Hydrometer test uses material passing**#200
**Percent passing #200 based upon complete sample =**77.6
**Weight of hydrometer sample =**19.13
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =**0.04
**Meniscus correction only =**-3.0
**Specific gravity of solids =**2.65
**Hydrometer type =**151H
**Hydrometer effective depth equation: L =**16.294964 - 0.2645 x Rm

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0370 | 58.2 | 41.8 |
| 5.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0234 | 58.2 | 41.8 |
| 15.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0135 | 58.2 | 41.8 |
| 30.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0096 | 51.7 | 48.3 |
| 60.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0069 | 45.2 | 54.8 |
| 250.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0034 | 45.2 | 54.8 |
| 1440.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0014 | 45.2 | 54.8 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.2 | 1.2 | 2.3 | 3.7 | 7.6 | 12.4 | 27.2 | 14.4 | 0.0 | 10.6 | 2.4 | 27.4 | 45.2 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.0088 | 0.0395 | 0.0870 | 0.1253 | 0.1976 | 0.3793 |

| Fineness Modulus |
|---|
| 0.24 |

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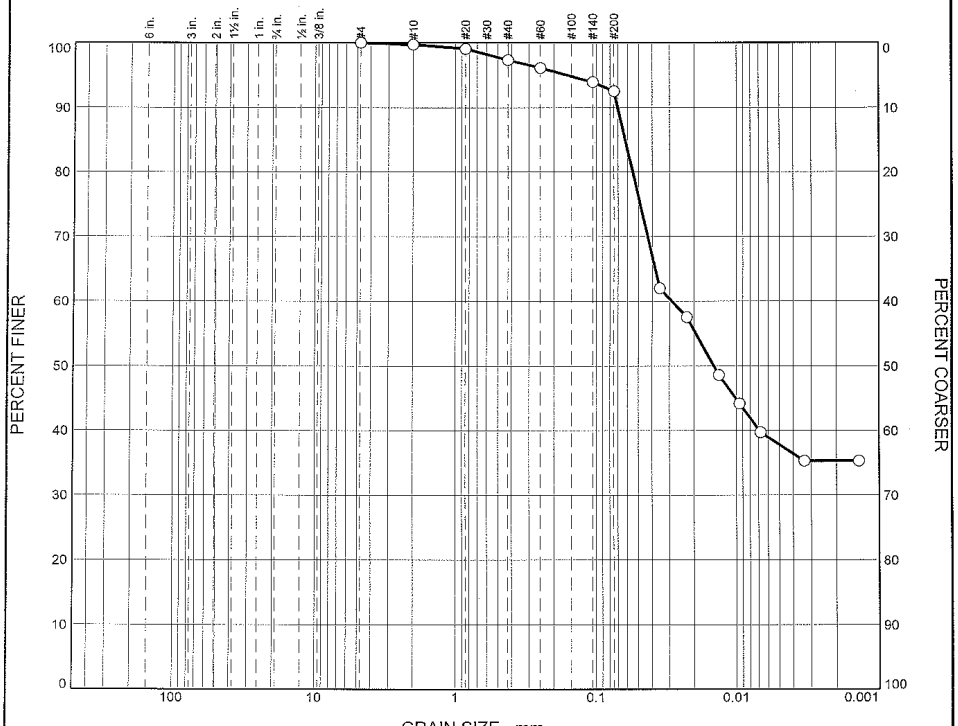
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.1 | 0.2 | 0.5 | 1.5 | 1.6 | 1.8 | 9.2 | 24.4 | 9.4 | 9.7 | 5.3 | 36.3 |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.0623 | 0.0289 | 0.0144 | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912660 **Client:** WOODS HOLE GROUP

**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-G002-0-0 **Sample Number:** L0912660-06

**Date:** ○

**Remarks:**

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Mansfield, MA

Project

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** WOODS HOLE GROUP
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912660
**Location:** S-09S-G002-0-0
**Sample Number:** L0912660-06
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =**7.45
**Tare Wt. =** 4.14
**Minus #200 from wash =**90.1%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 33.41 | 0.00 | #4 | 521.00 | 521.00 | 100.0 | 0.0 |
| | | #10 | 482.24 | 482.15 | 99.7 | 0.3 |
| | | #20 | 411.51 | 411.29 | 99.1 | 0.9 |
| | | #40 | 378.52 | 377.94 | 97.3 | 2.7 |
| | | #60 | 370.44 | 370.03 | 96.1 | 3.9 |
| | | #140 | 348.00 | 347.27 | 93.9 | 6.1 |
| | | #200 | 347.06 | 346.59 | 92.5 | 7.5 |

### Hydrometer Test Data

**Hydrometer test uses material passing**#200
**Percent passing #200 based upon complete sample =**92.5
**Weight of hydrometer sample =**33.41
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =**0.04
**Meniscus correction only =**-3.0
**Specific gravity of solids =**2.65
**Hydrometer type =**151H
**Hydrometer effective depth equation: L =**16.294964 - 0.2645 x Rm

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0140 | 1.0139 | 0.0136 | 11.0 | 13.4 | 0.0353 | 62.0 | 38.0 |
| 5.00 | 20.0 | 1.0130 | 1.0129 | 0.0136 | 10.0 | 13.6 | 0.0225 | 57.5 | 42.5 |
| 15.00 | 20.0 | 1.0110 | 1.0109 | 0.0136 | 8.0 | 14.2 | 0.0133 | 48.6 | 51.4 |
| 30.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0095 | 44.2 | 55.8 |
| 60.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0068 | 39.7 | 60.3 |
| 250.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0033 | 35.3 | 64.7 |
| 1440.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0014 | 35.3 | 64.7 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.1 | 0.2 | 0.5 | 1.5 | 1.6 | 1.8 | 9.2 | 14.6 | 24.4 | 9.4 | 9.7 | 5.3 | 48.8 | 36.3 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.0144 | 0.0289 | 0.0551 | 0.0623 | 0.0705 | 0.1617 |

| Fineness Modulus |
|---|
| 0.11 |

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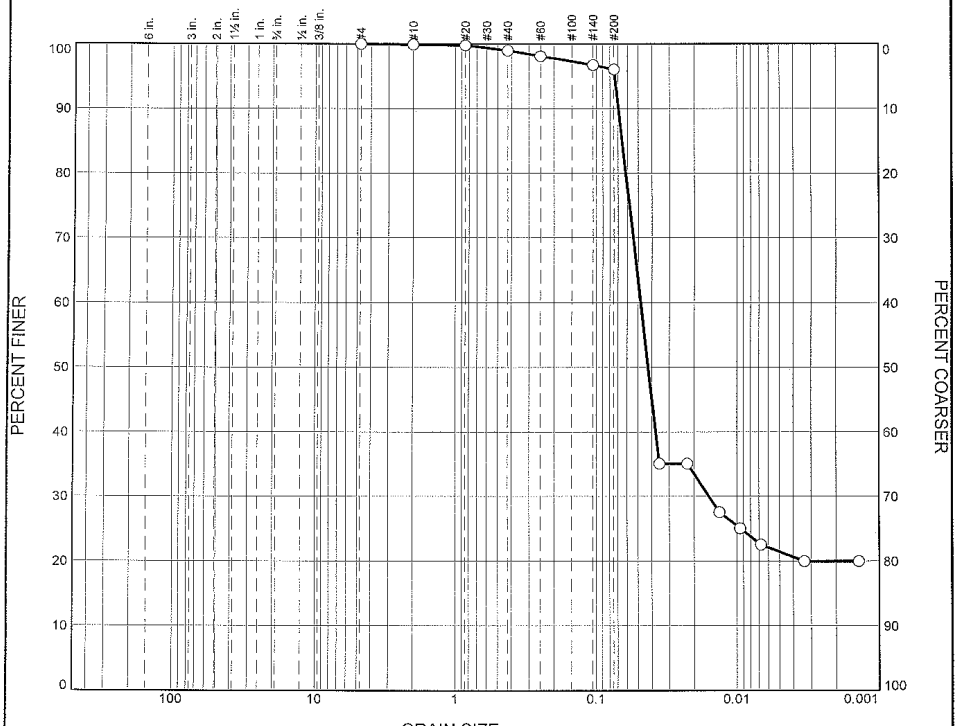
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.6 | 1.1 | 1.1 | 15.7 | 46.2 | 5.2 | 6.3 | 3.1 | 20.5 |

| Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0654 | 0.0480 | 0.0424 | 0.0157 | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912660 **Client:** WOODS HOLE GROUP

**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-G002-0-0 **Sample Number:** WG381842-1

**Date:** ○

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Project**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** WOODS HOLE GROUP
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912660
**Location:** S-09S-G002-0-0
**Sample Number:** WG381842-1
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =7.78
Tare Wt. = 4.12
Minus #200 from wash =94.0%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 61.25 | 0.00 | #4 | 521.90 | 521.90 | 100.0 | 0.0 |
| | | #10 | 484.89 | 484.83 | 99.9 | 0.1 |
| | | #20 | 405.64 | 405.56 | 99.8 | 0.2 |
| | | #40 | 359.73 | 359.24 | 99.0 | 1.0 |
| | | #60 | 366.73 | 366.19 | 98.1 | 1.9 |
| | | #140 | 343.76 | 342.93 | 96.7 | 3.3 |
| | | #200 | 345.74 | 345.33 | 96.1 | 3.9 |

### Hydrometer Test Data

Hydrometer test uses material passing#200
Percent passing #200 based upon complete sample =96.1
Weight of hydrometer sample =61.25
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =0.04
Meniscus correction only =-3.0
Specific gravity of solids =2.65
Hydrometer type =151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0140 | 1.0139 | 0.0136 | 11.0 | 13.4 | 0.0353 | 35.1 | 64.9 |
| 5.00 | 20.0 | 1.0140 | 1.0139 | 0.0136 | 11.0 | 13.4 | 0.0223 | 35.1 | 64.9 |
| 15.00 | 20.0 | 1.0110 | 1.0109 | 0.0136 | 8.0 | 14.2 | 0.0133 | 27.5 | 72.5 |
| 30.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0095 | 25.0 | 75.0 |
| 60.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0068 | 22.5 | 77.5 |
| 250.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0033 | 20.0 | 80.0 |
| 1440.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0014 | 20.0 | 80.0 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.6 | 1.1 | 1.1 | 15.7 | 18.6 | 46.2 | 5.2 | 6.3 | 3.1 | 60.8 | 20.5 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | 0.0034 | 0.0157 | 0.0424 | 0.0480 | 0.0615 | 0.0654 | 0.0696 | 0.0740 |

| Fineness Modulus |
|---|
| 0.05 |

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# Particle Size Distribution Report

| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 0.5 | 2.3 | 3.8 | 3.7 | 3.1 | 8.0 | 20.4 | 11.8 | 7.4 | 3.4 | 33.3 |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.1468 | 0.0371 | 0.0227 | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912660 **Client:** WOODS HOLE GROUP

**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-G002-0-0REP **Sample Number:** L0912660-07

**Date:** ○

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Project**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** WOODS HOLE GROUP
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912660
**Location:** S-09S-G002-0-0REP
**Sample Number:** L0912660-07
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =** 11.05
**Tare Wt. =** 4.13
**Minus #200 from wash =** 78.0%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 31.42 | 0.00 | #4 | 522.59 | 521.90 | 97.8 | 2.2 |
| | | #10 | 485.02 | 484.83 | 97.2 | 2.8 |
| | | #20 | 406.45 | 405.56 | 94.4 | 5.6 |
| | | #40 | 360.59 | 359.24 | 90.1 | 9.9 |
| | | #60 | 367.02 | 366.19 | 87.4 | 12.6 |
| | | #140 | 344.16 | 342.93 | 83.5 | 16.5 |
| | | #200 | 345.80 | 345.33 | 82.0 | 18.0 |

### Hydrometer Test Data

**Hydrometer test uses material passing** #200
**Percent passing #200 based upon complete sample =** 82.0
**Weight of hydrometer sample =** 31.42
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** 0.04
**Meniscus correction only =** -3.0
**Specific gravity of solids =** 2.65
**Hydrometer type =** 151H
**Hydrometer effective depth equation: L =** 16.294964 - 0.2645 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0140 | 1.0139 | 0.0136 | 11.0 | 13.4 | 0.0353 | 58.4 | 41.6 |
| 5.00 | 20.0 | 1.0120 | 1.0119 | 0.0136 | 9.0 | 13.9 | 0.0228 | 50.0 | 50.0 |
| 15.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0134 | 41.6 | 58.4 |
| 30.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0095 | 41.6 | 58.4 |
| 60.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0068 | 33.3 | 66.7 |
| 250.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0033 | 33.3 | 66.7 |
| 1440.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0014 | 33.3 | 66.7 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.5 | 2.3 | 3.8 | 3.7 | 3.1 | 8.0 | 20.9 | 20.4 | 11.8 | 7.4 | 3.4 | 43.0 | 33.3 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.0227 | 0.0371 | 0.0703 | 0.1468 | 0.4191 | 1.0292 |

| Fineness Modulus |
|---|
| 0.44 |

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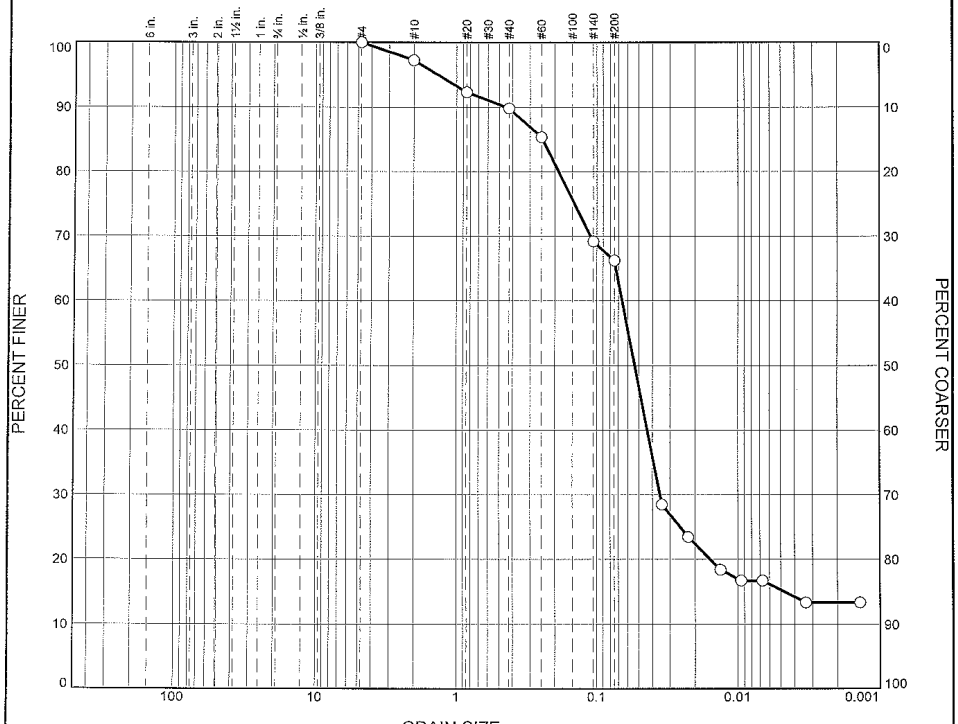
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.5 | 2.2 | 4.0 | 2.9 | 5.1 | 13.0 | 14.9 | 30.0 | 7.4 | 3.3 | 2.6 | 14.1 |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.2459 | 0.0659 | 0.0535 | 0.0353 | 0.0047 | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912660 **Client:** WOODS HOLE GROUP

**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-G003-0-0 **Sample Number:** L0912660-08

**Date:** ○

**Remarks:**

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Mansfield, MA

Project

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** WOODS HOLE GROUP
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912660
**Location:** S-09S-G003-0-0
**Sample Number:** L0912660-08
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =27.18
Tare Wt. = 4.11
Minus #200 from wash =63.4%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 63.10 | 0.00 | #4 | 521.00 | 521.00 | 100.0 | 0.0 |
| | | #10 | 483.87 | 482.15 | 97.3 | 2.7 |
| | | #20 | 414.42 | 411.29 | 92.3 | 7.7 |
| | | #40 | 379.53 | 377.94 | 89.8 | 10.2 |
| | | #60 | 372.86 | 370.03 | 85.3 | 14.7 |
| | | #140 | 357.46 | 347.27 | 69.2 | 30.8 |
| | | #200 | 348.46 | 346.59 | 66.2 | 33.8 |

### Hydrometer Test Data

Hydrometer test uses material passing#200
Percent passing #200 based upon complete sample =66.2
Weight of hydrometer sample =63.10
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C =0.04
Meniscus correction only =-3.0
Specific gravity of solids =2.65
Hydrometer type = 151H
Hydrometer effective depth equation: L =16.294964 - 0.2645 x Rm

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0170 | 1.0169 | 0.0136 | 14.0 | 12.6 | 0.0342 | 28.5 | 71.5 |
| 5.00 | 20.0 | 1.0140 | 1.0139 | 0.0136 | 11.0 | 13.4 | 0.0223 | 23.5 | 76.5 |
| 15.00 | 20.0 | 1.0110 | 1.0109 | 0.0136 | 8.0 | 14.2 | 0.0133 | 18.4 | 81.6 |
| 30.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0095 | 16.7 | 83.3 |
| 60.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0067 | 16.7 | 83.3 |
| 250.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0033 | 13.4 | 86.6 |
| 1440.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0014 | 13.4 | 86.6 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.5 | 2.2 | 4.0 | 2.9 | 5.1 | 13.0 | 14.9 | 39.9 | 30.0 | 7.4 | 3.3 | 2.6 | 43.3 | 14.1 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | 0.0047 | 0.0156 | 0.0353 | 0.0535 | 0.0659 | 0.1886 | 0.2459 | 0.4498 | 1.3510 |

| Fineness Modulus |
|---|
| 0.54 |

Alpha Analytical

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## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02041015:25

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0912660

**Client Information**

Client: WOODS HOLE GROUP
Address: 81 TECHNOLOGY PARK Dr. E. FALMOUTH, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DWALSH@WHGRP.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH WATER QUALITY MONITORING
Project Location: New Bedford Harbor
Project #: TO-0010 NBH TASK 4.0 SED TRAPS
Project Manager: DAVID WALSH
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program: fed
Criteria:

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
Level III data report & Project specific EDD

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 PCB Congeners (NOAA 19) | TOC | Grain size | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| -1 | S-09S-G001-0-0 | 9/9/09 | 1058 | SED | DRW | X | | | | 2 |
| | S-09S-G001-0-0 | | 1058 | | | | X | | | 1 |
| | S-09S-G001-0-0 | | 1058 | | | | | X | | 1 |
| -2 | S-09S-G002-0-0 | | 1208 | | | X | | | | 2 |
| | S-09S-G002-0-0 | | 1208 | | | | X | | | 1 |
| | S-09S-G002-0-0 | | 1208 | | | | | X | | 1 |
| -3 | S-09S-G002-0-0REP | | 1208 | | | X | | | | 1 |
| | S-09S-G002-0-0REP | | 1208 | | | | X | | | 1 |
| | S-09S-G002-0-0REP | | 1208 | | | | | X | | 1 |
| -2 | S-09S-G002-0-0MSMSD | | 1208 | | | X | | | | 1 |

| Container Type | G | G | O |
|---|---|---|---|
| Preservative | A | A | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Mitchell Burk | 9/9/09 - 18:35 | Eileen Sullivan | 9/9/09 18:35 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

02041015:25

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0912660

**Client Information**

Client: WOODS HOLE GROUP

Address: 81 TECHNOLOGY PARK DR. E. FALMOUTH, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DWALSH@WHGRP.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH WATER QUALITY MONITORING

Project Location: New Bedford Harbor

Project #: TO-0010 NBH Task 4.0 Sed Traps

Project Manager: DAVE WALSH

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program: Fed Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Level III DATA REPORT & Project Specific EDD

ANALYSIS: Total PCBs (Aroclor) / TOC / Grain Size

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 PCBs (Aroclor) | TOC | Grain Size | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| -4 | S-09S-G003-0-0 | 9/9/09 | 1337 | SED | DRW | X | | | | 2 |
| | S-09S-G003-0-0 | ↓ | 1337 | ↓ | ↓ | | X | | | 1 |
| | S-09S-G003-0-0 | ↓ | 1337 | ↓ | ↓ | | | X | | 1 |

| | | | |
|---|---|---|---|
| Container Type | G | G | O |
| Preservative | A | A | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Mitchell Buck 15:35 | 9/9/09 | Alan Sullivan | 9/9/09 18:30 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0912754 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | NEW BEDFORD HARBOR |
| Project Number: | TO-0010 |
| Report Date: | 02/05/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010

**Lab Number:** L0912754
**Report Date:** 02/05/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0912754-01 | S-09S-T001-00 | NEW BEDFORD, MA | 09/10/09 11:45 |
| L0912754-02 | S-09S-T002-00 | NEW BEDFORD, MA | 09/10/09 13:15 |
| L0912754-03 | S-09S-T003-00 | NEW BEDFORD, MA | 09/10/09 14:15 |
| L0912754-04 | S-09S-T001-00 AD | NEW BEDFORD, MA | 09/10/09 11:45 |
| L0912754-05 | S-09S-T002-00 AD | NEW BEDFORD, MA | 09/10/09 13:15 |
| L0912754-06 | S-09S-T003-00 AD | NEW BEDFORD, MA | 09/10/09 14:15 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

Report Submission

This report replaces the original report issued on October 14, 2009. The report was ammended to include revised Grain Size data.

PCB Congeners

All samples required a dilution due to the high levels of target compounds. This resulted in the extraction surrogates being diluted from the sample. Results that are over the calibration range of the instrument are denoted with an "E" qualifier.

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**Case Narrative (continued)**

The WG381060-3 LCS/LCSD RPD(s) associated with L0912754-04,L0912754-05,L0912754-06 are above the acceptance criteria for cl3-bz#18(35%); however, the individual LCS/LCSD recoveries are within method limits. The results of the associated samples are reported.

The WG381060-4/-5 MS/MSD recoveries were outside the acceptance criteria for several compounds; however, the associated LCS/LCSD recoveries were within criteria.
The WG381060-5 MS/MSD RPDs associated with L0912754-04,L0912754-05,L0912754-06 are above the acceptance criteria for cl6-bz#153(31%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Neil

