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January 5, 2026 Project No. 23-01-200

Alan Pineda, PE
Supervisor
Bureau of Industrial Site Cleanup
Nevada Division of Environmental Protection
375 E. Warm Springs Rd., Ste. 200
Las Vegas, NV 89119

Attn: Mr. Pineda

Re: Human Health Risk Assessment for Soil Borrow Areas, Revision 1
Three Kids Mine

Dear Mr. Pineda:

Broadbent & Associates, Inc. (Broadbent) is pleased to submit this *Human Health Risk Assessment for Soil Borrow Areas, Revision 1* for the Three Kids Mine.

Please do not hesitate to contact us if you should have any questions or require additional information.

Sincerely,
BROADBENT & ASSOCIATES, INC.

Kirk Stowers, CEM, PG
Principal Geologist

cc:
JD Dotchin, NDEP
Joe McGinley, McGinley & Associates, Inc.
Caitlin Jelle, McGinley & Associates, Inc.
Ann Verwiel, ToxStrategies
Robert Unger, Lakemoor Ventures LLC
Mindy Unger-Wadkins, Lakemoor Ventures LLC
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Sean Robertson, City of Henderson
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Quincy Edwards, Pulte Group
Doug Adair, Pulte Group
Paul Kenner, on behalf of Pulte Group
Michael Ford, Snell & Wilmer
Brad Cahoon, Dentons
Bryan Douglass, Douglass, Inc.
Charles M. Damus, Laker Development, LLC
Darryn Padfield, River Mountain Bike Shop
David Grossheim, Laker Plaza, Inc.
Frank Sator, Laker Development, LLC
Laird Sanders, Lake Mead Boat Storage
Rhonda Sanders, Lake Mead Boat Storage
Tyler Cahoon, Dentons

Human Health Risk Assessment for Soil Borrow Areas, Revision 1
Three Kids Mine
Henderson, Nevada

REVIEW AND APPROVAL:

JURAT: I, Karen Gastineau, certify that I am responsible for the services 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, ordinances, and the requirements of the Mine Remediation and Reclamation Agreement and Administrative Order on Consent for the Three Kids Mine Site.

Karen Gastineau

Karen Gastineau
CEM #2468 (4/1/2027)

January 5, 2026
Date

Attachment A

Responses to NDEP Comments made on November 18, 2025
to the Human Health Risk Assessment, dated September 19, 2025

1. The movement of samples between background units is not sufficiently clear. It creates a question as to why these samples weren't included in the alternative data sets in the background report. The outlier issue is clear for BTV development, but how changing data sets mitigates the outliers or is appropriate is not clear. There only seems to be a geologic evaluation and no further quantitative evaluation of the outliers in their new data sets.

    a. For example, BG-111-01-1, BG-111-02-01, and BG-111-05-01 were a "mixture between the Muddy Creek Formation/sediments derived from the Muddy Creek Formation and the River Mountain volcanics" (page 7), so while the results were classified as outliers and excluded from the development of BTVs for Muddy Creek sediments, it's not clear why the mixture would be more representative of one type of background than the other. If this shift is retained, the description should mention that the samples are adjacent to the area defined as the River Mountain Volcanics. The discussion of sample BG-111-23-01 is similar.

    b. The reclassification of samples along the south end of the ridge east of the site (BG-121-01-01, -02-01, -07-1, and -24-01) because they were outliers and near the Downwind Parcels and the sample descriptions (which were not included) doesn't seem sufficient.

    Response: The inclusion of outliers previously excluded in the background study within the HHRA dataset was not to mitigate the outlier but ensure that relevant results were evaluated in the HHRA. The exclusion of outliers may give the impression that "higher" results were purposely not included in the HHRA. Therefore, the decision to include the outliers within the HHRA datasets was to provide a conservative evaluation of analytical results collected within the background units. The inclusion of outliers for the HHRA was based upon the location, the determination in the Background Soil Report that the results were more appropriate to a certain geologic unit, and the overall description of the site geology. The HHRA text was revised to provide additional justification in Section 3.3 for the inclusion of the outliers into the associated background unit.

2. Section 3.1.1.2 (Three Kids Mine Native Soil Borrow Source Datasets) includes three subsections that discuss samples collected from the Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics. The first sentence in each subsection identifies the number of samples collected from each borrow source area. Because this number does not necessarily match the number of samples that was ultimately used in the risk assessment evaluation for the respective borrow source area (since some samples are being moved between datasets), it would be helpful to state at the end of each subsection how many samples were included in that borrow source area for purposes of the risk assessment evaluation.

    a. The first and third bullet lists on page 8 include samples BG-111-06-01 and BG-111-07-01. These appear to be typos and should be changed to BG-121-06-01 and BG-121-07-01.

