



February 16, 2009

Mr. Leo Francendese  
On-Scene Coordinator  
U.S. Environmental Protection Agency  
61 Forsyth Street, SW 11th Floor  
Atlanta, Georgia 30303

**Subject: Surface Water Sampling Letter Report  
Barite Hills Nevada Goldfields Site  
McCormick, McCormick County, South Carolina  
Contract No. EP-W-05-053  
Technical Direction Document (TDD) No.: TNA-05-003-0049**

Dear Mr. Francendese:

T N & Associates, Inc. (TN&A), Superfund Technical Assessment and Response Team (START), prepared this Letter Report detailing activities performed in support of the Barite Hills Nevada Goldfields site (the site) investigation under Contract Number (No.) EP-W-05-053, Technical Direction Document (TDD) No. TNA-05-003-0049. All activities and procedures were performed in accordance with the EPA Science and Ecosystems Support Division (SESD) Region 4 Field Branches Quality System and Technical Procedures dated November 2007, and the EPA-approved site-specific Quality Assurance Project Plan (QAPP).

Under this work assignment, START was tasked with conducting water sampling of the Main Pit lake (the lake) and Hawes Creek tributary (the creek). Two samples were collected from the lake and three samples were collected near seep locations along the creek. Water quality parameters were measured simultaneously to water sampling. The site location map with sample locations and a map of the creek pH changes are provided in Attachment A. Water quality parameters from January 2009 and a comparative table of potentially applicable standards can be found in Attachment B with corresponding graphs. Laboratory analytical data is in Attachment C and the HASP is Attachment D.

#### **Site Background**

The site is an abandoned pit mine located approximately 3 miles south of McCormick, McCormick County, South Carolina between US Highway (Hwy) 378 and US Hwy 221 on the northern side of Road 30. The site is located in a relatively remote area; there are no buildings, homes, or commercial buildings within 0.5 mile of the site boundary.

The site is located along a topographic high ridge area forming the headwaters of Mineral Springs. The topography of the area consists of rolling hills with ridgelines at an elevation of about 500 feet above mean sea level (amsl). Within the site, the ridgeline comprising the site has a high point of about 510 feet amsl and an average elevation of approximately 480 feet amsl.

The Main Pit from the mining operations remains. When the mine was abandoned, the Main Pit flooded. The waste rock stockpiles previously surrounding the eastern and southeastern portions of the Main Pit were a source of acid rock drainage. The pit contains approximately 60 million gallons of water with an historical pH of 2 and a high dissolved metal content.

### **Field Investigation Activities**

On 01/30/09, START conducted surface water sampling. The investigation consisted of measuring water quality and collecting water samples from the lake. A Health and Safety Plan (HASP) was developed for the site prior to fieldwork activities.

START collected one sample from the lake and four samples from the creek (Figure 1). Water quality parameters were measured at each sample location (Table 1). The lake water column was measured every meter from the surface to the bottom. BHR-MPS-008 was collected one meter below the lake water surface. BHR-S1-006 and BHR-S2-006 were collected from pooled water along the creek at Seep 1 and Seep 2, respectively. BHR-S3-006 was collected from the southwest fork in the creek at Seep 3 and BHR-S0-006 collected from the southeast fork. Lake samples were analyzed by Analytical Environmental Services, Inc. (AES) for dissolved target analyte list (TAL) metals, TAL metals, total organic carbon, pH, sulfate, and ferric/ferrous speciation. Creek samples were analyzed for pH, sulfate, and dissolved TAL metals. Aliquots sampled for dissolved TAL metals were filtered on-site using a 0.45 micron filter. Laboratory analytical reports are provided in Attachment C.

### **Conclusions**

Table 2 is an analytical comparison of the lake surface from June 2008 through January 2009 of potentially applicable standards including priority and non-priority pollutants ([http://www.epa.gov/waterscience/standards/wqslibrary/sc/sc\\_4\\_wqs.pdf](http://www.epa.gov/waterscience/standards/wqslibrary/sc/sc_4_wqs.pdf)). Graph 1 illustrates the lake surface dissolved metal concentrations overtime. Graph 2 is a close up of Graph 1 detailing lower concentrations. Table 3 is an analytical comparison of Seep 1, Seep 2, and Seep 3 overtime. Graphs 3, 4, and 5 illustrate Seep 1, Seep 2, and Seep 3, respectively, concentrations overtime. Graph 6 compares seep concentrations for January 2009. Graph 7 is a close up of Graph 6 detailing lower concentrations. Tables and graphs can be found in Attachment B.

Surface Water Sampling Letter Report

Barite Hills site

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If you have any questions or comments regarding this Letter Report or require any additional information, please contact me at (678) 355-5550 ext. 5710 or contact Russell Henderson, Project Manager, at ext. 5707.

Sincerely,

A handwritten signature in black ink, appearing to read "Dannena Bowman". The signature is fluid and cursive, with a large loop at the end.

Dannena Bowman

Junior Geologist

T N & Associates, Inc.

Superfund Technical Assessment and Response Team (START)

Enclosures

Attachment A – Figures

Attachment B – Tables & Graphs

Attachment C – Analytical Data

Attachment D – HASP

**ATTACHEMENT A**  
**FIGURES**

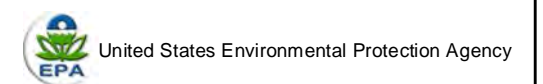




## Legend

- Sample Locations
- Hawes Creek

0 60 120 240  
Feet



**BARITE HILLS  
MCCORMICK, MCCORMICK  
COUNTY, SOUTH CAROLINA  
TDD No. TNA-05-003-0049**

**FIGURE 1  
SAMPLE LOCATIONS**

**TN** TN & Associates, Inc.  
**&A** EPA Region 4 START  
in association with Shaw E&I and Aerostar



**ATTACHMENT B**  
**TABLES & GRAPHS**

**Table 1**  
**Water Quality Parameters**

Nov. 19/21, 2008 YSI 5200

**Main Pit Lake**

| depth (m) | pH   | ORP (mV) | DO (mg/L) | Temp (°C) | Conductivity (mS/cm) |
|-----------|------|----------|-----------|-----------|----------------------|
| 1         | 4.38 | 43.8     | 4.74      | 13.41     | 3.327                |
| 2         | 4.6  | -74.5    | 0.9       | 14.83     | 3.607                |
| 3         | 4.73 | -88.3    | 0.63      | 14.88     | 3.575                |
| 4         | 4.81 | -94.2    | 0.6       | 14.87     | 3.559                |
| 5         | 4.76 | -96.5    | 0.47      | 14.87     | 3.537                |
| 6         | 4.81 | -99.4    | 0.43      | 14.87     | 3.534                |
| 7         | 4.82 | -100.1   | 0.4       | 14.87     | 3.529                |
| 8         | 4.82 | -102.8   | 0.38      | 14.81     | 3.527                |
| 9         | 4.72 | -136.9   | 0.39      | 16.12     | 3.818                |
| 10        | 4.65 | -154.9   | 0.3       | 16.71     | 4.009                |
| 11        | 4.8  | -197     | 0.43      | 16.69     | 3.774                |
| 12        | 5.26 | -196.8   | 0.4       | 16.66     | 3.684                |

**Creeks**

| Location | pH   | ORP (mV) | DO (mg/L) | Temp (°C) | Conductivity (mS/cm) |
|----------|------|----------|-----------|-----------|----------------------|
| 1        |      |          |           |           |                      |
| 2        | 3.05 | 452      | 3.1       | 7.91      | 3.568                |
| 3 SE     | 6.54 | 232      | 4.17      | 9.24      | 0.429                |
| 3 SW     |      |          |           |           |                      |

Dec. 16, 2008 YSI 5200

**Main Pit Lake**

| depth (m) | pH   | ORP (mV) | DO (mg/L) | Temp (°C) | Conductivity (mS/cm) |
|-----------|------|----------|-----------|-----------|----------------------|
| 1         | 4.9  | -42      | 1.5       | 11.59     | 3.258                |
| 2         | 4.95 | -60      | 1.86      | 11.67     | 3.277                |
| 3         | 4.98 | -64      | 2.39      | 11.66     | 3.278                |
| 4         | 5.02 | -66      | 0.86      | 11.63     | 3.276                |
| 5         | 5.04 | -70      | 0.71      | 11.62     | 3.276                |
| 6         | 5.07 | -71      | 0.67      | 11.63     | 3.279                |
| 7         | 5.07 | -71      | 0.63      | 11.64     | 3.28                 |
| 8         | 5.08 | -72      | 0.61      | 11.64     | 3.28                 |
| 9         | 5.08 | -72      | 0.6       | 11.63     | 3.28                 |
| 10        | 5.1  | -73      | 0.58      | 11.63     | 3.28                 |
| 11        | 5.1  | -73      | 0.57      | 11.63     | 3.28                 |
| 12        | 5.1  | -73      | 0.56      | 11.63     | 3.28                 |
| 13        | 5.08 | -94      | 0.54      | 11.66     | 3.285                |
| 14        | 5.8  | -102     | 0.39      | 11.86     | 2.732                |
| 15        | 5.82 | -113     | 0.41      | 11.85     | 2.721                |

**Table 1**  
**Water Quality Parameters**

**Feb. 7, 2009**

Horbia U-22XD  
Main Pit Lake

| depth (m) | pH   | ORP (mV) | DO (g/L) | Temp (°C) | Conductivity (mS/cm) |
|-----------|------|----------|----------|-----------|----------------------|
| 1         | 5.27 | -6       | 1.79     | 9.7       | 6.44                 |
| 2         | 5.27 | -8       | 1.27     | 9.3       | 7.12                 |
| 3         | 5.26 | -9       | 0.79     | 9         | 6.02                 |
| 4         | 5.27 | -8       | 0.76     | 9         | 5.82                 |
| 5         | 5.27 | -10      | 0.7      | 8.9       | 6.09                 |
| 6         | 5.27 | -8       | 0.67     | 8.9       | 8.09                 |
| 7         | 5.27 | -35      | 0.58     | 8.9       | 9.3                  |
| 8         | 5.27 | -40      | 0.54     | 8.9       | 6.64                 |
| 9         | 5.27 | -40      | 0.55     | 9         | 8.12                 |
| 10        | 5.27 | -40      | 0.54     | 9         | 9.49                 |
| 11        | 5.27 | -10      | 0.74     | 8.9       | 6.9                  |
| 12        | 5.98 | -146     | 0        | 10        | 3.88                 |
| 13        | 6.08 | -160     | 0        | 10        | 2.56                 |
| 14        | 6.09 | -165     | 0        | 10        | 2.26                 |
| 15        | 6.1  | -185     | 0        | 10.4      | 1.7                  |

**Jan. 30, 2009**

Creeks

| Location | pH   | ORP (mV) | DO (mg/L) | Temp (°C) | Conductivity (mS/cm) |
|----------|------|----------|-----------|-----------|----------------------|
| 1        | 2.6  |          |           | 8.2       |                      |
| 2        | 2.68 |          |           | 8.4       |                      |
| 3 SE     | 5.17 |          |           | 9.3       |                      |
| 3 SW     | 3.65 |          |           | 10.2      |                      |



