



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Region 1**

**5 Post Office Square, Suite 100  
BOSTON, MA 02109-3912**

**CERTIFIED MAIL RETURN RECEIPT REQUESTED**

**MAR 05 2014**

Jim D'Angelo,  
Project Manager  
Charter Environmental  
560 Harrison Avenue  
Boston MA 02118

Re: Authorization to discharge under the Remediation General Permit (RGP) – 910000.  
Lower Liberty Hill Road Site located at 87 Liberty Road, Guilford, NH 03249, Belknap  
County, Authorization # NHG910065

Dear Mr. D'Angelo:

Based on the review of a Notice of Intent (NOI) submitted by Saskia E. Oosting from  
GEI Consultants, Inc., on behalf of Energy North Natural Gas Inc. d/b/a Liberty Utilities  
(Energy North), for the site referenced above, the U.S. Environmental Protection Agency  
(EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the  
provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are  
required to monitor. Also indicated on the checklist are the effluent limits, test methods  
and minimum levels (MLs) for each pollutant. Please note that the check list does not  
represent the complete requirements of the RGP. Operators must comply with all of the  
applicable requirements of this permit, including influent and effluent monitoring,  
narrative water quality standards, record keeping, and reporting requirements, found in  
Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete  
RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note the enclosed checklist includes the parameters which you have marked  
"Believed Present". The checklist also includes parameters which your laboratory reports  
indicated there was insufficient sensitivity to detect this parameter at the minimum level  
established in Appendix VI of the RGP.

Also, please note that due to concerns of potential higher metal concentrations when  
ground water is mixed with storm water (precipitation) during wet weather, the New  
Hampshire Department of Environmental Services (NHDES) has requested additional

metal monitoring to be conducted during the initial two months of treatment, therefore, the permit authorization requires monitoring for all the metals established in Notice of Intent (NOI). The sampling and monitoring shall be performed after a rainfall event of at least 0.1 inches. The metal effluent concentrations during this time are expected to be below the Appendix III limitation, otherwise monitoring shall continue for the next six months. Laboratory results of the two initial months of testing shall be submitted to the attention of the NHDES office.

If at the end of six months of monitoring for all parameters in the check list including the metals from the initial two months were not detected in the influent, any parameter, not detected above the minimum levels of the Appendix III list is eligible to be deleted from monitoring, this action can be done by submitting a Notice of Change (NOC) via an email to EPA to the attention of the contact person indicated below. Otherwise, all pollutants on the checklist found after treatment to be above the Appendix III limitations have to be treated and monitored until they are not longer detected. Therefore, the metal antimony of 10.64 ug/L, arsenic of 10.9 ug/L, cadmium of 0.9 ug/L, trivalent chromium of 29.54 ug/L, hexavalent chromium of 12.43 ug/L, copper of 3.16 ug/L, lead of 0.55 ug/L, mercury of 0.98 ug/L, nickel of 17.5 ug/L, selenium of 5.45 ug/L, silver of 0.44 ug/L, zinc of 40.3 ug/L and iron of 1, 090 ug/L, are required to achieve permit compliance at your site. All the concentrations for the metals indicated above were increased by 1.09 due to new RGP regulations regarding the calculation of metal limits with available dilution within the range of one to five (1-5) Dilution Rate Concentration (DRC). For an explanation of this action see Footnote 11 below at the end of the Summary of Monitoring Parameters.

This general permit and authorization to discharge will expire on September 9, 2015. This project reportedly is estimated to last two seasons the first will start on April 1, 2014 to December 14, 2014, and will start again in April 2015 to August 2015. The operator is required to notify the EPA prior to shut down and before re-starting operations. Also, the operator is required to submit a Notice of Termination (NOT) to the attention of the Director indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or [Alvarez.Victor@epa.gov](mailto:Alvarez.Victor@epa.gov), if you have any questions.

Sincerely,



Thelma Murphy, Chief  
Storm Water and Construction  
Permits Section

Enclosure

cc: Jeff Andrews, NHDES  
Saskia E. Oosting, GEI Company, Inc.

**2010 Remediation General Permit  
Summary of Monitoring Parameters<sup>[1]</sup>**

|                                            |                                                                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>NPDES Permit Number:</b>                | <b>NHG910065</b>                                                                                                                  |
| Authorization Issued:                      | February, 2014                                                                                                                    |
| Facility/Site Name:                        | Lower Liberty Hill Road                                                                                                           |
| Facility/Site Address:                     | 87 Liberty Hill Road, Guilford NH 03249, Belknap County                                                                           |
|                                            | Email address of owner: <a href="mailto:mary.casey@libertyutilities.com">mary.casey@libertyutilities.com</a> Phone n:603-328-2725 |
| Legal Name of Operator:                    | Charter Environmental                                                                                                             |
| Operator contact name, title, and Address: | Jim D' Angelo, Project Manager, 560 Harrison Avenue, Boston, MA 02118                                                             |
|                                            | Email <a href="mailto:jangelo@charterenvironmental.com">jangelo@charterenvironmental.com</a>                                      |
| Estimated Date of Project Completion:      | August 2015                                                                                                                       |
| Category and Sub-Category:                 | Category III- Contaminated Construction Dewatering. Sub-category B. Known Contaminated Sites                                      |
| Receiving Water:                           | Jewett Brook                                                                                                                      |

**Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples**

|   | <b><u>Parameter</u></b>                                                   | <b><u>Effluent Limit/Method#/ML</u></b><br>(All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ✓ | 1. Total Suspended Solids (TSS)                                           | 30 milligrams/liter (mg/l) **, 50 mg/l for hydrostatic testing **, Me#60.2/5mL                                                                                             |
|   | 2. Total Residual Chlorine (TRC) <sup>1</sup>                             | Freshwater = 11 ug/l ** Saltwater = 7.5 ug/l **/ Me#330.5/ML 20ug/L                                                                                                        |
| ✓ | 3. Total Petroleum Hydrocarbons (TPH)                                     | 5.0 mg/l/ Me# 1664A/5.0mg/LmL                                                                                                                                              |
|   | 4. Cyanide (CN) <sup>2, 3</sup>                                           | Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/l **/ Me#335.4/ML 5ug/L                                                                                                        |
| ✓ | 5. Benzene (B)                                                            | 5ug/L /50.0 ug/l for hydrostatic testing only/ Me#8260C/ML 2 ug/L                                                                                                          |
| ✓ | 6. Toluene (T)                                                            | (limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L                                                                                                                           |
| ✓ | 7. Ethylbenzene (E)                                                       | (limited as ug/L total BTEX) )/ Me#8260C/ ML 2ug/L                                                                                                                         |
| ✓ | 8. (m,p,o) Xylenes (X)                                                    | (limited as ug/L total BTEX) )/ Me#8260C/ ML 2ug/L                                                                                                                         |
| ✓ | 9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) <sup>4</sup> | 100 ug/l )/ Me#8260C/ ML 2ug/L                                                                                                                                             |
|   | 10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)                         | 0.05 ug/l/ Me#8260C/ ML 10ug/L                                                                                                                                             |
|   | 11. Methyl-tert-Butyl Ether                                               | 70.0 ug/l /Me#8260C/ ML 10ug/L                                                                                                                                             |

|   | <b><u>Parameter</u></b>                                             | <b><u>Effluent Limit/Method#/ML</u></b><br>(All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | (MtBE)                                                              |                                                                                                                                                                            |
|   | 12. tert-Butyl Alcohol (TBA)<br>(Tertiary Butanol)                  | Monitor Only (ug/L)/ Me#8260C/ ML 10ug/L                                                                                                                                   |
|   | 13. tert-Amyl Methyl Ether<br>(TAME)                                | Monitor Only (ug/L) /Me#8260C/ ML 10ug/L                                                                                                                                   |
| ✓ | 14. Naphthalene <sup>5</sup>                                        | 20 ug/l /Me#8260C/ ML 2ug/L                                                                                                                                                |
|   | 15. Carbon Tetrachloride                                            | 4.4 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 16. 1,2 Dichlorobenzene (o-DCB)                                     | 600 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 17. 1,3 Dichlorobenzene (m-DCB)                                     | 320 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
| ✓ | 18. 1,4 Dichlorobenzene (p-DCB)                                     | 5.0 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 18a. Total dichlorobenzene                                          | 763 ug/l - NH only /Me#8260C/ ML5ug/L                                                                                                                                      |
|   | 19. 1,1 Dichloroethane (DCA)                                        | 70 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 20. 1,2 Dichloroethane (DCA)                                        | 5.0 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 21. 1,1 Dichloroethene (DCE)                                        | 3.2 ug/l/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 22. cis-1,2 Dichloroethene (DCE)                                    | 70 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 23. Methylene Chloride                                              | 4.6 ug/l/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 24. Tetrachloroethene (PCE)                                         | 5.0 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 25. 1,1,1 Trichloro-ethane (TCA)                                    | 200 ug/l/Me#8260C/ ML 5ug/L                                                                                                                                                |
|   | 26. 1,1,2 Trichloro-ethane (TCA)                                    | 5.0 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 27. Trichloroethene (TCE)                                           | 5.0 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 28. Vinyl Chloride<br>(Chloroethene)                                | 2.0 ug/l /Me#8260C/ ML 5ug/L                                                                                                                                               |
|   | 29. Acetone                                                         | Monitor Only (ug/L) /Me#8260C/ ML 50ug/L                                                                                                                                   |
|   | 30. 1,4 Dioxane                                                     | Monitor Only /Me#1624C/ML50 ug/L                                                                                                                                           |
|   | 31. Total Phenols                                                   | 300 ug/l Me#420.1&420.2/ML 2 ug/L/<br>Me# 420.4 /ML50 ug/L                                                                                                                 |
|   | 32. Pentachlorophenol (PCP)                                         | 1.0 ug/l /Me#8270D/ML5ug/L, Me#604<br>&625/ML10ug/L                                                                                                                        |
|   | 33. Total Phthalates<br>(Phthalate esters) <sup>6</sup>             | 3.0 ug/L **<br>/Me#8270D/ML5ug/L, Me#606/ML10ug/L &<br>Me#625/ML5ug/L                                                                                                      |
|   | 34. Bis (2-Ethylhexyl)<br>Phthalate [Di- (ethylhexyl)<br>Phthalate] | 6.0 ug/l<br>/Me#8270D/ML5ug/L, Me#606/ML10ug/L &<br>Me#625/ML5ug/L                                                                                                         |
| ✓ | 35. Total Group I Polycyclic<br>Aromatic Hydrocarbons (PAH)         | 10.0 ug/l                                                                                                                                                                  |
| ✓ | a. Benzo(a) Anthracene <sup>7</sup>                                 | 0.0038 ug/l /Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L & Me#625/ML5ug/L                                                                                                         |
| ✓ | b. Benzo(a) Pyrene <sup>7</sup>                                     | 0.0038 ug/l /Me#8270D/ ML5ug/L,                                                                                                                                            |

|   | <b>Metal parameter</b>          | <b>Total Recoverable<br/>NH/Metal Limit<br/>H<sup>10</sup> = 25 mg/l<br/>CaCO<sub>3</sub>; Units = ug/l<br/>(11/12)</b> |                          | <b>Minimum<br/>level=ML</b> |    |
|---|---------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------|----|
|   |                                 | <b>Freshwater<br/>Limits</b>                                                                                            | <b>2206<br/>dilution</b> |                             |    |
| ✓ | 42. Chromium III (trivalent) ** | 27.7                                                                                                                    |                          | ML                          | 15 |
| ✓ | 43. Chromium VI (hexavalent) ** | 11.4                                                                                                                    |                          | ML                          | 10 |
| ✓ | 44. Copper **                   | 2.9                                                                                                                     |                          | ML                          | 15 |
| ✓ | 45. Lead **                     | 0.5                                                                                                                     |                          | ML                          | 20 |
| ✓ | 46. Mercury **                  | 0.9                                                                                                                     |                          | ML                          | 02 |
| ✓ | 47. Nickel **                   | 16.1                                                                                                                    |                          | ML                          | 20 |
| ✓ | 48. Selenium **                 | 5                                                                                                                       |                          | ML                          | 20 |
| ✓ | 49. Silver                      | 0.4                                                                                                                     |                          | ML                          | 10 |
| ✓ | 50. Zinc **                     | 40.3                                                                                                                    |                          | ML                          | 15 |
| ✓ | 51. Iron                        | 1,090                                                                                                                   |                          | ML                          | 20 |
| ✓ | 52. Styrene                     | No limit                                                                                                                |                          | Monitoring Only             |    |

|   | <b>Other Parameters</b>                                                                      | <b>Limit</b>                        |
|---|----------------------------------------------------------------------------------------------|-------------------------------------|
| ✓ | 52. Instantaneous Flow                                                                       | Site specific in CFS                |
| ✓ | 53. Total Flow                                                                               | Site specific in CFS                |
| ✓ | 54. pH Range for Class B Waters in NH                                                        | 6.5-8.3; 1/Month/Grab <sup>13</sup> |
|   | 55. pH Range for Class SB Waters in NH                                                       | 6.5-8; 1/Month/Grab <sup>13</sup>   |
|   | 56.                                                                                          |                                     |
|   | 57. Daily maximum temperature - Warm water fisheries                                         | 83°F; 1/Month/Grab <sup>14</sup>    |
|   | 58. Daily maximum temperature - Cold water fisheries                                         | 68°F; 1/Month/Grab <sup>14</sup>    |
|   | 59.                                                                                          |                                     |
|   | 60. Maximum Change in Temperature in NH- Any Class B water body- Warm Water                  | 5°F; 1/Month/Grab <sup>14</sup>     |
|   | 61. Maximum Change in Temperature in NH- Any Class B water body - Cold water and Lakes/Ponds | 3°F; 1/Month/Grab <sup>14</sup>     |

**Footnotes:**

<sup>1</sup> Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

<sup>2</sup> Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

<sup>3</sup> Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

<sup>4</sup> BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

|   | <b><u>Parameter</u></b>                                   | <b><u>Effluent Limit/Method#/ML</u></b><br>(All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                           | Me#610/ML5ug/L& Me#625/ML5ug/L                                                                                                                                             |
| ✓ | c. Benzo(b)Fluoranthene <sup>7</sup>                      | 0.0038 ug/l /Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L& Me#625/ML5ug/L                                                                                                          |
| ✓ | d. Benzo(k)Fluoranthene <sup>7</sup>                      | 0.0038 ug/l /Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L& Me#625/ML5ug/L                                                                                                          |
| ✓ | e. Chrysene <sup>7</sup>                                  | 0.0038 ug/l /Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L& Me#625/ML5ug/L                                                                                                          |
| ✓ | f. Dibenzo(a,h)anthracene <sup>7</sup>                    | 0.0038 ug/l /Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L& Me#625/ML5ug/L                                                                                                          |
| ✓ | g. Indeno(1,2,3-cd) Pyrene <sup>7</sup>                   | 0.0038 ug/l /Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L& Me#625/ML5ug/L                                                                                                          |
| ✓ | 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH) | 100 ug/l                                                                                                                                                                   |
| ✓ | h. Acenaphthene                                           | X/Me#8270D/ML5ug/L,Me#610/ML5ug /L<br>& Me#625/ML5ug/L                                                                                                                     |
| ✓ | i. Acenaphthylene                                         | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
| ✓ | j. Anthracene                                             | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
| ✓ | k. Benzo(ghi) Perylene                                    | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
| ✓ | l. Fluoranthene                                           | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
| ✓ | m. Fluorene                                               | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
|   | n. Naphthalene <sup>5</sup>                               | 20 ug/l / Me#8270D/ ML5ug/L,<br>Me#610/ML5ug/L & Me#625/ML5ug/L                                                                                                            |
| ✓ | o. Phenanthrene                                           | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
| ✓ | p. Pyrene                                                 | X/Me#8270D/ML5ug/L,Me#610/ML5ug/L<br>& Me#625/ML5ug/L                                                                                                                      |
|   | 37. Total Polychlorinated Biphenyls (PCBs) <sup>8,9</sup> | 0.000064 ug/L / Me# 608/ ML 0.5 ug/L                                                                                                                                       |
| ✓ | 38. Chloride                                              | Monitor only/Me# 300.0/ ML 0.1ug/L                                                                                                                                         |

|   |                               | <b><u>Total Recoverable<br/>NH/Metal Limit<br/>H <sup>10</sup> = 25 mg/l<br/>CaCO<sub>3</sub>; Units = ug/l<br/>(11/12)</u></b> |                                 | <b><u>Minimum<br/>level=ML</u></b> |    |
|---|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------|----|
|   | <b><u>Metal parameter</u></b> | <b><u>Freshwater<br/>Limits</u></b>                                                                                             | <b><u>2206<br/>dilution</u></b> |                                    |    |
|   | 39. Antimony                  | 141                                                                                                                             |                                 | ML                                 | 10 |
| ✓ | 40. Arsenic **                | 10.9                                                                                                                            |                                 | ML                                 | 20 |
| ✓ | 41. Cadmium **                | 0.8                                                                                                                             |                                 | ML                                 | 10 |

<sup>5</sup> Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

<sup>6</sup> The sum of individual phthalate compounds (not including the #34, Bis (2-Ethylhexyl) Phthalate). The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

*Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.*

<sup>7</sup> Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

<sup>8</sup> In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses." Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

<sup>9</sup> Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

<sup>10</sup> Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

<sup>11</sup> For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using  $DF \times 1,000 \text{ ug/L}$  (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =  $1,000 \times 2 = 2,000 \text{ ug/L}$ , etc. not to exceed the DF=5.

<sup>12</sup> Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

<sup>13</sup> pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

<sup>14</sup> Temperature sampling per Method 170.1



Geotechnical  
Environmental  
Water Resources  
Engineering

February 4, 2014  
Project 12614-0

U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Mail Code OEP06-4  
Boston, MA 02109-3912  
ATTN : Remediation General Permit NOI Processing

Dear Sir or Madam:

**Re: Notice of Intent  
NPDES Remediation General Permit  
Lower Liberty Hill Road Site  
Gilford, New Hampshire**

On behalf of EnergyNorth Natural Gas, Inc. d/b/a Liberty Utilities (EnergyNorth), GEI Consultants, Inc. has prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP), New Hampshire General Permit (NHG910000). This NOI was prepared in accordance with the general requirements of the NPDES RGP under Federal Register, Vol. 75, No. 174, and related guidance documentation provided by the EPA. The completed NOI form is provided in Appendix A.

### **Site Information**

This NOI has been prepared for the management of dewatering operations during remediation activities consisting primarily of excavation of contaminated soil at the Lower Liberty Hill Road Site in Gilford, New Hampshire (the Site; Fig. 1). The Site is located in a rural residential area (Figs. 1 and 2).

The Site is listed as "Lower Liberty Hill Disposal Site, Liberty Hill Road, Gilford, New Hampshire," by the New Hampshire Department of Environmental Services (NHDES) Waste Management Division Site Remediation Program and was assigned identification number 200411113. This is a remediation project consisting of excavating contaminated soil to depths of up to 50 feet across an approximately 2.3-acre area, backfilling with treated soil and clean soil to existing grades, and planting the restored areas. The proposed remedial action consists of excavation and off-site treatment of approximately 40,000 cubic yards of coal tar-impacted soil. Additional soil will need to be excavated to access the soil requiring offsite treatment, and these materials will be temporarily stored onsite and placed back in the excavation.

Contaminants at the Site are constituents of coal tar: volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH).

## **Discharge and Receiving Surface Water Information**

The volume of water requiring treatment is largely dependent on the size of the excavation open at that time and precipitation conditions. It is anticipated that the excavation will be conducted in phases over the two construction seasons of 2014 and 2015. The soil to be excavated consists of till with low permeability. The maximum groundwater flow expected during this excavation work is estimated to be 10 gallons per minute (gpm) due to the low permeability of the till. Additional flow to the water treatment system will come from stormwater that will need to be managed during the work. Stormwater that comes in contact with the contaminated soil at the Site will be directed to the treatment system. During and following periods of rain, the system flow rate is likely to increase and at times could reach the maximum design capacity of 100 gpm.

The water collected during construction dewatering activities is expected to contain naturally occurring metals (such as arsenic, iron, and zinc) and is expected to contain contaminants associated with coal tar (VOCs, PAHs, and TPH). In August and November 2013, a GEI representative collected groundwater samples from two monitoring wells on the Property (MW113C and MW208), screened in the area to be excavated. Samples from these wells were tested for the parameters required under the NPDES RGP. In addition, the pH of the proposed influent was measured to evaluate existing conditions. A summary of the data is in Table 1 and the laboratory data reports for these samples are in Appendix B.

The collected water will be treated to remove suspended solids and organics (VOCs, PAHs, and petroleum-related compounds), prior to discharge via the treatment system shown in the process flow diagram in Fig. 3. The treated water will either be reused onsite for dust control and other onsite non-potable water uses, or discharged via surface piping to Jewett Brook (Fig. 2).

EnergyNorth has retained Charter of Boston, Massachusetts as the contractor to conduct the remedial construction. The project duration is estimated to be two seasons (April to December 2014 and April to August 2015). However, the actual duration of discharge is anticipated to be much shorter and not all water treated will be discharged to Jewett Brook. Charter and EnergyNorth will make efforts to minimize the total duration of discharge to be one year or less in cumulative time. As discussed, treated effluent will be reused where possible, likely resulting in intermittent discharge. The Site will be shut down from December 2014 to late March 2015.

## **Consultation with Federal Services**

GEI reviewed the New Hampshire Natural Heritage Bureau document entitled "Rare Plants, Rare Animals, and Exemplary Communities in New Hampshire Towns," dated July 2013. There are no federally listed species in Gilford. A copy of the report cover and the page for Gilford from the report are in Appendix C. As part of other permitting for the project, GEI received a letter from the New Hampshire Natural Heritage Bureau stating that there are no recorded occurrences of sensitive species near the project site (Appendix C). GEI also reviewed the online National Register for Historic Places and the Site is not listed as a Historic Place. Based on this information, consultation with federal and/or state officials was deemed not necessary.

## **Coverage Under NPDES RGP**

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP based on the requirements of the NPDES RGP and our evaluation of the available site-specific information. On behalf of EnergyNorth, we are requesting coverage under the NPDES RGP for the discharge of treated dewatering effluent during remediation activities to the surface waters of Jewett Brook directly via surface piping.

February 4, 2014

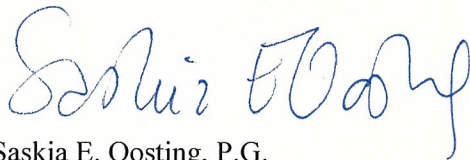
The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services (Appendix A). For this project, EnergyNorth is the owner and has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications. Charter has been contracted by EnergyNorth and will direct the personnel responsible for the implementation and day-to-day operations and activities that are necessary to comply with the NPDES RGP, including operation, inspection, monitoring, and reporting.

Discharge of treated water is scheduled to begin in late April 2014.

Please contact me at 781.721.4099 or [soosting@geiconsultants.com](mailto:soosting@geiconsultants.com), if you have any questions.

Very truly yours,

GEI CONSULTANTS, INC.



Saskia E. Oosting, P.G.  
Project Manager

SEO:csh

Enclosures

c: Ms. Mary Casey, EnergyNorth  
James D'Angelo, Charter

M:\PROJECT\2012\12614\Permits\2014 NOI NPDES RGP\LHR NOI NPDES RGP Ltr 2014-02-04.docx

**Table 1 - Laboratory Results Groundwater Samples for RGP Permit Application**  
**Lower Liberty Hill Road Site, Gilford NH**

| Parameter                    | Units | RGP Limit | 126140-MW113C<br>8/15/2013 | 126140-MW113CF<br>8/15/2013 | 126140-MW208<br>8/15/2013 | 126140-MW208F<br>8/15/2013 | 126140-MW208F<br>11/1/2013 |
|------------------------------|-------|-----------|----------------------------|-----------------------------|---------------------------|----------------------------|----------------------------|
| pH                           | SI    | 6.5 - 8   | 6.6                        | --                          | 6.4                       | --                         | 6.4                        |
| Total Suspended Solids       | mg/l  | 30        | --                         | --                          | --                        | --                         | < 4.0                      |
| Total Residual Chlorine      | µg/l  | 11        | --                         | --                          | --                        | --                         | <50                        |
| Total Petrol. Hydrocarbons   | mg/l  | 5.0       | --                         | --                          | --                        | --                         | <4.1                       |
| Cyanide                      | µg/l  | 5.2       | --                         | --                          | --                        | --                         | <10                        |
| Benzene                      | µg/l  | 50        | 369                        | --                          | 3320                      | --                         | --                         |
| Toluene                      | µg/l  | Ttl BTEX  | 819                        | --                          | 3440                      | --                         | --                         |
| Ethylbenzene                 | µg/l  | Ttl BTEX  | 162                        | --                          | 345                       | --                         | --                         |
| Xylene (total)               | µg/l  | Ttl BTEX  | 1340                       | --                          | 3430                      | --                         | --                         |
| Total BTEX                   | µg/l  | 100       | 2690                       | --                          | 10535                     | --                         | --                         |
| Ethylene Dibromide           | µg/l  | 0.05      | <2.0                       | --                          | <2.0                      | --                         | --                         |
| Methyl-tert-Butyl Ether      | µg/l  | 70        | <1.0                       | --                          | <1.0                      | --                         | --                         |
| tert-Butyl Alcohol           | µg/l  | Monitor   | <20                        | --                          | <20                       | --                         | --                         |
| tert-Amyl Methyl Ether       | µg/l  | Monitor   | <2.0                       | --                          | <2.0                      | --                         | --                         |
| Naphthalene SW8468260B       | µg/l  | 20        | 3190                       | --                          | 7140                      | --                         | --                         |
| Carbon Tetrachloride         | µg/l  | 4.4       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| 1,2 Dichlorobenzene          | µg/l  | 600       | <2.0                       | --                          | <2.0                      | --                         | --                         |
| 1,3 Dichlorobenzene          | µg/l  | 320       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| 1,4 Dichlorobenzene          | µg/l  | 5.0       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| Total Dichlorobenzene        | µg/l  | 763       | <763 J                     | --                          | <763 J                    | --                         | --                         |
| 1,1 Dichloroethane           | µg/l  | 70        | <1.0                       | --                          | <1.0                      | --                         | --                         |
| 1,2 Dichloroethane           | µg/l  | 5.0       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| 1,1Dichloroethene            | µg/l  | 3.2       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| cis-1,2 Dichloroethene       | µg/l  | 70        | <1.0                       | --                          | <1.0                      | --                         | --                         |
| Methylene Chloride           | µg/l  | 4.6       | <2.0                       | --                          | <2.0                      | --                         | --                         |
| Tetrachloroethene            | µg/l  | 5.0       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| 1,1,1 Trichloro-ethane       | µg/l  | 200       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| 1,1,2 Trichloro-ethane       | µg/l  | 5.0       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| Trichloroethene              | µg/l  | 5.0       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| Vinyl Chloride               | µg/l  | 2.0       | <1.0                       | --                          | <1.0                      | --                         | --                         |
| Acetone                      | µg/l  | Monitor   | <10                        | --                          | <10                       | --                         | --                         |
| 1,4 Dioxane                  | µg/l  | Monitor   | <25                        | --                          | <25                       | --                         | --                         |
| Total phenols                | µg/l  | 300       | <300 J                     | --                          | <300 J                    | --                         | --                         |
| Pentachlorophenol            | µg/l  | 1.0       | <10.0                      | --                          | <10                       | --                         | --                         |
| Total phthalates             | µg/l  | 3.0       | <3.0 J                     | --                          | <3.0 J                    | --                         | --                         |
| Bis (2-Ethylhexyl) Phthalate | µg/l  | 6.0       | <2.0                       | --                          | <2.0                      | --                         | --                         |
| Total Group I PAH            | µg/l  | 10.0      | 35.5                       | --                          | <2.0                      | --                         | --                         |
| Benzo(a)anthracene           | µg/l  | 0.0038    | 8.9                        | --                          | <2.0                      | --                         | --                         |
| Benzo(a)pyrene               | µg/l  | 0.0038    | 7.6                        | --                          | <2.0                      | --                         | --                         |
| Benzo(b)fluoranthene         | µg/l  | 0.0038    | 4.1                        | --                          | <2.0                      | --                         | --                         |
| Benzo(k)fluoranthene         | µg/l  | 0.0038    | 3.6                        | --                          | <2.0                      | --                         | --                         |
| Chrysene                     | µg/l  | 0.0038    | 8.7                        | --                          | <2.0                      | --                         | --                         |
| Dibenzo(a,h)anthracene       | µg/l  | 0.0038    | <2.0                       | --                          | <2.0                      | --                         | --                         |
| Indeno(1,2,3-cd)pyrene       | µg/l  | 0.0038    | 2.6                        | --                          | <2.0                      | --                         | --                         |
| Total Group II PAH           | µg/l  | 100       | 279.0 J                    | --                          | 199.0 J                   | --                         | --                         |
| Acenaphthene                 | µg/l  | G2 PAH    | 9.7                        | --                          | 10.2                      | --                         | --                         |
| Acenaphthylene               | µg/l  | G2 PAH    | 117                        | --                          | 120                       | --                         | --                         |
| Anthracene                   | µg/l  | G2 PAH    | 16.0                       | --                          | 4.7                       | --                         | --                         |
| Benzo(g,h,i)perylene         | µg/l  | G2 PAH    | 3.2                        | --                          | <2.0                      | --                         | --                         |
| Fluoranthene                 | µg/l  | G2 PAH    | 16.6                       | --                          | 2.0                       | --                         | --                         |
| Fluorene                     | µg/l  | G2 PAH    | 28.1                       | --                          | 27.5                      | --                         | --                         |
| Naphthalene SW8466020A       | µg/l  | 20        | 1870                       | --                          | 3850                      | --                         | --                         |
| Phenanthrene                 | µg/l  | G2 PAH    | 65.2                       | --                          | 32                        | --                         | --                         |
| Pyrene                       | µg/l  | G2 PAH    | 23.2                       | --                          | 2.6                       | --                         | --                         |
| Chloride                     | mg/l  | Monitor   | 1.8                        | --                          | 55.2                      | --                         | --                         |

