Upgradient Wells Report
BMI Common Areas
Eastside Area

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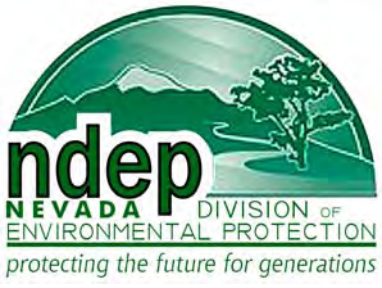


June 12, 2009

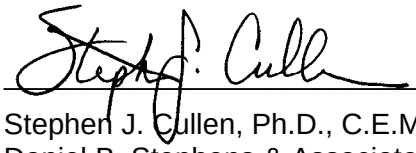
Prepared for:

Basic Remediation COMPANY

Daniel B. Stephens & Associates, Inc.
260 Newport Center Drive • Newport Beach, California 92660

Responsible CEM for this Project

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state, and local statutes, regulations, and ordinances.



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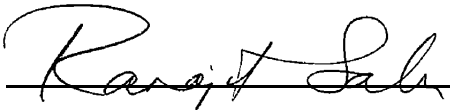

June 12, 2009

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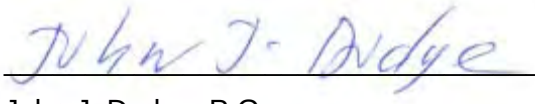
Individuals Who Provided Technical Input to this Document



John J. Dodge, P.G.
Daniel B. Stephens & Associates, Inc.

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1. Introduction

This report identifies and provides technical justification for the selection of upgradient wells in the Shallow Zone at the Eastside Area of the Basic Management, Incorporated (BMI) Common Areas/Complex (the "Site") in Clark County, Nevada (Figure 1). Proposed existing wells are identified to be used for upgradient purposes and the rationale and criteria used to propose the wells are presented and discussed.

The scope of work for this report has previously been discussed between Basic Remediation Company (BRC) and Nevada Division of Environmental Protection (NDEP) representatives, in a NDEP meeting on February 4, 2009 and in written correspondence to BRC dated February 20, 2009. NDEP comments dated April 22, 2009 regarding the draft background wells report, dated April 2, 2009, are also addressed in this revised report (Appendix A).

1.1 Location and Setting

The Site is located in Clark County, Nevada, and is situated approximately 2 miles west of the River Mountains and 1 mile north of the McCullough Range. As shown in Figure 1, the area surface topography slopes in a westerly to northwesterly direction from the River Mountains and in a northerly to northeasterly direction from the McCullough Range. Near the Site, the surface topography slopes in a northerly direction toward the Las Vegas Wash.

The uppermost water-bearing zone is unconfined and occurs primarily in alluvium (referred to as the Shallow Zone). At some locations on portions of the Site, Shallow Zone groundwater is first encountered in the uppermost portion of the Tertiary Muddy Creek Formation (TMCf). This unconfined Shallow Zone groundwater generally flows in a northerly direction toward Las Vegas Wash. The Shallow Zone groundwater is generally continuous across the Site, but there are areas where Shallow Zone wells are dry. Below the Shallow Zone, deeper groundwater occurs in sporadically encountered lenses under pressure in the Middle Zone, designated between approximately 90 and 270 feet below grade.

Deep Zone groundwater is generally continuous across the Site and is characterized with wells screened below 270 feet bgs to a maximum nominal depth of 400 ft bgs. Groundwater elevation data from the last several rounds of groundwater monitoring (2006, 2007, 2008) show that Deep Zone groundwater is confined, and the potentiometric surface of Deep Zone groundwater is oriented generally north towards Las Vegas Wash (MWH, 2008). Separate NDEP-approved project documents provide information regarding area geology and hydrogeology, soils, history, and investigations completed to-date (e.g., BRC, 2007).

1.2 Objective

The objective of this report is to present and justify the criteria used in the selection of the upgradient wells for the Eastside. Upgradient wells need to be designated at the Site in order to document and evaluate the quality of groundwater flowing onto the Site from offsite areas. Data from the upgradient wells can then be compared to data from onsite wells, along with comparison to state and federal water quality standards, to assist in the evaluation of Site impacts. Upgradient well data will also be used, in part, for remedial decision-making. As discussed below in Section 2.1, it is not possible to install background monitoring wells at this Site. As a result, proposed upgradient wells will be used for data evaluation.

2. Upgradient Well Selection

The upgradient wells are located according to the following selection criteria:

- Hydraulically upgradient;
- Along the majority of the upgradient site boundary;
- Where offsite upgradient groundwater impacts, if present, are well characterized.

Proposed upgradient wells must also be properly constructed to represent the hydrogeologic zone of interest. To qualify as Shallow Zone upgradient wells at the BRC Site, the proposed wells must be adequately screened in the Shallow Zone. At the Eastside Area, the following wells meet the criteria listed above (Figure 2) (Appendix B):

- AA-01
- AA-27
- AA-UW-1
- AA-UW-2
- AA-UW-3
- AA-UW-4
- AA-UW-5
- AA-UW-6

2.1 Groundwater Occurrence and Flow Direction

Figure 2 presents a map of the Shallow Zone potentiometric surface at the Site. As discussed above in Section 1.1, Shallow Zone groundwater occurs in the Qal and the uppermost TMCf at the Site. Flow direction in the Shallow Zone is directed generally to the north towards the Las Vegas wash.

Flow direction has been approximately consistent over the last several rounds of water level measurement at the Site completed in 2006, 2007, and 2008 (MWH, 2008). As shown on Figure 2, the proposed upgradient wells are located at the southern, southwestern, and southeastern boundary of the Eastside area, and are well distributed along the Site perimeter in this area. This portion of the Site perimeter is the upgradient boundary of the Eastside Area.

Appendix C contains a regional groundwater flow map prepared by TIMET (2004) that covers the Eastside area as well as adjacent properties upgradient to the south and west. The direction of groundwater flow in the regional flow map is also oriented generally to the north towards Las Vegas Wash.

Several soil borings were completed in the offsite upgradient areas as part of the background metals investigation (ERM, 2008). Based on these borings, it appears that Shallow Zone groundwater occurs at much deeper depths further upgradient, or the Shallow Zone is absent further upgradient to the east. As identified by wet soil logged in the field, groundwater was encountered in only two of the 23 borings. Groundwater was encountered at 140 ft below grade in boring DBSA-17 and at 84.7 feet below grade in boring DBSA-20.

The other background metals soil borings (except DBSA-33) were drilled between 80 and 160 feet below grade but only moist soil was logged (boring DBSA-33 was terminated at 32.5 feet when the TMCf was encountered). Since groundwater occurs at deeper depths further

upgradient and offsite, additional wells installed in these areas would likely be screened in a different hydrogeologic unit than the existing onsite wells. The proposed upgradient wells are screened in the same hydrogeologic unit as onsite Shallow Zone wells (Table 1, Appendix B).

2.2 Historical Site Use and Facility Operations

Historical site use and facility operations are detailed for the Eastside Area in the 2006 Closure Plan (BRC, 2006) and in other related BRC documents. As described in BRC (2006), the Eastside Area covers approximately 2,321 contiguous acres. The Eastside Area lies to the east of Boulder Highway and to the north of Lake Mead Parkway and consists of land on which:

- Unlined wastewater effluent evaporation/infiltration ponds (and associated conveyance ditches) were built and into which various plant wastewaters were discharged from 1942 through 1976;
- Effluent from the adjacent TIMET plant was disposed of through the use of a spray irrigation wheel used between 1985 and 1990;
- Lined wastewater effluent ponds were constructed and into which effluent from the TIMET plant was discharged from 1976 to 2005;
- The City of Henderson constructed municipal wastewater infiltration basins (e.g., the Southern RIBs);
- Unlined wastewater effluent ponds were constructed but which were never used; and,
- Land that has remained desert.

The proposed upgradient wells are generally located within those areas of the Site that were not used for the operations described above. The land in the vicinity of the upgradient wells has remained primarily open desert with relatively minor adjacent property development for residential or commercial (non-industrial) use. Upgradient wells AA-UW-5 and AA-UW-6 are relatively close to the southern boundary of the lower ponds.

2.3 Modeling Results

BRC recently completed and submitted a draft groundwater flow model calibration report to the NDEP (BRC, 2009). An evaluation of the potential historical mounding was completed with the updated flow model. Pond recharge was estimated at 48.18 inches per year (Figure 3). Heads

were simulated for this condition to produce a groundwater flow map representing the period of time that the lower ponds were in use (Figure 4). The simulation indicates that groundwater flow was oriented primarily to the north near the locations of upgradient wells AA-01, AA-UW-1, AA-27, AA-UW-2, AA-UW-3, A-UW-4, and AA-UW-5. The simulation also indicates that localized mounding is present at the lower ponds and flow is radial for a small area around the ponds. The location of well AA-UW-6 appears to be marginally within the area of the localized mounding.

The remaining upgradient wells are located outside of the area of modeled localized mounding caused by pond use. Flow direction near the former ponds and at well AA-UW-6 has since returned to its original northwesterly direction (Figure 2, Appendix C). As discussed below (Section 2.4), the soil and groundwater data from well AA-UW-6 do not appear to reflect unique impacts due to former pond use. That is, the analytical data (nonmetals) from AA-UW-6 do not appear to be substantially different from the other well locations.

2.4 Soil and Groundwater Impacts

Selected analytical data for the upgradient well locations is discussed below in the following sections. Further, more detailed analysis of these data will be presented in the upcoming Conceptual Site Model (CSM) Report for the Eastside area.

2.4.1 Soil Data - Metals

The currently available background metals dataset for the Eastside area (ERM, 2009) was compared to the range of metals concentrations data collected from the upgradient well locations (Table 2) (excluding duplicates).

In accordance with the BRC Closure Plan (BRC, 2007), Background metals comparisons were performed using the Quantile test, Slippage test, the t-test, and the Wilcoxon Rank Sum test with Gehan modification. The Quantile test, Slippage test, and Wilcoxon Rank Sum test are nonparametric. That is, the tests are distribution free; thus an assumption of whether the data are normally or lognormally distributed is not necessary. The computer statistical software program, Guided Interactive Statistical Decision Tools (GISdT®; Neptune and Company 2007), was used to perform all statistical comparisons, with a decision error of alpha equal to 0.025.

The Wilcoxon Rank Sum test performs a test for a difference between the sum of the ranks for two populations. This is a nonparametric method for assessing differences in the centers of the distributions that relies on the relative rankings of data values. Knowledge of the precise form of the population distributions is not necessary. The Wilcoxon Rank Sum test has less power than the two-sample t-test when the data are normally distributed, but the assumptions are not as restrictive. The GISdT® version of the Wilcoxon Rank Sum test uses the Mantel approach which is equivalent to using the Gehan ranking system.

The Quantile test addresses tail effects which are not addressed in the Wilcoxon rank-sum test. The Quantile test looks for differences in the right tails (upper-end of the data set) rather than central tendency like the Wilcoxon rank-sum test. The Quantile test was performed using a defined quantile equal to 0.80.

The Slippage test looks for a shift to the right in the extreme right-tail of the background data set versus the extreme right-tail of the site data set. This is equivalent to asking if a set of the largest values of the site distribution are significantly larger (in a statistical sense) than the maximum value of the background distribution.

Typically an alpha equal to 0.05 is used to evaluate a statistically significant result. Since several correlated tests were conducted, a lower alpha was selected. As more tests are performed, it is more likely that a statistically significant result will be obtained purely by chance. Given the use of multiple statistical tests, an alpha equal to 0.025 was selected as a reasonable significance level (p).

If an individual test p-value is less than 0.025 then the test result is interpreted to indicate that the metal exceeds background. Additional factors, such as detection frequency, mean, or median values may also be reviewed to determine if a metal exceeds background.

This preliminary comparison was completed to document soil conditions at the upgradient well locations. Further background metals analysis will be presented in a separate background metals evaluation report.

Metals data from the upgradient well borings and nearby soil borings SB-01 and SB-27 were sorted into the following groups based on sample depth and the geographic location of the boring:

- Shallow Qal (samples from less than 20 feet below grade) - data compared to "Shallow McCullough" dataset, the "Shallow Mixed" dataset, or the "Shallow River" dataset;

- Deep Qal (samples from greater than or equal to 20 feet below grade, but collected above the Qal/UMCf contact) - data compared to "Deep McCullough" dataset, the "Deep Mixed" dataset, or the "Deep River" dataset; and

- TMC (samples collected from the UMCf (below the Qal/TMC contact) - data compared to "TMC" dataset.

The "River" datasets represent background metals characterized from soils collected in the shallow alluvial fan system originating in the River Range mountains to the east of the Site. The "McCollough" datasets represent background metals characterized from soils collected in the shallow alluvial system originating in the McCollough Range mountains to the south/southwest of the Site. The "Mixed" datasets represent background metals characterized from soils collected in the shallow alluvial system originating from both the River Range and the McCollough Range mountains where the two fan systems coalesce.

Data from upgradient well boring AA-UW-5 were compared to the "Mixed" datasets since this boring is located where the River Range alluvial fan system and the McCollough fan system coalesce. Data from upgradient well boring AA-UW-6 were compared to the "River" datasets since this boring is located within the River Range alluvial fan system. All other borings (including soil borings SB-01 and SB-27) fall within the McCollough fan system so these remaining data were compared to the "McCollough" datasets (ERM, 2009). Deep data below the Qal/UMCf contact were compared to the "TMC" dataset.

<u>Shallow Metals (less than 20 feet below grade)</u>

The shallow background metals comparison for upgradient well borings AA-UW-5 ("Shallow Mixed" dataset) and AA-UW-6 ("Shallow River" dataset) could not be completed because, with

only two samples per boring, there is an insufficient amount of detections to use for the statistical calculations.

The background metals comparison for the upgradient well borings falling into the “McCollough” grouping (all borings except AA-UW-5 and AA-UW-6) indicates that the following metals were detected above background:

- Boron, chromium VI, total chromium, iron, niobium, silver, sodium, strontium, titanium, tungsten, and vanadium.

Deep Metals (greater than 20 feet below grade and above the Qal-UMCf contact)

The deep background metals comparison for upgradient well boring AA-UW-6 (“Deep River” dataset) could not be completed because, with only two samples in the boring, there is an insufficient amount of detections to use for the statistical calculations.

The background metals comparison for the upgradient borings falling into the “McCollough” grouping (all borings except AA-UW-5 and AA-UW-6) indicates that the following metals were detected above background:

- Aluminum, barium, boron, chromium VI, total chromium, iron, lead, manganese, selenium, silicon, thallium, titanium, and zinc.

The background metals comparison for the upgradient well boring AA-UW-5 falling into the “Mixed Deep” grouping indicates that the following metals were detected above background:

- Silicon, sodium and strontium.

Deep Metals (below the Qal-UMCf contact)

The background metals comparison for the upgradient boring data collected below the Qal/UMCf contact (all borings) indicates that the following metals were detected above background:

- Beryllium, boron, cadmium, chromium VI, total chromium, copper, magnesium, molybdenum, selenium, silicon, sodium, thallium, tungsten, uranium, zinc, radium-226, thorium-230, uranium-233/234, and uranium-238.

2.4.2 Soil Data - Nonmetals

Table 3 presents a statistical summary of nonmetals detected in the upgradient well borings and adjacent borings SB-01 and SB-27. Several compounds were detected in the upgradient borings, including organochlorine pesticides, organophosphate pesticides, and volatile organic compounds (VOCs). None of the detections, however, exceed Nevada Basic Comparison Levels (BCLs). Table 4 presents a summary of selected analyte detections for each well boring.

Up to 2.5 milligrams per kilogram (milligrams per kilogram [mg/kg]) (60 feet bgs) perchlorate was detected in soil boring SB-01 drilled near upgradient well AA-01 (Table 3). Perchlorate was also detected at more shallow depths in this boring. Perchlorate is also detected in groundwater samples from well AA-01 and the other upgradient wells. The detected concentrations may not be Site-related and may be due to historical perchlorate use and release at adjacent upgradient and cross gradient facilities (such as Tronox and AMPAC).

Similarly, relatively low concentrations of volatile organic compounds (less than 60 micrograms per kilogram [ug/kg]) have been detected in soil samples from the well borings (Table 3). Tetrachloroethene (PCE) is detected in soil samples from borings completed near wells AA-01 and AA-UW-5 (up to 7.7 ug/kg). Trichloroethene (TCE), a degradation daughter compound of PCE, is not detected in soil samples from the upgradient well locations. However, both PCE and TCE are detected in the upgradient groundwater well samples. The soil data from well boring AA-UW-6 do not appear to reflect unique historical impacts from former pond use. As shown on Table 4, some VOCs, gross alpha/beta activity, dioxins/furans and pesticides were detected in other soil borings but not at AA-UW-6. In addition, nitrate in soil at 50 feet in well boring AA-UW-6 (0.39 mg/kg) is among the lowest nitrate detections. Soil from AA-UW-6 at 40 feet, however, has among the highest detected U 233/234 and U 238 activity.

2.4.3 Groundwater Data

Piper and Stiff Diagrams

Piper trilinear diagrams and Stiff polygonal diagrams of major cation and anion data from the 5th round event (MWH, 2008) for BRC wells are provided as Figures 3, 4, 5, and 6. As shown on these figures, the ion data show that the hydrogeochemical signature of groundwater in the upgradient wells is consistent with other Shallow Zone wells screened in the same hydrogeologic unit. A relatively few Site wells, however, have a relatively distinct hydrogeochemical signature, such as wells POU-3 (relatively low sulfate content and relatively high chloride content; located in the southern portion of the Site in an area of groundwater potentially impacted by offsite sources) and AA-22 (anomalously high calcium and low magnesium content; located just down gradient from the Northern RIBs).

BRC is currently reviewing the results of the cation-anion balance (CAB) data for the 5th round sampling event. Currently, it appears that variability imbedded in the approved methodology and associated with relatively high concentrations of some analytes may be causing a portion of the CAB checks to fail the 5 percent balance criteria specified in the Standard Methods for the Examination of Water and Wastewater (Section E). Sulfate, for example, was detected up to 84,700 mg/L in the 5th round data. A relatively small variance in these high sodium and sulfate detections, for example, would lead to a CAB result that exceeds the 5 percent criteria.

In addition, the 5 percent criterion is noted to be applicable to solutions with an anion sum between 10 and 800 meq/L. The anion sum for the 5th round BRC data range up to 3,577 meq/L. BRC will modify the Piper and Stiff diagrams for the upgradient wells if needed with groundwater data from the upcoming 2009 sampling event. The 2009 sampling event will be completed in accordance with the revised Eastside groundwater sampling plan that is in preparation for submittal to NDEP in June 2009.

Basic Comparison Levels (BCLs)

Groundwater samples collected from the Shallow Zone upgradient wells over the five monitoring events (MWH, 2008) were compared to Basic Comparison Levels (BCLs) established by the Nevada Division of Environmental Protection (NDEP) to determine the level of chemical impact to the upgradient wells. Each of the proposed upgradient wells appear to have been impacted above the BCLs for various individual chemical constituents (Table 5), including:

- 1,4-Dichlorobenzene
- Acetaldehyde
- Arsenic
- Bromodichloromethane
- Chlorine
- Chloroform
- Chromium (VI)
- Dimethyl phosphorodithioic acid
- Fluoride
- Formaldehyde
- Iron
- Nitrate (as N)
- Octachlorodibenzodioxin
- Perchlorate
- Phosphorus (as P)
- Tetrachloroethylene
- Thallium
- Trichloroethylene

For the five monitoring events, the most frequent detections above the BCLs by the greatest number of chemicals have been observed in wells AA-01 and AA-27. Chemicals detected above the respective BCLs in these two wells include:

- Arsenic (As), tetrachloroethylene (PCE), chlorine, trichloroethylene (TCE), chloroform, formaldehyde, acetaldehyde, perchlorate, fluoride, thallium, dimethyl phosphorodithioic acid, nitrate, and hexavalent chromium (Cr VI).

Based on isoconcentration plots of chemicals presented in the monitoring reports for the five monitoring events (MWH, 2008), the chemical distribution data appear to indicate that these chemicals may be moving from offsite locations onto the Site. The source of these chemicals in groundwater samples from the upgradient wells may be the historic operations in the offsite upgradient BMI Plants area. TCE was detected at less than 1 ug/L (in wells AA-01 and AA-UW-01) and PCE was detected at a maximum of 84 ug/L in well AA-01 (Table 5). PCE and TCE are also documented to have been released at upgradient sites to the southwest (e.g. TIMET and Tronox).

Chemical impacts to the remaining wells (AA-UW1, AA-UW2, AA-UW3, AA-UW4, AA-UW5, and AA-UW6) include:

- As, PCE, chlorine, chloroform, TCE, perchlorate, 1,4-dichlorobenzene, and iron.

The general spatial trends of the data indicate that the concentrations are greater in wells to the south of the Site and decrease with increasing distance to the north-northeast. An exception to this spatial trend is for As, where the concentration in well AA-UW6 (102 ug/L), located to the northeast, was greater than in well AA-UW1 (69.8 ug/L) located farther to the south towards the plants area. This anomaly in the data spatial trend may be attributable to the spatial variability of the natural As content of geologic materials in the Site vicinity. The detected arsenic may, potentially, be due to former pond discharge and historical mounding that potentially impacted soil and/or groundwater in the vicinity of well AA-UW-6.

As with wells AA-01 and AA-27 discussed above, the chemical distribution data appear to indicate that (with the possible exception of As) these chemicals may be moving from offsite locations onto the Site. The source of these chemicals in groundwater may be the historic operations in the BMI Plants area.

Secondary Maximum Contaminant Levels

Groundwater samples collected from the proposed upgradient wells over the five monitoring events were also compared to federal secondary maximum contaminant levels (MCLs) (Table 5). Total dissolved solids (TDS), sulfate, and chloride are the primary analytes detected above secondary MCLs; aluminum (one detection), iron (one detection), and manganese (two detections) were also measured over the secondary MCL but at a much lower frequency.

Monitoring wells AA-UW4 and AA-UW6 exceed ten times the secondary MCL (i.e. greater than 5,000 mg/L) for TDS. Wells AA-27, AA-UW1, AA-UW2, AA-UW3, and AA-UW5 had lower concentrations of TDS but exceeded the secondary MCL during one or more monitoring events (Table 5). Total dissolved solids (TDS) concentrations are relatively consistent between sampling rounds (for wells AA-01 and AA-27 sampled more than once), although some nominal increase in TDS concentrations are evident in AA-01 and AA-27 (Table 5).

The groundwater data from well boring AA-UW-6 do not appear to reflect unique historical impacts from former pond use. As shown on Table 5, the detected perchlorate and chlorine concentrations are among the lowest measured. Chloroform was detected at its lowest concentration in well AA-UW-6. The measured sulfate is roughly average for the background wells. The TDS detection in this well, however, is among the highest TDS detections. In addition, the arsenic was detected at 102 ug/L, which is the highest among the upgradient wells.

3. Summary and Conclusion

Proposed upgradient wells AA-01, AA-27, and AA-UW-1 to AA-UW-6 meet the criteria listed above in Section 2 for designation as Shallow Zone upgradient wells for the Eastside Area. Given the location of the Site boundaries relative to the direction of groundwater flow and the physiographic and hydrogeologic features in the Site vicinity, there appear to be no alternative locations suitable for siting of Site upgradient wells.

Existing BRC data and modeling results that characterize groundwater flow conditions, current and historical site use, soil quality, site location, and groundwater quality support the selection of these wells for use as upgradient wells.

References

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Figures

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BMI COMMON AREAS

BMI INDUSTRIAL AREA

2,000 1,000 0 2,000
Feet

N

Nevada-Clark Co. 7.5 Minute Series (Topographic)
Henderson, Nevada SE, Boulder City NW, and Sloan NE Quadrangles

BMI Site
Henderson, Nevada

FIGURE 1

SITE LOCATION AND TOPOGRAPHIC MAP

Basic Remediation COMPANY

Prepared by:	Date	JOB No. 1881262
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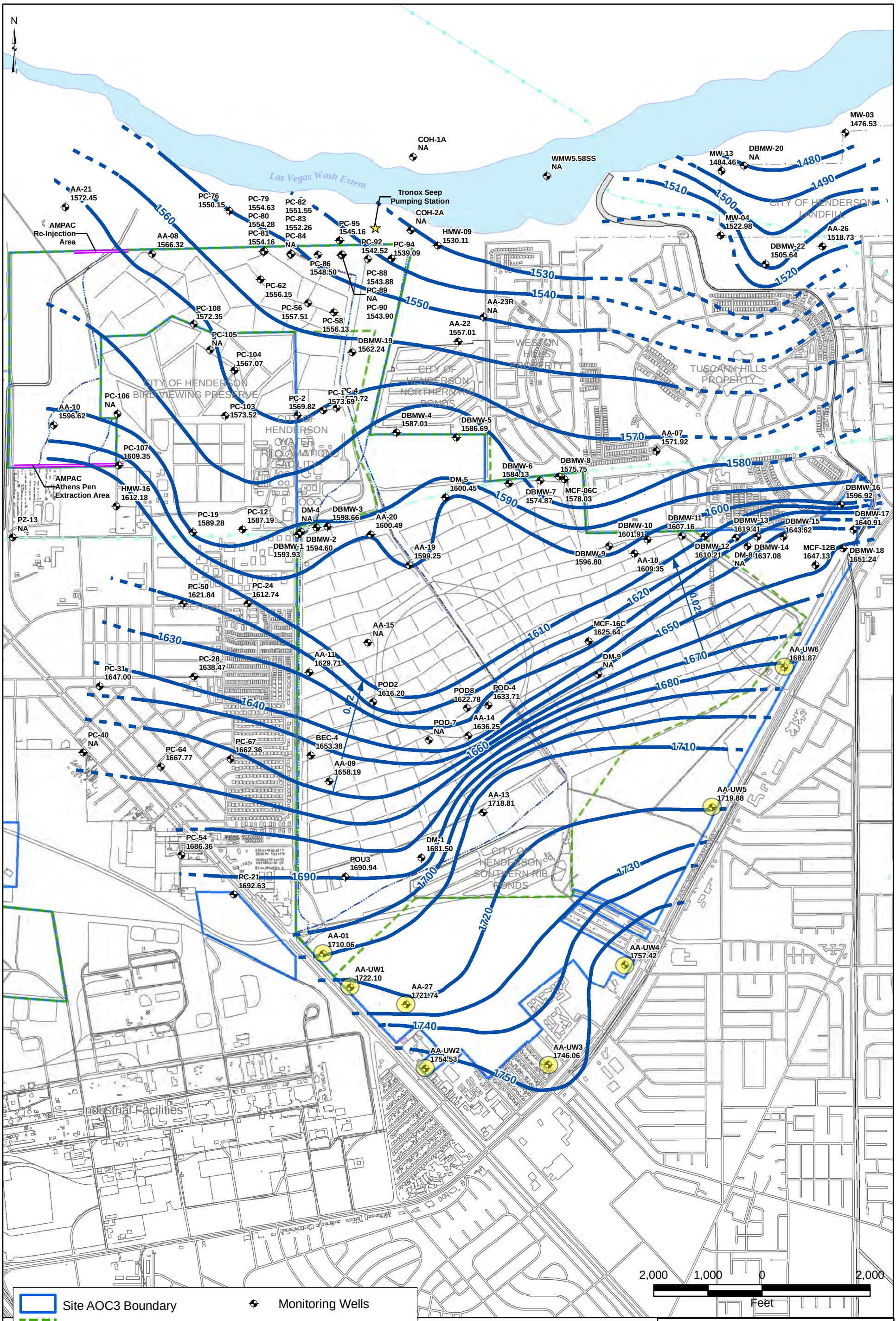

FIFTH ROUND
GROUNDWATER EVENT
(APRIL-JULY 2008)

Notes:
NA - Not available.
Measurements are in feet
above mean sea level (ft msl).

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 2

POTENTIOMETRIC SURFACE MAP OF THE SHALLOW WATER-BEARING ZONE WELLS

Basic Remediation COMPANY

Prepared by: ERM MWH

Date 12/17/08

JOB No. 0064277
FILE: GIS/BRC/WATERLEVELS.MXD

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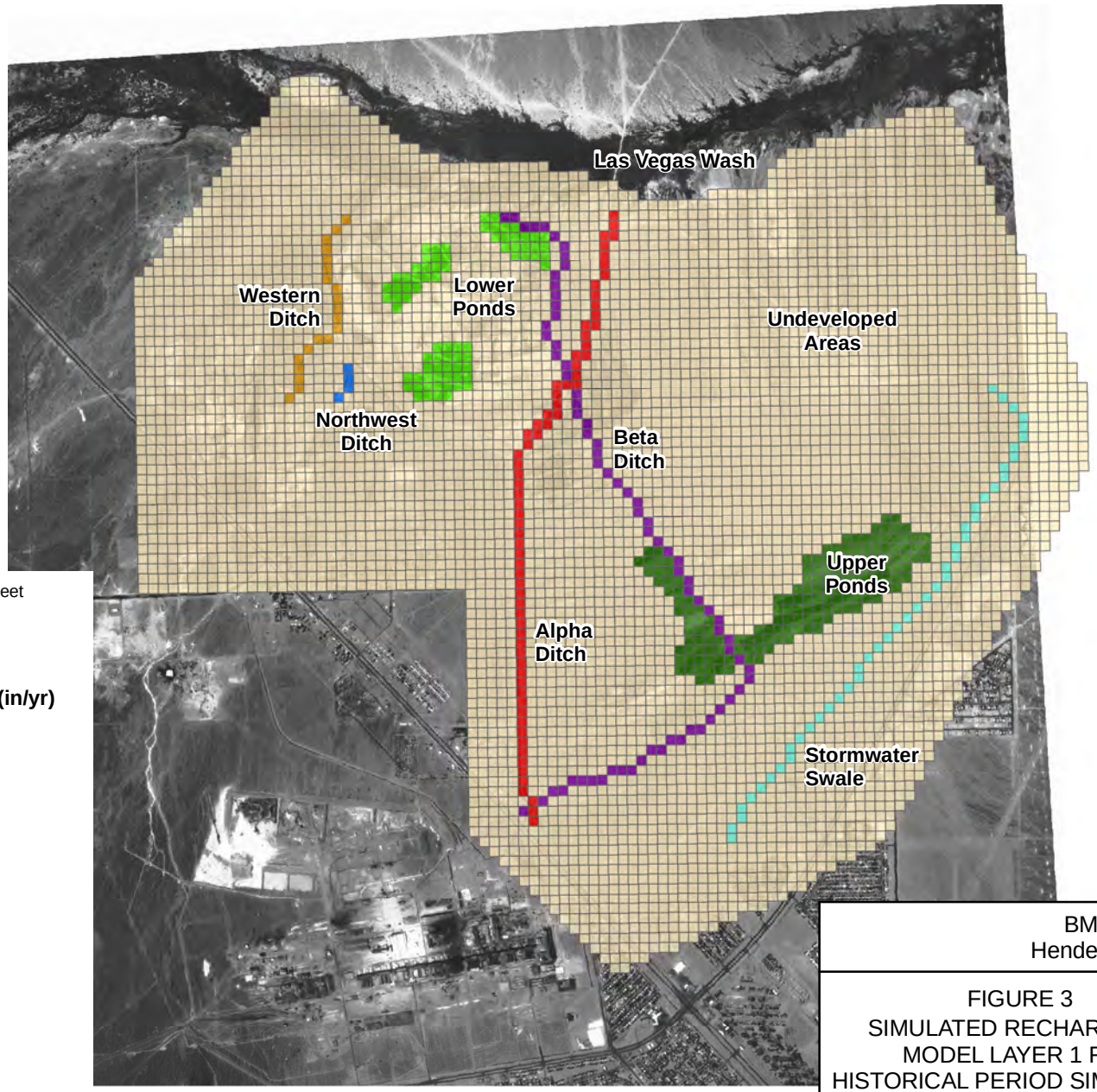

N

0 1,750 3,500 Feet

Explanation

Historical recharge (in/yr)

- 0.394
- 13.97
- 14.45
- 21.9
- 41.96
- 48.18
- 87.6
- 105.1
- Model grid

Source: Aerial photograph, 1968

BMI Complex
Henderson, Nevada

FIGURE 3
SIMULATED RECHARGE TO
MODEL LAYER 1 FOR
HISTORICAL PERIOD SIMULATION

Basic Remediation COMPANY

Prepared by:	Date	
DBS&A GJ	6/2/09	S:/PROJECTS/BRC/ES09.0108_MULTIPLE_BRC_TASKS/GIS/MXDS/FIG01_SIM_RECHARGE_MODEL_LAYER_1_HIST_PERIOD_SIM.MXD

Daniel B. Stephens & Associates, Inc.
JN ES09.0108

Figure 3

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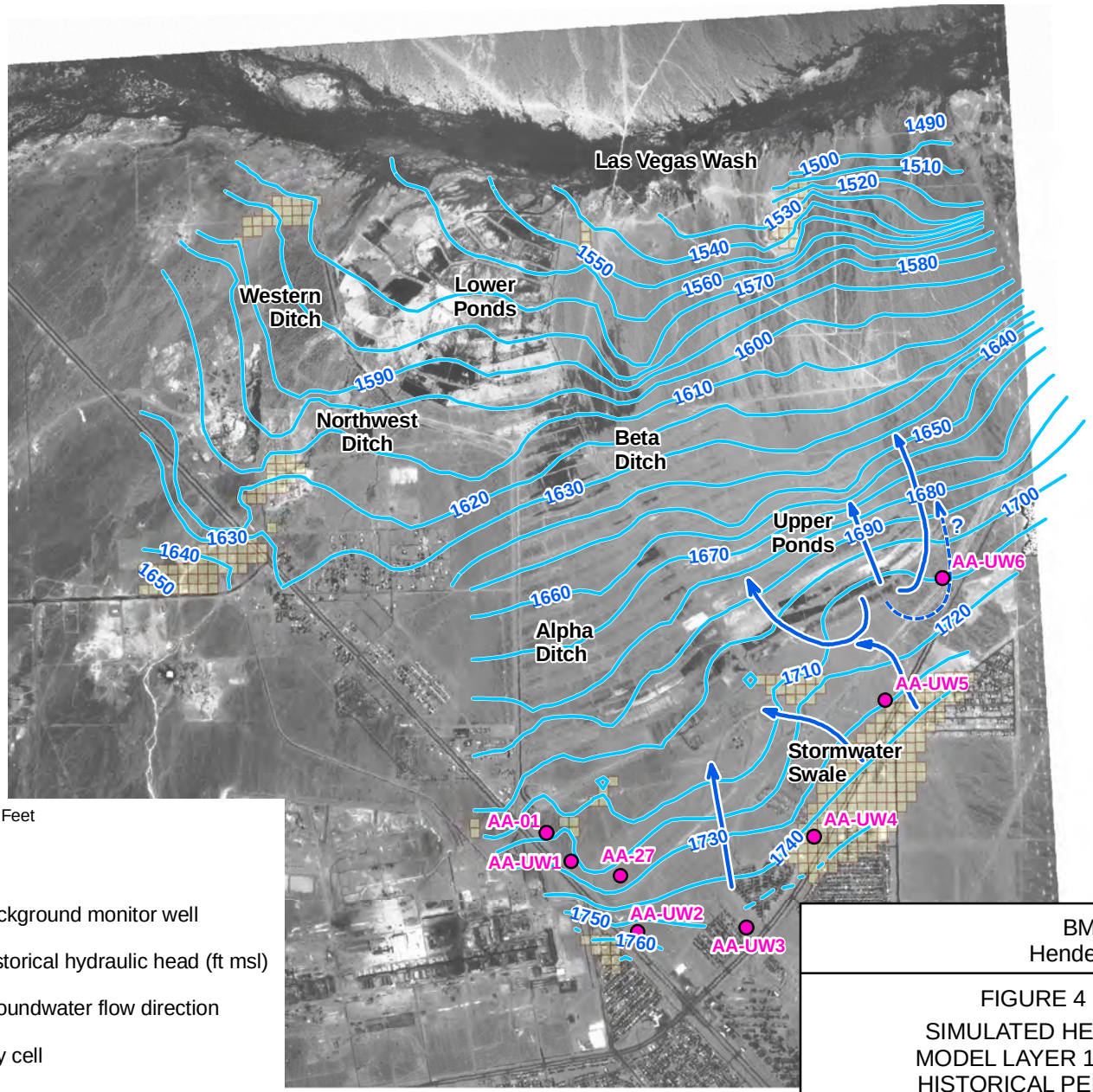