**Table 2**  
**Pit Lake Surface Potentially Applicable Standards Comparison**

|   | Human Health | SCDHEC WQC under R61-68 |        | Oct. 2007                     | Jun. 10, 2008                          | Jul. 30, 2008                          | Aug. 22, 2008                          | Nov. 19, 2008                          | Dec. 16, 2008                          | Jan. 30, 2009                          |
|---|--------------|-------------------------|--------|-------------------------------|--|--|--|--|--|--|
|   | MCL          | CMC                     | CCC    | BHB-005                       | BHR-5-001                              | BRR-JR-LAKE                            |  | BHR-MPS-001                            | BHR-MPS-006                            | BHR-MPS-006                            |
|   |              |                         |        | Pit Water<br>Untreated (mg/L) | Pit water treated<br>(Dissolved, mg/L) | Pit water treated<br>(Dissolved, mg/L) | Pit water treated<br>(Dissolved, mg/L) | Pit water treated<br>(Dissolved, mg/L) | Pit water treated<br>(Dissolved, mg/L) | Pit water treated<br>(Dissolved, mg/L) |
| <b>Potentially Applicable Standards (priority pollutants)</b>     |              |                         |        |                               |  |  |  |  |  |  |
| Antimony  | 0.006        | NSA                     | NSA    | 0.02                          | 0.006                                  | 0.2                                    | 0.2                                    | BRL*                                   | BRL*                                   | BRL*                                   |
| Arsenic   | 0.01         | 0.34                    | 0.15   | 0.968                         | BRL†                                   | BRL†                                   | BRL†                                   | BRL‡                                   | BRL‡                                   | BRL‡                                   |
| Cadmium   | 0.005        | 0.008                   | 0.0026 | 1.57                          | BRL#                                   | BRL#                                   | BRL#                                   | BRL#                                   | BRL#                                   | BRL#                                   |
| Chromium  | 0.1          | 0.57                    | 0.074  | 0.141                         | BRL†                                   | BRL†                                   | BRL†                                   | BRL†                                   | BRL†                                   | BRL†                                   |
| Copper  | 1            | 0.057                   | 0.039  | 287                           | BRL†                                   | BRL†                                   | BRL†                                   | BRL†                                   | 0.0278                                 | 0.0293                                 |
| Lead  | 0.015        | 0.32                    | 0.005  | 0.161                         | BRL†                                   | BRL†                                   | BRL†                                   | 0.0353                                 | BRL†                                   | BRL†                                   |
| Nickel  | 0.61         | 1.071                   | 0.167  | 0.404                         | 0.163                                  | BRL*                                   | BRL*                                   | BRL*                                   | BRL*                                   | BRL*                                   |
| Selenium  | 0.05         | NSA                     | 0.005  | 0.23                          | 0.022                                  | 0.028                                  | 0.01                                   | BRL*                                   | BRL*                                   | BRL*                                   |
| Zinc  | 5            | 0.339                   | 0.339  | 40.2                          | 1.44                                   | BRL*                                   | BRL*                                   | 0.118                                  | 0.061                                  | 0.0628                                 |
| <b>Potentially Applicable Standards (non-priority pollutants)</b> |              |                         |        |                               |  |  |  |  |  |  |
| Aluminum  | 0.2          | 0.75                    | 0.087  | 224                           | 0.347                                  | BRL§                                   | BRL§                                   | 0.257                                  | 0.314                                  | BRL§                                   |
| Iron  | 0.3          |                         | 1      | 1150                          | 309                                    | 322                                    | 287                                    | 169                                    | 212                                    | 165                                    |
| Manganese   | 0.05-0.1     |                         |        | 13.6                          | 10.6                                   | 11                                     | 11.7                                   | 9.33                                   | 11.2                                   | 10.2                                   |

**Notes:**

SCDHEC - South Carolina Department of Health and Environmental Control  
a - South Carolina Regulation 61-68, Water Classifications and Standards,  
adopted June 2004 and adjusted for water hardness of 400 mg/L.

MCL - Maximum contaminant level

CMC - Criterion maximum concentration

CCC - Criterion continuous concentration

mg/L - Milligrams per liter

NSA - Standard not available

BRL - Below reporting limit

\* - Reporting limit 0.02

† - Reporting limit 0.01

‡ - Reporting limit 0.05

# - Reporting limit 0.005

§ - Reporting limit 0.2

Yellow - Exceeds one criteria (Human Health Standard or SCDHEC WQC)

Red - Exceeds all criteria (both Human Health Standard and SCDHEC WQC)

**Table 3**  
**Creek Potentially Applicable Standards Comparison**

| <b>Seep 1</b>   | <b>Human Health</b> | <b>SCDHEC WQC under R61-68</b> |            | <b>Bucket #2</b>     | <b>Bucket #2</b>     | <b>Nov. 19, 2008</b> | <b>Dec. 16, 2008</b> | <b>Jan. 30, 2009</b> |
|---|---------------------|--------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|   | <b>MCL</b>          | <b>CMC</b>                     | <b>CCC</b> | <b>Jul. 30, 2008</b> | <b>Aug. 22, 2008</b> | <b>BHR-PIT-001</b>   | <b>BHR-S1-006</b>    | <b>BHR-S1-006</b>    |
| <b>Potentially Applicable Standards (priority pollutants)</b>     |                     |                                |            |                      |                      |                      |                      |                      |
| Antimony  | 0.006               | NSA                            | NSA        | NA                   | NA                   | BRL*                 | BRL*                 | BRL*                 |
| Arsenic   | 0.01                | 0.34                           | 0.15       | NA                   | NA                   | BRL‡                 | BRL‡                 | BRL‡                 |
| Cadmium   | 0.005               | 0.008                          | 0.0026     | 5.05                 | 0.005                | 0.353                | 0.456                | 0.611                |
| Chromium  | 0.1                 | 0.57                           | 0.074      | NA                   | NA                   | 0.0136               | BRL†                 | 0.0104               |
| Copper  | 1                   | 0.057                          | 0.039      | 84.3                 | 0.138                | 13.7                 | 14.7                 | 19.3                 |
| Lead  | 0.015               | 0.32                           | 0.005      | NA                   | NA                   | 0.0432               | 0.0322               | 0.0473               |
| Nickel  | 0.61                | 1.071                          | 0.167      | NA                   | NA                   | 0.0851               | 0.102                | 0.138                |
| Selenium  | 0.05                | NSA                            | 0.005      | NA                   | NA                   | 0.0286               | BRL*                 | 0.0238               |
| Zinc  | 5                   | 0.339                          | 0.339      | 45.6                 | 0.157                | 10.3                 | 13.9                 | 19.1                 |
| <b>Potentially Applicable Standards (non-priority pollutants)</b> |                     |                                |            |                      |                      |                      |                      |                      |
| Aluminum  | 0.2                 | 0.75                           | 0.087      | NA                   | NA                   | 36.4                 | 35.4                 | 41.7                 |
| Iron  | 0.3                 |                                | 1          | 1070                 | 493                  | 58.9                 | 159                  | 200                  |
| Manganese   | 0.05-0.1            |                                |            | 23.6                 | 6.93                 | 13.4                 | 15.7                 | 19.6                 |

| <b>Seep 2</b>   | <b>Human Health</b> | <b>SCDHEC WQC under R61-68</b> |            | <b>Bucket #2</b>     | <b>Bucket #2</b>     | <b>Nov. 21, 2008</b> | <b>Dec. 16, 2008</b> | <b>Jan. 30, 2009</b> |
|---|---------------------|--------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|   | <b>MCL</b>          | <b>CMC</b>                     | <b>CCC</b> | <b>Jul. 30, 2008</b> | <b>Aug. 22, 2008</b> | <b>BHR-P2-005</b>    | <b>BHR-S2-006</b>    | <b>BHR-S2-006</b>    |
| <b>Potentially Applicable Standards (priority pollutants)</b>     |                     |                                |            |                      |                      |                      |                      |                      |
| Antimony  | 0.006               | NSA                            | NSA        | NA                   | NA                   | BRL*                 | BRL*                 | BRL*                 |
| Arsenic   | 0.01                | 0.34                           | 0.15       | NA                   | NA                   | BRL‡                 | BRL‡                 | BRL‡                 |
| Cadmium   | 0.005               | 0.008                          | 0.0026     | 5.05                 | 0.005                | 0.894                | 0.271                | 0.385                |
| Chromium  | 0.1                 | 0.57                           | 0.074      | NA                   | NA                   | 0.013                | BRL†                 | BRL†                 |
| Copper  | 1                   | 0.057                          | 0.039      | 84.3                 | 0.138                | 27.7                 | 9.27                 | 12.4                 |
| Lead  | 0.015               | 0.32                           | 0.005      | NA                   | NA                   | 0.0323               | 0.0109               | 0.0193               |
| Nickel  | 0.61                | 1.071                          | 0.167      | NA                   | NA                   | 0.215                | 0.0704               | 0.102                |
| Selenium  | 0.05                | NSA                            | 0.005      | NA                   | NA                   | 0.0562               | BRL*                 | BRL*                 |
| Zinc  | 5                   | 0.339                          | 0.339      | 45.6                 | 0.157                | 31.2                 | 9.62                 | 14.1                 |
| <b>Potentially Applicable Standards (non-priority pollutants)</b> |                     |                                |            |                      |                      |                      |                      |                      |
| Aluminum  | 0.2                 | 0.75                           | 0.087      | NA                   | NA                   | 48.6                 | 18.1                 | 22.3                 |
| Iron  | 0.3                 |                                | 1          | 1070                 | 493                  | 171                  | 87.5                 | 115                  |
| Manganese   | 0.05-0.1            |                                |            | 23.6                 | 6.93                 | 53.3                 | 15.3                 | 26.6                 |

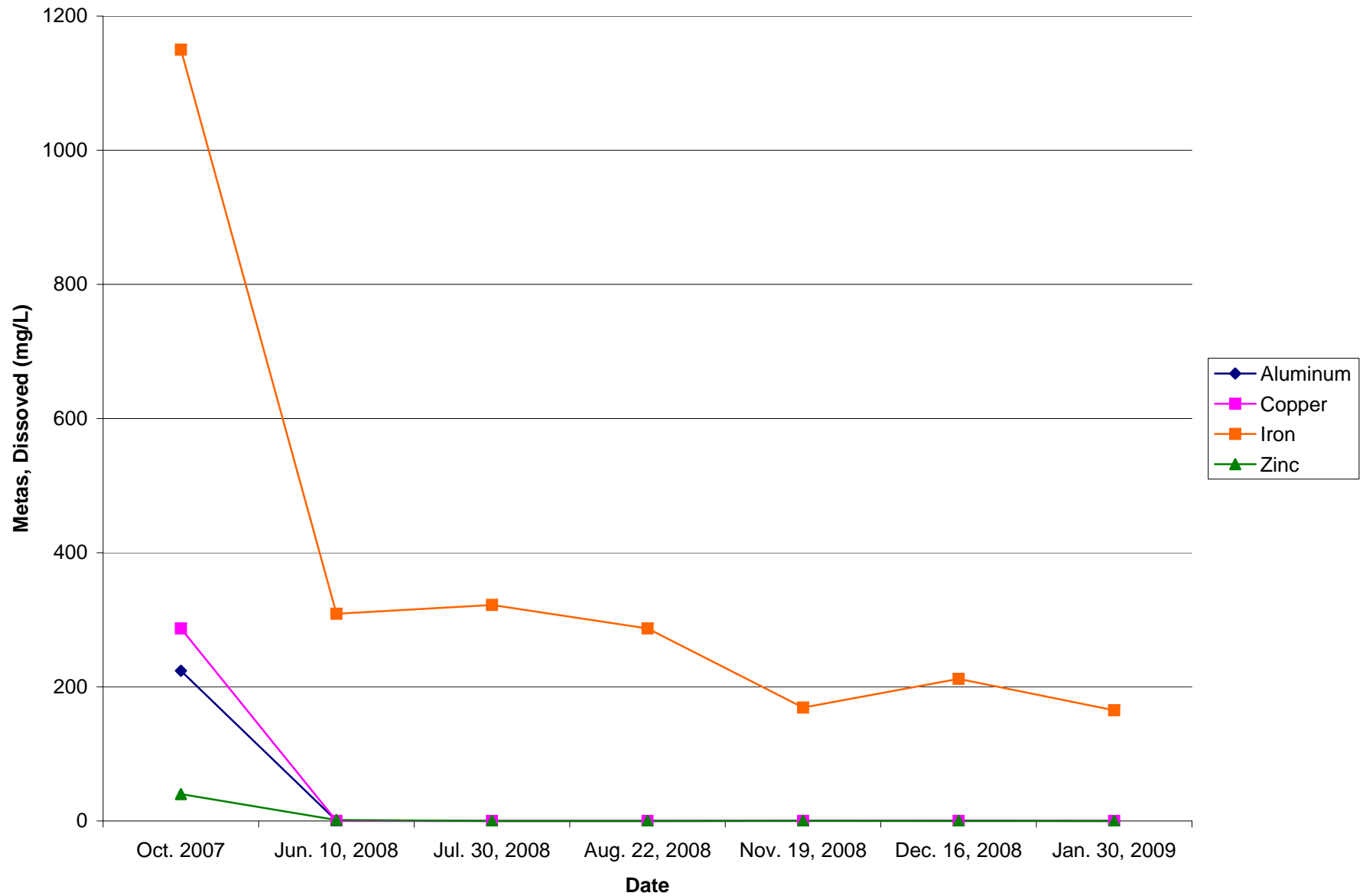
| <b>Seep 3</b>   | <b>Human Health</b> | <b>SCDHEC WQC under R61-68</b> |            | <b>Bucket #2</b>     | <b>Bucket #2</b>     | <b>Nov. 21, 2008</b> | <b>Dec. 16, 2008</b> | <b>Jan. 30, 2009</b> |
|---|---------------------|--------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|   | <b>MCL</b>          | <b>CMC</b>                     | <b>CCC</b> | <b>Jul. 30, 2008</b> | <b>Aug. 22, 2008</b> | <b>BHR-P3-005</b>    | <b>BHR-S3-006</b>    | <b>BHR-S3-006</b>    |
| <b>Potentially Applicable Standards (priority pollutants)</b>     |                     |                                |            |                      |                      |                      |                      |                      |
| Antimony  | 0.006               | NSA                            | NSA        | NA                   | NA                   | BRL*                 | BRL*                 | BRL*                 |
| Arsenic   | 0.01                | 0.34                           | 0.15       | NA                   | NA                   | BRL‡                 | BRL‡                 | BRL‡                 |
| Cadmium   | 0.005               | 0.008                          | 0.0026     | 5.05                 | 0.005                | BRL#                 | BRL#                 | 0.0224               |
| Chromium  | 0.1                 | 0.57                           | 0.074      | NA                   | NA                   | BRL†                 | BRL†                 | BRL†                 |
| Copper  | 1                   | 0.057                          | 0.039      | 84.3                 | 0.138                | 0.0192               | 0.011                | 0.0973               |
| Lead  | 0.015               | 0.32                           | 0.005      | NA                   | NA                   | BRL†                 | BRL†                 | BRL†                 |
| Nickel  | 0.61                | 1.071                          | 0.167      | NA                   | NA                   | BRL*                 | BRL*                 | BRL*                 |
| Selenium  | 0.05                | NSA                            | 0.005      | NA                   | NA                   | BRL*                 | BRL*                 | BRL*                 |
| Zinc  | 5                   | 0.339                          | 0.339      | 45.6                 | 0.157                | 0.349                | 0.0987               | 0.808                |
| <b>Potentially Applicable Standards (non-priority pollutants)</b> |                     |                                |            |                      |                      |                      |                      |                      |
| Aluminum  | 0.2                 | 0.75                           | 0.087      | NA                   | NA                   | BRL§                 | BRL§                 | 0.948                |
| Iron  | 0.3                 |                                | 1          | 1070                 | 493                  | 0.172                | 0.153                | 0.473                |
| Manganese   | 0.05-0.1            |                                |            | 23.6                 | 6.93                 | 0.414                | 0.0826               | 2.27                 |