**Table 1 - Laboratory Results Groundwater Samples for RGP Permit Application**  
**Lower Liberty Hill Road Site, Gilford NH**

| Parameter                              | Units | RGP Limit | 126140-MW113C<br>8/15/2013 | 126140-MW113CF<br>8/15/2013 | 126140-MW208<br>8/15/2013 | 126140-MW208F<br>8/15/2013 | 126140-MW208F<br>8/15/2013 |
|----------------------------------------|-------|-----------|----------------------------|-----------------------------|---------------------------|----------------------------|----------------------------|
| Isopropylbenzene                       | µg/l  |           | 7.8                        | --                          | 12.9                      | --                         | --                         |
| n-Propylbenzene                        | µg/l  |           | 18.4                       | --                          | 42.7                      | --                         | --                         |
| Styrene                                | µg/l  |           | 541                        | --                          | 1380                      | --                         | --                         |
| 1,2,4-Trimethylbenzene                 | µg/l  |           | 315                        | --                          | <5.0                      | --                         | --                         |
| 1,3,5-Trimethylbenzene                 | µg/l  |           | 94.7                       | --                          | 174                       | --                         | --                         |
| Total PCBs                             | µg/l  | 0.000064  | --                         | --                          | --                        | --                         | <0.26                      |
| Antimony                               | µg/l  | 5.6       | --                         | --                          | --                        | --                         | < 6.0                      |
| Arsenic                                | µg/l  | 10        | 1.8                        | 1.7                         | 1.1                       | 1.0                        | --                         |
| Calcium                                | µg/l  |           | 19300                      | 19100                       | 42700                     | 43700                      | --                         |
| Cadmium                                | µg/l  | 0.8       | --                         | --                          | --                        | --                         | < 4.0                      |
| Total Chromium                         | µg/l  | 27.7      | <2.0                       | <2.0                        | <2.0                      | <2.0                       | --                         |
| Chromium VI                            | µg/l  | 11.4      | --                         | --                          | --                        | --                         | --                         |
| Copper                                 | µg/l  | 2.9       | 2.2                        | <2.0                        | <2.0                      | <2.0                       | --                         |
| Iron                                   | µg/l  | 1000      | 646                        | 499                         | 85.3                      | 75.4                       | --                         |
| Lead                                   | µg/l  | 0.9       | <1.0                       | <1.0                        | <1.0                      | <1.0                       | --                         |
| Magnesium                              | µg/l  |           | 4800                       | 4820                        | 14100                     | 14500                      | --                         |
| Manganese                              | µg/l  |           | 242                        | 237                         | 429                       | 435                        | --                         |
| Mercury                                | µg/l  | 0.9       | --                         | --                          | --                        | --                         | < 0.20                     |
| Nickel                                 | µg/l  | 16.1      | <2.0                       | 5.0                         | <2.0                      | <2.0                       | --                         |
| Selenium                               | µg/l  | 5.0       | --                         | --                          | --                        | --                         | < 10                       |
| Silver                                 | µg/l  | 0.4       | --                         | --                          | --                        | --                         | < 5.0                      |
| Zinc                                   | µg/l  | 37        | 8.0                        | 7.7                         | 4.4                       | 7.6                        | --                         |
| Dissolved Organic Carbon               | mg/l  |           | --                         | 3.9                         | --                        | 6.8                        | --                         |
| Alkalinity, Total as CaCO <sub>3</sub> | mg/l  |           | 96.3                       | --                          | 130                       | --                         | --                         |
| Fluoride                               | mg/l  |           | <0.10                      | --                          | <0.10                     | --                         | --                         |
| Hardness, Total as CaCO <sub>3</sub>   | mg/l  |           | 72.3                       | --                          | 179                       | --                         | --                         |
| Silica, Dissolved                      | mg/l  |           | 25.0                       | --                          | 25.6                      | --                         | --                         |
| Sulfate                                | mg/l  |           | 15.8                       | --                          | 8.8                       | --                         | --                         |

**Notes:**

µg/L = micrograms per liter

mg/L = milligrams per liter

< = analyte not detected at the referenced laboratory reporting limit

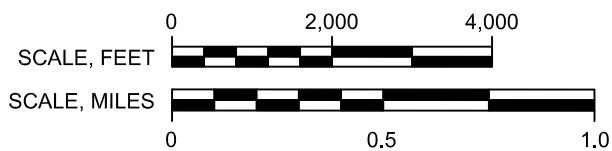
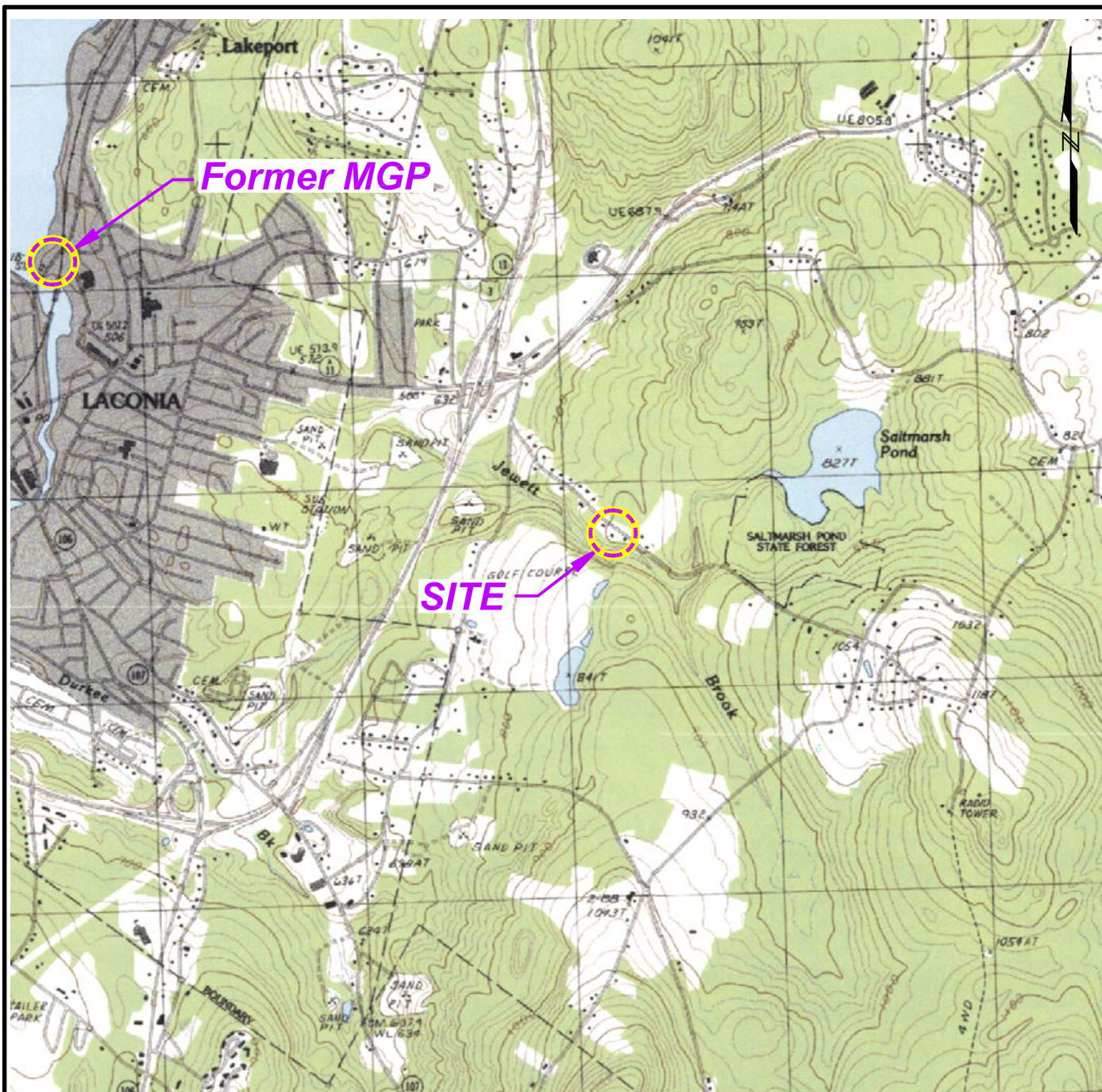
J = estimated concentration

**bold and shaded - analyte concentration exceeds the RGP Standard for New Hampshire**

RGP Limit - Category III, Subcategory B: Contam. Construction Dewatering for Known Sites (NH) Limits. 2010 RGP

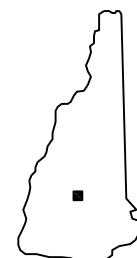
F = Sample filtered in field prior to preservation.

-- = Sample not tested for this analyte.



**NOTES:**

1. DRAWING REPRODUCED FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5 MINUTE SERIES BY MAPTECH, INC. 2001.
2. CONTOUR INTERVAL IS 20 FEET (NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929).



NEW HAMPSHIRE  
QUADRANGLE LOCATION

Lower Liberty Hill Road  
Gilford, New Hampshire

Liberty Utilities  
Salem, New Hampshire



Project 12614-0

SITE LOCATION MAP

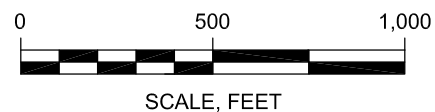
January 2014

Fig. 1



**NOTES:**

1. DRAWING REPRODUCED FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5 MINUTE SERIES BY MAPTECH, INC. 2001.
2. CONTOUR INTERVAL IS 20 FEET (NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929).



Lower Liberty Hill Road  
Gilford, New Hampshire

Liberty Utilities  
Salem, New Hampshire

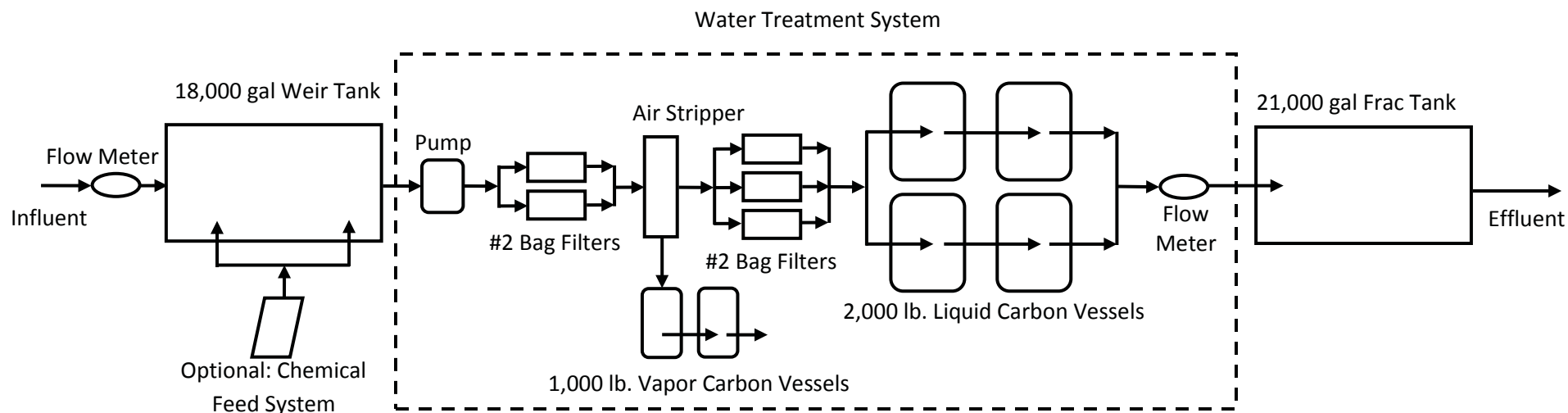


Project 12614-0

PROPOSED  
DISCHARGE LOCATION

January 2014

Fig. 2



**Notes:**

1. Basic Design Layout
2. Figure Not Drawn to Scale
3. System Rated for 100 GPM
4. Influent Tank and Water Treatment System in Secondary Containment
5. Water Treatment System Enclosed in a Heated Unit
6. Sampling Ports on all Treatment System Components
7. Instantaneous – Read and Totalizing Data- Logging Flow Meter on Effluent Line
8. Run Status Light Located Outside of Treatment System
9. Alarm Notification via Cellular Phone Based Telemetry



89 Crawford Street  
 Leominster, Massachusetts 01543  
 Tel: 774.450.7177  
 Fax: 888.835.0617  
 www.lrt-llc.net

**Water Treatment System Schematic – 100 GPM**  
 Lower Liberty Hill Road Site  
 Gilford, NH  
 Proposal # 1481

**FIGURE 3**

## **Appendix A**

---

### **Remediation General Permit Notice of Intent**

**B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit****1. General facility/site information.** Please provide the following information about the site:

|                                                                                              |                                                  |                                                                                                                                            |                                                             |
|----------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| a) Name of <b>facility/site</b> : Lower Liberty Hill Road Site                               |                                                  | <b>Facility/site</b> mailing address:                                                                                                      |                                                             |
| Location of <b>facility/site</b> :<br>longitude: <u>-71.4351</u><br>latitude: <u>43.5247</u> | Facility SIC code(s):<br>N/A<br>(vacant)         | Street:<br><br>87 Liberty Hill Road                                                                                                        |                                                             |
| b) Name of <b>facility/site owner</b> :                                                      |                                                  | Town: Gilford                                                                                                                              |                                                             |
| Email address of facility/site owner:<br>mary.casey@libertyutilities.com                     | State:<br><br>NH                                 | Zip:<br><br>03249                                                                                                                          | County:<br><br>Belknap                                      |
| Telephone no. of facility/site <b>owner</b> : 603-328-2725                                   |                                                  |                                                                                                                                            |                                                             |
| Fax no. of facility/site <b>owner</b> : 603-896-6175                                         |                                                  | <b>Owner</b> is (check one): 1. Federal ____ 2. State/Tribal ____                                                                          |                                                             |
| Address of <b>owner</b> (if different from site):                                            |                                                  | 3. Private <input checked="" type="checkbox"/> 4. Other ____ if so, describe:<br><br>EnergyNorth Natural Gas, Inc. d/b/a Liberty Utilities |                                                             |
| Street: 11 Northeastern Boulevard                                                            |                                                  |                                                                                                                                            |                                                             |
| Town: Salem                                                                                  | State: NH                                        | Zip: 03079                                                                                                                                 | County: Rockingham                                          |
| c) Legal name of <b>operator</b> :                                                           | <b>Operator</b> telephone no: 857.246.6800 x 217 |                                                                                                                                            |                                                             |
| Charter Environmental                                                                        | <b>Operator</b> fax no.:                         |                                                                                                                                            | <b>Operator</b> email:<br>jdangelo@charterenvironmental.com |
| <b>Operator</b> contact name and title: Jim D'Angelo, Project Manager                        |                                                  |                                                                                                                                            |                                                             |
| Address of <b>operator</b> (if different from owner):                                        | Street:<br>560 Harrison Avenue                   |                                                                                                                                            |                                                             |
| Town: Boston                                                                                 | State: MA                                        | Zip: 02118                                                                                                                                 | County: Suffolk                                             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>d) Check Y for "yes" or N for "no" for the following:</p> <p>1. Has a prior NPDES permit exclusion been granted for the discharge? Y___ N <input checked="" type="checkbox"/>, if Y, number: _____</p> <p>2. Has a prior NPDES application (Form 1 &amp; 2C) ever been filed for the discharge?<br/>Y___ N <input checked="" type="checkbox"/>, if Y, date and tracking #: _____</p> <p>3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y <input checked="" type="checkbox"/> N___</p> <p>4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N___</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y <input checked="" type="checkbox"/> N___</p> <p>If Y, please list:</p> <p>1. site identification # assigned by the state of NH or MA: <u>NHDES 200411113</u></p> <p>2. permit or license # assigned: <u>NHDES Project 14262</u></p> <p>3. state agency contact information: name, location, and telephone number:</p>                                                                                                                                                                                                                | <p>f) Is the site/facility covered by any other EPA permit, including:</p> <p>1. Multi-Sector General Permit? Y___ N <input checked="" type="checkbox"/>,<br/>if Y, number: _____</p> <p>2. Final Dewatering General Permit? Y___ N <input checked="" type="checkbox"/>,<br/>if Y, number: _____</p> <p>3. EPA Construction General Permit? Y <input checked="" type="checkbox"/> N___,<br/>if Y, number: <u>NHR12AA76</u></p> <p>4. Individual NPDES permit? Y___ N <input checked="" type="checkbox"/>,<br/>if Y, number: _____</p> <p>5. any other water quality related individual or general permit? Y <input checked="" type="checkbox"/><br/>N___, if Y, number: <u>NH AoT-0642</u></p> |
| <p>g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y___ N <input checked="" type="checkbox"/></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Activity Category</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Activity Sub-Category</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| I - Petroleum Related Site Remediation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>A. Gasoline Only Sites _____</p> <p>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) _____</p> <p>C. Petroleum Sites with Additional Contamination _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| II - Non Petroleum Site Remediation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>A. Volatile Organic Compound (VOC) Only Sites _____</p> <p>B. VOC Sites with Additional Contamination _____</p> <p>C. Primarily Heavy Metal Sites _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| III - Contaminated Construction Dewatering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>A. General Urban Fill Sites _____</p> <p>B. Known Contaminated Sites <input checked="" type="checkbox"/></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IV - Miscellaneous Related Discharges | A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____<br>B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ____<br>C. Hydrostatic Testing of Pipelines and Tanks ____<br>D. Long-Term Remediation of Contaminated Sumps and Dikes ____<br>E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ____ |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**2. Discharge information.** Please provide information about the discharge, (attaching additional sheets as necessary) including:

|                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a) Describe the discharge activities for which the owner/applicant is seeking coverage:                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                     |
| Soil and groundwater are contaminated with coal tar placed at the site in the 1950s. Dewatering will be conducted during excavation of approximately 100,000 cubic yards of soil to remediate the site. Dewatering effluent will be combination of groundwater and stormwater.                                                                       |                                                                                                                                                                                                                                                                                                                                                                     |
| b) Provide the following information about each discharge:                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                     |
| 1) Number of discharge points:<br><br>1                                                                                                                                                                                                                                                                                                              | 2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft <sup>3</sup> /s)?<br>Max. flow <u>0.223 (100 gpm)</u> Is maximum flow a <b>design value</b> ? Y <input checked="" type="checkbox"/> N ____<br>Average flow (include units) <u>0.0223 (10 gpm)</u> Is average flow a design value or estimate? <u>estimate</u> |
| 3) Latitude and longitude of each discharge within 100 feet:<br>pt.1: lat. <u>43.524447</u> long. <u>-71.43673</u> ; pt.2: lat. _____ long. _____;<br>pt.3: lat. _____ long. _____; pt.4: lat. _____ long. _____;<br>pt.5: lat. _____ long. _____; pt.6: lat. _____ long. _____;<br>pt.7: lat. _____ long. _____; pt.8: lat. _____ long. _____; etc. |                                                                                                                                                                                                                                                                                                                                                                     |
| 4) If hydrostatic testing, total volume of the discharge (gals): _____                                                                                                                                                                                                                                                                               | 5) Is the discharge intermittent ____ or seasonal <input checked="" type="checkbox"/> ?<br>Is discharge ongoing? Y ____ N <input checked="" type="checkbox"/>                                                                                                                                                                                                       |
| c) Expected dates of discharge (mm/dd/yy): start <u>April 1, 2014</u> end <u>December 20, 2015</u>                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                     |
| d) Please attach a line drawing or flow schematic showing water flow through the facility including:<br>1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). See attached.                                                                                      |                                                                                                                                                                                                                                                                                                                                                                     |

**3. Contaminant information.**

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

| Parameter *                                                   | CAS Number                              | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|---------------------------------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                                               |                                         |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 1. Total Suspended Solids (TSS)                               |                                         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | grab                     | 2540D                             | 4000                              | <4000                | <2.2      | <4000                | <0.22     |
| 2. Total Residual Chlorine (TRC)                              |                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 4500CL F                          | 50                                | <50                  | <0.03     | <50                  | <0.00     |
| 3. Total Petroleum Hydrocarbons (TPH)                         |                                         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 1            | grab                     | 1664A                             | 4100                              | <4100                | <2.23     | <4100                | <0.22     |
| 4. Cyanide (CN)                                               | 57125                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 335.4                             | 10                                | <10                  | <0.01     | <10                  | <0.00     |
| 5. Benzene (B)                                                | 71432                                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 0.5                               | 3320                 | 1.81      | 1844.5               | 0.10      |
| 6. Toluene (T)                                                | 108883                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 5                                 | 3440                 | 1.87      | 2129.5               | 0.12      |
| 7. Ethylbenzene (E)                                           | 100414                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 5                                 | 3430                 | 1.87      | 2385                 | 0.13      |
| 8. (m,p,o) Xylenes (X)                                        | 108883;<br>106423;<br>95476;<br>1330207 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 1                                 | 345                  | 0.19      | 253.5                | 0.01      |
| 9. Total BTEX <sup>2</sup>                                    | n/a                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 11.5                              | 10190                | 5.55      | 6359                 | 0.35      |
| 10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) <sup>3</sup> | 106934                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 11. Methyl-tert-Butyl Ether (MtBE)                            | 1634044                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)               | 75650                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 20                                | <20 U                | <0.011    | <20 U                | <0.0011   |

\* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

<sup>2</sup> BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

<sup>3</sup> EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

| Parameter *                       | CAS Number | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|-----------------------------------|------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                   |            |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 13. tert-Amyl Methyl Ether (TAME) | 9940508    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 14. Naphthalene                   | 91203      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 5                                 | 7140                 | 3.89      | 5165                 | 0.28      |
| 15. Carbon Tetrachloride          | 56235      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 16. 1,2 Dichlorobenzene (o-DCB)   | 95501      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 17. 1,3 Dichlorobenzene (m-DCB)   | 541731     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 18. 1,4 Dichlorobenzene (p-DCB)   | 106467     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 18a. Total dichlorobenzene        |            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 763                               | <763 J               | <0.416    | <763 J               | <0.0416   |
| 19. 1,1 Dichloroethane (DCA)      | 75343      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 20. 1,2 Dichloroethane (DCA)      | 107062     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 21. 1,1 Dichloroethene (DCE)      | 75354      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 22. cis-1,2 Dichloroethene (DCE)  | 156592     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 23. Methylene Chloride            | 75092      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 24. Tetrachloroethene (PCE)       | 127184     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 25. 1,1,1 Trichloro-ethane (TCA)  | 71556      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 26. 1,1,2 Trichloro-ethane (TCA)  | 79005      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 27. Trichloroethene (TCE)         | 79016      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |

| Parameter *                                                  | CAS Number | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|--------------------------------------------------------------|------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                                              |            |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 28. Vinyl Chloride (Chloroethene)                            | 75014      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 29. Acetone                                                  | 67641      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 10                                | <10 U                | <0.005    | <10 U                | <0.0005   |
| 30. 1,4 Dioxane                                              | 123911     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8260                              | 25                                | <25 U                | <0.014    | <25 U                | <0.0014   |
| 31. Total Phenols                                            | 108952     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8270                              | 300                               | <300 J               | <0.164    | <300 J               | <0.0164   |
| 32. Pentachlorophenol (PCP)                                  | 87865      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8270                              | 10                                | <10 U                | <0.005    | <10 U                | <0.0005   |
| 33. Total Phthalates (Phthalate esters) <sup>4</sup>         |            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8270                              | 3                                 | <3.0 J               | <0.002    | <3.0 J               | <0.0002   |
| 34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate] | 117817     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 8270                              | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)     |            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 14                                | 35.5                 | 0.02      | 17.75                | 0.0010    |
| a. Benzo(a) Anthracene                                       | 56553      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | 8.9                  | 0.005     | 4.95                 | 0.0003    |
| b. Benzo(a) Pyrene                                           | 50328      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | 7.6                  | 0.004     | 4.3                  | 0.0002    |
| c. Benzo(b)Fluoranthene                                      | 205992     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | 4.1                  | 0.002     | 2.55                 | 0.0001    |
| d. Benzo(k)Fluoranthene                                      | 207089     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | 3.6                  | 0.002     | 2.3                  | 0.0001    |
| e. Chrysene                                                  | 21801      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | 8.7                  | 0.005     | 4.85                 | 0.0003    |
| f. Dibenzo(a,h)anthracene                                    | 53703      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| g. Indeno(1,2,3-cd) Pyrene                                   | 193395     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2                                 | 2.6                  | 0.001     | 1.8                  | 0.0001    |
| 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)    |            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 19.8                              | 4049                 | 2.21      | 3099                 | 0.1689    |

<sup>4</sup>The sum of individual phthalate compounds.

| Parameter *                                | CAS Number                                                  | Believed Absent                     | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|--------------------------------------------|-------------------------------------------------------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                                            |                                                             |                                     |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| h. Acenaphthene                            | 83329                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 10.2                 | 0.01      | 9.95                 | 0.0005    |
| i. Acenaphthylene                          | 208968                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 120                  | 0.07      | 118.5                | 0.0065    |
| j. Anthracene                              | 120127                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 16                   | 0.01      | 10.35                | 0.0006    |
| k. Benzo(ghi) Perylene                     | 191242                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 3.2                  | 0.002     | 2.1                  | 0.0001    |
| l. Fluoranthene                            | 206440                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 16.6                 | 0.01      | 9.3                  | 0.0005    |
| m. Fluorene                                | 86737                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 28.1                 | 0.02      | 27.8                 | 0.0015    |
| n. Naphthalene                             | 91203                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 3850                 | 2.10      | 2860                 | 0.16      |
| o. Phenanthrene                            | 85018                                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 65.2                 | 0.04      | 48.6                 | 0.0026    |
| p. Pyrene                                  | 129000                                                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 8270                              | 2.2                               | 23.2                 | 0.01      | 12.9                 | 0.0007    |
| 37. Total Polychlorinated Biphenyls (PCBs) | 85687;<br>84742;<br>117840;<br>84662;<br>131113;<br>117817. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 8082                              | 0.26                              | <0.26                | <0.0001   | <0.26                | <0.00001  |
| 38. Chloride                               | 16887006                                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 4500 CL C                         | 1                                 | 55.2                 | 0.03      | 28.5                 | 0.0016    |
| 39. Antimony                               | 7440360                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 200.7                             | 6                                 | <6                   | 0.003     | <6                   | 0.0003    |
| 40. Arsenic                                | 7440382                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 6020a                             | 1.0                               | 1.8                  | 0.001     | 1.45                 | 0.0001    |
| 41. Cadmium                                | 7440439                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 200.7                             | 4                                 | <4                   | 0.002     | <4                   | 0.0002    |
| 42. Chromium III (trivalent)               | 16065831                                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 6020a                             | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 43. Chromium VI (hexavalent)               | 18540299                                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 6020a                             | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 44. Copper                                 | 7440508                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 6020a                             | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 45. Lead                                   | 7439921                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 6020a                             | 1                                 | <1.0 U               | <0.001    | <1.0 U               | <0.0001   |
| 46. Mercury                                | 7439976                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 200.7                             | 0.2                               | <0.2                 | <0.0001   | <0.2                 | <0.00001  |
| 47. Nickel                                 | 7440020                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2            | grab                     | 6020a                             | 2                                 | <2.0 U               | <0.001    | <2.0 U               | <0.0001   |
| 48. Selenium                               | 7782492                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 200.7                             | 10                                | <10                  | <0.005    | <10                  | <0.0005   |
| 49. Silver                                 | 7440224                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1            | grab                     | 200.7                             | 5                                 | <5                   | <0.003    | <5                   | <0.0003   |
| 50. Zinc                                   | 7440666                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 6020a                             | 4                                 | 8                    | 0.004     | 6.2                  | 0.0003    |
| 51. Iron                                   | 7439896                                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 2            | grab                     | 6020a                             | 50                                | 646                  | 0.35      | 365.65               | 0.0199    |
| Other (describe): Styrene                  | 100-42-5                                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |              | grab                     | 8260                              | 5                                 | 1380                 | 0.75      | 960.5                | 0.0524    |

| Parameter *            | CAS Number | Believed Absent          | Believed Present                    | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value  |           | Average daily value  |           |
|------------------------|------------|--------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
|                        |            |                          |                                     |              |                          |                                   |                                   | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 1,2,4-Trimethylbenzene | 95-63-6    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 5                                 | 315                  | 0.17      | 158.75               | 0.0087    |
| 1,3,5-Trimethylbenzene | 108-67-8   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2            | grab                     | 8260                              | 5                                 | 174                  | 0.09      | 134.35               | 0.0073    |

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

|                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y____ N <input checked="" type="checkbox"/></p>                                                                                                                                                                                                                                                | <p>If yes, which metals?</p>                                                                                                                                                                                                                                                                                                                                       |
| <p><i>Step 2:</i> For any metals which exceed the <b>Appendix III</b> limits, calculate the <b>dilution factor (DF)</b> using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____ Etc.</p> | <p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y____ N____ If Y, list which metals:</p> |

**4. Treatment system information.** Please describe the treatment system using separate sheets as necessary, including:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                |                                                  |                                                         |                                                        |                                                |                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------|------------------------------------------------|------------------------------------------------|
| <p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p> <p>Dewatering effluent will be pumped into a weir tank that will serve as an oil/water separator and equalization tank. From this tank, water will be pumped through bag filters, an air stripper, and liquid GAC polishing. Vapors from the airstripper will be passed through vapor phase GAC. Treated water will be held in a closed top frac tank for use at site or discharge to the brook. A totalizing flow meter will track volume discharged to the brook. An influent meter will track the volume of liquids treated by the system.</p> |                                                |                                                  |                                                         |                                                        |                                                |                                                |
| b) Identify each applicable treatment unit (check all that apply):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Frac. tank <input checked="" type="checkbox"/> | Air stripper <input checked="" type="checkbox"/> | Oil/water separator <input checked="" type="checkbox"/> | Equalization tanks <input checked="" type="checkbox"/> | Bag filter <input checked="" type="checkbox"/> | GAC filter <input checked="" type="checkbox"/> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Chlorination                                   | De chlorination                                  | Other (please describe):                                |                                                        |                                                |                                                |

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:  
 Average flow rate of discharge 10 gpm      Maximum flow rate of treatment system 100 gpm  
 Design flow rate of treatment system 100 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):  
  
 Polyacrylimide (PAM) bricks (meeting the ANSI/NSF Standard 60 for drinking water treatment) may be used in contact water sumps for solids settlement prior to particulate filtration. MSDS Sheet is attached.