Title: Technical Director/Representative Date: 02/05/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-04 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/03/09 04:22 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 4580 | | ug/kg | 1400 | 400 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-04 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/03/09 04:22 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#52 | 5820 | | ug/kg | 1400 | 400 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-04 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/06/09 01:11 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 1070 | E | ug/kg | 35.0 | 10 |
| Cl3-BZ#18 | 2290 | E | ug/kg | 35.0 | 10 |
| Cl3-BZ#28 | 3900 | E | ug/kg | 35.0 | 10 |
| Cl4-BZ#52 | 4560 | E | ug/kg | 35.0 | 10 |
| Cl4-BZ#66 | 1330 | E | ug/kg | 35.0 | 10 |
| Cl5-BZ#101 | 1010 | E | ug/kg | 35.0 | 10 |
| Cl5-BZ#118 | 633 | | ug/kg | 35.0 | 10 |
| Cl6-BZ#128 | 126 | | ug/kg | 35.0 | 10 |
| Cl6-BZ#138 | 582 | | ug/kg | 35.0 | 10 |
| Cl7-BZ#170 | 95.2 | | ug/kg | 35.0 | 10 |
| Cl7-BZ#180 | 126 | | ug/kg | 35.0 | 10 |
| Cl8-BZ#195 | ND | | ug/kg | 35.0 | 10 |
| Cl9-BZ#206 | ND | | ug/kg | 35.0 | 10 |
| Cl10-BZ#209 | ND | | ug/kg | 35.0 | 10 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-04 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/06/09 01:11 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 1220 | E | ug/kg | 35.0 | 10 |
| Cl5-BZ#105 | 131 | | ug/kg | 35.0 | 10 |
| Cl6-BZ#153 | 704 | E | ug/kg | 35.0 | 10 |
| Cl7-BZ#187 | 157 | | ug/kg | 35.0 | 10 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-04 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/10/09 02:08 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 1150 | | ug/kg | 140 | 40 |
| Cl3-BZ#18 | 2550 | | ug/kg | 140 | 40 |
| Cl3-BZ#28 | 3660 | E | ug/kg | 140 | 40 |
| Cl4-BZ#52 | 4720 | E | ug/kg | 140 | 40 |
| Cl4-BZ#66 | 1410 | | ug/kg | 140 | 40 |
| Cl5-BZ#105 | ND | | ug/kg | 140 | 40 |
| Cl5-BZ#118 | ND | | ug/kg | 140 | 40 |
| Cl6-BZ#128 | ND | | ug/kg | 140 | 40 |
| Cl6-BZ#138 | ND | | ug/kg | 140 | 40 |
| Cl7-BZ#170 | ND | | ug/kg | 140 | 40 |
| Cl7-BZ#180 | ND | | ug/kg | 140 | 40 |
| Cl7-BZ#187 | ND | | ug/kg | 140 | 40 |
| Cl8-BZ#195 | ND | | ug/kg | 140 | 40 |
| Cl9-BZ#206 | ND | | ug/kg | 140 | 40 |
| Cl10-BZ#209 | ND | | ug/kg | 140 | 40 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-04 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/10/09 02:08 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 1430 | | ug/kg | 140 | 40 |
| Cl5-BZ#101 | 1020 | | ug/kg | 140 | 40 |
| Cl6-BZ#153 | 888 | | ug/kg | 140 | 40 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-05 | Date Collected: | 09/10/09 13:15 |
| Client ID: | S-09S-T002-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/03/09 01:40 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 4270 | | ug/kg | 1370 | 1000 |
| Cl3-BZ#28 | 17900 | | ug/kg | 1370 | 1000 |
| Cl4-BZ#52 | 20800 | | ug/kg | 1370 | 1000 |
| Cl4-BZ#66 | 6610 | | ug/kg | 1370 | 1000 |
| Cl5-BZ#118 | 3270 | | ug/kg | 1370 | 1000 |
| Cl6-BZ#138 | 2950 | | ug/kg | 1370 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-05 | Date Collected: | 09/10/09 13:15 |
| Client ID: | S-09S-T002-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/03/09 01:40 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 10900 | | ug/kg | 1370 | 1000 |
| Cl4-BZ#44 | 6810 | | ug/kg | 1370 | 1000 |
| Cl5-BZ#101 | 5200 | | ug/kg | 1370 | 1000 |
| Cl6-BZ#153 | 4410 | | ug/kg | 1370 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-05 | Date Collected: | 09/10/09 13:15 |
| Client ID: | S-09S-T002-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 22:29 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2390 | E | ug/kg | 34.3 | 25 |
| Cl3-BZ#18 | 6920 | E | ug/kg | 34.3 | 25 |
| Cl3-BZ#28 | 11500 | E | ug/kg | 34.3 | 25 |
| Cl4-BZ#44 | 3550 | E | ug/kg | 34.3 | 25 |
| Cl4-BZ#52 | 13300 | E | ug/kg | 34.3 | 25 |
| Cl4-BZ#66 | 4460 | E | ug/kg | 34.3 | 25 |
| Cl5-BZ#101 | 4190 | E | ug/kg | 34.3 | 25 |
| Cl5-BZ#118 | 2070 | E | ug/kg | 34.3 | 25 |
| Cl6-BZ#128 | 396 | | ug/kg | 34.3 | 25 |
| Cl6-BZ#138 | 2000 | E | ug/kg | 34.3 | 25 |
| Cl7-BZ#170 | 356 | | ug/kg | 34.3 | 25 |
| Cl7-BZ#180 | 485 | | ug/kg | 34.3 | 25 |
| Cl7-BZ#187 | 563 | | ug/kg | 34.3 | 25 |
| Cl8-BZ#195 | ND | | ug/kg | 34.3 | 25 |
| Cl9-BZ#206 | 87.9 | | ug/kg | 34.3 | 25 |
| Cl10-BZ#209 | ND | | ug/kg | 34.3 | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-05 | Date Collected: | 09/10/09 13:15 |
| Client ID: | S-09S-T002-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 22:29 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 255 | | ug/kg | 34.3 | 25 |
| Cl6-BZ#153 | 1610 | E | ug/kg | 34.3 | 25 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-06 | Date Collected: | 09/10/09 14:15 |
| Client ID: | S-09S-T003-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 23:09 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 373 | | ug/kg | 34.5 | 25 |
| Cl3-BZ#18 | 486 | | ug/kg | 34.5 | 25 |
| Cl3-BZ#28 | 2380 | E | ug/kg | 34.5 | 25 |
| Cl4-BZ#44 | 723 | E | ug/kg | 34.5 | 25 |
| Cl4-BZ#52 | 2300 | E | ug/kg | 34.5 | 25 |
| Cl4-BZ#66 | 1660 | E | ug/kg | 34.5 | 25 |
| Cl5-BZ#101 | 1750 | E | ug/kg | 34.5 | 25 |
| Cl5-BZ#105 | 299 | | ug/kg | 34.5 | 25 |
| Cl5-BZ#118 | 1370 | E | ug/kg | 34.5 | 25 |
| Cl6-BZ#128 | 250 | | ug/kg | 34.5 | 25 |
| Cl6-BZ#138 | 989 | E | ug/kg | 34.5 | 25 |
| Cl7-BZ#170 | 150 | | ug/kg | 34.5 | 25 |
| Cl7-BZ#180 | 206 | | ug/kg | 34.5 | 25 |
| Cl7-BZ#187 | 177 | | ug/kg | 34.5 | 25 |
| Cl8-BZ#195 | ND | | ug/kg | 34.5 | 25 |
| Cl9-BZ#206 | ND | | ug/kg | 34.5 | 25 |
| Cl10-BZ#209 | ND | | ug/kg | 34.5 | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-06 | Date Collected: | 09/10/09 14:15 |
| Client ID: | S-09S-T003-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/05/09 23:09 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#153 | 846 | E | ug/kg | 34.5 | 25 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-06 | Date Collected: | 09/10/09 14:15 |
| Client ID: | S-09S-T003-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/10/09 01:28 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 2290 | | ug/kg | 138 | 100 |
| Cl4-BZ#52 | 2380 | | ug/kg | 138 | 100 |
| Cl4-BZ#66 | 1700 | | ug/kg | 138 | 100 |
| Cl5-BZ#118 | 1540 | | ug/kg | 138 | 100 |
| Cl6-BZ#138 | 1160 | | ug/kg | 138 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-06 | Date Collected: | 09/10/09 14:15 |
| Client ID: | S-09S-T003-00 AD | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3570 |
| Analytical Method: | 1,8082 | Extraction Date: | 09/23/09 14:44 |
| Analytical Date: | 10/10/09 01:28 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 09/28/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 923 | | ug/kg | 138 | 100 |
| Cl5-BZ#101 | 1400 | | ug/kg | 138 | 100 |
| Cl6-BZ#153 | 1230 | | ug/kg | 138 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3570 |
| Analytical Date: | 10/02/09 20:56 | Extraction Date: | 09/23/09 14:44 |
| Analyst: | JR | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 09/28/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG381060-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206 | ND | | ug/kg | 1.33 |
| Cl10-BZ#209 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 78 | | 50-125 |
| BZ 198 | 88 | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3570 |
| Analytical Date: | 10/02/09 20:56 | Extraction Date: | 09/23/09 14:44 |
| Analyst: | JR | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 09/28/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG381060-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 78 | | 50-125 |
| BZ 198 | 88 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912754
**Report Date:** 02/05/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG381060-4 WG381060-5 QC Sample: L0912754-06 Client ID: S-09S-T003-00 AD | | | | | | | | | | | | |
| Cl2-BZ#8 | 373 | 3390 | 4710 | **128** | Q | 3990 | 106 | | 40-120 | 19 | | 30 |
| Cl3-BZ#18 | ND | 3390 | 6040 | **165** | Q | 5070 | **136** | Q | 40-120 | 19 | | 30 |
| Cl3-BZ#28 | 2380E | 3390 | 6710 | **128** | Q | 5970 | 106 | | 40-120 | 19 | | 30 |
| Cl4-BZ#44 | 923 | 3390 | 5470 | **134** | Q | 4510 | 106 | | 40-120 | 23 | | 30 |
| Cl4-BZ#52 | 2300E | 3390 | 7520 | **154** | Q | 6240 | 116 | | 40-120 | 28 | | 30 |
| Cl4-BZ#66 | 1660E | 3390 | 6360 | **139** | Q | 5340 | 108 | | 40-120 | 25 | | 30 |
| Cl5-BZ#101 | 1750E | 3390 | 6820 | **150** | Q | 5560 | 112 | | 40-120 | 29 | | 30 |
| Cl5-BZ#105 | 299 | 3390 | 4350 | 120 | | 3830 | 104 | | 40-120 | 14 | | 30 |
| Cl5-BZ#118 | 1370E | 3390 | 5990 | **136** | Q | 5000 | 107 | | 40-120 | 24 | | 30 |
| Cl6-BZ#128 | 250 | 3390 | 4130 | 115 | | 3580 | 98 | | 40-120 | 16 | | 30 |
| Cl6-BZ#138 | 989E | 3390 | 5220 | **125** | Q | 4410 | 101 | | 40-120 | 21 | | 30 |
| Cl6-BZ#153 | 846E | 3390 | 5970 | **151** | Q | 4630 | 111 | | 40-120 | **31** | Q | 30 |
| Cl7-BZ#180 | 206 | 3390 | 4420 | **124** | Q | 3630 | 101 | | 40-120 | 20 | | 30 |
| Cl7-BZ#187 | ND | 3390 | 4410 | **126** | Q | 3690 | 104 | | 40-120 | 19 | | 30 |
| Cl9-BZ#206 | ND | 3390 | 4040 | 119 | | 3490 | 103 | | 40-120 | 14 | | 30 |
| Cl10-BZ#209 | ND | 3390 | 4170 | **123** | Q | 3490 | 103 | | 40-120 | 18 | | 30 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| BZ 198 | **0** | QQ | **0** | QQ | 50-125 |
| DBOB | **0** | QQ | **0** | QQ | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912754
**Report Date:** 02/05/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG381060-2 WG381060-3 | | | | | | | | |
| Cl2-BZ#8 | 64 | | 75 | | 40-120 | 16 | | 30 |
| Cl3-BZ#28 | 74 | | 90 | | 40-120 | 20 | | 30 |
| Cl4-BZ#44 | 76 | | 86 | | 40-120 | 12 | | 30 |
| Cl4-BZ#52 | 76 | | 88 | | 40-120 | 15 | | 30 |
| Cl4-BZ#66 | 77 | | 87 | | 40-120 | 12 | | 30 |
| Cl5-BZ#101 | 80 | | 90 | | 40-120 | 12 | | 30 |
| Cl5-BZ#105 | 80 | | 87 | | 40-120 | 8 | | 30 |
| Cl5-BZ#118 | 85 | | 96 | | 40-120 | 12 | | 30 |
| Cl6-BZ#128 | 86 | | 94 | | 40-120 | 9 | | 30 |
| Cl6-BZ#138 | 87 | | 96 | | 40-120 | 10 | | 30 |
| Cl6-BZ#153 | 82 | | 93 | | 40-120 | 13 | | 30 |
| Cl7-BZ#170 | 86 | | 91 | | 40-120 | 6 | | 30 |
| Cl7-BZ#180 | 87 | | 94 | | 40-120 | 8 | | 30 |
| Cl7-BZ#187 | 84 | | 95 | | 40-120 | 12 | | 30 |
| Cl8-BZ#195 | 83 | | 89 | | 40-120 | 7 | | 30 |
| Cl9-BZ#206 | 95 | | 103 | | 40-120 | 8 | | 30 |
| Cl10-BZ#209 | 88 | | 94 | | 40-120 | 7 | | 30 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912754
**Report Date:** 02/05/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG381060-2 WG381060-3 | | | | | | | | |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 67 | | 74 | | 50-125 |
| BZ 198 | 89 | | 88 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-01 | Date Collected: | 09/10/09 11:45 |
| Client ID: | S-09S-T001-00 | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 32.7 | | % | 0.100 | 1 | - | 09/14/09 14:10 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-02 | Date Collected: | 09/10/09 13:15 |
| Client ID: | S-09S-T002-00 | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 29.6 | | % | 0.100 | 1 | - | 09/14/09 14:10 | 30,2540G | KB |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0912754-03 | Date Collected: | 09/10/09 14:15 |
| Client ID: | S-09S-T003-00 | Date Received: | 09/11/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | | |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab | | | | | | | | | |
| Solids, Total | 40.6 | | % | 0.100 | 1 | - | 09/14/09 14:10 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912754
**Report Date:** 02/05/10

**SAMPLE RESULTS**

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 7.35 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 8.83 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 1.60 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 5.30 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 6.40 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 6.40 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 8.30 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 17.1 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 36.3 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 17.9 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 94.1 | | % | 0.100 | 1 | - | 09/18/09 11:42 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912754
**Report Date:** 02/05/10

**SAMPLE RESULTS**

Lab ID: L0912754-05
Client ID: S-09S-T002-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 13:15
Date Received: 09/11/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.17 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 5.17 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | ND | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 0.300 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 0.700 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 1.00 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 0.800 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 10.0 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 48.9 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 38.3 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 94.8 | | % | 0.100 | 1 | - | 09/18/09 11:42 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010
**Lab Number:** L0912754
**Report Date:** 02/05/10

**SAMPLE RESULTS**

Lab ID: L0912754-06
Client ID: S-09S-T003-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 3.79 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 3.70 | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.100 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 0.700 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 2.20 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 2.60 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 2.10 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 15.8 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 58.1 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 18.4 | | % | 0.100 | 1 | - | 09/29/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 95.4 | | % | 0.100 | 1 | - | 09/18/09 11:42 | 30,2540G | KB |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0912754

**Project Number:** TO-0010 **Report Date:** 02/05/10

## Method Blank Analysis
### Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 04-06 Batch: WG382301-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | ND | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 09/30/09 13:00 | 1,9060 | NR |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010

**Lab Number:** L0912754
**Report Date:** 02/05/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG379611-1 QC Sample: L0912754-01 Client ID: S-09S-T001-00 | | | | | | |
| Solids, Total | 32.7 | 33.2 | % | 2 | | 20 |
| General Chemistry - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG380363-1 QC Sample: L0912754-04 Client ID: S-09S-T001-00 AD | | | | | | |
| Solids, Total | 94.1 | 94.0 | % | 0 | | 20 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG382301-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 118 | | 75-125 |
| Total Organic Carbon (Rep2) | 119 | | 75-125 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0912754
**Project Number:** TO-0010 **Report Date:** 02/05/10

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0912754-01A | Glass 500ml unpreserved | A | N/A | 2.4 | Y | Absent | A2-TS(7) |
| L0912754-02A | Glass 500ml unpreserved | A | N/A | 2.4 | Y | Absent | A2-TS(7) |
| L0912754-03A | Glass 1000ml unpreserved | A | N/A | 2.4 | Y | Absent | A2-TS(7) |
| L0912754-04A | Glass 250ml unpreserved split | A | N/A | 2.4 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |
| L0912754-05A | Glass 250ml unpreserved split | A | N/A | 2.4 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |

*Hold days indicated by values in parentheses

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** TO-0010

**Lab Number:** L0912754
**Report Date:** 02/05/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0912754-06A | Glass 250ml unpreserved split | A | N/A | 2.4 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |

**Container Comments**

L0912754-05A USED ENTIRE SAMPLE

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0912754 |
| **Project Number:** | TO-0010 | **Report Date:** | 02/05/10 |

## REFERENCES


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

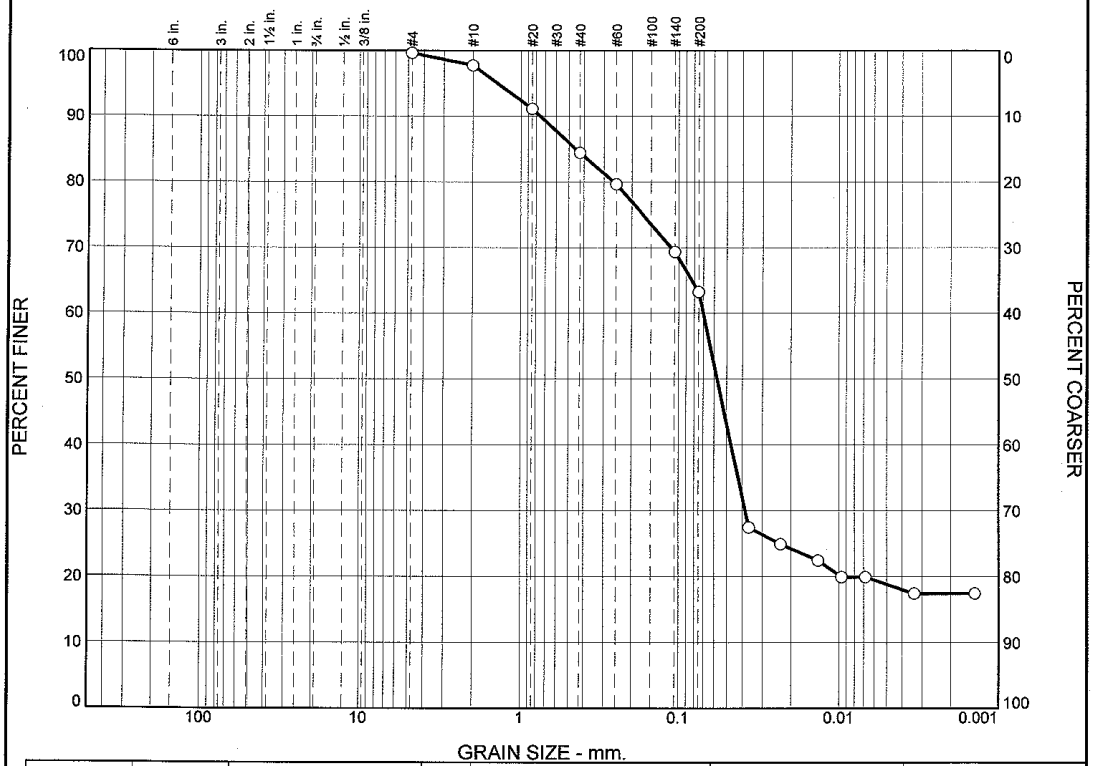

## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# Wet Sieve Hydrometer
# ASTM D422

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 1.6 | 5.3 | 6.4 | 6.4 | 8.3 | 17.1 | 27.6 | 3.5 | 3.2 | 2.0 | 17.9 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.4511 | 0.0702 | 0.0574 | 0.0383 | | | | |

| | Material Description | USCS | AASHTO |
|---|---|---|---|
| ○ | | | |

**Project No.** L0912754- **Client:** Woods Hole Group
**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-T001-00 **Sample Number:** L0912754-04

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912754-WHG
**Location:** S-09S-T001-00
**Sample Number:** L0912754-04
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** Dry Sample and Tare = 23.11
Tare Wt. = 4.14
Minus #200 from wash = 53.1%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 40.44 | 0.00 | #4 | 521.15 | 521.00 | 99.6 | 0.4 |
| | | #10 | 482.91 | 482.15 | 97.7 | 2.3 |
| | | #20 | 413.96 | 411.29 | 91.1 | 8.9 |
| | | #40 | 380.66 | 377.94 | 84.4 | 15.6 |
| | | #60 | 371.96 | 370.03 | 79.6 | 20.4 |
| | | #140 | 351.44 | 347.27 | 69.3 | 30.7 |
| | | #200 | 349.06 | 346.59 | 63.2 | 36.8 |

### Hydrometer Test Data

**Hydrometer test uses material passing** #200
**Percent passing #200 based upon complete sample =** 63.2
**Weight of hydrometer sample =**40.44
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -0.04
**Meniscus correction only =** -3.0
**Specific gravity of solids =** 2.65
**Hydrometer type =** 151H
**Hydrometer effective depth equation: L =** 16.294964 - 0.2645 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0110 | 1.0109 | 0.0136 | 8.0 | 14.2 | 0.0363 | 27.5 | 72.5 |
| 5.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0232 | 24.9 | 75.1 |
| 15.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0135 | 22.4 | 77.6 |
| 30.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0096 | 19.9 | 80.1 |
| 60.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0068 | 19.9 | 80.1 |
| 250.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0034 | 17.4 | 82.6 |
| 1440.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0014 | 17.4 | 82.6 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 1.6 | 5.3 | 6.4 | 6.4 | 8.3 | 17.1 | 43.5 | 27.6 | 3.5 | 3.2 | 2.0 | 36.3 | 17.9 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | 0.0097 | 0.0383 | 0.0574 | 0.0702 | 0.2600 | 0.4511 | 0.7552 | 1.4004 |

| Fineness Modulus |
|---|
| 0.66 |

**Alpha Analytical**

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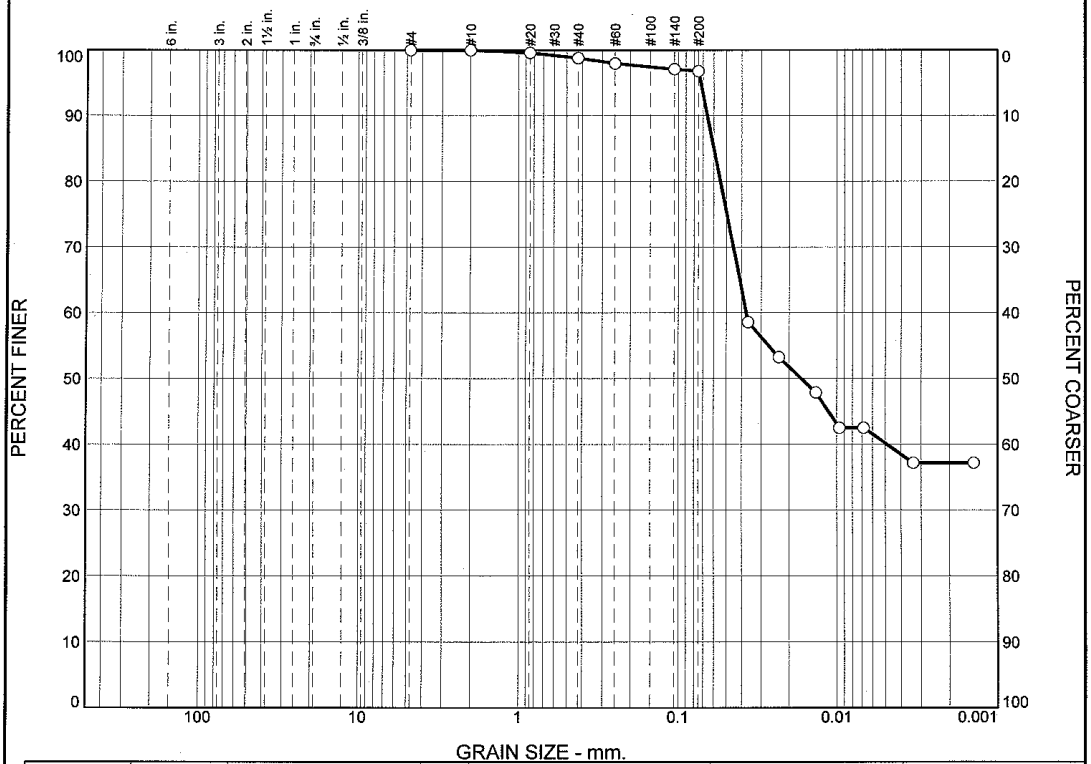
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.7 | 1.0 | 0.8 | 10.0 | 30.5 | 7.4 | 6.8 | 4.2 | 38.3 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0600 | 0.0373 | 0.0168 | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912754- **Client:** Woods Hole Group
**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-T002-00 **Sample Number:** L0912754-05

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912754-WHG
**Location:** S-09S-T002-00
**Sample Number:** L0912754-05
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** Dry Sample and Tare = 5.58
Tare Wt. = 4.08
Minus #200 from wash = 94.8%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 29.02 | 0.00 | #4 | 521.90 | 521.90 | 100.0 | 0.0 |
| | | #10 | 484.83 | 484.83 | 100.0 | 0.0 |
| | | #20 | 405.68 | 405.56 | 99.6 | 0.4 |
| | | #40 | 359.47 | 359.24 | 98.8 | 1.2 |
| | | #60 | 366.43 | 366.19 | 98.0 | 2.0 |
| | | #140 | 343.19 | 342.93 | 97.1 | 2.9 |
| | | #200 | 345.41 | 345.33 | 96.8 | 3.2 |

### Hydrometer Test Data

**Hydrometer test uses material passing** #200
**Percent passing #200 based upon complete sample =** 96.8
**Weight of hydrometer sample =**29.02
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -0.04
**Meniscus correction only =** -3.0
**Specific gravity of solids =** 2.65
**Hydrometer type =** 151H
**Hydrometer effective depth equation: L =** 16.294964 - 0.2645 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0110 | 1.0109 | 0.0136 | 8.0 | 14.2 | 0.0363 | 58.6 | 41.4 |
| 5.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0232 | 53.2 | 46.8 |
| 15.00 | 20.0 | 1.0090 | 1.0089 | 0.0136 | 6.0 | 14.7 | 0.0135 | 47.9 | 52.1 |
| 30.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0096 | 42.5 | 57.5 |
| 60.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0068 | 42.5 | 57.5 |
| 250.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0034 | 37.1 | 62.9 |
| 1440.00 | 20.0 | 1.0070 | 1.0069 | 0.0136 | 4.0 | 15.2 | 0.0014 | 37.1 | 62.9 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.7 | 1.0 | 0.8 | 10.0 | 12.8 | 30.5 | 7.4 | 6.8 | 4.2 | 48.9 | 38.3 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.0168 | 0.0373 | 0.0545 | 0.0600 | 0.0659 | 0.0725 |

| Fineness Modulus |
|---|
| 0.05 |

**Alpha Analytical**

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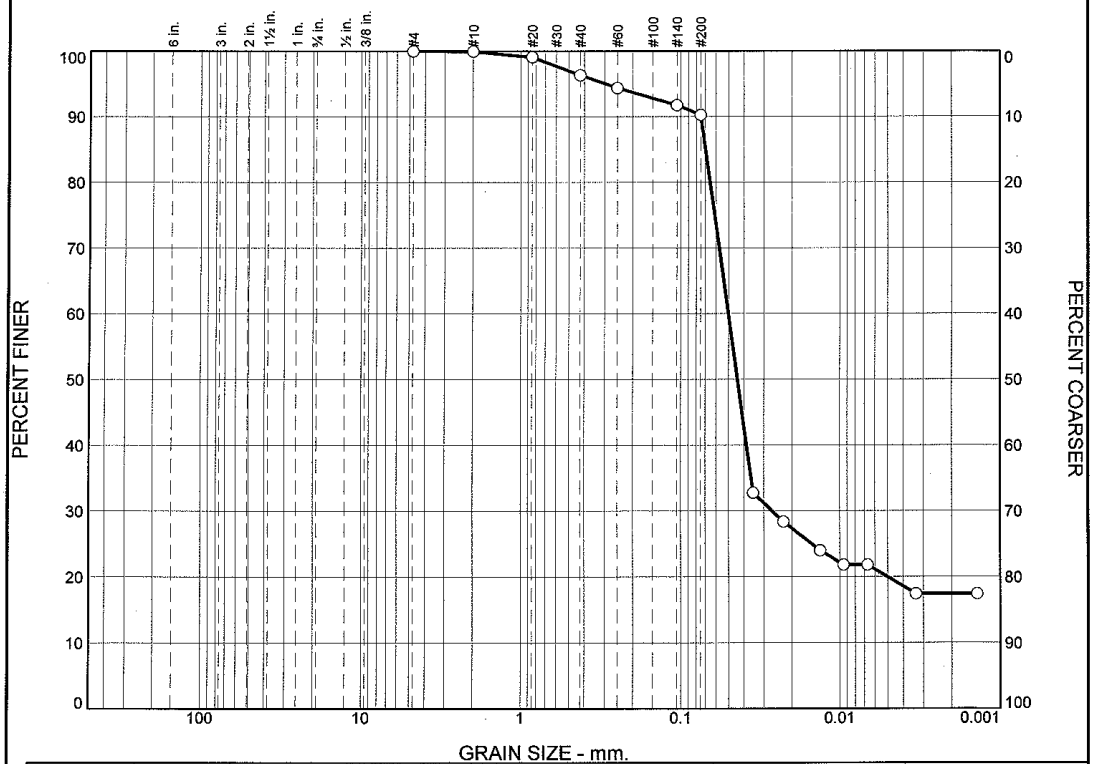
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.1 | 0.7 | 2.2 | 2.6 | 2.1 | 15.8 | 44.9 | 6.3 | 3.5 | 3.4 | 18.4 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0699 | 0.0502 | 0.0439 | 0.0265 | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0912754- **Client:** Woods Hole Group
**Project:** NBH WATER QUALITY MONITORING

○ **Source of Sample:** S-09S-T003-00 **Sample Number:** L0912754-06

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH WATER QUALITY MONITORING
**Project Number:** L0912754-WHG
**Location:** S-09S-T003-00
**Sample Number:** L0912754-06
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** **Dry Sample and Tare =** 13.17
**Tare Wt. =** 4.16
**Minus #200 from wash =** 86.4%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.05 | 0.00 | #4 | 521.00 | 521.00 | 100.0 | 0.0 |
| | | #10 | 482.19 | 482.15 | 99.9 | 0.1 |
| | | #20 | 411.87 | 411.29 | 99.1 | 0.9 |
| | | #40 | 379.74 | 377.94 | 96.3 | 3.7 |
| | | #60 | 371.33 | 370.03 | 94.4 | 5.6 |
| | | #140 | 349.00 | 347.27 | 91.7 | 8.3 |
| | | #200 | 347.58 | 346.59 | 90.2 | 9.8 |

### Hydrometer Test Data

**Hydrometer test uses material passing** #200
**Percent passing #200 based upon complete sample =** 90.2
**Weight of hydrometer sample =**66.05
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -0.04
**Meniscus correction only =** -3.0
**Specific gravity of solids =** 2.65
**Hydrometer type =** 151H
**Hydrometer effective depth equation: L =** 16.294964 - 0.2645 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.0 | 1.0150 | 1.0149 | 0.0136 | 12.0 | 13.1 | 0.0350 | 32.8 | 67.2 |
| 5.00 | 20.0 | 1.0130 | 1.0129 | 0.0136 | 10.0 | 13.6 | 0.0225 | 28.4 | 71.6 |
| 15.00 | 20.0 | 1.0110 | 1.0109 | 0.0136 | 8.0 | 14.2 | 0.0133 | 24.0 | 76.0 |
| 30.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0095 | 21.8 | 78.2 |
| 60.00 | 20.0 | 1.0100 | 1.0099 | 0.0136 | 7.0 | 14.4 | 0.0067 | 21.8 | 78.2 |
| 250.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0033 | 17.4 | 82.6 |
| 1440.00 | 20.0 | 1.0080 | 1.0079 | 0.0136 | 5.0 | 15.0 | 0.0014 | 17.4 | 82.6 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.1 | 0.7 | 2.2 | 2.6 | 2.1 | 15.8 | 23.4 | 44.9 | 6.3 | 3.5 | 3.4 | 58.1 | 18.4 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | 0.0050 | 0.0265 | 0.0439 | 0.0502 | 0.0655 | 0.0699 | 0.0748 | 0.2964 |

| Fineness Modulus |
|---|
| 0.15 |

**Alpha Analytical**

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## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02051017:12

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0912754

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TO-0010 · NBH Task 4.0 Sed Traps
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
** ESI has processed Sed. Trap Samples to provide composite samples to Alpha.
** Level III data report & Project-Specific EDD

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 | Grain Size | TOC | PCB Congeners | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| L0912754-1 | S-09S-T001-0-0 | 9/10/09 | 11:45 | SED | KAJ | ✓ | ✓ | ✓ | | 1 |
| -2 | S-09S-T002-0-0 | ↓ | 13:15 | SED | KAJ | ✓ | ✓ | ✓ | | 1 |
| -3 | S-09S-T003-0-0 | ↓ | 14:15 | SED | KAJ | ✓ | ✓ | ✓ | | 1 |
| Container Type | | | | | | G | G | G | | |
| Preservative | | | | | | A | A | A | | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Katy J. [illegible] | 9/11/09 10:45 | [illegible] | 9/11/09 10:45 |
| [illegible] | 9/11/09 | [illegible] | 9/11/09 18:4 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0914754 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | TO-0010 NBH TASK 4.0 SED TRAP |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/11/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0914754-01 | S-090-G001-0-0 | NEW BEDFORD HARBOR | 10/14/09 08:13 |
| L0914754-02 | S-090-G002-0-0 | NEW BEDFORD HARBOR | 10/14/09 10:41 |
| L0914754-03 | S-090-G002-0-0 REP | NEW BEDFORD HARBOR | 10/14/09 10:42 |
| L0914754-04 | S-090-G003-0-0 | NEW BEDFORD HARBOR | 10/14/09 11:51 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the original report issued on November 11, 2009. The report was ammended to include revised Grain Size data.

PCB Congeners by 8082

The surrogate recoveries for all samples are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative (continued)**

analysis are reported.

All samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The samples were also re-analyzed on further dilutiondilution in order to quantitate the sample within the calibration range.

The WG385678-4/-5/-6/-7 MS/MSD recoveries are outside the acceptance criteria for several congeners. The matrix spikes were diluted out due to high concentrations detected in the native sample.