**Notes:**

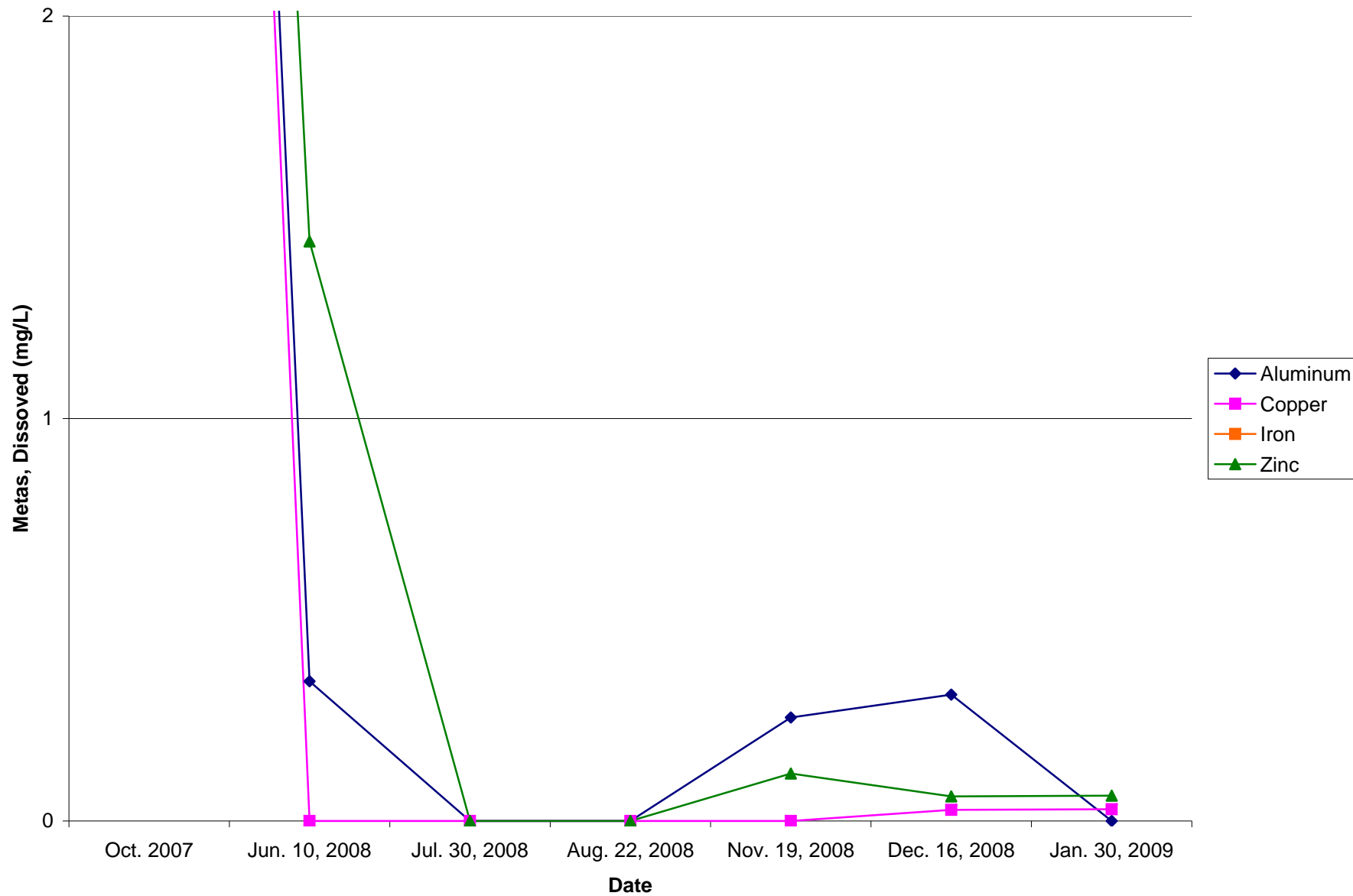
- SCDHEC - South Carolina Department of Health and Environmental Control
  - a - South Carolina Regulation 61-68, Water Classifications and Standards, adopted June 2004 and adjusted for water hardness of 400 mg/L.
- MCL - Maximum contaminant level
- CMC - Criterion maximum concentration
- CCC - Criterion continuous concentration
- mg/L - Milligrams per liter
- NSA - Standard not available
- NA - Not analyzed
- BRL - Below reporting limit
  - \* - Reporting limit 0.02
  - † - Reporting limit 0.01
  - ‡ - Reporting limit 0.05
  - # - Reporting limit 0.005
  - § - Reporting limit 0.2

**Yellow** - Exceeds one criteria (Human Health Standard or SCDHEC WQC)  
**Red** - Exceeds all criteria (both Human Health Standard and SCDHEC WQC)