**5. Receiving surface water(s).** Please provide information about the receiving water(s), using separate sheets as necessary:

|                                    |                                                               |                               |                   |                |                         |
|------------------------------------|---------------------------------------------------------------|-------------------------------|-------------------|----------------|-------------------------|
| a) Identify the discharge pathway: | Direct to receiving water <input checked="" type="checkbox"/> | Within facility (sewer) _____ | Storm drain _____ | Wetlands _____ | Other (describe): _____ |
|------------------------------------|---------------------------------------------------------------|-------------------------------|-------------------|----------------|-------------------------|

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:  
 Treated water will be used onsite for dust control and other construction uses as needed. Excess treated water will be discharged via a surface pipe directly to Jewett Brook.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:  
 1. For multiple discharges, number the discharges sequentially.  
 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water  
 The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.046 cfs  
 Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ☒ N \_\_\_\_\_ If yes, for which pollutant(s)? Mercury  
 Is there a final TMDL? Y ☒ N \_\_\_\_\_ If yes, for which pollutant(s)? Mercury (0.30 ppm in fish)

## 6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ☒ B ☐ C ☐ D ☐ E ☐ F ☐

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☐ N ☐ Underway ☐

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y ☐ N ☐

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ☐ 2 ☒ 3 ☐

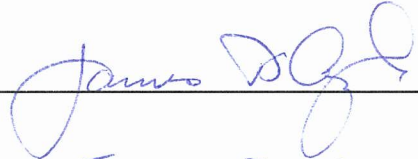
f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

## 7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

**8. Signature Requirements:** The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

|                       |                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------|
| Facility/Site Name:   | <u>Lower Liberty Hill Road</u>                                                           |
| Operator signature:   | <u></u> |
| Printed Name & Title: | <u>James D'Angelo</u>                                                                    |
| Date:                 | <u>1/31/14</u>                                                                           |

**8. Signature Requirements:** The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Facility/Site Name:

Lower Liberty Hill Road Soil Removal Action

Owner signature:

Mary E. Casey

Mary E. Casey, Environmental Program Manager

Printed Name &amp; Title:

Date:

2-3-2014

## **Appendix B**

---

### **Laboratory Data Reports**



08/28/13

## Technical Report for

GEI Consultants, Inc.

Liberty Hill, Gilford, NH

126140

Accutest Job Number: MC23577

Sampling Date: 08/15/13

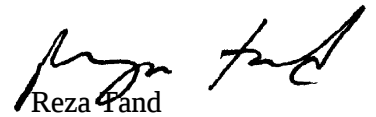
### Report to:

GEI Consultants  
400 Unicorn Park Drive  
Woburn, MA 01801-1970  
labdata@geiconsultants.com; geipayables@geiconsultants.com;  
smoseley@geiconsultants.com  
ATTN: Sarah Manley

Total number of pages in report: **60**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

  
Reza Fand  
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.  
Test results relate only to samples analyzed.

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Sample Summary

GEI Consultants, Inc.

Job No: MC23577

Liberty Hill, Gilford, NH  
Project No: 126140

| Sample Number | Collected Date | Time By | Received | Matrix Code | Type                    | Client Sample ID |
|---------------|----------------|---------|----------|-------------|-------------------------|------------------|
| MC23577-1     | 08/15/13       | 13:45   | BEC      | 08/15/13    | AQ Ground Water         | 126140-MW113C    |
| MC23577-1F    | 08/15/13       | 13:45   | BEC      | 08/15/13    | AQ Groundwater Filtered | 126140-MW113C    |
| MC23577-2     | 08/15/13       | 15:40   | BEC      | 08/15/13    | AQ Ground Water         | 126140-MW208     |
| MC23577-2F    | 08/15/13       | 15:40   | BEC      | 08/15/13    | AQ Groundwater Filtered | 126140-MW208     |

## Summary of Hits

**Job Number:** MC23577  
**Account:** GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH  
**Collected:** 08/15/13

| Lab Sample ID<br>Analyte        | Client Sample ID | Result/<br>Qual | RL   | MDL | Units | Method          |
|---------------------------------|------------------|-----------------|------|-----|-------|-----------------|
| <b>MC23577-1 126140-MW113C</b>  |                  |                 |      |     |       |                 |
| Benzene                         |                  | 369             | 0.50 |     | ug/l  | SW846 8260B     |
| Ethylbenzene                    |                  | 162             | 1.0  |     | ug/l  | SW846 8260B     |
| Isopropylbenzene                |                  | 7.8             | 5.0  |     | ug/l  | SW846 8260B     |
| Naphthalene                     |                  | 3190            | 250  |     | ug/l  | SW846 8260B     |
| n-Propylbenzene                 |                  | 18.4            | 5.0  |     | ug/l  | SW846 8260B     |
| Styrene                         |                  | 541             | 250  |     | ug/l  | SW846 8260B     |
| Toluene                         |                  | 819             | 50   |     | ug/l  | SW846 8260B     |
| 1,2,4-Trimethylbenzene          |                  | 315             | 5.0  |     | ug/l  | SW846 8260B     |
| 1,3,5-Trimethylbenzene          |                  | 94.7            | 5.0  |     | ug/l  | SW846 8260B     |
| Xylene (total)                  |                  | 1340            | 50   |     | ug/l  | SW846 8260B     |
| Acenaphthene                    |                  | 9.7             | 2.2  |     | ug/l  | SW846 8270C     |
| Acenaphthylene                  |                  | 117             | 2.2  |     | ug/l  | SW846 8270C     |
| Anthracene                      |                  | 16.0            | 2.2  |     | ug/l  | SW846 8270C     |
| Benzo(a)anthracene              |                  | 8.9             | 2.2  |     | ug/l  | SW846 8270C     |
| Benzo(a)pyrene                  |                  | 7.6             | 2.2  |     | ug/l  | SW846 8270C     |
| Benzo(b)fluoranthene            |                  | 4.1             | 2.2  |     | ug/l  | SW846 8270C     |
| Benzo(g,h,i)perylene            |                  | 3.2             | 2.2  |     | ug/l  | SW846 8270C     |
| Benzo(k)fluoranthene            |                  | 3.6             | 2.2  |     | ug/l  | SW846 8270C     |
| Chrysene                        |                  | 8.7             | 2.2  |     | ug/l  | SW846 8270C     |
| Fluoranthene                    |                  | 16.6            | 2.2  |     | ug/l  | SW846 8270C     |
| Fluorene                        |                  | 28.1            | 2.2  |     | ug/l  | SW846 8270C     |
| Indeno(1,2,3-cd)pyrene          |                  | 2.6             | 2.2  |     | ug/l  | SW846 8270C     |
| Naphthalene                     |                  | 1870            | 110  |     | ug/l  | SW846 8270C     |
| Phenanthrene                    |                  | 65.2            | 2.2  |     | ug/l  | SW846 8270C     |
| Pyrene                          |                  | 23.2            | 2.2  |     | ug/l  | SW846 8270C     |
| Arsenic                         |                  | 1.8             | 1.0  |     | ug/l  | SW846 6020A     |
| Calcium                         |                  | 19300           | 500  |     | ug/l  | SW846 6020A     |
| Copper                          |                  | 2.2             | 2.0  |     | ug/l  | SW846 6020A     |
| Iron                            |                  | 646             | 50   |     | ug/l  | SW846 6020A     |
| Magnesium                       |                  | 4800            | 500  |     | ug/l  | SW846 6020A     |
| Manganese                       |                  | 242             | 2.0  |     | ug/l  | SW846 6020A     |
| Zinc                            |                  | 8.0             | 4.0  |     | ug/l  | SW846 6020A     |
| Alkalinity, Total as CaCO3      |                  | 96.3            | 5.0  |     | mg/l  | SM21 2320B      |
| Chloride                        |                  | 1.8             | 1.0  |     | mg/l  | SM21 4500CL C   |
| Fluoride                        |                  | < 0.10          | 0.10 |     | mg/l  | SM4500 F-B-C    |
| Hardness, Total as CaCO3        |                  | 72.3            | 4.0  |     | mg/l  | SM21 2340C      |
| Silica, Dissolved               |                  | 25.0            | 4.0  |     | mg/l  | SM21 4500SIO2-C |
| Sulfate                         |                  | 15.8            | 5.0  |     | mg/l  | ASTM516-90,02   |
| <b>MC23577-1F 126140-MW113C</b> |                  |                 |      |     |       |                 |
| Arsenic                         |                  | 1.7             | 1.0  |     | ug/l  | SW846 6020A     |
| Calcium                         |                  | 19100           | 500  |     | ug/l  | SW846 6020A     |

## Summary of Hits

**Job Number:** MC23577  
**Account:** GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH  
**Collected:** 08/15/13

| Lab Sample ID<br>Analyte | Client Sample ID | Result/<br>Qual | RL  | MDL | Units | Method      |
|--------------------------|------------------|-----------------|-----|-----|-------|-------------|
| Iron                     |                  | 499             | 50  |     | ug/l  | SW846 6020A |
| Magnesium                |                  | 4820            | 500 |     | ug/l  | SW846 6020A |
| Manganese                |                  | 237             | 2.0 |     | ug/l  | SW846 6020A |
| Nickel                   |                  | 5.0             | 2.0 |     | ug/l  | SW846 6020A |
| Zinc                     |                  | 7.7             | 4.0 |     | ug/l  | SW846 6020A |
| Dissolved Organic Carbon |                  | 3.9             | 1.0 |     | mg/l  | SM21 5310 B |

### MC23577-2 126140-MW208

|                            |        |      |  |      |                 |
|----------------------------|--------|------|--|------|-----------------|
| Benzene                    | 3320   | 50   |  | ug/l | SW846 8260B     |
| Ethylbenzene               | 345    | 100  |  | ug/l | SW846 8260B     |
| Isopropylbenzene           | 12.9   | 5.0  |  | ug/l | SW846 8260B     |
| Naphthalene                | 7140   | 500  |  | ug/l | SW846 8260B     |
| n-Propylbenzene            | 42.7   | 5.0  |  | ug/l | SW846 8260B     |
| Styrene                    | 1380   | 500  |  | ug/l | SW846 8260B     |
| Toluene                    | 3440   | 100  |  | ug/l | SW846 8260B     |
| 1,3,5-Trimethylbenzene     | 174    | 5.0  |  | ug/l | SW846 8260B     |
| Xylene (total)             | 3430   | 100  |  | ug/l | SW846 8260B     |
| Acenaphthene               | 10.2   | 2.0  |  | ug/l | SW846 8270C     |
| Acenaphthylene             | 120    | 2.0  |  | ug/l | SW846 8270C     |
| Anthracene                 | 4.7    | 2.0  |  | ug/l | SW846 8270C     |
| Fluoranthene               | 2.0    | 2.0  |  | ug/l | SW846 8270C     |
| Fluorene                   | 27.5   | 2.0  |  | ug/l | SW846 8270C     |
| Naphthalene                | 3850   | 100  |  | ug/l | SW846 8270C     |
| Phenanthrene               | 32.0   | 2.0  |  | ug/l | SW846 8270C     |
| Pyrene                     | 2.6    | 2.0  |  | ug/l | SW846 8270C     |
| Arsenic                    | 1.1    | 1.0  |  | ug/l | SW846 6020A     |
| Calcium                    | 42700  | 500  |  | ug/l | SW846 6020A     |
| Iron                       | 85.3   | 50   |  | ug/l | SW846 6020A     |
| Magnesium                  | 14100  | 500  |  | ug/l | SW846 6020A     |
| Manganese                  | 429    | 2.0  |  | ug/l | SW846 6020A     |
| Zinc                       | 4.4    | 4.0  |  | ug/l | SW846 6020A     |
| Alkalinity, Total as CaCO3 | 130    | 5.0  |  | mg/l | SM21 2320B      |
| Chloride                   | 55.2   | 1.0  |  | mg/l | SM21 4500CL C   |
| Fluoride                   | < 0.10 | 0.10 |  | mg/l | SM4500 F-B-C    |
| Hardness, Total as CaCO3   | 179    | 4.0  |  | mg/l | SM21 2340C      |
| Silica, Dissolved          | 25.6   | 4.0  |  | mg/l | SM21 4500SIO2-C |
| Sulfate                    | 8.8    | 5.0  |  | mg/l | ASTM516-90,02   |

### MC23577-2F 126140-MW208

|           |       |     |  |      |             |
|-----------|-------|-----|--|------|-------------|
| Arsenic   | 1.0   | 1.0 |  | ug/l | SW846 6020A |
| Calcium   | 43700 | 500 |  | ug/l | SW846 6020A |
| Iron      | 75.4  | 50  |  | ug/l | SW846 6020A |
| Magnesium | 14500 | 500 |  | ug/l | SW846 6020A |

Summary of Hits

Job Number: MC23577  
Account: GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH  
Collected: 08/15/13

| Lab Sample ID            | Client Sample ID | Result/<br>Qual | RL  | MDL | Units | Method      |
|--------------------------|------------------|-----------------|-----|-----|-------|-------------|
| Analyte                  |                  |                 |     |     |       |             |
| Manganese                |                  | 435             | 2.0 |     | ug/l  | SW846 6020A |
| Zinc                     |                  | 7.6             | 4.0 |     | ug/l  | SW846 6020A |
| Dissolved Organic Carbon |                  | 6.8             | 1.0 |     | mg/l  | SM21 5310 B |

## Sample Results

## Report of Analysis

## Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW113C             | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-1                 | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Ground Water         | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8260B               |                        |          |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

|        | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|--------|----------|----|----------|-----|-----------|------------|------------------|
| Run #1 | V22151.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| Run #2 | V22182.D | 50 | 08/22/13 | AMY | n/a       | n/a        | MSV855           |

|        | Purge Volume |
|--------|--------------|
| Run #1 | 5.0 ml       |
| Run #2 | 5.0 ml       |

## VOA NH Full List

| CAS No.  | Compound                    | Result | RL   | Units | Q |
|----------|-----------------------------|--------|------|-------|---|
| 67-64-1  | Acetone                     | ND     | 10   | ug/l  |   |
| 71-43-2  | Benzene                     | 369    | 0.50 | ug/l  |   |
| 108-86-1 | Bromobenzene                | ND     | 5.0  | ug/l  |   |
| 74-97-5  | Bromochloromethane          | ND     | 5.0  | ug/l  |   |
| 75-27-4  | Bromodichloromethane        | ND     | 1.0  | ug/l  |   |
| 75-25-2  | Bromoform                   | ND     | 1.0  | ug/l  |   |
| 74-83-9  | Bromomethane                | ND     | 2.0  | ug/l  |   |
| 78-93-3  | 2-Butanone (MEK)            | ND     | 5.0  | ug/l  |   |
| 104-51-8 | n-Butylbenzene              | ND     | 5.0  | ug/l  |   |
| 135-98-8 | sec-Butylbenzene            | ND     | 5.0  | ug/l  |   |
| 98-06-6  | tert-Butylbenzene           | ND     | 5.0  | ug/l  |   |
| 75-15-0  | Carbon disulfide            | ND     | 5.0  | ug/l  |   |
| 56-23-5  | Carbon tetrachloride        | ND     | 1.0  | ug/l  |   |
| 108-90-7 | Chlorobenzene               | ND     | 1.0  | ug/l  |   |
| 75-00-3  | Chloroethane                | ND     | 2.0  | ug/l  |   |
| 67-66-3  | Chloroform                  | ND     | 1.0  | ug/l  |   |
| 74-87-3  | Chloromethane               | ND     | 2.0  | ug/l  |   |
| 95-49-8  | o-Chlorotoluene             | ND     | 5.0  | ug/l  |   |
| 106-43-4 | p-Chlorotoluene             | ND     | 5.0  | ug/l  |   |
| 108-20-3 | Di-Isopropyl ether          | ND     | 2.0  | ug/l  |   |
| 96-12-8  | 1,2-Dibromo-3-chloropropane | ND     | 5.0  | ug/l  |   |
| 124-48-1 | Dibromochloromethane        | ND     | 1.0  | ug/l  |   |
| 106-93-4 | 1,2-Dibromoethane           | ND     | 2.0  | ug/l  |   |
| 95-50-1  | 1,2-Dichlorobenzene         | ND     | 1.0  | ug/l  |   |
| 541-73-1 | 1,3-Dichlorobenzene         | ND     | 1.0  | ug/l  |   |
| 106-46-7 | 1,4-Dichlorobenzene         | ND     | 1.0  | ug/l  |   |
| 75-71-8  | Dichlorodifluoromethane     | ND     | 2.0  | ug/l  |   |
| 75-34-3  | 1,1-Dichloroethane          | ND     | 1.0  | ug/l  |   |
| 107-06-2 | 1,2-Dichloroethane          | ND     | 1.0  | ug/l  |   |
| 75-35-4  | 1,1-Dichloroethene          | ND     | 1.0  | ug/l  |   |
| 156-59-2 | cis-1,2-Dichloroethene      | ND     | 1.0  | ug/l  |   |
| 156-60-5 | trans-1,2-Dichloroethene    | ND     | 1.0  | ug/l  |   |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 126140-MW113C  
**Lab Sample ID:** MC23577-1  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## VOA NH Full List

| CAS No.   | Compound                    | Result            | RL   | Units | Q |
|-----------|-----------------------------|-------------------|------|-------|---|
| 78-87-5   | 1,2-Dichloropropane         | ND                | 2.0  | ug/l  |   |
| 594-20-7  | 2,2-Dichloropropane         | ND                | 5.0  | ug/l  |   |
| 563-58-6  | 1,1-Dichloropropene         | ND                | 5.0  | ug/l  |   |
| 542-75-6  | 1,3-Dichloropropene         | ND                | 0.50 | ug/l  |   |
| 123-91-1  | 1,4-Dioxane                 | ND                | 25   | ug/l  |   |
| 60-29-7   | Ethyl Ether                 | ND                | 5.0  | ug/l  |   |
| 100-41-4  | Ethylbenzene                | 162               | 1.0  | ug/l  |   |
| 87-68-3   | Hexachlorobutadiene         | ND                | 5.0  | ug/l  |   |
| 591-78-6  | 2-Hexanone                  | ND                | 5.0  | ug/l  |   |
| 98-82-8   | Isopropylbenzene            | 7.8               | 5.0  | ug/l  |   |
| 99-87-6   | p-Isopropyltoluene          | ND                | 5.0  | ug/l  |   |
| 1634-04-4 | Methyl Tert Butyl Ether     | ND                | 1.0  | ug/l  |   |
| 108-10-1  | 4-Methyl-2-pentanone (MIBK) | ND                | 5.0  | ug/l  |   |
| 74-95-3   | Methylene bromide           | ND                | 5.0  | ug/l  |   |
| 75-09-2   | Methylene chloride          | ND                | 2.0  | ug/l  |   |
| 91-20-3   | Naphthalene                 | 3190 <sup>a</sup> | 250  | ug/l  |   |
| 103-65-1  | n-Propylbenzene             | 18.4              | 5.0  | ug/l  |   |
| 100-42-5  | Styrene                     | 541 <sup>a</sup>  | 250  | ug/l  |   |
| 994-05-8  | tert-Amyl Methyl Ether      | ND                | 2.0  | ug/l  |   |
| 75-65-0   | Tert Butyl Alcohol          | ND                | 20   | ug/l  |   |
| 637-92-3  | tert-Butyl Ethyl Ether      | ND                | 2.0  | ug/l  |   |
| 630-20-6  | 1,1,1,2-Tetrachloroethane   | ND                | 1.0  | ug/l  |   |
| 79-34-5   | 1,1,2,2-Tetrachloroethane   | ND                | 0.50 | ug/l  |   |
| 127-18-4  | Tetrachloroethene           | ND                | 1.0  | ug/l  |   |
| 109-99-9  | Tetrahydrofuran             | ND                | 10   | ug/l  |   |
| 108-88-3  | Toluene                     | 819 <sup>a</sup>  | 50   | ug/l  |   |
| 87-61-6   | 1,2,3-Trichlorobenzene      | ND                | 5.0  | ug/l  |   |
| 120-82-1  | 1,2,4-Trichlorobenzene      | ND                | 5.0  | ug/l  |   |
| 108-70-3  | 1,3,5-Trichlorobenzene      | ND                | 5.0  | ug/l  |   |
| 71-55-6   | 1,1,1-Trichloroethane       | ND                | 1.0  | ug/l  |   |
| 79-00-5   | 1,1,2-Trichloroethane       | ND                | 1.0  | ug/l  |   |
| 79-01-6   | Trichloroethene             | ND                | 1.0  | ug/l  |   |
| 75-69-4   | Trichlorofluoromethane      | ND                | 1.0  | ug/l  |   |
| 96-18-4   | 1,2,3-Trichloropropane      | ND                | 5.0  | ug/l  |   |
| 95-63-6   | 1,2,4-Trimethylbenzene      | 315               | 5.0  | ug/l  |   |
| 108-67-8  | 1,3,5-Trimethylbenzene      | 94.7              | 5.0  | ug/l  |   |
| 75-01-4   | Vinyl chloride              | ND                | 1.0  | ug/l  |   |
| 1330-20-7 | Xylene (total)              | 1340 <sup>a</sup> | 50   | ug/l  |   |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 126140-MW113C  
**Lab Sample ID:** MC23577-1  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## VOA NH Full List

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 1868-53-7 | Dibromofluoromethane | 103%   | 110%   | 70-130% |
| 2037-26-5 | Toluene-D8           | 103%   | 104%   | 70-130% |
| 460-00-4  | 4-Bromofluorobenzene | 95%    | 94%    | 70-130% |

(a) Result is from Run# 2

ND = Not detected  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW113C             | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-1                 | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Ground Water         | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8270C SW846 3510C   |                        |          |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

|        | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|----------|----|----------|----|-----------|------------|------------------|
| Run #1 | R32912.D | 1  | 08/22/13 | KR | 08/16/13  | OP34450    | MSR1200          |
| Run #2 | R33026.D | 50 | 08/26/13 | KR | 08/16/13  | OP34450    | MSR1204          |

|        | Initial Volume | Final Volume |
|--------|----------------|--------------|
| Run #1 | 930 ml         | 1.0 ml       |
| Run #2 | 930 ml         | 1.0 ml       |

## ABN PPL List

| CAS No.   | Compound                    | Result | RL  | Units | Q |
|-----------|-----------------------------|--------|-----|-------|---|
| 95-57-8   | 2-Chlorophenol              | ND     | 5.4 | ug/l  |   |
| 59-50-7   | 4-Chloro-3-methyl phenol    | ND     | 11  | ug/l  |   |
| 120-83-2  | 2,4-Dichlorophenol          | ND     | 11  | ug/l  |   |
| 105-67-9  | 2,4-Dimethylphenol          | ND     | 11  | ug/l  |   |
| 51-28-5   | 2,4-Dinitrophenol           | ND     | 22  | ug/l  |   |
| 534-52-1  | 4,6-Dinitro-o-cresol        | ND     | 11  | ug/l  |   |
| 88-75-5   | 2-Nitrophenol               | ND     | 11  | ug/l  |   |
| 100-02-7  | 4-Nitrophenol               | ND     | 22  | ug/l  |   |
| 87-86-5   | Pentachlorophenol           | ND     | 11  | ug/l  |   |
| 108-95-2  | Phenol                      | ND     | 5.4 | ug/l  |   |
| 88-06-2   | 2,4,6-Trichlorophenol       | ND     | 11  | ug/l  |   |
| 83-32-9   | Acenaphthene                | 9.7    | 2.2 | ug/l  |   |
| 208-96-8  | Acenaphthylene              | 117    | 2.2 | ug/l  |   |
| 120-12-7  | Anthracene                  | 16.0   | 2.2 | ug/l  |   |
| 92-87-5   | Benzidine                   | ND     | 5.4 | ug/l  |   |
| 56-55-3   | Benzo(a)anthracene          | 8.9    | 2.2 | ug/l  |   |
| 50-32-8   | Benzo(a)pyrene              | 7.6    | 2.2 | ug/l  |   |
| 205-99-2  | Benzo(b)fluoranthene        | 4.1    | 2.2 | ug/l  |   |
| 191-24-2  | Benzo(g,h,i)perylene        | 3.2    | 2.2 | ug/l  |   |
| 207-08-9  | Benzo(k)fluoranthene        | 3.6    | 2.2 | ug/l  |   |
| 101-55-3  | 4-Bromophenyl phenyl ether  | ND     | 5.4 | ug/l  |   |
| 85-68-7   | Butyl benzyl phthalate      | ND     | 5.4 | ug/l  |   |
| 91-58-7   | 2-Chloronaphthalene         | ND     | 5.4 | ug/l  |   |
| 106-47-8  | 4-Chloroaniline             | ND     | 11  | ug/l  |   |
| 218-01-9  | Chrysene                    | 8.7    | 2.2 | ug/l  |   |
| 111-91-1  | bis(2-Chloroethoxy)methane  | ND     | 5.4 | ug/l  |   |
| 111-44-4  | bis(2-Chloroethyl)ether     | ND     | 5.4 | ug/l  |   |
| 108-60-1  | bis(2-Chloroisopropyl)ether | ND     | 5.4 | ug/l  |   |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND     | 5.4 | ug/l  |   |
| 95-50-1   | 1,2-Dichlorobenzene         | ND     | 5.4 | ug/l  |   |
| 122-66-7  | 1,2-Diphenylhydrazine       | ND     | 5.4 | ug/l  |   |
| 541-73-1  | 1,3-Dichlorobenzene         | ND     | 5.4 | ug/l  |   |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW113C             | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-1                 | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Ground Water         | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8270C SW846 3510C   |                        |          |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

## ABN PPL List

| CAS No.  | Compound                   | Result            | RL  | Units | Q |
|----------|----------------------------|-------------------|-----|-------|---|
| 106-46-7 | 1,4-Dichlorobenzene        | ND                | 5.4 | ug/l  |   |
| 121-14-2 | 2,4-Dinitrotoluene         | ND                | 11  | ug/l  |   |
| 606-20-2 | 2,6-Dinitrotoluene         | ND                | 11  | ug/l  |   |
| 91-94-1  | 3,3'-Dichlorobenzidine     | ND                | 5.4 | ug/l  |   |
| 53-70-3  | Dibenzo(a,h)anthracene     | ND                | 2.2 | ug/l  |   |
| 84-74-2  | Di-n-butyl phthalate       | ND                | 5.4 | ug/l  |   |
| 117-84-0 | Di-n-octyl phthalate       | ND                | 5.4 | ug/l  |   |
| 84-66-2  | Diethyl phthalate          | ND                | 5.4 | ug/l  |   |
| 131-11-3 | Dimethyl phthalate         | ND                | 5.4 | ug/l  |   |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND                | 2.2 | ug/l  |   |
| 206-44-0 | Fluoranthene               | 16.6              | 2.2 | ug/l  |   |
| 86-73-7  | Fluorene                   | 28.1              | 2.2 | ug/l  |   |
| 118-74-1 | Hexachlorobenzene          | ND                | 5.4 | ug/l  |   |
| 87-68-3  | Hexachlorobutadiene        | ND                | 5.4 | ug/l  |   |
| 77-47-4  | Hexachlorocyclopentadiene  | ND                | 11  | ug/l  |   |
| 67-72-1  | Hexachloroethane           | ND                | 5.4 | ug/l  |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene     | 2.6               | 2.2 | ug/l  |   |
| 78-59-1  | Isophorone                 | ND                | 5.4 | ug/l  |   |
| 91-20-3  | Naphthalene                | 1870 <sup>a</sup> | 110 | ug/l  |   |
| 98-95-3  | Nitrobenzene               | ND                | 5.4 | ug/l  |   |
| 62-75-9  | n-Nitrosodimethylamine     | ND                | 5.4 | ug/l  |   |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND                | 5.4 | ug/l  |   |
| 86-30-6  | N-Nitrosodiphenylamine     | ND                | 5.4 | ug/l  |   |
| 85-01-8  | Phenanthrene               | 65.2              | 2.2 | ug/l  |   |
| 129-00-0 | Pyrene                     | 23.2              | 2.2 | ug/l  |   |
| 120-82-1 | 1,2,4-Trichlorobenzene     | ND                | 5.4 | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2          | Limits  |
|-----------|----------------------|--------|-----------------|---------|
| 367-12-4  | 2-Fluorophenol       | 34%    | 0% <sup>b</sup> | 15-110% |
| 4165-62-2 | Phenol-d5            | 21%    | 0% <sup>b</sup> | 15-110% |
| 118-79-6  | 2,4,6-Tribromophenol | 73%    | 0% <sup>b</sup> | 15-110% |
| 4165-60-0 | Nitrobenzene-d5      | 50%    | 0% <sup>b</sup> | 30-130% |
| 321-60-8  | 2-Fluorobiphenyl     | 57%    | 51%             | 30-130% |
| 1718-51-0 | Terphenyl-d14        | 77%    | 73%             | 30-130% |