N

0 1,750 3,500 Feet

Explanation

- Proposed background monitor well
- Simulated historical hydraulic head (ft msl)
- Simulated groundwater flow direction
- Simulated dry cell

Source: Aerial photograph, 1968

BMI Complex
Henderson, Nevada

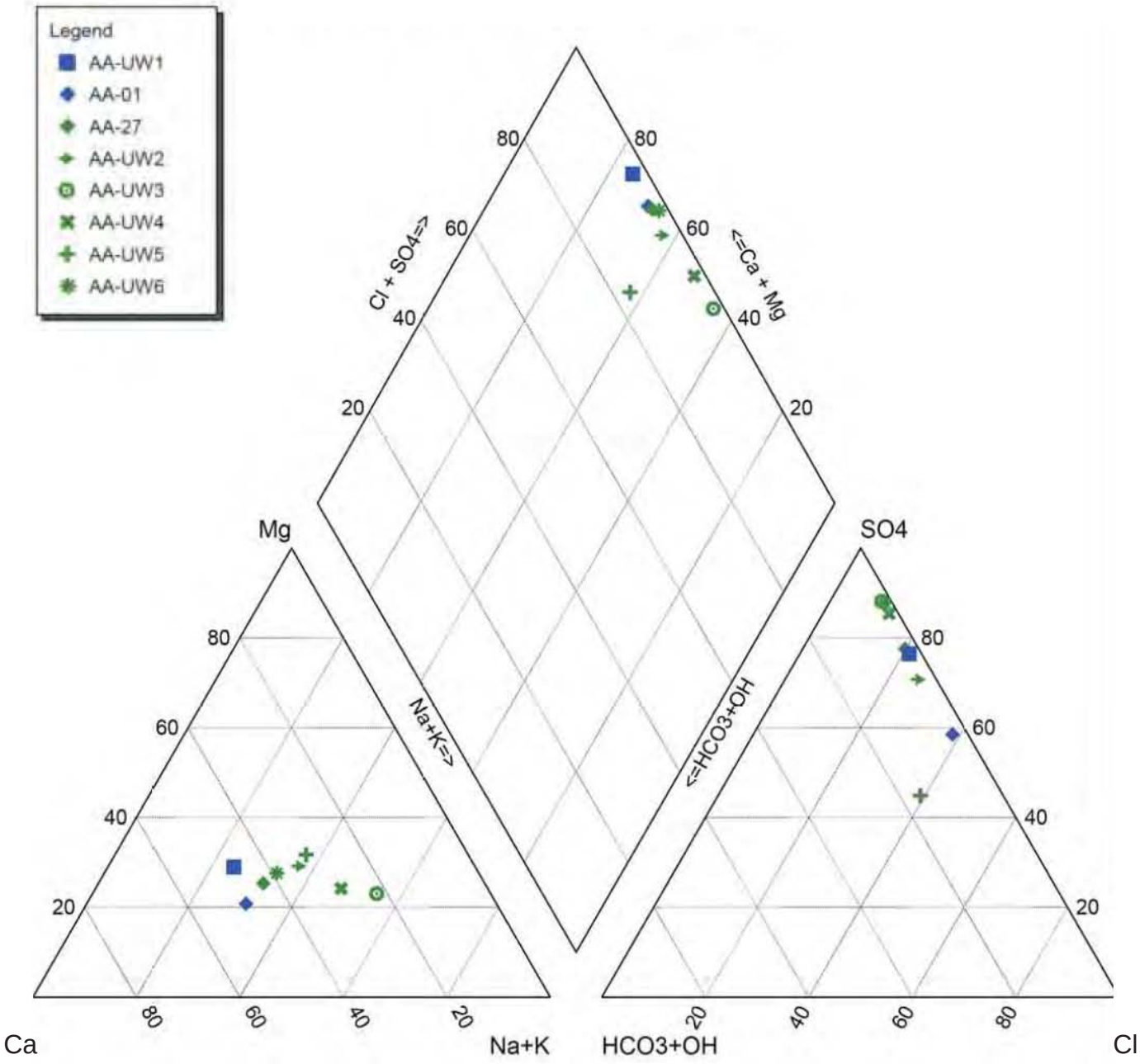
FIGURE 4
SIMULATED HEADS
MODEL LAYER 1 FOR
HISTORICAL PERIOD

Basic Remediation COMPANY

Prepared by:		Date	
DBS&A	MK	06/02/09	S:/PROJECTS/BRC/ES09.0108_MULTIPLE_BRC_TASKS/GIS/MXDS/FIG02_HISTORICAL_HEADS_MODEL_LAYER_1.MXD

Figure 4

Daniel B. Stephens & Associates, Inc.
JN ES09.0108



Note: Data from 5th round sampling event (April-July 2008)

BMI COMMON AREAS (EASTSIDE)
HENDERSON, NEVADA

Piper Trilinear Diagrams - Upgradient Wells

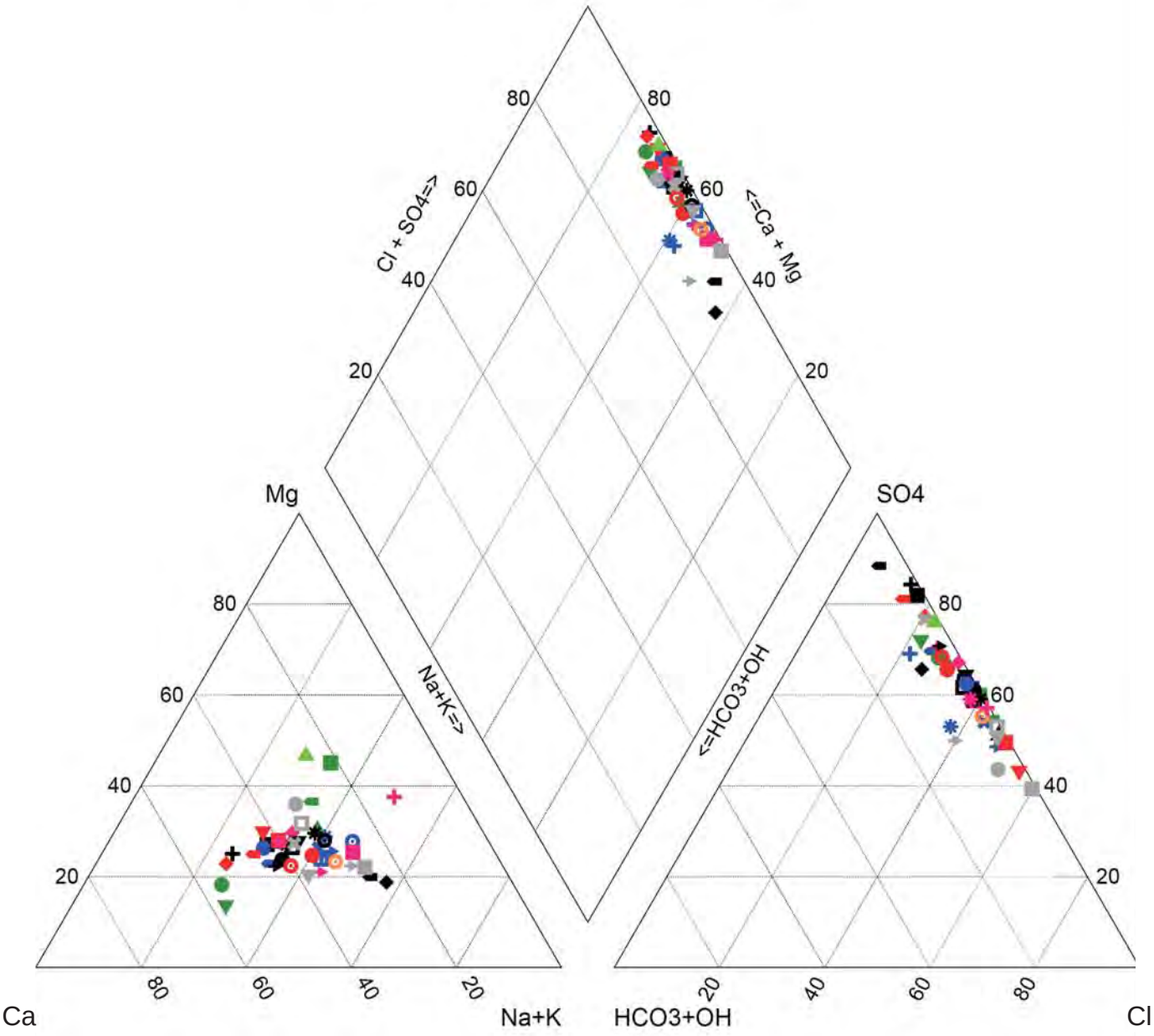
Daniel B. Stephens & Associates, Inc.

6-04-09

JN ES09.0013

Figure 5

S:\Projects\BRC\ES09.0013_BRC_RTCs_and_NDEP_Mtg\VR_Drawings\piper.CDR



Note: Data from 5th round sampling event (April-July 2008)
The PC well series is not included on this map for clarity.

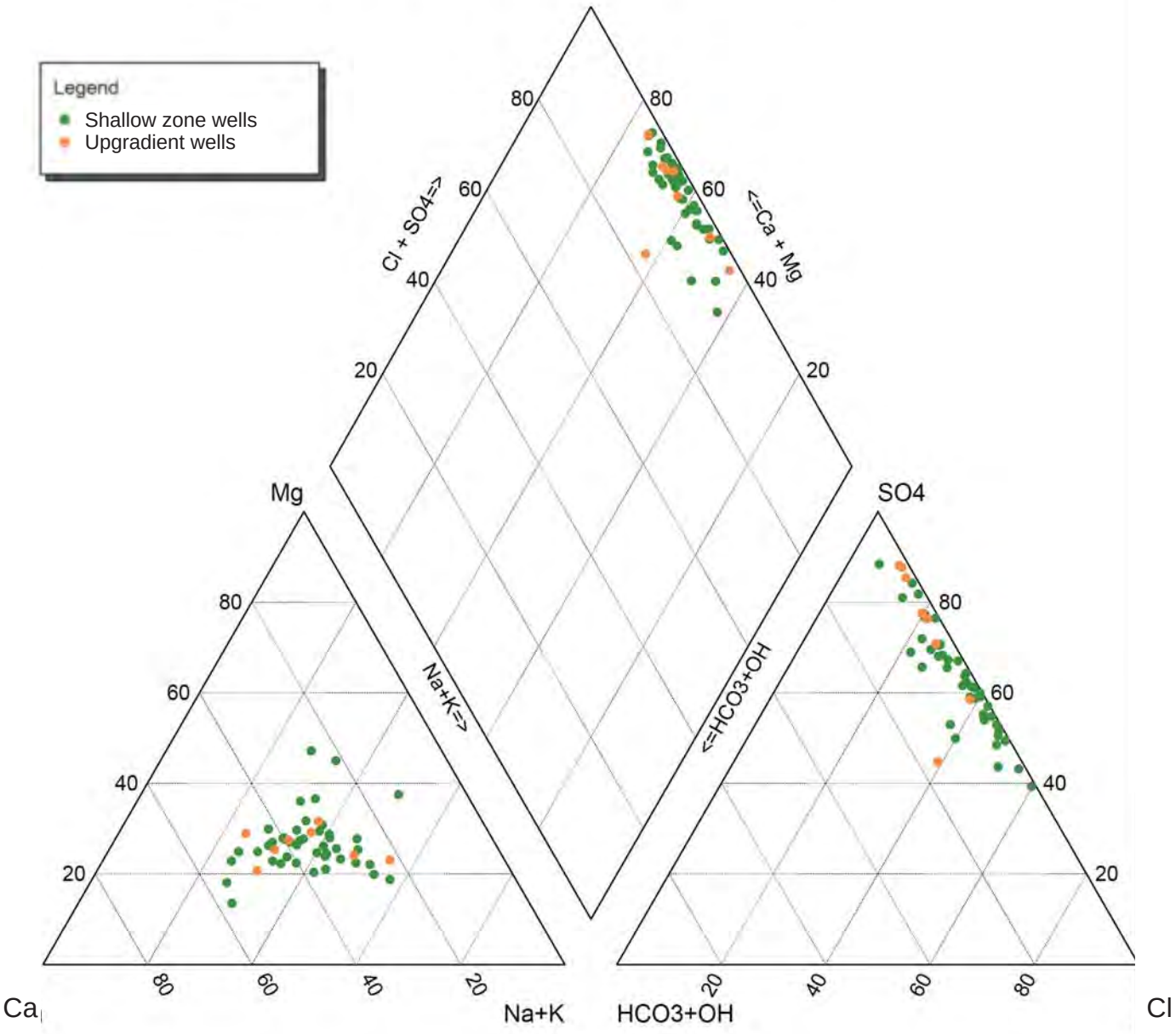
BMI COMMON AREAS (EASTSIDE)
HENDERSON, NEVADA

Piper Trilinear Diagrams - Select Shallow Zone Wells

Daniel B. Stephens & Associates, Inc.
6-04-09
JN ES09.0013

Figure 6

S:\Projects\BRC\ES09.0013_BRC_RTCs_and_NDEP_Mtg\VR_Drawings\piper.CDR



Note: Data from 5th round sampling event (April-July 2008)

BMI COMMON AREAS (EASTSIDE)
HENDERSON, NEVADA

Piper Trilinear Diagrams - Upgradient Wells and Select Shallow Zone Wells

Daniel B. Stephens & Associates, Inc.

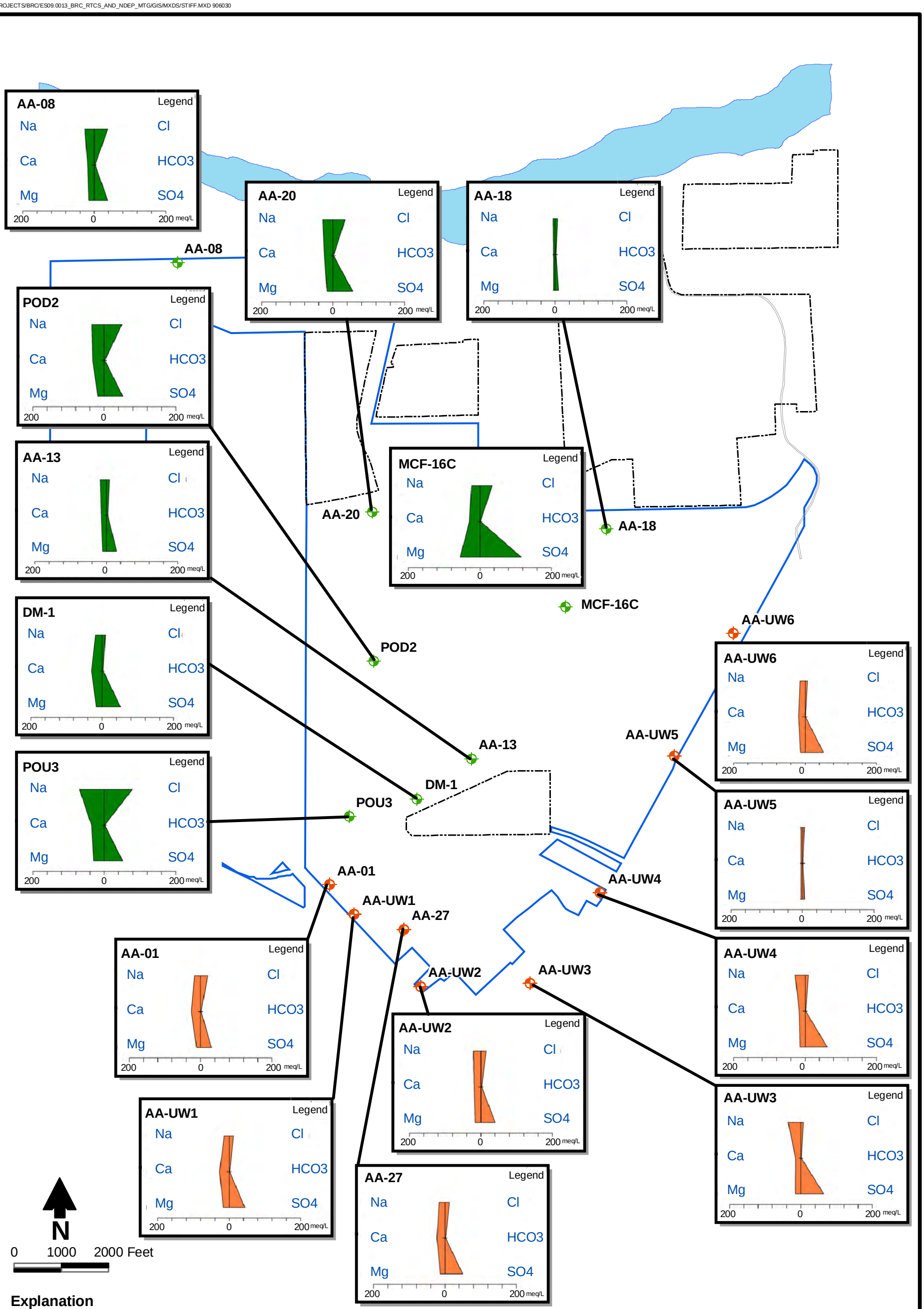
6-04-09

JN ES09.0013

Figure 7

S:\Projects\BRC\ES09.0013_BRC_RTCs_and_NDEP_Mtg\VR_Drawings\piper.CDR

S:/PROJECTS/BRC/ES09.0013_BRC_RTCS_AND_NDEP_MTG/GIS/MXDS/STIFF.MXD 906030



Explanation

- Upgradient wells
- Onsite wells
- Site AOC3 boundary
- meq/L milliequivalents per liter

Note: Data from 5th round sampling event (April-July 2008)

BMI Common Areas (Eastside)
Henderson, Nevada

FIGURE 8
Stiff Polygonal Diagrams - Upgradient Wells and Select Onsite (Shallow Zone) Wells

Basic Remediation COMPANY

Prepared by: DBS&A CRS Date 03-06-09

S:/PROJECTS/BRC/ES09.0013_BRC_RTCS_AND_NDEP_MTG/GIS/MXDS/stiff.MXD 902020

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Tables

Table 1. Summary of Well Construction Data - Background Wells

Well ID	Top of Casing Elevation (amsl)	Surface Elevation (amsl)	Total Boring Depth (feet bgs)	Casing Material	Diameter of Casing (inches)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Screen Interval (ft)	Screen Slot Size (inches)	Well Installation Date	Water-bearing Zone	Date Measured	Measured Depth to Water (ft.- btoc)	Groundwater Elevation (ft.-amsl)	Comments
AA-01	1757.13	1754.93	401	Sch 80 PVC	4	29	49	20	0.01	2/25/04	Shallow	4/8/04	45.10	1712.03	
												4/18/06	44.78	1712.35	
												7/27/06	45.44	1711.69	
												10/16/06	45.63	1711.50	
												1/22/07	45.68	1711.45	Solinst #36573
												6/3/08	47.07	1710.06	
AA-27	1789.43	1787.03	143	Sch 80 PVC	4	61.5	81.5	20	0.01	7/7/04	Shallow	7/13/04	59.45	1729.98	
												4/19/06	65.85	1723.58	
												7/26/06	66.77	1722.66	
												10/16/06	66.82	1722.61	
												1/22/07	66.97	1722.46	Solinst #36573
												6/3/08	67.69	1721.74	
AA-UW1	1774.45	1771.22	69.4	Sch 40 PVC	4	54.5	64.5	10	0.02	7/30/07	Shallow	6/3/08	52.35	1722.10	Keck 82050088
AA-UW2	1821.36	1817.63	82.72	Sch 40 PVC	4	55	75	20	0.02	8/3/07	Shallow	6/3/08	66.83	1754.53	Keck 82050088.
AA-UW3	1812.72	1809.07	88.53	Sch 40 PVC	4	60	80	20	0.02	8/6/07	Shallow	6/3/08	66.66	1746.06	Keck 82050088
AA-UW4	1800.28	1796.79	60.7	Sch 40 PVC	4	35	55	20	0.02	8/7/07	Shallow	6/5/08	42.86	1757.42	Keck 82050088
AA-UW5	1768.68	1765.05	63.62	Sch 40 PVC	4	37	57	20	0.02	8/8/07	Shallow	6/5/08	48.80	1719.88	Keck 82050088
AA-UW6	1740.81	1737.01	68.66	Sch 40 PVC	4	37	57	20	0.02	8/8/07	Shallow	6/5/08	58.94	1681.87	Keck 82050088

Table 2
Summary of Background Metals Evaluation
Shallow McCollough Dataset

	McCullough Site at 0-20 ft bgs (Shallow)								McCullough Background at 0-20 ft bgs (Shallow)								*t*	Quantile	Slippage	WRS	Greater		
Chemical	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	Test *p*	Test *p*	Test *p*	Test *p*	than Bckrnd?	Units	Basis
Aluminum	15	15	100%	9360	13800	11400	11630	1023	101	101	100%	3740	15300	8470	9131	2668	1.0 E-8	9.8 E-2	1.0 E+0	3.4 E-4	NO	mg/kg	Quantile and Slippage; max background > max site
Antimony	15	15	100%	0.12	0.53	0.15	0.25	0.16	43	101	43%	0.12	0.50	0.16	0.19	0.085	7.1 E-2	4.9 E-2	1.6 E-2	9.3 E-1	NO	mg/kg	Multiple tests
Arsenic	15	15	100%	2.4	4.6	3.3	3.3	0.58	101	101	100%	2.1	7.2	3.9	4.1	1.1	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Barium	15	15	100%	137	609	214	242	107	101	101	100%	73	465	175	182	65	2.7 E-2	3.6 E-2	1.3 E-1	1.4 E-3	NO	mg/kg	Multiple tests
Beryllium	15	15	100%	0.62	0.89	0.71	0.72	0.084	101	101	100%	0.16	0.89	0.54	0.58	0.16	4.8 E-6	2.5 E-1	1.0 E+0	7.2 E-4	NO	mg/kg	Quantile and Slippage; max background and site are equal
Boron	4	15	27%	4.6	13	10	8.2	3.6	34	95	36%	5.2	12	1.6	3.6	2.8	8.9 E-5	8.0 E-1	6.9 E-2	9.1 E-8	YES	mg/kg	Low detection frequency; Site median and mean are greater than background
Cadmium	9	15	60%	0.094	0.13	0.13	0.38	0.47	6	101	6%	0.095	0.16	0.065	0.068	0.013	1.2 E-2	2.8 E-11	1.0 E+0	2.3 E-2	YES	mg/kg	Low detection frequency; Site median and mean are greater than background.
Calcium	15	15	100%	15100	41700	24800	26330	7898	95	95	100%	9440	82800	24500	29030	14960	8.5 E-1	9.4 E-1	1.0 E+0	4.5 E-1	NO	mg/kg	Multiple tests
Chromium (VI)	1	13	8%	0.22	0.22	0.22	0.35	0.16	0	95	0%	NA	NA	0.13	0.13	0.0043	1.6 E-4	1.0 E+0	NA	3.5 E-8	YES	mg/kg	ND in background.
Chromium (Total)	15	15	100%	11	19	14	14	2.7	101	101	100%	2.6	17	9.0	9.0	3.0	1.0 E-6	2.1 E-4	1.8 E-3	5.2 E-7	YES	mg/kg	Multiple tests
Cobalt	15	15	100%	8.1	11	9.5	9.5	0.82	101	101	100%	3.7	16	8.8	8.7	2.3	6.3 E-3	7.3 E-1	1.0 E+0	4.0 E-2	NO	mg/kg	Multiple tests
Copper	15	15	100%	16	54	18	24	12	101	101	100%	10	26	18	17	3.6	3.0 E-2	3.1 E-1	1.8 E-3	3.1 E-2	NO	mg/kg	Multiple tests
Iron	15	15	100%	18000	25100	20700	21270	2528	101	101	100%	5410	19700	13500	13200	3320	1.0 E-10	1.4 E-11	6.6 E-10	6.1 E-10	YES	mg/kg	Multiple tests
Lead	15	15	100%	8.0	18	9.5	10	2.2	101	101	100%	3.0	35	7.3	8.5	4.3	1.6 E-2	3.1 E-1	1.0 E+0	6.3 E-4	NO	mg/kg	Quantile and slippage; max background is greater than max site.
Lithium	9	15	60%	9.6	29	13	15	5.4	95	95	100%	7.5	27	13	14	4.4	2.9 E-1	5.6 E-1	1.3 E-1	1.8 E-3	NO	mg/kg	Multiple tests
Magnesium	15	15	100%	9690	12700	10300	10620	906	101	101	100%	4690	17500	10200	10180	2799	1.1 E-1	9.3 E-1	1.0 E+0	2.2 E-1	NO	mg/kg	Multiple tests
Manganese	15	15	100%	390	604	468	477	69	101	101	100%	151	863	409	416	127	4.7 E-3	1.3 E-1	1.0 E+0	1.5 E-2	NO	mg/kg	Quantile and slippage; max background is greater than max site.
Mercury	6	15	40%	0.0087	0.024	0.018	0.017	0.0049	79	101	78%	0.0084	0.11	0.014	0.018	0.016	NA	9.9 E-1	1.0 E+0	2.3 E-3	NO	mg/kg	Low detection frequency; background max and mean are greater than at site.
Molybdenum	15	15	100%	0.32	1.7	0.49	0.59	0.33	101	101	100%	0.17	2.0	0.48	0.53	0.25	2.6 E-1	2.8 E-1	1.0 E+0	2.9 E-1	NO	mg/kg	Multiple tests
Nickel	15	15	100%	14	19	18	17	1.8	101	101	100%	7.9	30	16	16	4.1	3.4 E-2	3.1 E-1	1.0 E+0	8.8 E-2	NO	mg/kg	Multiple tests
Niobium	2	15	13%	1.7	1.8	1.3	1.4	0.72	0	95	0%	NA	NA	0.51	0.51	0	9.2 E-5	1.1 E-9	NA	0.0 E+0	YES	mg/kg	ND in background.
Palladium	15	15	100%	0.38	0.76	0.62	0.60	0.12	95	95	100%	0.16	1.5	0.42	0.48	0.24	3.6 E-3	1.0 E-1	1.0 E+0	2.8 E-3	NO	mg/kg	Quantile and slippage; max background is greater than max site.
Phosphorus	15	15	100%	1010	2130	1520	1519	294	95	95	100%	862	2010	1490	1474	278	2.9 E-1	5.6 E-1	1.4 E-1	3.4 E-1	NO	mg/kg	Multiple tests
Platinum	0	15	0%	NA	NA	0.010	0.027	0.021	5	95	5%	0.045	0.099	0.022	0.024	0.012	3.4 E-1	7.3 E-4	1.0 E+0	9.7 E-1	NO	mg/kg	ND at Site
Potassium	15	15	100%	1140	2920	1690	1846	550	95	95	100%	625	3890	1580	1754	759	2.9 E-1	5.6 E-1	1.0 E+0	1.6 E-1	NO	mg/kg	Multiple tests
Selenium	3	15	20%	0.32	0.58	0.16	0.23	0.12	39	101	39%	0.10	0.60	0.079	0.17	0.12	2.8 E-2	7.6 E-1	1.0 E+0	5.0 E-8	NO	mg/kg	Low detection frequency; site and background datasets similar
Silicon	15	15	100%	181	1210	818	758	270	95	95	100%	335	4150	721	1007	811	9.9 E-1	9.9 E-1	1.0 E+0	5.7 E-1	NO	mg/kg	Multiple tests
Silver	12	15	80%	0.095	0.27	0.14	0.15	0.067	6	101	6%	0.043	0.083	0.13	0.13	0.018	9.2 E-2	1.3 E-1	5.4 E-5	1.0 E+0	YES	mg/kg	Low detection frequency; max site is greater than max background.
Sodium	15	15	100%	450	2650	853	942	507	95	95	100%	128	1320	487	498	285	2.3 E-3	3.4 E-5	1.4 E-1	8.9 E-6	YES	mg/kg	Multiple tests
Strontium	15	15	100%	194	448	332	327	63	95	95	100%	76	808	192	233	133	4.0 E-5	9.6 E-3	1.0 E+0	1.6 E-4	YES	mg/kg	Multiple tests
Thallium	1	15	7%	1.8	1.8	0.10	0.63	0.91	27	101	27%	0.13	1.8	0.27	0.51	0.48	3.1 E-1	7.6 E-1	1.0 E+0	9.7 E-1	NO	mg/kg	Low detection frequency; site and background datasets similar
Tin	12	15	80%	0.36	0.73	0.60	0.58	0.096	95	95	100%	0.24	0.80	0.51	0.50	0.11	4.1 E-3	2.5 E-2	1.0 E+0	1.4 E-4	NO	mg/kg	Quantile and slippage; site and background data are similar.
Titanium	15	15	100%	688	1360	1120	1106	163	101	101	100%	262	1010	533	552	150	1.9 E-10	2.5 E-9	1.9 E-15	6.1 E-10	YES	mg/kg	Multiple tests
Tungsten	9	15	60%	0.22	0.74	0.30	0.37	0.17	0	95	0%	NA	NA	0.0088	0.0088	0	5.5 E-7	8.2 E-17	NA	0.0 E+0	YES	mg/kg	ND in background.
Uranium	15	15	100%	0.86	1.5	1.1	1.1	0.19	94	94	100%	0.62	2.7	0.97	1.0	0.31	5.4 E-2	4.1 E-2	1.0 E+0	1.2 E-2	NO	mg/kg	Multiple tests
Vanadium	15	15	100%	49	68	57	57	5.7	101	101	100%	20	59	37	38	8.8	1.5 E-11	2.8 E-11	1.9 E-5	2.9 E-9	YES	mg/kg	Multiple tests

Table 2
Summary of Background Metals Evaluation
Shallow McCollough Dataset

	McCullough Site at 0-20 ft bgs (Shallow)								McCullough Background at 0-20 ft bgs (Shallow)								*t*	Quantile	Slippage	WRS	Greater		
Chemical	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	Test *p*	Test *p*	Test *p*	Test *p*	than Bckrnd?	Units	Basis
Zinc	15	15	100%	38	76	43	49	12	101	101	100%	15	121	39	38	13	3.6 E-3	1.3 E-1	1.0 E+0	1.3 E-3	NO	mg/kg	Quantile and slippage; max background is greater than max site
Zirconium	14	15	93%	13	30	27	24	7.0	95	95	100%	86	179	129	131	22	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Radium-226	15	15	100%	0.69	1.3	0.88	0.93	0.21	91	95	96%	0.49	2.4	1.1	1.1	0.34	1.0 E+0	8.0 E-1	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Radium-228	14	15	93%	1.0	2.0	1.5	1.5	0.26	65	81	80%	1.2	2.9	1.9	1.9	0.39	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Thorium-228	15	15	100%	1.3	1.9	1.6	1.6	0.18	101	101	100%	1.2	2.3	1.8	1.7	0.26	1.0 E+0	9.9 E-1	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Thorium-230	13	15	87%	0.95	2.3	1.2	1.2	0.34	101	101	100%	0.73	3.0	1.2	1.3	0.39	9.0 E-1	9.3 E-1	1.0 E+0	6.9 E-1	NO	pCi/g	Multiple tests
Thorium-232	15	15	100%	1.1	1.9	1.5	1.5	0.20	101	101	100%	1.2	2.2	1.7	1.7	0.26	9.9 E-1	9.2 E-1	1.0 E+0	9.6 E-1	NO	pCi/g	Multiple tests
Uranium-233/234	13	15	87%	0.31	1.2	0.60	0.61	0.24	51	101	50%	0.70	2.8	1.1	1.2	0.46	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Uranium-235/236	4	15	27%	0.019	0.078	0.013	0.027	0.027	45	101	45%	0.037	0.21	0.060	0.070	0.038	1.0 E+0	9.9 E-1	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Uranium-238	13	15	87%	0.19	1.1	0.60	0.56	0.30	101	101	100%	0.65	2.4	1.1	1.2	0.36	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Deep McCollough Dataset