**Graph 1**  
**Pit Lake Surface Comparison**

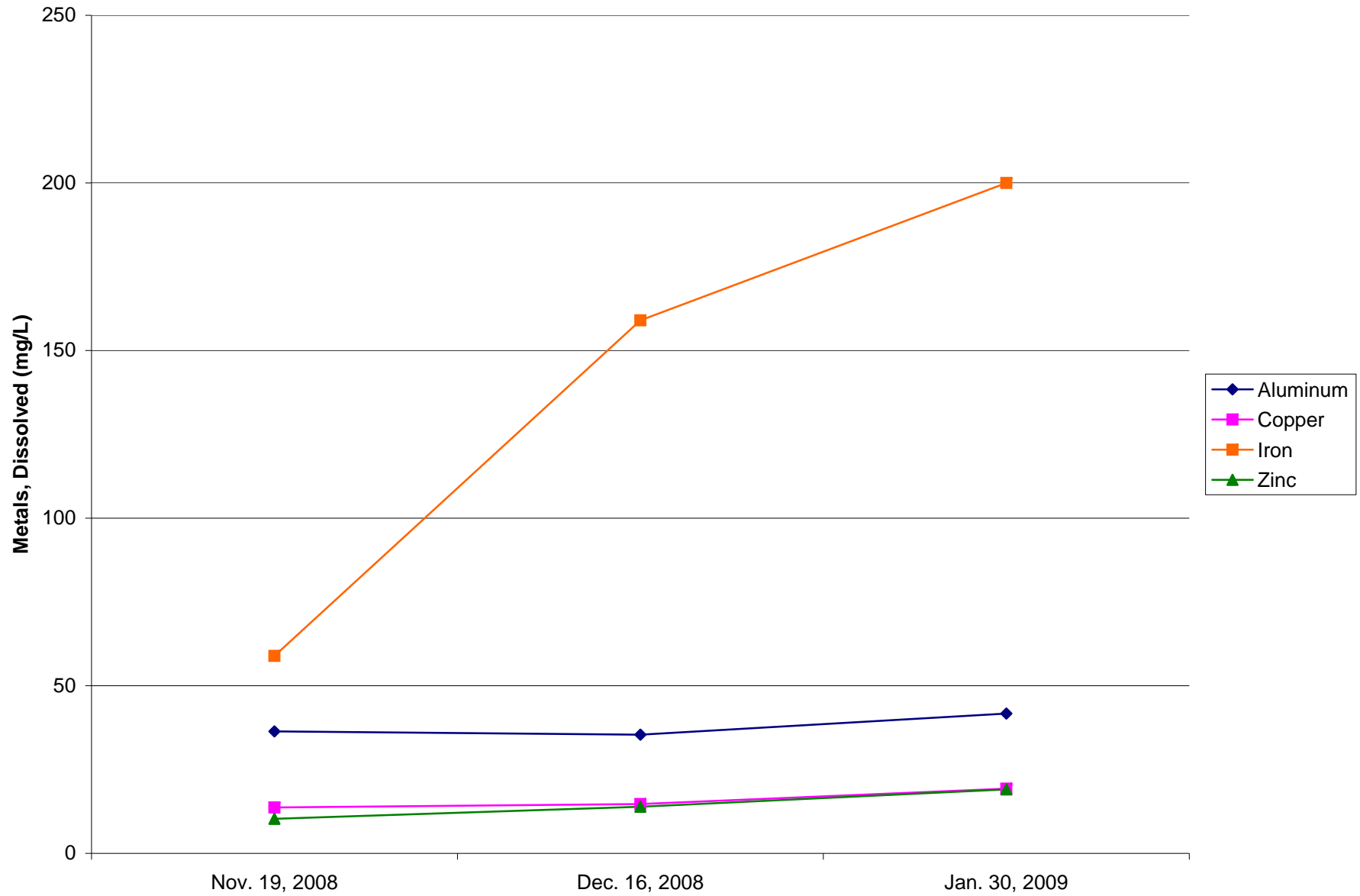


**Graph 2**  
**Pit Lake Surface Comparison Detailed**

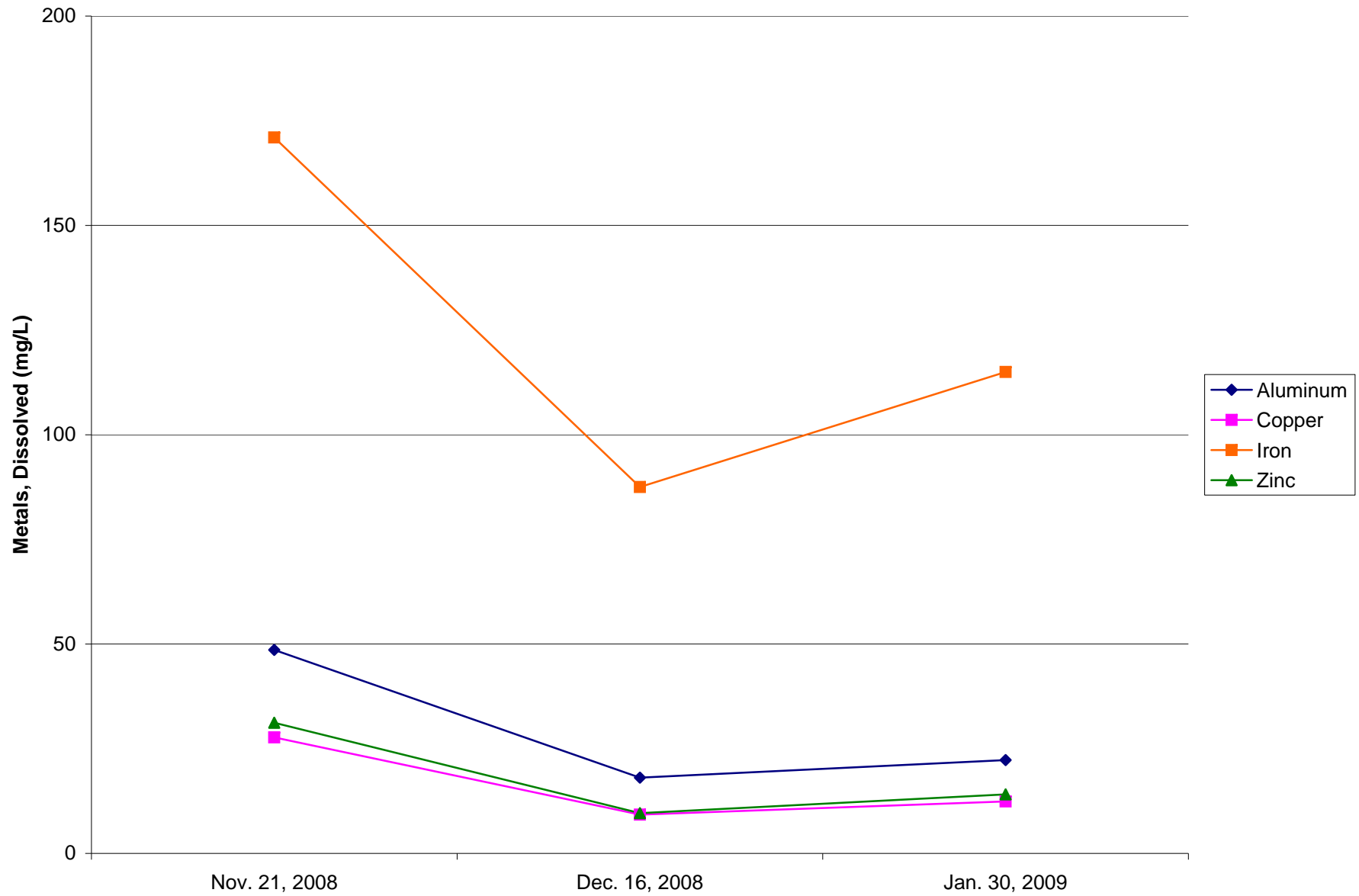




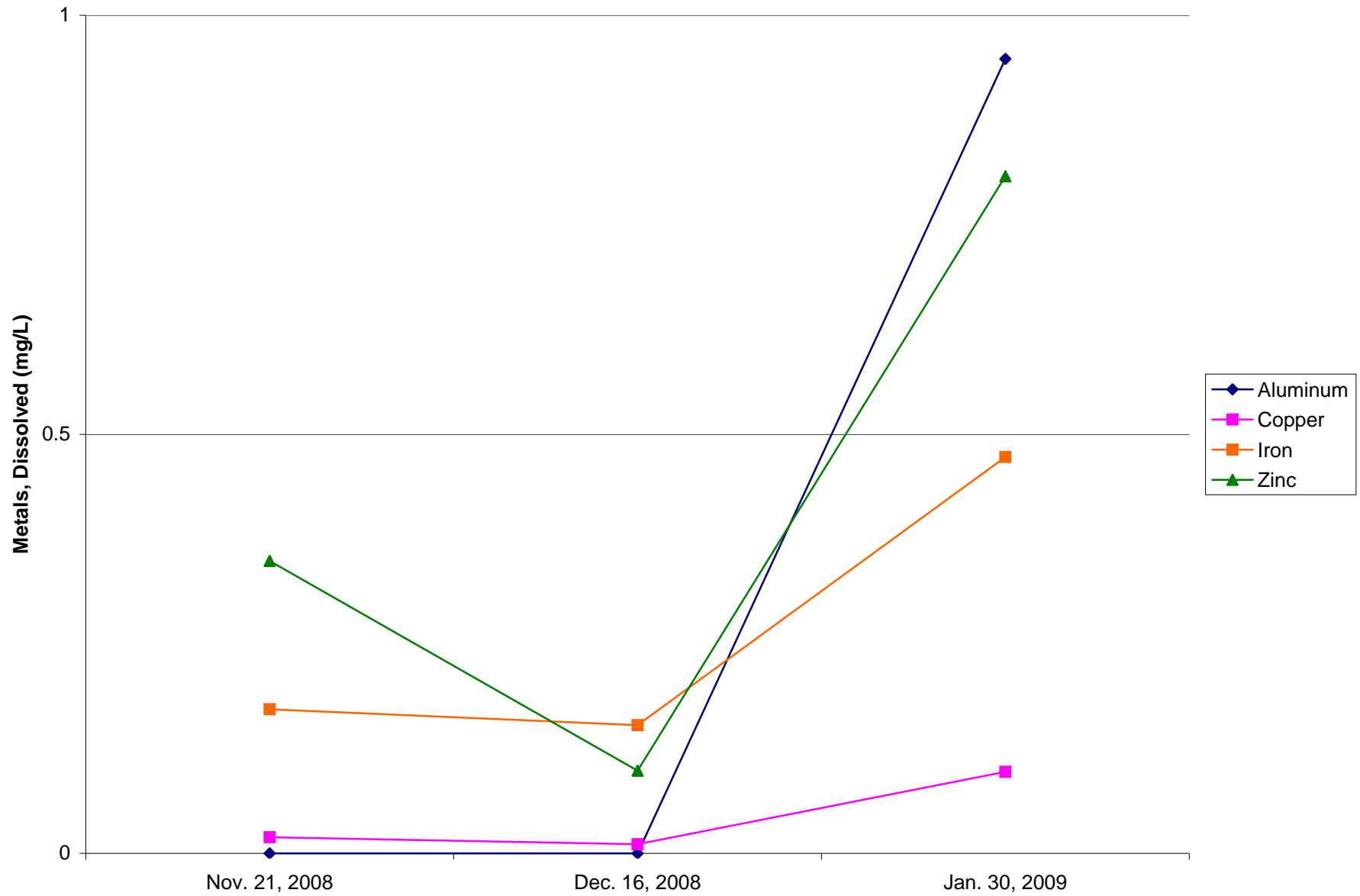
Graph 3  
Seep 1 Comparison



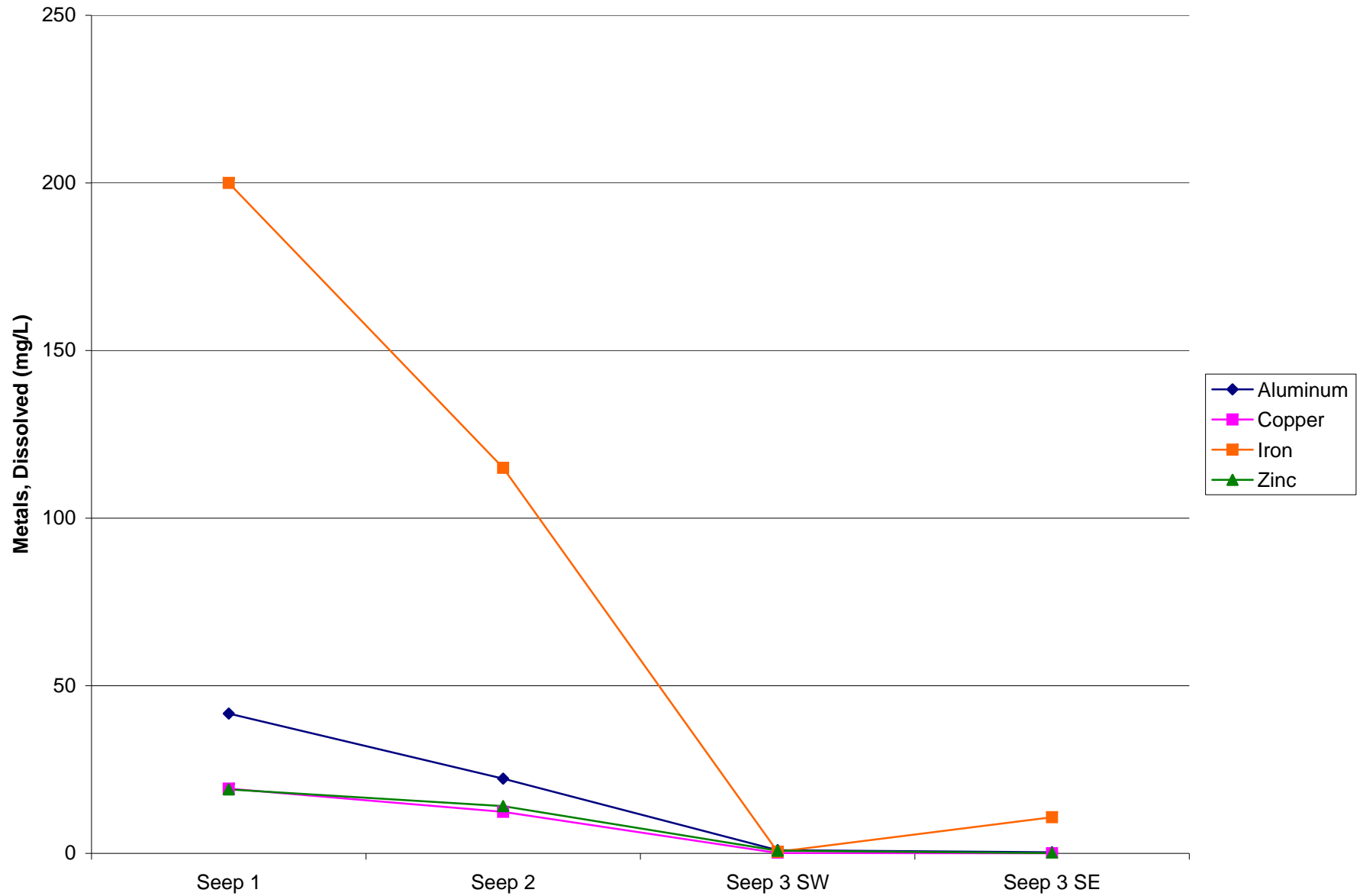
Graph 4  
Seep 2 Comparison



Graph 5  
Seep 3 Comparison

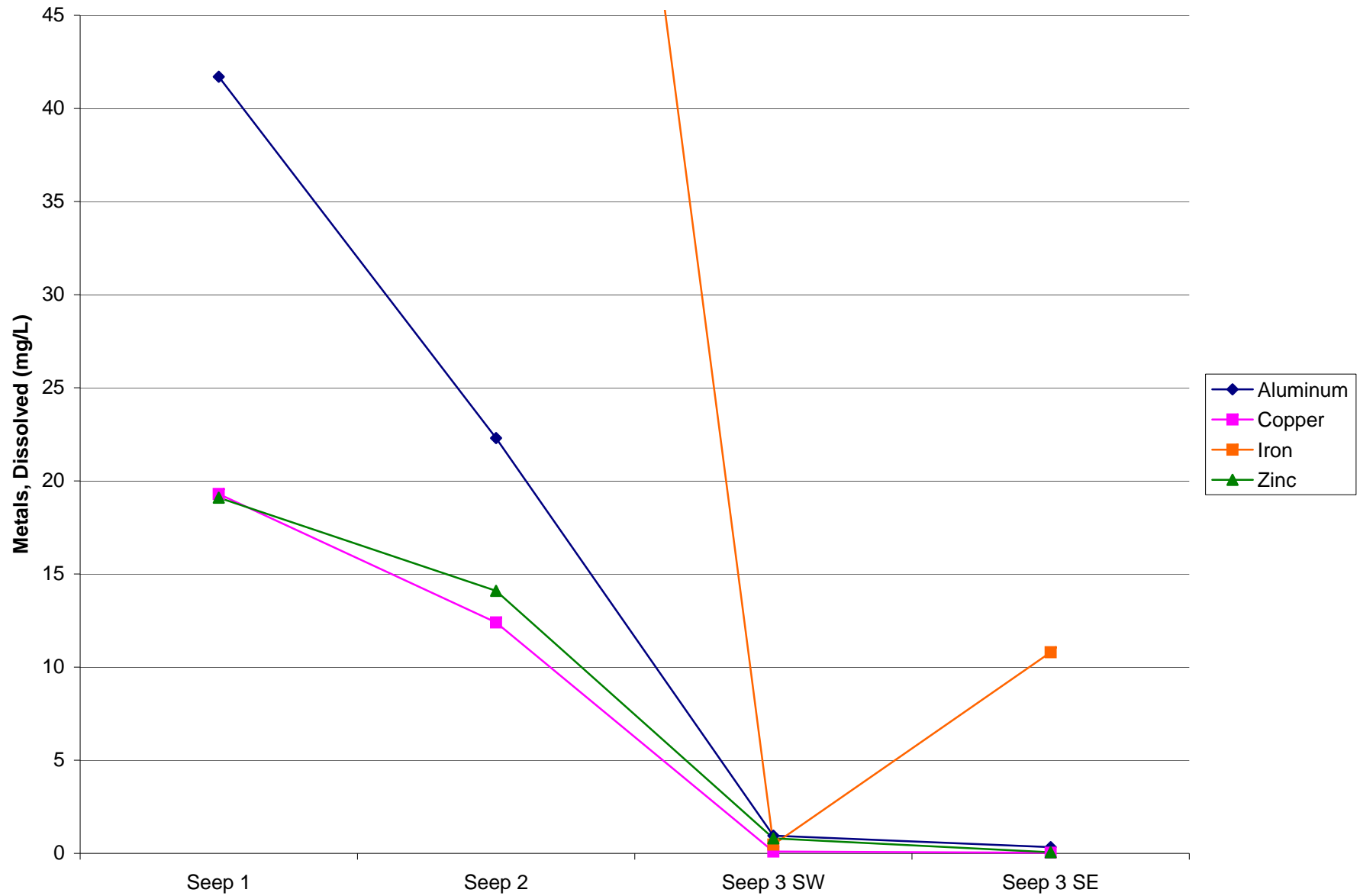


**Graph 6**  
**Seep Comparison for 01/30/2009**





**Graph 7**  
**Seep Comparison Detailed for 01/30/2009**



**ATTACHMENT C**  
**ANALYTICAL DATA**

# Analytical Environmental Services, Inc.

Date: 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-001

**Client Sample ID:** BHR-S0-006  
**Collection Date:** 1/30/2009 1:50:00 PM  
**Matrix:** SURFACE WATER

| Analyses                                    | Result | Reporting Limit | Qual | Units    | BatchID            | Dilution Factor | Date Analyzed       |
|---|--------|-----------------|------|----------|--------------------|-----------------|---------------------|
| <b>INORGANIC ANIONS BY IC</b>               |        |                 |      |          |                    |                 |                     |
|   |        | <b>E300</b>     |      |          |                    |                 | Analyst: <b>GAR</b> |
| Sulfate                                     | 18.3   | 1.00            |      | mg/L     |                    | 1               | 2/4/2009 4:21 PM    |
| <b>TOTAL ORGANIC CARBON (TOC)</b>           |        |                 |      |          |                    |                 |                     |
|   |        | <b>SW9060</b>   |      |          |                    |                 | Analyst: <b>GAR</b> |
| Organic Carbon, Total                       | 20.9   | 1.00            |      | mg/L     |                    | 1               | 2/5/2009 3:58 PM    |
| <b>METALS, DISSOLVED</b>                    |        |                 |      |          |                    |                 |                     |
|   |        | <b>SW6010B</b>  |      |          | <b>(SAMP_FILT)</b> |                 | Analyst: <b>BB</b>  |
| Aluminum                                    | 0.333  | 0.200           |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Antimony                                    | BRL    | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Arsenic                                     | BRL    | 0.0500          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Barium                                      | 0.0889 | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Beryllium                                   | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Cadmium                                     | BRL    | 0.0050          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Calcium                                     | 11.2   | 0.100           |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Chromium                                    | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Cobalt                                      | BRL    | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Copper                                      | 0.0344 | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Iron  | 10.8   | 0.100           |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Lead  | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Magnesium                                   | 5.64   | 0.100           |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Manganese                                   | 0.822  | 0.0150          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Nickel                                      | BRL    | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Potassium                                   | 0.753  | 0.500           |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Selenium                                    | BRL    | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Silver                                      | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Sodium                                      | 12.1   | 1.00            |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Thallium                                    | BRL    | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Vanadium                                    | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| Zinc  | 0.0559 | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:30 PM    |
| <b>MERCURY, DISSOLVED</b>                   |        |                 |      |          |                    |                 |                     |
|   |        | <b>SW7470A</b>  |      |          | <b>(SW7470)</b>    |                 | Analyst: <b>MAW</b> |
| Mercury                                     | BRL    | 0.00020         |      | mg/L     | 109668             | 1               | 2/9/2009 5:18 PM    |
| <b>HYDROGEN ION (PH)(150.1/SM4500 H+ B)</b> |        |                 |      |          |                    |                 |                     |
|   |        | <b>E150.1</b>   |      |          |                    |                 | Analyst: <b>CG</b>  |
| pH  | 6.28   | 0.01            | H    | pH Units |                    | 1               | 2/3/2009 6:20 PM    |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

# Analytical Environmental Services, Inc.

Date: 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-002

**Client Sample ID:** BHR-S1-006  
**Collection Date:** 1/30/2009 1:26:00 PM  
**Matrix:** SURFACE WATER

| Analyses                                    | Result | Reporting Limit | Qual | Units    | BatchID            | Dilution Factor | Date Analyzed       |
|---|--------|-----------------|------|----------|--------------------|-----------------|---------------------|
| <b>INORGANIC ANIONS BY IC</b>               |        |                 |      |          |                    |                 |                     |
|   |        | <b>E300</b>     |      |          |                    |                 | Analyst: <b>GAR</b> |
| Sulfate                                     | 1860   | 100             |      | mg/L     |                    | 100             | 2/4/2009 5:25 PM    |
| <b>TOTAL ORGANIC CARBON (TOC)</b>           |        |                 |      |          |                    |                 |                     |
|   |        | <b>SW9060</b>   |      |          |                    |                 | Analyst: <b>GAR</b> |
| Organic Carbon, Total                       | 4.64   | 1.00            |      | mg/L     |                    | 1               | 2/5/2009 4:17 PM    |
| <b>METALS, DISSOLVED</b>                    |        |                 |      |          |                    |                 |                     |
|   |        | <b>SW6010B</b>  |      |          | <b>(SAMP_FILT)</b> |                 | Analyst: <b>BB</b>  |
| Aluminum                                    | 41.7   | 0.200           |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Antimony                                    | BRL    | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Arsenic                                     | BRL    | 0.0500          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Barium                                      | 0.0356 | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Beryllium                                   | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Cadmium                                     | 0.611  | 0.0050          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Calcium                                     | 238    | 1.00            |      | mg/L     | 109622             | 10              | 2/9/2009 12:07 PM   |