(a) Result is from Run# 2

(b) Outside control limits due to dilution.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 126140-MW113C  
**Lab Sample ID:** MC23577-1  
**Matrix:** AQ - Ground Water  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## Total Metals Analysis

| Analyte   | Result | RL  | Units | DF | Prep     | Analyzed By | Method                   | Prep Method              |
|-----------|--------|-----|-------|----|----------|-------------|--------------------------|--------------------------|
| Aluminum  | < 50   | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Arsenic   | 1.8    | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Calcium   | 19300  | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Chromium  | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Copper    | 2.2    | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Iron      | 646    | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Lead      | < 1.0  | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Magnesium | 4800   | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Manganese | 242    | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Nickel    | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Vanadium  | < 4.0  | 4.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Zinc      | 8.0    | 4.0 | ug/l  | 2  | 08/20/13 | 08/21/13 SA | SW846 6020A <sup>2</sup> | SW846 3010A <sup>3</sup> |

(1) Instrument QC Batch: MA16004

(2) Instrument QC Batch: MA16009

(3) Prep QC Batch: MP21526

RL = Reporting Limit

## Report of Analysis

**Client Sample ID:** 126140-MW113C  
**Lab Sample ID:** MC23577-1  
**Matrix:** AQ - Ground Water  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## General Chemistry

| Analyte                                | Result  | RL    | Units | DF | Analyzed       | By | Method           |
|----------------------------------------|---------|-------|-------|----|----------------|----|------------------|
| Alkalinity, Total as CaCO <sub>3</sub> | 96.3    | 5.0   | mg/l  | 1  | 08/19/13       | MC | SM21 2320B       |
| Chloride                               | 1.8     | 1.0   | mg/l  | 1  | 08/19/13       | CF | SM21 4500CL C    |
| Fluoride                               | < 0.10  | 0.10  | mg/l  | 1  | 08/20/13       | MA | SM4500 F-B-C     |
| Hardness, Total as CaCO <sub>3</sub>   | 72.3    | 4.0   | mg/l  | 1  | 08/19/13       | MC | SM21 2340C       |
| Nitrogen, Nitrate <sup>a</sup>         | < 0.11  | 0.11  | mg/l  | 1  | 08/20/13 15:29 | MC | EPA 353.2        |
| Nitrogen, Nitrate + Nitrite            | < 0.10  | 0.10  | mg/l  | 1  | 08/20/13 15:29 | MC | EPA 353.2        |
| Nitrogen, Nitrite                      | < 0.010 | 0.010 | mg/l  | 1  | 08/16/13 18:43 | MA | SM 21 4500 NO2 B |
| Phosphorus, Total                      | < 0.20  | 0.20  | mg/l  | 1  | 08/22/13 09:48 | MC | EPA 365.4        |
| Silica, Dissolved                      | 25.0    | 4.0   | mg/l  | 2  | 08/21/13 17:12 | CF | SM21 4500SIO2-C  |
| Sulfate                                | 15.8    | 5.0   | mg/l  | 1  | 08/20/13       | HS | ASTM516-90,02    |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

## Report of Analysis

**Client Sample ID:** 126140-MW113C  
**Lab Sample ID:** MC23577-1F  
**Matrix:** AQ - Groundwater Filtered  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## Dissolved Metals Analysis

| Analyte   | Result | RL  | Units | DF | Prep     | Analyzed By | Method                   | Prep Method              |
|-----------|--------|-----|-------|----|----------|-------------|--------------------------|--------------------------|
| Aluminum  | < 50   | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Arsenic   | 1.7    | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Calcium   | 19100  | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Chromium  | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Copper    | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Iron      | 499    | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Lead      | < 1.0  | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Magnesium | 4820   | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Manganese | 237    | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Nickel    | 5.0    | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Vanadium  | < 4.0  | 4.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Zinc      | 7.7    | 4.0 | ug/l  | 2  | 08/20/13 | 08/21/13 SA | SW846 6020A <sup>2</sup> | SW846 3010A <sup>3</sup> |

(1) Instrument QC Batch: MA16004

(2) Instrument QC Batch: MA16009

(3) Prep QC Batch: MP21526

RL = Reporting Limit

Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW113C             | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-1F                | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Groundwater Filtered | <b>Percent Solids:</b> | n/a      |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

General Chemistry

| Analyte                  | Result | RL  | Units | DF | Analyzed       | By | Method      |
|--------------------------|--------|-----|-------|----|----------------|----|-------------|
| Dissolved Organic Carbon | 3.9    | 1.0 | mg/l  | 1  | 08/21/13 14:22 | CF | SM21 5310 B |

RL = Reporting Limit

## Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW208              | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-2                 | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Ground Water         | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8260B               |                        |          |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

|        | File ID  | DF  | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|--------|----------|-----|----------|-----|-----------|------------|------------------|
| Run #1 | V22152.D | 1   | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| Run #2 | V22183.D | 100 | 08/22/13 | AMY | n/a       | n/a        | MSV855           |

|        | Purge Volume |
|--------|--------------|
| Run #1 | 5.0 ml       |
| Run #2 | 5.0 ml       |

## VOA NH Full List

| CAS No.  | Compound                    | Result            | RL  | Units | Q |
|----------|-----------------------------|-------------------|-----|-------|---|
| 67-64-1  | Acetone                     | ND                | 10  | ug/l  |   |
| 71-43-2  | Benzene                     | 3320 <sup>a</sup> | 50  | ug/l  |   |
| 108-86-1 | Bromobenzene                | ND                | 5.0 | ug/l  |   |
| 74-97-5  | Bromochloromethane          | ND                | 5.0 | ug/l  |   |
| 75-27-4  | Bromodichloromethane        | ND                | 1.0 | ug/l  |   |
| 75-25-2  | Bromoform                   | ND                | 1.0 | ug/l  |   |
| 74-83-9  | Bromomethane                | ND                | 2.0 | ug/l  |   |
| 78-93-3  | 2-Butanone (MEK)            | ND                | 5.0 | ug/l  |   |
| 104-51-8 | n-Butylbenzene              | ND                | 5.0 | ug/l  |   |
| 135-98-8 | sec-Butylbenzene            | ND                | 5.0 | ug/l  |   |
| 98-06-6  | tert-Butylbenzene           | ND                | 5.0 | ug/l  |   |
| 75-15-0  | Carbon disulfide            | ND                | 5.0 | ug/l  |   |
| 56-23-5  | Carbon tetrachloride        | ND                | 1.0 | ug/l  |   |
| 108-90-7 | Chlorobenzene               | ND                | 1.0 | ug/l  |   |
| 75-00-3  | Chloroethane                | ND                | 2.0 | ug/l  |   |
| 67-66-3  | Chloroform                  | ND                | 1.0 | ug/l  |   |
| 74-87-3  | Chloromethane               | ND                | 2.0 | ug/l  |   |
| 95-49-8  | o-Chlorotoluene             | ND                | 5.0 | ug/l  |   |
| 106-43-4 | p-Chlorotoluene             | ND                | 5.0 | ug/l  |   |
| 108-20-3 | Di-Isopropyl ether          | ND                | 2.0 | ug/l  |   |
| 96-12-8  | 1,2-Dibromo-3-chloropropane | ND                | 5.0 | ug/l  |   |
| 124-48-1 | Dibromochloromethane        | ND                | 1.0 | ug/l  |   |
| 106-93-4 | 1,2-Dibromoethane           | ND                | 2.0 | ug/l  |   |
| 95-50-1  | 1,2-Dichlorobenzene         | ND                | 1.0 | ug/l  |   |
| 541-73-1 | 1,3-Dichlorobenzene         | ND                | 1.0 | ug/l  |   |
| 106-46-7 | 1,4-Dichlorobenzene         | ND                | 1.0 | ug/l  |   |
| 75-71-8  | Dichlorodifluoromethane     | ND                | 2.0 | ug/l  |   |
| 75-34-3  | 1,1-Dichloroethane          | ND                | 1.0 | ug/l  |   |
| 107-06-2 | 1,2-Dichloroethane          | ND                | 1.0 | ug/l  |   |
| 75-35-4  | 1,1-Dichloroethene          | ND                | 1.0 | ug/l  |   |
| 156-59-2 | cis-1,2-Dichloroethene      | ND                | 1.0 | ug/l  |   |
| 156-60-5 | trans-1,2-Dichloroethene    | ND                | 1.0 | ug/l  |   |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 126140-MW208  
**Lab Sample ID:** MC23577-2  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## VOA NH Full List

| CAS No.   | Compound                    | Result            | RL   | Units | Q |
|-----------|-----------------------------|-------------------|------|-------|---|
| 78-87-5   | 1,2-Dichloropropane         | ND                | 2.0  | ug/l  |   |
| 594-20-7  | 2,2-Dichloropropane         | ND                | 5.0  | ug/l  |   |
| 563-58-6  | 1,1-Dichloropropene         | ND                | 5.0  | ug/l  |   |
| 542-75-6  | 1,3-Dichloropropene         | ND                | 0.50 | ug/l  |   |
| 123-91-1  | 1,4-Dioxane                 | ND                | 25   | ug/l  |   |
| 60-29-7   | Ethyl Ether                 | ND                | 5.0  | ug/l  |   |
| 100-41-4  | Ethylbenzene                | 345 <sup>a</sup>  | 100  | ug/l  |   |
| 87-68-3   | Hexachlorobutadiene         | ND                | 5.0  | ug/l  |   |
| 591-78-6  | 2-Hexanone                  | ND                | 5.0  | ug/l  |   |
| 98-82-8   | Isopropylbenzene            | 12.9              | 5.0  | ug/l  |   |
| 99-87-6   | p-Isopropyltoluene          | ND                | 5.0  | ug/l  |   |
| 1634-04-4 | Methyl Tert Butyl Ether     | ND                | 1.0  | ug/l  |   |
| 108-10-1  | 4-Methyl-2-pentanone (MIBK) | ND                | 5.0  | ug/l  |   |
| 74-95-3   | Methylene bromide           | ND                | 5.0  | ug/l  |   |
| 75-09-2   | Methylene chloride          | ND                | 2.0  | ug/l  |   |
| 91-20-3   | Naphthalene                 | 7140 <sup>a</sup> | 500  | ug/l  |   |
| 103-65-1  | n-Propylbenzene             | 42.7              | 5.0  | ug/l  |   |
| 100-42-5  | Styrene                     | 1380 <sup>a</sup> | 500  | ug/l  |   |
| 994-05-8  | tert-Amyl Methyl Ether      | ND                | 2.0  | ug/l  |   |
| 75-65-0   | Tert Butyl Alcohol          | ND                | 20   | ug/l  |   |
| 637-92-3  | tert-Butyl Ethyl Ether      | ND                | 2.0  | ug/l  |   |
| 630-20-6  | 1,1,1,2-Tetrachloroethane   | ND                | 1.0  | ug/l  |   |
| 79-34-5   | 1,1,2,2-Tetrachloroethane   | ND                | 0.50 | ug/l  |   |
| 127-18-4  | Tetrachloroethene           | ND                | 1.0  | ug/l  |   |
| 109-99-9  | Tetrahydrofuran             | ND                | 10   | ug/l  |   |
| 108-88-3  | Toluene                     | 3440 <sup>a</sup> | 100  | ug/l  |   |
| 87-61-6   | 1,2,3-Trichlorobenzene      | ND                | 5.0  | ug/l  |   |
| 120-82-1  | 1,2,4-Trichlorobenzene      | ND                | 5.0  | ug/l  |   |
| 108-70-3  | 1,3,5-Trichlorobenzene      | ND                | 5.0  | ug/l  |   |
| 71-55-6   | 1,1,1-Trichloroethane       | ND                | 1.0  | ug/l  |   |
| 79-00-5   | 1,1,2-Trichloroethane       | ND                | 1.0  | ug/l  |   |
| 79-01-6   | Trichloroethene             | ND                | 1.0  | ug/l  |   |
| 75-69-4   | Trichlorofluoromethane      | ND                | 1.0  | ug/l  |   |
| 96-18-4   | 1,2,3-Trichloropropane      | ND                | 5.0  | ug/l  |   |
| 95-63-6   | 1,2,4-Trimethylbenzene      | ND <sup>a</sup>   | 500  | ug/l  |   |
| 108-67-8  | 1,3,5-Trimethylbenzene      | 174               | 5.0  | ug/l  |   |
| 75-01-4   | Vinyl chloride              | ND                | 1.0  | ug/l  |   |
| 1330-20-7 | Xylene (total)              | 3430 <sup>a</sup> | 100  | ug/l  |   |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 126140-MW208  
**Lab Sample ID:** MC23577-2  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## VOA NH Full List

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 1868-53-7 | Dibromofluoromethane | 94%    | 107%   | 70-130% |
| 2037-26-5 | Toluene-D8           | 103%   | 102%   | 70-130% |
| 460-00-4  | 4-Bromofluorobenzene | 99%    | 95%    | 70-130% |

(a) Result is from Run# 2

ND = Not detected  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW208              | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-2                 | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Ground Water         | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8270C SW846 3510C   |                        |          |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

|        | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|----------|----|----------|----|-----------|------------|------------------|
| Run #1 | R32913.D | 1  | 08/22/13 | KR | 08/16/13  | OP34450    | MSR1200          |
| Run #2 | R33027.D | 50 | 08/26/13 | KR | 08/16/13  | OP34450    | MSR1204          |

|        | Initial Volume | Final Volume |
|--------|----------------|--------------|
| Run #1 | 980 ml         | 1.0 ml       |
| Run #2 | 980 ml         | 1.0 ml       |

## ABN PPL List

| CAS No.   | Compound                    | Result | RL  | Units | Q |
|-----------|-----------------------------|--------|-----|-------|---|
| 95-57-8   | 2-Chlorophenol              | ND     | 5.1 | ug/l  |   |
| 59-50-7   | 4-Chloro-3-methyl phenol    | ND     | 10  | ug/l  |   |
| 120-83-2  | 2,4-Dichlorophenol          | ND     | 10  | ug/l  |   |
| 105-67-9  | 2,4-Dimethylphenol          | ND     | 10  | ug/l  |   |
| 51-28-5   | 2,4-Dinitrophenol           | ND     | 20  | ug/l  |   |
| 534-52-1  | 4,6-Dinitro-o-cresol        | ND     | 10  | ug/l  |   |
| 88-75-5   | 2-Nitrophenol               | ND     | 10  | ug/l  |   |
| 100-02-7  | 4-Nitrophenol               | ND     | 20  | ug/l  |   |
| 87-86-5   | Pentachlorophenol           | ND     | 10  | ug/l  |   |
| 108-95-2  | Phenol                      | ND     | 5.1 | ug/l  |   |
| 88-06-2   | 2,4,6-Trichlorophenol       | ND     | 10  | ug/l  |   |
| 83-32-9   | Acenaphthene                | 10.2   | 2.0 | ug/l  |   |
| 208-96-8  | Acenaphthylene              | 120    | 2.0 | ug/l  |   |
| 120-12-7  | Anthracene                  | 4.7    | 2.0 | ug/l  |   |
| 92-87-5   | Benzidine                   | ND     | 5.1 | ug/l  |   |
| 56-55-3   | Benzo(a)anthracene          | ND     | 2.0 | ug/l  |   |
| 50-32-8   | Benzo(a)pyrene              | ND     | 2.0 | ug/l  |   |
| 205-99-2  | Benzo(b)fluoranthene        | ND     | 2.0 | ug/l  |   |
| 191-24-2  | Benzo(g,h,i)perylene        | ND     | 2.0 | ug/l  |   |
| 207-08-9  | Benzo(k)fluoranthene        | ND     | 2.0 | ug/l  |   |
| 101-55-3  | 4-Bromophenyl phenyl ether  | ND     | 5.1 | ug/l  |   |
| 85-68-7   | Butyl benzyl phthalate      | ND     | 5.1 | ug/l  |   |
| 91-58-7   | 2-Chloronaphthalene         | ND     | 5.1 | ug/l  |   |
| 106-47-8  | 4-Chloroaniline             | ND     | 10  | ug/l  |   |
| 218-01-9  | Chrysene                    | ND     | 2.0 | ug/l  |   |
| 111-91-1  | bis(2-Chloroethoxy)methane  | ND     | 5.1 | ug/l  |   |
| 111-44-4  | bis(2-Chloroethyl)ether     | ND     | 5.1 | ug/l  |   |
| 108-60-1  | bis(2-Chloroisopropyl)ether | ND     | 5.1 | ug/l  |   |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND     | 5.1 | ug/l  |   |
| 95-50-1   | 1,2-Dichlorobenzene         | ND     | 5.1 | ug/l  |   |
| 122-66-7  | 1,2-Diphenylhydrazine       | ND     | 5.1 | ug/l  |   |
| 541-73-1  | 1,3-Dichlorobenzene         | ND     | 5.1 | ug/l  |   |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID: 126140-MW208

Lab Sample ID: MC23577-2

Matrix: AQ - Ground Water

Method: SW846 8270C SW846 3510C

Project: Liberty Hill, Gilford, NH

Date Sampled: 08/15/13

Date Received: 08/15/13

Percent Solids: n/a

## ABN PPL List

| CAS No.  | Compound                   | Result            | RL  | Units | Q |
|----------|----------------------------|-------------------|-----|-------|---|
| 106-46-7 | 1,4-Dichlorobenzene        | ND                | 5.1 | ug/l  |   |
| 121-14-2 | 2,4-Dinitrotoluene         | ND                | 10  | ug/l  |   |
| 606-20-2 | 2,6-Dinitrotoluene         | ND                | 10  | ug/l  |   |
| 91-94-1  | 3,3'-Dichlorobenzidine     | ND                | 5.1 | ug/l  |   |
| 53-70-3  | Dibenzo(a,h)anthracene     | ND                | 2.0 | ug/l  |   |
| 84-74-2  | Di-n-butyl phthalate       | ND                | 5.1 | ug/l  |   |
| 117-84-0 | Di-n-octyl phthalate       | ND                | 5.1 | ug/l  |   |
| 84-66-2  | Diethyl phthalate          | ND                | 5.1 | ug/l  |   |
| 131-11-3 | Dimethyl phthalate         | ND                | 5.1 | ug/l  |   |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND                | 2.0 | ug/l  |   |
| 206-44-0 | Fluoranthene               | 2.0               | 2.0 | ug/l  |   |
| 86-73-7  | Fluorene                   | 27.5              | 2.0 | ug/l  |   |
| 118-74-1 | Hexachlorobenzene          | ND                | 5.1 | ug/l  |   |
| 87-68-3  | Hexachlorobutadiene        | ND                | 5.1 | ug/l  |   |
| 77-47-4  | Hexachlorocyclopentadiene  | ND                | 10  | ug/l  |   |
| 67-72-1  | Hexachloroethane           | ND                | 5.1 | ug/l  |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene     | ND                | 2.0 | ug/l  |   |
| 78-59-1  | Isophorone                 | ND                | 5.1 | ug/l  |   |
| 91-20-3  | Naphthalene                | 3850 <sup>a</sup> | 100 | ug/l  |   |
| 98-95-3  | Nitrobenzene               | ND                | 5.1 | ug/l  |   |
| 62-75-9  | n-Nitrosodimethylamine     | ND                | 5.1 | ug/l  |   |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND                | 5.1 | ug/l  |   |
| 86-30-6  | N-Nitrosodiphenylamine     | ND                | 5.1 | ug/l  |   |
| 85-01-8  | Phenanthrene               | 32.0              | 2.0 | ug/l  |   |
| 129-00-0 | Pyrene                     | 2.6               | 2.0 | ug/l  |   |
| 120-82-1 | 1,2,4-Trichlorobenzene     | ND                | 5.1 | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Run# 1           | Run# 2          | Limits  |
|-----------|----------------------|------------------|-----------------|---------|
| 367-12-4  | 2-Fluorophenol       | 23%              | 0% <sup>b</sup> | 15-110% |
| 4165-62-2 | Phenol-d5            | 11% <sup>c</sup> | 0% <sup>b</sup> | 15-110% |
| 118-79-6  | 2,4,6-Tribromophenol | 45%              | 0% <sup>b</sup> | 15-110% |
| 4165-60-0 | Nitrobenzene-d5      | 59%              | 0% <sup>b</sup> | 30-130% |
| 321-60-8  | 2-Fluorobiphenyl     | 63%              | 57%             | 30-130% |
| 1718-51-0 | Terphenyl-d14        | 77%              | 71%             | 30-130% |

(a) Result is from Run# 2

(b) Outside control limits due to dilution.

(c) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 126140-MW208  
**Lab Sample ID:** MC23577-2  
**Matrix:** AQ - Ground Water  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## Total Metals Analysis

| Analyte   | Result | RL  | Units | DF | Prep     | Analized By | Method                   | Prep Method              |
|-----------|--------|-----|-------|----|----------|-------------|--------------------------|--------------------------|
| Aluminum  | < 50   | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Arsenic   | 1.1    | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Calcium   | 42700  | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Chromium  | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Copper    | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Iron      | 85.3   | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Lead      | < 1.0  | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Magnesium | 14100  | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Manganese | 429    | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Nickel    | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Vanadium  | < 4.0  | 4.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Zinc      | 4.4    | 4.0 | ug/l  | 2  | 08/20/13 | 08/21/13 SA | SW846 6020A <sup>2</sup> | SW846 3010A <sup>3</sup> |

(1) Instrument QC Batch: MA16004

(2) Instrument QC Batch: MA16009

(3) Prep QC Batch: MP21526

RL = Reporting Limit

## Report of Analysis

**Client Sample ID:** 126140-MW208  
**Lab Sample ID:** MC23577-2  
**Matrix:** AQ - Ground Water  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 08/15/13  
**Date Received:** 08/15/13  
**Percent Solids:** n/a

## General Chemistry

| Analyte                                | Result  | RL    | Units | DF | Analyzed       | By | Method           |
|----------------------------------------|---------|-------|-------|----|----------------|----|------------------|
| Alkalinity, Total as CaCO <sub>3</sub> | 130     | 5.0   | mg/l  | 1  | 08/19/13       | MC | SM21 2320B       |
| Chloride                               | 55.2    | 1.0   | mg/l  | 1  | 08/19/13       | CF | SM21 4500CL C    |
| Fluoride                               | < 0.10  | 0.10  | mg/l  | 1  | 08/20/13       | MA | SM4500 F-B-C     |
| Hardness, Total as CaCO <sub>3</sub>   | 179     | 4.0   | mg/l  | 1  | 08/19/13       | MC | SM21 2340C       |
| Nitrogen, Nitrate <sup>a</sup>         | < 0.11  | 0.11  | mg/l  | 1  | 08/20/13 15:31 | MC | EPA 353.2        |
| Nitrogen, Nitrate + Nitrite            | < 0.10  | 0.10  | mg/l  | 1  | 08/20/13 15:31 | MC | EPA 353.2        |
| Nitrogen, Nitrite                      | < 0.010 | 0.010 | mg/l  | 1  | 08/16/13 18:43 | MA | SM 21 4500 NO2 B |
| Phosphorus, Total                      | < 0.20  | 0.20  | mg/l  | 1  | 08/22/13 09:49 | MC | EPA 365.4        |
| Silica, Dissolved                      | 25.6    | 4.0   | mg/l  | 2  | 08/21/13 17:12 | CF | SM21 4500SIO2-C  |
| Sulfate                                | 8.8     | 5.0   | mg/l  | 1  | 08/20/13       | HS | ASTM516-90,02    |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

## Report of Analysis

Client Sample ID: 126140-MW208

Lab Sample ID: MC23577-2F

Matrix: AQ - Groundwater Filtered

Project: Liberty Hill, Gilford, NH

Date Sampled: 08/15/13

Date Received: 08/15/13

Percent Solids: n/a

## Dissolved Metals Analysis

| Analyte   | Result | RL  | Units | DF | Prep     | Analyzed By | Method                   | Prep Method              |
|-----------|--------|-----|-------|----|----------|-------------|--------------------------|--------------------------|
| Aluminum  | < 50   | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Arsenic   | 1.0    | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Calcium   | 43700  | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Chromium  | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Copper    | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Iron      | 75.4   | 50  | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Lead      | < 1.0  | 1.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Magnesium | 14500  | 500 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Manganese | 435    | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Nickel    | < 2.0  | 2.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Vanadium  | < 4.0  | 4.0 | ug/l  | 2  | 08/20/13 | 08/20/13 SA | SW846 6020A <sup>1</sup> | SW846 3010A <sup>3</sup> |
| Zinc      | 7.6    | 4.0 | ug/l  | 2  | 08/20/13 | 08/21/13 SA | SW846 6020A <sup>2</sup> | SW846 3010A <sup>3</sup> |

(1) Instrument QC Batch: MA16004

(2) Instrument QC Batch: MA16009

(3) Prep QC Batch: MP21526

RL = Reporting Limit

Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 126140-MW208              | <b>Date Sampled:</b>   | 08/15/13 |
| <b>Lab Sample ID:</b>    | MC23577-2F                | <b>Date Received:</b>  | 08/15/13 |
| <b>Matrix:</b>           | AQ - Groundwater Filtered | <b>Percent Solids:</b> | n/a      |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

General Chemistry

| Analyte                  | Result | RL  | Units | DF | Analyzed       | By | Method      |
|--------------------------|--------|-----|-------|----|----------------|----|-------------|
| Dissolved Organic Carbon | 6.8    | 1.0 | mg/l  | 1  | 08/21/13 14:35 | CF | SM21 5310 B |

RL = Reporting Limit

## Misc. Forms

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

## 4.1

Page 1 of 2

# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC23577      Client: GEI      Immediate Client Services Action Required: No  
 Date / Time Received: 8/15/2013      Delivery Method:      Client Service Action Required at Login: No  
 Project: LIBERTY HILL      No. Coolers: 4      Airbill #'s:

| Cooler Security           |                                     | Y or N                   |                       |                                     | Y or N                   |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| Cooler Temperature           |                                     | Y or N                   |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infared gun                         |                          |
| 3. Cooler media:             | Ice (bag)                           |                          |

| Quality Control Preservation    | Y                                   | or                       | N                                   | N/A |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|-----|
| 1. Trip Blank present / cooler: | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |     |
| 2. Trip Blank listed on COC:    | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |     |
| 3. Samples preserved properly:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                                     |     |
| 4. VOCs headspace free:         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |     |

| Sample Integrity - Documentation       |                                     | Y or N                   |
|----------------------------------------|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete:        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| Sample Integrity - Condition     |                                     | Y or N                   |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample:          | Intact                              |                          |

| Sample Integrity - Instructions           |                                     | Y or N                              | N/A                                 |
|-------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Bottles received for unspecified tests | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 3. Sufficient volume recvd for analysis:  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Comments