Chemical	McCullough Site at >= 20 ft bgs (Deep)								McCullough Background at >= 20 ft bgs (Deep)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Aluminum	24	24	100%	7660	13000	10750	10730	1429	79	79	100%	5060	15100	8790	8693	1814	3.6 E-7	5.3 E-4	1.0 E+0	1.1 E-6	YES	mg/kg	Multiple tests
Antimony	19	24	79%	0.11	0.50	0.14	0.18	0.14	73	79	92%	0.089	0.22	0.14	0.14	0.036	7.1 E-2	8.2 E-1	2.1 E-3	6.0 E-1	NO	mg/kg	Multiple tests
Arsenic	24	24	100%	2.8	13	4.0	4.5	1.9	79	79	100%	2.2	13	3.8	4.4	2.0	3.9 E-1	7.6 E-1	1.0 E+0	2.1 E-1	NO	mg/kg	Multiple tests
Barium	24	24	100%	107	368	193	199	57	79	79	100%	85	539	138	156	70	1.9 E-3	4.6 E-4	1.0 E+0	3.3 E-5	YES	mg/kg	Multiple tests
Beryllium	24	24	100%	0.50	0.86	0.64	0.65	0.083	79	79	100%	0.29	0.67	0.55	0.56	0.063	1.5 E-5	6.7 E-5	1.7 E-5	1.5 E-6	YES	mg/kg	Multiple tests
Boron	3	24	13%	3.8	6.3	10	9.3	2.8	20	79	25%	3.0	7.6	1.4	2.4	1.9	9.8 E-13	9.5 E-1	1.0 E+0	3.6 E-15	NO	mg/kg	Low detection frequency; max background greater than max site
Cadmium	19	24	79%	0.065	0.12	0.11	0.22	0.35	73	79	92%	0.050	0.13	0.083	0.081	0.027	2.9 E-2	2.2 E-2	1.0 E+0	3.8 E-6	NO	mg/kg	Site and background datasets similar.
Calcium	24	24	100%	18200	47500	24350	25490	5913	79	79	100%	10700	46600	24500	24970	7156	3.6 E-1	9.7 E-1	2.3 E-1	3.5 E-1	NO	mg/kg	Multiple tests
Chromium (VI)	1	18	6%	0.40	0.40	0.50	0.43	0.15	18	80	23%	0.18	1.6	0.085	0.16	0.23	7.9 E-8	9.9 E-1	1.0 E+0	9.6 E-12	NO	mg/kg	Low detection frequency; background max 4x the site max
Chromium (Total)	24	24	100%	7.5	23	13	13	3.3	79	79	100%	7.1	17	10	11	1.8	1.8 E-3	4.6 E-4	5.3 E-2	3.0 E-4	YES	mg/kg	Multiple tests
Cobalt	24	24	100%	5.6	10	8.7	8.4	1.1	79	79	100%	5.3	11	7.5	7.8	1.3	1.3 E-2	3.5 E-1	1.0 E+0	5.2 E-3	NO	mg/kg	Site and background datasets similar.
Copper	24	24	100%	12	38	17	18	4.7	79	79	100%	8.8	24	16	16	2.1	3.6 E-2	3.5 E-2	2.3 E-1	4.1 E-3	NO	mg/kg	Multiple tests
Iron	24	24	100%	11600	26600	19200	19050	3420	79	79	100%	11200	22500	14700	15350	2815	1.6 E-5	6.7 E-5	5.3 E-2	5.7 E-6	YES	mg/kg	Multiple tests
Lead	24	24	100%	7.0	11	9.0	8.9	1.1	79	79	100%	4.9	16	7.1	7.4	1.6	2.5 E-6	4.6 E-4	1.0 E+0	5.7 E-6	YES	mg/kg	Multiple tests
Lithium	12	24	50%	11	49	13	17	7.9	67	79	85%	7.5	124	17	17	14	6.3 E-1	9.2 E-1	1.0 E+0	1.3 E-4	NO	mg/kg	Multiple tests
Magnesium	24	24	100%	8710	21600	10300	10610	2478	79	79	100%	4990	12500	9530	9553	1455	2.8 E-2	5.6 E-1	2.3 E-1	1.2 E-2	NO	mg/kg	Multiple tests
Manganese	24	24	100%	295	513	436	422	57	79	79	100%	217	579	319	343	84	1.3 E-6	2.4 E-3	1.0 E+0	1.6 E-5	YES	mg/kg	Multiple tests
Mercury	8	24	33%	0.0075	0.015	0.014	0.012	0.0059	35	79	44%	0.0072	0.024	0.0033	0.0075	0.0054	NA	9.8 E-1	1.0 E+0	4.6 E-5	NO	mg/kg	Low detection frequency; max background greater than max site
Molybdenum	24	24	100%	0.31	1.5	0.43	0.52	0.27	62	79	78%	0.31	1.9	0.50	0.54	0.37	5.9 E-1	9.0 E-1	1.0 E+0	8.0 E-1	NO	mg/kg	Multiple tests
Nickel	24	24	100%	9.9	20	15	15	2.1	79	79	100%	8.5	28	15	16	2.4	7.4 E-1	6.1 E-1	1.0 E+0	5.7 E-1	NO	mg/kg	Multiple tests
Niobium	0	24	0%	NA	NA	0.76	0.99	0.56	6	79	8%	1.7	3.8	0.76	0.94	0.66	3.6 E-1	7.7 E-2	1.0 E+0	3.4 E-2	NO	mg/kg	ND at site.
Palladium	24	24	100%	0.31	0.88	0.47	0.52	0.16	79	79	100%	0.20	2.2	0.61	0.67	0.37	1.0 E+0	9.8 E-1	1.0 E+0	9.6 E-1	NO	mg/kg	Multiple tests
Phosphorus	24	24	100%	988	1940	1400	1435	251	79	79	100%	649	1930	1390	1369	208	1.2 E-1	3.5 E-2	2.3 E-1	1.9 E-1	NO	mg/kg	Multiple tests
Platinum	0	24	0%	NA	NA	0.010	0.019	0.018	7	79	9%	0.022	0.049	0.010	0.012	0.0071	3.7 E-2	1.1 E-1	1.0 E+0	3.3 E-2	NO	mg/kg	ND at site.
Potassium	24	24	100%	925	2430	1445	1445	338	79	79	100%	850	2450	1430	1499	357	7.5 E-1	9.2 E-1	1.0 E+0	7.0 E-1	NO	mg/kg	Multiple tests
Selenium	2	24	8%	0.29	0.40	0.16	0.19	0.061	0	79	0%	NA	NA	0.16	0.16	0	1.5 E-2	2.4 E-3	NA	1.2 E-3	YES	mg/kg	ND in background.
Silicon	24	24	100%	197	1310	814	772	245	79	79	100%	139	1080	617	591	282	1.9 E-3	9.7 E-2	2.3 E-1	2.9 E-3	YES	mg/kg	Site max, mean and median are greater than background
Silver	21	24	88%	0.063	0.45	0.15	0.16	0.091	79	79	100%	0.074	2.2	0.15	0.25	0.38	9.7 E-1	4.0 E-1	1.0 E+0	5.2 E-1	NO	mg/kg	Multiple tests
Sodium	24	24	100%	619	1230	988	967	185	79	79	100%	428	3250	776	864	378	3.7 E-2	7.6 E-2	1.0 E+0	2.7 E-3	NO	mg/kg	Multiple tests
Strontium	24	24	100%	213	429	286	298	55	79	79	100%	123	793	250	275	104	7.6 E-2	5.1 E-1	1.0 E+0	8.4 E-3	NO	mg/kg	Multiple tests
Thallium	1	24	4%	1.9	1.9	0.10	0.25	0.39	4	79	5%	0.15	0.34	0.10	0.11	0.032	4.6 E-2	1.6 E-2	2.0 E-1	7.9 E-4	YES	mg/kg	Low detection frequency; site max > 5 times max background
Tin	21	24	88%	0.35	0.70	0.57	0.54	0.12	76	79	96%	0.25	0.78	0.55	0.53	0.14	3.9 E-1	2.1 E-1	1.0 E+0	1.2 E-1	NO	mg/kg	Multiple tests
Titanium	24	24	100%	424	1310	1030	982	223	79	79	100%	445	912	671	680	110	3.9 E-7	1.8 E-12	3.0 E-14	2.7 E-8	YES	mg/kg	Multiple tests
Tungsten	9	24	38%	0.24	0.35	0.25	0.27	0.17	25	79	32%	0.19	3.6	0.10	0.21	0.40	1.7 E-1	5.6 E-1	1.0 E+0	6.1 E-4	NO	mg/kg	Low detection frequency; max background greater than max site
Uranium	24	24	100%	1.0	4.0	1.5	1.6	0.56	79	79	100%	0.89	2.8	1.4	1.6	0.42	3.5 E-1	9.5 E-1	2.3 E-1	2.7 E-1	NO	mg/kg	Quantile and Slippage
Vanadium	24	24	100%	31	69	55	52	9.6	79	79	100%	27	73	43	46	10	4.2 E-3	3.5 E-2	1.0 E+0	3.2 E-3	NO	mg/kg	Slippage and quantile; site and background datasets similar

Table 2
Summary of Background Metals Evaluation
Deep McCollough Dataset

Chemical	McCullough Site at >= 20 ft bgs (Deep)								McCullough Background at >= 20 ft bgs (Deep)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Zinc	24	24	100%	32	70	40	42	7.4	79	79	100%	18	41	32	32	3.8	5.9 E-7	1.8 E-12	8.3 E-8	4.0 E-11	YES	mg/kg	Multiple tests
Zirconium	21	24	88%	12	32	27	24	7.3	79	79	100%	16	34	26	25	3.7	8.6 E-1	9.7 E-2	1.0 E+0	4.4 E-1	NO	mg/kg	Multiple tests
Radium-226	24	24	100%	0.57	1.8	0.92	1.0	0.25	65	65	100%	0.98	2.3	1.6	1.7	0.33	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Radium-228	23	24	96%	1.2	2.0	1.6	1.6	0.15	64	64	100%	0.86	2.3	1.4	1.5	0.30	3.6 E-2	6.0 E-1	1.0 E+0	3.2 E-3	NO	pCi/g	Multiple tests
Thorium-228	24	24	100%	1.1	2.0	1.7	1.6	0.21	79	79	100%	1.1	2.3	1.8	1.8	0.25	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Thorium-230	21	24	88%	0.92	2.4	1.3	1.4	0.34	79	79	100%	1.1	2.7	1.6	1.7	0.36	1.0 E+0	9.9 E-1	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Thorium-232	24	24	100%	1.1	2.1	1.5	1.5	0.21	79	79	100%	0.91	2.0	1.5	1.6	0.21	8.8 E-1	6.1 E-1	2.3 E-1	9.3 E-1	NO	pCi/g	Multiple tests
Uranium-233/234	23	24	96%	0.21	3.2	0.63	0.75	0.56	76	76	100%	0.87	2.6	1.6	1.6	0.37	1.0 E+0	1.0 E+0	2.4 E-1	1.0 E+0	NO	pCi/g	Multiple tests
Uranium-235/236	12	24	50%	0.013	0.13	0.020	0.027	0.026	68	76	89%	0.029	0.12	0.065	0.063	0.022	1.0 E+0	1.0 E+0	2.4 E-1	1.0 E+0	NO	pCi/g	Multiple tests
Uranium-238	21	24	88%	0.18	1.7	0.46	0.57	0.32	76	76	100%	0.99	2.8	1.5	1.5	0.37	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Shallow River Dataset

Chemical	River Site at 0-20 ft bgs (Shallow)								River Background at 0-20 ft bgs (Shallow)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Aluminum	2	2	100%	7600	7910	7755	7755	219	33	33	100%	5330	15500	9260	9742	2812	1.0 E+0	1.0 E+0	1.0 E+0	8.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Antimony	2	2	100%	0.22	0.26	0.24	0.24	0.028	13	33	39%	0.19	0.61	0.063	0.16	0.14	2.7 E-2	1.0 E+0	1.0 E+0	1.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Arsenic	2	2	100%	6.7	10	8.5	8.5	2.5	33	33	100%	4.5	28	7.7	8.6	4.4	5.3 E-1	4.5 E-1	1.0 E+0	3.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Barium	2	2	100%	453	546	500	500	66	33	33	100%	211	755	428	466	173	3.0 E-1	1.0 E+0	1.0 E+0	2.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Beryllium	2	2	100%	0.36	0.39	0.38	0.38	0.021	33	33	100%	0.28	0.78	0.40	0.44	0.13	9.8 E-1	1.0 E+0	1.0 E+0	7.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Boron	0	2	0%	NA	NA	10	10	0.035	15	33	45%	7.1	57	3.3	7.8	9.7	7.4 E-2	1.0 E+0	1.0 E+0	8.9 E-3	NA	mg/kg	Insufficient data for statistical comparisons.
Cadmium	2	2	100%	0.080	0.082	0.081	0.081	0.0014	21	33	64%	0.053	0.26	0.079	0.084	0.064	5.9 E-1	1.0 E+0	1.0 E+0	4.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Calcium	2	2	100%	16500	34300	25400	25400	12590	33	33	100%	3430	71300	25400	27830	13950	5.8 E-1	4.5 E-1	1.0 E+0	5.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Chromium (VI)	0	2	0%	NA	NA	0.50	0.50	0	0	33	0%	NA	NA	0.21	0.22	0.019	1.6 E-39	1.0 E+0	NA	8.5 E-3	NA	mg/kg	Insufficient data for statistical comparisons.
Chromium (Total)	2	2	100%	9.4	11	10	10	1.1	33	33	100%	3.2	24	9.9	11	4.6	7.2 E-1	1.0 E+0	1.0 E+0	5.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Cobalt	2	2	100%	4.2	5.0	4.6	4.6	0.57	33	33	100%	3.7	8.9	4.7	5.0	1.2	7.7 E-1	1.0 E+0	1.0 E+0	6.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Copper	2	2	100%	8.9	9.7	9.3	9.3	0.57	33	33	100%	8.0	36	11	13	5.7	1.0 E+0	1.0 E+0	1.0 E+0	9.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Iron	2	2	100%	9110	10100	9605	9605	700	33	33	100%	6210	21700	9310	10260	3488	7.8 E-1	1.0 E+0	1.0 E+0	4.4 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Lead	2	2	100%	16	16	16	16	0.14	33	33	100%	7.6	53	12	15	9.6	2.7 E-1	4.5 E-1	1.0 E+0	1.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Lithium	2	2	100%	19	34	27	27	10	6	33	18%	26	42	7.3	10	12	1.2 E-1	6.1 E-2	1.0 E+0	4.2 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Magnesium	2	2	100%	4850	6930	5890	5890	1471	33	33	100%	1550	15000	7580	8206	2706	8.9 E-1	1.0 E+0	1.0 E+0	9.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Manganese	2	2	100%	315	427	371	371	79	33	33	100%	178	2070	295	411	368	6.7 E-1	4.5 E-1	1.0 E+0	2.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Mercury	0	2	0%	NA	NA	0.0067	0.0067	0	0	33	0%	NA	NA	0.0067	0.0067	NA	NA	NA	NA	NA	NA	mg/kg	Insufficient data for statistical comparisons.
Molybdenum	2	2	100%	0.52	0.90	0.71	0.71	0.27	33	33	100%	0.28	2.3	0.64	0.79	0.42	6.2 E-1	1.0 E+0	1.0 E+0	5.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Nickel	2	2	100%	10	13	11	11	2.0	33	33	100%	9.1	22	12	13	2.9	7.3 E-1	1.0 E+0	1.0 E+0	6.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Niobium	0	2	0%	NA	NA	0.76	0.76	0	1	33	3%	4.6	4.6	1.5	1.6	0.54	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NA	mg/kg	Insufficient data for statistical comparisons.
Palladium	2	2	100%	0.38	0.44	0.41	0.41	0.042	33	33	100%	0.35	1.6	0.73	0.79	0.28	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Phosphorus	2	2	100%	821	982	902	902	114	33	33	100%	296	1710	754	806	277	2.1 E-1	4.5 E-1	1.0 E+0	1.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Platinum	0	2	0%	NA	NA	0.020	0.020	0	0	33	0%	NA	NA	0.048	0.048	0	NA	NA	NA	NA	NA	mg/kg	Insufficient data for statistical comparisons.
Potassium	2	2	100%	1710	2960	2335	2335	884	33	33	100%	1090	9000	2820	3525	2038	8.7 E-1	1.0 E+0	1.0 E+0	7.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Selenium	0	2	0%	NA	NA	0.32	0.32	0	0	33	0%	NA	NA	0.32	0.32	0	NA	NA	NA	NA	NA	mg/kg	Insufficient data for statistical comparisons.
Silicon	2	2	100%	557	844	701	701	203	33	33	100%	344	7480	1190	1433	1246	9.9 E-1	1.0 E+0	1.0 E+0	9.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Silver	2	2	100%	0.079	0.080	0.080	0.080	0.00071	14	33	42%	0.054	0.17	0.055	0.072	0.032	9.6 E-2	1.0 E+0	1.0 E+0	9.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Sodium	2	2	100%	502	621	562	562	84	33	33	100%	274	4210	1370	1576	966	1.0 E+0	1.0 E+0	1.0 E+0	9.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Strontium	2	2	100%	265	323	294	294	41	33	33	100%	172	761	379	392	144	9.6 E-1	1.0 E+0	1.0 E+0	8.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Thallium	0	2	0%	NA	NA	0.21	0.21	0	6	33	18%	0.43	2.0	0.15	0.25	0.33	7.9 E-1	1.0 E+0	1.0 E+0	2.1 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Tin	0	2	0%	NA	NA	0.21	0.21	0	16	33	48%	0.32	1.0	0.15	0.31	0.21	1.0 E+0	1.0 E+0	1.0 E+0	1.5 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Titanium	2	2	100%	440	449	445	445	6.4	33	33	100%	215	611	380	408	114	4.1 E-2	1.0 E+0	1.0 E+0	3.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Tungsten	2	2	100%	0.40	0.51	0.46	0.46	0.078	2	33	6%	0.96	1.0	0.25	0.29	0.18	7.3 E-2	1.7 E-1	1.0 E+0	6.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Uranium	2	2	100%	0.69	1.2	0.95	0.95	0.36	33	33	100%	0.56	4.3	0.92	1.2	0.74	7.4 E-1	1.0 E+0	1.0 E+0	6.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Vanadium	2	2	100%	24	30	27	27	4.7	33	33	100%	19	55	29	30	7.1	7.6 E-1	1.0 E+0	1.0 E+0	7.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.

Table 2
Summary of Background Metals Evaluation
Shallow River Dataset

Chemical	River Site at 0-20 ft bgs (Shallow)								River Background at 0-20 ft bgs (Shallow)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Zinc	2	2	100%	35	46	40	40	7.6	33	33	100%	25	71	35	37	9.9	3.2 E-1	4.5 E-1	1.0 E+0	1.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Zirconium	2	2	100%	9.6	11	10	10	0.99	13	33	39%	9.1	17	0.40	4.8	5.7	9.8 E-4	4.5 E-1	1.0 E+0	1.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Radium-226	1	2	50%	0.80	0.80	0.77	0.77	0.033	31	33	94%	0.57	2.8	0.99	1.1	0.51	9.0 E-1	1.0 E+0	1.0 E+0	9.1 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Radium-228	2	2	100%	1.1	1.2	1.1	1.1	0.11	28	33	85%	1.1	2.9	1.4	1.5	0.55	9.9 E-1	1.0 E+0	1.0 E+0	9.2 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-228	2	2	100%	1.0	1.3	1.2	1.2	0.23	33	33	100%	1.1	3.4	1.6	1.8	0.51	9.5 E-1	1.0 E+0	1.0 E+0	9.7 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-230	2	2	100%	1.0	1.5	1.3	1.3	0.36	27	33	82%	1.0	3.6	1.3	1.5	0.57	6.4 E-1	1.0 E+0	1.0 E+0	5.6 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-232	2	2	100%	1.2	1.3	1.2	1.2	0.071	33	33	100%	1.1	2.8	1.5	1.5	0.32	1.0 E+0	1.0 E+0	1.0 E+0	9.7 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-233/234	2	2	100%	0.27	0.50	0.38	0.38	0.16	33	33	100%	0.70	4.8	1.2	1.5	0.81	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-235/236	0	2	0%	NA	NA	0.012	0.012	0.0054	11	33	33%	0.088	0.24	0.088	0.10	0.057	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-238	2	2	100%	0.24	0.37	0.31	0.31	0.093	33	33	100%	0.55	4.0	0.94	1.2	0.67	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Deep River Dataset

Chemical	River Site at >= 20 ft bgs (Deep)								River Background at >= 20 ft bgs (Deep)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Aluminum	2	2	100%	5830	6280	6055	6055	318	36	36	100%	5680	13400	8355	8613	1504	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Antimony	2	2	100%	0.19	0.21	0.20	0.20	0.014	36	36	100%	0.14	0.37	0.21	0.22	0.052	9.0 E-1	1.0 E+0	1.0 E+0	7.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Arsenic	2	2	100%	6.3	6.5	6.4	6.4	0.14	36	36	100%	4.7	14	7.2	7.5	2.1	1.0 E+0	1.0 E+0	1.0 E+0	7.5 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Barium	2	2	100%	259	277	268	268	13	36	36	100%	188	1350	329	399	215	1.0 E+0	1.0 E+0	1.0 E+0	9.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Beryllium	2	2	100%	0.31	0.31	0.31	0.31	0	36	36	100%	0.34	0.72	0.46	0.47	0.073	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Boron	0	2	0%	NA	NA	10	10	0.035	8	36	22%	5.0	24	1.4	3.0	4.1	4.6 E-13	6.4 E-2	1.0 E+0	2.1 E-3	NA	mg/kg	Insufficient data for statistical comparisons.
Cadmium	2	2	100%	0.076	0.081	0.079	0.079	0.0035	26	36	72%	0.034	0.16	0.079	0.071	0.049	1.9 E-1	1.0 E+0	1.0 E+0	5.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Calcium	2	2	100%	23800	40000	31900	31900	11460	36	36	100%	4680	45600	21950	21740	8709	2.1 E-1	4.6 E-1	1.0 E+0	7.5 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Chromium (VI)	0	2	0%	NA	NA	0.50	0.50	0	16	41	39%	0.16	1.1	0.085	0.21	0.22	9.5 E-11	1.0 E+0	1.0 E+0	1.1 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Chromium (Total)	2	2	100%	7.7	7.8	7.8	7.8	0.071	36	36	100%	7.2	24	10	11	3.1	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Cobalt	2	2	100%	3.7	4.4	4.1	4.1	0.50	36	36	100%	3.5	5.7	4.6	4.6	0.58	8.3 E-1	1.0 E+0	1.0 E+0	9.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Copper	2	2	100%	8.7	11	9.7	9.7	1.3	36	36	100%	8.0	14	10	10	1.3	6.9 E-1	1.0 E+0	1.0 E+0	7.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Iron	2	2	100%	8050	8480	8265	8265	304	36	36	100%	7250	13100	10900	10540	1518	1.0 E+0	1.0 E+0	1.0 E+0	9.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Lead	2	2	100%	12	13	12	12	0.71	36	36	100%	9.5	35	12	14	5.9	9.5 E-1	1.0 E+0	1.0 E+0	4.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Lithium	2	2	100%	39	40	40	40	0.85	36	36	100%	20	47	30	31	7.1	3.2 E-6	6.4 E-2	1.0 E+0	5.1 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Magnesium	2	2	100%	5100	5920	5510	5510	580	36	36	100%	5210	13900	7210	7629	1884	9.8 E-1	1.0 E+0	1.0 E+0	9.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Manganese	2	2	100%	285	430	358	358	103	36	36	100%	88	777	162	213	124	1.4 E-1	6.4 E-2	1.0 E+0	3.9 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Mercury	0	2	0%	NA	NA	0.0033	0.0033	0	5	28	18%	0.0070	0.010	0.0033	0.0042	0.0020	NA	1.0 E+0	1.0 E+0	7.4 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Molybdenum	2	2	100%	0.37	0.65	0.51	0.51	0.20	31	36	86%	0.26	0.72	0.39	0.38	0.17	2.6 E-1	4.6 E-1	1.0 E+0	1.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Nickel	2	2	100%	10	12	11	11	1.1	36	36	100%	9.2	18	13	13	2.1	9.0 E-1	1.0 E+0	1.0 E+0	9.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Niobium	0	2	0%	NA	NA	0.76	0.76	0	3	36	8%	2.5	3.0	0.76	0.92	0.55	9.6 E-1	1.0 E+0	1.0 E+0	6.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Palladium	2	2	100%	0.36	0.41	0.39	0.39	0.035	36	36	100%	0.24	1.1	0.60	0.58	0.22	1.0 E+0	1.0 E+0	1.0 E+0	8.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Phosphorus	2	2	100%	763	818	791	791	39	36	36	100%	511	1320	820	829	152	8.2 E-1	1.0 E+0	1.0 E+0	7.0 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Platinum	0	2	0%	NA	NA	0.010	0.010	0	0	36	0%	NA	NA	0.010	0.010	0.00025	8.4 E-1	1.0 E+0	NA	5.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Potassium	2	2	100%	1750	1940	1845	1845	134	36	36	100%	2560	12600	3325	4368	2340	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Selenium	0	2	0%	NA	NA	0.16	0.16	0	0	36	0%	NA	NA	0.16	0.16	0.0033	8.4 E-1	1.0 E+0	NA	5.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Silicon	2	2	100%	771	852	812	812	57	36	36	100%	224	1340	618	634	244	1.9 E-2	4.2 E-1	1.0 E+0	8.5 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Silver	2	2	100%	0.091	0.14	0.12	0.12	0.035	36	36	100%	0.046	1.4	0.12	0.19	0.23	9.4 E-1	1.0 E+0	1.0 E+0	5.5 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Sodium	2	2	100%	794	924	859	859	92	36	36	100%	600	2770	1250	1401	597	1.0 E+0	1.0 E+0	1.0 E+0	9.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Strontium	2	2	100%	255	256	256	256	0.71	36	36	100%	146	559	252	270	95	8.2 E-1	1.0 E+0	1.0 E+0	4.5 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Thallium	0	2	0%	NA	NA	0.10	0.10	0	0	36	0%	NA	NA	0.10	0.10	0.0025	8.4 E-1	1.0 E+0	NA	5.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Tin	0	2	0%	NA	NA	0.21	0.21	0.0035	16	36	44%	0.25	0.49	0.026	0.18	0.18	1.6 E-1	1.0 E+0	1.0 E+0	2.5 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Titanium	2	2	100%	470	513	492	492	30	36	36	100%	309	712	525	516	98	7.7 E-1	1.0 E+0	1.0 E+0	6.6 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Tungsten	2	2	100%	0.41	0.48	0.45	0.45	0.050	9	36	25%	0.26	0.60	0.10	0.17	0.15	9.8 E-3	5.1 E-2	1.0 E+0	8.7 E-3	NA	mg/kg	Insufficient data for statistical comparisons.
Uranium	2	2	100%	1.2	1.6	1.4	1.4	0.28	36	36	100%	0.64	2.2	1.2	1.2	0.34	2.1 E-1	4.6 E-1	1.0 E+0	1.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Vanadium	2	2	100%	27	28	27	27	0.50	36	36	100%	25	41	31	32	4.4	1.0 E+0	1.0 E+0	1.0 E+0	9.4 E-1	NA	mg/kg	Insufficient data for statistical comparisons.

Table 2
Summary of Background Metals Evaluation
Deep River Dataset

Chemical	River Site at >= 20 ft bgs (Deep)								River Background at >= 20 ft bgs (Deep)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Zinc	2	2	100%	32	44	38	38	7.9	36	36	100%	26	68	38	40	9.3	5.9 E-1	4.6 E-1	1.0 E+0	5.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Zirconium	2	2	100%	12	13	13	13	1.1	29	36	81%	10	21	15	13	6.6	5.4 E-1	1.0 E+0	1.0 E+0	8.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Radium-226	2	2	100%	0.91	1.3	1.1	1.1	0.26	28	28	100%	0.49	1.4	0.98	0.97	0.23	3.1 E-1	4.7 E-1	1.0 E+0	2.5 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Radium-228	2	2	100%	1.2	1.4	1.3	1.3	0.11	28	28	100%	0.88	1.8	1.4	1.3	0.24	5.3 E-1	1.0 E+0	1.0 E+0	6.0 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-228	2	2	100%	1.3	1.5	1.4	1.4	0.20	33	33	100%	0.94	1.7	1.4	1.4	0.17	4.5 E-1	4.5 E-1	1.0 E+0	4.4 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-230	2	2	100%	1.5	2.2	1.8	1.8	0.48	33	33	100%	0.55	1.9	1.0	1.0	0.30	1.3 E-1	6.1 E-2	5.7 E-2	1.6 E-2	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-232	2	2	100%	1.1	1.3	1.2	1.2	0.13	33	33	100%	0.90	1.7	1.4	1.3	0.20	8.5 E-1	1.0 E+0	1.0 E+0	8.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-233/234	2	2	100%	0.46	0.72	0.59	0.59	0.18	31	34	91%	0.64	2.1	1.0	1.1	0.30	9.4 E-1	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-235/236	0	2	0%	NA	NA	0.012	0.012	0.0013	19	34	56%	0.035	0.096	0.038	0.037	0.022	1.0 E+0	1.0 E+0	1.0 E+0	9.6 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-238	2	2	100%	0.33	0.57	0.45	0.45	0.17	30	34	88%	0.57	2.2	1.0	1.1	0.30	9.6 E-1	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Shallow Mixed Dataset

Chemical	Mixed Site at 0-20 ft bgs (Shallow)								Mixed Background at 0-20 ft bgs (Shallow)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Aluminum	2	2	100%	6410	8190	7300	7300	1259	11	11	100%	4840	10900	6180	6698	2069	3.2 E-1	4.2 E-1	1.0 E+0	8.4 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Antimony	2	2	100%	0.17	0.20	0.19	0.19	0.021	6	11	55%	0.13	0.44	0.16	0.17	0.11	3.8 E-1	1.0 E+0	1.0 E+0	6.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Arsenic	2	2	100%	3.5	4.6	4.1	4.1	0.78	11	11	100%	2.9	5.9	5.3	4.9	1.0	8.3 E-1	1.0 E+0	1.0 E+0	8.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Barium	2	2	100%	447	520	484	484	52	11	11	100%	211	836	424	468	190	4.1 E-1	1.0 E+0	1.0 E+0	2.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Beryllium	2	2	100%	0.48	0.57	0.53	0.53	0.064	11	11	100%	0.38	0.62	0.52	0.50	0.081	3.6 E-1	4.2 E-1	1.0 E+0	3.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Boron	0	2	0%	NA	NA	21	21	0	0	9	0%	NA	NA	3.2	3.2	0	NA	NA	NA	NA	NA	mg/kg	Insufficient data for statistical comparisons.
Cadmium	2	2	100%	0.090	0.11	0.10	0.10	0.014	2	11	18%	0.11	0.14	0.065	0.076	0.025	8.4 E-2	1.0 E+0	1.0 E+0	9.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Calcium	2	2	100%	24700	27000	25850	25850	1626	9	9	100%	8160	36400	16100	18640	10070	3.6 E-2	4.9 E-1	1.0 E+0	1.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Chromium (VI)	0	2	0%	NA	NA	0.50	0.50	0	0	9	0%	NA	NA	0.13	0.13	0.0025	3.6 E-19	1.0 E+0	NA	9.5 E-3	NA	mg/kg	Insufficient data for statistical comparisons.
Chromium (Total)	2	2	100%	8.0	11	9.7	9.7	2.4	11	11	100%	5.0	12	8.8	8.9	1.9	3.5 E-1	4.2 E-1	1.0 E+0	2.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Cobalt	2	2	100%	5.5	6.9	6.2	6.2	0.99	11	11	100%	5.1	12	6.1	6.9	2.3	7.4 E-1	1.0 E+0	1.0 E+0	4.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Copper	2	2	100%	13	14	13	13	0.64	11	11	100%	11	31	18	19	5.6	9.9 E-1	1.0 E+0	1.0 E+0	9.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Iron	2	2	100%	10900	13900	12400	12400	2121	11	11	100%	9180	14000	11200	11700	1710	3.6 E-1	4.2 E-1	1.0 E+0	3.5 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Lead	2	2	100%	12	12	12	12	0.071	11	11	100%	8.9	21	9.9	13	4.7	6.9 E-1	1.0 E+0	1.0 E+0	2.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Lithium	2	2	100%	12	18	15	15	4.3	9	9	100%	9.1	15	12	12	1.9	2.5 E-1	4.9 E-1	1.8 E-1	1.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Magnesium	2	2	100%	6660	7370	7015	7015	502	11	11	100%	4580	9090	5450	6059	1348	7.1 E-2	4.2 E-1	1.0 E+0	1.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Manganese	2	2	100%	342	661	502	502	226	11	11	100%	345	1090	469	507	200	5.1 E-1	4.2 E-1	1.0 E+0	5.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Mercury	1	2	50%	0.0084	0.0084	0.0059	0.0059	0.0036	6	11	55%	0.0097	0.019	0.0097	0.010	0.0068	NA	1.0 E+0	1.0 E+0	8.9 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Molybdenum	2	2	100%	0.38	0.59	0.49	0.49	0.15	11	11	100%	0.22	1.3	0.90	0.86	0.35	9.6 E-1	1.0 E+0	1.0 E+0	9.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Nickel	2	2	100%	13	14	13	13	0.35	11	11	100%	8.9	14	11	11	1.3	1.3 E-3	3.8 E-2	1.0 E+0	3.8 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Niobium	0	2	0%	NA	NA	1.5	1.5	0	0	9	0%	NA	NA	1	1	0	NA	NA	NA	NA	NA	mg/kg	Insufficient data for statistical comparisons.
Palladium	2	2	100%	0.24	0.39	0.32	0.32	0.11	9	9	100%	0.14	0.48	0.22	0.27	0.11	3.2 E-1	4.9 E-1	1.0 E+0	1.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Phosphorus	2	2	100%	845	1060	953	953	152	9	9	100%	636	984	804	798	105	1.9 E-1	4.9 E-1	1.8 E-1	4.9 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Platinum	0	2	0%	NA	NA	0.02	0.02	0	0	9	0%	NA	NA	0.043	0.043	0	NA	NA	NA	NA	NA	mg/kg	Insufficient data for statistical comparisons.
Potassium	2	2	100%	1230	1470	1350	1350	170	9	9	100%	1240	1840	1380	1473	241	7.6 E-1	1.0 E+0	1.0 E+0	8.3 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Selenium	0	2	0%	NA	NA	0.16	0.16	0	8	11	73%	0.17	0.59	0.26	0.26	0.17	9.6 E-1	1.0 E+0	1.0 E+0	2.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Silicon	2	2	100%	825	970	898	898	103	9	9	100%	527	883	690	708	114	8.8 E-2	5.5 E-2	1.8 E-1	2.9 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Silver	2	2	100%	0.076	0.086	0.081	0.081	0.0071	2	11	18%	0.048	0.056	0.13	0.12	0.032	1.0 E+0	1.0 E+0	1.7 E-1	9.5 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Sodium	2	2	100%	386	539	463	463	108	9	9	100%	111	901	265	352	280	2.0 E-1	4.9 E-1	1.0 E+0	1.7 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Strontium	2	2	100%	159	258	209	209	70	9	9	100%	69	219	92	122	56	1.5 E-1	4.9 E-1	1.8 E-1	7.9 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Thallium	0	2	0%	NA	NA	0.10	0.10	0	7	11	64%	0.12	1.4	0.27	0.66	0.51	1.0 E+0	1.0 E+0	1.0 E+0	9.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Tin	0	2	0%	NA	NA	0.21	0.21	0	8	9	89%	0.20	0.34	0.22	0.24	0.075	8.8 E-1	1.0 E+0	1.0 E+0	1.7 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Titanium	2	2	100%	473	479	476	476	4.2	11	11	100%	200	398	244	272	70	9.6 E-7	3.8 E-2	1.3 E-2	1.5 E-2	NA	mg/kg	Insufficient data for statistical comparisons.
Tungsten	1	2	50%	0.22	0.22	0.16	0.16	0.085	0	9	0%	NA	NA	0.0088	0.0088	0	1.2 E-1	1.8 E-1	NA	8.3 E-4	NA	mg/kg	Insufficient data for statistical comparisons.
Uranium	2	2	100%	0.79	0.79	0.79	0.79	0	9	9	100%	0.43	0.84	0.71	0.68	0.14	2.0 E-2	1.0 E+0	1.0 E+0	1.2 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Vanadium	2	2	100%	23	35	29	29	8.8	11	11	100%	19	26	23	23	1.9	2.6 E-1	4.2 E-1	1.5 E-1	2.1 E-1	NA	mg/kg	Insufficient data for statistical comparisons.

Table 2
Summary of Background Metals Evaluation
Shallow Mixed Dataset

Chemical	Mixed Site at 0-20 ft bgs (Shallow)								Mixed Background at 0-20 ft bgs (Shallow)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Zinc	2	2	100%	25	31	28	28	4.3	11	11	100%	21	52	25	31	11	6.9 E-1	1.0 E+0	1.0 E+0	3.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Zirconium	2	2	100%	11	11	11	11	0.071	9	9	100%	60	93	69	75	13	1.0 E+0	1.0 E+0	1.0 E+0	9.8 E-1	NA	mg/kg	Insufficient data for statistical comparisons.
Radium-226	2	2	100%	0.80	1.1	0.95	0.95	0.22	5	9	56%	0.58	0.93	0.76	0.74	0.13	1.0 E-1	4.9 E-1	1.8 E-1	7.9 E-2	NA	pCi/g	Insufficient data for statistical comparisons.
Radium-228	2	2	100%	1.4	1.9	1.6	1.6	0.32	3	3	100%	2.1	2.9	2.4	2.5	0.41	9.6 E-1	1.0 E+0	1.0 E+0	9.6 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-228	2	2	100%	1.3	1.6	1.4	1.4	0.20	11	11	100%	1.2	1.9	1.4	1.5	0.22	5.8 E-1	1.0 E+0	1.0 E+0	5.4 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-230	2	2	100%	1.0	1.4	1.2	1.2	0.27	11	11	100%	0.66	1.4	0.84	0.91	0.20	1.7 E-1	4.2 E-1	1.5 E-1	5.6 E-2	NA	pCi/g	Insufficient data for statistical comparisons.
Thorium-232	2	2	100%	1.1	1.5	1.3	1.3	0.27	11	11	100%	1.1	1.9	1.4	1.4	0.23	6.8 E-1	4.2 E-1	1.0 E+0	5.8 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-233/234	2	2	100%	0.22	0.23	0.23	0.23	0.0092	2	11	18%	0.76	0.79	0.76	0.74	0.13	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-235/236	0	2	0%	NA	NA	0.0015	0.0015	0.00046	5	11	45%	0.054	0.13	0.053	0.059	0.031	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.
Uranium-238	2	2	100%	0.17	0.22	0.20	0.20	0.034	11	11	100%	0.57	0.94	0.66	0.72	0.13	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NA	pCi/g	Insufficient data for statistical comparisons.