| Chromium                                    | 0.0104 | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Cobalt                                      | 0.942  | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Copper                                      | 19.3   | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Iron  | 200    | 1.00            |      | mg/L     | 109622             | 10              | 2/9/2009 12:07 PM   |
| Lead  | 0.0473 | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Magnesium                                   | 57.8   | 0.100           |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Manganese                                   | 19.6   | 0.0150          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Nickel                                      | 0.138  | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Potassium                                   | 6.93   | 0.500           |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Selenium                                    | 0.0238 | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Silver                                      | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Sodium                                      | 41.3   | 1.00            |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Thallium                                    | BRL    | 0.200           |      | mg/L     | 109622             | 10              | 2/9/2009 12:07 PM   |
| Vanadium                                    | BRL    | 0.0100          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| Zinc  | 19.1   | 0.0200          |      | mg/L     | 109622             | 1               | 2/6/2009 1:33 PM    |
| <b>MERCURY, DISSOLVED</b>                   |        |                 |      |          |                    |                 |                     |
|   |        | <b>SW7470A</b>  |      |          | <b>(SW7470)</b>    |                 | Analyst: <b>MAW</b> |
| Mercury                                     | BRL    | 0.00020         |      | mg/L     | 109668             | 1               | 2/9/2009 5:21 PM    |
| <b>HYDROGEN ION (PH)(150.1/SM4500 H+ B)</b> |        |                 |      |          |                    |                 |                     |
|   |        | <b>E150.1</b>   |      |          |                    |                 | Analyst: <b>CG</b>  |
| pH  | 3.02   | 0.01            | H    | pH Units |                    | 1               | 2/3/2009 6:23 PM    |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |



**Analytical Environmental Services, Inc.**

Date: 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-003

**Client Sample ID:** BHR-S2-006  
**Collection Date:** 1/30/2009 1:33:00 PM  
**Matrix:** SURFACE WATER

| Analyses                                    | Result  | Reporting Limit | Qual           | Units    | BatchID            | Dilution Factor | Date Analyzed       |
|---|---------|-----------------|----------------|----------|--------------------|-----------------|---------------------|
| <b>INORGANIC ANIONS BY IC</b>               |         |                 | <b>E300</b>    |          |                    |                 | Analyst: <b>GAR</b> |
| Sulfate                                     | 1550    | 20.0            |                | mg/L     |                    | 20              | 2/4/2009 5:40 PM    |
| <b>TOTAL ORGANIC CARBON (TOC)</b>           |         |                 | <b>SW9060</b>  |          |                    |                 | Analyst: <b>GAR</b> |
| Organic Carbon, Total                       | 2.99    | 1.00            |                | mg/L     |                    | 1               | 2/5/2009 4:35 PM    |
| <b>METALS, DISSOLVED</b>                    |         |                 | <b>SW6010B</b> |          | <b>(SAMP_FILT)</b> |                 | Analyst: <b>BB</b>  |
| Aluminum                                    | 22.3    | 0.200           |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Antimony                                    | BRL     | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Arsenic                                     | BRL     | 0.0500          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Barium                                      | 0.0460  | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Beryllium                                   | BRL     | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Cadmium                                     | 0.385   | 0.0050          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Calcium                                     | 167     | 1.00            |                | mg/L     | 109622             | 10              | 2/9/2009 12:10 PM   |
| Chromium                                    | BRL     | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Cobalt                                      | 0.951   | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Copper                                      | 12.4    | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Iron  | 115     | 1.00            |                | mg/L     | 109622             | 10              | 2/9/2009 12:10 PM   |
| Lead  | 0.0193  | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Magnesium                                   | 42.1    | 0.100           |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Manganese                                   | 26.6    | 0.150           |                | mg/L     | 109622             | 10              | 2/9/2009 12:10 PM   |
| Nickel                                      | 0.102   | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Potassium                                   | 3.11    | 0.500           |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Selenium                                    | BRL     | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Silver                                      | BRL     | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Sodium                                      | 30.4    | 1.00            |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Thallium                                    | BRL     | 0.200           |                | mg/L     | 109622             | 10              | 2/9/2009 12:10 PM   |
| Vanadium                                    | BRL     | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| Zinc  | 14.1    | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:37 PM    |
| <b>MERCURY, DISSOLVED</b>                   |         |                 | <b>SW7470A</b> |          | <b>(SW7470)</b>    |                 | Analyst: <b>MAW</b> |
| Mercury                                     | 0.00022 | 0.00020         |                | mg/L     | 109668             | 1               | 2/9/2009 6:55 PM    |
| <b>HYDROGEN ION (PH)(150.1/SM4500 H+ B)</b> |         |                 | <b>E150.1</b>  |          |                    |                 | Analyst: <b>CG</b>  |
| pH  | 3.12    | 0.01            | H              | pH Units |                    | 1               | 2/3/2009 6:25 PM    |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