TOC

The WG385841-1 Method Blank, associated with L0914754-01-04, has a concentration above the reporting limit. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

Grain Size

The WG385839-1 Laboratory Duplicate RPD associated with L0914754-01,L0914754-02,L0914754-03,L0914754-04 is outside the acceptance criteria for sieve, Gravel(52%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henil

Title: Technical Director/Representative Date: 02/11/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-01 | Date Collected: | 10/14/09 08:13 |
| Client ID: | S-090-G001-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 20:56 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 8350 | | ug/kg | 1370 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-01 | Date Collected: | 10/14/09 08:13 |
| Client ID: | S-090-G001-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 20:56 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 5730 | | ug/kg | 1370 | 1000 |
| Cl4-BZ#52 | 9630 | | ug/kg | 1370 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-01 | Date Collected: | 10/14/09 08:13 |
| Client ID: | S-090-G001-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 06:24 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 1460 | | ug/kg | 137 | 100 |
| Cl4-BZ#66 | 2000 | | ug/kg | 137 | 100 |
| Cl5-BZ#101 | 1940 | | ug/kg | 137 | 100 |
| Cl5-BZ#118 | 1030 | | ug/kg | 137 | 100 |
| Cl6-BZ#128 | 208 | | ug/kg | 137 | 100 |
| Cl7-BZ#170 | 167 | | ug/kg | 137 | 100 |
| Cl7-BZ#180 | 221 | | ug/kg | 137 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 137 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 137 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 137 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-01 | Date Collected: | 10/14/09 08:13 |
| Client ID: | S-090-G001-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 06:24 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 1950 | | ug/kg | 137 | 100 |
| Cl5-BZ#105 | 238 | | ug/kg | 137 | 100 |
| Cl6-BZ#138 | 537 | | ug/kg | 137 | 100 |
| Cl6-BZ#153 | 1260 | | ug/kg | 137 | 100 |
| Cl7-BZ#187 | 292 | | ug/kg | 137 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-02 | Date Collected: | 10/14/09 10:41 |
| Client ID: | S-090-G002-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 21:36 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 11900 | | ug/kg | 1380 | 1000 |
| Cl5-BZ#101 | 7760 | | ug/kg | 1380 | 1000 |
| Cl6-BZ#153 | 5590 | | ug/kg | 1380 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-02 | Date Collected: | 10/14/09 10:41 |
| Client ID: | S-090-G002-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 21:36 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 12000 | | ug/kg | 1380 | 1000 |
| Cl4-BZ#66 | 9680 | | ug/kg | 1380 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-02 | Date Collected: | 10/14/09 10:41 |
| Client ID: | S-090-G002-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 07:04 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#118 | 1810 | | ug/kg | 138 | 100 |
| Cl6-BZ#128 | 444 | | ug/kg | 138 | 100 |
| Cl7-BZ#170 | 456 | | ug/kg | 138 | 100 |
| Cl7-BZ#180 | 638 | | ug/kg | 138 | 100 |
| Cl7-BZ#187 | 937 | | ug/kg | 138 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 138 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 138 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 138 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-02 | Date Collected: | 10/14/09 10:41 |
| Client ID: | S-090-G002-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 07:04 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 390 | | ug/kg | 138 | 100 |
| Cl6-BZ#138 | 1020 | | ug/kg | 138 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-02 | Date Collected: | 10/14/09 10:41 |
| Client ID: | S-090-G002-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/09/09 20:46 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 40700 | | ug/kg | 2760 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-02 | Date Collected: | 10/14/09 10:41 |
| Client ID: | S-090-G002-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/09/09 20:46 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 39500 | | ug/kg | 2760 | 2000 |
| Cl4-BZ#52 | 50900 | | ug/kg | 2760 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-03 | Date Collected: | 10/14/09 10:42 |
| Client ID: | S-090-G002-0-0 REP | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 22:17 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 13500 | | ug/kg | 1380 | 1000 |
| Cl4-BZ#66 | 9520 | | ug/kg | 1380 | 1000 |
| Cl5-BZ#101 | 7940 | | ug/kg | 1380 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-03 | Date Collected: | 10/14/09 10:42 |
| Client ID: | S-090-G002-0-0 REP | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 22:17 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 12200 | | ug/kg | 1380 | 1000 |
| Cl6-BZ#138 | 1790 | | ug/kg | 1380 | 1000 |
| Cl6-BZ#153 | 5930 | | ug/kg | 1380 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-03 | Date Collected: | 10/14/09 10:42 |
| Client ID: | S-090-G002-0-0 REP | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 07:45 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#118 | 2260 | | ug/kg | 138 | 100 |
| Cl6-BZ#128 | 537 | | ug/kg | 138 | 100 |
| Cl7-BZ#170 | 557 | | ug/kg | 138 | 100 |
| Cl7-BZ#180 | 771 | | ug/kg | 138 | 100 |
| Cl7-BZ#187 | 1100 | | ug/kg | 138 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 138 | 100 |
| Cl9-BZ#206-Cal/RTW | 186 | | ug/kg | 138 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 138 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-03 | Date Collected: | 10/14/09 10:42 |
| Client ID: | S-090-G002-0-0 REP | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 07:45 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 470 | | ug/kg | 138 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-03 | Date Collected: | 10/14/09 10:42 |
| Client ID: | S-090-G002-0-0 REP | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/09/09 21:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 34900 | | ug/kg | 2760 | 2000 |
| Cl3-BZ#28 | 43200 | | ug/kg | 2760 | 2000 |
| Cl4-BZ#52 | 53500 | | ug/kg | 2760 | 2000 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-04 | Date Collected: | 10/14/09 11:51 |
| Client ID: | S-090-G003-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 08:25 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 97% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 262 | | ug/kg | 135 | 100 |
| Cl3-BZ#28 | 1880 | | ug/kg | 135 | 100 |
| Cl4-BZ#52 | 1760 | | ug/kg | 135 | 100 |
| Cl4-BZ#66 | 1390 | | ug/kg | 135 | 100 |
| Cl5-BZ#101 | 1520 | | ug/kg | 135 | 100 |
| Cl5-BZ#118 | 1180 | | ug/kg | 135 | 100 |
| Cl6-BZ#128 | 237 | | ug/kg | 135 | 100 |
| Cl7-BZ#170 | 156 | | ug/kg | 135 | 100 |
| Cl7-BZ#180 | 199 | | ug/kg | 135 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 135 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 135 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 135 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914754-04 | Date Collected: | 10/14/09 11:51 |
| Client ID: | S-090-G003-0-0 | Date Received: | 10/14/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 08:25 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 97% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 631 | | ug/kg | 135 | 100 |
| Cl4-BZ#44 | 738 | | ug/kg | 135 | 100 |
| Cl5-BZ#105 | 309 | | ug/kg | 135 | 100 |
| Cl6-BZ#138 | 600 | | ug/kg | 135 | 100 |
| Cl6-BZ#153 | 951 | | ug/kg | 135 | 100 |
| Cl7-BZ#187 | 197 | | ug/kg | 135 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## Method Blank Analysis
### Batch Quality Control

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3540C |
| Analytical Date: | 11/05/09 16:52 | Extraction Date: | 10/23/09 09:29 |
| Analyst: | JR | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 10/26/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG385678-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.33 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 70 | | 50-125 |
| BZ 198 | 83 | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3540C |
| Analytical Date: | 11/05/09 16:52 | Extraction Date: | 10/23/09 09:29 |
| Analyst: | JR | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 10/26/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG385678-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 70 | | 50-125 |
| BZ 198 | 83 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: S-090-G002-0-0 | | | | | | | | | | | | |
| Cl2-BZ#8 | 11900 | 1720 | 14600 | **848** | Q | 13200 | **725** | Q | 40-120 | 16 | | 30 |
| Cl3-BZ#18 | 39500 | 1720 | 29700 | **0** | Q | 34900 | **0** | Q | 40-120 | NC | | 30 |
| Cl3-BZ#18 | 39500 | 1720 | 44200 | **273** | Q | 47300 | **428** | Q | 40-120 | **44** | Q | 30 |
| Cl3-BZ#28 | 40700 | 1720 | 35100 | **0** | Q | 34100 | **0** | Q | 40-120 | NC | | 30 |
| Cl3-BZ#28 | 40700 | 1720 | 41500 | 47 | | 44600 | **214** | Q | 40-120 | **129** | Q | 30 |
| Cl4-BZ#44 | 12000 | 1720 | 12900 | 52 | | 13300 | 71 | | 40-120 | **31** | Q | 30 |
| Cl4-BZ#52 | ND | 1720 | 43200 | **0** | Q | 41100 | **0** | Q | 40-120 | NC | | 30 |
| Cl5-BZ#101 | 7760 | 1720 | 9670 | **562** | Q | 8520 | **468** | Q | 40-120 | 18 | | 30 |
| Cl5-BZ#105 | 390 | 1720 | 2540 | **125** | Q | 2860 | **136** | Q | 40-120 | 8 | | 30 |
| Cl5-BZ#118 | ND | 1720 | 4650 | **270** | Q | 5040 | **277** | Q | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 444 | 1720 | 2550 | **148** | Q | 2740 | **150** | Q | 40-120 | 1 | | 30 |
| Cl6-BZ#138 | 1020 | 1720 | 3710 | **156** | Q | 3940 | **160** | Q | 40-120 | 3 | | 30 |
| Cl6-BZ#153 | ND | 1720 | 6950 | **404** | Q | 6930 | **380** | Q | 40-120 | 6 | | 30 |
| Cl7-BZ#170 | 456 | 1720 | 2620 | **152** | Q | 2820 | **155** | Q | 40-120 | 2 | | 30 |
| Cl7-BZ#187 | ND | 1720 | 3370 | **196** | Q | 3520 | **193** | Q | 40-120 | 2 | | 30 |
| Cl8-BZ#195 | ND | 1720 | 2270 | **132** | Q | 2480 | **136** | Q | 40-120 | 3 | | 30 |
| Cl9-BZ#206 | ND | 1720 | 2410 | **140** | Q | 2580 | **142** | Q | 40-120 | 1 | | 30 |
| Cl10-BZ#209 | ND | 1720 | 2120 | **123** | Q | 2300 | **126** | Q | 40-120 | 2 | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0914754
**Report Date:** 02/11/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: S-090-G002-0-0 | | | | | | | | | | | | |
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385678-6 WG385678-7 QC Sample: L0914850-03 Client ID: MS Sample | | | | | | | | | | | | |
| Cl2-BZ#8 | 329 | 1780 | 2270 | 109 | | 2560 | **127** | Q | 40-120 | 15 | | 30 |
| Cl3-BZ#18 | ND | 1780 | 3300 | **154** | Q | 3760 | **182** | Q | 40-120 | 17 | | 30 |
| Cl3-BZ#28 | 2260 | 1780 | 5390 | **176** | Q | 5290 | **173** | Q | 40-120 | 2 | | 30 |
| Cl4-BZ#44 | 917 | 1780 | 3030 | 119 | | 3520 | **149** | Q | 40-120 | 22 | | 30 |
| Cl4-BZ#66 | 1790 | 1780 | 3960 | **122** | Q | 4380 | **148** | Q | 40-120 | 19 | | 30 |
| Cl5-BZ#101 | 1880 | 1780 | 4300 | **136** | Q | 4850 | **170** | Q | 40-120 | 22 | | 30 |
| Cl6-BZ#128 | 317 | 1780 | 2370 | 115 | | 2660 | **134** | Q | 40-120 | 15 | | 30 |
| Cl6-BZ#138 | ND | 1780 | 3350 | **121** | Q | 3760 | **146** | Q | 40-120 | 19 | | 30 |
| Cl6-BZ#153 | 1170 | 1780 | 3520 | **132** | Q | 4310 | **179** | Q | 40-120 | 30 | | 30 |
| Cl7-BZ#170 | 199 | 1780 | 2280 | 117 | | 2540 | **134** | Q | 40-120 | 14 | | 30 |
| Cl7-BZ#187 | 230 | 1780 | 2300 | 116 | | 2700 | **141** | Q | 40-120 | 19 | | 30 |
| Cl8-BZ#195 | ND | 1780 | 2210 | **124** | Q | 2460 | **141** | Q | 40-120 | 13 | | 30 |
| Cl9-BZ#206 | ND | 1780 | 2400 | **135** | Q | 2620 | **150** | Q | 40-120 | 11 | | 30 |
| Cl10-BZ#209 | ND | 1780 | 2200 | **124** | Q | 2390 | **137** | Q | 40-120 | 10 | | 30 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG385678-2 WG385678-3 | | | | | | | | |
| Cl5-BZ#118 | 76 | | 76 | | 40-120 | 0 | | 30 |
| Cl7-BZ#170 | 79 | | 80 | | 40-120 | 1 | | 30 |
| Cl8-BZ#195 | 79 | | 83 | | 40-120 | 5 | | 30 |
| Cl9-BZ#206 | 88 | | 91 | | 40-120 | 3 | | 30 |
| Cl10-BZ#209 | 81 | | 85 | | 40-120 | 5 | | 30 |

| | | | |
|---|---|---|---|
| DBOB | 64 | 53 | 50-125 |
| BZ 198 | 79 | 80 | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0914754
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG385678-2 WG385678-3 | | | | | | | | |
| Cl2-BZ#8 | 63 | | 51 | | 40-120 | 21 | | 30 |
| Cl3-BZ#18 | 74 | | 60 | | 40-120 | 21 | | 30 |
| Cl3-BZ#28 | 80 | | 64 | | 40-120 | 22 | | 30 |
| Cl4-BZ#44 | 74 | | 68 | | 40-120 | 8 | | 30 |
| Cl4-BZ#52 | 79 | | 69 | | 40-120 | 14 | | 30 |
| Cl4-BZ#66 | 72 | | 69 | | 40-120 | 4 | | 30 |
| Cl5-BZ#101 | 76 | | 73 | | 40-120 | 4 | | 30 |
| Cl5-BZ#105 | 75 | | 73 | | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 79 | | 81 | | 40-120 | 3 | | 30 |
| Cl6-BZ#138 | 82 | | 79 | | 40-120 | 4 | | 30 |
| Cl6-BZ#153 | 80 | | 77 | | 40-120 | 4 | | 30 |
| Cl7-BZ#180 | 80 | | 81 | | 40-120 | 1 | | 30 |
| Cl7-BZ#187 | 78 | | 78 | | 40-120 | 0 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 64 | | 53 | | 50-125 |
| BZ 198 | 79 | | 80 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0914754-01
Client ID: S-090-G001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 08:13
Date Received: 10/14/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.33 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 2.11 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.600 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 8.80 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 8.80 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 14.3 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 16.0 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 50.2 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 96.0 | | % | 0.100 | 1 | - | 10/19/09 08:26 | 30,2540G | KB |

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.05 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.24 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 1.70 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 15.9 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 16.0 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 13.0 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 12.2 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 40.8 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 95.2 | | % | 0.100 | 1 | - | 10/19/09 08:26 | 30,2540G | KB |

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0914754-03
Client ID: S-090-G002-0-0 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 10:42
Date Received: 10/14/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 3.71 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 3.22 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.900 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 15.1 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 15.1 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 13.4 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 12.9 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 41.7 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 95.1 | | % | 0.100 | 1 | - | 10/19/09 08:26 | 30,2540G | KB |

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0914754-04
Client ID: S-090-G003-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 11:51
Date Received: 10/14/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 3.52 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 3.35 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.200 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.90 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 4.00 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 16.2 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 20.0 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 53.8 | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 10/23/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 96.8 | | % | 0.100 | 1 | - | 10/19/09 08:26 | 30,2540G | KB |

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP **Lab Number:** L0914754

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

## Method Blank Analysis
### Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 01-04 Batch: WG385841-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | 0.010 | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 11/04/09 06:00 | 1,9060 | NR |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0914754
**Report Date:** 02/11/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385841-4 QC Sample: L0914754-02 Client ID: S-090-G002-0-0 | | | | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.05 | 2.65 | 6.54 | 94 | | - | - | | 75-125 | - | | 25 |
| Total Organic Carbon (Rep2) | 4.24 | 3.81 | 7.79 | 98 | | - | - | | 75-125 | - | | 25 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG384841-1 QC Sample: L0914754-01 Client ID: S-090-G001-0-0 | | | | | | |
| Solids, Total | 96 | 96.2 | % | 0 | | 20 |
| Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385839-1 QC Sample: L0914754-02 Client ID: S-090-G002-0-0 | | | | | | |
| Gravel (>2.00mm) | 1.7 | 1.00 | % | **52** | Q | 20 |
| Very Coarse Sand (1.00-2.00 mm) | 15.9 | 15.1 | % | 5 | | 20 |
| Coarse Sand (0.50-1.00 mm) | 16.0 | 15.1 | % | 6 | | 20 |
| Medium Sand (0.25-0.50 mm) | 13.0 | 13.0 | % | 0 | | 20 |
| Fine Sand (0.125-0.25 mm) | 12.2 | 12.4 | % | 2 | | 20 |
| Very Fine Sand (0.063-0.125 mm) | ND | ND | % | NC | | 20 |
| Silt - (1.95-62.5 um) | 40.8 | 41.9 | % | 3 | | 20 |
| Clay - (<1.95 um) | ND | ND | % | NC | | 20 |
| Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385841-3 QC Sample: L0914754-02 Client ID: S-090-G002-0-0 | | | | | | |
| Total Organic Carbon (Rep1) | 4.05 | 4.10 | % | 1 | | 25 |
| Total Organic Carbon (Rep2) | 4.24 | 4.41 | % | 4 | | 25 |

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG385841-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 102 | | 75-125 |
| Total Organic Carbon (Rep2) | 106 | | 75-125 |

**Project Name:** TO-0010 NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914754
**Report Date:** 02/11/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0914754-01A | Glass 250ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-01B | Glass 100ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-01C | Bag | A | N/A | 5.6 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0914754-02A | Glass 250ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-02B | Glass 100ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-02C | Bag | A | N/A | 5.6 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0914754-02D | Glass 250ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-03A | Glass 250ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-03B | Glass 100ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-03C | Bag | A | N/A | 5.6 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0914754-04A | Glass 250ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-04B | Glass 100ml unpreserved | A | N/A | 5.6 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914754-04C | Bag | A | N/A | 5.6 | Y | Absent | A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | TO-0010 NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914754 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## REFERENCES


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

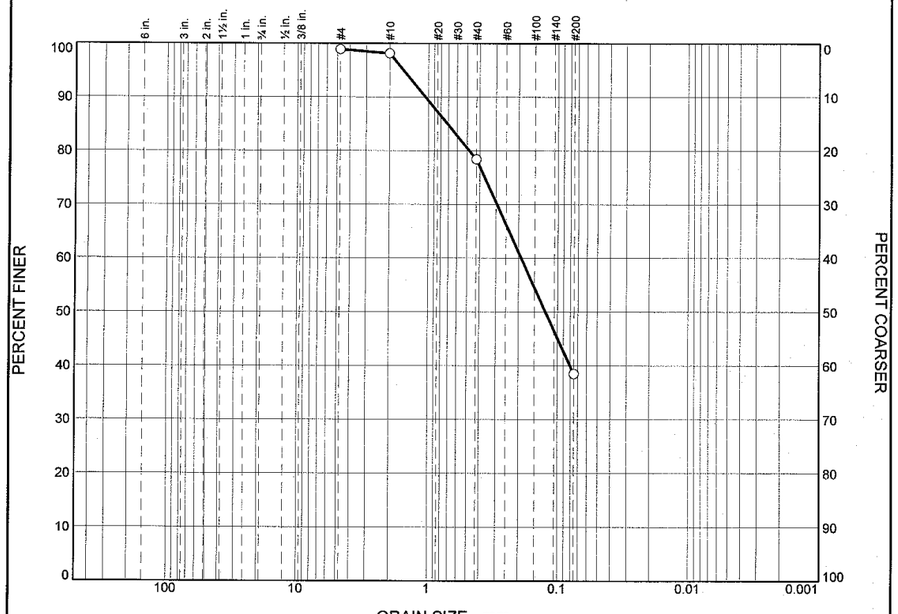

## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# ASTM 422D Bulk Sediment

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.6 | 8.8 | 8.8 | 14.3 | 16.0 | | | | | | 50.2 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.7130 | 0.1909 | 0.1237 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0914754 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-G001-0-0 **Sample Number:** L0914754-01

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914754
**Location:** S-090-G001-0-0
**Sample Number:** L0914754-01
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 74.84 | 4.57 | #4 | 522.46 | 521.68 | 98.9 | 1.1 |
| | | #10 | 485.23 | 484.70 | 98.1 | 1.9 |
| | | #40 | 377.63 | 363.77 | 78.4 | 21.6 |
| | | #200 | 373.22 | 345.17 | 38.5 | 61.5 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.6 | 8.8 | 8.8 | 14.3 | 16.0 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.1237 | 0.1909 | 0.4814 | 0.7130 | 1.0558 | 1.5635 |

| Fineness Modulus |
|---|
| 1.04 |

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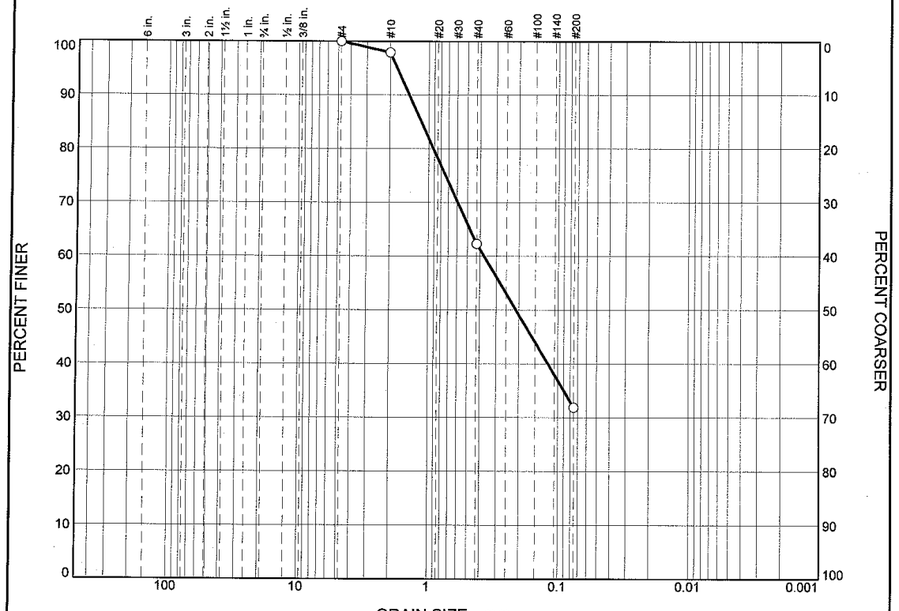
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 0.4 | 1.7 | 15.9 | 16.0 | 13.0 | 12.2 | | | | | 40.8 | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 1.1405 | 0.3730 | 0.2109 | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0914754 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-G002-0-0 **Sample Number:** L0914754-02

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914754
**Location:** S-090-G002-0-0
**Sample Number:** L0914754-02
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 67.20 | 4.64 | #4 | 520.80 | 520.80 | 100.0 | 0.0 |
| | | #10 | 483.32 | 482.02 | 97.9 | 2.1 |
| | | #40 | 400.19 | 377.90 | 62.3 | 37.7 |
| | | #200 | 365.58 | 346.54 | 31.9 | 68.1 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.4 | 1.7 | 15.9 | 16.0 | 13.0 | 12.2 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.2109 | 0.3730 | 0.9177 | 1.1405 | 1.4173 | 1.7614 |

| Fineness Modulus |
|---|
| 1.45 |

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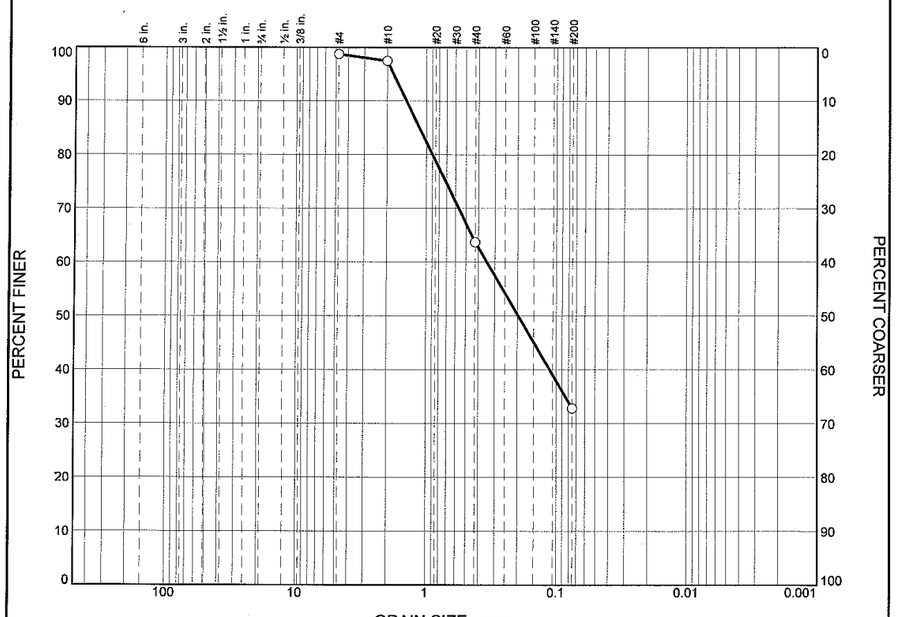
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 1.0 | 15.1 | 15.1 | 13.0 | 12.4 | | | | | 41.9 | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 1.1286 | 0.3450 | 0.1967 | | | | | |

| | Material Description | USCS | AASHTO |
|---|---|---|---|
| ○ | | | |

**Project No.** L0914754 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-G002-0-0 **Sample Number:** WG385839-1

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914754
**Location:** S-090-G002-0-0
**Sample Number:** WG385839-1
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 70.24 | 4.60 | #4 | 522.51 | 521.68 | 98.7 | 1.3 |
| | | #10 | 485.53 | 484.70 | 97.5 | 2.5 |
| | | #40 | 385.93 | 363.77 | 63.7 | 36.3 |
| | | #200 | 365.44 | 345.17 | 32.8 | 67.2 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 1.0 | 15.1 | 15.1 | 13.0 | 12.4 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.1967 | 0.3450 | 0.8973 | 1.1286 | 1.4196 | 1.7856 |

| Fineness Modulus |
|---|
| 1.44 |

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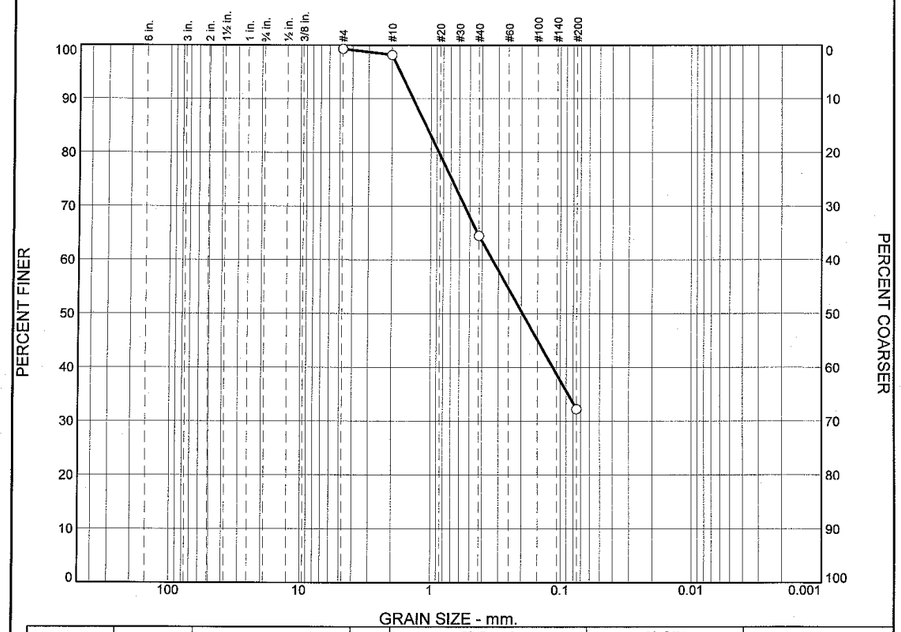
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.9 | 15.1 | 15.1 | 13.4 | 12.9 | | | | | 41.7 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 1.0912 | 0.3340 | 0.1951 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0914754 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-G002-0-0 REP **Sample Number:** L0914754-03