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Deep Mixed Dataset

Chemical	Mixed Site at >= 20 ft bgs (Deep)								Mixed Background at >= 20 ft bgs (Deep)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Aluminum	4	4	100%	7600	13400	9540	10020	2474	24	24	100%	7060	12300	9375	9514	1391	3.6 E-1	7.1 E-1	1.4 E-1	4.7 E-1	NO	mg/kg	Multiple tests
Antimony	4	4	100%	0.17	0.20	0.19	0.19	0.013	23	24	96%	0.12	0.26	0.16	0.17	0.043	3.5 E-2	1.0 E+0	1.0 E+0	1.0 E-1	NO	mg/kg	Multiple tests
Arsenic	4	4	100%	4.7	6.0	5.2	5.3	0.56	24	24	100%	4.4	10	7.0	7.1	1.4	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NO	mg/kg	Multiple tests
Barium	4	4	100%	560	869	663	689	130	24	24	100%	262	743	488	500	127	2.7 E-2	2.5 E-1	1.4 E-1	1.1 E-2	NO	mg/kg	Multiple tests
Beryllium	4	4	100%	0.44	0.65	0.50	0.52	0.090	24	24	100%	0.44	0.73	0.56	0.56	0.070	7.5 E-1	7.1 E-1	1.0 E+0	8.0 E-1	NO	mg/kg	Multiple tests
Boron	0	4	0%	NA	NA	10	10	0.025	3	24	13%	4.0	5.0	1.4	1.8	1.1	3.3 E-23	1.7 E-3	1.0 E+0	1.7 E-5	NO	mg/kg	ND at Site.
Cadmium	4	4	100%	0.065	0.080	0.077	0.075	0.0067	22	24	92%	0.051	0.13	0.097	0.087	0.032	9.5 E-1	1.0 E+0	1.0 E+0	9.6 E-1	NO	mg/kg	Multiple tests
Calcium	4	4	100%	13100	23600	22400	20380	4916	24	24	100%	0.43	40500	23100	22760	9662	7.6 E-1	1.0 E+0	1.0 E+0	7.2 E-1	NO	mg/kg	Multiple tests
Chromium (VI)	0	4	0%	NA	NA	0.50	0.50	0	2	14	14%	0.18	0.34	0.088	0.11	0.070	1.2 E-11	1.0 E+0	1.0 E+0	9.2 E-4	NO	mg/kg	ND at Site.
Chromium (Total)	4	4	100%	7.5	15	8.0	9.6	3.5	24	24	100%	1.1	18	15	14	3.5	9.6 E-1	1.0 E+0	1.0 E+0	9.9 E-1	NO	mg/kg	Multiple tests
Cobalt	4	4	100%	3.9	5.0	4.2	4.3	0.48	24	24	100%	4.7	13	7.5	7.5	1.5	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Copper	4	4	100%	9.0	13	11	11	1.7	24	24	100%	9.9	19	15	15	2.1	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Iron	4	4	100%	9600	10900	10140	10190	577	24	24	100%	11900	17200	15400	15120	1528	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Lead	4	4	100%	9.7	14	12	12	1.7	24	24	100%	7.4	21	11	12	2.9	5.1 E-1	7.1 E-1	1.0 E+0	3.1 E-1	NO	mg/kg	Multiple tests
Lithium	4	4	100%	14	17	15	15	1.463	24	24	100%	13	33	21	21	4.1	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Magnesium	4	4	100%	5230	6390	5725	5768	477	24	24	100%	5920	12800	9435	9386	1697	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Manganese	4	4	100%	263	413	302	320	69	24	24	100%	158	836	328	368	189	8.2 E-1	7.1 E-1	1.0 E+0	5.3 E-1	NO	mg/kg	Multiple tests
Mercury	1	4	25%	0.0078	0.0078	0.0033	0.0045	0.0022	10	24	42%	0.0076	0.025	0.0033	0.0068	0.0054	NA	1.0 E+0	1.0 E+0	8.1 E-1	NO	mg/kg	Low detection frequency; site and background datasets similar
Molybdenum	4	4	100%	0.31	0.59	0.45	0.45	0.12	24	24	100%	0.28	1.8	0.56	0.61	0.30	9.6 E-1	1.0 E+0	1.0 E+0	9.1 E-1	NO	mg/kg	Multiple tests
Nickel	4	4	100%	9.1	10	9.3	9.5	0.61	24	24	100%	9.7	17	15	15	1.9	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Niobium	0	4	0%	NA	NA	0.76	0.76	0	3	24	13%	2.8	3.6	0.76	1.0	0.80	9.6 E-1	1.0 E+0	1.0 E+0	7.7 E-1	NO	mg/kg	Multiple tests
Palladium	4	4	100%	0.33	0.81	0.57	0.57	0.20	24	24	100%	0.41	1.1	0.71	0.69	0.20	8.4 E-1	1.0 E+0	1.0 E+0	8.0 E-1	NO	mg/kg	Multiple tests
Phosphorus	4	4	100%	598	828	622	668	109	24	24	100%	594	1200	920	930	124	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Platinum	0	4	0%	NA	NA	0.02	0.02	0	0	24	0%	NA	NA	0.02	0.02	0	NA	NA	NA	NA	NO	mg/kg	ND in both datasets
Potassium	4	4	100%	2100	3000	2430	2490	426	24	24	100%	1220	3440	1960	2038	550	6.1 E-2	2.5 E-1	1.0 E+0	3.8 E-2	NO	mg/kg	Multiple tests
Selenium	0	4	0%	NA	NA	0.32	0.32	0	0	24	0%	NA	NA	0.32	0.32	0	NA	NA	NA	NA	NO	mg/kg	ND in both datasets
Silicon	4	4	100%	974	1120	1052	1050	82	24	24	100%	109	516	193	213	85	1.7 E-5	1.7 E-3	4.9 E-5	8.1 E-4	YES	mg/kg	Multiple tests
Silver	4	4	100%	0.056	0.12	0.089	0.089	0.026	24	24	100%	0.077	0.35	0.11	0.14	0.070	9.8 E-1	1.0 E+0	1.0 E+0	9.5 E-1	NO	mg/kg	Multiple tests
Sodium	4	4	100%	677	1650	1190	1176	430	24	24	100%	235	537	319	337	78	1.5 E-2	1.7 E-3	4.9 E-5	8.1 E-4	YES	mg/kg	Multiple tests
Strontium	4	4	100%	231	564	392	395	139	24	24	100%	153	362	219	230	53	4.8 E-2	3.8 E-2	1.6 E-2	9.1 E-3	YES	mg/kg	t-Test and Quantile.
Thallium	0	4	0%	NA	NA	0.2	0.2	0	0	24	0%	NA	NA	0.2	0.2	0	NA	NA	NA	NA	NO	mg/kg	ND in both datasets
Tin	0	4	0%	NA	NA	0.21	0.21	0	15	24	63%	0.43	0.60	0.45	0.32	0.24	9.9 E-1	1.0 E+0	1.0 E+0	7.9 E-1	NO	mg/kg	ND at Site.
Titanium	4	4	100%	441	468	445	450	12	24	24	100%	323	638	500	495	71	1.0 E+0	1.0 E+0	1.0 E+0	9.7 E-1	NO	mg/kg	Multiple tests
Tungsten	0	4	0%	NA	NA	0.10	0.10	0	15	24	63%	0.24	0.76	0.26	0.28	0.19	1.0 E+0	1.0 E+0	1.0 E+0	9.8 E-1	NO	mg/kg	ND at Site.
Uranium	4	4	100%	0.86	0.98	0.92	0.92	0.057	24	24	100%	0.75	1.6	1.1	1.1	0.18	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NO	mg/kg	Multiple tests
Vanadium	4	4	100%	22	27	22	23	2.7	24	24	100%	29	45	39	39	4.2	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests

Table 2
Summary of Background Metals Evaluation
Deep Mixed Dataset

Chemical	Mixed Site at >= 20 ft bgs (Deep)								Mixed Background at >= 20 ft bgs (Deep)								*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation							
Zinc	4	4	100%	26	28	27	27	1.0	24	24	100%	27	46	33	33	4.4	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Zirconium	4	4	100%	10	11	11	11	0.38	15	24	63%	7.7	18	12	9.0	7.3	1.1 E-1	1.0 E+0	1.0 E+0	5.8 E-1	NO	mg/kg	Multiple tests
Radium-226	4	4	100%	0.70	1.3	0.75	0.87	0.28	14	14	100%	0.39	1.3	0.98	1.0	0.25	8.0 E-1	7.7 E-1	1.0 E+0	9.3 E-1	NO	pCi/g	Multiple tests
Radium-228	4	4	100%	1.3	1.5	1.4	1.4	0.11	13	14	93%	1.1	1.8	1.3	1.3	0.32	2.1 E-1	7.7 E-1	1.0 E+0	2.4 E-1	NO	pCi/g	Multiple tests
Thorium-228	4	4	100%	1.2	1.6	1.3	1.3	0.22	23	23	100%	1.1	1.9	1.6	1.6	0.20	9.5 E-1	1.0 E+0	1.0 E+0	9.7 E-1	NO	pCi/g	Multiple tests
Thorium-230	4	4	100%	1.1	1.9	1.2	1.4	0.36	23	23	100%	0.60	1.5	1.1	1.1	0.20	9.8 E-2	2.7 E-1	1.5 E-1	4.1 E-2	NO	pCi/g	Multiple tests
Thorium-232	4	4	100%	1.1	1.4	1.1	1.2	0.14	23	23	100%	1.1	1.9	1.5	1.5	0.21	1.0 E+0	1.0 E+0	1.0 E+0	9.9 E-1	NO	pCi/g	Multiple tests
Uranium-233/234	4	4	100%	0.23	1.0	0.31	0.46	0.36	7	11	64%	0.98	1.3	1.0	1.1	0.12	9.6 E-1	1.0 E+0	1.0 E+0	9.9 E-1	NO	pCi/g	Multiple tests
Uranium-235/236	1	4	25%	0.027	0.027	0.0035	0.0084	0.013	10	11	91%	0.029	0.062	0.039	0.041	0.013	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Low detection frequency; max background greater than site max
Uranium-238	4	4	100%	0.21	1.0	0.24	0.43	0.41	7	11	64%	0.90	1.2	1.0	1.0	0.070	9.4 E-1	1.0 E+0	1.0 E+0	9.8 E-1	NO	pCi/g	Multiple tests

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Upper Muddy Creek Formation (UMCf) Dataset

Chemical	UMCf Site No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	UMCf Background No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
Aluminum	10	10	100%	7090	18100	13700	13410	3967	24	24	100%	3190	19700	9335	9847	4171	1.5 E-2	6.0 E-2	1.0 E+0	1.6 E-2	NO	mg/kg	Quantile and Slippage; site and background datasets similar
Antimony	6	10	60%	0.15	0.55	0.20	0.25	0.20	23	24	96%	0.066	0.34	0.16	0.17	0.064	1.3 E-1	1.5 E-1	6.8 E-2	2.3 E-1	NO	mg/kg	Multiple tests
Arsenic	10	10	100%	5.6	27	12	13	5.9	24	24	100%	2.1	25	7.7	8.8	5.4	3.7 E-2	2.3 E-1	2.9 E-1	1.5 E-2	NO	mg/kg	Multiple tests
Barium	10	10	100%	39	873	124	195	253	24	24	100%	65	620	203	264	166	7.8 E-1	8.3 E-1	2.9 E-1	9.8 E-1	NO	mg/kg	Multiple tests
Beryllium	10	10	100%	0.38	1.1	0.84	0.79	0.26	24	24	100%	0.17	1.1	0.59	0.56	0.24	1.2 E-2	8.8 E-3	1.0 E+0	9.0 E-3	YES	mg/kg	Multiple tests
Boron	6	10	60%	11	29	19	20	7.2	7	24	29%	4.4	23	1.4	5.7	8.0	5.2 E-5	6.0 E-2	5.5 E-4	2.4 E-6	YES	mg/kg	Low detection frequency; site max, mean and median greater than background
Cadmium	6	10	60%	0.066	0.55	0.37	0.42	0.43	18	24	75%	0.060	0.20	0.099	0.083	0.054	1.8 E-2	2.3 E-1	4.9 E-3	3.9 E-4	YES	mg/kg	Multiple tests
Calcium	10	10	100%	5280	153000	27200	51500	54110	24	24	100%	4190	38600	22150	22610	10060	6.4 E-2	2.3 E-1	2.0 E-2	8.1 E-2	NO	mg/kg	Multiple tests
Chromium (VI)	1	10	10%	0.25	0.25	0.40	0.42	0.16	2	23	9%	0.18	0.19	0.090	0.098	0.028	6.3 E-5	6.8 E-1	5.0 E-2	2.6 E-6	YES	mg/kg	Low detection frequency; site max, mean and median greater than background
Chromium (Total)	10	10	100%	11	42	23	23	9.8	24	24	100%	2.9	28	13	13	7.5	5.4 E-3	6.0 E-2	2.0 E-2	2.6 E-3	YES	mg/kg	Multiple tests
Cobalt	10	10	100%	2.9	11	7.6	7.2	2.4	24	24	100%	1.6	9.7	6.5	5.8	2.7	6.9 E-2	5.4 E-1	2.9 E-1	5.2 E-2	NO	mg/kg	Multiple tests
Copper	10	10	100%	6.1	39	22	21	10	24	24	100%	4.1	21	14	12	5.4	1.4 E-2	8.8 E-3	1.6 E-4	2.3 E-3	YES	mg/kg	Multiple tests
Iron	10	10	100%	6610	20900	16400	15740	5074	24	24	100%	3620	20100	12800	12550	5283	5.9 E-2	5.4 E-1	2.0 E-2	5.2 E-2	NO	mg/kg	Multiple tests
Lead	10	10	100%	5.4	13	8.5	9.1	2.7	24	24	100%	4.4	16	11	11	3.5	9.3 E-1	9.8 E-1	1.0 E+0	9.2 E-1	NO	mg/kg	Multiple tests
Lithium	10	10	100%	32	131	52	61	30	24	24	100%	18	189	32	53	52	2.8 E-1	6.0 E-2	1.0 E+0	1.8 E-2	NO	mg/kg	Multiple tests
Magnesium	10	10	100%	15200	75000	36850	41640	21990	24	24	100%	2780	31000	10250	11300	6175	8.7 E-4	2.1 E-5	2.2 E-5	1.6 E-5	YES	mg/kg	Multiple tests
Manganese	10	10	100%	252	462	323	331	70	24	24	100%	126	786	295	307	157	2.7 E-1	5.4 E-1	1.0 E+0	1.8 E-1	NO	mg/kg	Multiple tests
Mercury	3	10	30%	0.0086	0.012	0.011	0.014	0.0093	5	20	25%	0.0080	0.012	0.0033	0.0050	0.0031	NA	5.5 E-1	1.0 E+0	2.5 E-3	NO	mg/kg	Low detection frequency; site and background datasets similar
Molybdenum	10	10	100%	0.34	3.8	1.3	1.6	1.2	23	24	96%	0.12	1.1	0.50	0.50	0.27	1.0 E-2	8.8 E-3	1.6 E-4	1.1 E-3	YES	mg/kg	Multiple tests
Nickel	10	10	100%	9.9	23	20	18	5.0	24	24	100%	4.5	31	14	14	6.3	2.7 E-2	6.0 E-2	1.0 E+0	2.8 E-2	NO	mg/kg	Multiple tests
Niobium	0	10	0%	NA	NA	0.76	1.6	1.2	1	24	4%	4.0	4.0	0.76	0.90	0.66	6.6 E-2	6.7 E-2	1.0 E+0	9.9 E-3	NO	mg/kg	ND at Site.
Palladium	10	10	100%	0.18	0.73	0.38	0.42	0.19	24	24	100%	0.16	1.0	0.62	0.55	0.24	9.5 E-1	9.8 E-1	1.0 E+0	9.3 E-1	NO	mg/kg	Multiple tests
Phosphorus	10	10	100%	434	1350	949	894	283	24	24	100%	299	1370	843	794	295	1.8 E-1	8.3 E-1	1.0 E+0	2.5 E-1	NO	mg/kg	Multiple tests
Platinum	0	10	0%	NA	NA	0.010	0.034	0.031	2	24	8%	0.027	0.033	0.010	0.012	0.0057	2.6 E-2	4.8 E-2	1.0 E+0	1.8 E-2	NO	mg/kg	ND at Site.
Potassium	10	10	100%	2160	7340	3715	3837	1593	24	24	100%	1030	6190	2820	3070	1421	1.0 E-1	6.0 E-2	2.9 E-1	9.0 E-2	NO	mg/kg	Multiple tests
Selenium	2	10	20%	0.30	0.52	0.16	0.25	0.13	0	24	0%	NA	NA	0.16	0.16	0.0082	2.8 E-2	2.0 E-2	NA	9.9 E-2	YES	mg/kg	ND in background.
Silicon	10	10	100%	548	1620	990	1040	304	24	24	100%	188	1000	304	373	207	1.4 E-5	2.1 E-5	9.1 E-4	1.2 E-5	YES	mg/kg	Multiple tests
Silver	9	10	90%	0.11	0.33	0.20	0.21	0.082	24	24	100%	0.051	0.82	0.14	0.21	0.18	4.8 E-1	4.4 E-1	1.0 E+0	8.7 E-2	NO	mg/kg	Multiple tests
Sodium	10	10	100%	541	1310	1050	1037	240	24	24	100%	259	1200	460	610	290	1.2 E-4	3.1 E-2	2.0 E-2	4.7 E-4	YES	mg/kg	Multiple tests
Strontium	10	10	100%	118	555	166	203	128	24	24	100%	69	324	224	207	71	5.3 E-1	9.8 E-1	2.9 E-1	9.5 E-1	NO	mg/kg	Multiple tests
Thallium	2	10	20%	0.28	0.53	0.41	0.65	0.91	0	24	0%	NA	NA	0.10	0.10	0.0051	4.4 E-2	1.6 E-4	NA	9.0 E-5	YES	mg/kg	ND in background.
Tin	6	10	60%	0.58	0.90	0.68	0.64	0.23	20	24	83%	0.24	0.96	0.52	0.47	0.28	3.9 E-2	6.0 E-2	1.0 E+0	1.9 E-3	NO	mg/kg	Multiple tests
Titanium	10	10	100%	260	1190	647	649	277	24	24	100%	175	1000	565	503	200	7.6 E-2	6.0 E-2	2.9 E-1	3.2 E-2	NO	mg/kg	Multiple tests
Tungsten	4	10	40%	0.28	0.93	0.25	0.33	0.31	5	24	21%	0.26	0.58	0.10	0.16	0.13	6.4 E-2	2.3 E-1	8.0 E-2	1.1 E-2	YES	mg/kg	Low detection frequency; site max, mean and median greater than background
Uranium	10	10	100%	2.2	14	3.6	4.7	3.5	24	24	100%	0.31	4.4	1.2	1.3	0.85	7.0 E-3	2.1 E-5	8.0 E-2	1.3 E-5	YES	mg/kg	Multiple tests
Vanadium	10	10	100%	22	61	37	38	12	24	24	100%	10	46	33	31	13	5.8 E-2	2.3 E-1	4.5 E-3	8.1 E-2	NO	mg/kg	Multiple tests

Table 2
Summary of Background Metals Evaluation
Upper Muddy Creek Formation (UMCf) Dataset

Chemical	UMCf Site No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	UMCf Background No. of Detects	Total Samples	% Detects	Minimum Detect	Maximum Detect	Median	Mean	Standard Deviation	*t* Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Bckrnd?	Units	Basis
Zinc	10	10	100%	24	177	52	61	44	24	24	100%	16	61	34	34	12	4.2 E-2	8.8 E-3	8.0 E-2	4.3 E-3	YES	mg/kg	Site max > 2 times max background.
Zirconium	9	10	90%	12	40	26	24	9.6	24	24	100%	6.2	37	18	20	8.5	1.1 E-1	2.3 E-1	2.9 E-1	4.4 E-2	NO	mg/kg	Multiple tests
Radium-226	10	10	100%	1.1	2.9	1.7	1.8	0.67	14	18	78%	0.75	1.6	1.0	1.0	0.21	8.9 E-4	3.3 E-3	2.6 E-3	8.8 E-5	YES	pCi/g	Multiple tests
Radium-228	9	10	90%	0.54	1.7	1.4	1.3	0.36	17	18	94%	0.99	1.6	1.3	1.3	0.17	5.2 E-1	1.8 E-1	1.2 E-1	3.2 E-1	NO	pCi/g	Multiple tests
Thorium-228	10	10	100%	0.47	1.7	1.4	1.3	0.42	24	24	100%	1.0	2.2	1.3	1.4	0.25	7.9 E-1	8.3 E-1	1.0 E+0	5.8 E-1	NO	pCi/g	Multiple tests
Thorium-230	10	10	100%	1.2	9.6	2.4	2.9	2.4	24	24	100%	0.50	2.1	0.98	1.0	0.33	1.9 E-2	2.1 E-5	1.6 E-4	8.2 E-6	YES	pCi/g	Multiple tests
Thorium-232	10	10	100%	0.47	18	1.2	2.8	5.4	24	24	100%	0.97	2.1	1.3	1.3	0.23	2.1 E-1	5.4 E-1	2.9 E-1	7.9 E-1	NO	pCi/g	Multiple tests
Uranium-233/234	10	10	100%	0.44	2.7	1.4	1.6	0.82	12	20	60%	0.63	1.8	1.0	1.1	0.25	1.5 E-2	5.6 E-2	7.7 E-3	2.0 E-1	YES	pCi/g	t-Test and slippage.
Uranium-235/236	7	10	70%	0.029	0.17	0.044	0.071	0.049	14	20	70%	0.029	0.10	0.039	0.043	0.024	9.0 E-2	2.3 E-1	3.0 E-2	5.7 E-2	NO	pCi/g	Multiple tests
Uranium-238	10	10	100%	0.34	2.7	1.3	1.6	0.88	11	20	55%	0.84	1.8	1.0	1.1	0.22	1.5 E-2	5.6 E-2	7.7 E-3	2.1 E-1	YES	pCi/g	t-Test and slippage.

Note: Summary and background comparison statistics were performed using one-half the detection limit for metals and using GISdT® (Neptune and Company 2007).
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

Table 2
Summary of Background Metals Evaluation
Borings within each Dataset

Depth	Dataset	Borings
< 20 ft	McC Shallow	AA-UW-1 AA-UW-2 AA-UW-3 AA-UW-4 SB-01-B SB-27-A
< 20 ft	Mixed Shallow	AA-UW-5
< 20 ft	River Shallow	AA-UW-6

Depth	Dataset	Wells
>= 20 ft	McC Deep	AA-UW-1 AA-UW-2 AA-UW-3 AA-UW-4 SB-01-B SB-27-A
>= 20 ft	Mixed Deep	AA-UW-5
>= 20 ft	River Deep	AA-UW-6

Depth	Dataset	Wells
> contact	TMC	AA-UW-1 AA-UW-3 AA-UW-4 AA-UW-5 AA-UW-6 SB-01-B SB-27-A

Table 3
Summary of Soil Analytical Results - Nonmetals
Detected analytes only-Statistics

Parameter of Interest	Compound List	Units	Total Count	No. of Detects	Detect Freq.	Min Detect	Max Detect	Resident Soil BCL	Count of Detects > BCL
Aldehydes	Formaldehyde	mg/kg	14	6	43%	0.081	0.15	10.6	0
Dioxins/Furans	TCDD TEQ	mg/kg	11	11	100%	0.14	8	50[a]	0
General Chemistry	Cyanide (Total)	mg/kg	26	1	4%	1.9	1.9	1220	0
	Sulfide	mg/kg	26	1	4%	12.9	12.9	--	--
	Chlorate	mg/kg	29	2	7%	1.5	1.8	--	--
	Bromide	mg/kg	29	4	14%	0.91	1.3	--	--
	Orthophosphate as P	mg/kg	29	4	14%	0.89	3.2	--	--
	Bromine	mg/kg	14	2	14%	2	2.6	--	--
	Nitrite (as N)	mg/kg	29	6	21%	0.25	3.6	--	--
	Total Kjeldahl Nitrogen (TKN)	mg/kg	26	11	42%	23.5	104	--	--
	Perchlorate	mg/kg	69	43	62%	0.0052	2.5	54.8	0
	Fluoride	mg/kg	29	21	72%	0.44	7.1	3670	0
	Nitrate (as N)	mg/kg	29	26	90%	0.27	6	--	--
	Chloride	mg/kg	29	29	100%	2.4	367	--	--
	Chlorine	mg/kg	14	14	100%	12.2	734	7820	0
	Sulfate	mg/kg	29	29	100%	15.2	2330	--	--
OCPs	4,4-DDD	mg/kg	55	4	7%	0.0019	0.0032	2.44	0
	4,4-DDE	mg/kg	55	4	7%	0.0021	0.0033	1.72	0
	4,4-DDT	mg/kg	55	5	9%	0.0065	0.012	1.72	0
	alpha-BHC	mg/kg	55	6	11%	0.0054	0.022	0.0902	0
	beta-BHC	mg/kg	55	6	11%	0.0022	0.034	0.316	0
	Lindane	mg/kg	55	6	11%	0.004	0.0096	0.437	0
	Methoxychlor	mg/kg	55	6	11%	0.036	0.11	306	0
OPPs	Disulfoton	mg/kg	14	1	7%	0.004	0.004	2.44	0
	Chlorpyrifos	mg/kg	13	1	8%	0.0042	0.0042	183	0
	Malathion	mg/kg	13	1	8%	0.0053	0.0053	1220	0
	Dichlorvos	mg/kg	13	2	15%	0.0074	0.0074	1.68	0
	Ethoprophos	mg/kg	13	2	15%	0.005	0.0057	--	--
	Phorate	mg/kg	13	2	15%	0.0046	0.0049	--	--
	Ronnel	mg/kg	13	2	15%	0.0033	0.0037	3060	0
	Sulfotep	mg/kg	13	2	15%	0.0041	0.0051	--	--
SVOCs	bis(2-Ethylhexyl) phthalate	mg/kg	50	1	2%	1.7	1.7	34.7	0
VOCs	Chloroform	mg/kg	16	1	6%	0.0013	0.0013	0.245	0
	m,p-Xylene	mg/kg	18	2	11%	0.0011	0.0025	195	0
	o-Xylene	mg/kg	18	2	11%	0.00058	0.0011	282	0
	Xylenes (total)	mg/kg	18	2	11%	0.0017	0.0036	193	0
	Toluene	mg/kg	29	4	14%	0.00043	0.0011	521	0
	1,2,4-Trimethylbenzene	mg/kg	27	4	15%	0.00046	0.00073	8.94	0
	Ethylbenzene	mg/kg	19	3	16%	0.00025	0.0008	234	0
	Methyl ethyl ketone	mg/kg	16	4	25%	0.0071	0.013	22600	0
	Acetonitrile	mg/kg	21	6	29%	0.0067	0.013	623	0
	Tetrachloroethylene	mg/kg	18	8	44%	0.00023	0.0077	0.554	0
	Acetone	mg/kg	26	12	46%	0.0052	0.058	14200	0
	Benzene	mg/kg	16	8	50%	0.00049	0.0011	0.656	0
	Dichloromethane	mg/kg	34	25	74%	0.0027	0.045	8.9	0

Notes:

BCL = Basic Comparison Levels (BCLs) from NDEP 2008. Values used are residential soil BCLs (PRGs).
SSL = Soil screening levels from NDEP 2008.
Max = Maximum
Min = Minimum
a - ATSDR screening value of 50 parts per trillion (ppt).
-- = Not applicable or no value has been established.

Table 4
Summary of Soil Analytical Results - Nonmetals
Detected analytes only-Selected Parameters

BORING	DATE	DEPTH (FT)	ANALYTE	RESULT	UNIT
AA-UW-4	8/6/2007	10	1,2,4-Trimethylbenzene	0.00046	mg/kg
AA-UW-4	8/6/2007	20	1,2,4-Trimethylbenzene	0.0005	mg/kg
AA-UW-4	8/6/2007	40	1,2,4-Trimethylbenzene	0.00073	mg/kg
SB-01-B	5/10/2004	7	1,2,4-Trimethylbenzene	0.00072	mg/kg
SB-01-B	5/10/2004	0	4,4-DDD	0.0032	mg/kg
SB-01-B	5/10/2004	7	4,4-DDD	0.0023	mg/kg
SB-27-A	6/24/2004	0	4,4-DDD	0.0031	mg/kg
SB-27-A	6/24/2004	7	4,4-DDD	0.0019	mg/kg
AA-UW-1	7/30/2007	0	4,4-DDE	0.0026	mg/kg
SB-01-B	5/10/2004	0	4,4-DDE	0.0021	mg/kg
SB-01-B	5/10/2004	7	4,4-DDE	0.0024	mg/kg
SB-27-A	6/24/2004	0	4,4-DDE	0.0033	mg/kg
SB-01-B	5/10/2004	0	4,4-DDT	0.009	mg/kg
SB-01-B	5/10/2004	7	4,4-DDT	0.0092	mg/kg
SB-27-A	6/24/2004	0	4,4-DDT	0.012	mg/kg
SB-27-A	6/24/2004	7	4,4-DDT	0.0094	mg/kg
SB-27-A	6/29/2004	107	4,4-DDT	0.0065	mg/kg
AA-UW-1	7/30/2007	5	Acetone	0.0068	mg/kg
AA-UW-1	7/30/2007	10	Acetone	0.0066	mg/kg
AA-UW-1	7/30/2007	50	Acetone	0.014	mg/kg
AA-UW-1	7/30/2007	60	Acetone	0.028	mg/kg
AA-UW-4	8/6/2007	20	Acetone	0.0052	mg/kg
AA-UW-4	8/6/2007	30	Acetone	0.0059	mg/kg
AA-UW-4	8/6/2007	40	Acetone	0.0053	mg/kg
AA-UW-6	8/7/2007	10	Acetone	0.014	mg/kg
AA-UW-6	8/7/2007	40	Acetone	0.0055	mg/kg
SB-01-B	5/10/2004	0	Acetone	0.033	mg/kg
SB-01-B	5/10/2004	7	Acetone	0.058	mg/kg
SB-27-A	6/24/2004	0	Acetone	0.054	mg/kg
SB-01-B	5/10/2004	0	alpha-BHC	0.022	mg/kg
SB-01-B	5/10/2004	0	alpha-BHC	0.021	mg/kg
SB-01-B	5/10/2004	7	alpha-BHC	0.013	mg/kg
SB-01-B	5/11/2004	93	alpha-BHC	0.0054	mg/kg
SB-27-A	6/24/2004	0	alpha-BHC	0.02	mg/kg
SB-27-A	6/24/2004	0	alpha-BHC	0.02	mg/kg
SB-27-A	6/24/2004	7	alpha-BHC	0.011	mg/kg
SB-27-A	6/29/2004	107	alpha-BHC	0.0066	mg/kg

Table 4
Summary of Soil Analytical Results - Nonmetals
Detected analytes only-Selected Parameters

BORING	DATE	DEPTH (FT)	ANALYTE	RESULT	UNIT
AA-UW-1	7/30/2007	0	beta-BHC	0.0065	mg/kg
SB-01-B	5/10/2004	0	beta-BHC	0.034	mg/kg
SB-01-B	5/10/2004	0	beta-BHC	0.03	mg/kg
SB-01-B	5/10/2004	7	beta-BHC	0.012	mg/kg
SB-01-B	5/10/2004	17	beta-BHC	0.0025	mg/kg
SB-27-A	6/24/2004	0	beta-BHC	0.0052	mg/kg
SB-27-A	6/24/2004	7	beta-BHC	0.0022	mg/kg
SB-01-B	5/10/2004	0	Lindane	0.0091	mg/kg
SB-01-B	5/10/2004	7	Lindane	0.0057	mg/kg
SB-01-B	5/11/2004	93	Lindane	0.004	mg/kg
SB-27-A	6/24/2004	0	Lindane	0.0096	mg/kg
SB-27-A	6/24/2004	7	Lindane	0.0052	mg/kg
SB-27-A	6/29/2004	107	Lindane	0.0048	mg/kg
AA-UW-2	7/31/2007	10	Ethylbenzene	0.00025	mg/kg
AA-UW-3	8/5/2007	30	Ethylbenzene	0.00028	mg/kg
AA-UW-4	8/6/2007	5	Ethylbenzene	0.00054	mg/kg
AA-UW-4	8/6/2007	40	Ethylbenzene	0.0008	mg/kg
AA-UW-1	7/30/2007	10	Nitrate (as N)	6	mg/kg
AA-UW-1	7/30/2007	10	Nitrate (as N)	4.8	mg/kg
AA-UW-1	7/30/2007	30	Nitrate (as N)	1.6	mg/kg
AA-UW-1	7/30/2007	40	Nitrate (as N)	1.4	mg/kg
AA-UW-1	7/30/2007	50	Nitrate (as N)	0.83	mg/kg
AA-UW-1	7/30/2007	60	Nitrate (as N)	0.27	mg/kg
AA-UW-2	7/31/2007	10	Nitrate (as N)	1.6	mg/kg
AA-UW-2	7/31/2007	70	Nitrate (as N)	2.2	mg/kg
AA-UW-3	8/5/2007	10	Nitrate (as N)	8.5	mg/kg
AA-UW-3	8/5/2007	80	Nitrate (as N)	1.4	mg/kg
AA-UW-4	8/6/2007	10	Nitrate (as N)	0.6	mg/kg
AA-UW-4	8/6/2007	50	Nitrate (as N)	2.7	mg/kg
AA-UW-5	8/7/2007	10	Nitrate (as N)	2	mg/kg
AA-UW-5	8/7/2007	60	Nitrate (as N)	2.6	mg/kg
AA-UW-6	8/7/2007	10	Nitrate (as N)	2	mg/kg
AA-UW-6	8/7/2007	50	Nitrate (as N)	0.39	mg/kg
SB-01-B	5/10/2004	0	Nitrate (as N)	3.2	mg/kg
SB-01-B	5/10/2004	7	Nitrate (as N)	3.6	mg/kg
SB-01-B	5/10/2004	17	Nitrate (as N)	1.9	mg/kg
SB-01-B	5/10/2004	27	Nitrate (as N)	0.54	mg/kg
SB-01-B	5/10/2004	47	Nitrate (as N)	0.52	mg/kg
SB-01-B	5/11/2004	77	Nitrate (as N)	0.64	mg/kg
SB-01-B	5/11/2004	93	Nitrate (as N)	1.5	mg/kg
SB-27-A	6/24/2004	7	Nitrate (as N)	0.88	mg/kg
SB-27-A	6/24/2004	27	Nitrate (as N)	0.82	mg/kg
SB-27-A	6/24/2004	57	Nitrate (as N)	0.87	mg/kg
SB-27-A	6/29/2004	97	Nitrate (as N)	3.3	mg/kg
SB-27-A	6/29/2004	107	Nitrate (as N)	2.4	mg/kg

Table 4
Summary of Soil Analytical Results - Nonmetals
Detected analytes only-Selected Parameters