**Analytical Environmental Services, Inc.**

Date: 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-004

**Client Sample ID:** BHR-S3-006  
**Collection Date:** 1/30/2009 12:44:00 PM  
**Matrix:** SURFACE WATER

| Analyses                                    | Result | Reporting Limit | Qual           | Units    | BatchID            | Dilution Factor | Date Analyzed       |
|---|--------|-----------------|----------------|----------|--------------------|-----------------|---------------------|
| <b>INORGANIC ANIONS BY IC</b>               |        |                 | <b>E300</b>    |          |                    |                 | Analyst: <b>GAR</b> |
| Sulfate                                     | 261    | 10.0            |                | mg/L     |                    | 10              | 2/4/2009 5:55 PM    |
| <b>TOTAL ORGANIC CARBON (TOC)</b>           |        |                 | <b>SW9060</b>  |          |                    |                 | Analyst: <b>GAR</b> |
| Organic Carbon, Total                       | 1.39   | 1.00            |                | mg/L     |                    | 1               | 2/5/2009 4:53 PM    |
| <b>METALS, DISSOLVED</b>                    |        |                 | <b>SW6010B</b> |          | <b>(SAMP_FILT)</b> |                 | Analyst: <b>BB</b>  |
| Aluminum                                    | 0.948  | 0.200           |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Antimony                                    | BRL    | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Arsenic                                     | BRL    | 0.0500          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Barium                                      | 0.0795 | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Beryllium                                   | BRL    | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Cadmium                                     | 0.0224 | 0.0050          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Calcium                                     | 44.1   | 0.100           |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Chromium                                    | BRL    | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Cobalt                                      | 0.0335 | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Copper                                      | 0.0973 | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Iron  | 0.473  | 0.100           |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Lead  | BRL    | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Magnesium                                   | 19.9   | 0.100           |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Manganese                                   | 2.27   | 0.0150          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Nickel                                      | BRL    | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Potassium                                   | 1.20   | 0.500           |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Selenium                                    | BRL    | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Silver                                      | BRL    | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Sodium                                      | 17.2   | 1.00            |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Thallium                                    | BRL    | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Vanadium                                    | BRL    | 0.0100          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| Zinc  | 0.808  | 0.0200          |                | mg/L     | 109622             | 1               | 2/6/2009 1:41 PM    |
| <b>MERCURY, DISSOLVED</b>                   |        |                 | <b>SW7470A</b> |          | <b>(SW7470)</b>    |                 | Analyst: <b>MAW</b> |
| Mercury                                     | BRL    | 0.00020         |                | mg/L     | 109668             | 1               | 2/9/2009 5:26 PM    |
| <b>HYDROGEN ION (PH)(150.1/SM4500 H+ B)</b> |        |                 | <b>E150.1</b>  |          |                    |                 | Analyst: <b>CG</b>  |
| pH  | 4.13   | 0.01            | H              | pH Units |                    | 1               | 2/3/2009 6:30 PM    |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

# Analytical Environmental Services, Inc.

Date: 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-005

**Client Sample ID:** BHR-MPS-008  
**Collection Date:** 1/30/2009 9:40:00 AM  
**Matrix:** SURFACE WATER

| Analyses                          | Result | Reporting Limit | Qual | Units               | BatchID | Dilution Factor    | Date Analyzed     |
|-----------------------------------|--------|-----------------|------|---------------------|---------|--------------------|-------------------|
| <b>INORGANIC ANIONS BY IC</b>     |        | <b>E300</b>     |      | Analyst: <b>GAR</b> |         |                    |                   |
| Sulfate                           | 2660   | 100             |      | mg/L                |         | 100                | 2/4/2009 6:09 PM  |
| <b>TOTAL ORGANIC CARBON (TOC)</b> |        | <b>SW9060</b>   |      | Analyst: <b>GAR</b> |         |                    |                   |
| Organic Carbon, Total             | 85.9   | 5.00            |      | mg/L                |         | 5                  | 2/5/2009 5:12 PM  |
| <b>METALS, DISSOLVED</b>          |        | <b>SW6010B</b>  |      | <b>(SAMP_FILT)</b>  |         | Analyst: <b>BB</b> |                   |
| Aluminum                          | BRL    | 0.200           |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Antimony                          | BRL    | 0.0200          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Arsenic                           | BRL    | 0.0500          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Barium                            | 0.0759 | 0.0200          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Beryllium                         | BRL    | 0.0100          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Cadmium                           | BRL    | 0.0050          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Calcium                           | 568    | 1.00            |      | mg/L                | 109622  | 10                 | 2/9/2009 12:14 PM |
| Chromium                          | BRL    | 0.0100          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Cobalt                            | 0.0292 | 0.0200          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Copper                            | 0.0293 | 0.0100          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Iron                              | 165    | 1.00            |      | mg/L                | 109622  | 10                 | 2/9/2009 12:14 PM |
| Lead                              | BRL    | 0.0100          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Magnesium                         | 74.4   | 0.100           |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Manganese                         | 10.2   | 0.0150          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Nickel                            | BRL    | 0.0200          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Potassium                         | 45.9   | 0.500           |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Selenium                          | BRL    | 0.0200          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Silver                            | BRL    | 0.0100          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Sodium                            | 94.5   | 10.0            |      | mg/L                | 109622  | 10                 | 2/9/2009 12:14 PM |
| Thallium                          | BRL    | 0.200           |      | mg/L                | 109622  | 10                 | 2/9/2009 12:14 PM |
| Vanadium                          | BRL    | 0.0100          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| Zinc                              | 0.0628 | 0.0200          |      | mg/L                | 109622  | 1                  | 2/6/2009 2:06 PM  |
| <b>METALS, TOTAL</b>              |        | <b>SW6010B</b>  |      | <b>(SW3010A)</b>    |         | Analyst: <b>BB</b> |                   |
| Aluminum                          | 0.207  | 0.200           |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Antimony                          | BRL    | 0.0200          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Arsenic                           | BRL    | 0.0500          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Barium                            | 0.0836 | 0.0200          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Beryllium                         | BRL    | 0.0100          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Cadmium                           | BRL    | 0.0050          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Calcium                           | 666    | 1.00            |      | mg/L                | 109567  | 10                 | 2/6/2009 12:44 PM |
| Chromium                          | BRL    | 0.0100          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Cobalt                            | 0.0338 | 0.0200          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Copper                            | 0.0355 | 0.0100          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |
| Iron                              | 201    | 1.00            |      | mg/L                | 109567  | 10                 | 2/6/2009 12:44 PM |
| Lead                              | BRL    | 0.0100          |      | mg/L                | 109567  | 1                  | 2/6/2009 12:26 PM |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

**Analytical Environmental Services, Inc.****Date:** 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-005

**Client Sample ID:** BHR-MPS-008  
**Collection Date:** 1/30/2009 9:40:00 AM  
**Matrix:** SURFACE WATER

| Analyses                                    | Result | Reporting Limit    | Qual | Units    | BatchID          | Dilution Factor | Date Analyzed       |
|---|--------|--------------------|------|----------|------------------|-----------------|---------------------|
| <b>METALS, TOTAL</b>                        |        |                    |      |          |                  |                 |                     |
|   |        | <b>SW6010B</b>     |      |          | <b>(SW3010A)</b> |                 | Analyst: <b>BB</b>  |
| Magnesium                                   | 83.7   | 0.100              |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Manganese                                   | 11.4   | 0.0150             |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Nickel                                      | BRL    | 0.0200             |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Potassium                                   | 53.8   | 0.500              |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Selenium                                    | BRL    | 0.0200             |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Silver                                      | BRL    | 0.0100             |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Sodium                                      | 113    | 10.0               |      | mg/L     | 109567           | 10              | 2/6/2009 12:44 PM   |
| Thallium                                    | BRL    | 0.200              |      | mg/L     | 109567           | 10              | 2/6/2009 12:44 PM   |
| Vanadium                                    | BRL    | 0.0100             |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| Zinc  | 0.0658 | 0.0200             |      | mg/L     | 109567           | 1               | 2/6/2009 12:26 PM   |
| <b>MERCURY, DISSOLVED</b>                   |        |                    |      |          |                  |                 |                     |
|   |        | <b>SW7470A</b>     |      |          | <b>(SW7470)</b>  |                 | Analyst: <b>MAW</b> |
| Mercury                                     | BRL    | 0.00020            |      | mg/L     | 109668           | 1               | 2/9/2009 5:34 PM    |
| <b>MERCURY, TOTAL</b>                       |        |                    |      |          |                  |                 |                     |
|   |        | <b>SW7470A</b>     |      |          | <b>(SW7470)</b>  |                 | Analyst: <b>MAW</b> |
| Mercury                                     | BRL    | 0.00020            |      | mg/L     | 109526           | 1               | 2/5/2009 1:59 PM    |
| <b>HYDROGEN ION (PH)(150.1/SM4500 H+ B)</b> |        |                    |      |          |                  |                 |                     |
|   |        | <b>E150.1</b>      |      |          |                  |                 | Analyst: <b>CG</b>  |
| pH  | 4.95   | 0.01               | H    | pH Units |                  | 1               | 2/3/2009 6:40 PM    |
| <b>FERROUS IRON</b>                         |        |                    |      |          |                  |                 |                     |
|   |        | <b>SM3500-FE-D</b> |      |          |                  |                 | Analyst: <b>CG</b>  |
| Iron, as Ferric (Fe+3)                      | BRL    | 0.100              | H    | mg/L     |                  | 1               | 2/4/2009 10:00 AM   |
| Iron, as Ferrous (Fe+2)                     | 209    | 25.0               | H    | mg/L     |                  | 250             | 2/4/2009 10:00 AM   |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