    Response: Text was added to state the number of samples evaluated for the HHRA within

each background unit. The typos for the sample locations were fixed.

3. Sample BG-122-06-01 is a single isolated sample representing a spatially separate and small area of soil. Will this area actually be used as a borrow area? If not, then the sample should not be considered representative of a borrow area.

   Response: Sample BG-122-06-01 was removed from the HHRA evaluation. Text was added to state that this sample was excluded despite being labeled as Stratum 122 because this area will not be used as a borrow area.

4. While excluding BG-111-07-01 as an outlier when calculating BTVs made sense, more justification is needed to eliminate the sample as it represents soil in the borrow area. The explanation that it has high metal concentrations is not sufficient rationale to eliminate a sample as representative of soil in the area where it was collected. Please include the sample in the HHRA evaluation or explain in greater detail why it is being excluded.

   Response: Sample BG-111-07-01 was included in the revised HHRA as part of the Muddy Creek Formation background unit.

5. Figure 4 should be updated to be specific to the purpose of defining the borrow areas and depict the data evaluated in this HHRA.

   a. Samples of the ore body background and sedimentary units of downwind parcels no. 6 and 8 should be designated differently or eliminated so as not to be confused with the samples representing borrow areas.

   b. Samples that represent a different borrow area than the designation inferred from the sample ID (e.g., BG-121-01-01, -02-01, -06-01, and -07-01) should be designated as such. Change the sample location designator or change the shading to indicate the change in area represented by the samples.

   c. Intended borrow areas should be clearly designated and the final grouping of the samples displayed on the figure. Borrow areas should be consistent with *Modification No. 4 to the Remedial Design Report.*

   Response: Figure 4 was revised to provide a clearer overview of sample locations and associated background unit. Ore body samples were removed from the figure, and samples collected north of Lake Mead Parkway as part of the background study were grayed out to indicate that they were not included in the HHRA and are not located in a borrow area. Additionally, the borrow area boundaries have been revised to be consistent with *Modification No. 4 to the Remedial Design Report, Closure Unit and Borrow Area Boundary Modification* dated December 10, 2024.

6. The samples in Appendix A should be labeled by which borrow area they represent (e.g., Muddy Creek Formation, River Volcanics, and Downwind River Volcanics), rather than relying solely on the sample ID codes since some of the samples moved between borrow areas.

   Response: Appendix A was revised to group samples by background unit as they were in the

HHRA.

7. The approach for addressing field duplicates in the development of background data sets was not consistent with the BMI reports (2009a,b). For example, the BMI Deep Soil report states that including both a field sample and duplicate in a data set representing independent samples "is NDEP's preferred approach to managing duplicate data." Page 5, Section 3.1.1.1 of the HRA report states that "parent results were used in the comparison and field duplicate results were not evaluated." Is there more rationale for why two evaluations of the same background data set were approached this differently?

   Response: The approach for addressing field duplicates was revised to evaluate parent and field duplicate samples as independent samples, consistent with NDEP's preferred approach.

8. Although not required, consider changing the title of the report to be more specific to the contents of the report (such as "Human Health Risk Assessment for the Soil Borrow Areas") so its purpose will be readily apparent.

   Response: The title was revised to *Human Health Risk Assessment for Soil Borrow Areas*.

9. Executive summary and other places: in reference to the remediation approach (i.e., page 3, 4th line), the term "interning" is used to mean burying, which seems to be more accurately expressed as "interment, interring," etc. Please correct.

   Response: The term "interning" was revised to "containing."

10. The whole report goes back and forth between future and past tense as it relates to remedial activities. For example: Page three: "waste rock will be excavated... other areas of soil impact were removed" but above in the bullets it says, "waste rock and impacted soil will be dug up." Consider referring to all remedial activities as future tense since the work is ongoing and will be actively changing tenses throughout the preparation and review of this report.

    Response: The discussion of remediation activities was changed to future tense. The text, in Section 2.2, was updated to note that some of the remediation activities have already occurred but the report addresses remediation activities as future tense.

11. Page2, Section 2.2, 2nd paragraph:"... two parcels on the northeast side of the Site were developed with into a boat storage facility... "

    Response: The extra word "with" was removed from the text.