## GC/MS Volatiles

5

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

## Method Blank Summary

Page 1 of 3

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

| Sample    | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|-----------|----------|----|----------|-----|-----------|------------|------------------|
| MSV854-MB | V22131.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.  | Compound                    | Result | RL   | Units | Q |
|----------|-----------------------------|--------|------|-------|---|
| 67-64-1  | Acetone                     | ND     | 10   | ug/l  |   |
| 71-43-2  | Benzene                     | ND     | 0.50 | ug/l  |   |
| 108-86-1 | Bromobenzene                | ND     | 5.0  | ug/l  |   |
| 74-97-5  | Bromochloromethane          | ND     | 5.0  | ug/l  |   |
| 75-27-4  | Bromodichloromethane        | ND     | 1.0  | ug/l  |   |
| 75-25-2  | Bromoform                   | ND     | 1.0  | ug/l  |   |
| 74-83-9  | Bromomethane                | ND     | 2.0  | ug/l  |   |
| 78-93-3  | 2-Butanone (MEK)            | ND     | 5.0  | ug/l  |   |
| 104-51-8 | n-Butylbenzene              | ND     | 5.0  | ug/l  |   |
| 135-98-8 | sec-Butylbenzene            | ND     | 5.0  | ug/l  |   |
| 98-06-6  | tert-Butylbenzene           | ND     | 5.0  | ug/l  |   |
| 75-15-0  | Carbon disulfide            | ND     | 5.0  | ug/l  |   |
| 56-23-5  | Carbon tetrachloride        | ND     | 1.0  | ug/l  |   |
| 108-90-7 | Chlorobenzene               | ND     | 1.0  | ug/l  |   |
| 75-00-3  | Chloroethane                | ND     | 2.0  | ug/l  |   |
| 67-66-3  | Chloroform                  | ND     | 1.0  | ug/l  |   |
| 74-87-3  | Chloromethane               | ND     | 2.0  | ug/l  |   |
| 95-49-8  | o-Chlorotoluene             | ND     | 5.0  | ug/l  |   |
| 106-43-4 | p-Chlorotoluene             | ND     | 5.0  | ug/l  |   |
| 108-20-3 | Di-Isopropyl ether          | ND     | 2.0  | ug/l  |   |
| 96-12-8  | 1,2-Dibromo-3-chloropropane | ND     | 5.0  | ug/l  |   |
| 124-48-1 | Dibromochloromethane        | ND     | 1.0  | ug/l  |   |
| 106-93-4 | 1,2-Dibromoethane           | ND     | 2.0  | ug/l  |   |
| 95-50-1  | 1,2-Dichlorobenzene         | ND     | 1.0  | ug/l  |   |
| 541-73-1 | 1,3-Dichlorobenzene         | ND     | 1.0  | ug/l  |   |
| 106-46-7 | 1,4-Dichlorobenzene         | ND     | 1.0  | ug/l  |   |
| 75-71-8  | Dichlorodifluoromethane     | ND     | 2.0  | ug/l  |   |
| 75-34-3  | 1,1-Dichloroethane          | ND     | 1.0  | ug/l  |   |
| 107-06-2 | 1,2-Dichloroethane          | ND     | 1.0  | ug/l  |   |
| 75-35-4  | 1,1-Dichloroethene          | ND     | 1.0  | ug/l  |   |
| 156-59-2 | cis-1,2-Dichloroethene      | ND     | 1.0  | ug/l  |   |
| 156-60-5 | trans-1,2-Dichloroethene    | ND     | 1.0  | ug/l  |   |
| 78-87-5  | 1,2-Dichloropropane         | ND     | 2.0  | ug/l  |   |
| 594-20-7 | 2,2-Dichloropropane         | ND     | 5.0  | ug/l  |   |
| 563-58-6 | 1,1-Dichloropropene         | ND     | 5.0  | ug/l  |   |
| 542-75-6 | 1,3-Dichloropropene         | ND     | 0.50 | ug/l  |   |

## Method Blank Summary

Page 2 of 3

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample    | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|-----------|----------|----|----------|-----|-----------|------------|------------------|
| MSV854-MB | V22131.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.   | Compound                    | Result | RL   | Units | Q |
|-----------|-----------------------------|--------|------|-------|---|
| 123-91-1  | 1,4-Dioxane                 | ND     | 25   | ug/l  |   |
| 60-29-7   | Ethyl Ether                 | ND     | 5.0  | ug/l  |   |
| 100-41-4  | Ethylbenzene                | ND     | 1.0  | ug/l  |   |
| 87-68-3   | Hexachlorobutadiene         | ND     | 5.0  | ug/l  |   |
| 591-78-6  | 2-Hexanone                  | ND     | 5.0  | ug/l  |   |
| 98-82-8   | Isopropylbenzene            | ND     | 5.0  | ug/l  |   |
| 99-87-6   | p-Isopropyltoluene          | ND     | 5.0  | ug/l  |   |
| 1634-04-4 | Methyl Tert Butyl Ether     | ND     | 1.0  | ug/l  |   |
| 108-10-1  | 4-Methyl-2-pentanone (MIBK) | ND     | 5.0  | ug/l  |   |
| 74-95-3   | Methylene bromide           | ND     | 5.0  | ug/l  |   |
| 75-09-2   | Methylene chloride          | ND     | 2.0  | ug/l  |   |
| 103-65-1  | n-Propylbenzene             | ND     | 5.0  | ug/l  |   |
| 994-05-8  | tert-Amyl Methyl Ether      | ND     | 2.0  | ug/l  |   |
| 75-65-0   | Tert Butyl Alcohol          | ND     | 20   | ug/l  |   |
| 637-92-3  | tert-Butyl Ethyl Ether      | ND     | 2.0  | ug/l  |   |
| 630-20-6  | 1,1,1,2-Tetrachloroethane   | ND     | 1.0  | ug/l  |   |
| 79-34-5   | 1,1,2,2-Tetrachloroethane   | ND     | 0.50 | ug/l  |   |
| 127-18-4  | Tetrachloroethene           | ND     | 1.0  | ug/l  |   |
| 109-99-9  | Tetrahydrofuran             | ND     | 10   | ug/l  |   |
| 87-61-6   | 1,2,3-Trichlorobenzene      | ND     | 5.0  | ug/l  |   |
| 120-82-1  | 1,2,4-Trichlorobenzene      | ND     | 5.0  | ug/l  |   |
| 108-70-3  | 1,3,5-Trichlorobenzene      | ND     | 5.0  | ug/l  |   |
| 71-55-6   | 1,1,1-Trichloroethane       | ND     | 1.0  | ug/l  |   |
| 79-00-5   | 1,1,2-Trichloroethane       | ND     | 1.0  | ug/l  |   |
| 79-01-6   | Trichloroethene             | ND     | 1.0  | ug/l  |   |
| 75-69-4   | Trichlorofluoromethane      | ND     | 1.0  | ug/l  |   |
| 96-18-4   | 1,2,3-Trichloropropane      | ND     | 5.0  | ug/l  |   |
| 95-63-6   | 1,2,4-Trimethylbenzene      | ND     | 5.0  | ug/l  |   |
| 108-67-8  | 1,3,5-Trimethylbenzene      | ND     | 5.0  | ug/l  |   |
| 75-01-4   | Vinyl chloride              | ND     | 1.0  | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Limits       |
|-----------|----------------------|--------------|
| 1868-53-7 | Dibromofluoromethane | 100% 70-130% |
| 2037-26-5 | Toluene-D8           | 101% 70-130% |

Method Blank Summary

Job Number: MC23577  
Account: GEI GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Sample    | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|-----------|----------|----|----------|-----|-----------|------------|------------------|
| MSV854-MB | V22131.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.  | Surrogate Recoveries | Limits      |
|----------|----------------------|-------------|
| 460-00-4 | 4-Bromofluorobenzene | 95% 70-130% |

## Method Blank Summary

Page 1 of 1

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

| Sample    | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|-----------|----------|----|----------|-----|-----------|------------|------------------|
| MSV855-MB | V22160.D | 1  | 08/22/13 | AMY | n/a       | n/a        | MSV855           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.   | Compound               | Result | RL   | Units | Q |
|-----------|------------------------|--------|------|-------|---|
| 71-43-2   | Benzene                | ND     | 0.50 | ug/l  |   |
| 100-41-4  | Ethylbenzene           | ND     | 1.0  | ug/l  |   |
| 91-20-3   | Naphthalene            | ND     | 5.0  | ug/l  |   |
| 100-42-5  | Styrene                | ND     | 5.0  | ug/l  |   |
| 108-88-3  | Toluene                | ND     | 1.0  | ug/l  |   |
| 95-63-6   | 1,2,4-Trimethylbenzene | ND     | 5.0  | ug/l  |   |
| 1330-20-7 | Xylene (total)         | ND     | 1.0  | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Limits       |
|-----------|----------------------|--------------|
| 1868-53-7 | Dibromofluoromethane | 97% 70-130%  |
| 2037-26-5 | Toluene-D8           | 101% 70-130% |
| 460-00-4  | 4-Bromofluorobenzene | 95% 70-130%  |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---------|----------------------------------|------|------------|-------|---|
|         | Total TIC, Volatile              |      | 0          | ug/l  |   |

## Blank Spike Summary

Page 1 of 1

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

| Sample    | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|-----------|----------|----|----------|-----|-----------|------------|------------------|
| MSV855-BS | V22157.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV855           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.   | Compound               | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|-----------|------------------------|---------------|-------------|----------|--------|
| 71-43-2   | Benzene                | 50            | 56.1        | 112      | 70-130 |
| 100-41-4  | Ethylbenzene           | 50            | 50.9        | 102      | 70-130 |
| 91-20-3   | Naphthalene            | 50            | 53.8        | 108      | 70-130 |
| 100-42-5  | Styrene                | 50            | 57.1        | 114      | 70-130 |
| 108-88-3  | Toluene                | 50            | 57.0        | 114      | 70-130 |
| 95-63-6   | 1,2,4-Trimethylbenzene | 50            | 49.2        | 98       | 70-130 |
| 1330-20-7 | Xylene (total)         | 150           | 153         | 102      | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP  | Limits  |
|-----------|----------------------|------|---------|
| 1868-53-7 | Dibromofluoromethane | 95%  | 70-130% |
| 2037-26-5 | Toluene-D8           | 103% | 70-130% |
| 460-00-4  | 4-Bromofluorobenzene | 96%  | 70-130% |

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Page 1 of 3

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|-----|-----------|------------|------------------|
| MSV854-BS  | V22127.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MSV854-BSD | V22128.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.  | Compound                    | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | BSD<br>ug/l | BSD<br>% | RPD   | Limits<br>Rec/RPD |
|----------|-----------------------------|---------------|-------------|----------|-------------|----------|-------|-------------------|
| 67-64-1  | Acetone                     | 50            | 37.0        | 74       | 48.0        | 96       | 26* a | 70-130/25         |
| 71-43-2  | Benzene                     | 50            | 56.7        | 113      | 52.6        | 105      | 8     | 70-130/25         |
| 108-86-1 | Bromobenzene                | 50            | 50.2        | 100      | 48.9        | 98       | 3     | 70-130/25         |
| 74-97-5  | Bromochloromethane          | 50            | 64.3        | 129      | 65.3        | 131* b   | 2     | 70-130/25         |
| 75-27-4  | Bromodichloromethane        | 50            | 58.1        | 116      | 56.3        | 113      | 3     | 70-130/25         |
| 75-25-2  | Bromoform                   | 50            | 49.4        | 99       | 49.6        | 99       | 0     | 70-130/25         |
| 74-83-9  | Bromomethane                | 50            | 65.7        | 131* c   | 62.8        | 126      | 5     | 70-130/25         |
| 78-93-3  | 2-Butanone (MEK)            | 50            | 48.3        | 97       | 54.7        | 109      | 12    | 70-130/25         |
| 104-51-8 | n-Butylbenzene              | 50            | 55.8        | 112      | 53.9        | 108      | 3     | 70-130/25         |
| 135-98-8 | sec-Butylbenzene            | 50            | 53.9        | 108      | 52.9        | 106      | 2     | 70-130/25         |
| 98-06-6  | tert-Butylbenzene           | 50            | 51.5        | 103      | 49.9        | 100      | 3     | 70-130/25         |
| 75-15-0  | Carbon disulfide            | 50            | 67.4        | 135* c   | 59.1        | 118      | 13    | 70-130/25         |
| 56-23-5  | Carbon tetrachloride        | 50            | 62.2        | 124      | 58.3        | 117      | 6     | 70-130/25         |
| 108-90-7 | Chlorobenzene               | 50            | 48.3        | 97       | 47.2        | 94       | 2     | 70-130/25         |
| 75-00-3  | Chloroethane                | 50            | 67.1        | 134* c   | 63.1        | 126      | 6     | 70-130/25         |
| 67-66-3  | Chloroform                  | 50            | 59.1        | 118      | 58.2        | 116      | 2     | 70-130/25         |
| 74-87-3  | Chloromethane               | 50            | 71.2        | 142* c   | 58.4        | 117      | 20    | 70-130/25         |
| 95-49-8  | o-Chlorotoluene             | 50            | 48.7        | 97       | 47.3        | 95       | 3     | 70-130/25         |
| 106-43-4 | p-Chlorotoluene             | 50            | 50.1        | 100      | 48.5        | 97       | 3     | 70-130/25         |
| 108-20-3 | Di-Isopropyl ether          | 50            | 59.9        | 120      | 55.8        | 112      | 7     | 70-130/25         |
| 96-12-8  | 1,2-Dibromo-3-chloropropane | 50            | 42.4        | 85       | 42.8        | 86       | 1     | 70-130/25         |
| 124-48-1 | Dibromochloromethane        | 50            | 49.1        | 98       | 48.5        | 97       | 1     | 70-130/25         |
| 106-93-4 | 1,2-Dibromoethane           | 50            | 51.6        | 103      | 51.9        | 104      | 1     | 70-130/25         |
| 95-50-1  | 1,2-Dichlorobenzene         | 50            | 46.6        | 93       | 45.0        | 90       | 3     | 70-130/25         |
| 541-73-1 | 1,3-Dichlorobenzene         | 50            | 47.4        | 95       | 46.6        | 93       | 2     | 70-130/25         |
| 106-46-7 | 1,4-Dichlorobenzene         | 50            | 47.0        | 94       | 46.5        | 93       | 1     | 70-130/25         |
| 75-71-8  | Dichlorodifluoromethane     | 50            | 54.0        | 108      | 48.2        | 96       | 11    | 70-130/25         |
| 75-34-3  | 1,1-Dichloroethane          | 50            | 65.2        | 130      | 61.3        | 123      | 6     | 70-130/25         |
| 107-06-2 | 1,2-Dichloroethane          | 50            | 50.0        | 100      | 47.2        | 94       | 6     | 70-130/25         |
| 75-35-4  | 1,1-Dichloroethene          | 50            | 67.3        | 135* c   | 61.4        | 123      | 9     | 70-130/25         |
| 156-59-2 | cis-1,2-Dichloroethene      | 50            | 59.9        | 120      | 57.8        | 116      | 4     | 70-130/25         |
| 156-60-5 | trans-1,2-Dichloroethene    | 50            | 60.1        | 120      | 53.7        | 107      | 11    | 70-130/25         |
| 78-87-5  | 1,2-Dichloropropane         | 50            | 58.9        | 118      | 57.0        | 114      | 3     | 70-130/25         |
| 594-20-7 | 2,2-Dichloropropane         | 50            | 71.8        | 144* c   | 68.3        | 137* c   | 5     | 70-130/25         |
| 563-58-6 | 1,1-Dichloropropene         | 50            | 57.3        | 115      | 53.4        | 107      | 7     | 70-130/25         |
| 542-75-6 | 1,3-Dichloropropene         | 100           | 106         | 106      | 104         | 104      | 2     | 70-130/25         |

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Page 2 of 3

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|-----|-----------|------------|------------------|
| MSV854-BS  | V22127.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MSV854-BSD | V22128.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.   | Compound                    | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | BSD<br>ug/l | BSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|-----------------------------|---------------|-------------|----------|-------------|----------|-----|-------------------|
| 123-91-1  | 1,4-Dioxane                 | 250           | 262         | 105      | 271         | 108      | 3   | 70-130/25         |
| 60-29-7   | Ethyl Ether                 | 50            | 55.9        | 112      | 52.5        | 105      | 6   | 70-130/25         |
| 100-41-4  | Ethylbenzene                | 50            | 51.9        | 104      | 51.4        | 103      | 1   | 70-130/25         |
| 87-68-3   | Hexachlorobutadiene         | 50            | 51.7        | 103      | 50.3        | 101      | 3   | 70-130/25         |
| 591-78-6  | 2-Hexanone                  | 50            | 46.4        | 93       | 52.1        | 104      | 12  | 70-130/25         |
| 98-82-8   | Isopropylbenzene            | 50            | 52.6        | 105      | 51.7        | 103      | 2   | 70-130/25         |
| 99-87-6   | p-Isopropyltoluene          | 50            | 59.0        | 118      | 57.2        | 114      | 3   | 70-130/25         |
| 1634-04-4 | Methyl Tert Butyl Ether     | 50            | 55.8        | 112      | 52.0        | 104      | 7   | 70-130/25         |
| 108-10-1  | 4-Methyl-2-pentanone (MIBK) | 50            | 55.4        | 111      | 56.8        | 114      | 2   | 70-130/25         |
| 74-95-3   | Methylene bromide           | 50            | 59.6        | 119      | 58.9        | 118      | 1   | 70-130/25         |
| 75-09-2   | Methylene chloride          | 50            | 61.2        | 122      | 54.2        | 108      | 12  | 70-130/25         |
| 103-65-1  | n-Propylbenzene             | 50            | 53.1        | 106      | 51.3        | 103      | 3   | 70-130/25         |
| 994-05-8  | tert-Amyl Methyl Ether      | 50            | 57.9        | 116      | 55.5        | 111      | 4   | 70-130/25         |
| 75-65-0   | Tert Butyl Alcohol          | 500           | 505         | 101      | 493         | 99       | 2   | 70-130/25         |
| 637-92-3  | tert-Butyl Ethyl Ether      | 50            | 60.1        | 120      | 58.3        | 117      | 3   | 70-130/25         |
| 630-20-6  | 1,1,1,2-Tetrachloroethane   | 50            | 53.2        | 106      | 52.1        | 104      | 2   | 70-130/25         |
| 79-34-5   | 1,1,2,2-Tetrachloroethane   | 50            | 48.3        | 97       | 49.3        | 99       | 2   | 70-130/25         |
| 127-18-4  | Tetrachloroethene           | 50            | 57.9        | 116      | 56.4        | 113      | 3   | 70-130/25         |
| 109-99-9  | Tetrahydrofuran             | 50            | 54.4        | 109      | 55.7        | 111      | 2   | 70-130/25         |
| 87-61-6   | 1,2,3-Trichlorobenzene      | 50            | 50.1        | 100      | 51.3        | 103      | 2   | 70-130/25         |
| 120-82-1  | 1,2,4-Trichlorobenzene      | 50            | 50.5        | 101      | 50.7        | 101      | 0   | 70-130/25         |
| 108-70-3  | 1,3,5-Trichlorobenzene      | 50            | 50.3        | 101      | 48.3        | 97       | 4   | 70-130/25         |
| 71-55-6   | 1,1,1-Trichloroethane       | 50            | 64.3        | 129      | 63.2        | 126      | 2   | 70-130/25         |
| 79-00-5   | 1,1,2-Trichloroethane       | 50            | 54.9        | 110      | 54.7        | 109      | 0   | 70-130/25         |
| 79-01-6   | Trichloroethene             | 50            | 54.6        | 109      | 53.0        | 106      | 3   | 70-130/25         |
| 75-69-4   | Trichlorofluoromethane      | 50            | 57.3        | 115      | 54.9        | 110      | 4   | 70-130/25         |
| 96-18-4   | 1,2,3-Trichloropropane      | 50            | 47.7        | 95       | 47.5        | 95       | 0   | 70-130/25         |
| 95-63-6   | 1,2,4-Trimethylbenzene      | 50            | 50.8        | 102      | 49.3        | 99       | 3   | 70-130/25         |
| 108-67-8  | 1,3,5-Trimethylbenzene      | 50            | 52.5        | 105      | 51.2        | 102      | 3   | 70-130/25         |
| 75-01-4   | Vinyl chloride              | 50            | 52.3        | 105      | 42.2        | 84       | 21  | 70-130/25         |

| CAS No.   | Surrogate Recoveries | BSP  | BSD  | Limits  |
|-----------|----------------------|------|------|---------|
| 1868-53-7 | Dibromofluoromethane | 94%  | 95%  | 70-130% |
| 2037-26-5 | Toluene-D8           | 103% | 102% | 70-130% |

\* = Outside of Control Limits.

## Blank Spike/Blank Spike Duplicate Summary

Page 3 of 3

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|-----|-----------|------------|------------------|
| MSV854-BS  | V22127.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MSV854-BSD | V22128.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

**The QC reported here applies to the following samples:**

**Method:** SW846 8260B

MC23577-1, MC23577-2

| CAS No.  | Surrogate Recoveries | BSP | BSD | Limits  |
|----------|----------------------|-----|-----|---------|
| 460-00-4 | 4-Bromofluorobenzene | 95% | 95% | 70-130% |

- (a) Outside control limits. Individual spike recoveries within acceptance limits.
- (b) Outside control limits. Associated samples are non-detect for this compound.
- (c) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample       | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|--------------|----------|----|----------|-----|-----------|------------|------------------|
| MC23533-1MS  | V22140.D | 5  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MC23533-1MSD | V22141.D | 5  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MC23533-1    | V22133.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.  | Compound                    | MC23533-1<br>ug/l | Spike<br>Q<br>ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|-----------------------------|-------------------|--------------------|------------|---------|-------------|----------|-----|-------------------|
| 67-64-1  | Acetone                     | ND                | 250                | 200        | 80      | 168         | 67* a    | 17  | 70-130/30         |
| 71-43-2  | Benzene                     | ND                | 250                | 285        | 114     | 281         | 112      | 1   | 70-130/30         |
| 108-86-1 | Bromobenzene                | ND                | 250                | 247        | 99      | 232         | 93       | 6   | 70-130/30         |
| 74-97-5  | Bromochloromethane          | ND                | 250                | 341        | 136* a  | 339         | 136* a   | 1   | 70-130/30         |
| 75-27-4  | Bromodichloromethane        | ND                | 250                | 297        | 119     | 307         | 123      | 3   | 70-130/30         |
| 75-25-2  | Bromoform                   | ND                | 250                | 258        | 103     | 255         | 102      | 1   | 70-130/30         |
| 74-83-9  | Bromomethane                | ND                | 250                | 363        | 145* a  | 359         | 144* a   | 1   | 70-130/30         |
| 78-93-3  | 2-Butanone (MEK)            | ND                | 250                | 249        | 100     | 262         | 105      | 5   | 70-130/30         |
| 104-51-8 | n-Butylbenzene              | ND                | 250                | 259        | 104     | 255         | 102      | 2   | 70-130/30         |
| 135-98-8 | sec-Butylbenzene            | ND                | 250                | 246        | 98      | 244         | 98       | 1   | 70-130/30         |
| 98-06-6  | tert-Butylbenzene           | ND                | 250                | 242        | 97      | 237         | 95       | 2   | 70-130/30         |
| 75-15-0  | Carbon disulfide            | ND                | 250                | 324        | 130     | 296         | 118      | 9   | 70-130/30         |
| 56-23-5  | Carbon tetrachloride        | ND                | 250                | 324        | 130     | 327         | 131* a   | 1   | 70-130/30         |
| 108-90-7 | Chlorobenzene               | ND                | 250                | 242        | 97      | 230         | 92       | 5   | 70-130/30         |
| 75-00-3  | Chloroethane                | ND                | 250                | 368        | 147* a  | 340         | 136* a   | 8   | 70-130/30         |
| 67-66-3  | Chloroform                  | ND                | 250                | 324        | 130     | 313         | 125      | 3   | 70-130/30         |
| 74-87-3  | Chloromethane               | ND                | 250                | 331        | 132* a  | 310         | 124      | 7   | 70-130/30         |
| 95-49-8  | o-Chlorotoluene             | ND                | 250                | 233        | 93      | 231         | 92       | 1   | 70-130/30         |
| 106-43-4 | p-Chlorotoluene             | ND                | 250                | 244        | 98      | 242         | 97       | 1   | 70-130/30         |
| 108-20-3 | Di-Isopropyl ether          | ND                | 250                | 284        | 114     | 269         | 108      | 5   | 70-130/30         |
| 96-12-8  | 1,2-Dibromo-3-chloropropane | ND                | 250                | 218        | 87      | 212         | 85       | 3   | 70-130/30         |
| 124-48-1 | Dibromochloromethane        | ND                | 250                | 254        | 102     | 255         | 102      | 0   | 70-130/30         |
| 106-93-4 | 1,2-Dibromoethane           | ND                | 250                | 261        | 104     | 266         | 106      | 2   | 70-130/30         |
| 95-50-1  | 1,2-Dichlorobenzene         | ND                | 250                | 227        | 91      | 223         | 89       | 2   | 70-130/30         |
| 541-73-1 | 1,3-Dichlorobenzene         | ND                | 250                | 228        | 91      | 224         | 90       | 2   | 70-130/30         |
| 106-46-7 | 1,4-Dichlorobenzene         | ND                | 250                | 229        | 92      | 225         | 90       | 2   | 70-130/30         |
| 75-71-8  | Dichlorodifluoromethane     | ND                | 250                | 313        | 125     | 297         | 119      | 5   | 70-130/30         |
| 75-34-3  | 1,1-Dichloroethane          | ND                | 250                | 320        | 128     | 301         | 120      | 6   | 70-130/30         |
| 107-06-2 | 1,2-Dichloroethane          | ND                | 250                | 270        | 108     | 268         | 107      | 1   | 70-130/30         |
| 75-35-4  | 1,1-Dichloroethene          | ND                | 250                | 316        | 126     | 294         | 118      | 7   | 70-130/30         |
| 156-59-2 | cis-1,2-Dichloroethene      | ND                | 250                | 303        | 121     | 313         | 125      | 3   | 70-130/30         |
| 156-60-5 | trans-1,2-Dichloroethene    | ND                | 250                | 286        | 114     | 268         | 107      | 6   | 70-130/30         |
| 78-87-5  | 1,2-Dichloropropane         | ND                | 250                | 298        | 119     | 290         | 116      | 3   | 70-130/30         |
| 594-20-7 | 2,2-Dichloropropane         | ND                | 250                | 386        | 154* a  | 388         | 155* a   | 1   | 70-130/30         |
| 563-58-6 | 1,1-Dichloropropene         | ND                | 250                | 273        | 109     | 286         | 114      | 5   | 70-130/30         |
| 542-75-6 | 1,3-Dichloropropene         | ND                | 500                | 548        | 110     | 539         | 108      | 2   | 70-130/30         |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample       | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|--------------|----------|----|----------|-----|-----------|------------|------------------|
| MC23533-1MS  | V22140.D | 5  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MC23533-1MSD | V22141.D | 5  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MC23533-1    | V22133.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.   | Compound                    | MC23533-1<br>ug/l | Spike<br>Q<br>ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|-----------------------------|-------------------|--------------------|------------|---------|-------------|----------|-----|-------------------|
| 123-91-1  | 1,4-Dioxane                 | ND                | 1250               | 1360       | 109     | 1320        | 106      | 3   | 70-130/30         |
| 60-29-7   | Ethyl Ether                 | ND                | 250                | 302        | 121     | 311         | 124      | 3   | 70-130/30         |
| 100-41-4  | Ethylbenzene                | ND                | 250                | 262        | 105     | 255         | 102      | 3   | 70-130/30         |
| 87-68-3   | Hexachlorobutadiene         | ND                | 250                | 231        | 92      | 229         | 92       | 1   | 70-130/30         |
| 591-78-6  | 2-Hexanone                  | ND                | 250                | 241        | 96      | 234         | 94       | 3   | 70-130/30         |
| 98-82-8   | Isopropylbenzene            | ND                | 250                | 248        | 99      | 232         | 93       | 7   | 70-130/30         |
| 99-87-6   | p-Isopropyltoluene          | ND                | 250                | 274        | 110     | 267         | 107      | 3   | 70-130/30         |
| 1634-04-4 | Methyl Tert Butyl Ether     | ND                | 250                | 273        | 109     | 267         | 107      | 2   | 70-130/30         |
| 108-10-1  | 4-Methyl-2-pentanone (MIBK) | ND                | 250                | 294        | 118     | 304         | 122      | 3   | 70-130/30         |
| 74-95-3   | Methylene bromide           | ND                | 250                | 322        | 129     | 310         | 124      | 4   | 70-130/30         |
| 75-09-2   | Methylene chloride          | ND                | 250                | 287        | 115     | 274         | 110      | 5   | 70-130/30         |
| 103-65-1  | n-Propylbenzene             | ND                | 250                | 249        | 100     | 246         | 98       | 1   | 70-130/30         |
| 994-05-8  | tert-Amyl Methyl Ether      | ND                | 250                | 274        | 110     | 281         | 112      | 3   | 70-130/30         |
| 75-65-0   | Tert Butyl Alcohol          | ND                | 2500               | 2560       | 102     | 2530        | 101      | 1   | 70-130/30         |
| 637-92-3  | tert-Butyl Ethyl Ether      | ND                | 250                | 292        | 117     | 296         | 118      | 1   | 70-130/30         |
| 630-20-6  | 1,1,1,2-Tetrachloroethane   | ND                | 250                | 275        | 110     | 271         | 108      | 1   | 70-130/30         |
| 79-34-5   | 1,1,2,2-Tetrachloroethane   | ND                | 250                | 244        | 98      | 230         | 92       | 6   | 70-130/30         |
| 127-18-4  | Tetrachloroethene           | ND                | 250                | 285        | 114     | 277         | 111      | 3   | 70-130/30         |
| 109-99-9  | Tetrahydrofuran             | ND                | 250                | 293        | 117     | 297         | 119      | 1   | 70-130/30         |
| 87-61-6   | 1,2,3-Trichlorobenzene      | ND                | 250                | 211        | 84      | 228         | 91       | 8   | 70-130/30         |
| 120-82-1  | 1,2,4-Trichlorobenzene      | ND                | 250                | 227        | 91      | 222         | 89       | 2   | 70-130/30         |
| 108-70-3  | 1,3,5-Trichlorobenzene      | ND                | 250                | 228        | 91      | 218         | 87       | 4   | 70-130/30         |
| 71-55-6   | 1,1,1-Trichloroethane       | ND                | 250                | 345        | 138* a  | 334         | 134* a   | 3   | 70-130/30         |
| 79-00-5   | 1,1,2-Trichloroethane       | ND                | 250                | 292        | 117     | 280         | 112      | 4   | 70-130/30         |
| 79-01-6   | Trichloroethene             | ND                | 250                | 273        | 109     | 266         | 106      | 3   | 70-130/30         |
| 75-69-4   | Trichlorofluoromethane      | ND                | 250                | 328        | 131* a  | 299         | 120      | 9   | 70-130/30         |
| 96-18-4   | 1,2,3-Trichloropropane      | ND                | 250                | 246        | 98      | 237         | 95       | 4   | 70-130/30         |
| 95-63-6   | 1,2,4-Trimethylbenzene      | ND                | 250                | 241        | 96      | 237         | 95       | 2   | 70-130/30         |
| 108-67-8  | 1,3,5-Trimethylbenzene      | ND                | 250                | 249        | 100     | 246         | 98       | 1   | 70-130/30         |
| 75-01-4   | Vinyl chloride              | ND                | 250                | 243        | 97      | 216         | 86       | 12  | 70-130/30         |

| CAS No.   | Surrogate Recoveries | MS   | MSD  | MC23533-1 | Limits  |
|-----------|----------------------|------|------|-----------|---------|
| 1868-53-7 | Dibromofluoromethane | 97%  | 98%  | 101%      | 70-130% |
| 2037-26-5 | Toluene-D8           | 104% | 106% | 101%      | 70-130% |

\* = Outside of Control Limits.