# Analytical Environmental Services, Inc.

Date: 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-006

**Client Sample ID:** BHR-MPSB-008  
**Collection Date:** 1/30/2009 10:40:00 AM  
**Matrix:** SURFACE WATER

| Analyses                          | Result | Reporting Limit | Qual | Units | BatchID              | Dilution Factor | Date Analyzed       |
|-----------------------------------|--------|-----------------|------|-------|----------------------|-----------------|---------------------|
| <b>INORGANIC ANIONS BY IC</b>     |        |                 |      |       |                      |                 |                     |
|                                   |        | <b>E300</b>     |      |       |                      |                 | Analyst: <b>GAR</b> |
| Sulfate                           | 2770   | 100             |      | mg/L  |                      | 100             | 2/4/2009 6:24 PM    |
| <b>TOTAL ORGANIC CARBON (TOC)</b> |        |                 |      |       |                      |                 |                     |
|                                   |        | <b>SW9060</b>   |      |       |                      |                 | Analyst: <b>GAR</b> |
| Organic Carbon, Total             | 100    | 10.0            |      | mg/L  |                      | 10              | 2/5/2009 6:40 PM    |
| <b>METALS, DISSOLVED</b>          |        |                 |      |       |                      |                 |                     |
|                                   |        | <b>SW6010B</b>  |      |       | <b>(SAMP_FILTER)</b> |                 | Analyst: <b>BB</b>  |
| Aluminum                          | BRL    | 0.200           |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Antimony                          | BRL    | 0.0200          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Arsenic                           | BRL    | 0.0500          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Barium                            | 0.0732 | 0.0200          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Beryllium                         | BRL    | 0.0100          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Cadmium                           | BRL    | 0.0050          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Calcium                           | 579    | 1.00            |      | mg/L  | 109622               | 10              | 2/9/2009 12:36 PM   |
| Chromium                          | BRL    | 0.0100          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Cobalt                            | 0.0330 | 0.0200          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Copper                            | BRL    | 0.0100          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Iron                              | 153    | 1.00            |      | mg/L  | 109622               | 10              | 2/9/2009 12:36 PM   |
| Lead                              | BRL    | 0.0100          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Magnesium                         | 78.5   | 0.100           |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Manganese                         | 10.4   | 0.0150          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Nickel                            | BRL    | 0.0200          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Potassium                         | 47.4   | 0.500           |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Selenium                          | BRL    | 0.0200          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Silver                            | BRL    | 0.0100          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Sodium                            | 135    | 10.0            |      | mg/L  | 109622               | 10              | 2/9/2009 12:36 PM   |
| Thallium                          | BRL    | 0.200           |      | mg/L  | 109622               | 10              | 2/9/2009 12:36 PM   |
| Vanadium                          | BRL    | 0.0100          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| Zinc                              | 0.0377 | 0.0200          |      | mg/L  | 109622               | 1               | 2/6/2009 2:10 PM    |
| <b>METALS, TOTAL</b>              |        |                 |      |       |                      |                 |                     |
|                                   |        | <b>SW6010B</b>  |      |       | <b>(SW3010A)</b>     |                 | Analyst: <b>BB</b>  |
| Aluminum                          | 17.9   | 0.200           |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Antimony                          | BRL    | 0.0200          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Arsenic                           | 0.0656 | 0.0500          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Barium                            | 0.907  | 0.0200          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Beryllium                         | BRL    | 0.0100          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Cadmium                           | 0.190  | 0.0050          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Calcium                           | 698    | 1.00            |      | mg/L  | 109567               | 10              | 2/6/2009 12:51 PM   |
| Chromium                          | 0.0489 | 0.0100          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Cobalt                            | 0.567  | 0.0200          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Copper                            | 2.13   | 0.0100          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |
| Iron                              | 570    | 5.00            |      | mg/L  | 109567               | 50              | 2/6/2009 12:54 PM   |
| Lead                              | 0.115  | 0.0100          |      | mg/L  | 109567               | 1               | 2/6/2009 12:30 PM   |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

**Analytical Environmental Services, Inc.****Date:** 10-Feb-09

**CLIENT:** TN and Associates  
**Project:** Barite Hills Removal  
**Lab ID:** 0902173-006

**Client Sample ID:** BHR-MPSB-008  
**Collection Date:** 1/30/2009 10:40:00 AM  
**Matrix:** SURFACE WATER

| Analyses                                    | Result  | Reporting Limit    | Qual | Units    | BatchID          | Dilution Factor | Date Analyzed       |
|---|---------|--------------------|------|----------|------------------|-----------------|---------------------|
| <b>METALS, TOTAL</b>                        |         |                    |      |          |                  |                 |                     |
|   |         | <b>SW6010B</b>     |      |          | <b>(SW3010A)</b> |                 | Analyst: <b>BB</b>  |
| Magnesium                                   | 89.3    | 0.100              |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Manganese                                   | 13.1    | 0.0150             |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Nickel                                      | 0.130   | 0.0200             |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Potassium                                   | 54.4    | 0.500              |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Selenium                                    | BRL     | 0.0200             |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Silver                                      | BRL     | 0.0100             |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Sodium                                      | 137     | 10.0               |      | mg/L     | 109567           | 10              | 2/6/2009 12:51 PM   |
| Thallium                                    | BRL     | 0.200              |      | mg/L     | 109567           | 10              | 2/6/2009 12:51 PM   |
| Vanadium                                    | 0.127   | 0.0100             |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| Zinc  | 5.75    | 0.0200             |      | mg/L     | 109567           | 1               | 2/6/2009 12:30 PM   |
| <b>MERCURY, DISSOLVED</b>                   |         |                    |      |          |                  |                 |                     |
|   |         | <b>SW7470A</b>     |      |          | <b>(SW7470)</b>  |                 | Analyst: <b>MAW</b> |
| Mercury                                     | BRL     | 0.00020            |      | mg/L     | 109668           | 1               | 2/9/2009 5:36 PM    |
| <b>MERCURY, TOTAL</b>                       |         |                    |      |          |                  |                 |                     |
|   |         | <b>SW7470A</b>     |      |          | <b>(SW7470)</b>  |                 | Analyst: <b>MAW</b> |
| Mercury                                     | 0.00042 | 0.00020            |      | mg/L     | 109526           | 1               | 2/5/2009 2:09 PM    |
| <b>HYDROGEN ION (PH)(150.1/SM4500 H+ B)</b> |         |                    |      |          |                  |                 |                     |
|   |         | <b>E150.1</b>      |      |          |                  |                 | Analyst: <b>CG</b>  |
| pH  | 6.21    | 0.01               | H    | pH Units |                  | 1               | 2/3/2009 6:55 PM    |
| <b>FERROUS IRON</b>                         |         |                    |      |          |                  |                 |                     |
|   |         | <b>SM3500-FE-D</b> |      |          |                  |                 | Analyst: <b>CG</b>  |
| Iron, as Ferric (Fe+3)                      | 291     | 0.100              | H    | mg/L     |                  | 1               | 2/4/2009 10:00 AM   |
| Iron, as Ferrous (Fe+2)                     | 280     | 25.0               | H    | mg/L     |                  | 250             | 2/4/2009 10:00 AM   |

|                    |     |  |      |   |
|--------------------|-----|--|------|---|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level            | E    | Estimated (Value above quantitation range)  |
|                    | BRL | Below Reporting Limit                              | S    | Spike Recovery outside limits due to matrix |
|                    | H   | Holding times for preparation or analysis exceeded | Narr | See Case Narrative                          |
|                    | N   | Analyte not NELAC certified                        | NC   | Not Confirmed                               |
|                    | B   | Analyte detected in the associated Method Blank    | <    | Less than Result value                      |
|                    | >   | Greater than Result value                          |      |   |

**ATTACHMENT D**  
**HASP**





|  |  |  |   |
|--|--|--|---|
| <b>HEALTH AND SAFETY PLAN FORM</b><br><b>TN &amp; Associates Health and Safety Program</b>   |  | <i>This document is for the exclusive<br/>use of TN&amp;Associates its subcontractors, and EPA.</i>  | <b>TN &amp; ASSOCIATES</b><br><b>Site Name: Barite Hill Nevada Goldfields</b> |
| <p><b>HISTORY:</b> <i>Summarize conditions that relate to hazard. Include citizen complaints, spills, previous investigations or agency actions, known injuries, etc.</i></p> <p>The site actively mined gold from 1991 to 1995. From 1995 until Nevada Goldfields filed for Chapter 7 Bankruptcy in 1999, the reclamation of the site was being addressed by Nevada Goldfields. On July 7, 1999 Nevada Goldfields handed the facility's keys to SCDHEC and abandoned the site. The facility used a cyanide solution in a heap leach process to extract gold from ore. There are 7 processing ponds onsite containing an unknown amount of free-liquids. Three large, multi-acre, waste rock piles contaminated with cyanide are left onsite. Each waste rock pile has the potential for producing acid. Storm water run on and runoff are not controlled at the site. The Main Pit from the mining operations remains. The pit contains approximately 60 million gallons of water with a pH of 2 ~ 2.2 and a high dissolved metal content. Seeps from the main pit containing acidic water with high dissolved metal content are being released to the northern unnamed tributaries of Hawes Creek which borders the pit. □</p> |  |  |   |
| <b>WASTE TYPES:</b> <input checked="" type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Gas <input type="checkbox"/> Unknown <input type="checkbox"/> Other: _____   |  |  |   |
| <b>WASTE CHARACTERISTICS:</b> <i>Check as many as applicable.</i><br><br><input checked="" type="checkbox"/> Corrosive <input type="checkbox"/> Flammable <input type="checkbox"/> Radioactive<br><br><input checked="" type="checkbox"/> Toxic <input type="checkbox"/> Volatile <input checked="" type="checkbox"/> Reactive<br><br><input type="checkbox"/> Inert Gas <input type="checkbox"/> Unknown <input type="checkbox"/> Other, Specify: _____   |  | <b>WORK ZONES:</b> <i>Describe the Exclusion, Contamination Reduction, and Support Zones in terms on-site personnel will recognize</i><br><br><br><br><br><br> |   |
| <b>HAZARDS OF CONCERN:</b><br><br><input checked="" type="checkbox"/> Heat Stress <i>attach guidelines</i> <input type="checkbox"/> Noise<br><input checked="" type="checkbox"/> Cold Stress <i>attach guidelines</i> <input checked="" type="checkbox"/> Inorganic Chemicals<br><input type="checkbox"/> Explosive/Flammable <input type="checkbox"/> Organic Chemicals<br><input type="checkbox"/> Oxygen Deficient <input type="checkbox"/> Motorized Traffic<br><input type="checkbox"/> Radiological <input type="checkbox"/> Heavy Machinery<br><input type="checkbox"/> Biological <input checked="" type="checkbox"/> Slips, Trips, & Falls<br><input type="checkbox"/> Other, Specify: _____  |  | <b>FACILITY'S PAST AND PRESENT DISPOSAL METHODS AND PRACTICES:</b><br>None found   |   |

|  |   |   |  |   |                                       |
|--|---|---|--|---|---------------------------------------|
| <b>HEALTH AND SAFETY PLAN FORM</b>   |   | <i>This document is for the exclusive</i>                           |  | <b>TN &amp; ASSOCIATES</b>                      |                                       |
| <b>TN&amp;Associates Health and Safety Program</b>   |   | <i>use of TN&amp;Associates its subcontractors, and EPA.</i>        |  | <b>Site Name: Barite Hill Nevada Goldfields</b> |                                       |
| <b>HAZARDOUS MATERIAL SUMMARY:</b> <i>Circle waste type and estimate amounts by category.</i>  |   |   |  |   |                                       |
| <b>CHEMICALS:</b><br><i>Amount/Units:</i>  | <b>SOLIDS:</b><br><i>Amount/Units:</i><br><br>Metals<br>unknown | <b>SLUDGES:</b><br><i>Amount/Units:</i><br><br>Inorganic<br>unknown | <b>SOLVENTS:</b><br><i>Amount/Units:</i> | <b>OILS:</b><br><i>Amount/Units:</i>            | <b>OTHER:</b><br><i>Amount/Units:</i> |
| <b>OVERALL HAZARD EVALUATION:</b> <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/> Unknown<br><b>JUSTIFICATION:</b> Stabilization of Main Pit lake for pyrite contact with liquid. |   |   |  |   |                                       |
| <b>FIRE/EXPLOSION POTENTIAL:</b> <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input checked="" type="checkbox"/> Unknown  |   |   |  |   |                                       |
| <b>INFORMATION COMPLETE:</b> <input type="checkbox"/> Complete <input type="checkbox"/> Incomplete <input checked="" type="checkbox"/> Best Available at Current Time  |   |   |  |   |                                       |

|   |  |   |                                   |  |                                  |                 |  |
|---|--|---|-----------------------------------|--|----------------------------------|-----------------|--|
| HEALTH AND SAFETY PLAN FORM   |  |   |                                   | This document is for the exclusive use of TN&Associates its subcontractors, and EPA. |                                  | TN & ASSOCIATES |  |
| TN & Associates Health and Safety Program                                 |  |   |                                   | Site Name: Barite Hill Nevada Goldfields   |                                  |                 |  |
| KNOWN<br>CONTAMINANTS   | NIOSH<br>REL<br>(ST if Available)<br>ppm or mg/m3<br>(specify) | OSHA<br>PEL<br>(ST if Available)<br>ppm or mg/m3<br>(specify) | IDLH<br>ppm or mg/m3<br>(specify) | SYMPTOMS & EFFECTS<br>OF ACUTE EXPOSURE  | PHOTO<br>IONIZATION<br>POTENTIAL |                 |  |
|   |  |   |                                   |  |                                  |                 |  |
| NA = Not Available  |  | NE = None Established   |                                   | U = Unknown  |                                  |                 |  |
| S = Soil  |  | SW = Surface Water  |                                   | T = Tailings   |                                  |                 |  |
| A = Air   |  | GW = Ground Water   |                                   | SL = Sludge  |                                  |                 |  |
|   |  |   |                                   | W = Waste  |                                  |                 |  |
|   |  |   |                                   | SD = Sediment  |                                  |                 |  |
|   |  |   |                                   | D = Drums  |                                  |                 |  |
|   |  |   |                                   | OFF = Off-Site   |                                  |                 |  |
| Attach, to this plan, an MSDS for each chemical you will use at the site. |  |   |                                   |  |                                  |                 |  |