12. Page 3, second to last paragraph, first sentence: "Tailings were excavated to the maximum horizontal and vertical extent of the tailings." This sentence seems like it's missing something. The maximum extent observed in the field?

    Response: This sentence was revised to "Tailings will be excavated to the maximum horizontal and vertical extent of the tailings *based on visual observations*."

13. Table 3 titles should clearly state the samples represent background or borrow materials.

Response: Table 3 (now Table 4) titles and subtitles were revised to specify the background units.

14. The table in Appendix A (Analytical Results) does not include ore body data ("BG-13"), presumably because native soil from those areas will not be used as cover material for the site. Likewise, the table in Appendix A should not include data for the sedimentary units of downwind parcels ("BG-112") because it is not relevant to the human health risk assessment; please remove this data from the table. Alternatively, if the data for BG-13 and BG-112 is retained in the table, it should be clearly designated as not representative of borrow areas.

    Response: Appendix A was revised to remove samples that were not included in any of the HHRA evaluations.

15. The USEPA RSLs in Appendix A for lead (400 mg/kg) do not match the values in Table 3 (200 mg/kg). Table 3 has the current values from the most recent RSLs published in November 2024. The only other discrepancy is for cadmium; Appendix A has an incorrect value for cadmium (71 mg/kg instead of 7.1 mg/kg), but cadmium is not a chemical of potential concern (COPC) that was evaluated in Table 3. The reference for the RSLs in Appendix A is for 2021 instead of 2024. Also in Appendix A, two noncarcinogenic polycyclic aromatic compounds (i.e., benzo(g,h,i)perylene and phenanthrene) did not have RSLs in 2021 or 2024. The rationale for these values should be provided in the notes for Appendix A. These chemicals are not carried forward as COPCs to Table 3 so there are no further changes required.

    Response: The RSLs listed in Appendix A were revised to reflect the November 2024 table. Surrogates were also identified in the table.

16. Appendix B: For the deep background data set, only the samples representing the upper muddy creek formation should be included. The others were not part of this evaluation.

    Response: Appendix B was revised to only include the samples representing the Upper Muddy Creek Formation.

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EXECUTIVE SUMMARY

The Three Kids Mine and Mill Site (the Site) is a former manganese mine and milling operation located in the City of Henderson in Clark County, Nevada. The Site is being redeveloped as a master-planned community with a variety of mixed-use activities, including residential housing, community parks, recreation spaces, and open space. To allow for future development, the Site is undergoing comprehensive remediation and reclamation as detailed in the Three Kids Mine Record of Decision (Nevada Division of Environmental Protection [NDEP] 2023).

The selected remediation and reclamation includes containing mine waste (tailings and waste rock) within existing mining pits and the Central Valley Area and capping contaminated materials to prevent direct exposure to the environment and minimize potential migration of contaminants to other native soils and surface water. The selected alternative allows for the Site to be remediated and reclaimed to standards that allow for residential development, with the caveat that residential areas will be covered with 10 feet of native soil from areas unimpacted by mining activity.

Additionally, risk assessments are required for the borrow areas that will be used for the 10-foot soil cover. This risk assessment was performed to evaluate potential risks to human health and the environment due to exposure to analytes in native soils that are planned for use as cover material for the planned future development. This human health risk assessment (HHRA) evaluates the Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics borrow areas and demonstrates that the native soil is acceptable for use in a residential community.

A comparison of the Three Kids Mine Site native background soil metal concentrations to Basic Management, Inc. (BMI) Complex Site background soil metal concentrations was performed. The BMI background datasets used for this evaluation were collected in 2008 (Basic Remediation Company [BRC] 2009a, 2009b). The BMI Complex Site was chosen as a suitable background comparison dataset due to location and similar geologic units. A number of metals in the Three Kids Mine Site background soils were revealed to have concentrations greater than BMI background soil metal concentrations. These Site metals that were identified above BMI background levels were evaluated by comparison to risk-based screening levels. The risk-based screening levels represent concentrations of metals that would not result in human health effects based upon a residential land use. The residential land use represents a long-term exposure for both an adult and child who are expected to spend most of their time at the Site. Based upon the risk-based screening, it was determined there are no metals in native soils that warrant further evaluation. Therefore, no potential human health concerns were identified for use of the Muddy Creek Formation, River Mountain Volcanics, or Downwind River Mountain Volcanics soils as cover material.