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914754
**Location:** S-090-G002-0-0 REP
**Sample Number:** L0914754-03
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 77.91 | 4.65 | #4 | 521.31 | 520.80 | 99.3 | 0.7 |
| | | #10 | 482.84 | 482.02 | 98.2 | 1.8 |
| | | #40 | 402.59 | 377.90 | 64.5 | 35.5 |
| | | #200 | 370.18 | 346.54 | 32.2 | 67.8 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.9 | 15.1 | 15.1 | 13.4 | 12.9 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.1951 | 0.3340 | 0.8671 | 1.0912 | 1.3730 | 1.7277 |

| Fineness Modulus |
|---|
| 1.40 |

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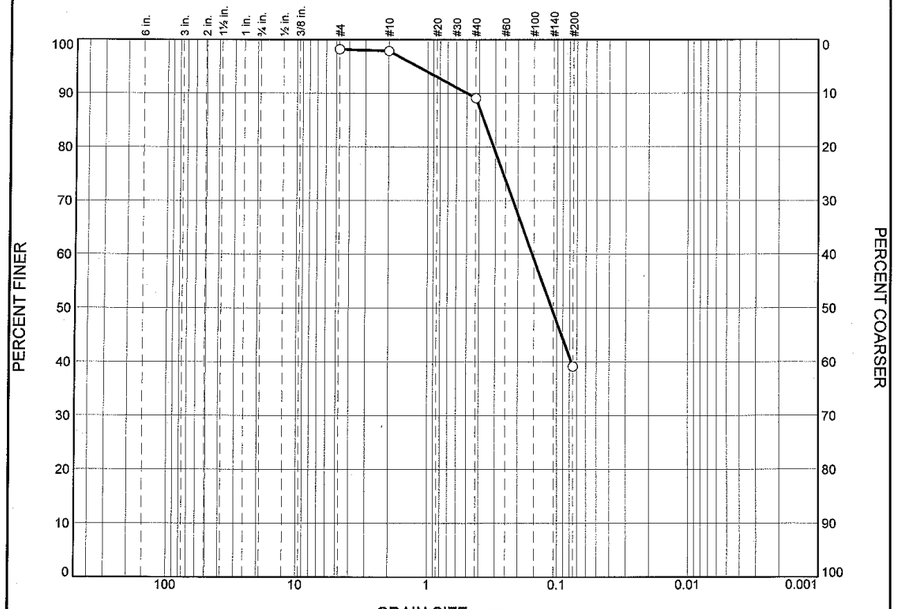
# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.2 | 3.9 | 4.0 | 16.2 | 20.0 | | | | | 53.8 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.3685 | 0.1548 | 0.1094 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0914754 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-G003-0-0 **Sample Number:** L0914754-04

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

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## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914754
**Location:** S-090-G003-0-0
**Sample Number:** L0914754-04
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 97.61 | 4.64 | #4 | 523.35 | 521.68 | 98.2 | 1.8 |
| | | #10 | 485.00 | 484.70 | 97.9 | 2.1 |
| | | #40 | 371.92 | 363.77 | 89.1 | 10.9 |
| | | #200 | 391.65 | 345.17 | 39.1 | 60.9 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.2 | 3.9 | 4.0 | 16.2 | 20.0 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.1094 | 0.1548 | 0.3098 | 0.3685 | 0.4970 | 1.2022 |

| Fineness Modulus |
|---|
| 0.80 |

Alpha Analytical

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02111019:26

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0914754

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Drive, E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TO-0010 NBH Task 40 Sed Trap
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

**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 | PCB Congeners NOAA 18 | TOC | Grain Size | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| -1 | S-090-G001-0-0 | 10/14/09 | 08:13 | SED | DSB | X | | | ST-001 | 1 |
| | S-090-G001-0-0 | 10/14/09 | 08:14 | SED | DSB | | X | | ST-001 | 1 |
| | S-090-G001-0-0 | 10/14/09 | 08:12 | SED | DSB | | | X | ST-001 | 1 |
| 2 | S-090-G002-0-0 | 10/14/09 | 10:41 | SED | DSB | X | | | ST-002 | 1 |
| | S-090-G002-0-0 | 10/14/09 | 10:45 | SED | DSB | | X | | ST-002 | 1 |
| | S-090-G002-0-0 | 10/14/09 | 10:39 | SED | DSB | | | X | ST-002 | 1 |
| -3 | S-090-G002-0-0 Rep | 10/14/09 | 10:42 | SED | DSB | X | | | ST-002 Rep | 1 |
| | S-090-G002-0-0 Rep | 10/14/09 | 10:44 | SED | DSB | | X | | ST-002 Rep | 1 |
| | S-090-G002-0-0 Rep | 10/14/09 | 10:40 | SED | DSB | | | X | ST-002 Rep | 1 |
| -2 | S-090-G002-0-0 MS/MSD | 10/14/09 | 10:43 | SED | DSB | X | | | ST-002 MS/MSD | 1 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | A | A | O | | | | | | | | | | | | | | |
| Preservative | A | A | A | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 10/14/09 - 13:36 | [signature] | 10/14/09 13:36 |
| [signature] | 10/14/09 15:45 | [signature] | 10/14/09 1545 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

02111019:26

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0914754

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, Ma 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TO-0010 NBH Task 40 Sed Traps
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

**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 | ANALYSIS: RCB Congeners NOAA 18 | TOC | Grain Size | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| -4 | S-090-G003-0-0 | 10/14/09 | 11:51 | SED | DSB | X | | | ST-003 | 1 |
| | S-090-G003-0-0 | 10/14/09 | 11:52 | SED | DSB | | X | | ST-003 | 1 |
| | S-090-G003-0-0 | 10/14/09 | 11:50 | SED | DSB | | | X | ST-003 | 1 |

| Container Type | A | A | O |
|---|---|---|---|
| Preservative | A | A | A |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 10/14/09 13:36 | [signature] | 10/14/09 13:36 |
| [signature] | 10/14/09 15:45 | [signature] | 10/14/09 1545 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0914850 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Bob Hamilton |
| Project Name: | T0-0010-NBH TASK 4.0 SED TRAP |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/05/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0914850-01 | S-090-001-0-0 | NEW BEDFORD HARBOR | 10/15/09 13:00 |
| L0914850-02 | S-090-002-0-0 | NEW BEDFORD HARBOR | 10/15/09 14:15 |
| L0914850-03 | S-090-003-0-0 | NEW BEDFORD HARBOR | 10/15/09 15:25 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the original report issued on November 11, 2009. The report was ammended to include revised Grain Size data.

LOGIN NARRATIVE
All samples were frozen upon receipt.

PCB Congeners by 8082

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**Case Narrative (continued)**

The WG385678-4/-5/-6/-7 MS/MSD recoveries are outside the acceptance criteria for several congeners. The matrix spikes were diluted out due to high concentrations detected in the native sample.

All samples were diluted due to high concentrations of target analytes. In most instances further dilutions were also performed in order to be able to quantitate the compounds within the calibration range. Surrogates were diluted out of the samples.

Total Organic Carbon

The matrix spike associated with sample S-090-003-0-004 (L0914850-03MS) run #2 had a recovery of 133 %, above the 125% QC acceptance limit, possibly due to the sample matrix. The associated Laboratory Control Spike had an acceptable recovery indicating the sample batch was in control, and all sample results were accepted.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Neil

Title: Technical Director/Representative Date: 02/05/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-01 | Date Collected: | 10/15/09 13:00 |
| Client ID: | S-090-001-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 23:38 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 6940 | | ug/kg | 1430 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-01 | Date Collected: | 10/15/09 13:00 |
| Client ID: | S-090-001-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/05/09 23:38 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 5530 | | ug/kg | 1430 | 1000 |
| Cl4-BZ#52 | 8640 | | ug/kg | 1430 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-01 | Date Collected: | 10/15/09 13:00 |
| Client ID: | S-090-001-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 09:06 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 1360 | | ug/kg | 143 | 100 |
| Cl4-BZ#66 | 1790 | | ug/kg | 143 | 100 |
| Cl5-BZ#101 | 1540 | | ug/kg | 143 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 143 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 143 | 100 |
| Cl7-BZ#170 | 154 | | ug/kg | 143 | 100 |
| Cl7-BZ#180 | 195 | | ug/kg | 143 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 143 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 143 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 143 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-01 | Date Collected: | 10/15/09 13:00 |
| Client ID: | S-090-001-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 09:06 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 1910 | | ug/kg | 143 | 100 |
| Cl5-BZ#118 | 796 | | ug/kg | 143 | 100 |
| Cl6-BZ#138 | 430 | | ug/kg | 143 | 100 |
| Cl6-BZ#153 | 1120 | | ug/kg | 143 | 100 |
| Cl7-BZ#187 | 292 | | ug/kg | 143 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-02 | Date Collected: | 10/15/09 14:15 |
| Client ID: | S-090-002-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 00:19 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 25000 | | ug/kg | 1610 | 1000 |
| Cl4-BZ#52 | 26200 | | ug/kg | 1610 | 1000 |
| Cl5-BZ#101 | 7870 | | ug/kg | 1610 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-02 | Date Collected: | 10/15/09 14:15 |
| Client ID: | S-090-002-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 00:19 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 5460 | | ug/kg | 1610 | 1000 |
| Cl3-BZ#18 | 14500 | | ug/kg | 1610 | 1000 |
| Cl4-BZ#44 | 8680 | | ug/kg | 1610 | 1000 |
| Cl4-BZ#66 | 8250 | | ug/kg | 1610 | 1000 |
| Cl6-BZ#153 | 5410 | | ug/kg | 1610 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-02 | Date Collected: | 10/15/09 14:15 |
| Client ID: | S-090-002-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 09:46 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#118 | 2640 | | ug/kg | 161 | 100 |
| Cl6-BZ#128 | 522 | | ug/kg | 161 | 100 |
| Cl7-BZ#170 | 459 | | ug/kg | 161 | 100 |
| Cl7-BZ#180 | 628 | | ug/kg | 161 | 100 |
| Cl7-BZ#187 | 751 | | ug/kg | 161 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 161 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 161 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 161 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-02 | Date Collected: | 10/15/09 14:15 |
| Client ID: | S-090-002-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 09:46 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 82% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#105 | 512 | | ug/kg | 161 | 100 |
| Cl6-BZ#138 | 1180 | | ug/kg | 161 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-03 | Date Collected: | 10/15/09 15:25 |
| Client ID: | S-090-003-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 10:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 329 | | ug/kg | 142 | 100 |
| Cl3-BZ#18 | 725 | | ug/kg | 142 | 100 |
| Cl3-BZ#28 | 2260 | | ug/kg | 142 | 100 |
| Cl4-BZ#52 | 2130 | | ug/kg | 142 | 100 |
| Cl4-BZ#66 | 1790 | | ug/kg | 142 | 100 |
| Cl5-BZ#101 | 1880 | | ug/kg | 142 | 100 |
| Cl5-BZ#118 | 1590 | | ug/kg | 142 | 100 |
| Cl6-BZ#128 | 317 | | ug/kg | 142 | 100 |
| Cl7-BZ#170 | 199 | | ug/kg | 142 | 100 |
| Cl7-BZ#180 | 262 | | ug/kg | 142 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 142 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 142 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 142 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0914850-03 | Date Collected: | 10/15/09 15:25 |
| Client ID: | S-090-003-0-0 | Date Received: | 10/16/09 |
| Sample Location: | NEW BEDFORD HARBOR | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 10/23/09 09:29 |
| Analytical Date: | 11/06/09 10:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 10/26/09 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 917 | | ug/kg | 142 | 100 |
| Cl5-BZ#105 | 384 | | ug/kg | 142 | 100 |
| Cl6-BZ#138 | 783 | | ug/kg | 142 | 100 |
| Cl6-BZ#153 | 1170 | | ug/kg | 142 | 100 |
| Cl7-BZ#187 | 230 | | ug/kg | 142 | 100 |

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP **Lab Number:** L0914850
**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/05/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 11/05/09 16:52
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG385678-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.33 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 70 | | 50-125 |
| BZ 198 | 83 | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

## Method Blank Analysis
**Batch Quality Control**

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3540C |
| Analytical Date: | 11/05/09 16:52 | Extraction Date: | 10/23/09 09:29 |
| Analyst: | JR | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 10/26/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG385678-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 70 | | 50-125 |
| BZ 198 | 83 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0914850
**Report Date:** 02/05/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: MS Sample | | | | | | | | | | | | |
| Cl2-BZ#8 | 11900 | 1720 | 14600 | **848** | Q | 13200 | **725** | Q | 40-120 | 16 | | 30 |
| Cl3-BZ#18 | 39500 | 1720 | 44200 | **273** | Q | 47300 | **428** | Q | 40-120 | **44** | Q | 30 |
| Cl3-BZ#18 | 39500 | 1720 | 29700 | **0** | Q | 34900 | **0** | Q | 40-120 | NC | | 30 |
| Cl3-BZ#28 | 40700 | 1720 | 35100 | **0** | Q | 34100 | **0** | Q | 40-120 | NC | | 30 |
| Cl3-BZ#28 | 40700 | 1720 | 41500 | 47 | | 44600 | **214** | Q | 40-120 | **129** | Q | 30 |
| Cl4-BZ#44 | 12000 | 1720 | 12900 | 52 | | 13300 | 71 | | 40-120 | **31** | Q | 30 |
| Cl4-BZ#52 | ND | 1720 | 43200 | **0** | Q | 41100 | **0** | Q | 40-120 | NC | | 30 |
| Cl5-BZ#101 | 7760 | 1720 | 9670 | **562** | Q | 8520 | **468** | Q | 40-120 | 18 | | 30 |
| Cl5-BZ#105 | 390 | 1720 | 2540 | **125** | Q | 2860 | **136** | Q | 40-120 | 8 | | 30 |
| Cl5-BZ#118 | ND | 1720 | 4650 | **270** | Q | 5040 | **277** | Q | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 444 | 1720 | 2550 | **148** | Q | 2740 | **150** | Q | 40-120 | 1 | | 30 |
| Cl6-BZ#138 | 1020 | 1720 | 3710 | **156** | Q | 3940 | **160** | Q | 40-120 | 3 | | 30 |
| Cl6-BZ#153 | ND | 1720 | 6950 | **404** | Q | 6930 | **380** | Q | 40-120 | 6 | | 30 |
| Cl7-BZ#170 | 456 | 1720 | 2620 | **152** | Q | 2820 | **155** | Q | 40-120 | 2 | | 30 |
| Cl7-BZ#187 | ND | 1720 | 3370 | **196** | Q | 3520 | **193** | Q | 40-120 | 2 | | 30 |
| Cl8-BZ#195 | ND | 1720 | 2270 | **132** | Q | 2480 | **136** | Q | 40-120 | 3 | | 30 |
| Cl9-BZ#206 | ND | 1720 | 2410 | **140** | Q | 2580 | **142** | Q | 40-120 | 1 | | 30 |
| Cl10-BZ#209 | ND | 1720 | 2120 | **123** | Q | 2300 | **126** | Q | 40-120 | 2 | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0914850
**Report Date:** 02/05/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: MS Sample | | | | | | | | | | | | |
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385678-6 WG385678-7 QC Sample: L0914850-03 Client ID: S-090-003-0-0 | | | | | | | | | | | | |
| Cl2-BZ#8 | 329 | 1780 | 2270 | 109 | | 2560 | **127** | Q | 40-120 | 15 | | 30 |
| Cl3-BZ#18 | ND | 1780 | 3300 | **154** | Q | 3760 | **182** | Q | 40-120 | 17 | | 30 |
| Cl3-BZ#28 | 2260 | 1780 | 5390 | **176** | Q | 5290 | **173** | Q | 40-120 | 2 | | 30 |
| Cl4-BZ#44 | 917 | 1780 | 3030 | 119 | | 3520 | **149** | Q | 40-120 | 22 | | 30 |
| Cl4-BZ#66 | 1790 | 1780 | 3960 | **122** | Q | 4380 | **148** | Q | 40-120 | 19 | | 30 |
| Cl5-BZ#101 | 1880 | 1780 | 4300 | **136** | Q | 4850 | **170** | Q | 40-120 | 22 | | 30 |
| Cl6-BZ#128 | 317 | 1780 | 2370 | 115 | | 2660 | **134** | Q | 40-120 | 15 | | 30 |
| Cl6-BZ#138 | ND | 1780 | 3350 | **121** | Q | 3760 | **146** | Q | 40-120 | 19 | | 30 |
| Cl6-BZ#153 | 1170 | 1780 | 3520 | **132** | Q | 4310 | **179** | Q | 40-120 | 30 | | 30 |
| Cl7-BZ#170 | 199 | 1780 | 2280 | 117 | | 2540 | **134** | Q | 40-120 | 14 | | 30 |
| Cl7-BZ#187 | 230 | 1780 | 2300 | 116 | | 2700 | **141** | Q | 40-120 | 19 | | 30 |
| Cl8-BZ#195 | ND | 1780 | 2210 | **124** | Q | 2460 | **141** | Q | 40-120 | 13 | | 30 |
| Cl9-BZ#206 | ND | 1780 | 2400 | **135** | Q | 2620 | **150** | Q | 40-120 | 11 | | 30 |
| Cl10-BZ#209 | ND | 1780 | 2200 | **124** | Q | 2390 | **137** | Q | 40-120 | 10 | | 30 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG385678-2 WG385678-3 | | | | | | | | |
| Cl5-BZ#118 | 76 | | 76 | | 40-120 | 0 | | 30 |
| Cl7-BZ#170 | 79 | | 80 | | 40-120 | 1 | | 30 |
| Cl8-BZ#195 | 79 | | 83 | | 40-120 | 5 | | 30 |
| Cl9-BZ#206 | 88 | | 91 | | 40-120 | 3 | | 30 |
| Cl10-BZ#209 | 81 | | 85 | | 40-120 | 5 | | 30 |

| | | | |
|---|---|---|---|
| DBOB | 64 | 53 | 50-125 |
| BZ 198 | 79 | 80 | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0914850
**Report Date:** 02/05/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG385678-2 WG385678-3 | | | | | | | | |
| Cl2-BZ#8 | 63 | | 51 | | 40-120 | 21 | | 30 |
| Cl3-BZ#18 | 74 | | 60 | | 40-120 | 21 | | 30 |
| Cl3-BZ#28 | 80 | | 64 | | 40-120 | 22 | | 30 |
| Cl4-BZ#44 | 74 | | 68 | | 40-120 | 8 | | 30 |
| Cl4-BZ#52 | 79 | | 69 | | 40-120 | 14 | | 30 |
| Cl4-BZ#66 | 72 | | 69 | | 40-120 | 4 | | 30 |
| Cl5-BZ#101 | 76 | | 73 | | 40-120 | 4 | | 30 |
| Cl5-BZ#105 | 75 | | 73 | | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 79 | | 81 | | 40-120 | 3 | | 30 |
| Cl6-BZ#138 | 82 | | 79 | | 40-120 | 4 | | 30 |
| Cl6-BZ#153 | 80 | | 77 | | 40-120 | 4 | | 30 |
| Cl7-BZ#180 | 80 | | 81 | | 40-120 | 1 | | 30 |
| Cl7-BZ#187 | 78 | | 78 | | 40-120 | 0 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 64 | | 53 | | 50-125 |
| BZ 198 | 79 | | 80 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

## SAMPLE RESULTS

Lab ID: L0914850-01
Client ID: S-090-001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/15/09 13:00
Date Received: 10/16/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 6.40 | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 5.36 | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 92.7 | | % | 0.100 | 1 | - | 10/22/09 10:50 | 30,2540G | KB |

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

## SAMPLE RESULTS

Lab ID: L0914850-02
Client ID: S-090-002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/15/09 14:15
Date Received: 10/16/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 3.64 | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.04 | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | ND | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 0.100 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 0.500 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 1.70 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 0.800 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 10.8 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 47.7 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 38.4 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 82.1 | | % | 0.100 | 1 | - | 10/22/09 10:50 | 30,2540G | KB |

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

## SAMPLE RESULTS

Lab ID: L0914850-03
Client ID: S-090-003-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/15/09 15:25
Date Received: 10/16/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.01 | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 2.21 | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | ND | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 1.90 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 4.90 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 5.00 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 3.20 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | 14.9 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 48.9 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | 21.2 | | % | 0.100 | 1 | - | 11/02/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 93.1 | | % | 0.100 | 1 | - | 10/22/09 10:50 | 30,2540G | KB |

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP **Lab Number:** L0914850

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/05/10

## Method Blank Analysis
### Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 01-03 Batch: WG386456-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | ND | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 11/03/09 06:00 | 1,9060 | NR |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG386456-4 QC Sample: L0914850-03 Client ID: S-090-003-0-0 | | | | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.01 | 4 | 6.51 | 112 | | - | - | | 75-125 | - | | 25 |
| Total Organic Carbon (Rep2) | 2.21 | 2 | 4.74 | **133** | Q | - | - | | 75-125 | - | | 25 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385468-1 QC Sample: L0914850-03 Client ID: S-090-003-0-0 | | | | | | |
| Solids, Total | 93.1 | 93.0 | % | 0 | | 20 |
| Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG386456-3 QC Sample: L0914850-03 Client ID: S-090-003-0-0 | | | | | | |
| Total Organic Carbon (Rep1) | 2.01 | 2.60 | % | 13 | | 25 |
| Total Organic Carbon (Rep2) | 2.21 | 2.26 | % | 2 | | 25 |

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG386456-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 102 | | 75-125 |
| Total Organic Carbon (Rep2) | 104 | | 75-125 |

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

### Cooler Information

| Cooler | Custody Seal |
|---|---|
| A | Absent |

### Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0914850-01A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0914850-02A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |
| L0914850-03A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7) |

### Container Comments

L0914850-01A ORIGINALLY FROZEN 10/16/09 BY NSA

*Hold days indicated by values in parentheses

**Project Name:** T0-0010-NBH TASK 4.0 SED TRAP
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0914850
**Report Date:** 02/05/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|

**Container Comments**

| | |
|---|---|
| L0914850-02A | ORIGINALLY FROZEN 10/16/09 BY NSA |
| L0914850-03A | ORIGINALLY FROZEN 10/16/09 BY NSA |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | T0-0010-NBH TASK 4.0 SED TRAP | **Lab Number:** | L0914850 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/05/10 |

## REFERENCES


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

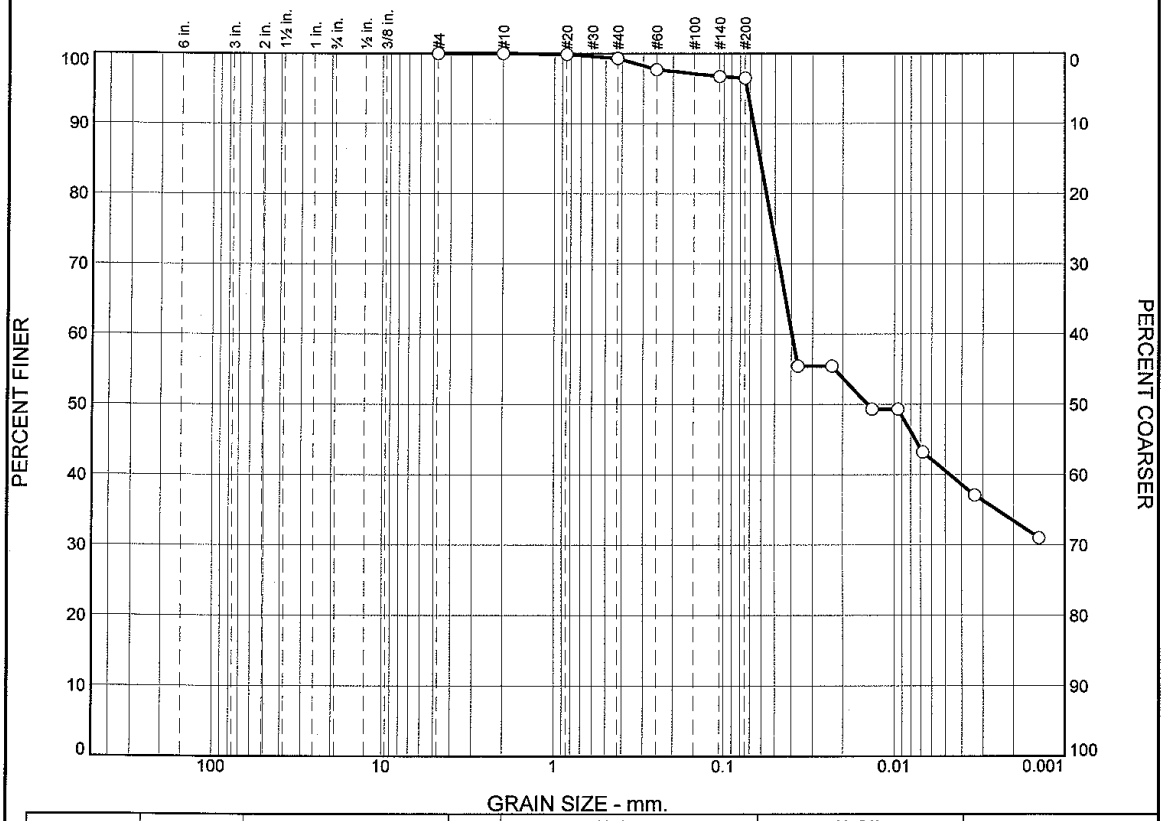

## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# Wet Sieve Hydrometer
# ASTM D422

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.5 | 1.7 | 0.8 | 10.8 | 30.7 | 4.4 | 5.3 | 7.3 | 38.4 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0613 | 0.0396 | 0.0143 | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0914850 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-002-0-0 **Sample Number:** L0914850-02

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914850
**Location:** S-090-002-0-0
**Sample Number:** L0914850-02
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 25.35 | 0.00 | #4 | 521.68 | 521.68 | 100.0 | 0.0 |
| | | #10 | 484.66 | 484.66 | 100.0 | 0.0 |
| | | #20 | 405.42 | 405.39 | 99.9 | 0.1 |
| | | #40 | 361.51 | 361.36 | 99.3 | 0.7 |
| | | #60 | 366.56 | 366.16 | 97.7 | 2.3 |
| | | #140 | 343.07 | 342.82 | 96.7 | 3.3 |
| | | #200 | 345.19 | 345.13 | 96.5 | 3.5 |

### Hydrometer Test Data

**Hydrometer test uses material passing** #200
**Percent passing #200 based upon complete sample =** 96.5
**Weight of hydrometer sample =**25.35
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -.04
**Meniscus correction only =** -3.0
**Specific gravity of solids =** 2.65
**Hydrometer type =** 151H
**Hydrometer effective depth equation: L =** 16.294964 - 0.2645 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.0 | 1.0090 | 1.0091 | 0.0135 | 6.0 | 14.7 | 0.0365 | 55.4 | 44.6 |
| 5.00 | 21.0 | 1.0090 | 1.0091 | 0.0135 | 6.0 | 14.7 | 0.0231 | 55.4 | 44.6 |
| 15.00 | 21.0 | 1.0080 | 1.0081 | 0.0135 | 5.0 | 15.0 | 0.0135 | 49.3 | 50.7 |
| 30.00 | 21.0 | 1.0080 | 1.0081 | 0.0135 | 5.0 | 15.0 | 0.0095 | 49.3 | 50.7 |
| 60.00 | 21.0 | 1.0070 | 1.0071 | 0.0135 | 4.0 | 15.2 | 0.0068 | 43.2 | 56.8 |
| 250.00 | 21.0 | 1.0060 | 1.0061 | 0.0135 | 3.0 | 15.5 | 0.0034 | 37.1 | 62.9 |
| 1440.00 | 21.0 | 1.0050 | 1.0051 | 0.0135 | 2.0 | 15.8 | 0.0014 | 31.0 | 69.0 |

### Fractional Components

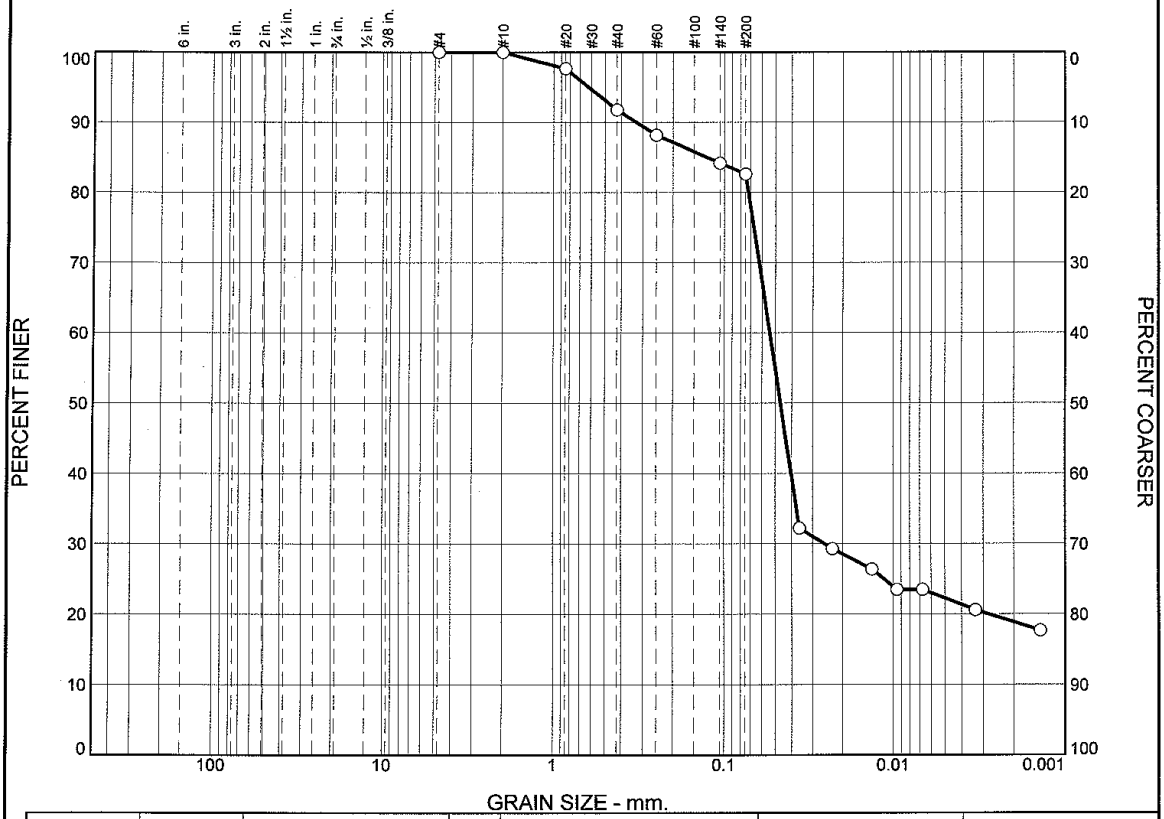
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.5 | 1.7 | 0.8 | 10.8 | 13.9 | 30.7 | 4.4 | 5.3 | 7.3 | 47.7 | 38.4 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.0143 | 0.0396 | 0.0562 | 0.0613 | 0.0669 | 0.0731 |

| Fineness Modulus |
|---|
| 0.05 |

**Alpha Analytical**

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 4.9 | 5.0 | 3.2 | 14.9 | 38.8 | 4.1 | 3.7 | 2.3 | 21.2 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1263 | 0.0539 | 0.0466 | 0.0255 | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0914850 **Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring

○ **Source of Sample:** S-090-003-0-0 **Sample Number:** L0914850-03

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

**Client:** Woods Hole Group
**Project:** NBH Water Quality Monitoring
**Project Number:** L0914850
**Location:** S-090-003-0-0
**Sample Number:** L0914850-03
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 45.59 | 0.00 | #4 | 520.73 | 520.73 | 100.0 | 0.0 |
| | | #10 | 482.00 | 482.00 | 100.0 | 0.0 |
| | | #20 | 412.03 | 410.96 | 97.7 | 2.3 |
| | | #40 | 380.45 | 377.77 | 91.8 | 8.2 |
| | | #60 | 371.46 | 369.82 | 88.2 | 11.8 |
| | | #140 | 348.99 | 347.17 | 84.2 | 15.8 |
| | | #200 | 347.18 | 346.46 | 82.6 | 17.4 |

### Hydrometer Test Data

**Hydrometer test uses material passing** #200
**Percent passing #200 based upon complete sample =** 82.6
**Weight of hydrometer sample =**45.59
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -.04
**Meniscus correction only =** -3.0
**Specific gravity of solids =** 2.65
**Hydrometer type =** 151H
**Hydrometer effective depth equation: L =** 16.294964 - 0.2645 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.0 | 1.0110 | 1.0111 | 0.0135 | 8.0 | 14.2 | 0.0359 | 32.2 | 67.8 |
| 5.00 | 21.0 | 1.0100 | 1.0101 | 0.0135 | 7.0 | 14.4 | 0.0229 | 29.3 | 70.7 |
| 15.00 | 21.0 | 1.0090 | 1.0091 | 0.0135 | 6.0 | 14.7 | 0.0133 | 26.4 | 73.6 |
| 30.00 | 21.0 | 1.0080 | 1.0081 | 0.0135 | 5.0 | 15.0 | 0.0095 | 23.5 | 76.5 |
| 60.00 | 21.0 | 1.0080 | 1.0081 | 0.0135 | 5.0 | 15.0 | 0.0067 | 23.5 | 76.5 |
| 250.00 | 21.0 | 1.0070 | 1.0071 | 0.0135 | 4.0 | 15.2 | 0.0033 | 20.6 | 79.4 |
| 1440.00 | 21.0 | 1.0060 | 1.0061 | 0.0135 | 3.0 | 15.5 | 0.0014 | 17.7 | 82.3 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 4.9 | 5.0 | 3.2 | 14.9 | 29.9 | 38.8 | 4.1 | 3.7 | 2.3 | 48.9 | 21.2 |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | 0.0028 | 0.0255 | 0.0466 | 0.0539 | 0.0722 | 0.1263 | 0.3271 | 0.6217 |

| Fineness Modulus |
|---|
| 0.32 |

**Alpha Analytical**

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02051017:57

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0914850

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Drive E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TØ-ØØ1Ø-NBH Task 4.6 Sed Traps
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
** ESI has processed sed. Traps to provide composite samples to Alpha.
** Level III data report & project Specific EDD

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Grain Size | TOC | PCB Congeners | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| L0914850-1 | S-Ø90-ØØ1-Ø-Ø | 10/15/09 | 1300 | SED | JL | ✓ | ✓ | ✓ | | 1 |
| -2 | S-Ø90-ØØ2-Ø-Ø | ↓ | 1415 | SED | JL | ✓ | ✓ | ✓ | | 1 |
| -3 | S-Ø90-ØØ3-Ø-Ø | ↓ | 1525 | SED | JL | ✓ | ✓ | ✓ | | 1 |
| | | | | | | G | G | G | | |
| | | | | | | A | A | A | | |

Container Type
Preservative

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

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (rev. 30-JUL-07)

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Katy C. Cunningham | 10/16/09 1315 | Ken [illegible] | 10/16/09 13:15 |
| Ken [illegible] | 10/16/09 15:55 | [illegible] | 10/16/09 1945 |

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.

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0916608 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | NEW BEDFORD HARBOR |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/11/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916608
**Report Date:** 02/11/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0916608-01 | S-09N-G001-0-0 | Not Specified | 11/18/09 09:31 |
| L0916608-02 | S-09N-G002-0-0 | Not Specified | 11/18/09 10:28 |
| L0916608-03 | S-09N-G002-0-0 REP | Not Specified | 11/18/09 10:29 |
| L0916608-04 | S-09N-G003-0-0 | Not Specified | 11/18/09 11:45 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the original report issued on February 04, 2010. The report was amended to include revised PCB Congener data and Grain SIze data.

NOAA Congeners 8082

L0916608-01 through -04 have elevated detection limits due to the dilution required by the sample matrix and levels of target compounds. The surrogates were diluted out due to the dilutions required to quantitate the

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative (continued)**

samples.

The WG391496-4 MS/MSD recoveries are outside the acceptance criteria for several compounds; however, the associated LCS recoveries are within criteria. No further action was required. The matrix spike samples were analyzed at one dilution only. Several compounds were not reported for these spike samples due to the fact they were over calibration in the native sample.

Total Organic Carbon 9060

The WG390001-1 Method Blank, associated with L0916608, has a concentration above the reporting limit for Total Organic Carbon. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

The matrix spike associated with sample S-09N-G002-0-0(L0916608-02MS) run #1 and #2 were both below the 75% acceptance limit, possibly due to matrix. The associated SRM had an acceptable recovery indicating the sample batch control, and all sample results were acceptable.

Grain Size

The WG391329-1 Laboratory Duplicate RPD associated with L0916608-01,L0916608-02,L0916608-03,L0916608-04 is outside the acceptance criteria for Gravel (32%), % Very Coarse Sand (37%),% Coarse Sand (39%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henil

Title: Technical Director/Representative Date: 02/11/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-01 | Date Collected: | 11/18/09 09:31 |
| Client ID: | S-09N-G001-0-0 | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 10:22 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 4580 | | ug/kg | 417 | 100 |
| Cl5-BZ#101 | 3670 | | ug/kg | 417 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 417 | 100 |
| Cl5-BZ#118 | 1760 | | ug/kg | 417 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 417 | 100 |
| Cl6-BZ#138 | 1620 | | ug/kg | 417 | 100 |
| Cl7-BZ#170 | ND | | ug/kg | 417 | 100 |
| Cl7-BZ#180 | ND | | ug/kg | 417 | 100 |
| Cl7-BZ#187 | 465 | | ug/kg | 417 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 417 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 417 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 417 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-01 | Date Collected: | 11/18/09 09:31 |
| Client ID: | S-09N-G001-0-0 | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 10:22 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2630 | | ug/kg | 417 | 100 |
| Cl4-BZ#44 | 3350 | | ug/kg | 417 | 100 |
| Cl4-BZ#66 | 4740 | | ug/kg | 417 | 100 |
| Cl6-BZ#153 | 2000 | | ug/kg | 417 | 100 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | | |
|---|---|---|---|---|
| Lab ID: | L0916608-01 | D | Date Collected: | 11/18/09 09:31 |
| Client ID: | S-09N-G001-0-0 | | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | | Field Prep: | Not Specified |
| Matrix: | Sediment | | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 01:29 | | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 13000 | | ug/kg | 4170 | 1000 |
| Cl4-BZ#52 | 17300 | | ug/kg | 4170 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-02 | Date Collected: | 11/18/09 10:28 |
| Client ID: | S-09N-G002-0-0 | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 11:02 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#101 | 5530 | | ug/kg | 419 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 419 | 100 |
| Cl5-BZ#118 | 2570 | | ug/kg | 419 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 419 | 100 |
| Cl6-BZ#138 | 3340 | | ug/kg | 419 | 100 |
| Cl7-BZ#170 | 587 | | ug/kg | 419 | 100 |
| Cl7-BZ#180 | 792 | | ug/kg | 419 | 100 |
| Cl7-BZ#187 | 1250 | | ug/kg | 419 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 419 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 419 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 419 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-02 | Date Collected: | 11/18/09 10:28 |
| Client ID: | S-09N-G002-0-0 | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 11:02 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#153 | 4320 | | ug/kg | 419 | 100 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | | |
|---|---|---|---|---|
| Lab ID: | L0916608-02 | D | Date Collected: | 11/18/09 10:28 |
| Client ID: | S-09N-G002-0-0 | | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | | Field Prep: | Not Specified |
| Matrix: | Sediment | | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 02:10 | | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 17600 | | ug/kg | 4190 | 1000 |
| Cl3-BZ#28 | 56900 | | ug/kg | 4190 | 1000 |
| Cl4-BZ#52 | 57000 | | ug/kg | 4190 | 1000 |
| Cl4-BZ#66 | 13700 | | ug/kg | 4190 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | | |
|---|---|---|---|---|
| Lab ID: | L0916608-02 | D | Date Collected: | 11/18/09 10:28 |
| Client ID: | S-09N-G002-0-0 | | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | | Field Prep: | Not Specified |
| Matrix: | Sediment | | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 02:10 | | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 79% | | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 39200 | | ug/kg | 4190 | 1000 |
| Cl4-BZ#44 | 14500 | | ug/kg | 4190 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-03 | Date Collected: | 11/18/09 10:29 |
| Client ID: | S-09N-G002-0-0 REP | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 11:43 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 83% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl5-BZ#101 | 5280 | | ug/kg | 393 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 393 | 100 |
| Cl5-BZ#118 | 2560 | | ug/kg | 393 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 393 | 100 |
| Cl6-BZ#138 | 3290 | | ug/kg | 393 | 100 |
| Cl7-BZ#170 | 592 | | ug/kg | 393 | 100 |
| Cl7-BZ#180 | 834 | | ug/kg | 393 | 100 |
| Cl7-BZ#187 | 1230 | | ug/kg | 393 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 393 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 393 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 393 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-03 | Date Collected: | 11/18/09 10:29 |
| Client ID: | S-09N-G002-0-0 REP | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 11:43 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 83% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#66 | 7680 | | ug/kg | 393 | 100 |
| Cl6-BZ#153 | 4240 | | ug/kg | 393 | 100 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-03 D | Date Collected: | 11/18/09 10:29 |
| Client ID: | S-09N-G002-0-0 REP | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 04:13 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 83% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 16300 | | ug/kg | 3930 | 1000 |
| Cl3-BZ#18 | 39900 | | ug/kg | 3930 | 1000 |
| Cl3-BZ#28 | 52400 | | ug/kg | 3930 | 1000 |
| Cl4-BZ#52 | 53900 | | ug/kg | 3930 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-03 D | Date Collected: | 11/18/09 10:29 |
| Client ID: | S-09N-G002-0-0 REP | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 04:13 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 83% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 14000 | | ug/kg | 3930 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916608-04 | Date Collected: | 11/18/09 11:45 |
| Client ID: | S-09N-G003-0-0 | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/22/09 00:04 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 91% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 196 | | ug/kg | 35.5 | 10 |
| Cl3-BZ#18 | 436 | | ug/kg | 35.5 | 10 |
| Cl4-BZ#44 | 481 | | ug/kg | 35.5 | 10 |
| Cl5-BZ#105 | 225 | | ug/kg | 35.5 | 10 |
| Cl6-BZ#128 | 189 | | ug/kg | 35.5 | 10 |
| Cl6-BZ#138 | 669 | | ug/kg | 35.5 | 10 |
| Cl7-BZ#170 | 106 | | ug/kg | 35.5 | 10 |
| Cl7-BZ#180 | 142 | | ug/kg | 35.5 | 10 |
| Cl7-BZ#187 | 120 | | ug/kg | 35.5 | 10 |
| Cl8-BZ#195 | ND | | ug/kg | 35.5 | 10 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 35.5 | 10 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 35.5 | 10 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | | |
|---|---|---|---|---|
| Lab ID: | L0916608-04 | D | Date Collected: | 11/18/09 11:45 |
| Client ID: | S-09N-G003-0-0 | | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | | Field Prep: | Not Specified |
| Matrix: | Sediment | | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 12:24 | | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 91% | | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 2010 | | ug/kg | 355 | 100 |
| Cl4-BZ#52 | 2040 | | ug/kg | 355 | 100 |
| Cl5-BZ#101 | 1760 | | ug/kg | 355 | 100 |
| Cl5-BZ#118 | 1420 | | ug/kg | 355 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | | |
|---|---|---|---|---|
| Lab ID: | L0916608-04 | D | Date Collected: | 11/18/09 11:45 |
| Client ID: | S-09N-G003-0-0 | | Date Received: | 11/18/09 |
| Sample Location: | Not Specified | | Field Prep: | Not Specified |
| Matrix: | Sediment | | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 12:24 | | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 91% | | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#66 | 1760 | | ug/kg | 355 | 100 |
| Cl6-BZ#153 | 1000 | | ug/kg | 355 | 100 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0916608
**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 12/16/09 11:48
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG391496-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.33 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 110 | | 50-125 |
| BZ 198 | 104 | | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

# Method Blank Analysis
## Batch Quality Control

| | | | |
|---|---|---|---|
| Analytical Method: | 1,8082 | Extraction Method: | EPA 3540C |
| Analytical Date: | 12/16/09 11:48 | Extraction Date: | 12/02/09 15:26 |
| Analyst: | JR | Cleanup Method1: | EPA 3630 |
| | | Cleanup Date1: | 12/07/09 |
| | | Cleanup Method2: | - - - - |
| | | Cleanup Date2: | |

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG391496-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 110 | | 50-125 |
| BZ 198 | 104 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG391496-4 WG391496-5 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0 | | | | | | | | | | | | |
| Cl5-BZ#101 | 5530 | 2080 | 7130 | 77 | | 7580 | 99 | | 40-120 | 26 | | 30 |
| Cl5-BZ#105 | ND | 2080 | 2530 | **121** | Q | 3050 | **148** | Q | 40-120 | 20 | | 30 |
| Cl5-BZ#118 | 2570 | 2080 | 4620 | 98 | | 5450 | **139** | Q | 40-120 | **34** | Q | 30 |
| Cl6-BZ#128 | ND | 2080 | 2450 | 118 | | 2890 | **140** | Q | 40-120 | 17 | | 30 |
| Cl6-BZ#138 | 3340 | 2080 | 4750 | 68 | | 5530 | 106 | | 40-120 | **44** | Q | 30 |
| Cl6-BZ#153 | 4320 | 2080 | 5260 | 45 | | 6390 | 100 | | 40-120 | **76** | Q | 30 |
| Cl7-BZ#170 | 587 | 2080 | 2350 | 85 | | 2790 | 107 | | 40-120 | 23 | | 30 |
| Cl7-BZ#180 | 792 | 2080 | 2490 | 82 | | 2950 | 105 | | 40-120 | 25 | | 30 |
| Cl8-BZ#195 | ND | 2080 | 1960 | 94 | | 2310 | 112 | | 40-120 | 17 | | 30 |
| Cl9-BZ#206 | ND | 2080 | 2110 | 101 | | 2490 | **121** | Q | 40-120 | 18 | | 30 |
| Cl10-BZ#209 | ND | 2080 | 1830 | 88 | | 2160 | 105 | | 40-120 | 18 | | 30 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG391496-2 WG391496-3 | | | | | | | | |
| Cl2-BZ#8 | 115 | | 94 | | 40-120 | 10 | | 30 |
| Cl3-BZ#18 | 103 | | 92 | | 40-120 | 11 | | 30 |
| Cl3-BZ#28 | 102 | | 101 | | 40-120 | 8 | | 30 |
| Cl4-BZ#52 | 98 | | 99 | | 40-120 | 2 | | 30 |
| Cl4-BZ#66 | 104 | | 100 | | 40-120 | 4 | | 30 |
| Cl5-BZ#101 | 101 | | 99 | | 40-120 | 4 | | 30 |
| Cl5-BZ#118 | 106 | | 106 | | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 107 | | 105 | | 40-120 | 3 | | 30 |
| Cl6-BZ#138 | 110 | | 108 | | 40-120 | 2 | | 30 |
| Cl7-BZ#170 | 104 | | 105 | | 40-120 | 3 | | 30 |
| Cl7-BZ#180 | 103 | | 104 | | 40-120 | 3 | | 30 |
| Cl7-BZ#187 | 104 | | 101 | | 40-120 | 3 | | 30 |
| Cl8-BZ#195 | 101 | | 103 | | 40-120 | 4 | | 30 |
| Cl9-BZ#206 | 112 | | 112 | | 40-120 | 3 | | 30 |
| Cl10-BZ#209 | 103 | | 104 | | 40-120 | 3 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 106 | | 102 | | 50-125 |
| BZ 198 | 102 | | 104 | | 50-125 |

# Lab Control Sample Analysis

**Batch Quality Control**

**Project Name:** NEW BEDFORD HARBOR

**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916608

**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | Associated sample(s): 01-04 Batch: WG391496-2 WG391496-3 | | | | | | | |
| Cl4-BZ#44 | 96 | | 95 | | 40-120 | 1 | | 30 |
| Cl5-BZ#105 | 109 | | 96 | | 40-120 | 13 | | 30 |
| Cl6-BZ#153 | 102 | | 96 | | 40-120 | 4 | | 30 |

| | | | |
|---|---|---|---|
| DBOB | 106 | 102 | 50-125 |
| BZ 198 | 102 | 104 | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0916608-01
Client ID: S-09N-G001-0-0
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 09:31
Date Received: 11/18/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.62 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 6.09 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 1.30 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.80 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.80 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 9.90 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 11.8 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 68.9 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 78.7 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0916608-02
Client ID: S-09N-G002-0-0
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 10:28
Date Received: 11/18/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.62 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 2.56 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 1.10 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.10 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.10 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 3.70 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 3.80 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 84.6 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 78.6 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0916608-03
Client ID: S-09N-G002-0-0 REP
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 10:29
Date Received: 11/18/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.22 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 3.28 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.900 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 2.70 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 2.60 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 3.10 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 3.20 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 85.4 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 83.2 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0916608-04
Client ID: S-09N-G003-0-0
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 11:45
Date Received: 11/18/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.72 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 2.52 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 1.30 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 1.60 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 1.50 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 10.1 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 12.7 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 69.5 | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/01/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 91.1 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0916608

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 01-04 Batch: WG390001-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | 0.010 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 0.029 | | % | 0.010 | 1 | - | 12/16/09 08:00 | 1,9060 | NR |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916608
**Report Date:** 02/11/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG390001-4 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0 | | | | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.62 | 1.62 | 3.64 | **63** | Q | - | - | | 75-125 | - | | 25 |
| Total Organic Carbon (Rep2) | 2.56 | 1.97 | 4.03 | **72** | | - | - | | 75-125 | - | | 25 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916608
**Report Date:** 02/11/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG390001-3 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0 | | | | | | |
| Total Organic Carbon (Rep1) | 2.62 | 2.46 | % | 6 | | 25 |
| Total Organic Carbon (Rep2) | 2.56 | 2.66 | % | 4 | | 25 |
| Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG391329-1 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0 | | | | | | |
| Gravel (>2.00mm) | 1.1 | 0.800 | % | **32** | Q | 20 |
| Very Coarse Sand (1.00-2.00 mm) | 3.1 | 4.50 | % | **37** | Q | 20 |
| Coarse Sand (0.50-1.00 mm) | 3.1 | 4.60 | % | **39** | Q | 20 |
| Medium Sand (0.25-0.50 mm) | 3.7 | 4.10 | % | 10 | | 20 |
| Fine Sand (0.125-0.25 mm) | 3.8 | 4.00 | % | 5 | | 20 |
| Very Fine Sand (0.063-0.125 mm) | ND | ND | % | NC | | 20 |
| Silt - (1.95-62.5 um) | 84.6 | 80.7 | % | 5 | | 20 |
| Clay - (<1.95 um) | ND | ND | % | NC | | 20 |
| General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG391527-1 QC Sample: L0916922-03 Client ID: DUP Sample | | | | | | |
| Solids, Total | 95.1 | 95.4 | % | 0 | | 20 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG390001-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 104 | | 75-125 |
| Total Organic Carbon (Rep2) | 105 | | 75-125 |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916608
**Report Date:** 02/11/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0916608-01A | Glass 250ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-01B | Glass 100ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-01C | Glass 500ml unpreserved | A | N/A | 4 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0916608-02A | Glass 250ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-02B | Glass 100ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-02C | Glass 500ml unpreserved | A | N/A | 4 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0916608-02X | Glass 250ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-03A | Glass 250ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-03B | Glass 100ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-03C | Glass 500ml unpreserved | A | N/A | 4 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0916608-04A | Glass 250ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0916608-04B | Glass 100ml unpreserved | A | N/A | 4 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |

*Hold days indicated by values in parentheses

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916608
**Report Date:** 02/11/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0916608-04C | Glass 500ml unpreserved | A | N/A | 4 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916608 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## REFERENCES


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

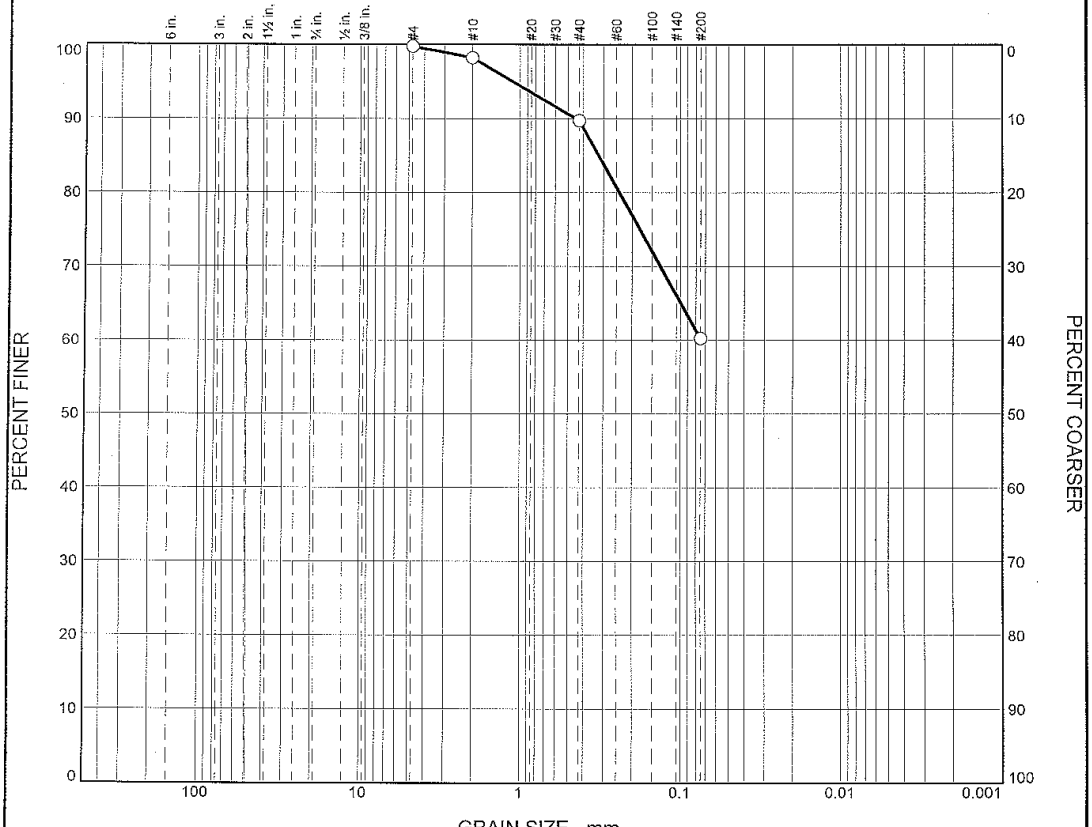

## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# Wet Sieve Hydrometer
# ASTM D422

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 1.3 | 3.8 | 3.8 | 9.9 | 11.8 | | | | 68.9 | | |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.3214 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0916608 **Client:** Woods Hole Group

**Project:** New Bedford Harbor

○ **Source of Sample:** S-09N-G001-0-0 **Sample Number:** L0916608-01

**Date:** ○

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Project**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** New Bedford Harbor
**Project Number:** L0916608
**Location:** S-09N-G001-0-0
**Sample Number:** L0916608-01
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =39.28
Tare Wt. =4.29
Minus #200 from wash =55.8%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 83.37 | 4.14 | #4 | 528.48 | 528.29 | 99.8 | 0.2 |
| | | #10 | 495.46 | 494.23 | 98.2 | 1.8 |
| | | #40 | 381.84 | 375.14 | 89.8 | 10.2 |
| | | #200 | 363.61 | 340.23 | 60.2 | 39.8 |

### Fractional Components

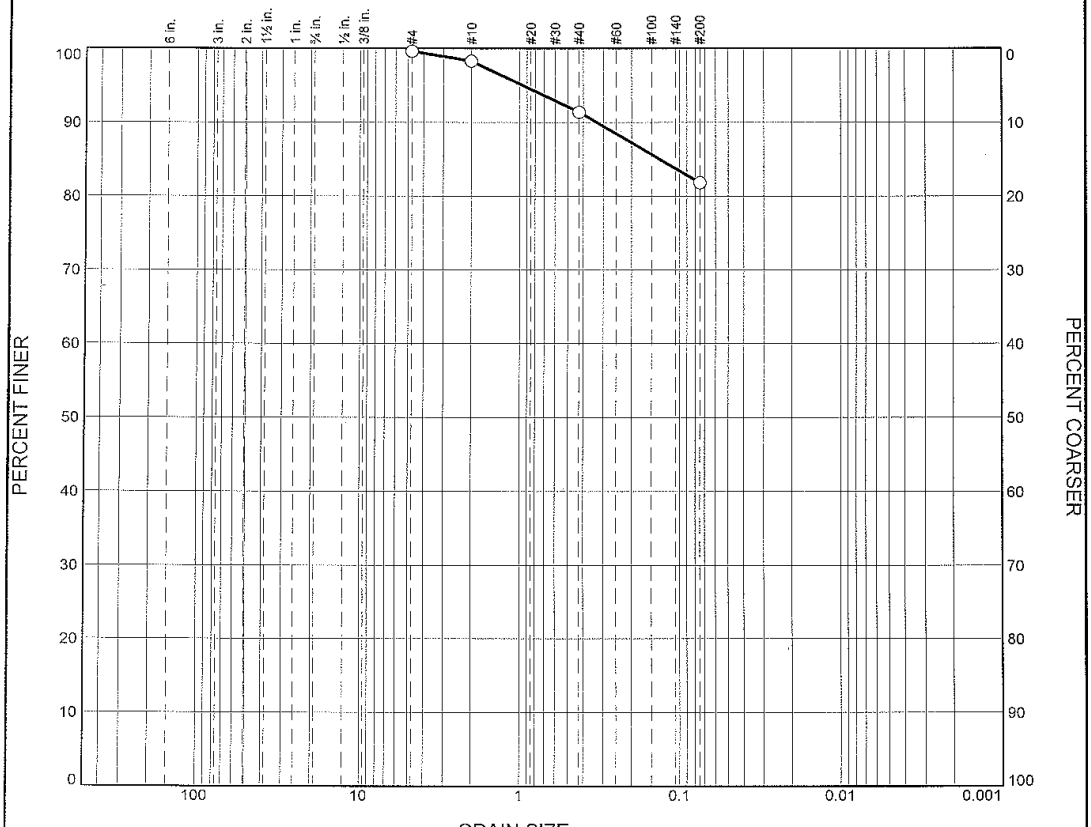
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 1.3 | 3.8 | 3.8 | 9.9 | 11.8 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.2396 | 0.3214 | 0.4448 | 1.1114 |

| Fineness Modulus |
|---|
| 0.59 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 1.1 | 3.1 | 3.1 | 3.7 | 3.8 | | | | | | 84.6 |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.1341 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0916608 **Client:** Woods Hole Group