| HEALTH AND SAFETY PLAN FORM   |   | This document is for the exclusive use of<br>TN&Associates its subcontractors, and EPA. |   | TN & ASSOCIATES<br>Site Name: Barite Hill Nevada Goldfields |                                |
|---|---|---|---|---|--------------------------------|
| Task Description / PPE / Personnel & Responsibilities (attach additional sheets as necessary) |   |   |   |   |                                |
| <b>Task 1 Description</b>   | Site liquid sampling/In-situ monitoring   |   |   | <b>Type</b><br>Intrusive                                    | <b>Hazard Schedule</b><br>High |
| <b>Primary Level</b><br>Modified D  | Respiratory: APR                      combo<br>Eyewear: Safety Glasses Hard Hat<br>Boots: Steel-Toe              Latex Bootie<br>Gloves: Inner: Nitrile    Outer: | <b>Contingency Level</b><br>Modified D<br>To C  | Respiratory: APR                      combo<br>Eyewear: Safety Glasses Hard Hat<br>Boots: Steel-Toe              Latex Bootie<br>Gloves: Inner: Nitrile    Outer: |   |                                |
| <b>PPE:</b>   | Clothing: Tyvek Coverall  | <b>PPE:</b>   | Clothing: Tyvek Coverall  |   |                                |
| <b>Task 2 Description</b>   |   |   |   | <b>Type</b>   | <b>Hazard Schedule</b>         |
| <b>Primary Level</b>  | Respiratory: _____<br>Eyewear: _____<br>Boots: _____<br>Gloves: _____   | <b>Contingency Level</b>  | Respiratory: _____<br>Eyewear: _____<br>Boots: _____<br>Gloves: _____   |   |                                |
| <b>PPE:</b>   | Clothing: _____   | <b>PPE:</b>   | Clothing: _____   |   |                                |
| <b>Task 3 Description</b>   |   |   |   | <b>Type</b>   | <b>Hazard Schedule</b>         |
| <b>Primary Level</b>  | Respiratory: _____<br>Eyewear: _____<br>Boots: _____<br>Gloves: _____   | <b>Contingency Level</b>  | Respiratory: _____<br>Eyewear: _____<br>Boots: _____<br>Gloves: _____   |   |                                |
| <b>PPE:</b>   | Clothing: _____   | <b>PPE:</b>   | Clothing: _____   |   |                                |
| <b>Task 4 Description</b>   |   |   |   | <b>Type</b>   | <b>Hazard Schedule</b>         |
| <b>Primary Level</b>  | Respiratory: _____<br>Eyewear: _____<br>Boots: _____<br>Gloves: _____   | <b>Contingency Level</b>  | Respiratory: _____<br>Eyewear: _____<br>Boots: _____<br>Gloves: _____   |   |                                |
| <b>PPE:</b>   | Clothing: _____   | <b>PPE:</b>   | Clothing: _____   |   |                                |
| <b>PERSONNEL AND RESPONSIBILITIES</b>   |   |   |   |   |                                |
| <b>Name</b>   | <b>Company/Agency</b>   | <b>Training</b>   | <b>Responsibilities</b>   |   |                                |
| Jorge Sanchez   | TN&A  | OSHA  | Safety and Health   |   |                                |
| Russell Henderson   | TN&A  | OSHA  | Safety and Health   |   |                                |
| Dannena Bowman  | TN&A  | OSHA  | Safety and Health   |   |                                |
|   |   |   |   |   |                                |
|   |   |   |   |   |                                |

| <b>HEALTH AND SAFETY PLAN FORM</b>                   |                                | <i>This document is for the exclusive use of<br/>TN&amp;Associates its subcontractors, and EPA</i> |                           | <b>TN &amp; ASSOCIATES</b> |
|--|--------------------------------|--|---------------------------|----------------------------|
| <b>TN &amp; Associates Health and Safety Program</b> |                                | <b>Site Name: Barite Hill Nevada Goldfields</b>  |                           |                            |
| <b>Monitoring Equipment:</b>                         |                                | Specify by task. Indicate type as necessary. Attach additional sheets if needed.                   |                           |                            |
| <b>Tasks:</b><br>1                                   | <b>Instrument:</b><br>pH Meter | <b>Level:</b>  | <b>Action Guidelines:</b> | <b>Comments:</b>           |
|  |                                |  |                           |                            |
|  |                                |  |                           |                            |
|  |                                |  |                           |                            |
| <b>Tasks:</b>  | <b>Instrument:</b>             | <b>Level:</b>  | <b>Action Guidelines:</b> | <b>Comments:</b>           |
|  |                                |  |                           |                            |
|  |                                |  |                           |                            |
|  |                                |  |                           |                            |
| <b>Tasks:</b>  | <b>Instrument:</b>             | <b>Level:</b>  | <b>Action Guidelines:</b> | <b>Comments:</b>           |
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|  |                                |  |                           |                            |
| <b>Tasks:</b>  | <b>Instrument:</b>             | <b>Level:</b>  | <b>Action Guidelines:</b> | <b>Comments:</b>           |
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|  |                                |  |                           |                            |
| <b>Tasks:</b>  | <b>Instrument:</b>             | <b>Level:</b>  | <b>Action Guidelines:</b> | <b>Comments:</b>           |
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|  |                                |  |                           |                            |
| <b>Tasks:</b>  | <b>Instrument:</b>             | <b>Level:</b>  | <b>Action Guidelines:</b> | <b>Comments:</b>           |
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| <b>HEALTH AND SAFETY PLAN FORM</b>   |                                      | <i>This document is for the exclusive use of TN&amp;Associates its subcontractors, and EPA.</i>  |  | <b>TN &amp; ASSOCIATES</b>                      |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
|--|--------------------------------------|--|--|---|--|--------------------|-------|----------------|---------------------------|------------------|--------------|------------------------------|-------------------|----------------------------|-------------------------|--------------------|----------------------|--------------------------|--|--|-----------------------------|--|--|--------------|--|--|--------------------|--|--|-----------------|--|-----|-------------------|--|-----|--------------|--|-----|-------------------|--|--|-----------------------|--|--------------|------------------------|--------------------------------------|--------------|
| <b>TN&amp;Associates Health and Safety Program</b>   |                                      |  |  | <b>Site Name: Barite Hill Nevada Goldfields</b> |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| <b>EMERGENCY CONTACTS</b><br><br>Site Telephone _____<br>EPA Release Report # _____<br>TN&Assoc 24-Hr Emergency #                      678-255-5538<br>Facility Management _____<br>Other (specify) _____<br>CHEMTREC Emergency #:                      1-800-424-9300 |                                      | <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; width: 60%;">EMERGENCY CONTACTS</th> <th style="text-align: left; width: 20%;">NAME</th> <th style="text-align: left; width: 20%;">PHONE</th> </tr> <tr> <td>Health and Safety Manager</td> <td>Bill Fink</td> <td>414-234-7845</td> </tr> <tr> <td>Project Manager</td> <td>Russell Henderson</td> <td>678-255-6156</td> </tr> <tr> <td>Site Safety Coordinator</td> <td>Jorge Sanchez</td> <td>678-255-5538</td> </tr> <tr> <td>Client Contact (EPA RPM)</td> <td></td> <td></td> </tr> <tr> <td>Other (EPA HRS coordinator)</td> <td></td> <td></td> </tr> <tr> <td>State Agency</td> <td></td> <td></td> </tr> <tr> <td>State Spill Number</td> <td></td> <td></td> </tr> <tr> <td>Fire Department</td> <td></td> <td>911</td> </tr> <tr> <td>Police Department</td> <td></td> <td>911</td> </tr> <tr> <td>State Police</td> <td></td> <td>911</td> </tr> <tr> <td>Health Department</td> <td></td> <td></td> </tr> <tr> <td>Poison Control Center</td> <td></td> <td>800-848-6946</td> </tr> <tr> <td>Occupational Physician</td> <td>Dr. Jerry Berke,<br/>Health Resources</td> <td>800-350-4511</td> </tr> </table> |  |   |  | EMERGENCY CONTACTS | NAME  | PHONE          | Health and Safety Manager | Bill Fink        | 414-234-7845 | Project Manager              | Russell Henderson | 678-255-6156               | Site Safety Coordinator | Jorge Sanchez      | 678-255-5538         | Client Contact (EPA RPM) |  |  | Other (EPA HRS coordinator) |  |  | State Agency |  |  | State Spill Number |  |  | Fire Department |  | 911 | Police Department |  | 911 | State Police |  | 911 | Health Department |  |  | Poison Control Center |  | 800-848-6946 | Occupational Physician | Dr. Jerry Berke,<br>Health Resources | 800-350-4511 |
| EMERGENCY CONTACTS   | NAME                                 | PHONE  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Health and Safety Manager  | Bill Fink                            | 414-234-7845   |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Project Manager  | Russell Henderson                    | 678-255-6156   |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Site Safety Coordinator  | Jorge Sanchez                        | 678-255-5538   |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Client Contact (EPA RPM)   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Other (EPA HRS coordinator)  |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| State Agency   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| State Spill Number   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Fire Department  |                                      | 911  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Police Department  |                                      | 911  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| State Police   |                                      | 911  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Health Department  |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Poison Control Center  |                                      | 800-848-6946   |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Occupational Physician   | Dr. Jerry Berke,<br>Health Resources | 800-350-4511   |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| <b>CONTINGENCY PLANS:</b> <i>Summarize below</i><br>Contact corporate Health and Safety officer, William Fink, at 414-234-7845   |                                      | <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; width: 80%;">MEDICAL EMERGENCY</th> <th style="text-align: left; width: 20%;">PHONE</th> </tr> <tr> <td>Hospital Name:</td> <td></td> </tr> <tr> <td>Hospital Address</td> <td></td> </tr> <tr> <td>Name of Contact at Hospital:</td> <td></td> </tr> <tr> <td>Name of 24-Hour Ambulance:</td> <td></td> </tr> <tr> <td>Route to Hospital:</td> <td>(see attached sheet)</td> </tr> </table>   |  |   |  | MEDICAL EMERGENCY  | PHONE | Hospital Name: |                           | Hospital Address |              | Name of Contact at Hospital: |                   | Name of 24-Hour Ambulance: |                         | Route to Hospital: | (see attached sheet) |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| MEDICAL EMERGENCY  | PHONE                                |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Hospital Name:   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Hospital Address   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Name of Contact at Hospital:   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Name of 24-Hour Ambulance:   |                                      |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| Route to Hospital:   | (see attached sheet)                 |  |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |
| <b>HEALTH AND SAFETY PLAN APPROVALS</b><br><br>Prepared by _____ Date _____<br>DHSC Signature _____ Date _____<br>HSM Signature _____ Date _____   |                                      | Distance to Hospital _____   |  |   |  |                    |       |                |                           |                  |              |                              |                   |                            |                         |                    |                      |                          |  |  |                             |  |  |              |  |  |                    |  |  |                 |  |     |                   |  |     |              |  |     |                   |  |  |                       |  |              |                        |                                      |              |

## HEALTH AND SAFETY PLAN SIGNATURE FORM

### TN & Associates Health and Safety Program

All site personnel must sign this form indicating receipt of the H&SP. Keep this original on site. It becomes part of the permanent project files. Send a copy to the Health and Safety Manager (HSM).

**SITE NAME/NUMBER:** Barite Hill Nevada Goldfields / 2005148

**DIVISION/LOCATION:** T N & Associates, Marietta, GA.

**DATE:** \_\_\_\_\_

I understand, and agree to comply with, the provisions of the above referenced H&SP for work activities on this project. I agree to report any injuries, illnesses or exposure incidents to the site Health and Safety Coordinator (SHSC). I agree to inform the SHSC about any drugs (legal and illegal) that I take within three days of site work.

| PRINTED NAME | SIGNATURE | DATE |
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