BORING	DATE	DEPTH (FT)	ANALYTE	RESULT	UNIT
AA-UW-1	7/30/2007	5	Perchlorate	0.272	mg/kg
AA-UW-1	7/30/2007	10	Perchlorate	1.55	mg/kg
AA-UW-1	7/30/2007	10	Perchlorate	1.41	mg/kg
AA-UW-1	7/30/2007	30	Perchlorate	0.0449	mg/kg
AA-UW-1	7/30/2007	40	Perchlorate	0.0447	mg/kg
AA-UW-1	7/30/2007	50	Perchlorate	0.0716	mg/kg
AA-UW-1	7/30/2007	60	Perchlorate	0.1	mg/kg
AA-UW-2	7/31/2007	5	Perchlorate	0.0742	mg/kg
AA-UW-2	7/31/2007	10	Perchlorate	0.142	mg/kg
AA-UW-3	8/5/2007	5	Perchlorate	1.2	mg/kg
AA-UW-3	8/5/2007	30	Perchlorate	0.0072	mg/kg
AA-UW-3	8/5/2007	60	Perchlorate	0.0038	mg/kg
AA-UW-3	8/5/2007	70	Perchlorate	0.0105	mg/kg
AA-UW-4	8/6/2007	5	Perchlorate	0.0349	mg/kg
AA-UW-4	8/6/2007	10	Perchlorate	0.0078	mg/kg
AA-UW-4	8/6/2007	30	Perchlorate	0.0077	mg/kg
AA-UW-4	8/6/2007	40	Perchlorate	0.0162	mg/kg
AA-UW-5	8/7/2007	5	Perchlorate	0.222	mg/kg
AA-UW-6	8/7/2007	5	Perchlorate	0.284	mg/kg
AA-UW-6	8/7/2007	10	Perchlorate	0.0117	mg/kg
AA-UW-6	8/7/2007	20	Perchlorate	0.138	mg/kg
AA-UW-6	8/7/2007	40	Perchlorate	0.162	mg/kg
AA-UW-6	8/7/2007	40	Perchlorate	0.107	mg/kg
SB-01-B	5/10/2004	0	Perchlorate	1.99	mg/kg
SB-01-B	5/10/2004	7	Perchlorate	0.19	mg/kg
SB-01-B	5/10/2004	27	Perchlorate	0.0052	mg/kg
SB-01-B	5/10/2004	47	Perchlorate	0.0088	mg/kg
SB-01-B	5/12/2004	60	Perchlorate	2.5	mg/kg
SB-01-B	5/11/2004	77	Perchlorate	0.0482	mg/kg
SB-01-B	5/11/2004	80	Perchlorate	0.17	mg/kg
SB-01-B	5/11/2004	93	Perchlorate	0.0249	mg/kg
SB-01-B	5/11/2004	120	Perchlorate	0.1	mg/kg
SB-01-B	5/12/2004	180	Perchlorate	0.095	mg/kg
SB-01-B	5/12/2004	214	Perchlorate	0.017	mg/kg
SB-27-A	6/24/2004	0	Perchlorate	0.295	mg/kg
SB-27-A	6/24/2004	7	Perchlorate	0.117	mg/kg
SB-27-A	6/24/2004	17	Perchlorate	0.132	mg/kg
SB-27-A	6/24/2004	27	Perchlorate	0.0892	mg/kg
SB-27-A	6/24/2004	47	Perchlorate	0.0487	mg/kg
SB-27-A	6/24/2004	57	Perchlorate	0.046	mg/kg
SB-27-A	6/29/2004	77	Perchlorate	0.0505	mg/kg
SB-27-A	6/29/2004	97	Perchlorate	0.106	mg/kg
SB-27-A	6/29/2004	102	Perchlorate	0.0611	mg/kg
SB-27-A	6/29/2004	107	Perchlorate	0.103	mg/kg
SB-27-B	7/7/2004	120	Perchlorate	0.0308	mg/kg
SB-27-B	7/7/2004	125	Perchlorate	0.0294	mg/kg
SB-27-B	7/7/2004	131	Perchlorate	0.0064	mg/kg

Table 4
Summary of Soil Analytical Results - Nonmetals
Detected analytes only-Selected Parameters

BORING	DATE	DEPTH (FT)	ANALYTE	RESULT	UNIT
AA-UW-1	7/30/2007	10	Sulfate	725	mg/kg
AA-UW-1	7/30/2007	10	Sulfate	511	mg/kg
AA-UW-1	7/30/2007	30	Sulfate	62	mg/kg
AA-UW-1	7/30/2007	40	Sulfate	69.6	mg/kg
AA-UW-1	7/30/2007	50	Sulfate	754	mg/kg
AA-UW-1	7/30/2007	60	Sulfate	271	mg/kg
AA-UW-2	7/31/2007	10	Sulfate	197	mg/kg
AA-UW-2	7/31/2007	70	Sulfate	424	mg/kg
AA-UW-3	8/5/2007	10	Sulfate	216	mg/kg
AA-UW-3	8/5/2007	80	Sulfate	589	mg/kg
AA-UW-4	8/6/2007	10	Sulfate	24.4	mg/kg
AA-UW-4	8/6/2007	50	Sulfate	746	mg/kg
AA-UW-5	8/7/2007	10	Sulfate	15.2	mg/kg
AA-UW-5	8/7/2007	60	Sulfate	89.3	mg/kg
AA-UW-6	8/7/2007	10	Sulfate	23.7	mg/kg
AA-UW-6	8/7/2007	50	Sulfate	567	mg/kg
SB-01-B	5/10/2004	0	Sulfate	19.6	mg/kg
SB-01-B	5/10/2004	7	Sulfate	54.9	mg/kg
SB-01-B	5/10/2004	17	Sulfate	191	mg/kg
SB-01-B	5/10/2004	27	Sulfate	59	mg/kg
SB-01-B	5/10/2004	47	Sulfate	142	mg/kg
SB-01-B	5/11/2004	77	Sulfate	408	mg/kg
SB-01-B	5/11/2004	93	Sulfate	133	mg/kg
SB-27-A	6/24/2004	0	Sulfate	69.4	mg/kg
SB-27-A	6/24/2004	7	Sulfate	2330	mg/kg
SB-27-A	6/24/2004	17	Sulfate	311	mg/kg
SB-27-A	6/24/2004	27	Sulfate	308	mg/kg
SB-27-A	6/24/2004	47	Sulfate	137	mg/kg
SB-27-A	6/24/2004	57	Sulfate	241	mg/kg
SB-27-A	6/29/2004	97	Sulfate	898	mg/kg
SB-27-A	6/29/2004	107	Sulfate	856	mg/kg
AA-UW-1	7/30/2007	50	Tetrachloroethylene	0.0018	mg/kg
AA-UW-1	7/30/2007	60	Tetrachloroethylene	0.00068	mg/kg
SB-01-B	5/10/2004	0	Tetrachloroethylene	0.00029	mg/kg
SB-01-B	5/10/2004	7	Tetrachloroethylene	0.00027	mg/kg
SB-01-B	5/10/2004	27	Tetrachloroethylene	0.00023	mg/kg
SB-01-B	5/10/2004	47	Tetrachloroethylene	0.00068	mg/kg
SB-01-B	5/11/2004	77	Tetrachloroethylene	0.0077	mg/kg
SB-01-B	5/11/2004	93	Tetrachloroethylene	0.00043	mg/kg

Table 5. Summary of Groundwater Sampling Data - Upgradient Wells
Detections exceeding Nevada Basic Comparison Levels (BCLs)

Event	Well	Method	Chemical	Result	Unit	Nevada BCL
1st	AA-01	SW6020	Arsenic	67.3	ug/L	0.0448
2nd	AA-01	SW6020	Arsenic	66.3	ug/L	0.0448
3rd	AA-01	SW6020	Arsenic	68.8	ug/L	0.0448
4th	AA-01	SW6020	Arsenic	78.3	ug/L	0.0448
1st	AA-01	SW8260	Tetrachloroethylene	81	ug/L	0.105
2nd	AA-01	SW8260	Tetrachloroethylene	45	ug/L	0.105
3rd	AA-01	SW8260	Tetrachloroethylene	42	ug/L	0.105
4th	AA-01	SW8260	Tetrachloroethylene	84	ug/L	0.105
5th	AA-01	SW8260	Tetrachloroethylene	54	ug/L	0.105
1st	AA-01	SW8290	Octachlorodibenzodioxin	49	pg/l	0.448
2nd	AA-01	SW6020	Phosphorus (as P)	100	ug/L	0.73
1st	AA-01	E300.0	Chlorine	1780	mg/L	3.65
2nd	AA-01	E300.0	Chlorine	1700	mg/L	3.65
3rd	AA-01	E300.0	Chlorine	1510	mg/L	3.65
4th	AA-01	E300.0	Chlorine	1940	mg/L	3.65
5th	AA-01	E300.0	Chlorine	1420	mg/L	3.65
1st	AA-01	SW8260	Trichloroethylene	0.34	ug/L	0.028
2nd	AA-01	SW8260	Trichloroethylene	0.29	ug/L	0.028
3rd	AA-01	SW8260	Trichloroethylene	0.46	ug/L	0.028
4th	AA-01	SW8260	Trichloroethylene	0.44	ug/L	0.028
5th	AA-01	SW8260	Trichloroethylene	0.41	ug/L	0.028
1st	AA-01	SW8260	Chloroform	4	ug/L	0.167
2nd	AA-01	SW8260	Chloroform	3.2	ug/L	0.167
3rd	AA-01	SW8260	Chloroform	7.9	ug/L	0.167
4th	AA-01	SW8260	Chloroform	5.5	ug/L	0.167
5th	AA-01	SW8260	Chloroform	5	ug/L	0.167
2nd	AA-01	EPA 8315A	Acetaldehyde	30	ug/L	1.75
1st	AA-01	E314.0	Perchlorate	1170	ug/L	18
2nd	AA-01	E314.0	Perchlorate	1530	ug/L	18
3rd	AA-01	E314.0	Perchlorate	1550	ug/L	18
4th	AA-01	E314.0	Perchlorate	1290	ug/L	18
3rd	AA-01	SW8260	Bromodichloromethane	0.21	ug/L	0.181
2nd	AA-01	E300	Fluoride	3.5	mg/L	2.19
3rd	AA-01	E300	Fluoride	3.1	mg/L	2.19
2nd	AA-01	SW6020	Thallium	10	ug/L	2.56
2nd	AA-01	Alpha Acids	Dimethyl phosphorodithioic acid	13	mg/L	3.65
1st	AA-01	E300	Nitrate (as N)	11.8	mg/L	10
2nd	AA-01	E300	Nitrate (as N)	12.4	mg/L	10
4th	AA-01	E300	Nitrate (as N)	20.7	mg/L	11
1st	AA-27	SW6020	Arsenic	38.7	ug/L	0.0448
2nd	AA-27	SW6020	Arsenic	35	ug/L	0.0448
1st	AA-27	E300.0	Chlorine	886	mg/L	3.65
2nd	AA-27	E300	Chlorine	2500	mg/L	3.65
3rd	AA-27	E300.0	Chlorine	868	mg/L	3.65
4th	AA-27	E300.0	Chlorine	1210	mg/L	3.65

Table 5. Summary of Groundwater Sampling Data - Upgradient Wells
Detections exceeding Nevada Basic Comparison Levels (BCLs)

Event	Well	Method	Chemical	Result	Unit	Nevada BCL
5th	AA-27	E300.0	Chlorine	900	mg/L	3.65
2nd	AA-27	SW8260	Chloroform	1.8	ug/L	0.167
3rd	AA-27	SW8260	Chloroform	2	ug/L	0.167
4th	AA-27	SW8260	Chloroform	1.7	ug/L	0.167
2nd	AA-27	EPA 8315A	Formaldehyde	60	ug/L	1.46
2nd	AA-27	EPA 8315A	Acetaldehyde	30	ug/L	1.75
1st	AA-27	E314.0	Perchlorate	247	ug/L	18
2nd	AA-27	E314.0	Perchlorate	246	ug/L	18
3rd	AA-27	E314.0	Perchlorate	261	ug/L	18
4th	AA-27	E314.0	Perchlorate	249	ug/L	18
5th	AA-27	EPA 314.0	Perchlorate	266	ug/L	18
1st	AA-27	SW8260	Chloroform	1.6	ug/L	0.167
5th	AA-27	SW8260	Chloroform	1.4	ug/L	0.167
1st	AA-27	EPA 8315A	Acetaldehyde	3.8	ug/L	1.75
2nd	AA-27	E300	Fluoride	3.3	mg/L	2.19
3rd	AA-27	E300	Fluoride	3	mg/L	2.19
2nd	AA-27	Alpha Acids	Dimethyl phosphorodithioic acid	6.7	mg/L	3.65
1st	AA-27	E300	Nitrate (as N)	14.1	mg/L	10
2nd	AA-27	E300	Nitrate (as N)	39.3	mg/L	10
3rd	AA-27	E300	Nitrate (as N)	12	mg/L	10
4th	AA-27	E300	Nitrate (as N)	12.6	mg/L	12
2nd	AA-27	SM3500-CR D	Chromium (VI)	260	ug/L	110
5th	AA-UW1	SW6020	Arsenic	69.8	ug/L	0.0448
5th	AA-UW1	SW8260	Tetrachloroethylene	24	ug/L	0.105
5th	AA-UW1	E300.0	Chlorine	877	mg/L	3.65
5th	AA-UW1	EPA 314.0	Perchlorate	697	ug/L	18
5th	AA-UW1	SW8260	Trichloroethylene	0.26	ug/L	0.028
5th	AA-UW1	SW8260	Chloroform	1.1	ug/L	0.167
5th	AA-UW1	SW8260	1,4-Dichlorobenzene	0.58	ug/L	0.467
5th	AA-UW2	E300.0	Chlorine	1040	mg/L	3.65
5th	AA-UW2	SW8260	Chloroform	1.2	ug/L	0.167
5th	AA-UW2	SW8260	1,4-Dichlorobenzene	1.1	ug/L	0.467
5th	AA-UW2	EPA 314.0	Perchlorate	108	ug/L	18
5th	AA-UW2	SW6020	Iron	793	ug/L	110
5th	AA-UW3	E300.0	Chlorine	528	mg/L	3.65
5th	AA-UW3	SW8260	Chloroform	3.6	ug/L	0.167
5th	AA-UW3	EPA 314.0	Perchlorate	80.2	ug/L	18
5th	AA-UW4	E300.0	Chlorine	663	mg/L	3.65
5th	AA-UW4	SW8260	Chloroform	2.6	ug/L	0.167
5th	AA-UW4	EPA 314.0	Perchlorate	90	ug/L	18
5th	AA-UW5	SW8260	Chloroform	1.9	ug/L	0.167
5th	AA-UW5	E300.0	Chlorine	353	mg/L	3.65
5th	AA-UW5	SW8260	Tetrachloroethylene	0.45	ug/L	0.105
5th	AA-UW5	EPA 314.0	Perchlorate	57.2	ug/L	18
5th	AA-UW6	SW6020	Arsenic	102	ug/L	0.0448
5th	AA-UW6	E300.0	Chlorine	452	mg/L	3.65
5th	AA-UW6	SW8260	Chloroform	0.44	ug/L	0.167
5th	AA-UW6	EPA 314.0	Perchlorate	65.1	ug/L	18

Table 5. Summary of Groundwater Sampling Data - Upgradient Wells
Detections exceeding U.S. EPA Secondary Maximum Contaminant Levels (MCLs)

Event	Well	Method	Chemical	Result	unit	USEPA Secondary MCLs
1st	AA-01	E300	Chloride	892	mg/L	250
2nd	AA-01	E300	Chloride	884	mg/L	250
3rd	AA-01	E300	Chloride	757	mg/L	250
4th	AA-01	E300	Chloride	970	mg/L	250
5th	AA-01	E300	Chloride	711	mg/L	250
1st	AA-01	E300	Sulfate	1500	mg/L	250
2nd	AA-01	E300	Sulfate	1700	mg/L	250
3rd	AA-01	E300	Sulfate	1600	mg/L	250
4th	AA-01	E300	Sulfate	2140	mg/L	250
5th	AA-01	E300	Sulfate	1460	mg/L	250
1st	AA-01	E160.1	Total Dissolved Solids	3430	mg/L	500
2nd	AA-01	E160.1	Total Dissolved Solids	3930	mg/L	500
3rd	AA-01	E160.1	Total Dissolved Solids	3310	mg/L	500
4th	AA-01	E160.1	Total Dissolved Solids	3730	mg/L	500
5th	AA-01	E160.1	Total Dissolved Solids	3850	mg/L	500
1st	AA-27	E300	Chloride	443	mg/L	250
2nd	AA-27	E300	Chloride	1250	mg/L	250
3rd	AA-27	E300	Chloride	434	mg/L	250
4th	AA-27	E300	Chloride	605	mg/L	250
5th	AA-27	E300	Chloride	450	mg/L	250
1st	AA-27	E300	Sulfate	2410	mg/L	250
2nd	AA-27	E300	Sulfate	6870	mg/L	250
3rd	AA-27	E300	Sulfate	2700	mg/L	250
4th	AA-27	E300	Sulfate	2800	mg/L	250
5th	AA-27	E300	Sulfate	2380	mg/L	250
1st	AA-27	E160.1	Total Dissolved Solids	4080	mg/L	500
2nd	AA-27	E160.1	Total Dissolved Solids	4240	mg/L	500
3rd	AA-27	E160.1	Total Dissolved Solids	4220	mg/L	500
4th	AA-27	E160.1	Total Dissolved Solids	4340	mg/L	500
5th	AA-27	E160.1	Total Dissolved Solids	4570	mg/L	500
5th	AA-UW1	SW6020	Aluminum	323	ug/L	200
5th	AA-UW1	E300	Chloride	439	mg/L	250
5th	AA-UW1	SW6020	Manganese	98.8	ug/L	50
5th	AA-UW1	E300	Sulfate	2120	mg/L	250
5th	AA-UW1	E160.1	Total Dissolved Solids	4310	mg/L	500
5th	AA-UW2	E300	Chloride	522	mg/L	250
5th	AA-UW2	SW6020	Iron	793	ug/L	300
5th	AA-UW2	SW6020	Manganese	164	ug/L	50
5th	AA-UW2	E300	Sulfate	1930	mg/L	250
5th	AA-UW2	E160.1	Total Dissolved Solids	4460	mg/L	500
5th	AA-UW3	E300	Chloride	264	mg/L	250
5th	AA-UW3	E300	Sulfate	3070	mg/L	250
5th	AA-UW3	E160.1	Total Dissolved Solids	4880	mg/L	500
5th	AA-UW4	E300	Chloride	331	mg/L	250
5th	AA-UW4	E300	Sulfate	2970	mg/L	250
5th	AA-UW4	E160.1	Total Dissolved Solids	5990	mg/L	500
5th	AA-UW5	E300	Sulfate	271	mg/L	250
5th	AA-UW5	E160.1	Total Dissolved Solids	1400	mg/L	500
5th	AA-UW6	E300	Sulfate	2480	mg/L	250
5th	AA-UW6	E160.1	Total Dissolved Solids	5850	mg/L	500

Appendix A

Response to Nevada Division of Environmental Protection (NDEP) Comments, dated April 22, 2009, to *Background Wells Report, BMI Common Areas, Eastside Area,* dated April 2, 2009
NDEP Facility ID# H-000688

1. General comment, the data used to develop the Piper and Stiff diagrams was of insufficient quality and did not pass the cation-anion balances (CAB). Additional comments on this issue are provided below as well as in the NDEP's letter dated April 20, 2009. As a result of this issue the following is requested:

    a. BRC should immediately discuss and resolve this quality issue with the analytical laboratories.

Response: BRC is in contact with the analytical laboratories to evaluate the cation-anion balances (CAB) in the groundwater data. The Piper and Stiff diagrams completed for the upgradient wells report will be revised as needed if the CAB is revised based on new information obtained from the laboratory, or new information obtained through detailed review of the existing data and sampling procedures. Currently, no new information has been obtained to revised the CAB or the Piper and Stiff diagrams. The relatively high concentrations of chloride and sulfate dominate the CAB calculations. It appears that the acceptable analytical variability in the analysis of chloride or sulfate (over 5 percent) alone is large enough to cause a CAB failure. Missing cations or inaccurate alkalinity measurements do not appear to be a factor. The potential contribution to a revised CAB from these factors would be very small compared to how a revised sulfate or chloride concentration would revise the CAB.

Also, the groundwater samples were not field-filtered before analysis, so suspended solids may be a factor in the CAB failures. BRC is currently planning an additional round of groundwater sampling in 2009, Specific tasks will be completed in the 2009 sampling event to evaluate the past CAB and TDS check failures. New CAB calculations will be presented to NDEP using the new 2009 data. The details of the 2009 sampling event, and the procedures that will be followed to evaluate the past CAB failures, will be presented in the revised Eastside groundwater sampling plan.

    b. BRC should add the wells discussed in this document to the May 2009 groundwater sampling event. Usable data is needed to revise and resubmit this document.

Response: The groundwater sampling plan for the Eastside area was submitted to NDEP on April 28, 2009. The plan includes additional cation-anion sampling and CAB checks for Eastside wells.

    c. BRC needs to provide NDEP with a summary of the scope of work planned for the May 2009 sampling event. This item is currently past due.

Response: The groundwater sampling plan for the Eastside area was submitted to NDEP on April 28, 2009. BRC is currently addressing NDEP's comments and preparing a revised plan.

2. General comment, regarding the CAB, NDEP has the following comments:

   a. It appears that the upgradient wells were not included in the CAB for the 5th round of groundwater monitoring report. These CAB checks should be referenced or included.

Response: Data for wells AA-UW-1 through AA-UW-6, AA-01, and AA-27 were included in the last tab of the Excel file that shows the CAB calculations for the 5th round data.

   b. Please note that Inorganic Analyte Correctness of Analysis checks must be carried forward into data analysis and evaluation such as the subject report.

Response: This data check was completed, however, the analysis will be reviewed again with the new 2009 data that will be collected according to the Eastside sampling plan.

   c. BRC needs to thoroughly review their CAB checks against the laboratory data sheets.

Response: BRC will be able to review the CAB checks against the lab data sheets for selected wells in future monitoring events, however, for past events, the data sheets for individual wells and analytes are mixed together with thousands of other pages reporting the methods and results for other wells and analyses - it is not practical to manually search the reports in a systematic manner for one well or one parameter. In future events, the laboratory will be requested to produce the reporting sheets separately for selected wells so that the data sheets can be isolated for inspection.

   d. The TDS Lab/Sum ratio is sufficiently in error that NDEP believes that where the CAB passed but failed the TDS ratio, these data should be rejected also.

      i. An alternative interpretation for the low metals is that there is a missing but significant cation that would result in a correct balance.

Response: As discussed above in Comment No.1a, BRC is in contact with the analytical laboratories to evaluate the CAB and the TDS checks. BRC is also planning a new sampling round that will, in part, contain specific methods to evaluate the past CAB and TDS check failures (see response to Comment No.1a).

      ii. In the latter case the Piper diagrams could be correct.

Response: Comment noted. Please see response to Comment No. 1a and No. 2di above.

e. Please discuss what the oven temperature was that the laboratory used for the TDS determination.

f. ***Response****:* The laboratory informed BRC that while the TDS analysis is completed at the appropriate temperature according to the required methodology, oven temperature is not routinely collected for each analysis. The laboratory will be requested to collect this datum in subsequent analyses. An *example* of the type of review that BRC should be conducting is provided below:

CAB BRC Eastside GW 5th Round			
Well	CAB	TDS Lab / TDS Sum	Comments
AA-UW1	Pass	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.
AA-01	Pass	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.
AA-27	Fail	Pass	1.0 < TDS Lab/Sum Ratio > 1.2 – meets test but fails CAB by 2x
AA-UW2	Pass	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.
AA-UW3	Pass	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.
AA-UW4	Fail	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.
AA-UW5	Pass	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.
AA-UW6	Fail	Fail	Either the sulfate and chloride is wrong or there are some missing metals? Would need laboratory data sheets to resolve this issue to see how laboratory qualified data. Standard Methods indicates that low ion sum (metals) is suspect in this case.

Response A revised CAB table that includes a summary of the CAB failures (last page of table) is included as an attachment to this RTC for reference. The table will be updated with the new 2009 data once the data are available.

3. General comment, please note that the NDEP cannot concur with the use of the term "background" as the groundwater appears to be impacted by anthropogenic sources. Please utilize the term "upgradient" in place of "background".

Response: The requested change has been made in the document.

4. Section 2, page 3, BRC states that "analytical and numerical modeling indicate that historical discharge to the nearby ponds at the Site did not create localized groundwater mounding or upgradient flow". This is not the understanding of the NDEP.

Response: The updated BRC numerical groundwater flow model was used to evaluate whether or not historical discharge to the ponds at the Site created localized groundwater mounding or upgradient flow to the extent that the upgradient well locations were impacted by pond discharge. The results of the evaluation, as discussed in the revised report, indicate that upgradient well AA-UW-6 may have been marginally impacted by mounding associated with discharge at the former ponds. The soil and groundwater data for well AA-UW-6, however, do not appear to indicate that this location is uniquely or distinctly impacted due to the former pond use.

5. Section 2.1, page 2, the referenced Figure 2 was not provided in the report, it is assumed that BRC is referring to the Figure labeled as "Figure 3-1".

Response: The figure number has been corrected in the revised report (the electronic label showing "Figure 2" was inadvertently omitted upon conversion to PDF format).

6. Section 2.3, page 4, see NDEP comment above regarding groundwater mounding and upgradient flow.

Response: See response to Comment No.4 above.

7. Section 2.4, general comment, BRC's reference to the vast amount of data on the Tables and Figures on the attached disk is not conducive to a transparent Administrative Record or expedient review by the NDEP. Please provide as many of these items in hard copy format as is practical.

Response: The revised report will include revised applicable tables in hard copy format.

8. Section 2.4, page 5, BRC refers to a summary of the five rounds of groundwater data, however, there is no reference as to where this information can be found. Please clarify. It would be preferred that the pertinent information be summarized in the subject document.

Response: This section of the document has been revised to remove the cited paragraph. However, the former text referring to five rounds of data was referencing the quarterly monitoring reports prepared by for BRC by MWH. The revised document references the 5th round event when discussing the monitoring data (MWH, 2008).

9. Section 2.4.1, page 6, Shallow Metals section, please note that this discussion is not a defensible means of comparing site data to background data. BRC should utilize the agreed-upon statistical

methods and exploratory data analysis to complete these comparisons. This is a global comment that will not be repeated.

Response: In the revised document, BRC utilized the agreed-upon statistical methods and exploratory data analysis to complete these comparisons.

10. Section 2.4.1, page 7, Deep Metals (Above the Qal-UMCf contact) section, the NDEP has the following comments:

    a. As BRC knows, Thorium(Th)-230 is a daughter product of Uranium(U)-238, which is site-related. The discussion throughout this document needs to be modified accordingly.

Response: The document has been revised according to Comment No. 9, so the text discussing U-238 and Th-230 has been removed.

    b. As BRC has noted to the NDEP there are historical analytical issues relating to Th analysis. BRC should explore this issue in the context of the TH-230 data discussed in this document. Reanalysis should be completed as part of the May 2009 sampling event.

Response: The groundwater sampling plan for the Eastside area submitted to NDEP on April 28, 2009 includes re-analysis of selected wells for Th-230. As discussed in response to Comment 10a, the document has been revised according to Comment No. 9, so this text discussing U-238 and Th-230 has been removed.

    c. Third paragraph, as BRC knows magnesium was produced at the *Basic Magnesium Incorporated* facility. In addition, magnesium chloride was a by-product of the TIMET production process and was stored in large ponds on the BMI Common Areas. In addition, this magnesium chloride was widely used throughout the BMI Complex as a dust palliative. BRC's statements in this paragraph need to be revised.

Response: The document has been revised according to Comment No. 9, so this text discussing magnesium has been removed..

11. Section 2.4.1, page 8, Deep Metals (below the Qal-UMCf contact) section, the NDEP has the following comments:

    a. Second paragraph, the basis for the screening performed by BRC does not have any apparent basis. Please explain.

Response: In the revised document, BRC utilized the agreed-upon statistical methods and exploratory data analysis to complete data screening.

    b. First bullet, the spatial relationship of the elevated values should be examined. This is a global comment that will not be repeated.

Response: A detailed analysis of the background metal exceedances is not included in this document since the background metals evaluation report is still in production. The revised document presents the background metals data for reference and completion. The Eastside CSM will also examine the soil metals data in detail.

12. Section 2.4.2, page 8, first paragraph, please explain how this paragraph relates to the perchlorate historically disposed of at the site.

Response: The document has been revised to state, "The detected concentrations may not be Site-related and may be due to historical perchlorate use and release at adjacent upgradient and cross gradient facilities (such as Tronox and AMPAC)." This concept will be further evaluated in the Eastside CSM.

13. Section 2.4.3, page 9, first paragraph, please explain how the statements regarding well POU-3 relate to the fact that POU-3 appears to be located within a disposal pond.

Response: Historical aerial photographs were reviewed to confirm that well POU-3 is located to the south of the ponds in the southwestern portion of the Eastside area. The document has been revised to state that well POU-3 may be potentially impacted by offsite sources. This concept will be further evaluated in the Eastside CSM.

14. Section 2.4.3, page 10, first paragraph after the bullet, please note that the NDEP cannot concur with BRC at this time. This issue will be revisited once the document is revised and resubmitted. Also, given the geologic issues at the eastern end of the site, perhaps BRC needs to examine segregation of the groundwater data.

Response: Comment noted. The document has been revised to state that groundwater impacts may be moving from offsite locations onto the Site, and the source of the impacts may be the historic operations in the BMI Plants area. These concepts will be further evaluated in the Eastside CSM.

15. Figure 3-1, please note that this Figure does not appear to support BRC's position that groundwater is entering the site from the BMI Complex. It is requested that the groundwater levels be expanded to include data from adjacent properties. Once this is completed BRC should examine the figure and determine if this supports BRC's position that groundwater is entering the site from the BMI Complex.

Response: BRC is currently coordinating with the offsite property owners to collect contemporaneous water-level data for plotting a more regional flow map. However, in the revised document, a regional flow map from TIMET is included as an appendix for reference.

16. Figure 5, aside from the limitations of the data (failure to complete CAB for most of the data) it is noted that currently no one cation-anion pair exceeds 50%. In addition, this appears to show that impacted groundwater and "background" groundwater are similar. It is not clear how this supports BRC's position regarding "background" groundwater.

Response: The document has been revised to designate select wells as upgradient wells, rather than background wells. In addition, the comparison of groundwater quality between select wells or well groups may be re-visited in the Eastside CSM once the issues concerning the CAB are addressed. See also the response to Comment No.1a.

17. Figure 6, the NDEP has the following comments:

    a. It is again noted that this Figure appears to show that impacted groundwater and "background" groundwater are similar. It is not clear how this supports BRC's position regarding "background" groundwater.

Response: Please see the response to Comment 16.

    b. Please provide this Figure at a size where the Stiff diagrams are legible in the revised document.

Response: The revised document will include figures that show the Stiff diagrams plotted on 11x17 inch paper with larger fonts used in the scales.)

    c. As noted above, it appears that impacted groundwater and "background" groundwater are similar. Example follow:

        i. Well AA-UW5 seems similar to well AA-18;

        ii. Well AA-UW2 seems similar to well AA-13;

        iii. Wells AA-UW-1 and AA-27 seem similar to well DM-1.

Response: Please see the response to Comment 16 and 17a.

Appendix B

Log of Boring No. BRC-SB-01-A

BMI Site - Hydrogeologic Characterization

Henderson, Nevada

Drilling Method: Mud Rotary
Drilling Equipment: Gefco 15K
Drilling Contractor: Water Development Corporation
Driller: Juan Aguilar

Borehole Total Depth: 400 ft bgs
Borehole Diameter: 10 in
Boring Location: Location 1 (Well ID: AA-01)
Depth to Water (ft. bgs): NA ▽

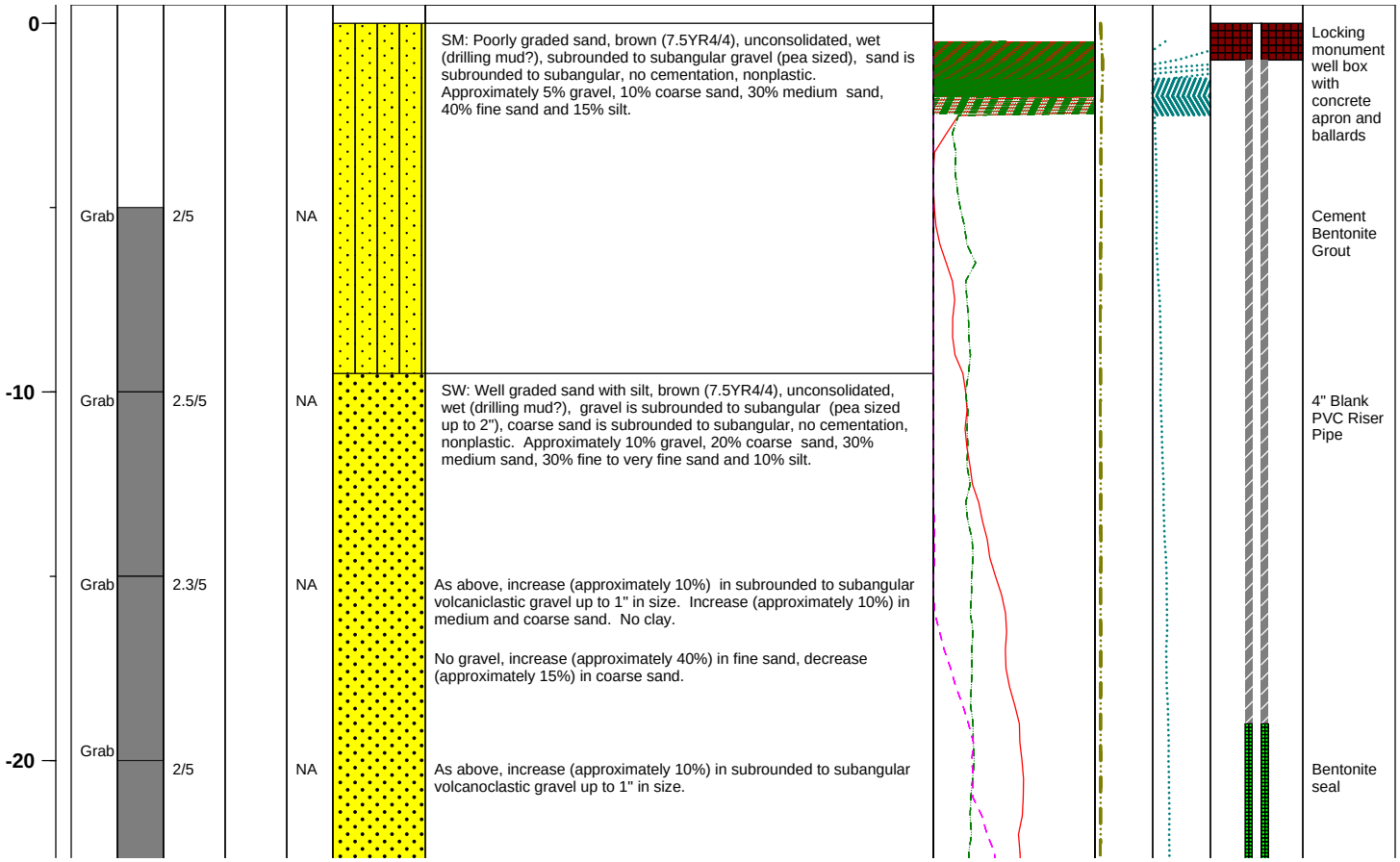
Sample Type: Continuous Core
Sample Interval Continuous

Logged By: Dave Kremer
Date Started: 2/21/04
Date Completed: 2/23/04

Monitoring Well Construction

Type of Surface Seal:	Bentonite-Grout	**Screen Slot Size:**	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	**Top of Screen (ft. bgs):**	29 ft bgs
Screen Type/Size:	4" Sch 80 PVC	**Bottom of Screen (ft. bgs):**	49 ft bgs
Transition Sand Type:	#1C	**Type of Sand Pack:**	#10 x 20

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	E-Log: 64" (OHM)	E-Log: S. PT. (OHM)	Caliper Log (inch)	Guard Log (OHM.M)	Well Construction
0	Grab	2/5			NA		SM: Poorly graded sand, brown (7.5YR4/4), unconsolidated, wet (drilling mud?), subrounded to subangular gravel (pea sized), sand is subrounded to subangular, no cementation, nonplastic. Approximately 5% gravel, 10% coarse sand, 30% medium sand, 40% fine sand and 15% silt.						Locking monument well box with concrete apron and ballards
-10	Grab	2.5/5			NA		SW: Well graded sand with silt, brown (7.5YR4/4), unconsolidated, wet (drilling mud?), gravel is subrounded to subangular (pea sized up to 2"), coarse sand is subrounded to subangular, no cementation, nonplastic. Approximately 10% gravel, 20% coarse sand, 30% medium sand, 30% fine to very fine sand and 10% silt.						Cement Bentonite Grout
	Grab	2.3/5			NA		As above, increase (approximately 10%) in subrounded to subangular volcaniclastic gravel up to 1" in size. Increase (approximately 10%) in medium and coarse sand. No clay. No gravel, increase (approximately 40%) in fine sand, decrease (approximately 15%) in coarse sand.						4" Blank PVC Riser Pipe
-20	Grab	2/5			NA		As above, increase (approximately 10%) in subrounded to subangular volcanoclastic gravel up to 1" in size.						Bentonite seal



Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log 16" (OHM)	E-Log 64" (OHM)	E-Log S. PT. (OHM)	Caliper Log (inch)	Guard Log (OHM.M)	Well Construction
	Grab		3/5				SM: Poorly graded silty sand, brown (7.5YR4/4), wet (drilling mud?), subrounded to subangular volcanoclastic gravel (pea sized up to 1 1/2-in in size), sand is subrounded, no clay, no cementation, nonplastic, unconsolidated. Approximately 10% gravel, 25% coarse sand, 25% medium sand, 30% fine sand and 15% silt.						#1C Transition Sand
-30	Grab		3/5		NA		SP-SM: Sand with silt, brown (7.5YR4/4), wet (drilling mud?), subrounded volcanoclastic gravel (pea sized up to 1" in size), subrounded sand, no clay, no cementation, nonplastic, unconsolidated. Approximately 10% gravel, 15% coarse sand, 35% medium sand, 30% fine sand and 10% silt.						#10 x 20 Sand Pack
	Grab		3/5		NA		As above, slightly moist, increase in sand. Approxmately 10% gravel, 15% coarse sand, 30% medium sand, 40% fine sand and 5% silt.						4" 0.010 Slot PVC screen
							As above.						
-40	Grab		1/5		NA		As above, increase in gravel and sand. Approximately 20% gravel, 30% coarse sand, 40% medium sand and 10% fine sand.						
	Grab		1/5		NA		As above, increase in sand, decrease in gravel (up to 2" in size). Approximately 15% gravel, 25% coarse sand, 30% medium sand, 25% fine sand and 5% silt.						
-50	Grab		5/5		NA		ML: Silt, brown (7.5YR5/4), soft, moist, sand is very fine grained, trace clay, weak to no cementation, nonplastic. Approximately 5% fine sand, 90% silt and 5% clay.						Threaded PVC Well Base Cap #10 x 20 Sand Pack Basal Bentonite Seal

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Soil Description
	Grab		5/5		NA	As above.
						As above, slight (approximately 5%) increase in fine sand, non-plastic to low plasticity.
-60	Grab		5/5		NA	As above.
						As above.
	Grab		5/5		NA	As above.
						As above.
-70	Grab		5/5		NA	
						As above, medium stiff, moist, trace clay, medium (1/8" to 1" in size) cemented nodules, nonplastic.
	Grab		1/5		NA	No recovery from 73 to 76 ft bgs.
-80	Grab		5/5		NA	Silt, brown (7.5YR5/4), soft, moist, sand is very fine grained, trace clay, no cementation, low plasticity. Approximately 10% sand, 85% silt and 5% clay.
						As above, slight (approximately 5%) increase in fine to very fine sand, moist.
						As above, wet, increase (approximately 10%) in very fine sand.
	Grab		5/5		NA	

Geophysical Data: E-Log (16" (OHM), 64" (OHM), S. P. T. (OHM)); Caliper Log (inch); Guard Log (OHM.M)

Well Construction: Cement Backfill

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. P. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
-90	Grab		5/5		NA		As above, moist, decrease (approximately 10%) in very fine sand.						
							As above, increase (approximately 10%) in very fine to fine sand.						
							As above, decrease (approximately 5%) in very fine sand.						
	Grab		5/5		NA		As above, decrease (approximately 5%) in very fine sand.						
							As above.						Cement Backfill
							As above.						
-100	Grab		5/5		NA		As above.						
							As above.						
	Grab		5/5		NA		As above.						
							As above.						
-110	Grab		5/5		NA		As above.						
							As above, decrease (approximately 5%) in very fine sand, increase in density to stiff.						
	Grab		5/5		NA								

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. P. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
-120	Grab		5/5		NA		As above, increase (approximately 15%) in very fine sand, decrease in density to soft, wet.						
							Silt with sand, as above, decrease (approximately 15%) in very fine sand, increase in density to stiff.						
	Grab		5/5		NA		Silt, as above.						
-130	Grab		5/5		NA								Cement Backfill
							As above, decrease (approximately 5%) in very fine sand, increase in density to very stiff.						
	Grab		5/5		NA								
							As above, increase (approximately 5%) in very fine sand.						
							Silt with clay, as above, decrease (approximately 5%) in very fine sand.						
-140	Grab		5/5		NA								
							Silty with sand and clay, as above.						
							Silt with clay, as above, decrease (approximately 10%) in very fine sand.						
	Grab		4/5		NA								
							Clayey silt, as above.						