**Project:** New Bedford Harbor

○ **Source of Sample:** S-09N-G002-0-0 **Sample Number:** L0916608-02

**Date:** ○

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Project**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** New Bedford Harbor
**Project Number:** L0916608
**Location:** S-09N-G002-0-0
**Sample Number:** L0916608-02
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** Dry Sample and Tare = 23.83
Tare Wt. = 4.46
Minus #200 from wash = 80.5%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 103.25 | 4.09 | #4 | 528.65 | 528.29 | 99.6 | 0.4 |
| | | #10 | 495.57 | 494.23 | 98.3 | 1.7 |
| | | #40 | 381.99 | 375.14 | 91.4 | 8.6 |
| | | #200 | 349.74 | 340.23 | 81.8 | 18.2 |

### Fractional Components

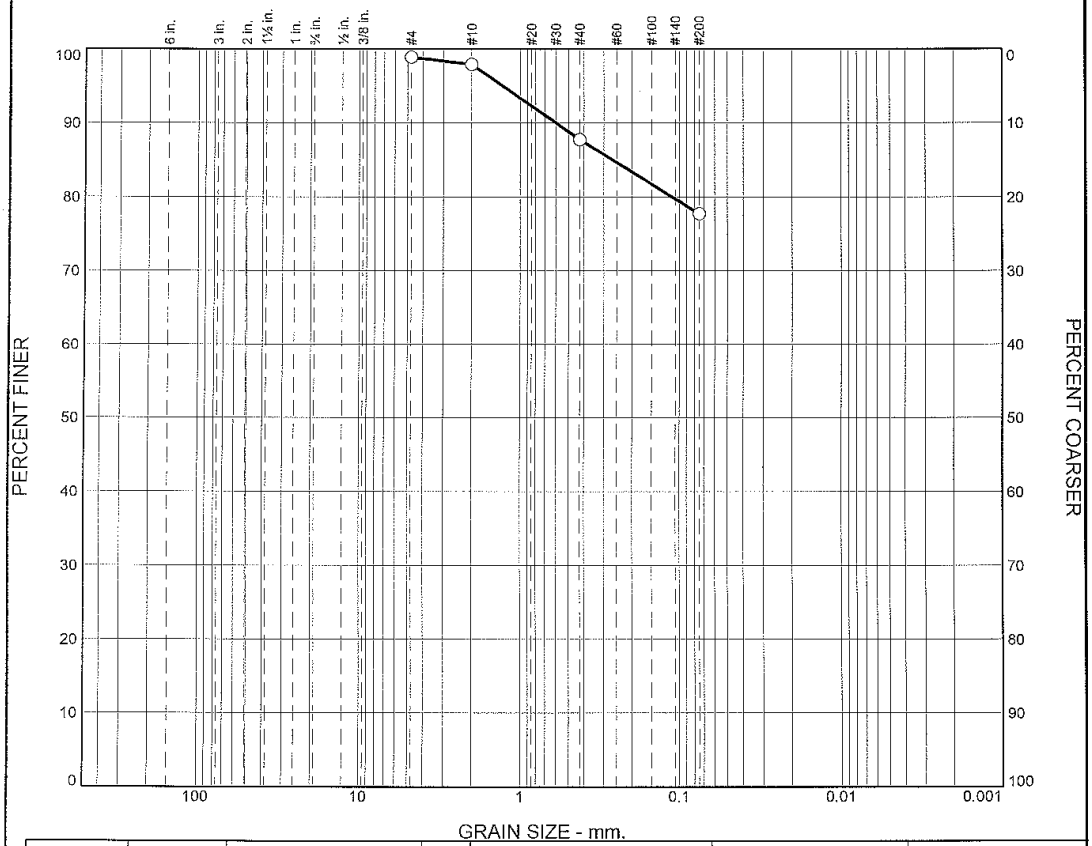
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 1.1 | 3.1 | 3.1 | 3.7 | 3.8 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.1341 | 0.3313 | 0.9574 |

| Fineness Modulus |
|---|
| 0.38 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 0.8 | 4.5 | 4.6 | 4.1 | 4.0 | | | | 80.7 | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.2646 | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0916608 **Client:** Woods Hole Group

**Project:** New Bedford Harbor

○ **Source of Sample:** S-09N-G002-0-0 **Sample Number:** WG391329-1

**Date:** ○

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Project**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** New Bedford Harbor
**Project Number:** L0916608
**Location:** S-09N-G002-0-0
**Sample Number:** WG391329-1
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =24.32
Tare Wt. = 4.07
Minus #200 from wash = 75.0%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 84.98 | 4.01 | #4 | 529.87 | 528.99 | 98.9 | 1.1 |
| | | #10 | 494.84 | 494.04 | 97.9 | 2.1 |
| | | #40 | 385.22 | 376.97 | 87.7 | 12.3 |
| | | #200 | 346.27 | 338.16 | 77.7 | 22.3 |

### Fractional Components

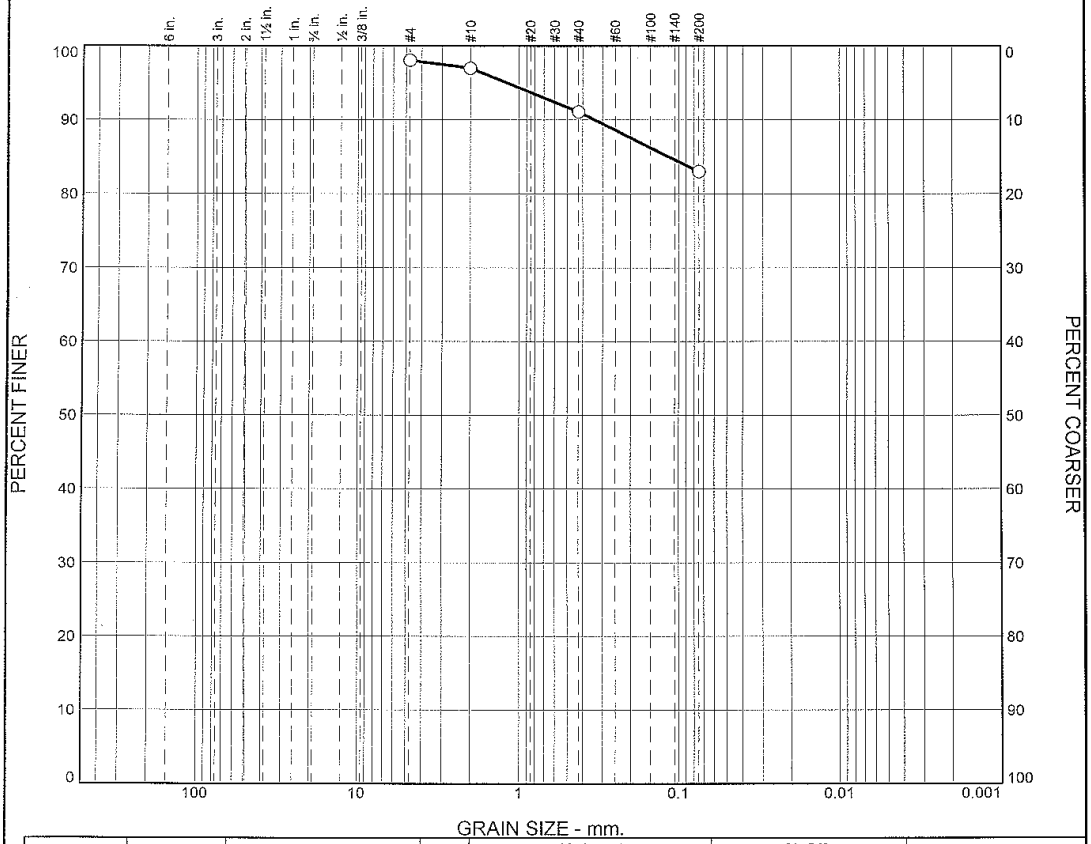
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.8 | 4.5 | 4.6 | 4.1 | 4.0 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.1113 | 0.2646 | 0.5996 | 1.2821 |

| Fineness Modulus |
|---|
| 0.51 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 0.9 | 2.7 | 2.6 | 3.1 | 3.2 | | | | | 85.4 | |

| Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1155 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0916608 **Client:** Woods Hole Group

**Project:** New Bedford Harbor

○ **Source of Sample:** S-09N-G002-0-0 REP **Sample Number:** L0916608-03

**Date:** ○

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Project**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** New Bedford Harbor
**Project Number:** L0916608
**Location:** S-09N-G002-0-0 REP
**Sample Number:** L0916608-03
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams): Dry Sample and Tare =** 23.45
**Tare Wt. =** 4.40
**Minus #200 from wash =** 81.9%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 109.12 | 4.01 | #4 | 531.00 | 528.99 | 98.1 | 1.9 |
| | | #10 | 495.20 | 494.04 | 97.0 | 3.0 |
| | | #40 | 383.19 | 376.97 | 91.1 | 8.9 |
| | | #200 | 346.65 | 338.16 | 83.0 | 17.0 |

### Fractional Components

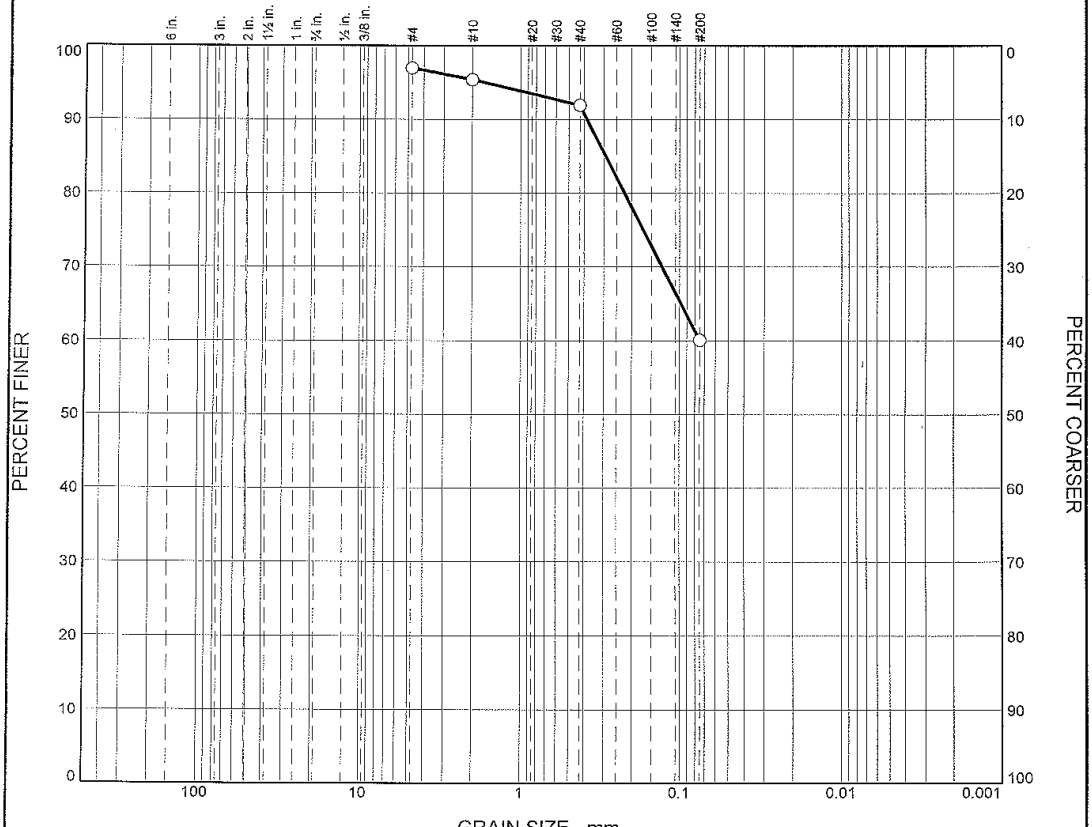
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.9 | 2.7 | 2.6 | 3.1 | 3.2 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0.1155 | 0.3380 | 1.1899 |

| Fineness Modulus |
|---|
| 0.42 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 1.3 | 1.6 | 1.5 | 10.1 | 12.7 | | | | | | 69.5 |

| | Colloids | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.2915 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0916608 **Client:** Woods Hole Group

**Project:** New Bedford Harbor

○ **Source of Sample:** S-09N-G003-0-0 **Sample Number:** L0916608-04

**Date:** ○

**Alpha Analytical**

**Mansfield, MA**

**Remarks:**

**Project**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

**Client:** Woods Hole Group
**Project:** New Bedford Harbor
**Project Number:** L0916608
**Location:** S-09N-G003-0-0
**Sample Number:** L0916608-04
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 51.57
Tare Wt. = 4.33
Minus #200 from wash = 58.8%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 118.79 | 4.13 | #4 | 531.74 | 528.29 | 97.0 | 3.0 |
| | | #10 | 496.06 | 494.23 | 95.4 | 4.6 |
| | | #40 | 379.13 | 375.14 | 91.9 | 8.1 |
| | | #200 | 376.70 | 340.23 | 60.1 | 39.9 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 1.3 | 1.6 | 1.5 | 10.1 | 12.7 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.2219 | 0.2915 | 0.3828 | 1.6775 |

| Fineness Modulus |
|---|
| 0.62 |

Alpha Analytical

02111019:10

# PERCENT SOLIDS - METHOD 2540G

## % SOLIDS PRIOR TO AIR DRYING

Analyst: KJB
BATCH: L0916608
Date In: 11/19/2009 Time in: 11:45 Start Temp: 105 °C
Date Out: 11/20/2009 Time out: 10:05 End Temp: 105 °C 1st WEIGHING Entered by: KJB
Date Out: 11/20/2009 Time out: 12:20 End Temp: 105 °C 2nd WEIGHING Verified by:
Date Out: Time out: End Temp: °C 3rd WEIGHING Calculation: (C-A) X 100/(B-A)
Oven Requirement: 103-105°C

| ETR # | Sample # | QC (D) | Dish # | A Mass of Dish tare wt (g) | B Mass of Dish & wet sample (g) | C - 1st Weighing Mass of Dish & dry sample (g) | D - 2nd Weighing Mass of Dish & dry sample (g) | E - 3rd Weighing Mass of Dish & dry sample (g) | % Solids | QC (RPD) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BLANK | | BLANK | 1.32 | 1.32 | 1.32 | 1.32 | | <0.1 | |
| L0916608 | -01 | | 1 | 1.32 | 5.09 | 2.52 | 2.52 | | 31.8 | |
| L0916608 | -02 | | 2 | 1.31 | 5.51 | 2.63 | 2.63 | | 31.4 | |
| L0916608 | -03 | | 3 | 1.31 | 5.65 | 2.68 | 2.68 | | 31.6 | |
| L0916608 | -04 | | 4 | 1.32 | 5.06 | 2.74 | 2.74 | | 38.0 | |

TEMPLATE: PERCENTNEW.XLT

Duplicates should agree within +/- 10%. 1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

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# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0916608

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Dr. E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DWALSH@WHGRP.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: New Bedford, Harbor
Project Location: New Bedford, MA
Project #: TO ~~0010~~ ~~0001~~ Sediment Grab
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
Level III data report & project specific EDD

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | PCB Congeners (Aroclor) | TOC | Grain Size | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| -1 | S-09N-G001-0-0 | 11/18/09 | 09:31 | B | DSB | X | | | | 1 |
| | S-09N-G001-0-0 | | 09:32 | | MW | | X | | | 1 |
| | S-09N-G001-0-0 | | 09:33 | | MW | | | X | | 1 |
| -2 | S-09N-G002-0-0 | | 10:28 | | MW | X | | | | 1 |
| | S-09N-G002-0-0 | | 10:29 | | MW | | X | | | 1 |
| | S-09N-G002-0-0 | | 10:33 | | MW | | | X | | 1 |
| -3 | S-09N-G002-0-0 Rep | | 10:29 | | MW | X | | | | 1 |
| | S-09N-G002-0-0 Rep | | 10:30 | | MW | | X | | | 1 |
| | S-09N-G002-0-0 Rep | | 10:34 | | MW | | | X | | 1 |
| -2 | S-09N-G002-0-0 MS/MSD | | 10:31 | | MW | X | | | | 1 |

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

| Container Type | G | G | G |
|---|---|---|---|
| Preservative | A | A | A |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| David Bailey | 11/18/09 13:08 | Kathy McCarthy | 11/18 13:08 |
| Kathy McCarthy | 11/18/09 1415 | [illegible] | 11/18/09 1415 |

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 Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

02111019:10

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0916608

**Client Information**

Client: Woods Hole Group
Address: 81 Technology Park Dr. E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DWASH@WHGRP.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: New Bedford Harbor
Project Location: New Bedford, MA
Project #: TO-010 Sediment Grops
Project Manager: Dave Welsh
ALPHA Quote #:

**Turn-Around Time**

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

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State /Fed Program | Criteria |
|---|---|
| | |

Other Project Specific Requirements/Comments/Detection Limits:

Level III project data report & project specific EDD

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | PCB Congeners (1668B) | TOC | Grain Size | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| -4 | S-09N-G003-0-0 | 11/18/09 | 11:45 | B | MW | X | | | | 1 |
| | S-09N-G003-0-0 | ↓ | 11:46 | B | MW | | X | | | 1 |
| ↓ | S-09N-G003-0-0 | | 11:47 | B | MW | | | X | | 1 |

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

| Container Type | G | G | G |
|---|---|---|---|
| Preservative | A | A | A |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| David Bailey | 11/18/09 13:08 | [illegible] | 11/18 13:08 |
| [illegible] | 11/18/09 1415 | [illegible] | 11/18/09 1415 |

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 Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0916922 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | NEW BEDFORD HARBOR |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/09/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916922
**Report Date:** 02/09/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0916922-01 | S-09N-T001-0-0 | NEW BEDFORD, MA | 11/19/09 13:20 |
| L0916922-02 | S-09N-T002-0-0 | NEW BEDFORD, MA | 11/19/09 14:05 |
| L0916922-03 | S-09N-T003-0-0 | NEW BEDFORD, MA | 11/19/09 14:45 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the one issued on December 22, 2009. The report was amended to include revised PCB Congener data.

NOAA Congeners 8082

The WG391496-4 MS/MSD recoveries are outside the acceptance criteria for several congeners: however the

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

**Case Narrative (continued)**

associated LCS recoveries are within criteria. No further action was required.

All field samples were diluted due to matrix and elevated levels of target compounds. The surrogates were diluted out.

Grain Size

Due to insufficient sample volume, grain size analysis could not be performed on these samples. The client was notified of this issue.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director/Representative Date: 02/09/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-01 | Date Collected: | 11/19/09 13:20 |
| Client ID: | S-09N-T001-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 13:05 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2410 | | ug/kg | 340 | 100 |
| Cl3-BZ#18 | 6340 | | ug/kg | 340 | 100 |
| Cl4-BZ#66 | 3970 | | ug/kg | 340 | 100 |
| Cl5-BZ#101 | 2440 | | ug/kg | 340 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 340 | 100 |
| Cl5-BZ#118 | 1650 | | ug/kg | 340 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 340 | 100 |
| Cl6-BZ#138 | 1660 | | ug/kg | 340 | 100 |
| Cl7-BZ#170 | ND | | ug/kg | 340 | 100 |
| Cl7-BZ#180 | 376 | | ug/kg | 340 | 100 |
| Cl7-BZ#187 | 558 | | ug/kg | 340 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 340 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 340 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 340 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-01 | Date Collected: | 11/19/09 13:20 |
| Client ID: | S-09N-T001-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 13:05 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 3800 | | ug/kg | 340 | 100 |
| Cl6-BZ#153 | 2100 | | ug/kg | 340 | 100 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-01 D | Date Collected: | 11/19/09 13:20 |
| Client ID: | S-09N-T001-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 05:35 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 96% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 18800 | | ug/kg | 3400 | 1000 |
| Cl4-BZ#52 | 22500 | | ug/kg | 3400 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-02 | Date Collected: | 11/19/09 14:05 |
| Client ID: | S-09N-T002-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 13:46 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2730 | | ug/kg | 351 | 100 |
| Cl4-BZ#66 | 6720 | | ug/kg | 351 | 100 |
| Cl5-BZ#101 | 4970 | | ug/kg | 351 | 100 |
| Cl5-BZ#118 | 3000 | | ug/kg | 351 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 351 | 100 |
| Cl6-BZ#138 | 2800 | | ug/kg | 351 | 100 |
| Cl7-BZ#170 | 486 | | ug/kg | 351 | 100 |
| Cl7-BZ#180 | 665 | | ug/kg | 351 | 100 |
| Cl7-BZ#187 | 888 | | ug/kg | 351 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 351 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 351 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 351 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-02 | Date Collected: | 11/19/09 14:05 |
| Client ID: | S-09N-T002-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 13:46 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl4-BZ#44 | 5680 | | ug/kg | 351 | 100 |
| Cl5-BZ#105 | 563 | | ug/kg | 351 | 100 |
| Cl6-BZ#153 | 3530 | | ug/kg | 351 | 100 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-02 D | Date Collected: | 11/19/09 14:05 |
| Client ID: | S-09N-T002-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 06:16 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 94% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#18 | 13800 | | ug/kg | 3510 | 1000 |
| Cl3-BZ#28 | 20300 | | ug/kg | 3510 | 1000 |
| Cl4-BZ#52 | 29600 | | ug/kg | 3510 | 1000 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-03 | Date Collected: | 11/19/09 14:45 |
| Client ID: | S-09N-T003-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/22/09 00:45 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 248 | | ug/kg | 34.7 | 10 |
| Cl3-BZ#18 | 526 | | ug/kg | 34.7 | 10 |
| Cl4-BZ#44 | 594 | | ug/kg | 34.7 | 10 |
| Cl5-BZ#105 | 330 | | ug/kg | 34.7 | 10 |
| Cl6-BZ#128 | 257 | | ug/kg | 34.7 | 10 |
| Cl7-BZ#170 | 146 | | ug/kg | 34.7 | 10 |
| Cl7-BZ#180 | 194 | | ug/kg | 34.7 | 10 |
| Cl7-BZ#187 | 167 | | ug/kg | 34.7 | 10 |
| Cl8-BZ#195 | ND | | ug/kg | 34.7 | 10 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 34.7 | 10 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 34.7 | 10 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-03 D | Date Collected: | 11/19/09 14:45 |
| Client ID: | S-09N-T003-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 14:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 3360 | | ug/kg | 347 | 100 |
| Cl4-BZ#52 | 3010 | | ug/kg | 347 | 100 |
| Cl4-BZ#66 | 2480 | | ug/kg | 347 | 100 |
| Cl5-BZ#101 | 2530 | | ug/kg | 347 | 100 |
| Cl5-BZ#118 | 1970 | | ug/kg | 347 | 100 |
| Cl6-BZ#138 | 1490 | | ug/kg | 347 | 100 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0916922-03 D | Date Collected: | 11/19/09 14:45 |
| Client ID: | S-09N-T003-0-0 | Date Received: | 11/20/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 12/02/09 15:26 |
| Analytical Date: | 12/12/09 14:27 | Cleanup Method1: | EPA 3630 |
| Analyst: | JR | Cleanup Date1: | 12/07/09 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl6-BZ#153 | 1450 | | ug/kg | 347 | 100 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0916922
**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/09/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 12/16/09 11:48
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG391496-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.33 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 110 | | 50-125 |
| BZ 198 | 104 | | 50-125 |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0916922

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/09/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 12/16/09 11:48
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG391496-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 110 | | 50-125 |
| BZ 198 | 104 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916922
**Report Date:** 02/09/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG391496-4 WG391496-5 QC Sample: L0916608-02 Client ID: MS Sample | | | | | | | | | | | | |
| Cl5-BZ#101 | 5530 | 2080 | 7130 | 77 | | 7580 | 99 | | 40-120 | 26 | | 30 |
| Cl5-BZ#105 | ND | 2080 | 2530 | **121** | Q | 3050 | **148** | Q | 40-120 | 20 | | 30 |
| Cl5-BZ#118 | 2570 | 2080 | 4620 | 98 | | 5450 | **139** | Q | 40-120 | **34** | Q | 30 |
| Cl6-BZ#128 | ND | 2080 | 2450 | 118 | | 2890 | **140** | Q | 40-120 | 17 | | 30 |
| Cl6-BZ#138 | 3340 | 2080 | 4750 | 68 | | 5530 | 106 | | 40-120 | **44** | Q | 30 |
| Cl6-BZ#153 | 4320 | 2080 | 5260 | 45 | | 6390 | 100 | | 40-120 | **76** | Q | 30 |
| Cl7-BZ#170 | 587 | 2080 | 2350 | 85 | | 2790 | 107 | | 40-120 | 23 | | 30 |
| Cl7-BZ#180 | 792 | 2080 | 2490 | 82 | | 2950 | 105 | | 40-120 | 25 | | 30 |
| Cl8-BZ#195 | ND | 2080 | 1960 | 94 | | 2310 | 112 | | 40-120 | 17 | | 30 |
| Cl9-BZ#206 | ND | 2080 | 2110 | 101 | | 2490 | **121** | Q | 40-120 | 18 | | 30 |
| Cl10-BZ#209 | ND | 2080 | 1830 | 88 | | 2160 | 105 | | 40-120 | 18 | | 30 |

# Lab Control Sample Analysis

**Batch Quality Control**

**Project Name:** NEW BEDFORD HARBOR

**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916922

**Report Date:** 02/09/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG391496-2 WG391496-3 | | | | | | | | |
| Cl2-BZ#8 | 115 | | 94 | | 40-120 | 10 | | 30 |
| Cl3-BZ#18 | 103 | | 92 | | 40-120 | 11 | | 30 |
| Cl3-BZ#28 | 102 | | 101 | | 40-120 | 8 | | 30 |
| Cl4-BZ#52 | 98 | | 99 | | 40-120 | 2 | | 30 |
| Cl4-BZ#66 | 104 | | 100 | | 40-120 | 4 | | 30 |
| Cl5-BZ#101 | 101 | | 99 | | 40-120 | 4 | | 30 |
| Cl5-BZ#118 | 106 | | 106 | | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 107 | | 105 | | 40-120 | 3 | | 30 |
| Cl6-BZ#138 | 110 | | 108 | | 40-120 | 2 | | 30 |
| Cl7-BZ#170 | 104 | | 105 | | 40-120 | 3 | | 30 |
| Cl7-BZ#180 | 103 | | 104 | | 40-120 | 3 | | 30 |
| Cl7-BZ#187 | 104 | | 101 | | 40-120 | 3 | | 30 |
| Cl8-BZ#195 | 101 | | 103 | | 40-120 | 4 | | 30 |
| Cl9-BZ#206 | 112 | | 112 | | 40-120 | 3 | | 30 |
| Cl10-BZ#209 | 103 | | 104 | | 40-120 | 3 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 106 | | 102 | | 50-125 |
| BZ 198 | 102 | | 104 | | 50-125 |

# Lab Control Sample Analysis

**Batch Quality Control**

**Project Name:** NEW BEDFORD HARBOR

**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916922

**Report Date:** 02/09/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | Associated sample(s): 01-03 Batch: WG391496-2 WG391496-3 | | | | | | | |
| Cl4-BZ#44 | 96 | | 95 | | 40-120 | 1 | | 30 |
| Cl5-BZ#105 | 109 | | 96 | | 40-120 | 13 | | 30 |
| Cl6-BZ#153 | 102 | | 96 | | 40-120 | 4 | | 30 |

| | | | |
|---|---|---|---|
| DBOB | 106 | 102 | 50-125 |
| BZ 198 | 102 | 104 | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916922
**Report Date:** 02/09/10

## SAMPLE RESULTS

Lab ID: L0916922-01
Client ID: S-09N-T001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/19/09 13:20
Date Received: 11/20/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.18 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.06 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 96.1 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916922
**Report Date:** 02/09/10

## SAMPLE RESULTS

Lab ID: L0916922-02
Client ID: S-09N-T002-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/19/09 14:05
Date Received: 11/20/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.17 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.17 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 94.1 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0916922
**Report Date:** 02/09/10

## SAMPLE RESULTS

Lab ID: L0916922-03
Client ID: S-09N-T003-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/19/09 14:45
Date Received: 11/20/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 3.82 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 3.96 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 95.1 | | % | 0.100 | 1 | - | 12/02/09 17:34 | 30,2540G | KJ |

**Project Name:** NEW BEDFORD HARBOR **Lab Number:** L0916922

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/09/10

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 01-03 Batch: WG394400-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | ND | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 0.010 | | % | 0.010 | 1 | - | 12/22/09 06:00 | 1,9060 | NR |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916922
**Report Date:** 02/09/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG391527-1 QC Sample: L0916922-03 Client ID: S-09N-T003-0-0 | | | | | | |
| Solids, Total | 95.1 | 95.4 | % | 0 | | 20 |

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG394400-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 112 | | 75-125 |
| Total Organic Carbon (Rep2) | 106 | | 75-125 |

**Project Name:** NEW BEDFORD HARBOR
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0916922
**Report Date:** 02/09/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0916922-01A | Glass 500ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28) |
| L0916922-02A | Glass 500ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28) |
| L0916922-03A | Glass 1000ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28) |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NEW BEDFORD HARBOR | **Lab Number:** | L0916922 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/09/10 |

## 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.


## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# PERCENT SOLIDS - METHOD 2540G

## % SOLIDS PRIOR TO AIR DRYING

Analyst: KJB
Date In: 11/23/2009 Time in: 14:00 Start Temp: 105 °C
Date Out: 11/24/2009 Time out: 9:36 End Temp: °C 1st WEIGHING
Date Out: 11/24/2009 Time out: 10:30 End Temp: °C 2nd WEIGHING
Date Out: Time out: End Temp: °C 3rd WEIGHING
Oven Requirement: 103-105°C

BATCH: L0916922
Entered by: KJB
Verified by:
Calculation: (C-A) X 100/(B-A)

| ETR # | Sample # | QC (D) | Dish # | A Mass of Dish tare wt (g) | B Mass of Dish & wet sample (g) | C - 1st Weighing Mass of Dish & dry sample (g) | D - 2nd Weighing Mass of Dish & dry sample (g) | E - 3rd Weighing Mass of Dish & dry sample (g) | % Solids | QC (RPD) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BLANK | | BLANK | 1.31 | 1.31 | 1.31 | 1.31 | | <0.1 | |
| L0916922 | -1 | | 1 | 1.31 | 5.53 | 2.57 | 2.57 | | 29.9 | |
| L0916922 | -2 | | 2 | 1.32 | 5.84 | 2.71 | 2.71 | | 30.8 | |
| L0916922 | -3 | | 3 | 1.32 | 5.99 | 3.21 | 3.21 | | 40.5 | |

TEMPLATE: PERCENTNEW.XLT

Duplicates should agree within +/- 10%. 1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

Alpha Analytical Mansfield, MA

l0916922



02091021:50

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

NBH Water Quality Monitoring

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0916922

**Client Information**

Client: ~~Dave Walsh~~ KNO Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DWALSH@WHGRP.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: ~~New Bedford Harbor~~ NBH
Project Location: New Bedford Harbor
Project #: T0-0010-NBH Task 4.0 Sed Trap
Project Manager: Dave Walsh
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
** ESI has processed Sediment Traps to provide composite samples to Alpha
** Level III data report & project Specific EDD

ANALYSIS: Grain Size, TOC, PCB Congeners

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 | Grain Size | TOC | PCB Congeners | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| L0916922-01 | S-09N-T001-0-0 | 11/19/09 | 1320 | SE | JL | X | X | X | Composite of ST-001 | 1 |
| -02 | S-09N-T002-0-0 | 11/19/09 | 1405 | SE | JL | X | X | X | composite of ST-002 | 1 |
| -03 | S-09N-T003-0-0 | 11/19/09 | 1445 | SE | JL | X | X | X | composite of ST-003 | 1 |

| | | | |
|---|---|---|---|
| Container Type | G | G | G |
| Preservative | A | A | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Katy Westbrook | 11/20/09 11:35 | [signature] | 11/20/09 11:35 |
| [signature] | 11/20/09 | [signature] | 11/20/09 2035 |

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

FORM NO: 01-01 (rev. 30-JUL-07)

02091021:50

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L0918724 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | NBH TASK 4.0 ST |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 02/11/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L0918724-01 | S-09D-G001-0-0 | NEW BEDFORD, MA | 12/28/09 09:10 |
| L0918724-02 | S-09D-G001-0-0 DUP | NEW BEDFORD, MA | 12/28/09 09:10 |
| L0918724-03 | S-09D-G003-0-0 | NEW BEDFORD, MA | 12/28/09 10:55 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the original report issued on January 27, 2010. The report was amended to include revised Grain Size data and amended surrogate reporting for PCB Congeners at the client's request.