1.0 INTRODUCTION

1.1 OVERVIEW

The Three Kids Mine and Mill Site (the Site) is a former manganese mine and milling operation located in the City of Henderson in Clark County, Nevada. Mining and mill processes, land disposal of solid wastes, and trespassing activities have resulted in the presence of environmental contamination. The Site is being redeveloped as a master-planned community with a variety of mixed-use activities, including residential housing, community parks, recreation spaces, and open space.

To allow for future development, the Site is undergoing remediation and reclamation as detailed in the *Three Kids Mine Record of Decision* (Nevada Division of Environmental Protection [NDEP], 2023). The selected alternative, authorized by the Record of Decision (ROD), includes containing mine waste (tailings and waste rock) within existing mining pits and the Central Valley Area and capping contaminated materials to prevent direct exposure to the environment and minimize potential migration of contaminants to other native soils and surface water (NDEP 2023). The selected alternative allows for the Site to be remediated and reclaimed to standards that allow for residential development, with the caveat that residential areas will be covered with 10 feet of native soil from areas evaluated and unimpacted by mining activity. An environmental covenant will prohibit excavation greater than 10 feet below ground surface (bgs) without NDEP's prior written approval (NDEP 2023).

The ROD also noted that risk assessments, based on the background study of the borrow areas for the 10-foot cover, will be included in the Closure Unit Work Completion Report for each area. This risk assessment was performed to evaluate potential risks to human health and the environment due to exposure to analytes in native soils that are planned for use as cover material for the future development. This HHRA evaluates the borrow areas associated with the Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics and demonstrates that the native soil is acceptable for use in a residential community.

1.2 AUTHORIZATION

In 2024, PN II, Inc., a Nevada Corporation hired Broadbent and Associates, Inc. (Broadbent) as part of their site development team. The team also includes EA Engineering, Science, and Technology, Inc., PBC, (EA), a subconsultant to Broadbent. Broadbent was retained to facilitate the Site remediation and reclamation.

1.3 PROJECT TEAM

This report was developed under the oversight of a State of Nevada Certified Environmental Manager in good standing (Nevada Administrative Code [NAC] § 459).

This document was prepared by the following team:

Cynthia Cheatwood, EA Senior Risk Assessor
Hope Gast, EA Risk Assessor
Karen Gastineau, Broadbent Project Manager
Jay Snyder, EA Chief Geologist/Vice President

2.0 BACKGROUND AND SITE DESCRIPTION

2.1 THREE KIDS MINE SITE LOCATION

The Three Kids Mine Site is located approximately five miles northeast of central Henderson, Nevada, along East Lake Mead Parkway (State Route 564). The Site occupies most of Section 35 and parts of Sections 26, 34, and 36 of Township 21S, Range 63E of the Mount Diablo Meridian. The approximate center of the Site is at 36°05'00"N latitude and 114°54'50"W longitude. A general location map is provided as Figure 1. The Three Kids Mine Site consists of approximately 1,165 acres of undeveloped land.

2.2 THREE KIDS MINE SITE DESCRIPTION AND REMEDIAL ACTIONS

The Site is the location of the former Three Kids Mine. From 1917 to 1961, the Site was utilized for the mining of manganese. Milling, to beneficiate the manganese, began in 1942 and ended in 1961. Prior to remediation and reclamation, main features of the Site included three open pits, waste rock, an ore yard, mill, and three tailings ponds (Figure 2). The three open pits were the combined A and B Pits (A-B Pit), Hydro Pit, and Hulin Pit. A smaller open pit, the original Three Kids Mine Pit, was located east of the A-B Pit. Overburden and waste rock generated from excavation during mining were left in piles near the pits. In the northeast of the Site, former mill building foundations and remnants of circular flotation cells used in manganese beneficiation were once located but have been removed. Three tailings ponds were located in the west central portion of the Site and were used in the past for disposal of tailing slurry produced from the beneficiation process.

The Site has been mostly unused since 1961. From 1979 to 1984, a solid waste landfill operated in the vicinity of the Hulin Pit. The landfill, permitted by the Clark County Health District, was approved for construction waste and disposal of friable asbestos. The landfill permit expired in 1984 at which time ownership of the parcel occupied by the landfill reverted to the Bureau of Land Management and the landfill was closed. In the early 1980s, two parcels on the northeast side of the Site were developed into a boat storage facility and a gas station/convenience store (currently Laker Plaza and Lake Mead Boat Storage facilities) with store fronts on Lake Mead Parkway. Manganese nodules were stockpiled on-Site as U.S. government reserves from 1959 through 2004, when the last of the reserves were moved from the ore yard and discarded on Tailings Pond 1.