BMI Site - Hydrogeologic Characterization

Henderson, Nevada

Basic Remediation COMPANY

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. PT. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
-150	Grab		5/5		NA								
	Grab		5/5		NA		Silt with sand and clay, as above, increase (approximately 10%) in very fine sand.						Cement Backfill
							Silt with clay, as above, decrease (approximately 5%) in very fine sand.						
-160	Grab		5/5		NA								
							Silt with sand and clay, as above, increase (approximately 10%) in very fine sand.						
	Grab		5/5		NA		Silt with clay, as above, decrease (approximately 10%) in very fine sand.						
							Clayey silt, as above.						
-170	Grab		5/5		NA								
	Grab		5/5		NA								
-180							CL: Silty clay, brown (7.5YR4/4), hard, moist, sand is very fine grained, silt with clay, no cementation, moderate to high plasticity.						

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. PT. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
	Grab		5/5		NA		Approximately 5% fine sand, 45% silt and 50% clay.						
	Grab		5/5		NA		ML: Clayey silt, brown (7.5YR5/3), very stiff, moist, sand is very fine grained, silt and clay, no cementation, low plasticity. Approximately 5% fine sand, 55% silt and 40% clay.						
							CL: Silty clay, pinkish gray (7.5YR7/2), very stiff, moist, coarse, medium and fine sands are gypsum fragments, silt and clay, no cementation, moderate plasticity. Trace coarse sand, 5% medium sand, 15% fine sand, 30% silt and 50% clay.						
-190	Grab		5/5		NA		ML: Clayey silt, pinkish gray (7.5YR6/2), very stiff, moist, sand is very fine grained, silt and clay, no cementation, low plasticity. 5% coarse sand, 5% medium sand, 10% fine sand, 50% silt and 30% clay.						Cement Backfill
							Silt with sand and clay, color change to white (10YR8/1), very stiff, some cemented very fine sand nodules, no cementation, non plastic.						
	Grab		5/5		NA								
							Clayey silt with sand, as above, decrease (appproximately 10%) in medium sand.						
-200	Grab		5/5		NA								
							Clayey silt, as above.						
	Grab		5/5		NA								Cement Backfill
							Color change to greenish gray (Gley 1 6/10Y), hard.						
-210	Grab		5/5		NA								

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. PT. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
							Color change to brown (10YR5/3), hard.						
	Grab		5/5		NA		Color change to brown (7.5YR4/3).						
							Color change to brown (7.5YR5/3).						
-220	Grab		5/5		NA		SM: Poorly graded silty sand with clay, brown (7.5YR5/3), hard, moist, medium grained sand subrounded, fine to very fine sand, silt with clay, no cementation, nonplastic. Approximately 5% medium sand, 50% fine sand, 40% silt and 5% clay.						
							ML: Clayey silt, brown (7.5YR5/3), hard, moist, very fine sand, silt and clay, no cementation, nonplastic to low plasticity. Approximately 5% fine sand, 70% silt and 25% clay.						
	Grab		5/5		NA								
							As above, slight increase (approximately 5%) in clay.						
-230	Grab		5/5		NA		As above.						
							Color change to pinkish gray (7.5YR7/2), hard, moist, sand is fine to very fine grained, silt and clay, nocementation, increase (approximately 5%) in fine sand, decrease in clay.						
	Grab		5/5		NA		Color change to brown (7.5YR5/3), moderate plasticity, increase (approximately 5%) in fine sand, decrease in clay.						
							As above, decrease (approximately 5%) in fine sand, increase in clay.						
-240	Grab		5/5		NA		Clayey silt with sand, as above, increase (approximately 15%) in fine sand.						

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. PT. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
	Grab		5/5		NA		As above, decrease (approximately 10%) in fine sand.						Cement Backfill
							Silt with clay, as above.						
-250	Grab		5/5		NA		As above, decrease (approximately 5%) in fine sand.						
							Clayey silt, as above, increase (approximately 5%) in fine sand.						
	Grab		5/5		NA		Clayey silt with sand, as above.						Cement Backfill
-260	Grab		5/5		NA		Silt with clay, as above, increase (approximately 10%) in fine sand, decrease in clay.						
							As above, increase (approximately 5%) in fine sand, decrease in clay.						
	Grab		5/5		NA		Clayey silt, as above, decrease (approximately 10%) in fine sand.						
-270	Grab		5/5		NA								
							Silt with sand and clay, as above, increase (approximately 10%) in fine						

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. P.T. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
	Grab		0/5		NA		sand.						
-280	Grab		5/5		NA		Clayey silt, as above, decrease (approximately 5%) in fine sand.						
							Silt with sand, as above.						
	Grab		5/5		NA		Sandy silt, as above, increase (approximately 20%) in fine sand.						
							Clayey silt, as above, increase (approximately 15%) in silt, trace fine sand.						
-290	Grab		5/5		NA								
							As above, increase (approximately 10%) in fine sand.						
							Silt with sand, as above. Approximately 15% fine sand, 80% silt and 5% clay.						
	Grab		5/5		NA								Cement Backfill
-300	Grab		5/5		NA		Silt, as above. Approximatley 10% fine sand, 85% silt and 5% clay.						
			5/5		NA								

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. P. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
-310	Grab		5/5		NA		SM: Poorly graded silty sand, brown (7.5YR4/4), hard, moist to wet, medium grained subrounded sand, some fine to very fine sand, silt with no clay, no cementation, nonplastic. Trace coarse sand, 10% medium sand, 60% fine sand and 30% silt.						
							ML						
							SM: Poorly graded silty sand, brown (7.5YR4/4), hard, very moist, medium subrounded sand, sand is very fine to fine grained, no cementation, nonplastic. Approximately 10% medium sand, 50% fine sand and 40% silt.						
	Grab		5/5		NA		ML: Sandy silt, brown (7.5YR4/4), hard, moist, some medium grained subrounded sand, some fine to very fine grained sand, no cementation, no to low plasticity.						Cement Backfill
-320	Grab		5/5		NA		SM: Poorly graded silty sand, brown (7.5YR4/4), stiff, very moist to wet, some coarse subrounded sand, some medium subrounded sand, some fine to very fine sand, none to weak cementation, nonplastic. Approximately 5% coarse sand, 10% medium sand, 50% fine sand and 35% silt.						
							ML: Sandy wilt with clay, brown (7.5YR4/4), hard, moist, trace subrounded medium sand, some fine to very fine sand, silt with clay, no cementation, low to nonplastic. Trace medium sand, 45% fine sand, 50% silt and 5% clay.						
	Grab		5/5		NA		SM: Silty sand, brown (7.5YR4/4), stiff, very moist, some medium grained subrounded sand, some fine to very fine grained sand, silt with trace clay at 325 ft bgs, no to weak cementation, nonplastic. Approximately 5% medium sand, 50% fine sand and 45% silt.						
							ML						
							CL: Silty clay, light brown (7.5YR6/4), hard, moist to dry, trace very fine grained sand, silt and clay, no cementation, moderate plasticity. Trace fine to very fine grained sand, 40% silt and 60% clay.						
-330	Grab		5/5		NA		ML						
							CH: Clay with silt, light brown (7.5YR6/3), hard, moist to dry, no cementation high plasticity. Approximately 10% silt and 90% clay.						
							CL: Silty clay, brown (7.5YR5/3), hard, moist, silt and clay, no cementation, low to moderate plasticity. Approximately 5% very fine sand, 30% silt and 65% clay.						
	Grab		5/5		NA		ML: Clayey silt, brown (7.5YR5/3), hard, moist, silt and clay, no cementation, low to moderate plasticity. Approximately 70% silt and 30% clay.						
							CL: Silty clay, brown (7.5YR5/3). Approximately 30% silt and 70% clay.						

Log of Boring No. BRC-SB-01-A

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log 16" (OHM)	E-Log 64" (OHM)	E-Log S. PT. (OHM)	Caliper Log (inch)	Guard Log (OHM.M)	Well Construction
-340	Grab		5/5		NA		ML: Clayey silt, brown (7.5YR5/3). Approximately 60% silt and 40% clay..						
							CL: Silty clay, brown (7.5YR5/3). Approximately 40% silt and 60% clay.						
							SM: Poorly graded silty sand, brown (7.5YR4/3), soft, very moist to wet, sand is prediominately fine grained, silt, no clay, no cementation, nonplastic. Approximately 80% fine to very fine sand and 20% silt.						
							ML: Poorly graded clayey silt, brown (7.5YR4/3), soft, very moist to wet, no cementation, nonplastic. Approximately 60% silt and 40% clay.						
	Grab		5/5		NA		CL: Approximately 10% silt, 90% clay.						
							ML: Silt with clay, brown (7.5YR4/4), hard, moist, sand is fine to very fine grained, no cementation, nonplastic. Approximately 10% fine to very fine sand, 85% silt and 5% clay.						
							SM: Silty sand, brown (7.5YR4/4). Approximately 10% medium sand, 70% fine sand and 20% silt.						
-350							ML: Sandy silt with clay, brown (7.5YR4/4). Approximately 15% fine sand, 85% silt and trace clay..						
	Grab		5/5		NA		SM: Poorly graded silty sand, brown (7.5YR5/3), very stiff, moist to wet, some medium grained subrounded sand, silt with trace clay, no cementation, low plasticity. Approximately 30% medium sand, 50% fine sand and 20% silt.						
							ML: Clayey silt with sand, brown (7.5YR5/3). Approximately 5% fine sand, 50% silt and 45% clay.						
							SM: Poorly graded silty sand, brown (7.5YR5/3). Approximately 10% medium sand, 50% fine sand, 40% silt and trace clay.						
	Grab		5/5		NA		ML: Clayey silt, brown (7.5YR5/3), hard, moist, sand is fine to very fine grained, silt and clay, no cementation, low plasticity. Approximately 35% fine to very fine sand, 50% silt and 5% clay.						Cement Backfill
							SM: Poorly graded silty sand, brown (7.5YR5/3). Approximately 5% medium sand, 60% fine sand and 35% silt.						
							ML: Clayey silt, brown (7.5YR5/3). Approximately 10% fine to very fine sand, 70% silt and 20% clay.						
-360	Grab		5/5		NA		CL: Silty clay, light brown (7.5YR6/3). Approximately 20% silt and 80% clay.						
							ML: Clayey silt, brown (7.5YR5/3). Approximately 30% fine sand, 60% silt and 10% clay.						
							CL: Silty clay, light brown (7.5YR6/3), hard, moist, silt and clay with trace gypsum fragments up to 1/4", no cementation, moderate plasticity. Trace coarse sand, 20% silt and 80% clay.						
	Grab		5/5		NA		SM: Silty sand, brown (7.5YR4/4), very stiff, moist, medium grained subrounded sand, some fine to very fine grained sand, no clay, no to weak cementation, nonplastic. Approximately 10% medium sand, 70% fine sand and 20% silt.						
							ML: Clayey silt, brown (7.5YR4/4), hard, moist, some very fine grained sand and silt and clay, no cementation, low plasticity. Approximately 10% fine sand, 70% silt and 20% clay.						

BMI Site - Hydrogeologic Characterization

Henderson, Nevada

Log of Boring No. BRC-SB-01-A

Basic Remediation COMPANY

Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	PID	Lithology	Soil Description	Geophysical Data: E-Log: 16" (OHM)	Geophysical Data: E-Log: 64" (OHM)	Geophysical Data: E-Log: S. PT. (OHM)	Geophysical Data: Caliper Log (inch)	Geophysical Data: Guard Log (OHM.M)	Well Construction
-370	Grab		4/5		NA		CL: Silty clay, brown (7.5YR5/3), hard, moist, silt and clay, no cementation, moderate plasticity. Approximately 10% fine sand, 60% silt and 30% clay.						
							ML: Clayey silt, brown (7.5YR4/4). Approximately 10% fine sand, 60% silt and 30% clay.						
							CL: Silty clay, brown (7.5YR5/3), hard, moist, silt and clay, no cementation, moderate plasticity. Approximately 5% fine sand, 40% silt and 55% clay.						
	Grab		5/5		NA		ML: Silt with clay, brown (7.5YR4/4), hard, moist, sand is fine to very fine grained, silt with clay, no cementation, no to low plasticity. Approximately 10% fine sand, 80%, silt and 10% clay.						Cement Backfill
							Clayey silt, as above. Approximately 10% fine sand, 50% silt and 40% clay.						
-380	Grab		5/5		NA		Silt with clay, as above. Approximately 10% fine sand, 80% silt and 10% clay.						
	Grab		5/5		NA		Clayey silt, as above. Approximately 80% silt and 20% clay.						Cement Backfill
							Wet from 386.5 to 386.7 ft bgs.						
-390	Grab		5/5		NA		Silt with clay, as above. Appoximately 5%fine sand, 85% silt and 10% clay.						
							Clayey silt, as above. Approximately 80% silt and 20% clay.						
	Grab		5/5		NA		Silt, as above. Approximately 5% fine sand, 90% silt and 5% clay.						
							Silt with clay, as above. Approximately 5% fine sand, 90% silt and 5% clay.						
-400													

Log of Boring No. BRC-SB-27-B

BMI Site - Hydrogeologic Characterization

Henderson, Nevada

Drilling Method: Sonic
Drilling Equipment: Rotary Sonic
Drilling Contractor: Resonant Sonic
Driller: ProSonic

Borehole Total Depth: 143 ft bgs
Borehole Diameter: 8.5 in
Boring Location: Location 27 (Well ID: AA-27)
Depth to Water (ft. bgs): NA ▽

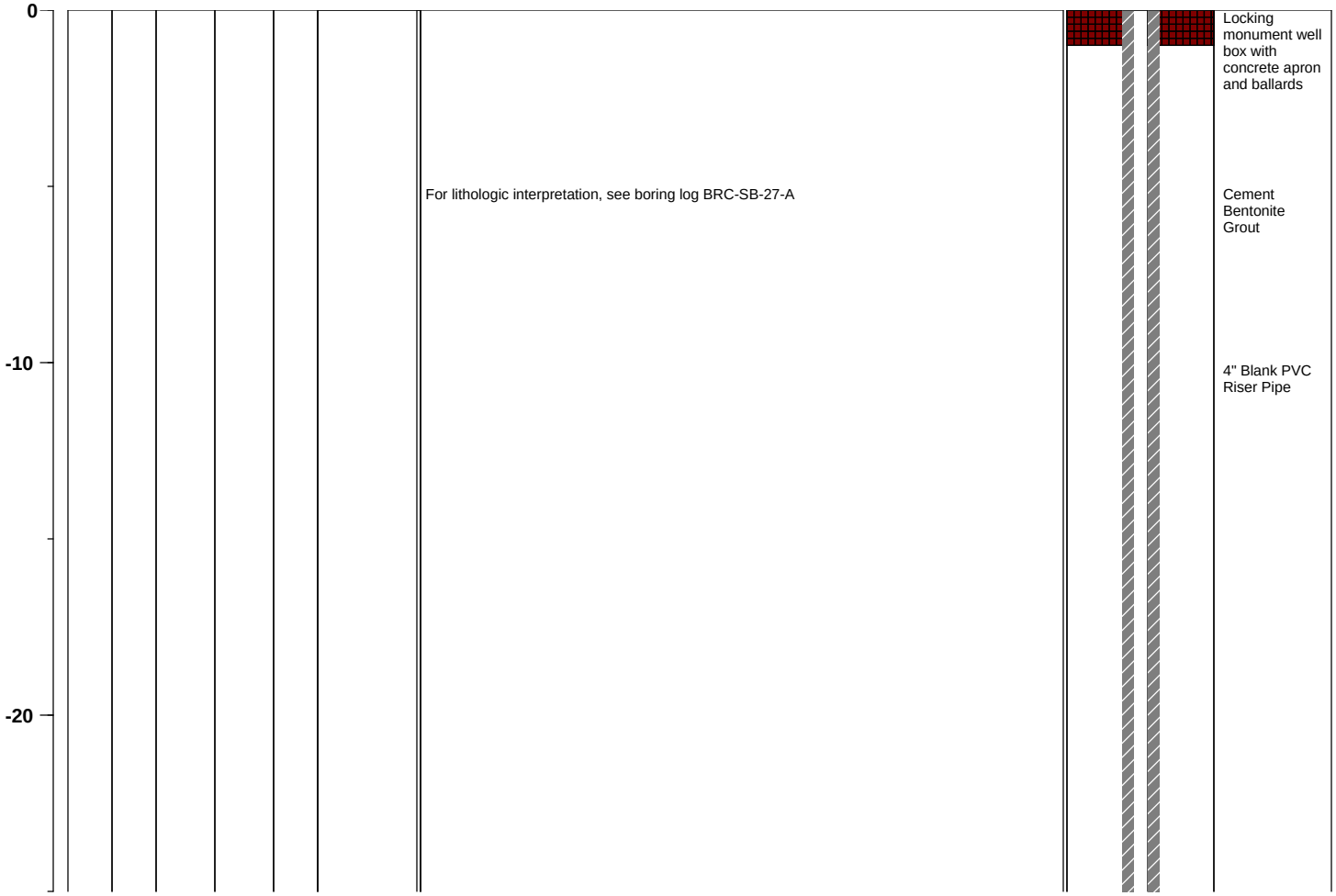
Sample Type: S.S.
Sample Interval Continuous

Logged By: Jennifer Wiley
Date Started: 07/06/04
Date Completed: 07/07/04

Monitoring Well Construction

Type of Surface Seal:	Bentonite-Grout	**Screen Slot Size:**	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	**Top of Screen (ft. bgs):**	61.5 ft bgs
Screen Type/Size:	4" Sch 80 PVC	**Bottom of Screen (ft. bgs):**	81.5 ft bgs
Transition Sand Type:	N/A	**Type of Sand Pack:**	#2 x 12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction



Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-30							For lithologic interpretation, see boring log BRC-SB-27-A	Cement Bentonite Grout 4" Blank PVC Riser Pipe
-40								
-50								Bentonite seal

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-60							For lithologic interpretation, see boring log BRC-SB-27-A	#10 x 20 Sand Pack 4" 0.010 Slot PVC screen
-70								
-80								Threaded PVC Well Base Cap Cement Backfill
-90								

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-100							For lithologic interpretation, see boring log BRC-SB-27-A	Cement Backfill
-110								
-120								

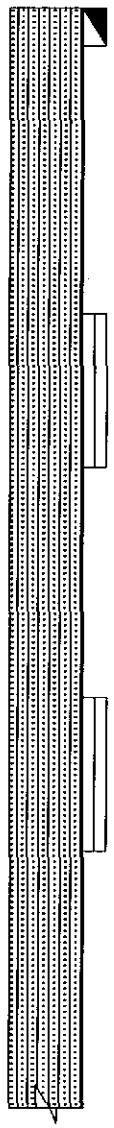
Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-130							For lithologic interpretation, see boring log BRC-SB-27-A	Cement Backfill
-140								

EXPLORATION LOG
AA-UW 1

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26725562.64, E 839434.53
EXPLORATION DATE: 7/30/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 48.70'
DATE MEASURED: 8/1/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
-2.5									
0		SM	Grayish brown silty SAND, little gravel, dry and dense. PIDs (10.6 & 11.7 eV)= 0. 1, 0.0 ppmV. 25% angular gravel, 70% subrounded sand, 5% fines; Trace mica; poorly sorted with feldspars and pyroxene.						
2.5									
5			...light brown. PIDs (10.6 & 11.7 eV)= 0. 1, 0.0 ppmV.						
7.5									
10			...reddish brown. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						
12.5									



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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 1

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26725562.64, E 839434.53
EXPLORATION DATE: 7/30/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 48.70'
DATE MEASURED: 8/1/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
15									
17.5			...weakly cemented. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						
20			...uncemented. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						
22.5									
25									
27.5									
30			...PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 1

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26725562.64, E 839434.53
EXPLORATION DATE: 7/30/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 48.70'
DATE MEASURED: 8/1/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
32.5									
35			...trace gravel.						
37.5									
40			...weakly cemented layers inches thick alternating with uncemented layers to 46 feet bgs. PIDs (10.6 & 11.7 eV)= 0. 1, 0.0 ppmV.						
42.5									
45			...brown. ...dark reddish brown, moist, weakly cemented.						
47.5		SC	Dark reddish brown clayey SAND with gravel, wet and medium dense.						

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 1

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26725562.64, E 839434.53
EXPLORATION DATE: 7/30/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 48.70'
DATE MEASURED: 8/1/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
			...strong brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
		CL	MUDDY CREEK FORMATION: Yellowish red sandy lean CLAY, wet and very stiff. Occasional thin (1/2 inch thick) sandstone layers. 5% subangular gravel, 10% subangular sand, 85% fines; <1% micas; poorly sorted with feldspar and pyroxene.						
			...PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
		GP-GC	Dark brown poorly graded GRAVEL with sand, trace clay, moist and medium dense.						
			END OF TEST PIT AT 65.0 FEET						

50
52.5
55
57.5
60
62.5
65

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 2

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26722943.77, E 838125.09
EXPLORATION DATE: 7/31-8/3/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 64.57'
DATE MEASURED: 8/4/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
-2.5									
0		GW	Light grayish brown well graded GRAVEL with silt and sand, dry and medium dense. PIDs (10.6 & 11.7 eV)= 0. 7, 0.1 ppmV. 55% angular to subangular gravel, 405 subanular sand, 5% fines; <1% mica; poorly sorted with feldspar, amphiboe, and pyroxene.						
2.5		SM	Reddish brown silty SAND with gravel, dry and dense.						
5			...PIDs (10.6 & 11.7 eV)= 0. 9, 0.1 ppmV. 5% angular gravel, 85% subrounded to subangular sand, 10% fines; <1% mica, poorly sorted.						
7.5									
10			...PIDs (10.6 & 11.7 eV)= 0. 3, 0.1 ppmV.						
12.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 2

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26722943.77, E 838125.09
EXPLORATION DATE: 7/31-8/3/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 64.57'
DATE MEASURED: 8/4/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
15			...brown.						
17.5			...weakly cemented to 20 feet.						
20			...uncemented. Increasing gravel size to 2 inches. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						
22.5									
25			...pale brown.						
27.5									
30		GW	Light brown well graded GRAVEL with silt and sand, few cobbles, dry and very dense. ...PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV. 50%						

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 2

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26722943.77, E 838125.09
EXPLORATION DATE: 7/31-8/3/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 64.57'
DATE MEASURED: 8/4/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
			angular gravel, 40% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted withfeldspar and pyroxene.						
32.5									
35		SM	Light brown silty SAND, trace gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV. 7% subangular gravel, 90% subrounded to subangular sand, 3% fines; <1% mica; poorly sorted with feldspar and pyroxene.						
37.5									
40			...PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						
42.5			...weakly cemented to 45 feet.						
45			...uncemented.						
47.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 2

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26722943.77, E 838125.09
EXPLORATION DATE: 7/31-8/3/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 64.57'
DATE MEASURED: 8/4/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
			...weakly cemented to 50 feet.						
50		GW	Brown well graded GRAVEL with silt and sand, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 50% subangular to angular gravel, 40% subrounded sand, 10% fines; <1% mica; poorly sorted with feldspar and pyroxene.						
52.5			...moist.						
55		SM	Reddish brown silty SAND with gravel, moist and very dense. Weakly cemented layers 0.5 to 1.0 inch thick. 20% angular gravel, 70% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted with feldspar, pyroxene, and trace gypsum.						
57.5									
60			...dark brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
62.5		CL	MUDDY CREEK FORMATION: Yellowish red sandy lean CLAY, moist and very stiff. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 5% angular to subangular gravel, 15% subrounded sand, 85% fines; <1% mica; poorly sorted course fraction (sand and gravel).						

EXPLORATION LOG
AA-UW 2

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26722943.77, E 838125.09
EXPLORATION DATE: 7/31-8/3/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 64.57'
DATE MEASURED: 8/4/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
65									
67.5									
70			...PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
72.5									
75			END OF TEST PIT AT 75.0 FEET						
77.5									
80									

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EXPLORATION LOG
AA-UW 3

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26720040.77, E 836519.18
EXPLORATION DATE: 8/5/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 63.89'
DATE MEASURED: 8/6/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
-2.5									
0		SM	Light brown silty SAND with gravel, dry and dense. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 10% angular to subangular gravel, 80% subrounded sand, 10% fines; <1% mica; poorly sorted with feldspar and mafic minerals (pyroxene).						
2.5									
5			...PIDs (10.6 & 11.7 eV)= 0.1, 0.0 ppmV.						
7.5									
10		GW	Brown well graded GRAVEL with silt and sand, dry and very dense. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV. 60% angular to subangular gravel, 30% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted withfeldspar and mafic minerals (pyroxene).						
12.5									

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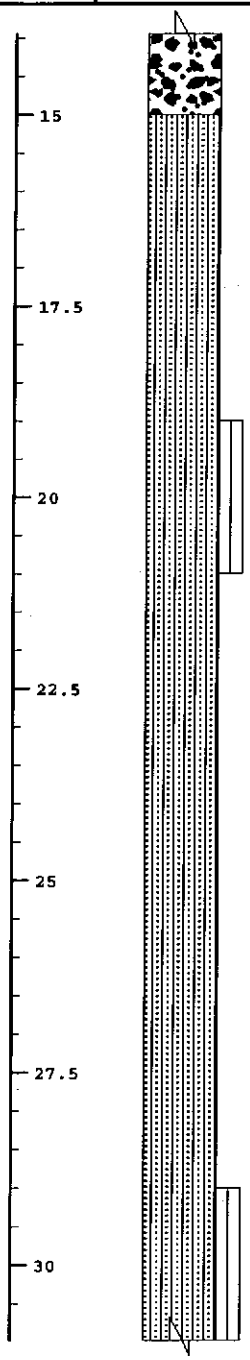
GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 3

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26720040.77, E 836519.18
EXPLORATION DATE: 8/5/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 63.89'
DATE MEASURED: 8/6/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
15		SM	Brown silty SAND with gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV. 15% angular to subangular gravel, 75% subrounded sand, 10% fines; <1% mica; poorly sorted with feldspar and mafic minerals (pyroxene).						
17.5			...PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
20									
22.5									
25			...light brown, few cobbles.						
27.5									
30			...few cobbles. PIDs (10.6 & 11.7 eV)= 0.2, 0.0 ppmV.						

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 3

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26720040.77, E 836519.18
EXPLORATION DATE: 8/5/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 63.89'
DATE MEASURED: 8/6/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
32.5									
35			...PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
37.5			...yellowish red ...weakly cemented to 40.0 feet.						
40			...PIDs (10.6 & 11.7 eV)= 0. 0, 0.0 ppmV.						
42.5									
45									
47.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 3

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26720040.77, E 836519.18
EXPLORATION DATE: 8/5/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 63.89'
DATE MEASURED: 8/6/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
50			...weakly cemented layers 0.5 inch thick. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 20% subangular to angular gravel, 65% subrounded sand, 15% fines; <1% mica; poorly sorted with feldspar.						
52.5			...moist						
55									
57.5									
60			...dark brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
62.5									
65									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 3

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26720040.77, E 836519.18
EXPLORATION DATE: 8/5/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 63.89'
DATE MEASURED: 8/6/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
67.5		CL	MUDDY CREEK FORMATION: Reddish brown sandy lean CLAY, wet and very stiff. <1% angular gravel, 5% subrounded sand, 94% fines; <1% mica; poorly sorted course fraction (sand and gravel),						
70			...moist. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
72.5									
75									
77.5		SP	Dark brown poorly graded SAND, trace gravel, wet and very dense. <1% subangular gravel, 5% subrounded sand, 95% fines; <1% mica; poorly sorted course fraction (sand and gravel).						
		CL	Reddish brown sandy lean CLAY, moist and very stiff. ...<1% subangular gravel, 5% subrounded sand, 95% fines; <1% mica; poorly sorted course fraction (sand and gravel) .						
80			**END OF TEST PIT AT 80.0 FEET**						

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 4

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 2671895.69, E 834777.38
EXPLORATION DATE: 8/6/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 39.59'
DATE MEASURED: 8/7/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
-2.5									
0		SM	Brown silty SAND with gravel, dry and dense. PIDs (10.6 & 11.7 eV)= 0.2, 0.0 ppmV. 15% angular to subangular gravel, 75% subrounded sand, 10% fines; <1% mica; poorly sorted with feldspars and pyroxene.						
2.5									
5			...light brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
7.5									
10			...brown. PIDs (10.6 & 11.7 eV)= 0.1, 0.0 ppmV.						
12.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 4

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 2671895.69, E 834777.38
EXPLORATION DATE: 8/6/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 39.59'
DATE MEASURED: 8/7/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
15			...light brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
17.5									
20			...PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
22.5									
25			...brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
27.5									
30			...reddish brown, increasing gravel size to 2 inches. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						

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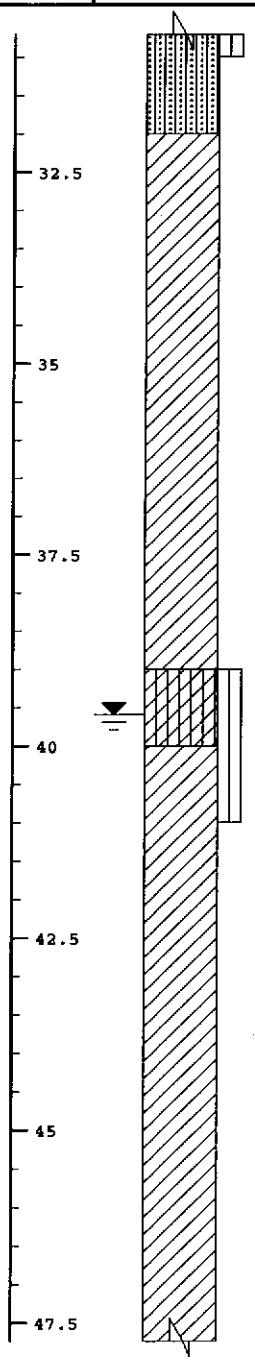
EXPLORATION LOG
AA-UW 4

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 2671895.69, E 834777.38
EXPLORATION DATE: 8/6/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 39.59'
DATE MEASURED: 8/7/07



ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
		CL	MUDDY CREEK FORMATION: Reddish brown sandy lean CLAY, white gypsum salt and crystals, wet and very stiff. Gypsum is present from 32 feet to 35 feet.						
			...PIDs (10.6 & 11.7 eV)= 0.1, 0.0 ppmV.						
			...wet.						
		CL-ML	Dark brown silty CLAY with sand, trace gravel, wet and very stiff.						
		CL	Reddish brown sandy lean CLAY, wet and very stiff. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
			...light gray with orange oxidation mottling.						
			...light olive brown.						
			...PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						

EXPLORATION LOG
AA-UW 4

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 2671895.69, E 834777.38
EXPLORATION DATE: 8/6/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 39.59'
DATE MEASURED: 8/7/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
50			...reddish brown. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
52.5		SC	Reddish brown clayey SAND, wet and dense.						
55		CL	Reddish brown sandy lean CLAY, wet and very stiff.						
			END OF TEST PIT AT 55.0 FEET						
57.5									
60									
62.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 5

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26718163.09, E 832800.88
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 45.39'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
-2.5									
0		GP	Light brown poorly graded GRAVEL with sand, dry and dense. PIDs (10.6 & 11.7 eV)= 0. 4, 0.1 ppmV. 60% angular gravel, 30% subrounded sand, 10% fines; <1% mica; poorly sorted with feldspars and mafic minerals (pyroxene).						
2.5									
5		GW-GM	Light brown well graded GRAVEL with silt and sand, dry and dense. Gravel size increases to 2 inches. PIDs (10.6 & 11.7 eV)= 0. 2, 0.0 ppmV. 75% angular gravel, 15% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted with feldspar and mafic minerals (pyroxene). ...large cobble or boulder encountered. ...drill through large cobble or boulder. ...PIDs (10.6 & 11.7 eV)= 0.1 0.0 ppmV.						
7.5									
10									
12.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 5

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26718163.09, E 832800.88
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 45.39'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
15		GP	Light brown poorly graded GRAVEL with silt and sand, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0 0.0 ppmV. 80% angular gravel, 15% subrounded to subangular sand, 5 % fines; <1% mica; poorly sorted with feldspar and mafic minerals (pyroxene).						
17.5									
20		SM	Light reddish brown silty SAND, trace gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 5% angular gravel, 90% subrounded to subangular sand, 5% fines; <1% mica; poorly sorted gravel with feldspar and mafic minerals (pyroxene), well sorted sand.						
22.5									
25			...PIDs (10.6 & 11.7 eV)= 0.1 0.0 ppmV.						
27.5									
30		GW	Light reddish brown well graded GRAVEL with silt and sand, dry and very dense. PIDs (10.6 &						

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EXPLORATION LOG
AA-UW 5

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26718163.09, E 832800.88
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 45.39'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
			11.7 eV)= 0.0, 0.0 ppmV. 45% subangular gravel, 40% subrounded to subangular sand, 5% fines; <1% mica; poorly sorted with feldspar.						
35		SM	Reddish gray silty SAND with gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0 0.0 ppmV. 20% angular to subangular gravel, 75% subrounded to subangular sand, 5% fines; <1% mica; poorly sorted with feldspar. ...brown, moist.						
40		SC	Mottled light gray and reddish brown clayey SAND with gravel, moist and very dense.						
42.5		SM	Reddish gray silty SAND with gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 30% angular gravel, 60% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted with feldspar. ...moist. ...wet.						
45		SC	MUDDY CREEK FORMATION: Reddish brown with white mottling clayey SAND, trace weathered white caliche nodules, moist and very dense. PIDs (10.6 & 11.7 eV)= 0.0 0.0 ppmV. 15% subangular gravel, 50% subrounded to sunangular sand, 35% fines; <1% mica; poorly sorted with gypsum and						
47.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 5

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26718163.09, E 832800.88
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 45.39'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
			feldspar.						
50		CL	Reddish brown sandy lean CLAY, moist and very stiff. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 1% subangular gravel, 10% subrounded sand, 89% fines; <1% mica; poorly sorted course fraction (sand and gravel)						
52.5									
55		CL	...wet to 57 feet.						
57.5			...set well at 57.0 feet bgs.						
60			**END OF TEST PIT AT 60.0 FEET**						
62.5									
65									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

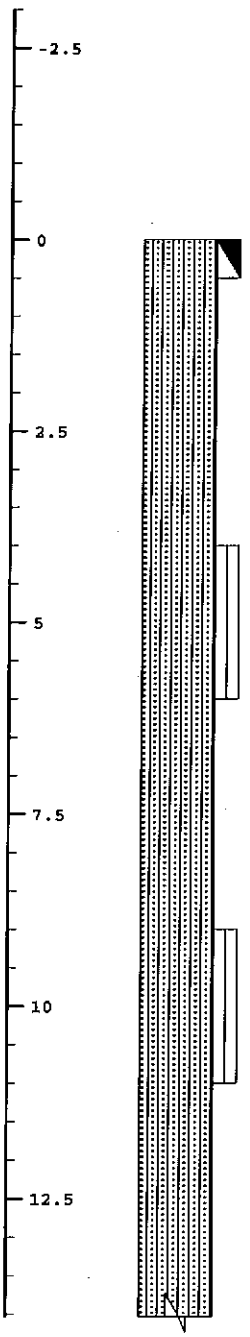
Figure No.