## Matrix Spike/Matrix Spike Duplicate Summary

Page 3 of 3

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

| Sample       | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|--------------|----------|----|----------|-----|-----------|------------|------------------|
| MC23533-1MS  | V22140.D | 5  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MC23533-1MSD | V22141.D | 5  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |
| MC23533-1    | V22133.D | 1  | 08/21/13 | AMY | n/a       | n/a        | MSV854           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.  | Surrogate Recoveries | MS  | MSD | MC23533-1 | Limits  |
|----------|----------------------|-----|-----|-----------|---------|
| 460-00-4 | 4-Bromofluorobenzene | 95% | 93% | 95%       | 70-130% |

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample       | File ID  | DF | Analyzed | By  | Prep Date | Prep Batch | Analytical Batch |
|--------------|----------|----|----------|-----|-----------|------------|------------------|
| MC23464-1MS  | V22168.D | 5  | 08/22/13 | AMY | n/a       | n/a        | MSV855           |
| MC23464-1MSD | V22169.D | 5  | 08/22/13 | AMY | n/a       | n/a        | MSV855           |
| MC23464-1    | V22161.D | 1  | 08/22/13 | AMY | n/a       | n/a        | MSV855           |

The QC reported here applies to the following samples:

Method: SW846 8260B

MC23577-1, MC23577-2

| CAS No.   | Compound               | MC23464-1<br>ug/l | Spike<br>Q<br>ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|------------------------|-------------------|--------------------|------------|---------|-------------|----------|-----|-------------------|
| 71-43-2   | Benzene                | ND                | 250                | 286        | 114     | 277         | 111      | 3   | 70-130/30         |
| 100-41-4  | Ethylbenzene           | ND                | 250                | 258        | 103     | 251         | 100      | 3   | 70-130/30         |
| 91-20-3   | Naphthalene            | ND                | 250                | 214        | 86      | 239         | 96       | 11  | 70-130/30         |
| 100-42-5  | Styrene                | ND                | 250                | 283        | 113     | 277         | 111      | 2   | 70-130/30         |
| 108-88-3  | Toluene                | ND                | 250                | 291        | 116     | 280         | 112      | 4   | 70-130/30         |
| 95-63-6   | 1,2,4-Trimethylbenzene | ND                | 250                | 242        | 97      | 235         | 94       | 3   | 70-130/30         |
| 1330-20-7 | Xylene (total)         | ND                | 750                | 773        | 103     | 751         | 100      | 3   | 70-130/30         |

| CAS No.   | Surrogate Recoveries | MS   | MSD  | MC23464-1 | Limits  |
|-----------|----------------------|------|------|-----------|---------|
| 1868-53-7 | Dibromofluoromethane | 96%  | 96%  | 98%       | 70-130% |
| 2037-26-5 | Toluene-D8           | 103% | 103% | 101%      | 70-130% |
| 460-00-4  | 4-Bromofluorobenzene | 96%  | 96%  | 95%       | 70-130% |

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Page 1 of 1

**Job Number:** MC23577

**Account:** GEI GEI Consultants, Inc.

**Project:** Liberty Hill, Gilford, NH

**Method:** SW846 8260B

**Matrix:** AQ

**Samples and QC shown here apply to the above method**

| Lab<br>Sample ID | Lab<br>File ID | S1    | S2    | S3   |
|------------------|----------------|-------|-------|------|
| MC23577-1        | V22182.D       | 110.0 | 104.0 | 94.0 |
| MC23577-1        | V22151.D       | 103.0 | 103.0 | 95.0 |
| MC23577-2        | V22183.D       | 107.0 | 102.0 | 95.0 |
| MC23577-2        | V22152.D       | 94.0  | 103.0 | 99.0 |
| MC23464-1MS      | V22168.D       | 96.0  | 103.0 | 96.0 |
| MC23464-1MSD     | V22169.D       | 96.0  | 103.0 | 96.0 |
| MC23533-1MS      | V22140.D       | 97.0  | 104.0 | 95.0 |
| MC23533-1MSD     | V22141.D       | 98.0  | 106.0 | 93.0 |
| MSV854-BS        | V22127.D       | 94.0  | 103.0 | 95.0 |
| MSV854-BSD       | V22128.D       | 95.0  | 102.0 | 95.0 |
| MSV854-MB        | V22131.D       | 100.0 | 101.0 | 95.0 |
| MSV855-BS        | V22157.D       | 95.0  | 103.0 | 96.0 |
| MSV855-MB        | V22160.D       | 97.0  | 101.0 | 95.0 |

## Surrogate Compounds

## Recovery Limits

**S1** = Dibromofluoromethane

70-130%

**S2** = Toluene-D8

70-130%

**S3** = 4-Bromofluorobenzene

70-130%

## GC/MS Semi-volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

## Method Blank Summary

Page 1 of 2

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|----|-----------|------------|------------------|
| OP34450-MB | R32892.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |

The QC reported here applies to the following samples:

Method: SW846 8270C

MC23577-1, MC23577-2

| CAS No.   | Compound                    | Result | RL  | Units | Q |
|-----------|-----------------------------|--------|-----|-------|---|
| 95-57-8   | 2-Chlorophenol              | ND     | 5.0 | ug/l  |   |
| 59-50-7   | 4-Chloro-3-methyl phenol    | ND     | 10  | ug/l  |   |
| 120-83-2  | 2,4-Dichlorophenol          | ND     | 10  | ug/l  |   |
| 105-67-9  | 2,4-Dimethylphenol          | ND     | 10  | ug/l  |   |
| 51-28-5   | 2,4-Dinitrophenol           | ND     | 20  | ug/l  |   |
| 534-52-1  | 4,6-Dinitro-o-cresol        | ND     | 10  | ug/l  |   |
| 88-75-5   | 2-Nitrophenol               | ND     | 10  | ug/l  |   |
| 100-02-7  | 4-Nitrophenol               | ND     | 20  | ug/l  |   |
| 87-86-5   | Pentachlorophenol           | ND     | 10  | ug/l  |   |
| 108-95-2  | Phenol                      | ND     | 5.0 | ug/l  |   |
| 88-06-2   | 2,4,6-Trichlorophenol       | ND     | 10  | ug/l  |   |
| 83-32-9   | Acenaphthene                | ND     | 2.0 | ug/l  |   |
| 208-96-8  | Acenaphthylene              | ND     | 2.0 | ug/l  |   |
| 120-12-7  | Anthracene                  | ND     | 2.0 | ug/l  |   |
| 92-87-5   | Benzidine                   | ND     | 5.0 | ug/l  |   |
| 56-55-3   | Benzo(a)anthracene          | ND     | 2.0 | ug/l  |   |
| 50-32-8   | Benzo(a)pyrene              | ND     | 2.0 | ug/l  |   |
| 205-99-2  | Benzo(b)fluoranthene        | ND     | 2.0 | ug/l  |   |
| 191-24-2  | Benzo(g,h,i)perylene        | ND     | 2.0 | ug/l  |   |
| 207-08-9  | Benzo(k)fluoranthene        | ND     | 2.0 | ug/l  |   |
| 101-55-3  | 4-Bromophenyl phenyl ether  | ND     | 5.0 | ug/l  |   |
| 85-68-7   | Butyl benzyl phthalate      | ND     | 5.0 | ug/l  |   |
| 91-58-7   | 2-Chloronaphthalene         | ND     | 5.0 | ug/l  |   |
| 106-47-8  | 4-Chloroaniline             | ND     | 10  | ug/l  |   |
| 218-01-9  | Chrysene                    | ND     | 2.0 | ug/l  |   |
| 111-91-1  | bis(2-Chloroethoxy)methane  | ND     | 5.0 | ug/l  |   |
| 111-44-4  | bis(2-Chloroethyl)ether     | ND     | 5.0 | ug/l  |   |
| 108-60-1  | bis(2-Chloroisopropyl)ether | ND     | 5.0 | ug/l  |   |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND     | 5.0 | ug/l  |   |
| 95-50-1   | 1,2-Dichlorobenzene         | ND     | 5.0 | ug/l  |   |
| 122-66-7  | 1,2-Diphenylhydrazine       | ND     | 5.0 | ug/l  |   |
| 541-73-1  | 1,3-Dichlorobenzene         | ND     | 5.0 | ug/l  |   |
| 106-46-7  | 1,4-Dichlorobenzene         | ND     | 5.0 | ug/l  |   |
| 121-14-2  | 2,4-Dinitrotoluene          | ND     | 10  | ug/l  |   |
| 606-20-2  | 2,6-Dinitrotoluene          | ND     | 10  | ug/l  |   |
| 91-94-1   | 3,3'-Dichlorobenzidine      | ND     | 5.0 | ug/l  |   |

## Method Blank Summary

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**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|----|-----------|------------|------------------|
| OP34450-MB | R32892.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |

The QC reported here applies to the following samples:

Method: SW846 8270C

MC23577-1, MC23577-2

| CAS No.  | Compound                   | Result | RL  | Units | Q |
|----------|----------------------------|--------|-----|-------|---|
| 53-70-3  | Dibenzo(a,h)anthracene     | ND     | 2.0 | ug/l  |   |
| 84-74-2  | Di-n-butyl phthalate       | 1.3    | 5.0 | ug/l  | J |
| 117-84-0 | Di-n-octyl phthalate       | ND     | 5.0 | ug/l  |   |
| 84-66-2  | Diethyl phthalate          | 0.95   | 5.0 | ug/l  | J |
| 131-11-3 | Dimethyl phthalate         | ND     | 5.0 | ug/l  |   |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND     | 2.0 | ug/l  |   |
| 206-44-0 | Fluoranthene               | ND     | 2.0 | ug/l  |   |
| 86-73-7  | Fluorene                   | ND     | 2.0 | ug/l  |   |
| 118-74-1 | Hexachlorobenzene          | ND     | 5.0 | ug/l  |   |
| 87-68-3  | Hexachlorobutadiene        | ND     | 5.0 | ug/l  |   |
| 77-47-4  | Hexachlorocyclopentadiene  | ND     | 10  | ug/l  |   |
| 67-72-1  | Hexachloroethane           | ND     | 5.0 | ug/l  |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene     | ND     | 2.0 | ug/l  |   |
| 78-59-1  | Isophorone                 | ND     | 5.0 | ug/l  |   |
| 91-20-3  | Naphthalene                | ND     | 2.0 | ug/l  |   |
| 98-95-3  | Nitrobenzene               | ND     | 5.0 | ug/l  |   |
| 62-75-9  | n-Nitrosodimethylamine     | ND     | 5.0 | ug/l  |   |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND     | 5.0 | ug/l  |   |
| 86-30-6  | N-Nitrosodiphenylamine     | ND     | 5.0 | ug/l  |   |
| 85-01-8  | Phenanthrene               | ND     | 2.0 | ug/l  |   |
| 129-00-0 | Pyrene                     | ND     | 2.0 | ug/l  |   |
| 120-82-1 | 1,2,4-Trichlorobenzene     | ND     | 5.0 | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 367-12-4  | 2-Fluorophenol       | 55% 15-110% |
| 4165-62-2 | Phenol-d5            | 37% 15-110% |
| 118-79-6  | 2,4,6-Tribromophenol | 90% 15-110% |
| 4165-60-0 | Nitrobenzene-d5      | 76% 30-130% |
| 321-60-8  | 2-Fluorobiphenyl     | 84% 30-130% |
| 1718-51-0 | Terphenyl-d14        | 89% 30-130% |

## Blank Spike Summary

Page 1 of 2

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|----|-----------|------------|------------------|
| OP34450-BS | R32893.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |

The QC reported here applies to the following samples:

Method: SW846 8270C

MC23577-1, MC23577-2

| CAS No.   | Compound                    | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|-----------|-----------------------------|---------------|-------------|----------|--------|
| 95-57-8   | 2-Chlorophenol              | 50            | 37.9        | 76       | 30-130 |
| 59-50-7   | 4-Chloro-3-methyl phenol    | 50            | 43.3        | 87       | 30-130 |
| 120-83-2  | 2,4-Dichlorophenol          | 50            | 44.5        | 89       | 30-130 |
| 105-67-9  | 2,4-Dimethylphenol          | 50            | 39.8        | 80       | 30-130 |
| 51-28-5   | 2,4-Dinitrophenol           | 50            | 31.4        | 63       | 30-130 |
| 534-52-1  | 4,6-Dinitro-o-cresol        | 50            | 42.7        | 85       | 30-130 |
| 88-75-5   | 2-Nitrophenol               | 50            | 44.0        | 88       | 30-130 |
| 100-02-7  | 4-Nitrophenol               | 50            | 16.7        | 33       | 30-130 |
| 87-86-5   | Pentachlorophenol           | 50            | 33.9        | 68       | 30-130 |
| 108-95-2  | Phenol                      | 50            | 20.7        | 41       | 30-130 |
| 88-06-2   | 2,4,6-Trichlorophenol       | 50            | 44.3        | 89       | 30-130 |
| 83-32-9   | Acenaphthene                | 50            | 46.1        | 92       | 40-140 |
| 208-96-8  | Acenaphthylene              | 50            | 36.3        | 73       | 40-140 |
| 120-12-7  | Anthracene                  | 50            | 46.6        | 93       | 40-140 |
| 92-87-5   | Benzidine                   | 50            | 60.8        | 122      | 40-140 |
| 56-55-3   | Benzo(a)anthracene          | 50            | 51.2        | 102      | 40-140 |
| 50-32-8   | Benzo(a)pyrene              | 50            | 45.7        | 91       | 40-140 |
| 205-99-2  | Benzo(b)fluoranthene        | 50            | 48.0        | 96       | 40-140 |
| 191-24-2  | Benzo(g,h,i)perylene        | 50            | 50.0        | 100      | 40-140 |
| 207-08-9  | Benzo(k)fluoranthene        | 50            | 51.9        | 104      | 40-140 |
| 101-55-3  | 4-Bromophenyl phenyl ether  | 50            | 48.0        | 96       | 40-140 |
| 85-68-7   | Butyl benzyl phthalate      | 50            | 47.3        | 95       | 40-140 |
| 91-58-7   | 2-Chloronaphthalene         | 50            | 45.8        | 92       | 40-140 |
| 106-47-8  | 4-Chloroaniline             | 50            | 41.3        | 83       | 40-140 |
| 218-01-9  | Chrysene                    | 50            | 48.1        | 96       | 40-140 |
| 111-91-1  | bis(2-Chloroethoxy)methane  | 50            | 43.2        | 86       | 40-140 |
| 111-44-4  | bis(2-Chloroethyl)ether     | 50            | 43.3        | 87       | 40-140 |
| 108-60-1  | bis(2-Chloroisopropyl)ether | 50            | 53.4        | 107      | 40-140 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 50            | 47.0        | 94       | 40-140 |
| 95-50-1   | 1,2-Dichlorobenzene         | 50            | 39.9        | 80       | 40-140 |
| 122-66-7  | 1,2-Diphenylhydrazine       | 50            | 43.7        | 87       | 40-140 |
| 541-73-1  | 1,3-Dichlorobenzene         | 50            | 38.4        | 77       | 40-140 |
| 106-46-7  | 1,4-Dichlorobenzene         | 50            | 36.8        | 74       | 40-140 |
| 121-14-2  | 2,4-Dinitrotoluene          | 50            | 48.9        | 98       | 40-140 |
| 606-20-2  | 2,6-Dinitrotoluene          | 50            | 45.3        | 91       | 40-140 |
| 91-94-1   | 3,3'-Dichlorobenzidine      | 50            | 44.7        | 89       | 40-140 |

\* = Outside of Control Limits.

## Blank Spike Summary

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**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|----------|----|----------|----|-----------|------------|------------------|
| OP34450-BS | R32893.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |

The QC reported here applies to the following samples:

Method: SW846 8270C

MC23577-1, MC23577-2

| CAS No.  | Compound                   | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|----------|----------------------------|---------------|-------------|----------|--------|
| 53-70-3  | Dibenzo(a,h)anthracene     | 50            | 50.2        | 100      | 40-140 |
| 84-74-2  | Di-n-butyl phthalate       | 50            | 49.6        | 99       | 40-140 |
| 117-84-0 | Di-n-octyl phthalate       | 50            | 51.5        | 103      | 40-140 |
| 84-66-2  | Diethyl phthalate          | 50            | 42.6        | 85       | 40-140 |
| 131-11-3 | Dimethyl phthalate         | 50            | 28.8        | 58       | 40-140 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 50            | 48.3        | 97       | 40-140 |
| 206-44-0 | Fluoranthene               | 50            | 52.2        | 104      | 40-140 |
| 86-73-7  | Fluorene                   | 50            | 47.9        | 96       | 40-140 |
| 118-74-1 | Hexachlorobenzene          | 50            | 46.6        | 93       | 40-140 |
| 87-68-3  | Hexachlorobutadiene        | 50            | 41.0        | 82       | 40-140 |
| 77-47-4  | Hexachlorocyclopentadiene  | 50            | 15.6        | 31* a    | 40-140 |
| 67-72-1  | Hexachloroethane           | 50            | 34.9        | 70       | 40-140 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene     | 50            | 49.3        | 99       | 40-140 |
| 78-59-1  | Isophorone                 | 50            | 42.4        | 85       | 40-140 |
| 91-20-3  | Naphthalene                | 50            | 54.0        | 108      | 40-140 |
| 98-95-3  | Nitrobenzene               | 50            | 39.2        | 78       | 40-140 |
| 62-75-9  | n-Nitrosodimethylamine     | 50            | 26.1        | 52       | 40-140 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 50            | 42.2        | 84       | 40-140 |
| 86-30-6  | N-Nitrosodiphenylamine     | 50            | 43.5        | 87       | 40-140 |
| 85-01-8  | Phenanthrene               | 50            | 48.6        | 97       | 40-140 |
| 129-00-0 | Pyrene                     | 50            | 48.2        | 96       | 40-140 |
| 120-82-1 | 1,2,4-Trichlorobenzene     | 50            | 41.8        | 84       | 40-140 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 367-12-4  | 2-Fluorophenol       | 46% | 15-110% |
| 4165-62-2 | Phenol-d5            | 31% | 15-110% |
| 118-79-6  | 2,4,6-Tribromophenol | 79% | 15-110% |
| 4165-60-0 | Nitrobenzene-d5      | 75% | 30-130% |
| 321-60-8  | 2-Fluorobiphenyl     | 79% | 30-130% |
| 1718-51-0 | Terphenyl-d14        | 81% | 30-130% |

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample      | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|----------|----|----------|----|-----------|------------|------------------|
| OP34450-MS  | R32894.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |
| OP34450-MSD | R32895.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |
| MC23500-8   | R32896.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |

The QC reported here applies to the following samples:

Method: SW846 8270C

MC23577-1, MC23577-2

| CAS No.   | Compound                    | MC23500-8<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|-----------------------------|-------------------|------------|------------|---------|-------------|----------|-----|-------------------|
| 95-57-8   | 2-Chlorophenol              | ND                | 50         | 42.0       | 84      | 41.6        | 83       | 1   | 30-130/20         |
| 59-50-7   | 4-Chloro-3-methyl phenol    | ND                | 50         | 46.8       | 94      | 45.2        | 90       | 3   | 30-130/20         |
| 120-83-2  | 2,4-Dichlorophenol          | ND                | 50         | 48.2       | 96      | 45.0        | 90       | 7   | 30-130/20         |
| 105-67-9  | 2,4-Dimethylphenol          | ND                | 50         | 40.3       | 81      | 40.0        | 80       | 1   | 30-130/20         |
| 51-28-5   | 2,4-Dinitrophenol           | ND                | 50         | 37.0       | 74      | 31.6        | 63       | 16  | 30-130/20         |
| 534-52-1  | 4,6-Dinitro-o-cresol        | ND                | 50         | 46.8       | 94      | 45.1        | 90       | 4   | 30-130/20         |
| 88-75-5   | 2-Nitrophenol               | ND                | 50         | 45.7       | 91      | 43.9        | 88       | 4   | 30-130/20         |
| 100-02-7  | 4-Nitrophenol               | ND                | 50         | 19.9       | 40      | 18.0        | 36       | 10  | 30-130/20         |
| 87-86-5   | Pentachlorophenol           | ND                | 50         | 37.3       | 75      | 35.9        | 72       | 4   | 30-130/20         |
| 108-95-2  | Phenol                      | ND                | 50         | 23.5       | 47      | 22.0        | 44       | 7   | 30-130/20         |
| 88-06-2   | 2,4,6-Trichlorophenol       | ND                | 50         | 50.3       | 101     | 47.5        | 95       | 6   | 30-130/20         |
| 83-32-9   | Acenaphthene                | ND                | 50         | 51.3       | 103     | 48.8        | 98       | 5   | 40-140/20         |
| 208-96-8  | Acenaphthylene              | ND                | 50         | 40.6       | 81      | 38.5        | 77       | 5   | 40-140/20         |
| 120-12-7  | Anthracene                  | ND                | 50         | 52.5       | 105     | 50.0        | 100      | 5   | 40-140/20         |
| 92-87-5   | Benzidine                   | ND                | 50         | 65.2       | 130     | 56.3        | 113      | 15  | 40-140/20         |
| 56-55-3   | Benzo(a)anthracene          | ND                | 50         | 56.4       | 113     | 53.8        | 108      | 5   | 40-140/20         |
| 50-32-8   | Benzo(a)pyrene              | ND                | 50         | 49.2       | 98      | 47.8        | 96       | 3   | 40-140/20         |
| 205-99-2  | Benzo(b)fluoranthene        | ND                | 50         | 51.7       | 103     | 49.4        | 99       | 5   | 40-140/20         |
| 191-24-2  | Benzo(g,h,i)perylene        | ND                | 50         | 54.1       | 108     | 53.1        | 106      | 2   | 40-140/20         |
| 207-08-9  | Benzo(k)fluoranthene        | ND                | 50         | 55.1       | 110     | 53.3        | 107      | 3   | 40-140/20         |
| 101-55-3  | 4-Bromophenyl phenyl ether  | ND                | 50         | 54.9       | 110     | 52.7        | 105      | 4   | 40-140/20         |
| 85-68-7   | Butyl benzyl phthalate      | ND                | 50         | 52.2       | 104     | 51.3        | 103      | 2   | 40-140/20         |
| 91-58-7   | 2-Chloronaphthalene         | ND                | 50         | 52.1       | 104     | 49.7        | 99       | 5   | 40-140/20         |
| 106-47-8  | 4-Chloroaniline             | ND                | 50         | 45.2       | 90      | 43.8        | 88       | 3   | 40-140/20         |
| 218-01-9  | Chrysene                    | ND                | 50         | 53.4       | 107     | 51.1        | 102      | 4   | 40-140/20         |
| 111-91-1  | bis(2-Chloroethoxy)methane  | ND                | 50         | 47.8       | 96      | 46.4        | 93       | 3   | 40-140/20         |
| 111-44-4  | bis(2-Chloroethyl)ether     | ND                | 50         | 46.8       | 94      | 47.0        | 94       | 0   | 40-140/20         |
| 108-60-1  | bis(2-Chloroisopropyl)ether | ND                | 50         | 58.5       | 117     | 57.6        | 115      | 2   | 40-140/20         |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND                | 50         | 54.6       | 109     | 51.8        | 104      | 5   | 40-140/20         |
| 95-50-1   | 1,2-Dichlorobenzene         | ND                | 50         | 43.1       | 86      | 44.8        | 90       | 4   | 40-140/20         |
| 122-66-7  | 1,2-Diphenylhydrazine       | ND                | 50         | 49.3       | 99      | 46.6        | 93       | 6   | 40-140/20         |
| 541-73-1  | 1,3-Dichlorobenzene         | ND                | 50         | 39.9       | 80      | 41.8        | 84       | 5   | 40-140/20         |
| 106-46-7  | 1,4-Dichlorobenzene         | ND                | 50         | 39.1       | 78      | 41.3        | 83       | 5   | 40-140/20         |
| 121-14-2  | 2,4-Dinitrotoluene          | ND                | 50         | 52.4       | 105     | 50.8        | 102      | 3   | 40-140/20         |
| 606-20-2  | 2,6-Dinitrotoluene          | ND                | 50         | 52.6       | 105     | 50.2        | 100      | 5   | 40-140/20         |
| 91-94-1   | 3,3' -Dichlorobenzidine     | ND                | 50         | 48.3       | 97      | 45.5        | 91       | 6   | 40-140/20         |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample      | File ID  | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|----------|----|----------|----|-----------|------------|------------------|
| OP34450-MS  | R32894.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |
| OP34450-MSD | R32895.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |
| MC23500-8   | R32896.D | 1  | 08/21/13 | KR | 08/16/13  | OP34450    | MSR1200          |

The QC reported here applies to the following samples:

Method: SW846 8270C

MC23577-1, MC23577-2

| CAS No.  | Compound                   | MC23500-8<br>ug/l | Spike<br>Q | ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|----------------------------|-------------------|------------|------|------------|---------|-------------|----------|-----|-------------------|
| 53-70-3  | Dibenzo(a,h)anthracene     | ND                |            | 50   | 52.9       | 106     | 52.9        | 106      | 0   | 40-140/20         |
| 84-74-2  | Di-n-butyl phthalate       | 1.7               | J          | 50   | 54.1       | 105     | 52.3        | 101      | 3   | 40-140/20         |
| 117-84-0 | Di-n-octyl phthalate       | ND                |            | 50   | 55.5       | 111     | 54.1        | 108      | 3   | 40-140/20         |
| 84-66-2  | Diethyl phthalate          | 1.2               | J          | 50   | 46.4       | 90      | 45.5        | 89       | 2   | 40-140/20         |
| 131-11-3 | Dimethyl phthalate         | ND                |            | 50   | 28.0       | 56      | 31.0        | 62       | 10  | 40-140/20         |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND                |            | 50   | 52.0       | 104     | 49.4        | 99       | 5   | 40-140/20         |
| 206-44-0 | Fluoranthene               | ND                |            | 50   | 58.3       | 117     | 56.7        | 113      | 3   | 40-140/20         |
| 86-73-7  | Fluorene                   | ND                |            | 50   | 53.0       | 106     | 49.9        | 100      | 6   | 40-140/20         |
| 118-74-1 | Hexachlorobenzene          | ND                |            | 50   | 51.2       | 102     | 47.5        | 95       | 7   | 40-140/20         |
| 87-68-3  | Hexachlorobutadiene        | ND                |            | 50   | 44.5       | 89      | 41.5        | 83       | 7   | 40-140/20         |
| 77-47-4  | Hexachlorocyclopentadiene  | ND                |            | 50   | 16.6       | 33* a   | 15.9        | 32* a    | 4   | 40-140/20         |
| 67-72-1  | Hexachloroethane           | ND                |            | 50   | 37.8       | 76      | 38.5        | 77       | 2   | 40-140/20         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene     | ND                |            | 50   | 52.9       | 106     | 51.4        | 103      | 3   | 40-140/20         |
| 78-59-1  | Isophorone                 | ND                |            | 50   | 47.0       | 94      | 43.4        | 87       | 8   | 40-140/20         |
| 91-20-3  | Naphthalene                | ND                |            | 50   | 59.3       | 119     | 55.8        | 112      | 6   | 40-140/20         |
| 98-95-3  | Nitrobenzene               | ND                |            | 50   | 40.7       | 81      | 40.4        | 81       | 1   | 40-140/20         |
| 62-75-9  | n-Nitrosodimethylamine     | ND                |            | 50   | 27.8       | 56      | 28.2        | 56       | 1   | 40-140/20         |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND                |            | 50   | 47.5       | 95      | 46.9        | 94       | 1   | 40-140/20         |
| 86-30-6  | N-Nitrosodiphenylamine     | ND                |            | 50   | 49.2       | 98      | 48.2        | 96       | 2   | 40-140/20         |
| 85-01-8  | Phenanthrene               | ND                |            | 50   | 54.6       | 109     | 52.5        | 105      | 4   | 40-140/20         |
| 129-00-0 | Pyrene                     | ND                |            | 50   | 53.2       | 106     | 50.5        | 101      | 5   | 40-140/20         |
| 120-82-1 | 1,2,4-Trichlorobenzene     | ND                |            | 50   | 46.2       | 92      | 45.1        | 90       | 2   | 40-140/20         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | MC23500-8 | Limits  |
|-----------|----------------------|-----|-----|-----------|---------|
| 367-12-4  | 2-Fluorophenol       | 51% | 50% | 53%       | 15-110% |
| 4165-62-2 | Phenol-d5            | 36% | 34% | 35%       | 15-110% |
| 118-79-6  | 2,4,6-Tribromophenol | 86% | 88% | 85%       | 15-110% |
| 4165-60-0 | Nitrobenzene-d5      | 83% | 76% | 75%       | 30-130% |
| 321-60-8  | 2-Fluorobiphenyl     | 92% | 85% | 88%       | 30-130% |
| 1718-51-0 | Terphenyl-d14        | 91% | 86% | 90%       | 30-130% |

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

# Semivolatile Surrogate Recovery Summary

Page 1 of 1

**Job Number:** MC23577  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

**Method:** SW846 8270C **Matrix:** AQ

Samples and QC shown here apply to the above method

| Lab Sample ID | Lab File ID | S1     | S2      | S3     | S4     | S5   | S6   |
|---------------|-------------|--------|---------|--------|--------|------|------|
| MC23577-1     | R33026.D    | 0.0* a | 0.0* a  | 0.0* a | 0.0* a | 51.0 | 73.0 |
| MC23577-1     | R32912.D    | 34.0   | 21.0    | 73.0   | 50.0   | 57.0 | 77.0 |
| MC23577-2     | R33027.D    | 0.0* a | 0.0* a  | 0.0* a | 0.0* a | 57.0 | 71.0 |
| MC23577-2     | R32913.D    | 23.0   | 11.0* b | 45.0   | 59.0   | 63.0 | 77.0 |
| OP34450-BS    | R32893.D    | 46.0   | 31.0    | 79.0   | 75.0   | 79.0 | 81.0 |
| OP34450-MB    | R32892.D    | 55.0   | 37.0    | 90.0   | 76.0   | 84.0 | 89.0 |
| OP34450-MS    | R32894.D    | 51.0   | 36.0    | 86.0   | 83.0   | 92.0 | 91.0 |
| OP34450-MSD   | R32895.D    | 50.0   | 34.0    | 88.0   | 76.0   | 85.0 | 86.0 |

## Surrogate Compounds Recovery Limits

|                           |         |
|---------------------------|---------|
| S1 = 2-Fluorophenol       | 15-110% |
| S2 = Phenol-d5            | 15-110% |
| S3 = 2,4,6-Tribromophenol | 15-110% |
| S4 = Nitrobenzene-d5      | 30-130% |
| S5 = 2-Fluorobiphenyl     | 30-130% |
| S6 = Terphenyl-d14        | 30-130% |

- (a) Outside control limits due to dilution.  
(b) Outside control limits due to possible matrix interference.