Upon completion of reclamation, the Site will be converted to residential use, under the stipulation that mine wastes are covered with 10 feet of native soil and an environmental covenant is enacted on soil below 10 feet. The requirement for a 10-foot cover allows residents to perform digging within residential yards, which includes activities such as plantings, installation of pools, etc. Figure 3 presents the areas that will be covered with the 10 feet of native soil. Certain areas will be reserved for parks and open space, such as the areas on top of the Hydro Pit and Hulin Pit as well as the area adjacent to the fault scarp in the A-B Pit. It is noted that a substantial portion of the remediation and reclamation is complete as of the time of report submittal, but for simplicity, the future tense is used throughout this report when discussing remediation and reclamation activities.

Cover soil and rock will be imported from native soil borrow sources evaluated in the *Background Soil Report* (Broadbent, 2022a). The native materials have been identified as the Muddy Creek Formation and River Mountain Volcanics (Broadbent, 2022a). These native materials are located west, south, and southeast of the Site. Sampling of these materials did not reveal impacts from the Site (Broadbent, 2022a).

Additionally, native materials also include the downwind parcels of the River Mountain Volcanics. NDEP granted a No Further Action Determination for these soils on August 22, 2022 based on a Screening Level Human Health Risk Assessment (Broadbent, 2022b).

Reclamation and remediation actions are occurring at the Site to allow for future use as a residential development (NDEP 2023). The selected alternative, authorized by NDEP, includes containing mine waste (tailings and waste rock) within existing mining pits and capping these materials to prevent direct exposure to the environment and minimize potential migration of contaminants to other native soils and surface water. The remedial actions discussed in the following paragraphs do not include the Lake Mead Boat Storage and Laker Plaza portions of the Site. The remediation components of the selected alternative include the following (NDEP 2023):

- Asbestos wastes on the surface will be removed and placed in an offsite landfill (asbestos currently in the pits was covered in place).
- Municipal solid waste from the surface will be taken to an offsite landfill (municipal solid waste currently in the pits was covered in place).
- Former mine structures will be demolished, placed in the Hulin and A-B Pits, and covered.
- Tailings will be removed and placed in the Hydro Pit.
- Grading the Site.
- A 2-foot cover will be placed across the Site using native soil from undisturbed areas to the east, south, and west of the Site.
- Constructing a liner over the Hydro Pit.

The elements identified above will be financially guaranteed to ensure the completion of the remedy to a minimum of an industrial end land use; however, the selected alternative will also include reclamation measures to return the land to a condition that supports the planned residential use. Reclamation elements of the selected alternative include (NDEP 2023):

- Waste rock and impacted soil will be dug up.
- A mixture of waste rock and soil will be placed in the Hydro Pit. Waste rock will also be placed in the Hulin Pit, A-B Pit, and the Central Valley Area.
- An 8-foot cover will be placed across the Site using native soil, which includes the Muddy Creek Formation, River Mountain Volcanics, and the Downwind River Mountain Volcanics. The 8-foot cover is in addition to the 2-foot cover, resulting in a 10-foot cover of native soils across the Site.
- Constructing a stormwater basin to the east of the A-B Pit to control stormwater.
- Institutional Controls, which includes environmental covenants, will be placed on the Site that notifies NDEP and restricts construction activities from impacting soil deeper than cover material without NDEP approval.

Tailings will be excavated to the maximum horizontal and vertical extent of the tailings based on visual observations. Waste rock piles will be excavated to the pre-mining surface as interpreted by a 1917 topographic map. Additionally, other areas of soil impact, including the fuel farm, chemical processing area, and thermal processing area, will be removed and placed in the Hydro Pit. Additionally, soil across the Site will be excavated to allow for the placement of 10 feet of cover below the planned development final grade.

Areas of the Site that will not include residential homes may receive less than a 10-foot cover, such as the Hydro Pit, where a minimum of two feet of native soil cover will be placed over the Hydro Pit liner. The two-foot cover and liner will prevent contact with material located within the Hydro Pit. Additionally, two feet of cover will be placed in the utility corridor east of the Site, and the maximum amount of cover material practical will be placed in the buffer between Lake Mead Boat Storage/Laker Plaza and the Site.