EXPLORATION LOG
AA-UW 6

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26719633.12, E 831429.68
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 55.3'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
-2.5									
0		SM	Pinkish gray silty SAND with gravel, dry and medium dense. PIDs (10.6 & 11.7 eV)= 0.3, 0.0 ppmV. 20% angular gravel, 70% subrounded sand, 10% fines; <1% mica; poorly sorted with feldspars and mafic minerals (pyroxene). ...dense.						
2.5									
5			...reddish gray, very dense. PIDs (10.6 & 11.7 eV)= 0. 2, 0.0 ppmV.						
7.5									
10			...light reddish brown. PIDs (10.6 & 11.7 eV)= 0.2 0.0 ppmV.						
12.5									



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EXPLORATION LOG
AA-UW 6

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26719633.12, E 831429.68
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 55.3'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
15		GW	Light brown well graded GRAVEL with silt and sand, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.1 0.0 ppmV. 55% angular to subangular gravel, 35% subrounded to subangular sand, 10 % fines; <1% mica; poorly sorted with feldspar and mafic minerals (pyroxene).						
17.5									
20			...PIDs (10.6 & 11.7 eV)= 0.1, 0.0 ppmV.						
22.5									
25		SM	Reddish gray silty SAND with gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.1 0.0 ppmV. 35% angular gravel, 55% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted gravel with feldspar and mafic minerals (pyroxene), well sorted sand.						
27.5			...little cobbles.						
30			...cobbles to 6 inches in diameter. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						

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EXPLORATION LOG
AA-UW 6

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26719633.12, E 831429.68
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 55.3'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
32.5									
35		CL	MUDDY CREEK FORMATION: Light gray to light grayish brown sandy lean CLAY, some gypsum, dry and very stiff. 5% subangular gravel, 25% subrounded sand, 70% fines; <1% mica; poorly sorted gravel, well sorted sand, with 20% gypsum.						
37.5		SM	Reddish gray silty SAND with gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0 0.0 ppmV. 20% angular to subangular gravel, 75% subrounded to subangular sand, 5% fines; <1% mica; poorly sorted with feldspar. ...brown, moist.						
40		SC	Mottled light gray and reddish brown clayey SAND with gravel, moist and very dense.						
42.5		SM	Reddish gray silty SAND with gravel, dry and very dense. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV. 30% angular gravel, 60% subrounded to subangular sand, 10% fines; <1% mica; poorly sorted with feldspar. ...moist. ...wet, light olive brown.						
45		SC	...brown. Decreasing percent gravel and sand. 1% Gravel, 10% sand, 89% fines. PIDs (10.6 & 11.7 eV)= 0.0 0.0 ppmV.						
47.5									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

EXPLORATION LOG
AA-UW 6

PROJECT: BRC DEEP BACKGROUND INVESTIGATION
PROJECT NO.: 20072228V1
EXPLORATION LOCATION: N 26719633.12, E 831429.68
EXPLORATION DATE: 8/7/07
EXPLORATION SIZE (dia.): 6" O.D. SAMPLER
EQUIPMENT: SONIC DRILL RIG
ELEVATION: EXISTING GROUND SURFACE
LOGGED BY: HILLMAN/COOKE

INITIAL DEPTH TO WATER: NA
DATE MEASURED: NA
FINAL DEPTH TO WATER: 55.3'
DATE MEASURED: 8/8/07

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	% SWELL	WELL CONSTRUCTION
50									
		CL	Reddish brown sandy lean CLAY, moist and very stiff. PIDs (10.6 & 11.7 eV)= 0.0, 0.0 ppmV.						
52.5									
55		CL	...wet to 57 feet.						
57.5		SC	Olive gray clayey SAND, wet and very dense. 1% subangular gravel, 65% subrounded sand, 34% fines; <1% mica; poorly sorted gravel and well sorted sand with feldspar and mafic minerals. ...0.0% gravel, 70 % subangular sand, 30% fines; <1% mica; well sorted sand with feldspar and mafic minerals.						
60			**END OF TEST PIT AT 60.0 FEET**						
62.5									
65									

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GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

Figure No.

KEY TO SYMBOLS

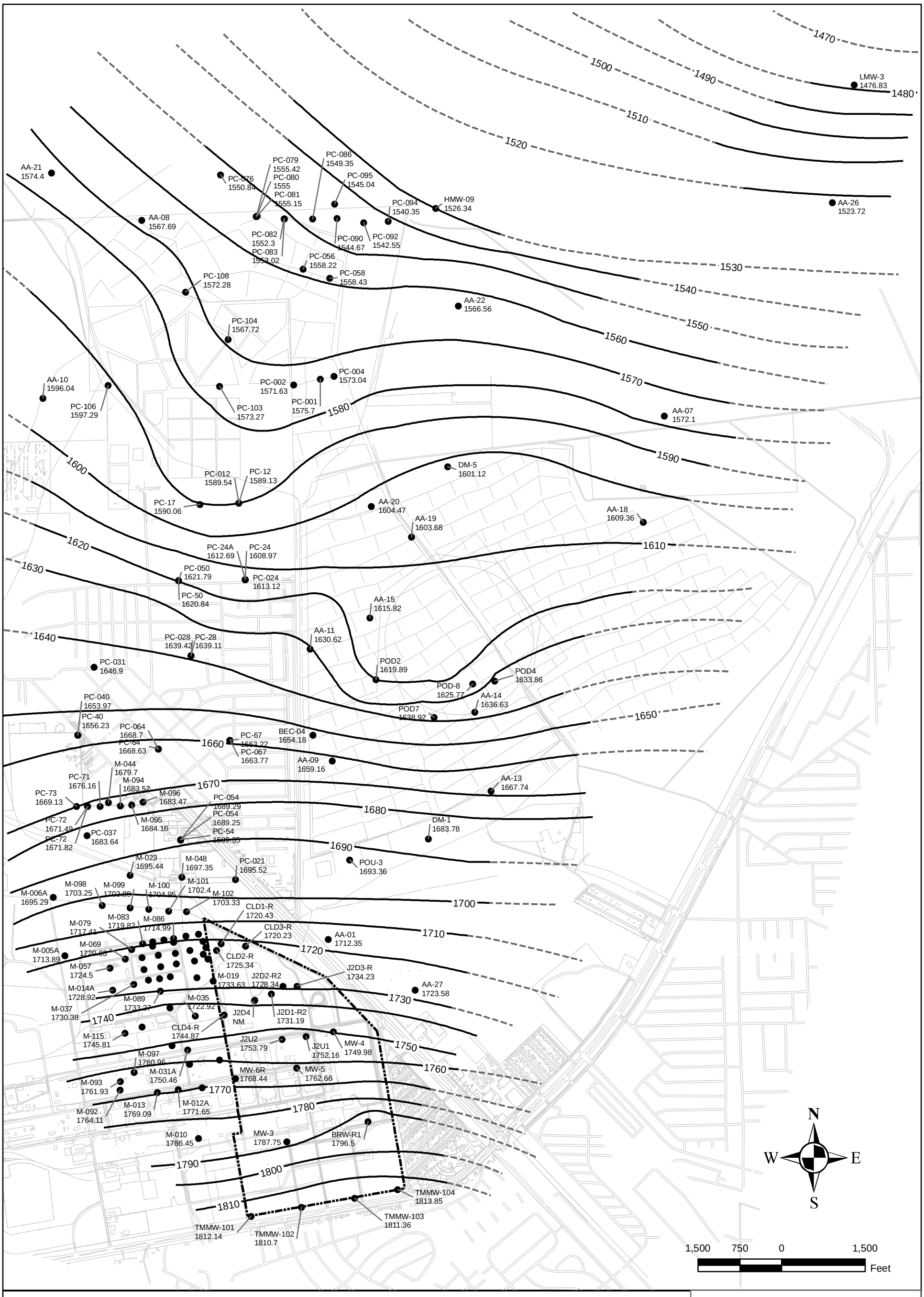
Symbol	Description
Strata symbols	
	Silty sand
	Clayey sand
	Low plasticity clay
	Poorly graded gravel with clay
	Well graded gravel
	Poorly graded sand
	Silty low plasticity clay
	Poorly graded gravel
	Well graded gravel with silt
Misc. Symbols	
	Boring continues
	Water table at date indicated

Symbol	Description
Soil Samplers	
	Bulk/Grab sample
	Rock core
Monitor Well Details	
	riser with cover and protective casing
	bentonite pellets
	bentonite slurry
	silica sand, blank PVC
	slotted pipe w/ sand
	end of well installation

Notes:

1. Exploratory borings were drilled on 8/7/07 using a 4-inch diameter continuous flight power auger.
2. No free water was encountered at the time of drilling or when re-checked the following day.
3. Boring locations were taped from existing features and elevations extrapolated from the final design schematic plan.
4. These logs are subject to the limitations, conclusions, and recommendations in this report.
5. Results of tests conducted on samples recovered are reported on the logs.

Appendix C



BRW-R1
1796.5
MONITORING WELL WITH GROUNDWATER ELEVATION
(FEET ABOVE MEAN SEA LEVEL)

WATER LEVEL CONTOUR
(DASHED WHERE INFERRED)

Conceptual Site Model
Titanium Metals Corporation
Henderson, Nevada

FIGURE 2-5
POTENTIOMETRIC SURFACE MAP

TIMET

2007-04-05 :\TIMET\CSM-R1\MXD\TIMET_siteWL.mxd TTEMI-MO michelle.handley

Attachment

Summary of Cation-Anion Balance Calculations
Fifth Round Sampling Data
BMI Common Areas - Eastside

Description	Aquifer	pH	Major Ion Chemistry Data Input												meq/l Calculations											
			Ca	Mg	Na	K	HCO_3	CO_3	OH	SO_4	Cl	F	NO_3	ClO_3	ClO_4	Ca	Mg	Na	K	HCO_3	CO_3	OH	SO_4	Cl	F	NO_3	ClO_3	ClO_4
																20.04	12.16	22.99	39.1	61.02	30.01	17	48.03	35.5	19	61.91	83.4	99.5
			(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)
																(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)
AA-01	Shallow	7.1	526	135	377	7.02	101			1460	711	1.7	8.3	4.2	0.00	26.25	11.10	16.40	0.18	1.66	0.00	0.00	30.40	20.03	0.09	0.13	0.05	0.00
AA-07	Shallow	7.4	264	81.8	199	39.8	95			1010	273	0.8	10.5	0.79	0.48	13.17	6.73	8.66	1.02	1.56	0.00	0.00	21.03	7.69	0.04	0.17	0.01	0.00
AA-08	Shallow	7.1	384	191	601	27.9	144			1820	1350	1.2	6.8	1.2	5.08	19.16	15.71	26.14	0.71	2.36	0.00	0.00	37.89	38.03	0.06	0.11	0.01	0.05
AA-09	Shallow	7.1	531	342	1070	33.6	73			3050	1390	0.48	20	89	6.51	26.50	28.13	46.54	0.86	1.20	0.00	0.00	63.50	39.15	0.03	0.32	1.07	0.07
AA-10	Shallow	7.5	470	224	640	36.3	123			1960	1170	0.9	6.9	0.48	3.43	23.45	18.42	27.84	0.93	2.02	0.00	0.00	40.81	32.96	0.05	0.11	0.01	0.03
AA-13	Shallow	7.7	284	125	398	21.1	233			1370	322	0.92	26		0.04	14.17	10.28	17.31	0.54	3.82	0.00	0.00	28.52	9.07	0.05	0.42	0.00	0.00
AA-18	Shallow	7.9	96.4	54.4	137	15.1	100			429	225	0.71	10.8		0.11	4.81	4.47	5.96	0.39	1.64	0.00	0.00	8.93	6.34	0.04	0.17	0.00	0.00
AA-20	Shallow	7.4	483	205	668	32.9	79			2660	1200	0.31	20.5	97.5	7.18	24.10	16.86	29.06	0.84	1.29	0.00	0.00	55.38	33.80	0.02	0.33	1.17	0.07
AA-21	Shallow	7.4	526	315	696	79.4	165			2950	971	1.9	6.6		0.06	26.25	25.90	30.27	2.03	2.70	0.00	0.00	61.42	27.35	0.10	0.11	0.00	0.00
AA-22	Shallow	7.5	495	70.4	280	22.4	166			1660	385	0.63	2.8	0.26	0.09	24.70	5.79	12.18	0.57	2.72	0.00	0.00	34.56	10.85	0.03	0.05	0.00	0.00
AA-23R	Shallow	6.9	617	121	314	32.9	157			1920	578	0.33	9.8	5.2	0.68	30.79	9.95	13.66	0.84	2.57	0.00	0.00	39.98	16.28	0.02	0.16	0.06	0.01
AA-26	Shallow	7.4	234	83.9	309	40	66			1170	326	0.77	5.8		0.03	11.68	6.90	13.44	1.02	1.08	0.00	0.00	24.36	9.18	0.04	0.09	0.00	0.00
AA-27	Shallow	7.2	452	161	381	7.02	108			2380	450	1.6	12.3	0.32	0.27	22.55	13.24	16.57	0.18	1.77	0.00	0.00	49.55	12.68	0.08	0.20	0.00	0.00
AA-UW1	Shallow	7.6	539	202	319	7.39	85			2120	439	1.1	5	1.3	0.70	26.90	16.61	13.88	0.19	1.39	0.00	0.00	44.14	12.37	0.06	0.08	0.02	0.01
AA-UW2	Shallow	7.3	392	203	482	8.12	123			1930	522	1.2	10.6	0.76	0.11	19.56	16.69	20.97	0.21	2.02	0.00	0.00	40.18	14.70	0.06	0.17	0.01	0.00
AA-UW3	Shallow	7.6	293	185	830	14.9	81			3070	264	1.5	7.9		0.08	14.62	15.21	36.10	0.38	1.33	0.00	0.00	63.92	7.44	0.08	0.13	0.00	0.00
AA-UW4	Shallow	7.6	337	173	640	13.1	84			2970	331	1	11.9		0.09	16.82	14.23	27.84	0.34	1.38	0.00	0.00	61.84	9.32	0.05	0.19	0.00	0.00
AA-UW5	Shallow	7.8	75.4	45.8	97.7	7.56	124			271	176	0.72	14.7		0.06	3.76	3.77	4.25	0.19	2.03	0.00	0.00	5.64	4.96	0.04	0.24	0.00	0.00
AA-UW6	Shallow	7.8	370	157	324	63.3	57			2480	226	0.62	7.6		0.07	18.46	12.91	14.09	1.62	0.93	0.00	0.00	51.63	6.37	0.03	0.12	0.00	0.00
BEC-6	Middle	7	579	267	568	37	105			1890	1700	0.57	30.4	27.7		28.89	21.96	24.71	0.95	1.72	0.00	0.00	39.35	47.89	0.03	0.49	0.33	0.00
BEC-9	Middle	5.7	712	298	443	61	109			2080	1600	0.7	46.2	1.9		35.53	24.51	19.27	1.56	1.79	0.00	0.00	43.31	45.07	0.04	0.75	0.02	0.00
COH-1	Middle	7.5	436	8370	15100	5320	83			43000	24100				0.01	21.76	688.32	656.81	136.06	1.36	0.00	0.00	895.27	678.87			0.00	0.00
COH-2	Middle	7.5	499	7190	16500	4610	104			36100	28500				0.01	24.90	591.28	717.70	117.90	1.70	0.00	0.00	751.61	802.82			0.00	0.00
COH-2A	Shallow	7.3	544	308	1080	36	146			3030	1500	1.3	19.5	63.4	8.33	27.15	25.33	46.98	0.92	2.39	0.00	0.00	63.09	42.25	0.07	0.31	0.76	0.08
DBMW-1	Shallow	7.4	624	306	634	51.9	63			2810	991	0.33	8.8	26.2	8.02	31.14	25.16	27.58	1.33	1.03	0.00	0.00	58.51	27.92	0.02	0.14	0.31	0.08
DBMW-10	Shallow	7.6	212	89.6	244	57.1	71			916	317	0.59	10.1	2.6	0.55	10.58	7.37	10.61	1.46	1.16	0.00	0.00	19.07	8.93	0.03	0.16	0.03	0.01
DBMW-11	Shallow	7.5	645	481	712	233	65			3120	1880	0.35	24.3	35.3	0.49	32.19	39.56	30.97	5.96	1.07	0.00	0.00	64.96	52.96	0.02	0.39	0.42	0.00
DBMW-12	Shallow	7.1	675	859	912	526	55			5040	2480		25.4	38.9	18.80	33.68	70.64	39.67	13.45	0.90	0.00	0.00	104.93	69.86		0.41	0.47	0.19
DBMW-13	Shallow	7.6	613	284	624	134	51			2640	1060	0.27	14.7	19	10.60	30.59	23.36	27.14	3.43	0.84	0.00	0.00	54.97	29.86	0.01	0.24	0.23	0.11
DBMW-14	Shallow	7.4	607	211	515	127	55			2390	1100	0.09	16.7	20.4	14.30	30.29	17.35	22.40	3.25	0.90	0.00	0.00	49.76	30.99	0.00	0.27	0.24	0.14
DBMW-15	Shallow	7.6	570	219	416	94.7	56			2600	397	0.34	8.3	4.6	1.46	28.44	18.01	18.09	2.42	0.92	0.00	0.00	54.13	11.18	0.02	0.13	0.06	0.01
DBMW-16	Shallow	7.8	76.8	36.1	197	20.9	76			445	129	0.72	2.2		0.01	3.83	2.97	8.57	0.53	1.25	0.00	0.00	9.27	3.63	0.04	0.04	0.00	0.00
DBMW-17	Shallow	7.8	124	55.5	270	25.2	79			970	49.7	0.8	1.5		0.01	6.19	4.56	11.74	0.64	1.29	0.00	0.00	20.20	1.40	0.04	0.02	0.00	0.00
DBMW-19	Shallow	7.6	586	182	504	55.5	121			2470	690	0.68	19.3	20.4	1.53	29.24	14.97	21.92	1.42	1.98	0.00	0.00	51.43	19.44	0.04	0.31	0.24	0.02
DBMW-2	Shallow	7.3	551	299	792	72.8	94			3160	1280	0.82	6.7	17.5	5.56	27.50	24.59	34.45	1.86	1.54	0.00	0.00	65.79	36.06	0.04	0.11	0.21	0.06
DBMW-20	Shallow	7.5	523	219	460	103	121			2010	985	0.78	22.7	4.6	2.14	26.10	18.01	20.01	2.63	1.98	0.00	0.00	41.85	27.75	0.04	0.37	0.06	0.02
DBMW-22	Shallow	5.8	596	179	254	149	52			2510	322	0.27	1.2	0.74	0.24	29.74	14.72	11.05	3.81	0.85	0.00	0.00	52.26	9.07	0.01	0.02	0.01	0.00
DBMW-3	Shallow	7.3	539	297	687	75.5	57			2920	1470	0.51	14.9	59.9	6.40	26.90	24.42	29.88	1.93	0.93	0.00	0.00	60.80	41.41	0.03	0.24	0.72	0.06
DBMW-4	Shallow	6.2	544	227	552	47.1	161			2620	1120	0.32	24.9	37	4.23	27.15	18.67	24.01	1.20	2.64	0.00	0.00	54.55	31.55	0.02	0.40	0.44	0.04
DBMW-5	Shallow	6.7	609	221	464	31.6	88			2310	983	0.24	30.5	30	3.33	30.39	18.17	20.18	0.81	1.44	0.00	0.00	48.09	27.69	0.01	0.49	0.36	0.03
DBMW-6	Shallow	7.3	767	331	527	117	91			2120	2020		56.9	0.6	1.97	38.27	27.22	22.92	2.99	1.49	0.00	0.00	44.14	56.90		0.92	0.01	0.02
DBMW-7	Shallow	7.6	652	273	562	65.3	62			2440	1660	0.42	44.6	9.7	2.74	32.53	22.45	24.45	1.67	1.02	0.00	0.00	50.80	46.76	0.02	0.72	0.12	0.03
DBMW-8	Shallow	7.6	708	300	613	78.4	55			2330	1740	0.37	46	10.5	3.34	35.33	24.67	26.66	2.01	0.90	0.00	0.00	48.51	49.01	0.02	0.74	0.13	0.03
DBMW-9	Shallow	7.6	582	153	282	54.7	89			2250	442	0.91	17.3	8.1	3.43	29.04	12.58	12.27	1.40	1.46	0.00	0.00	46.85	12.45	0.05	0.28	0.10	0.03
DM-1	Shallow	7.2	603	195	423	8.05	185			2460	321	2	12.7	0.12		30.09	16.04	18.40	0.21	3.03	0.00	0.00	51.22	9.04	0.11	0.21	0.00	0.00
HMW-08	Middle	6.9	415	90.4	257	40.8	225			1270	411	0.76	5.4	0.59	0.15	20.71	7.43	11.18	1.04	3.69	0.00	0.00	26.44	11.58	0.04	0.09	0.01	0.00
HMW-09	Shallow	7.3	477	160	478	50.3	127			1970	606	0.57	9.2	5.3	1.67	23.80	13.16	20.79	1.29	2.08	0.00	0.00	41.02	17.07	0.03	0.15	0.06	0.02
HMWWT-6	Middle	7.7	154	86.5	182	5.61	73			452	435	0.66	17.2			7.68	7.11	7.92	0.14	1.20	0.00	0.00	9.41	12.25	0.03	0.28	0.00	0.00
MCF-01A	Deep	8	493	163	387	23.6	49			2650	109	0.24	0.014			24.60	13.40	16.83	0.60	0.80	0.00	0.00	55.17	3.07	0.01	0.00	0.00	0.00
MCF-01B	Middle	7.5	117	66.4	379	10.9	132			997	299	0.77	1.6	1.4	0.67	5.84	5.46	16.49	0.28	2.16	0.00	0.00	20.76	8.42	0.04	0.03	0.02	0.01
MCF-02A	Deep	7.2	21.9	6.82	152	8.85	73			193	125	0.87	1.1		0.00	1.09	0.56	6.61	0.23	1.20	0.00	0.00	4.02	3.52	0.05	0.02	0.00	0.00
MCF-02B	Middle	7.9	22.5	9.65	170	7.99	95			254	95	1.4	1.4			1.12	0.79	7.39	0.20	1.56	0.00	0.00	5.29	2.68	0.07	0.02	0.00	0.00
MCF-03A	Deep	8	26.5	14	160	13.2	69			230	134	0.85	2.3			1.32	1.15	6.96	0.34	1.13	0.00	0.00	4.79	3.77	0.04	0.04	0.00	0.00

Summary of Cation-Anion Balance Calculations
Fifth Round Sampling Data
BMI Common Areas - Eastside

Description	Aquifer	pH	Major Ion Chemistry Data Input												meq/l Calculations											
			Ca	Mg	Na	K	HCO_3	CO_3	OH	SO_4	Cl	F	NO_3	ClO_3	ClO_4	Ca	Mg	Na	K	HCO_3	CO_3	OH	SO_4	Cl	F	NO_3	ClO_3	ClO_4
																20.04	12.16	22.99	39.1	61.02	30.01	17	48.03	35.5	19	61.91	83.4	99.5
			(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)	(mg/meq)
																(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)	(meq/l)
MCF-03B	Middle	7.8	157	93.3	485	11.7	129			1200	313	0.75	11	0.099	0.09	7.83	7.67	21.10	0.30	2.11	0.00	0.00	24.98	8.82	0.04	0.18	0.00	0.00
MCF-04	Deep	7.3	513	129	712	90.5	38			3100	425	0.38			0.00	25.60	10.61	30.97	2.31	0.62	0.00	0.00	64.54	11.97	0.02		0.00	0.00
MCF-05	Middle	7.8	330	13900	5	5.8	144			79900	31700				0.01	16.47	1143.09	0.22	0.15	2.36	0.00	0.00	1663.54	892.96			0.00	0.00
MCF-06A	Deep	6.8	264	13700	33100	9060	99			78400	68600					13.17	1126.64	1439.76	231.71	1.62	0.00	0.00	1632.31	1932.39			0.00	0.00
MCF-06B	Middle	8.3	482	3600	4000	3570			83	18300	7290	0.44	4	5.6	5.58	24.05	296.05	173.99	91.30	0.00	0.00	4.88	381.01	205.35	0.02	0.06	0.07	0.06
MCF-06C	Shallow	7.6	621	351	615	195	55			2640	1710	0.41	51.5	4.2	3.62	30.99	28.87	26.75	4.99	0.90	0.00	0.00	54.97	48.17	0.02	0.83	0.05	0.04
MCF-07	Deep	8.1	14.5	15700	24500	12300	140			84700	44600				0.01	0.72	1291.12	1065.68	314.58	2.29	0.00	0.00	1763.48	1256.34			0.00	0.00
MCF-08A	Deep	7.3	595	6220	26300	3080	111			25700	52800				0.01	29.69	511.51	1143.98	78.77	1.82	0.00	0.00	535.08	1487.32			0.00	0.00
MCF-08B	Middle	7.6	620	2090	5360	737	49			11900	7750				0.01	30.94	171.88	233.14	18.85	0.80	0.00	0.00	247.76	218.31			0.00	0.00
MCF-09A	Deep	7.1	472	2170	4450	615	71			13300	4280					23.55	178.45	193.56	15.73	1.16	0.00	0.00	276.91	120.56			0.00	0.00
MCF-09B	Middle	7.5	429	132	330	40.6	59			2210	148	0.68				21.41	10.86	14.35	1.04	0.97	0.00	0.00	46.01	4.17	0.04		0.00	0.00
MCF-10A	Deep	7.4	522	244	1190	154	50			3930	1390				0.00	26.05	20.07	51.76	3.94	0.82	0.00	0.00	81.82	39.15			0.00	0.00
MCF-10B	Middle	7.8	245	90.8	202	33.7	54			1170	206	0.4	0.22		0.00	12.23	7.47	8.79	0.86	0.88	0.00	0.00	24.36	5.80	0.02	0.00	0.00	0.00
MCF-11	Middle	7.5	401	121	384	55.7	80			2100	357	1.1			0.00	20.01	9.95	16.70	1.42	1.31	0.00	0.00	43.72	10.06	0.06		0.00	0.00
MCF-12A	Deep	7.5	498	187	807	329	47			3410	937	0.46			0.00	24.85	15.38	35.10	8.41	0.77	0.00	0.00	71.00	26.39	0.02		0.00	0.00
MCF-12B	Shallow	7.3	283	125	270	67.3	69			1570	317	0.45	6.4	4.6	4.13	14.12	10.28	11.74	1.72	1.13	0.00	0.00	32.69	8.93	0.02	0.10	0.06	0.04
MCF-12C	Middle	8.1	221	88.8	188	68.5	77			1260	109	0.51	1.4	0.21	0.44	11.03	7.30	8.18	1.75	1.26	0.00	0.00	26.23	3.07	0.03	0.02	0.00	0.00
MCF-16A	Deep	5.8	429	6390	2780	11900	109			55700	3660				0.01	21.41	525.49	120.92	304.35	1.79	0.00	0.00	1159.69	103.10			0.00	0.00
MCF-16B	Middle	6	453	6070	2710	13700	143			45900	2570	0.33			0.02	22.60	499.18	117.88	350.38	2.34	0.00	0.00	955.65	72.39	0.02		0.00	0.00
MCF-16C	Shallow	7.4	590	671	542	357	74			5570	1230	0.5	23.8	19	11.10	29.44	55.18	23.58	9.13	1.21	0.00	0.00	115.97	34.65	0.03	0.38	0.23	0.11
MCF-17A	Deep	7.5	846	3320	16800	1790	54			15600	30100					42.22	273.03	730.75	45.78	0.88	0.00	0.00	324.80	847.89			0.00	0.00
MCF-18A	Deep	6.7	3120	2700	48200	6600	24			3720	123000				0.05	155.69	222.04	2096.56	168.80	0.39	0.00	0.00	77.45	3464.79			0.00	0.00
MCF-19A	Deep	7.9	574	12000	21200	5420	110			62900	34900					28.64	986.84	922.14	138.62	1.80	0.00	0.00	1309.60	983.10			0.00	0.00
MCF-20A	Deep	6.8	485	14000	33000	9730	40			74400	72000				0.05	24.20	1151.32	1435.41	248.85	0.66	0.00	0.00	1549.03	2028.17			0.00	0.00
MCF-21A	Deep	7.4	127	12800	13500	12200	136			77400	18000				0.02	6.34	1052.63	587.21	312.02	2.23	0.00	0.00	1611.49	507.04			0.00	0.00
MCF-22A	Deep	7.6	542	109	224	90	64			2140	108	0.8			0.00	27.05	8.96	9.74	2.30	1.05	0.00	0.00	44.56	3.04	0.04		0.00	0.00
MCF-23A	Deep	7.1	616	7700	13300	3170	73			41100	16200					30.74	633.22	578.51	81.07	1.20	0.00	0.00	855.72	456.34			0.00	0.00
MCF-24A	Deep	7.6	100	16600	6950	13800	136			73500	10100				0.01	4.99	1365.13	302.31	352.94	2.23	0.00	0.00	1530.29	284.51			0.00	0.00
MCF-25A	Deep	8	507	179	999	157	50			3670	596	0.26			0.00	25.30	14.72	43.45	4.02	0.82	0.00	0.00	76.41	16.79	0.01		0.00	0.00
MCF-27	Deep	7.6	68.7	25	201	11.9	63			492	98.9	0.8	0.96		0.00	3.43	2.06	8.74	0.30	1.03	0.00	0.00	10.24	2.79	0.04	0.02	0.00	0.00
MW-03	Shallow	8	438	196	687	69.7	108			2050	1170	1.4			0.03	21.86	16.12	29.88	1.78	1.77	0.00	0.00	42.68	32.96	0.07		0.00	0.00
MW-04	Shallow	7.4	577	1000	2040	791	65			6110	3380	0.32	13.8	14.3	9.85	28.79	82.24	88.73	20.23	1.07	0.00	0.00	127.21	95.21	0.02	0.22	0.17	0.10
MW-13	Shallow	7.4	586	245	486	110	136			2130	1020	0.53	22.3	4.9	2.34	29.24	20.15	21.14	2.81	2.23	0.00	0.00	44.35	28.73	0.03	0.36	0.06	0.02
MW-15	Middle	7.4	428	185	580	55.4	115			2360	489	2.2	0.018		0.00	21.36	15.21	25.23	1.42	1.88	0.00	0.00	49.14	13.77	0.12	0.00	0.00	0.00
PC-108	Shallow	7.3	214	76.2	490	14.9	399			720	652	1.2	0.11		0.00	10.68	6.27	21.31	0.38	6.54	0.00	0.00	14.99	18.37	0.06	0.00	0.00	0.00
PC-2	Shallow	7.6	640	212	667	37.5	109			2390	1470	1.1	16.7	43.6		31.94	17.43	29.01	0.96	1.79	0.00	0.00	49.76	41.41	0.06	0.27	0.52	0.00
PC-24	Shallow	7.3	1080	498	1870	22.5	96			2340	5170	0.76	53.9	277	17.60	53.89	40.95	81.34	0.58	1.57	0.00	0.00	48.72	145.63	0.04	0.87	3.32	0.18
PC-28	Shallow	7.2	637	228	914	7.41	85			2270	1370	0.9	36.9	912	523.00	31.79	18.75	39.76	0.19	1.39	0.00	0.00	47.26	38.59	0.05	0.60	10.94	5.26
PC-4	Shallow	5.5	582	347	979	107	150			3120	1440	0.5	25.7	85.8		29.04	28.54	42.58	2.74	2.46	0.00	0.00	64.96	40.56	0.03	0.42	1.03	0.00
PC-67	Shallow	7.4	703	357	2650	20.5	125			3370	4800	1.6	55.8	499	87.50	35.08	29.36	115.27	0.52	2.05	0.00	0.00	70.16	135.21	0.08	0.90	5.98	0.88
PC-76	Shallow	5.7	341	252	672	35.7	249			1800	1130	1.2	1.2		0.02	17.02	20.72	29.23	0.91	4.08	0.00	0.00	37.48	31.83	0.06	0.02	0.00	0.00
PC-79	Shallow	7.2	232	96.4	418	20.5	238			914	501	1.2	0.047			11.58	7.93	18.18	0.52	3.90	0.00	0.00	19.03	14.11	0.06	0.00	0.00	0.00
PC-80	Shallow	7.4	206	48.6	413	20.9	310			578	470	1.6	0.014		0.00	10.28	4.00	17.96	0.53	5.08	0.00	0.00	12.03	13.24	0.08	0.00	0.00	0.00
PC-81	Shallow	7.4	119	55.8	642	22.7	342			757	585	2.7	0.03		0.00	5.94	4.59	27.93	0.58	5.60	0.00	0.00	15.76	16.48	0.14	0.00	0.00	0.00
PC-88	Shallow	7.2	250	113	1010	26.6	257			1320	1550	1.6	8	22.9	11.80	12.48	9.29	43.93	0.68	4.21	0.00	0.00	27.48	43.66	0.08	0.13	0.27	0.12
PC-90	Shallow	7.3	286	115	860	20.8	208			1400	1390	1.8	8.6	23.5	9.94	14.27	9.46	37.41	0.53	3.41	0.00	0.00	29.15	39.15	0.09	0.14	0.28	0.10
PC-94	Shallow	7.3	478	183	480	47.7	135			2130	664	0.66	15.3	11.7	1.90	23.85	15.05	20.88	1.22	2.21	0.00	0.00	44.35	18.70	0.03	0.25	0.14	0.02
POD2	Shallow	7.3	652	211	813	18.1	111			2510	1760		20.3	194	3.69	32.53	17.35	35.36	0.46	1.82	0.00	0.00	52.26	49.58		0.33	2.33	0.04
POD8	Shallow	6.4	394	262	421	24.9	217			1410	1230	1.1	41.6	3.2	0.23	19.66	21.55	18.31	0.64	3.56	0.00	0.00	29.36	34.65	0.06	0.67	0.04	0.00
POU3	Shallow	7.4	719	362	1600	26.9	68			2470	2790		12.8	330		35.88	29.77	69.60	0.69	1.11	0.00	0.00	51.43	78.59		0.21	3.96	0.00
WMW5.58SD	Middle	7.5	383	11800	21200	14100	277			71500	30600				0.01	19.11	970.39	922.14	360.61	4.54	0.00	0.00	1488.65	861.97			0.00	0.00
WMW5.58SI	Middle	6.1	217	96.7	334	24.2	174			911	483	0.85	9.5	0.58	0.68	10.83	7.95	14.53	0.62	2.85	0.00	0.00	18.97	13.61	0.04	0.15	0.01	0.01
WMW5.58SS	Shallow	6.8	144	67.2	263	27.5	141			540	321	1	12.8		0.03	7.19	5.53	11.44	0.70	2.31	0.00	0.00	11.24	9.04	0.05	0.21	0.00	0.00

8.6 - pH at or above 8.2.

mg/L - Milligrams per Liter

Blank cells indicate data not collected or not available.