6.4.1

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## Metals Analysis

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21526  
Matrix Type: AQUEOUS

Methods: SW846 6020A  
Units: ug/l

Prep Date: 08/20/13

| Metal      | RL  | IDL   | MDL  | MB<br>raw | final |
|------------|-----|-------|------|-----------|-------|
| Aluminum   | 50  | .59   | 3.5  | 2.6       | <50   |
| Antimony   | 1.0 | .028  | .044 |           |       |
| Arsenic    | 1.0 | .057  | .41  | 0.58      | <1.0  |
| Barium     | 2.0 | .03   | .08  |           |       |
| Beryllium  | 1.0 | .0048 | .029 |           |       |
| Boron      | 10  | .07   | .16  |           |       |
| Cadmium    | 1.0 | .0062 | .037 |           |       |
| Calcium    | 500 | 3.4   | 83   | 30.5      | <500  |
| Chromium   | 2.0 | .017  | .15  | 0.29      | <2.0  |
| Cobalt     | 1.0 | .0038 | .019 |           |       |
| Copper     | 2.0 | .018  | .89  | 0.34      | <2.0  |
| Iron       | 50  | 1     | 12   | 3.5       | <50   |
| Lead       | 1.0 | .0054 | .025 | 0.015     | <1.0  |
| Magnesium  | 500 | .25   | 1.8  | 1.2       | <500  |
| Manganese  | 2.0 | .1    | .69  | 0.14      | <2.0  |
| Molybdenum | 2.0 | .012  | .3   |           |       |
| Nickel     | 2.0 | .025  | .22  | 0.016     | <2.0  |
| Potassium  | 500 | 3.7   | 49   |           |       |
| Selenium   | 1.0 | .26   | .38  |           |       |
| Silver     | 1.0 | .0059 | .025 |           |       |
| Sodium     | 500 | 3.2   | 6.2  |           |       |
| Strontium  | 10  | .0065 | .039 |           |       |
| Thallium   | 1.0 | .014  | .014 |           |       |
| Tin        | 10  | .063  | .5   |           |       |
| Titanium   | 2.0 | .071  | .13  |           |       |
| Vanadium   | 4.0 | .13   | 1.3  | 2.2       | <4.0  |
| Zinc       | 4.0 | .21   | 1.4  | 0.21      | <4.0  |

Associated samples MP21526: MC23577-1, MC23577-2, MC23577-1F, MC23577-2F

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21526  
Matrix Type: AQUEOUS

Methods: SW846 6020A  
Units: ug/l

Prep Date: 08/20/13

| Metal      | MC23577-1F<br>Original MS |       | SpikeLot<br>MPICP | % Rec | QC<br>Limits |
|------------|---------------------------|-------|-------------------|-------|--------------|
| Aluminum   | 4.8                       | 2030  | 2000              | 101.3 | 75-125       |
| Antimony   |                           |       |                   |       |              |
| Arsenic    | 1.7                       | 540   | 500               | 107.7 | 75-125       |
| Barium     |                           |       |                   |       |              |
| Beryllium  |                           |       |                   |       |              |
| Boron      |                           |       |                   |       |              |
| Cadmium    |                           |       |                   |       |              |
| Calcium    | 19100                     | 44900 | 25000             | 103.2 | 75-125       |
| Chromium   | 0.41                      | 505   | 500               | 100.9 | 75-125       |
| Cobalt     |                           |       |                   |       |              |
| Copper     | 0.52                      | 481   | 500               | 96.1  | 75-125       |
| Iron       | 499                       | 2750  | 2000              | 112.6 | 75-125       |
| Lead       | 0.026                     | 1030  | 1000              | 103.0 | 75-125       |
| Magnesium  | 4820                      | 29600 | 25000             | 99.1  | 75-125       |
| Manganese  | 237                       | 733   | 500               | 99.2  | 75-125       |
| Molybdenum |                           |       |                   |       |              |
| Nickel     | 5.0                       | 502   | 500               | 99.4  | 75-125       |
| Potassium  |                           |       |                   |       |              |
| Selenium   |                           |       |                   |       |              |
| Silver     |                           |       |                   |       |              |
| Sodium     |                           |       |                   |       |              |
| Strontium  |                           |       |                   |       |              |
| Thallium   |                           |       |                   |       |              |
| Tin        |                           |       |                   |       |              |
| Titanium   |                           |       |                   |       |              |
| Vanadium   | 2.9                       | 524   | 500               | 104.2 | 75-125       |
| Zinc       | 7.7                       | 510   | 500               | 100.5 | 75-125       |

Associated samples MP21526: MC23577-1, MC23577-2, MC23577-1F, MC23577-2F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21526  
Matrix Type: AQUEOUS

Methods: SW846 6020A  
Units: ug/l

Prep Date: 08/20/13

| Metal      | MC23577-1F<br>Original | MSD   | SpikeLot<br>MPICP | % Rec | MSD<br>RPD | QC<br>Limit |
|------------|------------------------|-------|-------------------|-------|------------|-------------|
| Aluminum   | 4.8                    | 2020  | 2000              | 100.8 | 0.5        | 20          |
| Antimony   |                        |       |                   |       |            |             |
| Arsenic    | 1.7                    | 543   | 500               | 108.3 | 0.6        | 20          |
| Barium     |                        |       |                   |       |            |             |
| Beryllium  |                        |       |                   |       |            |             |
| Boron      |                        |       |                   |       |            |             |
| Cadmium    |                        |       |                   |       |            |             |
| Calcium    | 19100                  | 45400 | 25000             | 105.2 | 1.1        | 20          |
| Chromium   | 0.41                   | 512   | 500               | 102.3 | 1.4        | 20          |
| Cobalt     |                        |       |                   |       |            |             |
| Copper     | 0.52                   | 482   | 500               | 96.3  | 0.2        | 20          |
| Iron       | 499                    | 2790  | 2000              | 114.6 | 1.4        | 20          |
| Lead       | 0.026                  | 1020  | 1000              | 102.0 | 1.0        | 20          |
| Magnesium  | 4820                   | 29600 | 25000             | 99.1  | 0.0        | 20          |
| Manganese  | 237                    | 742   | 500               | 101.0 | 1.2        | 20          |
| Molybdenum |                        |       |                   |       |            |             |
| Nickel     | 5.0                    | 507   | 500               | 100.4 | 1.0        | 20          |
| Potassium  |                        |       |                   |       |            |             |
| Selenium   |                        |       |                   |       |            |             |
| Silver     |                        |       |                   |       |            |             |
| Sodium     |                        |       |                   |       |            |             |
| Strontium  |                        |       |                   |       |            |             |
| Thallium   |                        |       |                   |       |            |             |
| Tin        |                        |       |                   |       |            |             |
| Titanium   |                        |       |                   |       |            |             |
| Vanadium   | 2.9                    | 527   | 500               | 104.8 | 0.6        | 20          |
| Zinc       | 7.7                    | 512   | 500               | 100.9 | 0.4        | 20          |

Associated samples MP21526: MC23577-1, MC23577-2, MC23577-1F, MC23577-2F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC23577  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21526  
 Matrix Type: AQUEOUS

Methods: SW846 6020A  
 Units: ug/l

Prep Date: 08/20/13

| Metal      | BSP Result | SpikeLot MPICP | % Rec | QC Limits |
|------------|------------|----------------|-------|-----------|
| Aluminum   | 2020       | 2000           | 101.0 | 80-120    |
| Antimony   |            |                |       |           |
| Arsenic    | 533        | 500            | 106.6 | 80-120    |
| Barium     |            |                |       |           |
| Beryllium  |            |                |       |           |
| Boron      |            |                |       |           |
| Cadmium    |            |                |       |           |
| Calcium    | 25300      | 25000          | 101.2 | 80-120    |
| Chromium   | 499        | 500            | 99.8  | 80-120    |
| Cobalt     |            |                |       |           |
| Copper     | 477        | 500            | 95.4  | 80-120    |
| Iron       | 2250       | 2000           | 112.5 | 80-120    |
| Lead       | 1000       | 1000           | 100.0 | 80-120    |
| Magnesium  | 24600      | 25000          | 98.4  | 80-120    |
| Manganese  | 489        | 500            | 97.8  | 80-120    |
| Molybdenum |            |                |       |           |
| Nickel     | 490        | 500            | 98.0  | 80-120    |
| Potassium  |            |                |       |           |
| Selenium   |            |                |       |           |
| Silver     |            |                |       |           |
| Sodium     |            |                |       |           |
| Strontium  |            |                |       |           |
| Thallium   |            |                |       |           |
| Tin        |            |                |       |           |
| Titanium   |            |                |       |           |
| Vanadium   | 517        | 500            | 103.4 | 80-120    |
| Zinc       | 495        | 500            | 99.0  | 80-120    |

Associated samples MP21526: MC23577-1, MC23577-2, MC23577-1F, MC23577-2F

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21526  
Matrix Type: AQUEOUS

Methods: SW846 6020A  
Units: ug/l

Prep Date: 08/20/13

| Metal      | MC23577-1F<br>Original SDL 2:10 |       | %DIF     | QC<br>Limits |
|------------|---------------------------------|-------|----------|--------------|
| Aluminum   | 4.79                            | 7.30  | 52.3 (a) | 0-10         |
| Antimony   |                                 |       |          |              |
| Arsenic    | 1.69                            | 1.74  | 3.2      | 0-10         |
| Barium     |                                 |       |          |              |
| Beryllium  |                                 |       |          |              |
| Boron      |                                 |       |          |              |
| Cadmium    |                                 |       |          |              |
| Calcium    | 19100                           | 20700 | 8.4      | 0-10         |
| Chromium   | 0.412                           | 0.00  | 100.0(a) | 0-10         |
| Cobalt     |                                 |       |          |              |
| Copper     | 0.522                           | 2.11  | 303.8(a) | 0-10         |
| Iron       | 499                             | 542   | 8.8      | 0-10         |
| Lead       | 0.0262                          | 0.224 | 754.0(a) | 0-10         |
| Magnesium  | 4820                            | 5030  | 4.2      | 0-10         |
| Manganese  | 237                             | 242   | 2.4      | 0-10         |
| Molybdenum |                                 |       |          |              |
| Nickel     | 5.02                            | 5.17  | 3.0      | 0-10         |
| Potassium  |                                 |       |          |              |
| Selenium   |                                 |       |          |              |
| Silver     |                                 |       |          |              |
| Sodium     |                                 |       |          |              |
| Strontium  |                                 |       |          |              |
| Thallium   |                                 |       |          |              |
| Tin        |                                 |       |          |              |
| Titanium   |                                 |       |          |              |
| Vanadium   | 2.87                            | 0.00  | 100.0(a) | 0-10         |
| Zinc       | 7.75                            | 6.76  | 20.3 (a) | 0-10         |

Associated samples MP21526: MC23577-1, MC23577-2, MC23577-1F, MC23577-2F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

## General Chemistry

### QC Data Summaries

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Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Analyte                                | Batch ID        | RL    | MB<br>Result | Units | Spike<br>Amount | BSP<br>Result | BSP<br>%Recov | QC<br>Limits |
|----------------------------------------|-----------------|-------|--------------|-------|-----------------|---------------|---------------|--------------|
| Alkalinity, Total as CaCO <sub>3</sub> | GN44030         | 5.0   | 1.1          | mg/l  | 250             | 260           | 104.0         | 80-120%      |
| Chloride                               | GN44025         | 1.0   | 0.0          | mg/l  | 10              | 10.3          | 103.0         | 80-120%      |
| Dissolved Organic Carbon               | GN44055         | 1.0   | 0.0          | mg/l  | 10              | 10.0          | 100.0         | 80-120%      |
| Fluoride                               | GP16499/GN44045 | 0.10  | 0.0          | mg/l  | .5              | 0.49          | 98.0          | 80-120%      |
| Hardness, Total as CaCO <sub>3</sub>   | GN44033         | 4.0   | 0.0          | mg/l  | 40              | 38.6          | 96.5          | 80-120%      |
| Nitrogen, Nitrate + Nitrite            | GP16498/GN44047 | 0.10  | 0.033        | mg/l  | 2               | 1.91          | 95.5          | 90-110%      |
| Nitrogen, Nitrite                      | GP16480/GN44011 | 0.010 | 0.0          | mg/l  | .02             | 0.020         | 100.0         | 80-120%      |
| Phosphorus, Total                      | GP16503/GN44067 | 0.20  | 0.046        | mg/l  | 2               | 1.95          | 97.5          | 80-120%      |
| Silica, Dissolved                      | GN44044         | 2.0   | 0.0          | mg/l  | 5               | 5.1           | 102.0         | 80-120%      |
| Sulfate                                | GN44039         | 5.0   | 0.0          | mg/l  | 20              | 21.0          | 105.0         | 80-120%      |

Associated Samples:

Batch GN44025: MC23577-1, MC23577-2  
Batch GN44030: MC23577-1, MC23577-2  
Batch GN44033: MC23577-1, MC23577-2  
Batch GN44039: MC23577-1, MC23577-2  
Batch GN44044: MC23577-1, MC23577-2  
Batch GN44055: MC23577-1F, MC23577-2F  
Batch GP16480: MC23577-1, MC23577-2  
Batch GP16498: MC23577-1, MC23577-2  
Batch GP16499: MC23577-1, MC23577-2  
Batch GP16503: MC23577-1, MC23577-2  
(\*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Analyte                                | Batch ID        | QC Sample  | Units | Original Result | DUP Result | RPD | QC Limits |
|----------------------------------------|-----------------|------------|-------|-----------------|------------|-----|-----------|
| Alkalinity, Total as CaCO <sub>3</sub> | GN44030         | MC23405-2  | mg/l  | 258             | 252        | 2.4 | 0-20%     |
| Chloride                               | GN44025         | MC23577-1  | mg/l  | 1.8             | 1.8        | 0.0 | 0-20%     |
| Dissolved Organic Carbon               | GN44055         | MC23577-1F | mg/l  | 3.9             | 4.1        | 5.0 | 0-20%     |
| Fluoride                               | GP16499/GN44045 | MC23577-1  | mg/l  | 0.0             | 0.0        | 0.0 | 0-20%     |
| Hardness, Total as CaCO <sub>3</sub>   | GN44033         | MC23577-1  | mg/l  | 72.3            | 72.3       | 0.0 | 0-20%     |
| Nitrogen, Nitrate + Nitrite            | GP16498/GN44047 | MC23577-1  | mg/l  | 0.048           | 0.047      | 2.1 | 0-20%     |
| Nitrogen, Nitrite                      | GP16480/GN44011 | MC23577-1  | mg/l  | 0.0             | 0.0        | 0.0 | 0-20%     |
| Phosphorus, Total                      | GP16503/GN44067 | MC23577-1  | mg/l  | 0.058           | 0.057      | 1.7 | 0-20%     |
| Silica, Dissolved                      | GN44044         | MC23577-2  | mg/l  | 25.6            | 25.6       | 0.0 | 0-20%     |
| Sulfate                                | GN44039         | MC23577-2  | mg/l  | 8.8             | 8.9        | 1.1 | 0-20%     |

Associated Samples:

Batch GN44025: MC23577-1, MC23577-2  
Batch GN44030: MC23577-1, MC23577-2  
Batch GN44033: MC23577-1, MC23577-2  
Batch GN44039: MC23577-1, MC23577-2  
Batch GN44044: MC23577-1, MC23577-2  
Batch GN44055: MC23577-1F, MC23577-2F  
Batch GP16480: MC23577-1, MC23577-2  
Batch GP16498: MC23577-1, MC23577-2  
Batch GP16499: MC23577-1, MC23577-2  
Batch GP16503: MC23577-1, MC23577-2  
(\*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: MC23577  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Analyte                     | Batch ID        | QC Sample  | Units | Original Result | Spike Amount | MS Result | %Rec  | QC Limits |
|-----------------------------|-----------------|------------|-------|-----------------|--------------|-----------|-------|-----------|
| Alkalinity, Total as CaCO3  | GN44030         | MC23405-2  | mg/l  | 258             | 250          | 516       | 103.2 | 75-125%   |
| Chloride                    | GN44025         | MC23577-1  | mg/l  | 1.8             | 10           | 11.8      | 100.0 | 75-125%   |
| Dissolved Organic Carbon    | GN44055         | MC23577-1F | mg/l  | 3.9             | 10           | 13.5      | 96.0  | 75-125%   |
| Fluoride                    | GP16499/GN44045 | MC23577-1  | mg/l  | 0.0             | .5           | 0.49      | 98.0  | 75-125%   |
| Hardness, Total as CaCO3    | GN44033         | MC23577-1  | mg/l  | 72.3            | 40           | 114       | 104.3 | 75-125%   |
| Nitrogen, Nitrate + Nitrite | GP16498/GN44047 | MC23577-1  | mg/l  | 0.048           | 2            | 1.8       | 90.0  | 90-110%   |
| Nitrogen, Nitrite           | GP16480/GN44011 | MC23577-1  | mg/l  | 0.0             | .02          | 0.021     | 105.0 | 75-125%   |
| Phosphorus, Total           | GP16503/GN44067 | MC23577-1  | mg/l  | 0.058           | 2            | 2.0       | 97.1  | 75-125%   |
| Silica, Dissolved           | GN44044         | MC23577-2  | mg/l  | 25.6            | 25           | 50.6      | 100.0 | 75-125%   |
| Sulfate                     | GN44039         | MC23577-2  | mg/l  | 8.8             | 20           | 29.3      | 102.5 | 75-125%   |

Associated Samples:

Batch GN44025: MC23577-1, MC23577-2  
Batch GN44030: MC23577-1, MC23577-2  
Batch GN44033: MC23577-1, MC23577-2  
Batch GN44039: MC23577-1, MC23577-2  
Batch GN44044: MC23577-1, MC23577-2  
Batch GN44055: MC23577-1F, MC23577-2F  
Batch GP16480: MC23577-1, MC23577-2  
Batch GP16498: MC23577-1, MC23577-2  
Batch GP16499: MC23577-1, MC23577-2  
Batch GP16503: MC23577-1, MC23577-2  
(\*) Outside of QC limits  
(N) Matrix Spike Rec. outside of QC limits

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11/11/13

## Technical Report for

GEI Consultants, Inc.

Liberty Hill, Gilford, NH

126140

Accutest Job Number: MC25921

Sampling Date: 11/01/13

Report to:

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Total number of pages in report: **38**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Fand  
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136, SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.

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Sample Summary

GEI Consultants, Inc.

Job No: MC25921

Liberty Hill, Gilford, NH  
Project No: 126140

| Sample<br>Number | Collected |       | Time By | Received | Matrix |              | Client<br>Sample ID |
|------------------|-----------|-------|---------|----------|--------|--------------|---------------------|
|                  | Date      |       |         |          | Code   | Type         |                     |
| MC25921-1        | 11/01/13  | 16:45 | KD      | 11/04/13 | AQ     | Ground Water | 12614-MW208         |

Summary of Hits

Job Number: MC25921  
Account: GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH  
Collected: 11/01/13

| Lab Sample ID | Client Sample ID | Result/<br>Qual | RL | MDL | Units | Method |
|---------------|------------------|-----------------|----|-----|-------|--------|
|---------------|------------------|-----------------|----|-----|-------|--------|

MC25921-1      12614-MW208

|                                      |         |       |      |               |
|--------------------------------------|---------|-------|------|---------------|
| Total Residual Chlorine <sup>a</sup> | < 0.050 | 0.050 | mg/l | SM21 4500CL F |
|--------------------------------------|---------|-------|------|---------------|

(a) Analysis performed past the required 15 minutes of collection time/holding time.

## Sample Results

## Report of Analysis

## Report of Analysis

|                          |                           |                        |          |
|--------------------------|---------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | 12614-MW208               | <b>Date Sampled:</b>   | 11/01/13 |
| <b>Lab Sample ID:</b>    | MC25921-1                 | <b>Date Received:</b>  | 11/04/13 |
| <b>Matrix:</b>           | AQ - Ground Water         | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8082 SW846 3510C    |                        |          |
| <b>Project:</b>          | Liberty Hill, Gilford, NH |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | YZ85262.D | 1  | 11/07/13 | CZ | 11/05/13  | OP35596    | GYZ7365          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Volume | Final Volume |
|--------|----------------|--------------|
| Run #1 | 980 ml         | 5.0 ml       |
| Run #2 |                |              |

## PCB List

| CAS No.    | Compound     | Result | RL   | Units | Q |
|------------|--------------|--------|------|-------|---|
| 12674-11-2 | Aroclor 1016 | ND     | 0.26 | ug/l  |   |
| 11104-28-2 | Aroclor 1221 | ND     | 0.26 | ug/l  |   |
| 11141-16-5 | Aroclor 1232 | ND     | 0.26 | ug/l  |   |
| 53469-21-9 | Aroclor 1242 | ND     | 0.26 | ug/l  |   |
| 12672-29-6 | Aroclor 1248 | ND     | 0.26 | ug/l  |   |
| 11097-69-1 | Aroclor 1254 | ND     | 0.26 | ug/l  |   |
| 11096-82-5 | Aroclor 1260 | ND     | 0.26 | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 877-09-8  | Tetrachloro-m-xylene | 70%    |        | 30-150% |
| 877-09-8  | Tetrachloro-m-xylene | 72%    |        | 30-150% |
| 2051-24-3 | Decachlorobiphenyl   | 69%    |        | 30-150% |
| 2051-24-3 | Decachlorobiphenyl   | 70%    |        | 30-150% |

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

**Client Sample ID:** 12614-MW208**Lab Sample ID:** MC25921-1**Matrix:** AQ - Ground Water**Project:** Liberty Hill, Gilford, NH**Date Sampled:** 11/01/13**Date Received:** 11/04/13**Percent Solids:** n/a**Total Metals Analysis**

| Analyte  | Result | RL   | Units | DF | Prep     | Analyzed By  | Method                 | Prep Method            |
|----------|--------|------|-------|----|----------|--------------|------------------------|------------------------|
| Antimony | < 6.0  | 6.0  | ug/l  | 1  | 11/07/13 | 11/08/13 EAL | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>3</sup> |
| Cadmium  | < 4.0  | 4.0  | ug/l  | 1  | 11/07/13 | 11/08/13 EAL | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>3</sup> |
| Mercury  | < 0.20 | 0.20 | ug/l  | 1  | 11/11/13 | 11/11/13 EM  | EPA 245.1 <sup>2</sup> | EPA 245.1 <sup>4</sup> |
| Selenium | < 10   | 10   | ug/l  | 1  | 11/07/13 | 11/08/13 EAL | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>3</sup> |
| Silver   | < 5.0  | 5.0  | ug/l  | 1  | 11/07/13 | 11/08/13 EAL | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>3</sup> |

(1) Instrument QC Batch: MA16361

(2) Instrument QC Batch: MA16368

(3) Prep QC Batch: MP21993

(4) Prep QC Batch: MP22014

RL = Reporting Limit

## Report of Analysis

**Client Sample ID:** 12614-MW208  
**Lab Sample ID:** MC25921-1  
**Matrix:** AQ - Ground Water  
**Project:** Liberty Hill, Gilford, NH

**Date Sampled:** 11/01/13  
**Date Received:** 11/04/13  
**Percent Solids:** n/a

## General Chemistry

| Analyte                              | Result  | RL    | Units | DF | Analyzed       | By | Method        |
|--------------------------------------|---------|-------|-------|----|----------------|----|---------------|
| Cyanide                              | < 0.010 | 0.010 | mg/l  | 1  | 11/08/13 11:51 | MA | EPA 335.4     |
| HEM Petroleum Hydrocarbons           | < 4.1   | 4.1   | mg/l  | 1  | 11/11/13       | BF | EPA 1664A     |
| Solids, Total Suspended              | < 4.0   | 4.0   | mg/l  | 1  | 11/08/13       | BF | SM21 2540D    |
| Total Residual Chlorine <sup>a</sup> | < 0.050 | 0.050 | mg/l  | 1  | 11/05/13 15:21 | MC | SM21 4500CL F |

(a) Analysis performed past the required 15 minutes of collection time/holding time.

RL = Reporting Limit

## Misc. Forms

### Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody

## 4.1

## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC25921 Client: GEI Immediate Client Services Action Required: No  
 Date / Time Received: 11/4/2013 Delivery Method: \_\_\_\_\_  
 Project: LIBERTY HILL No. Coolers: \_\_\_\_\_ Airbill #'s: \_\_\_\_\_

### Cooler Security

Y or N

Y or N

- |                           |                                     |                          |                       |                                     |                          |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Cooler Temperature

Y or N

- |                              |                                     |                          |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun                        |                          |
| 3. Cooler media:             | Ice (bag)                           |                          |

### Quality Control Preservation

Y

N

N/A

- |                                 |                                     |                          |                                     |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/>            | <input type="checkbox"/> |                                     |
| 2. Trip Blank listed on COC:    | <input type="checkbox"/>            | <input type="checkbox"/> |                                     |
| 3. Samples preserved properly:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                                     |
| 4. VOCs headspace free:         | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

-1 we received a 500ml bot with "HEX CR" on it for analysis, not listed on coc but its listed in the attached paramaters stapled to coc. Past hold time now.  
 We received TRC sample that's past hold time. Note on coc that client will contact about TRC analysis.

### Sample Integrity - Documentation

Y or N

- |                                        |                                     |                          |
|----------------------------------------|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete:        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Sample Integrity - Condition

Y or N

- |                                  |                                     |                                     |
|----------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample rec'd within HT:       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 3. Condition of sample:          | Intact                              |                                     |

### Sample Integrity - Instructions

Y N N/A

- |                                           |                                     |                                     |                                     |
|-------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 2. Bottles received for unspecified tests | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 3. Sufficient volume rec'd for analysis:  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## Sample Receipt Summary - Problem Resolution

**Accutest Job Number:** MC25921

**CSR:** Frank D'Agostino

**Response Date:** 11/4/2013

**Response:** Client advised OK to proceed with TRC analysis, flag as needed. Disregard HexCr analysis. See scanned email.