PCB Congeners by 8082

Samples L0918724-01,-02 and -03 have the surrogates diluted out.

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative (continued)**

Samples L0918724-01,-02 and -03 have elevated detection limits due to the dilution required by the sample matrix and by the elevated concentrations of target compounds in the sample. The dilutions were determined by screening data.

The WG396463-4/-5 MS/MSD recoveries are outside the acceptance criteria for cl3-bz#18(33.4%)/(2.78%),cl4-bz#52(2.79%)/(142%). The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD. In addition the RPDs are above the acceptance criteria for cl3-bz#28(65%),cl4-bz#44(37%),cl5-bz#101(32%),cl6-bz#153(32%),cl3-bz#18(169%),cl4-bz#52(176%),cl4-bz#66(45%). The results of the associated samples are reported.

TOC by 9060

The WG395207-1 Method Blank, associated with L0918724, has a concentration above the reporting limit for Total Organic Carbon. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

Grain Size

The WG395210-1 Laboratory Duplicate RPD associated with L0918724-01,L0918724-02,L0918724-03 is outside the acceptance criteria for % Very Coarse Sand (58%), % Coarse Sand (52%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**Case Narrative (continued)**

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henil

Title: Technical Director/Representative Date: 02/11/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0918724-01 | Date Collected: | 12/28/09 09:10 |
| Client ID: | S-09D-G001-0-0 | Date Received: | 12/28/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/27/10 09:48 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 92% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 5000 | | ug/kg | 1440 | 200 |
| Cl3-BZ#18 | 11700 | | ug/kg | 1440 | 200 |
| Cl4-BZ#52 | 21400 | | ug/kg | 1440 | 200 |
| Cl4-BZ#66 | 7410 | | ug/kg | 1440 | 200 |
| Cl5-BZ#105 | ND | | ug/kg | 1440 | 200 |
| Cl5-BZ#118 | 3670 | | ug/kg | 1440 | 200 |
| Cl6-BZ#128 | ND | | ug/kg | 1440 | 200 |
| Cl7-BZ#170 | ND | | ug/kg | 1440 | 200 |
| Cl7-BZ#180 | ND | | ug/kg | 1440 | 200 |
| Cl7-BZ#187 | ND | | ug/kg | 1440 | 200 |
| Cl8-BZ#195 | ND | | ug/kg | 1440 | 200 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1440 | 200 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1440 | 200 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0918724-01 | Date Collected: | 12/28/09 09:10 |
| Client ID: | S-09D-G001-0-0 | Date Received: | 12/28/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/27/10 09:48 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 92% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 14100 | | ug/kg | 1440 | 200 |
| Cl4-BZ#44 | 6150 | | ug/kg | 1440 | 200 |
| Cl5-BZ#101 | 5480 | | ug/kg | 1440 | 200 |
| Cl6-BZ#138 | 2000 | | ug/kg | 1440 | 200 |
| Cl6-BZ#153 | 4390 | | ug/kg | 1440 | 200 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0918724-02 | Date Collected: | 12/28/09 09:10 |
| Client ID: | S-09D-G001-0-0 DUP | Date Received: | 12/28/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/26/10 18:54 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 73% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 3980 | | ug/kg | 910 | 100 |
| Cl3-BZ#18 | 8410 | | ug/kg | 910 | 100 |
| Cl4-BZ#44 | 4900 | | ug/kg | 910 | 100 |
| Cl4-BZ#52 | 17500 | | ug/kg | 910 | 100 |
| Cl4-BZ#66 | 6360 | | ug/kg | 910 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 910 | 100 |
| Cl5-BZ#118 | 3180 | | ug/kg | 910 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 910 | 100 |
| Cl7-BZ#170 | ND | | ug/kg | 910 | 100 |
| Cl7-BZ#180 | ND | | ug/kg | 910 | 100 |
| Cl7-BZ#187 | ND | | ug/kg | 910 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 910 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 910 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 910 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L0918724-02 | Date Collected: | 12/28/09 09:10 |
| Client ID: | S-09D-G001-0-0 DUP | Date Received: | 12/28/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/26/10 18:54 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 73% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 10900 | | ug/kg | 910 | 100 |
| Cl5-BZ#101 | 4310 | | ug/kg | 910 | 100 |
| Cl6-BZ#138 | 1470 | | ug/kg | 910 | 100 |
| Cl6-BZ#153 | 3540 | | ug/kg | 910 | 100 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0918724-03 | Date Collected: | 12/28/09 10:55 |
| Client ID: | S-09D-G003-0-0 | Date Received: | 12/28/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/27/10 11:51 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 700 | | ug/kg | 284 | 40 |
| Cl3-BZ#18 | 1800 | | ug/kg | 284 | 40 |
| Cl4-BZ#52 | 4600 | | ug/kg | 284 | 40 |
| Cl4-BZ#66 | 3590 | | ug/kg | 284 | 40 |
| Cl5-BZ#118 | 2710 | | ug/kg | 284 | 40 |
| Cl7-BZ#170 | 349 | | ug/kg | 284 | 40 |
| Cl7-BZ#180 | 434 | | ug/kg | 284 | 40 |
| Cl8-BZ#195 | ND | | ug/kg | 284 | 40 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 284 | 40 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 284 | 40 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L0918724-03 | Date Collected: | 12/28/09 10:55 |
| Client ID: | S-09D-G003-0-0 | Date Received: | 12/28/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/27/10 11:51 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 93% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 3430 | | ug/kg | 284 | 40 |
| Cl4-BZ#44 | 1780 | | ug/kg | 284 | 40 |
| Cl5-BZ#101 | 2700 | | ug/kg | 284 | 40 |
| Cl5-BZ#105 | 749 | | ug/kg | 284 | 40 |
| Cl6-BZ#128 | 395 | | ug/kg | 284 | 40 |
| Cl6-BZ#138 | 1430 | | ug/kg | 284 | 40 |
| Cl6-BZ#153 | 2210 | | ug/kg | 284 | 40 |
| Cl7-BZ#187 | 427 | | ug/kg | 284 | 40 |

| | | | |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 01/22/10 13:52
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG396463-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.33 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 88 | | 50-125 |
| BZ 198 | 91 | | 50-125 |

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 01/22/10 13:52
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG396463-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 88 | | 50-125 |
| BZ 198 | 91 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0918724
**Report Date:** 02/11/10

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: S-09D-G001-0-0

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cl2-BZ#8 | 5000 | 3590 | 6960 | 55 | | 7430 | 68 | | 40-120 | 21 | | 30 |
| Cl3-BZ#18 | 11700 | 3590 | 12900 | **33** | Q | 11800 | **3** | Q | 40-120 | **169** | Q | 30 |
| Cl3-BZ#28 | 14100 | 3590 | 16700 | 72 | | 19200 | **142** | Q | 40-120 | **65** | Q | 30 |
| Cl4-BZ#44 | 6150 | 3590 | 8300 | 60 | | 9270 | 87 | | 40-120 | **37** | Q | 30 |
| Cl4-BZ#52 | 21400 | 3590 | 21500 | **3** | Q | 23000 | 45 | | 40-120 | **176** | Q | 30 |
| Cl4-BZ#66 | 7410 | 3590 | 9550 | 60 | | 10800 | 94 | | 40-120 | **45** | Q | 30 |
| Cl5-BZ#101 | 5480 | 3590 | 7840 | 66 | | 8730 | 90 | | 40-120 | **32** | Q | 30 |
| Cl5-BZ#105 | ND | 3590 | 3740 | 104 | | 4210 | 117 | | 40-120 | 12 | | 30 |
| Cl5-BZ#118 | 3670 | 3590 | 6150 | 69 | | 6870 | 89 | | 40-120 | 25 | | 30 |
| Cl6-BZ#128 | ND | 3590 | 3800 | 106 | | 4230 | 118 | | 40-120 | 11 | | 30 |
| Cl6-BZ#138 | 2000 | 3590 | 4820 | 79 | | 5480 | 97 | | 40-120 | 21 | | 30 |
| Cl6-BZ#153 | 4390 | 3590 | 6800 | 67 | | 7720 | 93 | | 40-120 | **32** | Q | 30 |
| Cl7-BZ#170 | ND | 3590 | 3540 | 99 | | 3960 | 110 | | 40-120 | 11 | | 30 |
| Cl7-BZ#180 | ND | 3590 | 3550 | 99 | | 3890 | 108 | | 40-120 | 9 | | 30 |
| Cl7-BZ#187 | ND | 3590 | 3710 | 103 | | 4110 | 114 | | 40-120 | 10 | | 30 |
| Cl8-BZ#195 | ND | 3590 | 3140 | 88 | | 3470 | 97 | | 40-120 | 10 | | 30 |
| Cl9-BZ#206 | ND | 3590 | 3290 | 92 | | 3600 | 100 | | 40-120 | 9 | | 30 |
| Cl10-BZ#209 | ND | 3590 | 3090 | 86 | | 3430 | 95 | | 40-120 | 10 | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0918724
**Report Date:** 02/11/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: S-09D-G001-0-0 | | | | | | | | | | | | |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| BZ 198 | **0** | Q | **0** | Q | 50-125 |
| DBOB | **0** | Q | **0** | Q | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0918724
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG396463-2 WG396463-3 | | | | | | | | |
| Cl2-BZ#8 | 89 | | 88 | | 40-120 | 1 | | 30 |
| Cl5-BZ#101 | 93 | | 93 | | 40-120 | 0 | | 30 |
| Cl5-BZ#105 | 99 | | 96 | | 40-120 | 3 | | 30 |
| Cl5-BZ#118 | 103 | | 100 | | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 94 | | 92 | | 40-120 | 2 | | 30 |
| Cl6-BZ#138 | 97 | | 95 | | 40-120 | 2 | | 30 |
| Cl7-BZ#170 | 92 | | 90 | | 40-120 | 2 | | 30 |
| Cl7-BZ#180 | 94 | | 92 | | 40-120 | 2 | | 30 |
| Cl7-BZ#187 | 92 | | 90 | | 40-120 | 2 | | 30 |
| Cl8-BZ#195 | 88 | | 89 | | 40-120 | 1 | | 30 |
| Cl9-BZ#206 | 101 | | 99 | | 40-120 | 2 | | 30 |
| Cl10-BZ#209 | 94 | | 92 | | 40-120 | 2 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 95 | | 91 | | 50-125 |
| BZ 198 | 94 | | 91 | | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0918724
**Report Date:** 02/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG396463-2 WG396463-3 | | | | | | | | |
| Cl3-BZ#28 | 93 | | 95 | | 40-120 | 2 | | 30 |
| Cl6-BZ#153 | 91 | | 91 | | 40-120 | 0 | | 30 |

| | | | |
|---|---|---|---|
| DBOB | 95 | 91 | 50-125 |
| BZ 198 | 94 | 91 | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0918724-01
Client ID: S-09D-G001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/28/09 09:10
Date Received: 12/28/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.01 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 6.31 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.400 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.30 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.40 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 8.50 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 10.0 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 74.2 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 92.2 | | % | 0.100 | 1 | - | 01/13/09 13:15 | 30,2540G | KB |

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0918724-02
Client ID: S-09D-G001-0-0 DUP
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/28/09 09:10
Date Received: 12/28/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 5.80 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 5.77 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.400 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 3.10 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.20 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 8.30 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 10.0 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 74.5 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 72.8 | | % | 0.100 | 1 | - | 01/13/09 13:15 | 30,2540G | KB |

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

## SAMPLE RESULTS

Lab ID: L0918724-03
Client ID: S-09D-G003-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/28/09 10:55
Date Received: 12/28/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 2.45 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 2.34 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| **Grain Size (Wentworth Method) - Mansfield Lab** | | | | | | | | | |
| Gravel (>2.00mm) | 0.600 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Very Coarse Sand (1.00-2.00 mm) | 4.00 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Coarse Sand (0.50-1.00 mm) | 3.90 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Medium Sand (0.25-0.50 mm) | 13.1 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Fine Sand (0.125-0.25 mm) | 15.9 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Very Fine Sand (0.063-0.125 mm) | ND | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Silt - (1.95-62.5 um) | 62.4 | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| Clay - (<1.95 um) | ND | | % | 0.100 | 1 | - | 12/31/09 00:00 | 12,D422(M) | SE |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 93.2 | | % | 0.100 | 1 | - | 01/13/09 13:15 | 30,2540G | KB |

**Project Name:** NBH TASK 4.0 ST **Lab Number:** L0918724

**Project Number:** NBH TASK 4.0 ST **Report Date:** 02/11/10

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 01-03 Batch: WG395207-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | 0.010 | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | ND | | % | 0.010 | 1 | - | 12/31/09 09:00 | 1,9060 | NR |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG395210-1 QC Sample: L0918724-03 Client ID: S-09D-G003-0-0 | | | | | | |
| Gravel (>2.00mm) | 0.6 | 0.700 | % | 15 | | 20 |
| Very Coarse Sand (1.00-2.00 mm) | 4.0 | 2.20 | % | **58** | Q | 20 |
| Coarse Sand (0.50-1.00 mm) | 3.9 | 2.30 | % | **52** | Q | 20 |
| Medium Sand (0.25-0.50 mm) | 13.1 | 12.2 | % | 7 | | 20 |
| Fine Sand (0.125-0.25 mm) | 15.9 | 15.2 | % | 5 | | 20 |
| Very Fine Sand (0.063-0.125 mm) | ND | ND | % | NC | | 20 |
| Silt - (1.95-62.5 um) | 62.4 | 67.2 | % | 1 | | 20 |
| Clay - (<1.95 um) | ND | ND | % | NC | | 20 |
| General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG396521-1 QC Sample: L0918724-01 Client ID: S-09D-G001-0-0 | | | | | | |
| Solids, Total | 92.2 | 92.4 | % | 0 | | 20 |

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L0918724
**Report Date:** 02/11/10

## S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG395207-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 111 | | 75-125 |
| Total Organic Carbon (Rep2) | 107 | | 75-125 |

**Project Name:** NBH TASK 4.0 ST
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L0918724
**Report Date:** 02/11/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Cooler Information**

| Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L0918724-01A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-01B | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-01C | Glass 500ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0918724-01D | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-01E | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-02A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-02B | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-02C | Glass 500ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0918724-03A | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-03B | Glass 100ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L0918724-03C | Glass 500ml unpreserved | A | N/A | 2 | Y | Absent | A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7) |
| L0918724-03D | Glass 250ml unpreserved | A | N/A | 2 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | NBH TASK 4.0 ST | **Lab Number:** | L0918724 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 02/11/10 |

## REFERENCES


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

12 Annual Book of ASTM Standards. American Society for Testing and Materials.

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

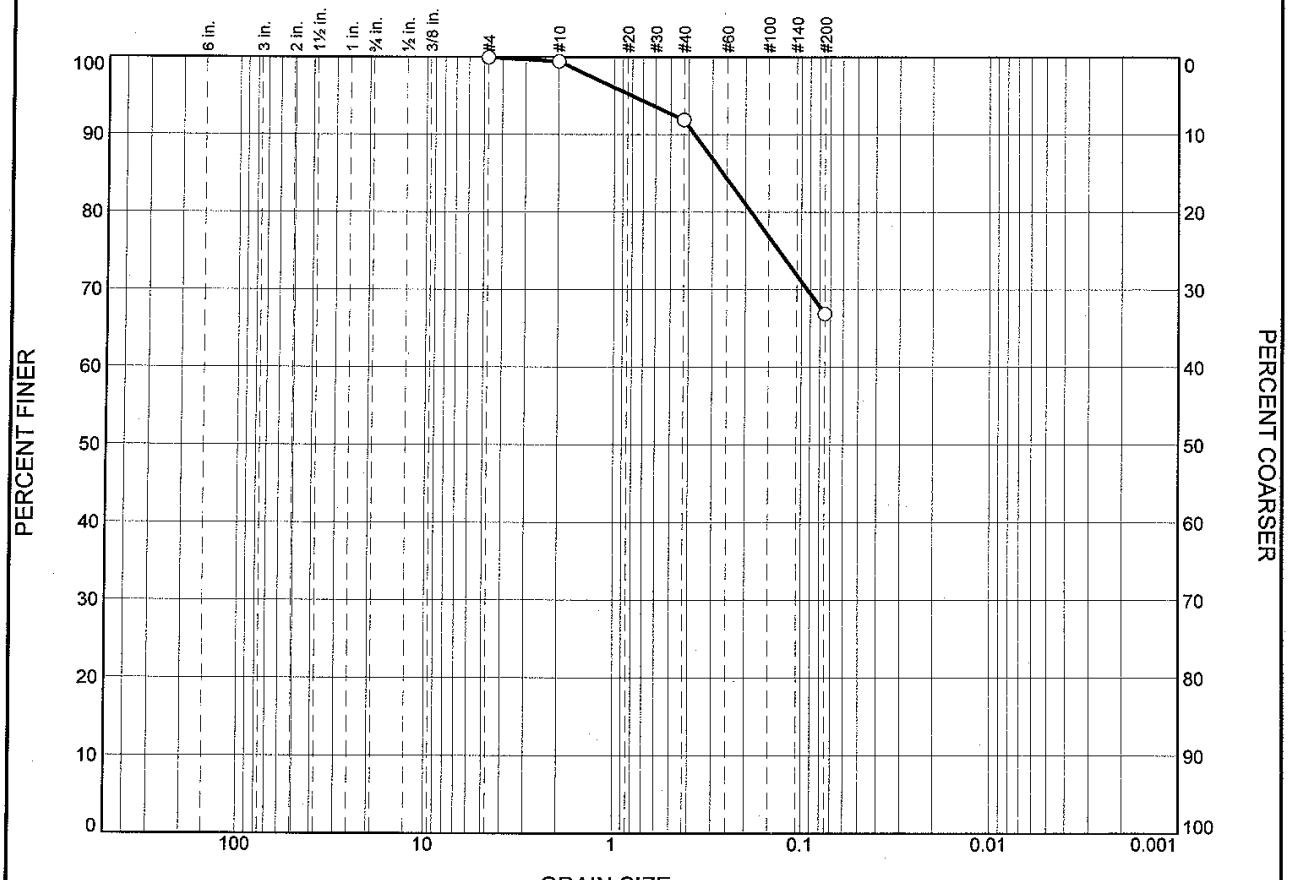

## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

# ASTM 422D Bulk Sediment

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | | | | 0.4 | 3.3 | 3.4 | 8.5 | 10.0 | | | | | 74.2 | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.2636 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0918724 **Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST

○ **Source of Sample:** S-09D-G001-0-0 **Sample Number:** L0918724-01

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST
**Project Number:** L0918724
**Location:** S-09D-G001-0-0
**Sample Number:** L0918724-01
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** **Dry Sample and Tare =** 31.34
**Tare Wt. =** 3.98
**Minus #200 from wash =** 64.2%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 80.48 | 4.02 | #4 | 528.24 | 528.20 | 99.9 | 0.1 |
| | | #10 | 494.43 | 494.04 | 99.4 | 0.6 |
| | | #40 | 380.77 | 375.00 | 91.9 | 8.1 |
| | | #200 | 359.30 | 340.16 | 66.9 | 33.1 |

### Fractional Components

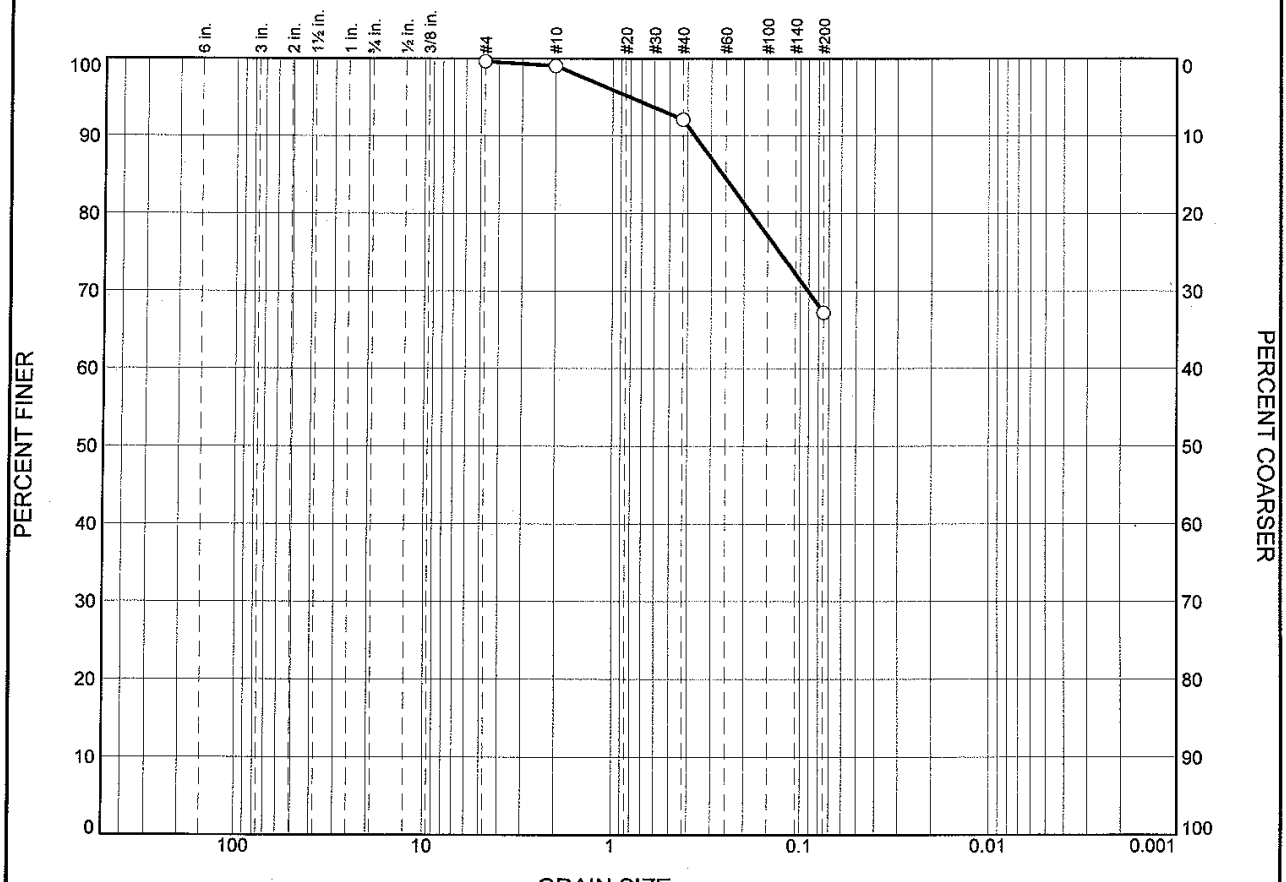
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.4 | 3.3 | 3.4 | 8.5 | 10.0 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.1864 | 0.2636 | 0.3728 | 0.8044 |

| Fineness Modulus |
|---|
| 0.46 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand V. Crs. | % Sand Crs. | % Sand Med. | % Sand Fine | % Sand V. Fine | % Silt Crs. | % Silt Med. | % Silt Fine | % Silt V. Fine | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | | 0.4 | 3.1 | 3.2 | 8.3 | 10.0 | | | | | 74.5 | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.2590 | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0918724 **Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST

○ **Source of Sample:** S-09D-G001-0-0 DUP **Sample Number:** L0918724-02

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST
**Project Number:** L0918724
**Location:** S-09D-G001-0-0 DUP
**Sample Number:** L0918724-02
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** **Dry Sample and Tare =** 30.79
**Tare Wt. =** 3.95
**Minus #200 from wash =** 65.3%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 81.30 | 4.01 | #4 | 529.16 | 528.86 | 99.6 | 0.4 |
| | | #10 | 494.26 | 493.83 | 99.1 | 0.9 |
| | | #40 | 382.15 | 376.79 | 92.1 | 7.9 |
| | | #200 | 357.29 | 338.02 | 67.2 | 32.8 |