Blank cells for minor consistuents (F, NO3, ClO3, ClO4) indicate sample not collected or below detection lmiit

Flagged cells with red indicate that the sample result was non-detect, and 1/2 the detection limit is used here

Data Flags:

A: Outside acceptable limits for Cation-Anion Balance for 10.0-800 meq/L Anion Sum. Likely due to presence of suspended solids in matrix. Also, need to see data sheets to assess laboratory analytical error.

B: Outside acceptable limits for TDS check. Standard methods indicates that if measured value is less than calculated, higher ion sum is suspect; if measured solids concentration is more than 20% higher than calculated, the low ion sum it suspect.

C: Outside acceptable limits for ratio of measured TDS to EC. Standard methods indicates that measured TDS or measured EC is suspect.

D: Outside acceptable limits for ratio of calculated to measured EC. Standard methods indicates that the lower ion sum is suspect.

E: Outside acceptable limits for ratio of cation sum to measured EC. Standard methods indicates that cation sum is suspect.

F: Outside acceptable limits for ratio of anion sum to measured EC. Standard methods indicates that anion sum is suspect.

G: Outside acceptable limits for ratio of calculated TDS to EC. Standard methods indicates that if ratio below 0.55, lower ion sum is suspect; if ratio above 0.7, higher ion sum is suspect.

Summary of Cation-Anion Balance Calculations
Fifth Round Sampling Data
BMI Common Areas - Eastside

Description	A: Cation-Anion Balance Tests					B: TDS Checks				C: Lab TDS and EC			D: Measured and Lab EC		
	Sum Cations (meq/l)	Sum Anions (meq/l)	Cat/An Ratio -	(Cat-An)/ (Cat+An) (%)	Acceptable Variance <5%?	TDS Sum (mg/l)	TDS Lab (mg/l)	Lab/Sum Ratio -	Acceptable Ratio 1.0 - 1.2	EC Measured (umhos/cm)	Lab TDS / EC Ratio -	Acceptable Range 0.55 - 0.7	EC Calculated (umhos/cm)	Calculated EC/ Lab EC -	Acceptable Range 0.9-1.1
AA-01	53.93	52.35	1.03	1.48	PASS	1150	3850	3.35	FAIL	4460	0.863	FAIL	6550.93	1.47	FAIL
AA-07	29.57	30.50	0.97	1.54	PASS	691	2250	3.25	FAIL	2820	0.798	FAIL	3715.60	1.32	FAIL
AA-08	61.72	78.52	0.79	11.98	FAIL	4524	4820	1.07	PASS	5910	0.816	FAIL	8862.07	1.50	FAIL
AA-09	102.02	105.33	0.97	1.60	PASS	2146	7610	3.55	FAIL	8400	0.906	FAIL	12774.76	1.52	FAIL
AA-10	70.64	75.98	0.93	3.64	PASS	1505	4590	3.05	FAIL	6060	0.757	FAIL	9125.75	1.51	FAIL
AA-13	42.30	41.88	1.01	0.50	PASS	1061	2760	2.60	FAIL	3600	0.767	FAIL	5097.84	1.42	FAIL
AA-18	15.63	17.12	0.91	4.56	PASS	1057	1160	1.10	PASS	1740	0.667	PASS	2004.12	1.15	FAIL
AA-20	70.86	92.07	0.77	13.02	FAIL	5433	5990	1.10	PASS	7530	0.795	FAIL	10266.74	1.36	FAIL
AA-21	84.46	91.68	0.92	4.10	PASS	1781	4550	2.55	FAIL	7040	0.646	PASS	10945.98	1.55	FAIL
AA-22	43.24	48.21	0.90	5.43	FAIL	3079	3020	0.98	FAIL	3880	0.778	FAIL	5695.75	1.47	FAIL
AA-23R	55.24	59.07	0.94	3.36	PASS	1248	4260	3.41	FAIL	4560	0.934	FAIL	7113.02	1.56	FAIL
AA-26	33.04	34.76	0.95	2.54	PASS	733	2520	3.44	FAIL	2970	0.848	FAIL	4213.97	1.42	FAIL
AA-27	52.55	64.29	0.82	10.05	FAIL	3940	4570	1.16	PASS	4930	0.927	FAIL	7334.23	1.49	FAIL
AA-UW1	57.57	58.06	0.99	0.42	PASS	1154	4310	3.73	FAIL	4510	0.956	FAIL	7136.89	1.58	FAIL
AA-UW2	57.43	57.15	1.00	0.24	PASS	1209	4460	3.69	FAIL	4620	0.965	FAIL	7025.68	1.52	FAIL
AA-UW3	66.32	72.89	0.91	4.72	PASS	1404	4880	3.48	FAIL	5730	0.852	FAIL	8623.58	1.50	FAIL
AA-UW4	59.22	72.78	0.81	10.28	FAIL	4548	5990	1.32	FAIL	6710	0.893	FAIL	8280.25	1.23	FAIL
AA-UW5	11.97	12.91	0.93	3.76	PASS	813	1400	1.72	FAIL	4350	0.322	FAIL	1492.55	0.34	FAIL
AA-UW6	47.09	59.09	0.80	11.31	FAIL	3686	5850	1.59	FAIL	1360	4.301	FAIL	6720.67	4.94	FAIL
BEC-6	76.50	89.81	0.85	8.00	FAIL	5174	5900	1.14	PASS	7220	0.817	FAIL	10461.90	1.45	FAIL
BEC-9	80.86	90.97	0.89	5.88	FAIL	5306	6160	1.16	PASS	8560	0.720	FAIL	10803.66	1.26	FAIL
COH-1	1502.95	1575.51	0.95	2.36	PASS	29309	104000	3.55	FAIL	82400	1.262	FAIL	192912.15	2.34	FAIL
COH-2	1451.79	1556.13	0.93	3.47	PASS	28903	101000	3.49	FAIL	89800	1.125	FAIL	189048.96	2.11	FAIL
COH-2A	100.37	108.96	0.92	4.10	PASS	2205	6900	3.13	FAIL	8950	0.771	FAIL	12960.62	1.45	FAIL
DBMW-1	85.21	88.01	0.97	1.62	PASS	1713	6180	3.61	FAIL	6780	0.912	FAIL	10740.54	1.58	FAIL
DBMW-10	30.02	29.40	1.02	1.05	PASS	687	1760	2.56	FAIL	2810	0.626	PASS	3669.66	1.31	FAIL
DBMW-11	108.67	119.82	0.91	4.88	PASS	2196	7250	3.30	FAIL	9060	0.800	FAIL	14362.12	1.59	FAIL
DBMW-12	157.45	176.76	0.89	5.78	FAIL	10630	9780	0.92	FAIL	11400	0.858	FAIL	21084.12	1.85	FAIL
DBMW-13	84.51	86.25	0.98	1.01	PASS	1736	5890	3.39	FAIL	6660	0.884	FAIL	10641.73	1.60	FAIL
DBMW-14	73.29	82.31	0.89	5.80	FAIL	5040	5680	1.13	PASS	2910	1.952	FAIL	9807.98	3.37	FAIL
DBMW-15	66.97	66.46	1.01	0.39	PASS	1362	4170	3.06	FAIL	5060	0.824	FAIL	8282.07	1.64	FAIL
DBMW-16	15.90	14.22	1.12	5.60	FAIL	407	900	2.21	FAIL	1550	0.581	PASS	1813.88	1.17	FAIL
DBMW-17	23.14	22.96	1.01	0.40	PASS	555	1790	3.22	FAIL	2140	0.836	FAIL	2814.25	1.32	FAIL
DBMW-19	67.55	73.45	0.92	4.19	PASS	4650	4780	1.03	PASS	5580	0.857	FAIL	8783.59	1.57	FAIL
DBMW-2	88.40	103.81	0.85	8.02	FAIL	6272	6600	1.05	PASS	7610	0.867	FAIL	12076.21	1.59	FAIL
DBMW-20	66.75	72.06	0.93	3.83	PASS	1434	5580	3.89	FAIL	5850	0.954	FAIL	8681.62	1.48	FAIL
DBMW-22	59.32	62.23	0.95	2.39	PASS	1232	3720	3.02	FAIL	4520	0.823	FAIL	7641.60	1.69	FAIL
DBMW-3	83.13	104.19	0.80	11.24	FAIL	6112	6590	1.08	PASS	7810	0.844	FAIL	11838.66	1.52	FAIL
DBMW-4	71.03	89.64	0.79	11.58	FAIL	5338	6740	1.26	FAIL	6740	1.000	FAIL	10119.31	1.50	FAIL
DBMW-5	69.55	78.13	0.89	5.80	FAIL	4771	8000	1.68	FAIL	6040	1.325	FAIL	9233.10	1.53	FAIL
DBMW-6	91.41	103.48	0.88	6.19	FAIL	6032	6520	1.08	PASS	8110	0.804	FAIL	12314.51	1.52	FAIL
DBMW-7	81.10	99.46	0.82	10.17	FAIL	5727	6030	1.05	PASS	7460	0.808	FAIL	11460.89	1.54	FAIL
DBMW-8	88.67	99.35	0.89	5.68	FAIL	5838	5860	1.00	PASS	7600	0.771	FAIL	11840.77	1.56	FAIL
DBMW-9	55.29	61.21	0.90	5.09	FAIL	3865	3700	0.96	FAIL	4480	0.826	FAIL	7293.38	1.63	FAIL
DM-1	64.73	63.60	1.02	0.88	PASS	1414	4200	2.97	FAIL	4750	0.884	FAIL	7850.72	1.65	FAIL
HMW-08	40.37	41.84	0.96	1.80	PASS	2715	2880	1.06	PASS	3530	0.816	FAIL	5049.24	1.43	FAIL
HMW-09	59.04	60.43	0.98	1.16	PASS	1308	3710	2.84	FAIL	4800	0.773	FAIL	7394.12	1.54	FAIL
HMWWT-6	22.86	23.17	0.99	0.68	PASS	501	1570	3.13	FAIL	2370	0.662	PASS	2827.77	1.19	FAIL
MCF-01A	55.44	59.06	0.94	3.16	PASS	1116	4490	4.02	FAIL	321	13.988	FAIL	7121.51	22.19	FAIL
MCF-01B	28.06	31.43	0.89	5.66	FAIL	2005	1960	0.98	FAIL	2760	0.710	FAIL	3656.63	1.32	FAIL
MCF-02A	8.49	8.80	0.97	1.78	PASS	263	570	2.17	FAIL	2420	0.236	FAIL	1041.22	0.43	FAIL
MCF-02B	9.52	9.62	0.99	0.54	PASS	654	766	1.17	PASS	1080	0.709	FAIL	1136.16	1.05	PASS
MCF-03A	9.77	9.78	1.00	0.03	PASS	647	683	1.06	PASS	1110	0.615	PASS	1180.41	1.06	PASS

Summary of Cation-Anion Balance Calculations
Fifth Round Sampling Data
BMI Common Areas - Eastside

Description	A: Cation-Anion Balance Tests					B: TDS Checks				C: Lab TDS and EC			D: Measured and Lab EC		
	Sum Cations (meq/l)	Sum Anions (meq/l)	Cat/An Ratio -	(Cat-An)/ (Cat+An) (%)	Acceptable Variance <5%?	TDS Sum (mg/l)	TDS Lab (mg/l)	Lab/Sum Ratio -	Acceptable Ratio 1.0 - 1.2	EC Measured (umhos/cm)	Lab TDS / EC Ratio -	Acceptable Range 0.55 - 0.7	EC Calculated (umhos/cm)	Calculated EC/ Lab EC -	Acceptable Range 0.9-1.1
MCF-03B	36.90	36.13	1.02	1.05	PASS	876	2970	3.39	FAIL	3520	0.844	FAIL	4441.89	1.26	FAIL
MCF-04	69.49	77.16	0.90	5.23	FAIL	1483	5380	3.63	FAIL	5840	0.921	FAIL	9220.33	1.58	FAIL
MCF-05	1159.92	2558.86	0.45	37.62	FAIL	14385	165000	11.47	FAIL	106000	1.557	FAIL	244964.28	2.31	FAIL
MCF-06A	2811.29	3566.33	0.79	11.84	FAIL	203223	215000	1.06	PASS	138000	1.558	FAIL	407804.59	2.96	FAIL
MCF-06B	585.40	591.46	0.99	0.51	PASS	11747	48800	4.15	FAIL	38800	1.258	FAIL	73881.20	1.90	FAIL
MCF-06C	91.59	104.98	0.87	6.81	FAIL	6195	6500	1.05	PASS	8340	0.779	FAIL	12447.72	1.49	FAIL
MCF-07	2672.10	3022.11	0.88	6.15	FAIL	181955	197000	1.08	PASS	12100	16.281	FAIL	360810.80	29.82	FAIL
MCF-08A	1763.95	2024.23	0.87	6.87	FAIL	114806	116000	1.01	PASS	11800	9.831	FAIL	239642.97	20.31	FAIL
MCF-08B	454.81	466.87	0.97	1.31	PASS	8856	46500	5.25	FAIL	32800	1.418	FAIL	57314.72	1.75	FAIL
MCF-09A	411.30	398.64	1.03	1.56	PASS	7778		N/A	FAIL	27800	0.000	FAIL	49818.67	1.79	FAIL
MCF-09B	47.65	51.18	0.93	3.57	PASS	3349	3970	1.19	PASS	3930	1.010	FAIL	6159.55	1.57	FAIL
MCF-10A	101.81	121.80	0.84	8.94	FAIL	7480	5400	0.72	FAIL	8850	0.610	PASS	14169.89	1.60	FAIL
MCF-10B	29.34	31.07	0.94	2.87	PASS	626	2080	3.32	FAIL	2800	0.743	FAIL	3757.63	1.34	FAIL
MCF-11	48.09	55.15	0.87	6.84	FAIL	3499	3510	1.00	PASS	4370	0.803	FAIL	6480.41	1.48	FAIL
MCF-12A	83.75	98.19	0.85	7.94	FAIL	6215	6200	1.00	PASS	7940	0.781	FAIL	11623.60	1.46	FAIL
MCF-12B	37.87	42.97	0.88	6.32	FAIL	2716	2840	1.05	PASS	3640	0.780	FAIL	5065.11	1.39	FAIL
MCF-12C	28.26	30.62	0.92	4.01	PASS	2013	1990	0.99	FAIL	2740	0.726	FAIL	3670.62	1.34	FAIL
MCF-16A	972.17	1264.58	0.77	13.07	FAIL	80968	87300	1.08	PASS	62700	1.392	FAIL	147030.94	2.34	FAIL
MCF-16B	990.04	1030.41	0.96	2.00	PASS	23076	71900	3.12	FAIL	56100	1.282	FAIL	131633.55	2.35	FAIL
MCF-16C	117.33	152.58	0.77	13.06	FAIL	9065	16000	1.77	FAIL	4750	3.368	FAIL	17198.84	3.62	FAIL
MCF-17A	1091.77	1173.57	0.93	3.61	PASS	22810	85600	3.75	FAIL	78800	1.086	FAIL	142436.21	1.81	FAIL
MCF-18A	2643.09	3542.63	0.75	14.54	FAIL	187364	157000	0.84	FAIL	19200	8.177	FAIL	402201.96	20.95	FAIL
MCF-19A	2076.24	2294.50	0.90	4.99	PASS	39304	161000	4.10	FAIL	99600	1.616	FAIL	274091.85	2.75	FAIL
MCF-20A	2859.77	3577.86	0.80	11.15	FAIL	203655	183000	0.90	FAIL	13500	13.556	FAIL	411618.80	30.49	FAIL
MCF-21A	1958.20	2120.76	0.92	3.99	PASS	38763	153000	3.95	FAIL	87800	1.743	FAIL	258242.44	2.94	FAIL
MCF-22A	48.05	48.69	0.99	0.66	PASS	1030	3370	3.27	FAIL	38200	0.088	FAIL	6040.78	0.16	FAIL
MCF-23A	1323.55	1313.25	1.01	0.39	PASS	24859	105000	4.22	FAIL	68900	1.524	FAIL	163191.60	2.37	FAIL
MCF-24A	2025.37	1817.03	1.11	5.42	FAIL	121186	101000	0.83	FAIL	7800	12.949	FAIL	238768.74	30.61	FAIL
MCF-25A	87.49	94.03	0.93	3.60	PASS	1892	5090	2.69	FAIL	76600	0.066	FAIL	11381.72	0.15	FAIL
MCF-27	14.53	14.12	1.03	1.44	PASS	370	1170	3.17	FAIL	1500	0.780	FAIL	1739.62	1.16	FAIL
MW-03	69.64	77.48	0.90	5.33	FAIL	4719	4820	1.02	PASS	6750	0.714	FAIL	9217.10	1.37	FAIL
MW-04	219.99	224.00	0.98	0.90	PASS	4497	13300	2.96	FAIL	16600	0.801	FAIL	27825.79	1.68	FAIL
MW-13	73.34	75.78	0.97	1.63	PASS	1593	4860	3.05	FAIL	6090	0.798	FAIL	9282.97	1.52	FAIL
MW-15	63.22	64.91	0.97	1.32	PASS	1363	6630	4.86	FAIL	5240	1.265	FAIL	7919.94	1.51	FAIL
PC-108	38.64	39.96	0.97	1.68	PASS	2566	2810	1.10	PASS	3890	0.722	FAIL	4708.09	1.21	FAIL
PC-2	79.34	93.81	0.85	8.35	FAIL	5569	5870	1.05	PASS	8310	0.706	FAIL	10887.09	1.31	FAIL
PC-24	176.76	200.34	0.88	6.25	FAIL	11372	13100	1.15	PASS	16700	0.784	FAIL	23532.89	1.41	FAIL
PC-28	90.48	104.08	0.87	6.99	FAIL	3307	7370	2.23	FAIL	8470	0.870	FAIL	11018.42	1.30	FAIL
PC-4	102.90	109.45	0.94	3.09	PASS	2277	8400	3.69	FAIL	8890	0.945	FAIL	13144.10	1.48	FAIL
PC-67	180.23	215.27	0.84	8.86	FAIL	12668	12600	0.99	PASS	17600	0.716	FAIL	24489.11	1.39	FAIL
PC-76	67.88	73.47	0.92	3.95	PASS	1550	6340	4.09	FAIL	6240	1.016	FAIL	8715.90	1.40	FAIL
PC-79	38.21	37.11	1.03	1.47	PASS	1005	3000	2.99	FAIL	3690	0.813	FAIL	4549.43	1.23	FAIL
PC-80	32.78	30.44	1.08	3.70	PASS	999	2270	2.27	FAIL	3130	0.725	FAIL	3756.98	1.20	FAIL
PC-81	39.03	37.99	1.03	1.36	PASS	1182	2860	2.42	FAIL	3890	0.735	FAIL	4594.03	1.18	FAIL
PC-88	66.38	75.96	0.87	6.73	FAIL	4569	4360	0.95	FAIL	6690	0.652	PASS	8824.66	1.32	FAIL
PC-90	61.67	72.33	0.85	7.95	FAIL	4313	4810	1.12	PASS	6240	0.771	FAIL	8342.18	1.34	FAIL
PC-94	61.00	65.71	0.93	3.71	PASS	1353	4160	3.07	FAIL	5210	0.798	FAIL	7867.31	1.51	FAIL
POD2	85.71	106.35	0.81	10.74	FAIL	6293	6170	0.98	FAIL	8040	0.767	FAIL	12000.72	1.49	FAIL
POD8	60.16	68.33	0.88	6.36	FAIL	3962	4140	1.04	PASS	5770	0.718	FAIL	7974.38	1.38	FAIL
POU3	135.93	135.30	1.00	0.23	PASS	3106	9680	3.12	FAIL	12000	0.807	FAIL	16547.48	1.38	FAIL
WMW5.58SD	2272.26	2355.16	0.96	1.79	PASS	47760	195000	4.08	FAIL	109000	1.789	FAIL	292963.86	2.69	FAIL
WMW5.58SI	33.93	35.64	0.95	2.46	PASS	847	2300	2.71	FAIL	3400	0.676	PASS	4261.44	1.25	FAIL
WMW5.58SS	24.86	22.86	1.09	4.19	PASS	643	1460	2.27	FAIL	2410	0.606	PASS	2875.97	1.19	FAIL

Summary of Cation-Anion Balance Calculations
Fifth Round Sampling Data
BMI Common Areas - Eastside

Description	E: Measured EC and Ion Sums (Cations			F: Measured EC and Ion Sums (Anions			G: Calculated TDS and EC		Qualifiers	
	100x cation sum (meq/L)	100x cation sum/Lab EC -	Acceptable Range 0.9-1.1	100x anion sum meq/L	100x anion sum/Lab EC	Acceptable Range 0.9-1.1	Calculated TDS/ Lab EC	Acceptable Range 0.55 - 0.7		
AA-01	5392.75	1.21	FAIL	5235.49	0.80	FAIL	0.26	FAIL		J-TDS
AA-07	2957.45	1.05	PASS	3050.16	0.82	FAIL	0.25	FAIL		J-TDS
AA-08	6172.43	1.04	PASS	7851.95	0.89	FAIL	0.77	FAIL	J-CAB	
AA-09	10202.33	1.21	FAIL	10533.41	0.82	FAIL	0.26	FAIL		J-TDS
AA-10	7064.07	1.17	FAIL	7598.04	0.83	FAIL	0.25	FAIL		J-TDS
AA-13	4230.28	1.18	FAIL	4188.14	0.82	FAIL	0.29	FAIL		J-TDS
AA-18	1562.94	0.90	FAIL	1712.16	0.85	FAIL	0.61	PASS		
AA-20	7085.79	0.94	PASS	9206.82	0.90	FAIL	0.72	FAIL	J-CAB	
AA-21	8445.68	1.20	FAIL	9168.33	0.84	FAIL	0.25	FAIL		J-TDS
AA-22	4324.22	1.11	FAIL	4820.97	0.85	FAIL	0.79	FAIL	J-CAB	J-TDS
AA-23R	5523.86	1.21	FAIL	5907.45	0.83	FAIL	0.27	FAIL		J-TDS
AA-26	3304.00	1.11	FAIL	3475.90	0.82	FAIL	0.25	FAIL		J-TDS
AA-27	5254.70	1.07	PASS	6428.77	0.88	FAIL	0.80	FAIL	J-CAB	
AA-UW1	5757.27	1.28	FAIL	5805.95	0.81	FAIL	0.26	FAIL		J-TDS
AA-UW2	5742.83	1.24	FAIL	5714.77	0.81	FAIL	0.26	FAIL		J-TDS
AA-UW3	6631.83	1.16	FAIL	7288.98	0.85	FAIL	0.25	FAIL		J-TDS
AA-UW4	5921.66	0.88	FAIL	7278.26	0.88	FAIL	0.68	PASS	J-CAB	J-TDS
AA-UW5	1197.19	0.28	FAIL	1290.81	0.86	FAIL	0.19	FAIL		J-TDS
AA-UW6	4708.63	3.46	FAIL	5909.08	0.88	FAIL	2.71	FAIL	J-CAB	J-TDS
BEC-6	7650.21	1.06	PASS	8981.16	0.86	FAIL	0.72	FAIL	J-CAB	
BEC-9	8086.49	0.94	PASS	9096.89	0.84	FAIL	0.62	PASS	J-CAB	
COH-1	150294.75	1.82	FAIL	157550.73	0.82	FAIL	0.36	FAIL		J-TDS
COH-2	145178.93	1.62	FAIL	155613.49	0.82	FAIL	0.32	FAIL		J-TDS
COH-2A	10037.23	1.12	FAIL	10895.91	0.84	FAIL	0.25	FAIL		J-TDS
DBMW-1	8520.68	1.26	FAIL	8800.73	0.82	FAIL	0.25	FAIL		J-TDS
DBMW-10	3002.09	1.07	PASS	2939.55	0.80	FAIL	0.24	FAIL		J-TDS
DBMW-11	10867.06	1.20	FAIL	11982.15	0.83	FAIL	0.24	FAIL		J-TDS
DBMW-12	15744.62	1.38	FAIL	17676.06	0.84	FAIL	0.93	FAIL	J-CAB	J-TDS
DBMW-13	8451.34	1.27	FAIL	8624.66	0.81	FAIL	0.26	FAIL		J-TDS
DBMW-14	7329.05	2.52	FAIL	8231.06	0.84	FAIL	1.73	FAIL	J-CAB	
DBMW-15	6696.98	1.32	FAIL	6645.55	0.80	FAIL	0.27	FAIL		J-TDS
DBMW-16	1590.46	1.03	PASS	1421.79	0.78	FAIL	0.26	FAIL	J-CAB	J-TDS
DBMW-17	2314.05	1.08	PASS	2295.68	0.82	FAIL	0.26	FAIL		J-TDS
DBMW-19	6755.06	1.21	FAIL	7345.33	0.84	FAIL	0.83	FAIL		
DBMW-2	8839.55	1.16	FAIL	10380.61	0.86	FAIL	0.82	FAIL	J-CAB	
DBMW-20	6675.06	1.14	FAIL	7206.27	0.83	FAIL	0.25	FAIL		J-TDS
DBMW-22	5931.99	1.31	FAIL	6222.65	0.81	FAIL	0.27	FAIL		J-TDS
DBMW-3	8313.41	1.06	PASS	10418.80	0.88	FAIL	0.78	FAIL	J-CAB	
DBMW-4	7102.85	1.05	PASS	8964.22	0.89	FAIL	0.79	FAIL	J-CAB	J-TDS
DBMW-5	6955.44	1.15	FAIL	7812.57	0.85	FAIL	0.79	FAIL	J-CAB	J-TDS
DBMW-6	9140.92	1.13	FAIL	10347.79	0.84	FAIL	0.74	FAIL	J-CAB	
DBMW-7	8110.11	1.09	PASS	9946.46	0.87	FAIL	0.77	FAIL	J-CAB	
DBMW-8	8866.93	1.17	FAIL	9934.87	0.84	FAIL	0.77	FAIL	J-CAB	
DBMW-9	5528.93	1.23	FAIL	6121.39	0.84	FAIL	0.86	FAIL	J-CAB	J-TDS
DM-1	6473.12	1.36	FAIL	6360.39	0.81	FAIL	0.30	FAIL		J-TDS
HMW-08	4036.50	1.14	FAIL	4184.24	0.83	FAIL	0.77	FAIL		
HMW-09	5903.84	1.23	FAIL	6042.67	0.82	FAIL	0.27	FAIL		J-TDS
HMWWT-6	2285.81	0.96	PASS	2317.32	0.82	FAIL	0.21	FAIL		J-TDS
MCF-01A	5544.24	17.27	FAIL	5906.01	0.83	FAIL	3.48	FAIL		J-TDS
MCF-01B	2806.31	1.02	PASS	3143.35	0.86	FAIL	0.73	FAIL	J-CAB	J-TDS
MCF-02A	849.16	0.35	FAIL	879.93	0.85	FAIL	0.11	FAIL		J-TDS
MCF-02B	951.52	0.88	FAIL	961.76	0.85	FAIL	0.61	PASS		
MCF-03A	977.08	0.88	FAIL	977.60	0.83	FAIL	0.58	PASS		

Summary of Cation-Anion Balance Calculations
Fifth Round Sampling Data
BMI Common Areas - Eastside

Description	E: Measured EC and Ion Sums (Cations			F: Measured EC and Ion Sums (Anions			G: Calculated TDS and EC		Qualifiers	
	100x cation sum (meq/L)	100x cation sum/Lab EC -	Acceptable Range 0.9-1.1	100x anion sum meq/L	100x anion sum/Lab EC	Acceptable Range 0.9-1.1	Calculated TDS/ Lab EC	Acceptable Range 0.55 - 0.7		
MCF-03B	3690.24	1.05	PASS	3613.46	0.81	FAIL	0.25	FAIL		J-TDS
MCF-04	6949.19	1.19	FAIL	7715.76	0.84	FAIL	0.25	FAIL	J-CAB	J-TDS
MCF-05	115992.50	1.09	PASS	255886.13	1.04	PASS	0.14	FAIL	J-CAB	J-TDS
MCF-06A	281128.84	2.04	FAIL	356632.99	0.87	FAIL	1.47	FAIL	J-CAB	
MCF-06B	58539.76	1.51	FAIL	59145.73	0.80	FAIL	0.30	FAIL		J-TDS
MCF-06C	9159.11	1.10	PASS	10497.62	0.84	FAIL	0.74	FAIL	J-CAB	
MCF-07	267210.07	22.08	FAIL	302211.36	0.84	FAIL	15.04	FAIL	J-CAB	
MCF-08A	176395.18	14.95	FAIL	202422.53	0.84	FAIL	9.73	FAIL	J-CAB	
MCF-08B	45480.71	1.39	FAIL	46687.48	0.81	FAIL	0.27	FAIL		J-TDS
MCF-09A	41129.82	1.48	FAIL	39863.72	0.80	FAIL	0.28	FAIL		J-TDS
MCF-09B	4765.49	1.21	FAIL	5118.46	0.83	FAIL	0.85	FAIL		
MCF-10A	10181.39	1.15	FAIL	12179.82	0.86	FAIL	0.85	FAIL	J-CAB	J-TDS
MCF-10B	2934.10	1.05	PASS	3107.22	0.83	FAIL	0.22	FAIL		J-TDS
MCF-11	4808.81	1.10	FAIL	5514.80	0.85	FAIL	0.80	FAIL	J-CAB	
MCF-12A	8374.51	1.05	PASS	9818.61	0.84	FAIL	0.78	FAIL	J-CAB	
MCF-12B	3786.68	1.04	PASS	4297.20	0.85	FAIL	0.75	FAIL	J-CAB	
MCF-12C	2826.00	1.03	PASS	3062.23	0.83	FAIL	0.73	FAIL		J-TDS
MCF-16A	97217.06	1.55	FAIL	126457.69	0.86	FAIL	1.29	FAIL	J-CAB	
MCF-16B	99004.34	1.76	FAIL	103040.81	0.78	FAIL	0.41	FAIL		J-TDS
MCF-16C	11732.79	2.47	FAIL	15257.99	0.89	FAIL	1.91	FAIL	J-CAB	J-TDS
MCF-17A	109177.44	1.39	FAIL	117356.93	0.82	FAIL	0.29	FAIL		J-TDS
MCF-18A	264308.98	13.77	FAIL	354263.41	0.88	FAIL	9.76	FAIL	J-CAB	J-TDS
MCF-19A	207624.38	2.08	FAIL	229449.94	0.84	FAIL	0.39	FAIL		J-TDS
MCF-20A	285977.32	21.18	FAIL	357785.69	0.87	FAIL	15.09	FAIL	J-CAB	J-TDS
MCF-21A	195820.12	2.23	FAIL	212076.40	0.82	FAIL	0.44	FAIL		J-TDS
MCF-22A	4805.49	0.13	FAIL	4868.87	0.81	FAIL	0.03	FAIL		J-TDS
MCF-23A	132354.88	1.92	FAIL	131324.95	0.80	FAIL	0.36	FAIL		J-TDS
MCF-24A	202536.81	25.97	FAIL	181702.95	0.76	FAIL	15.54	FAIL	J-CAB	J-TDS
MCF-25A	8748.88	0.11	FAIL	9403.24	0.83	FAIL	0.02	FAIL		J-TDS
MCF-27	1453.13	0.97	PASS	1411.96	0.81	FAIL	0.25	FAIL		J-TDS
MW-03	6963.99	1.03	PASS	7748.33	0.84	FAIL	0.70	PASS	J-CAB	
MW-04	21999.37	1.33	FAIL	22399.89	0.81	FAIL	0.27	FAIL		J-TDS
MW-13	7334.25	1.20	FAIL	7577.88	0.82	FAIL	0.26	FAIL		J-TDS
MW-15	6321.63	1.21	FAIL	6491.13	0.82	FAIL	0.26	FAIL		J-TDS
PC-108	3863.98	0.99	PASS	3996.06	0.85	FAIL	0.66	PASS		
PC-2	7934.20	0.95	PASS	9380.57	0.86	FAIL	0.67	PASS	J-CAB	
PC-24	17676.13	1.06	PASS	20033.55	0.85	FAIL	0.68	PASS	J-CAB	
PC-28	9048.24	1.07	PASS	10408.16	0.94	PASS	0.39	FAIL	J-CAB	J-TDS
PC-4	10289.84	1.16	FAIL	10945.12	0.83	FAIL	0.26	FAIL		J-TDS
PC-67	18023.02	1.02	PASS	21527.24	0.88	FAIL	0.72	FAIL	J-CAB	
PC-76	6788.28	1.09	PASS	7347.09	0.84	FAIL	0.25	FAIL		J-TDS
PC-79	3821.06	1.04	PASS	3710.67	0.82	FAIL	0.27	FAIL		J-TDS
PC-80	3277.50	1.05	PASS	3043.84	0.81	FAIL	0.32	FAIL		J-TDS
PC-81	3903.27	1.00	PASS	3798.72	0.83	FAIL	0.30	FAIL		J-TDS
PC-88	6638.03	0.99	PASS	7596.31	0.86	FAIL	0.68	PASS	J-CAB	J-TDS
PC-90	6166.82	0.99	PASS	7232.74	0.87	FAIL	0.69	PASS	J-CAB	
PC-94	6100.02	1.17	FAIL	6570.52	0.84	FAIL	0.26	FAIL		J-TDS
POD2	8571.30	1.07	PASS	10634.67	0.89	FAIL	0.78	FAIL	J-CAB	J-TDS
POD8	6015.59	1.04	PASS	6833.12	0.86	FAIL	0.69	PASS	J-CAB	
POU3	13593.14	1.13	FAIL	13529.57	0.82	FAIL	0.26	FAIL		J-TDS
WMW5.58SD	227226.04	2.08	FAIL	235516.44	0.80	FAIL	0.44	FAIL		J-TDS
WMW5.58SI	3392.76	1.00	PASS	3563.65	0.84	FAIL	0.25	FAIL		J-TDS
WMW5.58SS	2485.50	1.03	PASS	2285.56	0.79	FAIL	0.27	FAIL		J-TDS