4.1

4

**MC25921: Chain of Custody**  
**Page 3 of 3**

## GC Semi-volatiles

5

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

## Method Blank Summary

Page 1 of 1

**Job Number:** MC25921  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP35596-MB | YZ85249.D | 1  | 11/06/13 | CZ | 11/05/13  | OP35596    | GYZ7365          |

The QC reported here applies to the following samples:

Method: SW846 8082

MC25921-1

| CAS No.    | Compound     | Result | RL   | Units | Q |
|------------|--------------|--------|------|-------|---|
| 12674-11-2 | Aroclor 1016 | ND     | 0.25 | ug/l  |   |
| 11104-28-2 | Aroclor 1221 | ND     | 0.25 | ug/l  |   |
| 11141-16-5 | Aroclor 1232 | ND     | 0.25 | ug/l  |   |
| 53469-21-9 | Aroclor 1242 | ND     | 0.25 | ug/l  |   |
| 12672-29-6 | Aroclor 1248 | ND     | 0.25 | ug/l  |   |
| 11097-69-1 | Aroclor 1254 | ND     | 0.25 | ug/l  |   |
| 11096-82-5 | Aroclor 1260 | ND     | 0.25 | ug/l  |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 877-09-8  | Tetrachloro-m-xylene | 97% 30-150% |
| 877-09-8  | Tetrachloro-m-xylene | 98% 30-150% |
| 2051-24-3 | Decachlorobiphenyl   | 69% 30-150% |
| 2051-24-3 | Decachlorobiphenyl   | 71% 30-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** MC25921  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP35596-BS | YZ85250.D | 1  | 11/06/13 | CZ | 11/05/13  | OP35596    | GYZ7365          |

The QC reported here applies to the following samples:

Method: SW846 8082

MC25921-1

| CAS No.    | Compound     | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|------------|--------------|---------------|-------------|----------|--------|
| 12674-11-2 | Aroclor 1016 | 2             | 2.1         | 105      | 40-140 |
| 11104-28-2 | Aroclor 1221 |               | ND          |          | 40-140 |
| 11141-16-5 | Aroclor 1232 |               | ND          |          | 40-140 |
| 53469-21-9 | Aroclor 1242 |               | ND          |          | 40-140 |
| 12672-29-6 | Aroclor 1248 |               | ND          |          | 40-140 |
| 11097-69-1 | Aroclor 1254 |               | ND          |          | 40-140 |
| 11096-82-5 | Aroclor 1260 | 2             | 2.0         | 100      | 40-140 |

| CAS No.   | Surrogate Recoveries | BSP  | Limits  |
|-----------|----------------------|------|---------|
| 877-09-8  | Tetrachloro-m-xylene | 113% | 30-150% |
| 877-09-8  | Tetrachloro-m-xylene | 113% | 30-150% |
| 2051-24-3 | Decachlorobiphenyl   | 73%  | 30-150% |
| 2051-24-3 | Decachlorobiphenyl   | 75%  | 30-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** MC25921  
**Account:** GEI GEI Consultants, Inc.  
**Project:** Liberty Hill, Gilford, NH

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| OP35596-MS  | YZ85251.D | 1  | 11/06/13 | CZ | 11/05/13  | OP35596    | GYZ7365          |
| OP35596-MSD | YZ85252.D | 1  | 11/06/13 | CZ | 11/05/13  | OP35596    | GYZ7365          |
| MC25900-18  | YZ85253.D | 1  | 11/06/13 | CZ | 11/05/13  | OP35596    | GYZ7365          |

The QC reported here applies to the following samples:

Method: SW846 8082

MC25921-1

| CAS No.    | Compound     | MC25900-18 Spike<br>ug/l | Q | ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|------------|--------------|--------------------------|---|------|------------|---------|-------------|----------|-----|-------------------|
| 12674-11-2 | Aroclor 1016 | ND                       | 2 |      | 2.0        | 100     | 2.0         | 100      | 0   | 40-140/50         |
| 11104-28-2 | Aroclor 1221 | ND                       |   |      | ND         |         | ND          |          | nc  | 40-140/50         |
| 11141-16-5 | Aroclor 1232 | ND                       |   |      | ND         |         | ND          |          | nc  | 40-140/50         |
| 53469-21-9 | Aroclor 1242 | ND                       |   |      | ND         |         | ND          |          | nc  | 40-140/50         |
| 12672-29-6 | Aroclor 1248 | ND                       |   |      | ND         |         | ND          |          | nc  | 40-140/50         |
| 11097-69-1 | Aroclor 1254 | ND                       |   |      | ND         |         | ND          |          | nc  | 40-140/50         |
| 11096-82-5 | Aroclor 1260 | ND                       | 2 |      | 1.8        | 90      | 1.9         | 95       | 5   | 40-140/50         |

| CAS No.   | Surrogate Recoveries | MS   | MSD  | MC25900-18 Limits |
|-----------|----------------------|------|------|-------------------|
| 877-09-8  | Tetrachloro-m-xylene | 109% | 108% | 100% 30-150%      |
| 877-09-8  | Tetrachloro-m-xylene | 109% | 107% | 103% 30-150%      |
| 2051-24-3 | Decachlorobiphenyl   | 66%  | 72%  | 64% 30-150%       |
| 2051-24-3 | Decachlorobiphenyl   | 67%  | 73%  | 67% 30-150%       |

\* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC25921  
Account: GEI GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

|                    |            |
|--------------------|------------|
| Method: SW846 8082 | Matrix: AQ |
|--------------------|------------|

Samples and QC shown here apply to the above method

| Lab<br>Sample ID | Lab<br>File ID | S1 <sup>a</sup> | S1 <sup>b</sup> | S2 <sup>a</sup> | S2 <sup>b</sup> |
|------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| MC25921-1        | YZ85262.D      | 70.0            | 72.0            | 69.0            | 70.0            |
| OP35596-BS       | YZ85250.D      | 113.0           | 113.0           | 73.0            | 75.0            |
| OP35596-MB       | YZ85249.D      | 97.0            | 98.0            | 69.0            | 71.0            |
| OP35596-MS       | YZ85251.D      | 109.0           | 109.0           | 66.0            | 67.0            |
| OP35596-MSD      | YZ85252.D      | 108.0           | 107.0           | 72.0            | 73.0            |

| Surrogate<br>Compounds    | Recovery<br>Limits |
|---------------------------|--------------------|
| S1 = Tetrachloro-m-xylene | 30-150%            |
| S2 = Decachlorobiphenyl   | 30-150%            |

- (a) Recovery from GC signal #1  
(b) Recovery from GC signal #2

## Metals Analysis

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date: 11/07/13 11/07/13

| Metal      | RL   | IDL | MDL | MB<br>raw | final | MB<br>raw | final |
|------------|------|-----|-----|-----------|-------|-----------|-------|
| Aluminum   | 200  | 22  | 40  |           |       |           |       |
| Antimony   | 6.0  | 1.1 | 1.9 | -1.1      | <6.0  | -1.5      | <6.0  |
| Arsenic    | 4.0  | 1.2 | 2.9 |           |       |           |       |
| Barium     | 50   | .53 | .81 |           |       |           |       |
| Beryllium  | 4.0  | .15 | .25 |           |       |           |       |
| Boron      | 100  | .49 | 1.4 |           |       |           |       |
| Cadmium    | 4.0  | .04 | .5  | -0.30     | <4.0  | -0.30     | <4.0  |
| Calcium    | 5000 | 7.4 | 38  |           |       |           |       |
| Chromium   | 10   | .38 | 1.4 |           |       |           |       |
| Cobalt     | 50   | .15 | .4  |           |       |           |       |
| Copper     | 25   | .52 | 7   |           |       |           |       |
| Gold       | 50   | 1.4 | 5   |           |       |           |       |
| Iron       | 100  | 5   | 20  |           |       |           |       |
| Lead       | 5.0  | .95 | 1.7 |           |       |           |       |
| Magnesium  | 5000 | 47  | 59  |           |       |           |       |
| Manganese  | 15   | .04 | .81 |           |       |           |       |
| Molybdenum | 100  | .29 | .77 |           |       |           |       |
| Nickel     | 40   | .25 | .57 |           |       |           |       |
| Palladium  | 50   | 1.9 | 7.6 |           |       |           |       |
| Platinum   | 50   | 5.9 | 14  |           |       |           |       |
| Potassium  | 5000 | 56  | 160 |           |       |           |       |
| Selenium   | 10   | 1.8 | 4.8 | -1.3      | <10   | -2.0      | <10   |
| Silicon    | 100  | 1.3 | 45  |           |       |           |       |
| Silver     | 5.0  | .56 | 1   | 0.30      | <5.0  | 0.20      | <5.0  |
| Sodium     | 5000 | 33  | 60  |           |       |           |       |
| Sulfur     | 50   | 3.4 | 8   |           |       |           |       |
| Strontium  | 10   | .15 | .26 |           |       |           |       |
| Thallium   | 5.0  | .98 | 1.9 |           |       |           |       |
| Tin        | 100  | .35 | 1.4 |           |       |           |       |
| Titanium   | 50   | .44 | 1.8 |           |       |           |       |
| Tungsten   | 100  | 5.6 | 16  |           |       |           |       |
| Vanadium   | 10   | .58 | 2.8 |           |       |           |       |
| Zinc       | 20   | .21 | .5  |           |       |           |       |

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

|       |  |  |  |
|-------|--|--|--|
| Metal |  |  |  |
|-------|--|--|--|

|           |    |     |     |
|-----------|----|-----|-----|
| Zirconium | 50 | 1.8 | 2.2 |
|-----------|----|-----|-----|

Associated samples MP21993: MC25921-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25921  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 11/07/13

| Metal      | MC25921-1<br>Original MS |     | SpikeLot<br>MPICP | % Rec | QC<br>Limits |
|------------|--------------------------|-----|-------------------|-------|--------------|
| Aluminum   |                          |     |                   |       |              |
| Antimony   | 0.0                      | 532 | 500               | 106.4 | 70-130       |
| Arsenic    |                          |     |                   |       |              |
| Barium     |                          |     |                   |       |              |
| Beryllium  |                          |     |                   |       |              |
| Boron      |                          |     |                   |       |              |
| Cadmium    | 0.0                      | 526 | 500               | 105.2 | 70-130       |
| Calcium    |                          |     |                   |       |              |
| Chromium   |                          |     |                   |       |              |
| Cobalt     |                          |     |                   |       |              |
| Copper     |                          |     |                   |       |              |
| Gold       |                          |     |                   |       |              |
| Iron       | anr                      |     |                   |       |              |
| Lead       |                          |     |                   |       |              |
| Magnesium  |                          |     |                   |       |              |
| Manganese  |                          |     |                   |       |              |
| Molybdenum | anr                      |     |                   |       |              |
| Nickel     |                          |     |                   |       |              |
| Palladium  |                          |     |                   |       |              |
| Platinum   |                          |     |                   |       |              |
| Potassium  |                          |     |                   |       |              |
| Selenium   | 0.0                      | 539 | 500               | 107.8 | 70-130       |
| Silicon    |                          |     |                   |       |              |
| Silver     | 0.70                     | 212 | 200               | 105.7 | 70-130       |
| Sodium     | anr                      |     |                   |       |              |
| Sulfur     |                          |     |                   |       |              |
| Strontium  |                          |     |                   |       |              |
| Thallium   |                          |     |                   |       |              |
| Tin        |                          |     |                   |       |              |
| Titanium   |                          |     |                   |       |              |
| Tungsten   |                          |     |                   |       |              |
| Vanadium   |                          |     |                   |       |              |
| Zinc       |                          |     |                   |       |              |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

Zirconium

Associated samples MP21993: MC25921-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.1.2

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date: 11/07/13

| Metal      | MC25921-1<br>Original | MSD | SpikeLot<br>MPICP | % Rec | MSD<br>RPD | QC<br>Limit |
|------------|-----------------------|-----|-------------------|-------|------------|-------------|
| Aluminum   |                       |     |                   |       |            |             |
| Antimony   | 0.0                   | 529 | 500               | 105.8 | 0.6        |             |
| Arsenic    |                       |     |                   |       |            |             |
| Barium     |                       |     |                   |       |            |             |
| Beryllium  |                       |     |                   |       |            |             |
| Boron      |                       |     |                   |       |            |             |
| Cadmium    | 0.0                   | 526 | 500               | 105.2 | 0.0        |             |
| Calcium    |                       |     |                   |       |            |             |
| Chromium   |                       |     |                   |       |            |             |
| Cobalt     |                       |     |                   |       |            |             |
| Copper     |                       |     |                   |       |            |             |
| Gold       |                       |     |                   |       |            |             |
| Iron       | anr                   |     |                   |       |            |             |
| Lead       |                       |     |                   |       |            |             |
| Magnesium  |                       |     |                   |       |            |             |
| Manganese  |                       |     |                   |       |            |             |
| Molybdenum | anr                   |     |                   |       |            |             |
| Nickel     |                       |     |                   |       |            |             |
| Palladium  |                       |     |                   |       |            |             |
| Platinum   |                       |     |                   |       |            |             |
| Potassium  |                       |     |                   |       |            |             |
| Selenium   | 0.0                   | 536 | 500               | 107.2 | 0.6        |             |
| Silicon    |                       |     |                   |       |            |             |
| Silver     | 0.70                  | 213 | 200               | 106.2 | 0.5        |             |
| Sodium     | anr                   |     |                   |       |            |             |
| Sulfur     |                       |     |                   |       |            |             |
| Strontium  |                       |     |                   |       |            |             |
| Thallium   |                       |     |                   |       |            |             |
| Tin        |                       |     |                   |       |            |             |
| Titanium   |                       |     |                   |       |            |             |
| Tungsten   |                       |     |                   |       |            |             |
| Vanadium   |                       |     |                   |       |            |             |
| Zinc       |                       |     |                   |       |            |             |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

Zirconium

Associated samples MP21993: MC25921-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.1.2

6

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date: 11/07/13

| Metal      | BSP<br>Result | SpikeLot<br>MPICP | % Rec | QC<br>Limits |
|------------|---------------|-------------------|-------|--------------|
| Aluminum   |               |                   |       |              |
| Antimony   | 480           | 500               | 96.0  | 85-115       |
| Arsenic    |               |                   |       |              |
| Barium     |               |                   |       |              |
| Beryllium  |               |                   |       |              |
| Boron      |               |                   |       |              |
| Cadmium    | 493           | 500               | 98.6  | 85-115       |
| Calcium    |               |                   |       |              |
| Chromium   |               |                   |       |              |
| Cobalt     |               |                   |       |              |
| Copper     |               |                   |       |              |
| Gold       |               |                   |       |              |
| Iron       | anr           |                   |       |              |
| Lead       |               |                   |       |              |
| Magnesium  |               |                   |       |              |
| Manganese  |               |                   |       |              |
| Molybdenum | anr           |                   |       |              |
| Nickel     |               |                   |       |              |
| Palladium  |               |                   |       |              |
| Platinum   |               |                   |       |              |
| Potassium  |               |                   |       |              |
| Selenium   | 511           | 500               | 102.2 | 85-115       |
| Silicon    |               |                   |       |              |
| Silver     | 201           | 200               | 100.5 | 85-115       |
| Sodium     | anr           |                   |       |              |
| Sulfur     |               |                   |       |              |
| Strontium  |               |                   |       |              |
| Thallium   |               |                   |       |              |
| Tin        |               |                   |       |              |
| Titanium   |               |                   |       |              |
| Tungsten   |               |                   |       |              |
| Vanadium   |               |                   |       |              |
| Zinc       |               |                   |       |              |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

Zirconium

Associated samples MP21993: MC25921-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

6.1.3

6

# SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25921  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 11/07/13

| Metal      | MC25921-1<br>Original SDL 1:5 |      | %DIF     | QC<br>Limits |
|------------|-------------------------------|------|----------|--------------|
| Aluminum   |                               |      |          |              |
| Antimony   | 0.00                          | 0.00 | NC       | 0-10         |
| Arsenic    |                               |      |          |              |
| Barium     |                               |      |          |              |
| Beryllium  |                               |      |          |              |
| Boron      |                               |      |          |              |
| Cadmium    | 0.00                          | 0.00 | NC       | 0-10         |
| Calcium    |                               |      |          |              |
| Chromium   |                               |      |          |              |
| Cobalt     |                               |      |          |              |
| Copper     |                               |      |          |              |
| Gold       |                               |      |          |              |
| Iron       | anr                           |      |          |              |
| Lead       |                               |      |          |              |
| Magnesium  |                               |      |          |              |
| Manganese  |                               |      |          |              |
| Molybdenum | anr                           |      |          |              |
| Nickel     |                               |      |          |              |
| Palladium  |                               |      |          |              |
| Platinum   |                               |      |          |              |
| Potassium  |                               |      |          |              |
| Selenium   | 0.00                          | 0.00 | NC       | 0-10         |
| Silicon    |                               |      |          |              |
| Silver     | 0.700                         | 0.00 | 100.0(a) | 0-10         |
| Sodium     | anr                           |      |          |              |
| Sulfur     |                               |      |          |              |
| Strontium  |                               |      |          |              |
| Thallium   |                               |      |          |              |
| Tin        |                               |      |          |              |
| Titanium   |                               |      |          |              |
| Tungsten   |                               |      |          |              |
| Vanadium   |                               |      |          |              |
| Zinc       |                               |      |          |              |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

Zirconium

Associated samples MP21993: MC25921-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

6.1.4

6

POST DIGESTATE SPIKE SUMMARY

Login Number: MC25921  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date:

11/07/13

| Metal      | Sample<br>ml | Final<br>ml | MC25921-1<br>Raw | PS<br>Corr.**<br>ug/l | Spike<br>ml | Spike<br>ug/ml | Spike<br>ug/l | % Rec | QC<br>Limits |
|------------|--------------|-------------|------------------|-----------------------|-------------|----------------|---------------|-------|--------------|
| Aluminum   |              |             |                  |                       |             |                |               |       |              |
| Antimony   |              |             |                  |                       |             |                |               |       |              |
| Arsenic    |              |             |                  |                       |             |                |               |       |              |
| Barium     |              |             |                  |                       |             |                |               |       |              |
| Beryllium  |              |             |                  |                       |             |                |               |       |              |
| Boron      |              |             |                  |                       |             |                |               |       |              |
| Cadmium    |              |             |                  |                       |             |                |               |       |              |
| Calcium    |              |             |                  |                       |             |                |               |       |              |
| Chromium   |              |             |                  |                       |             |                |               |       |              |
| Cobalt     |              |             |                  |                       |             |                |               |       |              |
| Copper     |              |             |                  |                       |             |                |               |       |              |
| Gold       |              |             |                  |                       |             |                |               |       |              |
| Iron       |              |             |                  |                       |             |                |               |       |              |
| Lead       |              |             |                  |                       |             |                |               |       |              |
| Magnesium  |              |             |                  |                       |             |                |               |       |              |
| Manganese  |              |             |                  |                       |             |                |               |       |              |
| Molybdenum |              |             |                  |                       |             |                |               |       |              |
| Nickel     |              |             |                  |                       |             |                |               |       |              |
| Palladium  |              |             |                  |                       |             |                |               |       |              |
| Platinum   |              |             |                  |                       |             |                |               |       |              |
| Potassium  |              |             |                  |                       |             |                |               |       |              |
| Selenium   |              |             |                  |                       |             |                |               |       |              |
| Silicon    |              |             |                  |                       |             |                |               |       |              |
| Silver     |              |             |                  |                       |             |                |               |       |              |
| Sodium     |              |             |                  |                       |             |                |               |       |              |
| Sulfur     |              |             |                  |                       |             |                |               |       |              |
| Strontium  |              |             |                  |                       |             |                |               |       |              |
| Thallium   |              |             |                  |                       |             |                |               |       |              |
| Tin        |              |             |                  |                       |             |                |               |       |              |
| Titanium   |              |             |                  |                       |             |                |               |       |              |
| Tungsten   |              |             |                  |                       |             |                |               |       |              |
| Vanadium   |              |             |                  |                       |             |                |               |       |              |
| Zinc       |              |             |                  |                       |             |                |               |       |              |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP21993  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

Zirconium

Associated samples MP21993: MC25921-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(\*\*) Corr. sample result = Raw \* (sample volume / final volume)

(anr) Analyte not requested

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

QC Batch ID: MP22014  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 11/11/13

| Metal   | RL   | IDL  | MDL  | MB<br>raw | final |
|---------|------|------|------|-----------|-------|
| Mercury | 0.20 | .018 | .067 | -0.13     | <0.20 |

Associated samples MP22014: MC25921-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25921  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP22014  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 11/11/13

| Metal   | MC25921-1 |     | Spike lot |       | QC     |
|---------|-----------|-----|-----------|-------|--------|
|         | Original  | MS  | HGRWS1    | % Rec | Limits |
| Mercury | 0.0       | 3.6 | 3         | 120.0 | 70-130 |

Associated samples MP22014: MC25921-1

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25921  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP22014  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 11/11/13

| Metal   | MC25921-1<br>Original MSD |     | Spike lot<br>HGRWS1 | % Rec | MSD<br>RPD | QC<br>Limit |
|---------|---------------------------|-----|---------------------|-------|------------|-------------|
| Mercury | 0.0                       | 3.3 | 3                   | 110.0 | 8.7        | 20          |

Associated samples MP22014: MC25921-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.2.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25921  
 Account: GEI - GEI Consultants, Inc.  
 Project: Liberty Hill, Gilford, NH

QC Batch ID: MP22014  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 11/11/13

| Metal   | BSP<br>Result | SpikeLot<br>HGRWS1 | % Rec | QC<br>Limits |
|---------|---------------|--------------------|-------|--------------|
| Mercury | 3.3           | 3                  | 110.0 | 85-115       |

Associated samples MP22014: MC25921-1

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

6.2.3

6

## General Chemistry

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Analyte                    | Batch ID        | RL    | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|----------------------------|-----------------|-------|-----------|-------|--------------|------------|------------|-----------|
| Cyanide                    | GP16849/GN45041 | 0.010 | 0.0035    | mg/l  | 0.1          | 0.109      | 109.0      | 90-110%   |
| Cyanide                    | GP16849/GN45041 |       |           | mg/l  | 0.2          | 0.208      | 104.0      | 90-110%   |
| HEM Petroleum Hydrocarbons | GP16854/GN45059 | 4.0   | 0.0       | mg/l  | 20.0         | 18.9       | 94.5       | 64-132%   |
| Solids, Total Suspended    | GN45032         | 4.0   | 0.0       | mg/l  |              |            |            |           |
| Total Residual Chlorine    | GN44980         | 0.050 | 0.0       | mg/l  | 1            | 1.0        | 100.0      | 80-120%   |

Associated Samples:

Batch GN44980: MC25921-1

Batch GN45032: MC25921-1

Batch GP16849: MC25921-1

Batch GP16854: MC25921-1

(\*) Outside of QC limits

7.1

7

DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Analyte                    | Batch ID        | QC Sample | Units | Original Result | DUP Result | RPD  | QC Limits |
|----------------------------|-----------------|-----------|-------|-----------------|------------|------|-----------|
| Cyanide                    | GP16849/GN45041 | MC25921-1 | mg/l  | 0.0055          | 0.0045     | 20.0 | 0-20%     |
| HEM Petroleum Hydrocarbons | GP16854/GN45059 | MC25694-1 | mg/l  | 1.7             | 1.4        | 19.4 | 0-24%     |
| Solids, Total Suspended    | GN45032         | MC26040-1 | mg/l  | 0.0             | 0.0        | 0.0  | 0-5%      |
| Total Residual Chlorine    | GN44980         | MC25921-1 | mg/l  | 0.0             | 0.0        | 0.0  | 0-20%     |

Associated Samples:

Batch GN44980: MC25921-1

Batch GN45032: MC25921-1

Batch GP16849: MC25921-1

Batch GP16854: MC25921-1

(\*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: MC25921  
Account: GEI - GEI Consultants, Inc.  
Project: Liberty Hill, Gilford, NH

| Analyte                    | Batch ID        | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec  | QC Limits |
|----------------------------|-----------------|-----------|-------|-----------------|--------------|-----------|-------|-----------|
| Cyanide                    | GP16849/GN45041 | MC25921-1 | mg/l  | 0.0055          | 0.1          | 0.093     | 93.0  | 90-110%   |
| HEM Petroleum Hydrocarbons | GP16854/GN45059 | MC25921-1 | mg/l  | 0.0             | 20.4         | 20.6      | 101.0 | 64-132%   |
| Total Residual Chlorine    | GN44980         | MC25921-1 | mg/l  | 0.0             | 1            | 0.85      | 85.0  | 75-125%   |

Associated Samples:

Batch GN44980: MC25921-1

Batch GP16849: MC25921-1

Batch GP16854: MC25921-1

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

7.3

7

## **Appendix C**

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### **New Hampshire Natural Heritage Bureau Documentation**



## NEW HAMPSHIRE NATURAL HERITAGE BUREAU

DRED - DIVISION OF FORESTS & LANDS

PO Box 1856 -- 172 PEMBROKE ROAD, CONCORD, NH 03302-1856

(603) 271-2214

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# Rare Plants, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns



July 2013



| Town             |                                                                            | Listed? |       | # reported last 20 yrs |       |
|------------------|----------------------------------------------------------------------------|---------|-------|------------------------|-------|
| Flag             | Species or Community Name                                                  | Federal | State | Town                   | State |
| <u>Gilford</u>   |                                                                            |         |       |                        |       |
|                  | <b>Natural Communities - Terrestrial</b>                                   |         |       |                        |       |
| ***              | Red oak - black birch wooded talus                                         | --      | --    | 1                      | 5     |
|                  | <b>Plants</b>                                                              |         |       |                        |       |
| *                | clustered sedge ( <i>Carex cumulata</i> )                                  | --      | T     | 1                      | 19    |
|                  | Sago false pondweed ( <i>Stuckenia pectinata</i> )                         | --      | E     | Historical             | 9     |
|                  | Three-birds Orchid ( <i>Triphora trianthophora</i> )                       | --      | T     | Historical             | 22    |
|                  | <b>Vertebrates - Birds</b>                                                 |         |       |                        |       |
| **               | Bald Eagle ( <i>Haliaeetus leucocephalus</i> )                             | --      | T     | 3                      | 88    |
| **               | Common Loon ( <i>Gavia immer</i> )                                         | --      | T     | 1                      | 288   |
|                  | <b>Vertebrates - Reptiles</b>                                              |         |       |                        |       |
| **               | Smooth Green Snake ( <i>Opheodrys vernalis</i> )                           | --      | SC    | 1                      | 60    |
|                  | <b>Vertebrates - Amphibians</b>                                            |         |       |                        |       |
| **               | Northern Leopard Frog ( <i>Rana pipiens</i> )                              | --      | SC    | 1                      | 18    |
|                  | <b>Vertebrates - Fish</b>                                                  |         |       |                        |       |
| **               | American Eel ( <i>Anguilla rostrata</i> )                                  | --      | SC    | 1                      | 177   |
| <u>Gilmanton</u> |                                                                            |         |       |                        |       |
|                  | <b>Plants</b>                                                              |         |       |                        |       |
|                  | Allegheny-vine ( <i>Adlumia fungosa</i> )                                  | --      | E     | Historical             | 19    |
|                  | American water-awlwort ( <i>Subularia aquatica</i> ssp. <i>americana</i> ) | --      | E     | Historical             | 5     |
|                  | Back's Sedge ( <i>Carex backii</i> )                                       | --      | E     | Historical             | 14    |
|                  | bristle-leaved sedge ( <i>Carex eburnea</i> )                              | --      | E     | Historical             | 2     |
|                  | button sedge ( <i>Carex bullata</i> )                                      | --      | E     | Historical             | 5     |
|                  | coast cinquefoil ( <i>Potentilla litoralis</i> )                           | --      | E     | Historical             | 2     |
|                  | greater fringed-gentian ( <i>Gentianopsis crinita</i> )                    | --      | T     | Historical             | 28    |
|                  | Leafy Pondweed ( <i>Potamogeton foliosus</i> )                             | --      | E     | Historical             | 5     |
|                  | Mossy-cup Oak ( <i>Quercus macrocarpa</i> )                                | --      | E     | Historical             | 2     |
|                  | red goosefoot ( <i>Chenopodium rubrum</i> )                                | --      | E     | Historical             | 6     |
|                  | smooth black sedge ( <i>Carex nigra</i> )                                  | --      | E     | Historical             | 11    |
|                  | <b>Vertebrates - Birds</b>                                                 |         |       |                        |       |
| **               | Common Loon ( <i>Gavia immer</i> )                                         | --      | T     | 4                      | 288   |
| **               | Osprey ( <i>Pandion haliaetus</i> )                                        | --      | SC    | 2                      | 103   |
|                  | <b>Vertebrates - Reptiles</b>                                              |         |       |                        |       |
| **               | Blanding's Turtle ( <i>Emydoidea blandingii</i> )                          | --      | E     | 1                      | 709   |
| **               | Wood Turtle ( <i>Glyptemys insculpta</i> )                                 | --      | SC    | 3                      | 193   |
|                  | <b>Vertebrates - Fish</b>                                                  |         |       |                        |       |
| **               | American Eel ( <i>Anguilla rostrata</i> )                                  | --      | SC    | 1                      | 177   |
|                  | <b>Invertebrates - Dragonflies &amp; Damselflies</b>                       |         |       |                        |       |
| **               | Ebony Boghaunter ( <i>Williamsonia fletcheri</i> )                         | --      | SC    | 1                      | 27    |

Listed? E = Endangered T = Threatened SC = Special concern

Flags \*\*\*\* = Highest importance  
 \*\*\* = Extremely high importance  
 \*\* = Very high importance  
 \* = High importance

These flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town. Please contact the Natural Heritage Bureau at (603) 271-2214 to learn more about approaches to setting priorities.



## New Hampshire Natural Heritage Bureau

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**To:** Andrea Igo  
400 Unicorn Park Dr, 3rd Floor  
Woburn, MA 01801

**Date:** 6/13/2013

**From:** NH Natural Heritage Bureau

**Re:** Review by NH Natural Heritage Bureau of request dated 6/13/2013  
NHB File ID: NHB13-1822

Applicant: Mary Casey

**Location:** Tax Map(s)/Lot(s): 210-002-000, 210-003-000, 210-004-000, 210-005-000  
Gilford

**Project Description:** The project is a NHDES-regulated remediation project consisting of excavating contaminated soil to depths of up to 50 feet, backfilling with treated soil and clean soil to existing grades, and planting the restored areas. The excavated soil will be treated by thermal desorption and some of the treated soil will be used as backfill. Only a portion of the area within the mapped polygon will be excavated. The polygon represents the approximate limits of proposed fencing during construction. Additional areas within the fence will be used for staging equipment, soil stockpiles, other materials, and construction trailers.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 6/12/2014.



MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB13-1822