### Fractional Components

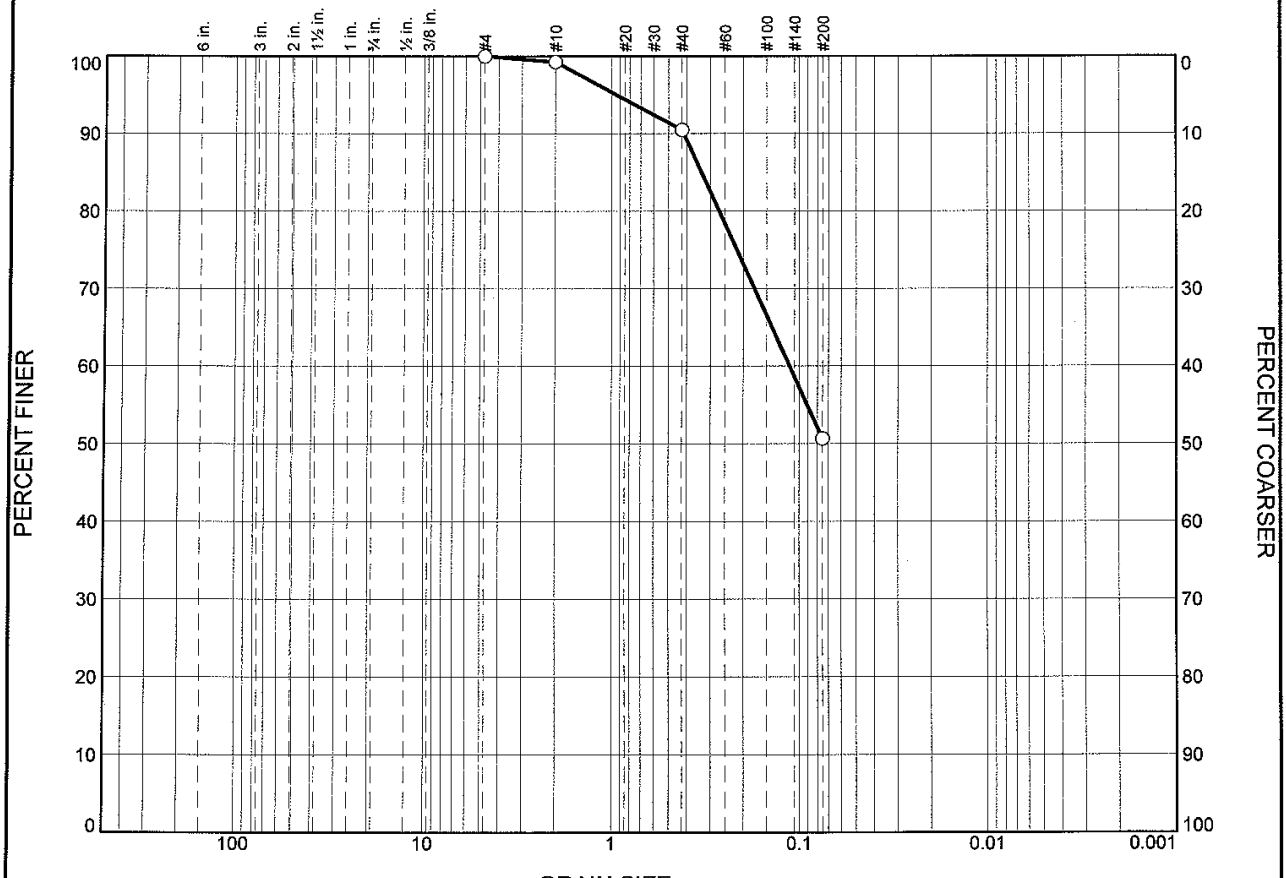
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| | | | 0.4 | 3.1 | 3.2 | 8.3 | 10.0 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.1829 | 0.2590 | 0.3667 | 0.8085 |

| Fineness Modulus |
|---|
| 0.47 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.1 | 0.6 | 4.0 | 3.9 | 13.1 | 15.9 | | 62.4 | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.3347 | 0.1127 | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ | | |

**Project No.** L0918724 **Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST

○ **Source of Sample:** S-09D-G003-0-0 **Sample Number:** L0918724-03

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST
**Project Number:** L0918724
**Location:** S-09D-G003-0-0
**Sample Number:** L0918724-03
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** Dry Sample and Tare = 47.43
Tare Wt. = 4.02
Minus #200 from wash = 49.5%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 90.04 | 4.03 | #4 | 528.20 | 528.20 | 100.0 | 0.0 |
| | | #10 | 494.67 | 494.04 | 99.3 | 0.7 |
| | | #40 | 382.55 | 375.00 | 90.5 | 9.5 |
| | | #200 | 374.44 | 340.16 | 50.6 | 49.4 |

### Fractional Components

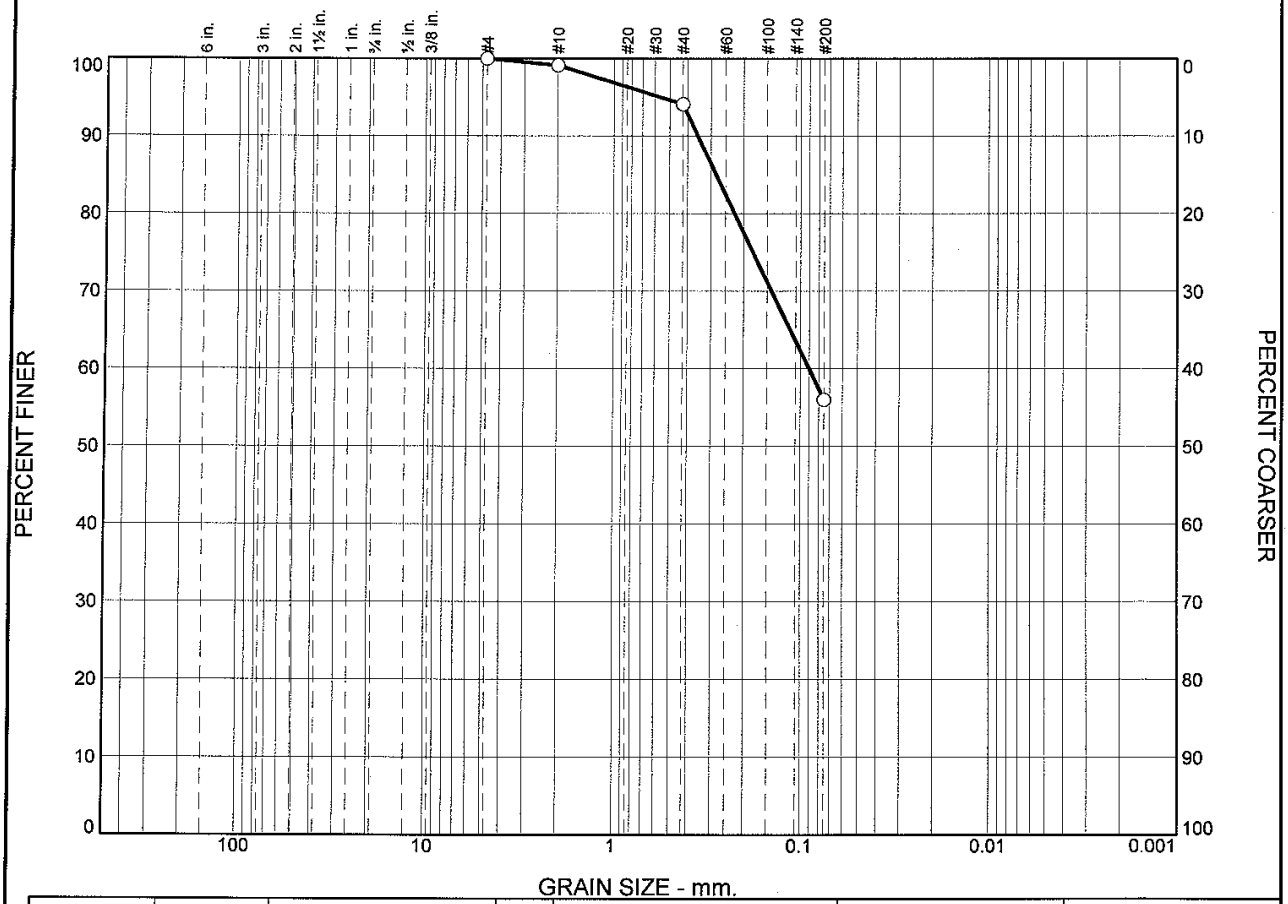
| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.1 | 0.6 | 4.0 | 3.9 | 13.1 | 15.9 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0.1127 | 0.2692 | 0.3347 | 0.4160 | 0.9419 |

| Fineness Modulus |
|---|
| 0.63 |

Alpha Analytical

# Particle Size Distribution Report




| | % Boulders | % Cobbles | % Pebbles | % Granules | % Sand | | | | | % Silt | | | | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Crs. | Med. | Fine | V. Fine | |
| ○ | 0.0 | 0.0 | 0.2 | 0.7 | 2.2 | 2.3 | 12.2 | 15.2 | | | | | 67.2 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| ☒ | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.2808 | 0.0900 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | Material Description | USCS | AASHTO |
|---|---|---|---|
| ○ | | | |

**Project No.** L0918724 **Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST

○ **Source of Sample:** S-09D-G003-0-0 **Sample Number:** WG395210-1

**Remarks:**

**Alpha Analytical**

**Mansfield, MA**

**Figure**

## GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

**Client:** Woods Hole Group Inc.
**Project:** NBH TASK 4.0 ST
**Project Number:** L0918724
**Location:** S-09D-G003-0-0
**Sample Number:** WG395210-1
**Sieve opening list:** BS Bulk Sieve

### Sieve Test Data

**Post #200 Wash Test Weights (grams):** Dry Sample and Tare = 42.73
Tare Wt. = 3.99
Minus #200 from wash = 55.2%

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 90.53 | 3.97 | #4 | 528.86 | 528.86 | 100.0 | 0.0 |
| | | #10 | 494.60 | 493.83 | 99.1 | 0.9 |
| | | #40 | 381.12 | 376.79 | 94.1 | 5.9 |
| | | #200 | 371.01 | 338.02 | 56.0 | 44.0 |

### Fractional Components

| Boulders | Cobbles | Pebbles | Granules | Sand | | | | | | Silt | | | | | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V. Crs. | Crs. | Med. | Fine | V. Fine | Total | Crs. | Med. | Fine | V. Fine | Total | |
| 0.0 | 0.0 | 0.2 | 0.7 | 2.2 | 2.3 | 12.2 | 15.2 | | | | | | | | |

| $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0.0900 | 0.2236 | 0.2808 | 0.3525 | 0.5602 |

| Fineness Modulus |
|---|
| 0.50 |

Alpha Analytical

# PERCENT SOLIDS - METHOD 2540G

## % SOLIDS PRIOR TO AIR DRYING

Analyst: KJB
Date In: 12/28/2009 Time in: 14:58 Start Temp: 105 °C
Date Out: 12/29/2009 Time out: 8:41 End Temp: 105 °C 1st WEIGHING
Date Out: 12/29/2009 Time out: 9:50 End Temp: 105 °C 2nd WEIGHING
Date Out: Time out: End Temp: °C 3rd WEIGHING
Oven Requirement: 103-105°C

BATCH: L0918724
Entered by: KJB
Verified by:
Calculation: (C-A) X 100/(B-A)

| ETR # | Sample # | QC (D) | Dish # | A Mass of Dish tare wt (g) | B Mass of Dish & wet sample (g) | C - 1st Weighing Mass of Dish & dry sample (g) | D - 2nd Weighing Mass of Dish & dry sample (g) | E - 3rd Weighing Mass of Dish & dry sample (g) | % Solids | QC (RPD) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BLANK | | BLANK | 1.31 | 1.31 | 1.31 | 1.31 | | <0.1 | |
| L0918724 | -1 | | 1 | 1.32 | 6.06 | 2.84 | 2.84 | | 32.1 | |
| L0918724 | -2 | | 2 | 1.32 | 6.71 | 3.07 | 3.07 | | 32.5 | |
| L0918724 | -3 | | 3 | 1.32 | 5.08 | 2.84 | 2.84 | | 40.4 | |

TEMPLATE: PERCENTNEW.XLT

Duplicates should agree within +/- 10%. 1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0918724

**Client Information**

Client: Woods Hole Group

Address: 81 Technology Park Dr. E. Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: dwalsh@whgrp.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Task 4.0 ST

Project Location: New Bedford, MA

Project #: TO-0010

Project Manager: Dave Walsh

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program (Fed) Criteria

**MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Level III data report; project specific EDD for samples w/ 2 jars: please homogenize before analysis

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 | PCB Congeners | TOC | Grain size | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| L0918724 - 1 | S-Ø9D-GØØ1-Ø-Ø | 12/28/09 | 09:10 | SE | KGM | X | | | ST-001 | 2 |
| | S-Ø9D-GØØ1-Ø-Ø | | | | | | X | | ST-001 | 1 |
| | S-Ø9D-GØØ1-Ø-Ø | | | | | | | X | ST-001 | 1 |
| | S-Ø9D-GØØ1-Ø-ØMSMSD | | | | | X | | | ST-001 | 1 |
| - 2 | S-Ø9D-GØØ1-Ø-Ø DUP | | | | | X | | | ST-001 | 1 |
| | S-Ø9D-GØØ1-Ø-ØDUP | | | | | | X | | ST-001 | 1 |
| | S-Ø9D-GØØ1-Ø-ØDUP | | | | | | | X | ST-001 | 1 |
| - 3 | S-Ø9D-GØØ3-Ø-Ø | | 10:55 | | | X | | | ST-003 | 2 |
| | S-Ø9D-GØØ3-Ø-Ø | | | | | | X | | ST-003 | 1 |
| | S-Ø9D-GØØ3-Ø-Ø | | | | | | | X | ST-003 | 1 |

| Container Type | G | G | O |
|---|---|---|---|
| Preservative | A | A | A |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Laura Riccio | 12/28/09 13:35 | [illegible] | 12/28/09 1335 |

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 Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

02111019:27

ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1000004 |
| Client: | Woods Hole Group<br>81 Technology Park Drive<br>East Falmouth, MA 02536 |
| ATTN: | Dave Walsh |
| Project Name: | Not Specified |
| Project Number: | NBH TASK 4.0 ST |
| Report Date: | 01/27/10 |

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1000004-01 | S-09D-T001 | NEW BEDFORD, MA | 12/29/09 11:40 |
| L1000004-02 | S-09D-T003 | NEW BEDFORD, MA | 12/29/09 12:45 |

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

**Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

PCB Congeners

Samples L1000004-01and -02 have the surrogates diluted out.

Samples L1000004-01and -02 have elevated detection limits due to the dilution required by the sample matrix and by the elevated concentrations of target compounds in the sample. The dilutions were determined by results of screening data.

The WG396463-4 MS recoveries are outside the acceptance criteria for cl3-bz#18(33.4%),cl4-bz#52(2.79%).

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

**Case Narrative (continued)**

The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD.

The WG396463-5 MSD recoveries are outside the acceptance criteria for cl3-bz#28(142%), cl3-bz#18(2.78%) . The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD.

The WG396463-5 MS/MSD RPDs are above the acceptance criteria for cl3-bz#28(65%),cl4-bz#44(37%),cl5-bz#101(32%),cl6-bz#153(32%), cl3-bz#18(169%),cl4-bz#52(176%),cl4-bz#66(45%). The results of the associated samples are reported.'

TOC by 9060

The WG397074-1 Method Blank, associated with L1000004, has a concentration above the reporting limit for Total Organic Carbon. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director/Representative Date: 01/27/10

# ORGANICS

# PCBS

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1000004-01 | Date Collected: | 12/29/09 11:40 |
| Client ID: | S-09D-T001 | Date Received: | 12/31/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/26/10 19:35 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 97% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 646 | | ug/kg | 341 | 50 |
| Cl3-BZ#18 | 1510 | | ug/kg | 341 | 50 |
| Cl4-BZ#44 | 1640 | | ug/kg | 341 | 50 |
| Cl4-BZ#52 | 4500 | | ug/kg | 341 | 50 |
| Cl4-BZ#66 | 3680 | | ug/kg | 341 | 50 |
| Cl5-BZ#118 | 3020 | | ug/kg | 341 | 50 |
| Cl7-BZ#170 | ND | | ug/kg | 341 | 50 |
| Cl7-BZ#180 | 476 | | ug/kg | 341 | 50 |
| Cl7-BZ#187 | 458 | | ug/kg | 341 | 50 |
| Cl8-BZ#195 | ND | | ug/kg | 341 | 50 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 341 | 50 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 341 | 50 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1000004-01 | Date Collected: | 12/29/09 11:40 |
| Client ID: | S-09D-T001 | Date Received: | 12/31/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/26/10 19:35 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 97% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 2620 | | ug/kg | 341 | 50 |
| Cl5-BZ#101 | 2500 | | ug/kg | 341 | 50 |
| Cl5-BZ#105 | 746 | | ug/kg | 341 | 50 |
| Cl6-BZ#128 | 384 | | ug/kg | 341 | 50 |
| Cl6-BZ#138 | 1430 | | ug/kg | 341 | 50 |
| Cl6-BZ#153 | 2200 | | ug/kg | 341 | 50 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1000004-02 | Date Collected: | 12/29/09 12:45 |
| Client ID: | S-09D-T003 | Date Received: | 12/31/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/26/10 20:16 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl2-BZ#8 | 2590 | | ug/kg | 696 | 100 |
| Cl3-BZ#18 | 8800 | | ug/kg | 696 | 100 |
| Cl4-BZ#52 | 13900 | | ug/kg | 696 | 100 |
| Cl4-BZ#66 | 4240 | | ug/kg | 696 | 100 |
| Cl5-BZ#105 | ND | | ug/kg | 696 | 100 |
| Cl5-BZ#118 | 1860 | | ug/kg | 696 | 100 |
| Cl6-BZ#128 | ND | | ug/kg | 696 | 100 |
| Cl7-BZ#170 | ND | | ug/kg | 696 | 100 |
| Cl7-BZ#180 | ND | | ug/kg | 696 | 100 |
| Cl7-BZ#187 | ND | | ug/kg | 696 | 100 |
| Cl8-BZ#195 | ND | | ug/kg | 696 | 100 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 696 | 100 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 696 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1000004-02 | Date Collected: | 12/29/09 12:45 |
| Client ID: | S-09D-T003 | Date Received: | 12/31/09 |
| Sample Location: | NEW BEDFORD, MA | Field Prep: | Not Specified |
| Matrix: | Sediment | Extraction Method: | EPA 3540C |
| Analytical Method: | 1,8082 | Extraction Date: | 01/13/10 09:31 |
| Analytical Date: | 01/26/10 20:16 | Cleanup Method1: | EPA 3630 |
| Analyst: | JS | Cleanup Date1: | 01/14/10 |
| Percent Solids: | 95% | Cleanup Method2: | - - - - |

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab | | | | | |
| Cl3-BZ#28 | 7250 | | ug/kg | 696 | 100 |
| Cl4-BZ#44 | 3350 | | ug/kg | 696 | 100 |
| Cl5-BZ#101 | 2510 | | ug/kg | 696 | 100 |
| Cl6-BZ#138 | 923 | | ug/kg | 696 | 100 |
| Cl6-BZ#153 | 2350 | | ug/kg | 696 | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |
| DBOB | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | 50-125 |

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 01/22/10 13:52
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02 Batch: WG396463-1 | | | | |
| Cl2-BZ#8 | ND | | ug/kg | 1.33 |
| Cl3-BZ#18 | ND | | ug/kg | 1.33 |
| Cl3-BZ#28 | ND | | ug/kg | 1.33 |
| Cl4-BZ#44 | ND | | ug/kg | 1.33 |
| Cl4-BZ#52 | ND | | ug/kg | 1.33 |
| Cl4-BZ#66 | ND | | ug/kg | 1.33 |
| Cl5-BZ#101 | ND | | ug/kg | 1.33 |
| Cl5-BZ#105 | ND | | ug/kg | 1.33 |
| Cl5-BZ#118 | ND | | ug/kg | 1.33 |
| Cl6-BZ#128 | ND | | ug/kg | 1.33 |
| Cl6-BZ#138 | ND | | ug/kg | 1.33 |
| Cl7-BZ#170 | ND | | ug/kg | 1.33 |
| Cl7-BZ#180 | ND | | ug/kg | 1.33 |
| Cl7-BZ#187 | ND | | ug/kg | 1.33 |
| Cl8-BZ#195 | ND | | ug/kg | 1.33 |
| Cl9-BZ#206-Cal/RTW | ND | | ug/kg | 1.33 |
| Cl10-BZ#209-Cal/RTW | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 88 | | 50-125 |
| BZ 198 | 91 | | 50-125 |
| DBOB | 78 | | 50-125 |
| BZ 198 | 85 | | 50-125 |

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 01/22/10 13:52
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -
Cleanup Date2:

| Parameter | Result | Qualifier | Units | RDL |
|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02 Batch: WG396463-1 | | | | |
| Cl6-BZ#153 | ND | | ug/kg | 1.33 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| DBOB | 88 | | 50-125 |
| BZ 198 | 91 | | 50-125 |
| DBOB | 78 | | 50-125 |
| BZ 198 | 85 | | 50-125 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L1000004
**Report Date:** 01/27/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: MS Sample | | | | | | | | | | | | |
| Cl2-BZ#8 | 5000 | 3590 | 6960 | 55 | | 7430 | 68 | | 40-120 | 21 | | 30 |
| Cl3-BZ#18 | 11700 | 3590 | 12900 | **33** | Q | 11800 | **3** | Q | 40-120 | **169** | Q | 30 |
| Cl3-BZ#28 | 14100 | 3590 | 16700 | 72 | | 19200 | **142** | Q | 40-120 | **65** | Q | 30 |
| Cl4-BZ#44 | 6150 | 3590 | 8300 | 60 | | 9270 | 87 | | 40-120 | **37** | Q | 30 |
| Cl4-BZ#52 | 21400 | 3590 | 21500 | **3** | Q | 23000 | 45 | | 40-120 | **176** | Q | 30 |
| Cl4-BZ#66 | 7410 | 3590 | 9550 | 60 | | 10800 | 94 | | 40-120 | **45** | Q | 30 |
| Cl5-BZ#101 | 5480 | 3590 | 7840 | 66 | | 8730 | 90 | | 40-120 | **32** | Q | 30 |
| Cl5-BZ#105 | ND | 3590 | 3740 | 104 | | 4210 | 117 | | 40-120 | 12 | | 30 |
| Cl5-BZ#118 | 3670 | 3590 | 6150 | 69 | | 6870 | 89 | | 40-120 | 25 | | 30 |
| Cl6-BZ#128 | ND | 3590 | 3800 | 106 | | 4230 | 118 | | 40-120 | 11 | | 30 |
| Cl6-BZ#138 | 2000 | 3590 | 4820 | 79 | | 5480 | 97 | | 40-120 | 21 | | 30 |
| Cl6-BZ#153 | 4390 | 3590 | 6800 | 67 | | 7720 | 93 | | 40-120 | **32** | Q | 30 |
| Cl7-BZ#170 | ND | 3590 | 3540 | 99 | | 3960 | 110 | | 40-120 | 11 | | 30 |
| Cl7-BZ#180 | ND | 3590 | 3550 | 99 | | 3890 | 108 | | 40-120 | 9 | | 30 |
| Cl7-BZ#187 | ND | 3590 | 3710 | 103 | | 4110 | 114 | | 40-120 | 10 | | 30 |
| Cl8-BZ#195 | ND | 3590 | 3140 | 88 | | 3470 | 97 | | 40-120 | 10 | | 30 |
| Cl9-BZ#206 | ND | 3590 | 3290 | 92 | | 3600 | 100 | | 40-120 | 9 | | 30 |
| Cl10-BZ#209 | ND | 3590 | 3090 | 86 | | 3430 | 95 | | 40-120 | 10 | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L1000004
**Report Date:** 01/27/10

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: MS Sample | | | | | | | | | | | | |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| BZ 198 | **0** | Q | **0** | Q | 50-125 |
| DBOB | **0** | Q | **0** | Q | 50-125 |
| BZ 198 | **0** | Q | **0** | Q | 50-125 |
| DBOB | **0** | Q | **0** | Q | 50-125 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L1000004
**Report Date:** 01/27/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 Batch: WG396463-2 WG396463-3 | | | | | | | | |
| Cl2-BZ#8 | 89 | | 88 | | 40-120 | 1 | | 30 |
| Cl5-BZ#101 | 93 | | 93 | | 40-120 | 0 | | 30 |
| Cl5-BZ#105 | 99 | | 96 | | 40-120 | 3 | | 30 |
| Cl5-BZ#118 | 103 | | 100 | | 40-120 | 3 | | 30 |
| Cl6-BZ#128 | 94 | | 92 | | 40-120 | 2 | | 30 |
| Cl6-BZ#138 | 97 | | 95 | | 40-120 | 2 | | 30 |
| Cl7-BZ#170 | 92 | | 90 | | 40-120 | 2 | | 30 |
| Cl7-BZ#180 | 94 | | 92 | | 40-120 | 2 | | 30 |
| Cl7-BZ#187 | 92 | | 90 | | 40-120 | 2 | | 30 |
| Cl8-BZ#195 | 88 | | 89 | | 40-120 | 1 | | 30 |
| Cl9-BZ#206 | 101 | | 99 | | 40-120 | 2 | | 30 |
| Cl10-BZ#209 | 94 | | 92 | | 40-120 | 2 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 95 | | 91 | | 50-125 |
| BZ 198 | 94 | | 91 | | 50-125 |
| DBOB | 85 | | 87 | | 50-125 |
| BZ 198 | 88 | | 85 | | 50-125 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** Not Specified

**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004

**Report Date:** 01/27/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 Batch: WG396463-2 WG396463-3 | | | | | | | | |
| Cl3-BZ#28 | 93 | | 95 | | 40-120 | 2 | | 30 |
| Cl6-BZ#153 | 91 | | 91 | | 40-120 | 0 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| DBOB | 95 | | 91 | | 50-125 |
| BZ 198 | 94 | | 91 | | 50-125 |
| DBOB | 85 | | 87 | | 50-125 |
| BZ 198 | 88 | | 85 | | 50-125 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

## SAMPLE RESULTS

Lab ID: L1000004-01
Client ID: S-09D-T001
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/29/09 11:40
Date Received: 12/31/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 4.94 | | % | 0.010 | 1 | - | 01/18/10 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 4.99 | | % | 0.010 | 1 | - | 01/18/10 09:00 | 1,9060 | NR |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 97.2 | | % | 0.100 | 1 | - | 01/13/09 13:15 | 30,2540G | KB |

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

## SAMPLE RESULTS

Lab ID: L1000004-02
Client ID: S-09D-T003
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/29/09 12:45
Date Received: 12/31/09
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| **Total Organic Carbon - Mansfield Lab** | | | | | | | | | |
| Total Organic Carbon (Rep1) | 9.17 | | % | 0.010 | 1 | - | 01/18/10 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 8.42 | | % | 0.010 | 1 | - | 01/18/10 09:00 | 1,9060 | NR |
| **General Chemistry - Mansfield Lab** | | | | | | | | | |
| Solids, Total | 95.4 | | % | 0.100 | 1 | - | 01/13/09 13:15 | 30,2540G | KB |

**Project Name:**

**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004

**Report Date:** 01/27/10

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Mansfield Lab for sample(s): 01-02 Batch: WG397074-1 | | | | | | | | | |
| Total Organic Carbon (Rep1) | 0.010 | | % | 0.010 | 1 | - | 01/18/10 09:00 | 1,9060 | NR |
| Total Organic Carbon (Rep2) | 0.013 | | % | 0.010 | 1 | - | 01/18/10 09:00 | 1,9060 | NR |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG395735-1 QC Sample: L1000004-01 Client ID: S-09D-T001 | | | | | | |
| Solids, Total | 97.2 | 97.2 | % | 0 | | 20 |

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST
**Lab Number:** L1000004
**Report Date:** 01/27/10

## S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG397074-2

| Parameter | % Recovery | Qual | QC Criteria |
|---|---|---|---|
| Total Organic Carbon (Rep1) | 105 | | 75-125 |
| Total Organic Carbon (Rep2) | 114 | | 75-125 |

**Project Name:** Not Specified
**Project Number:** NBH TASK 4.0 ST

**Lab Number:** L1000004
**Report Date:** 01/27/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

### Cooler Information

| Cooler | Custody Seal |
|---|---|
| A | Absent |

### Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis |
|---|---|---|---|---|---|---|---|
| L1000004-01A | Glass 500ml unpreserved | A | N/A | 1.5 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |
| L1000004-02A | Glass 500ml unpreserved | A | N/A | 1.5 | Y | Absent | A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28) |

### Container Comments

| | |
|---|---|
| L1000004-01A | FROZEN UPON RECEIPT 12/31/09 @ 1640 NSA |
| L1000004-02A | FROZEN UPON RECEIPT 12/31/09 @ 1640 NSA |

*Hold days indicated by values in parentheses

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| ND | - Not detected at the reported detection limit for the sample. |
| NI | - Not Ignitable. |
| RDL | - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |
| **RE** | - Analytical results are from sample re-extraction. |
| **J** | - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs). |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | Not Specified | **Lab Number:** | L1000004 |
| **Project Number:** | NBH TASK 4.0 ST | **Report Date:** | 01/27/10 |

## 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.


## LIMITATION OF LIABILITIES

Alpha Analytical 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 Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Woods Hole Labs.

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

## Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

**Maine Department of Human Services** Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID: 68-02089. ***NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1000004

**Client Information**

Client: Woods Hole Group

Address: 81 Technology Park Drive E. Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DWALSH@WHGRP.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: NBH Water Quality Monitoring

Project Location: New Bedford Harbor

Project #: TØ-ØØ1Ø-NBH Task 4.0 Sed Traps

Project Manager: Dave Walsh

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO-**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

** ESI has processed Sediment Traps to Provide Composite Samples to Alpha

** Level III data report + project Specific EDD

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Grain Size | TOC | PCB Congeners | | | | | | | | | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1000004-1 | S-ØØ9D-TØØ1 | 12/29/09 | 11:40 | SE | JL | X | X | X | | | | | | | | | | 1 |
| | S-ØØ9D-TØØ3 | 12/29/09 | 12:45 | SE | JL | X | X | X | | | | | | | | | | 1 |
| Container Type | | | | | | G | G | G | | | | | | | | | | |
| Preservative | | | | | | A | A | A | | | | | | | | | | |

SAMPLE HANDLING

Filtration_____

☐ Done

☐ Not needed

☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 12/31/09 1230 | [signature] | 12/31/09 1230 |
| [signature] | 12/31/09 1545 | [signature] | 12/31/09 1545 |

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 Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

01271022:09