An environmental covenant will be placed on soil below the cover to protect construction workers who may encounter soil at depths greater than the cover. The covenant will work through the development's homeowners association and City of Henderson permitting. If a resident requests a permit for construction deeper than cover material, this will require NDEP approval, and an approved Soil Management Plan. Closure Units were developed to allow for a phased approach to closure at the Site and to account for differences in the selected alternative by geographic area. The ROD details the closure units (NDEP, 2023).

3.0 DATA EVALUATION

Because this risk assessment evaluates the Borrow Areas, only datasets presented in the *Background Soil Report* (Broadbent, 2022a) were utilized for this risk assessment. A number of geologic units associated with the Site were evaluated in the report. However, the Borrow Areas only include two geologic units: Muddy Creek Formation and River Mountain Volcanics. The following sections provide brief details about these geologic units.

3.1 MUDDY CREEK FORMATION

The Muddy Creek Formation is a late Miocene/early Pliocene basin fill sedimentary deposit of lacustrine and subaerial origin (Bell and Smith 1980). Site geologic units include gypsiferous red siltstones, sandstones, mudstones, tuffs, and beds of massive gypsum. Overall thickness of the Muddy Creek at the Site is estimated at greater than 1,000 feet, except where it thins to meet the River Mountains volcanics along the Extension fault (Hunt et al. 1942). During mining, large portions of the Muddy Creek Formation overburden were removed and incorporated onsite to construct dams and control erosion or were deposited as waste rock on the surface. Most of this construction occurred on the west side of the mining properties where large boulders of Muddy Creek gypsum are observable. Geotechnical and Environmental Services, Inc. (GES, 1998) conducted sampling of overburden and native rock and observed that native rock was not acid generating.

3.2 RIVER MOUNTAIN VOLCANICS AND DOWNWIND RIVER MOUNTAIN VOLCANICS

Eleven to twelve million years ago in the mid-Tertiary Period, the River Mountains were formed as part of a strato-volcano complex six miles southeast of the Site (Bell and Smith, 1980). At the location of the subject property, these mountains are composed of lava flows. Bell and Smith (1980) mapped three different units in the locality with the major unit being volcanic lava flows of mainly dacite composition interbedded with epiclastic (local source) sandstones, conglomerates and breccias, and pyroclastic units. The dacite is biotite-, plagioclase-, and hornblende-bearing, and of variable texture. Upper and lower parts of many individual flows are brecciated. Individual flows vary in texture and minor mineral composition. Many flows are vesiculated and some exhibit interbedded breccia, tuff, or agglomerate. The River Mountain Volcanics are mainly dacite composition rocks interbedded with epiclastic (local source) sandstones, conglomerates and breccias, and pyroclastic units.

At the time of the Remedial Investigation, winds were understood to blow predominantly from the south and west (Zenitech, 2007), and the eastern parcels of the Site (i.e., the Downwind River Mountain Volcanics) were considered possibly affected by windblown chemicals migrating from Site. However, an evaluation of these downwind parcels did not reveal Site impacts (Broadbent 2022b); therefore, the Downwind River Mountain Volcanics are considered as part of native soils suitable for use as cover material at the Site.

3.3 DATA EVALUATED IN THE RISK ASSESSMENT

A detailed description of the sampling and analysis performed for the Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics was included in the *Background Soil Report* (Broadbent, 2022a). Analytical results for samples collected within the Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics are included in Appendix A.

The primary purpose of the background study was to establish background concentrations for metals at the Site (Broadbent, 2022a). Therefore, analytical results within each area (Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics) were examined to identify both potential outliers and the presence of multiple data populations. As a result, a number of samples were removed from the background datasets for the determination of the background threshold values (BTVs). Table 1 presents a summary of the sample locations that were removed from the background datasets for the BTV determination.

While these samples were removed from consideration in determining a BTV, it was determined that these samples should be included in the assessment of human health risks for the native soils to provide a conservative evaluation of analytical results collected within the background units because the areas near the samples will not be excluded from potential borrow areas. Therefore, the sample locations that were removed from consideration in the background study were evaluated for inclusion in the risk assessment dataset. Additionally, these sample locations were assigned to a geologic unit based upon the assessment of the data population (as shown on Table 1) and observations about the sample geology. Table 2 presents the sample locations included in the risk assessment and the borrow area associated with each sample location. Figure 4 presents the location of samples evaluated in the risk assessment and their associated geologic unit.

3.3.1 Muddy Creek Formation Samples

A total of 23 samples were collected within the Muddy Creek Formation (identified as stratum 111) as identified in the *Background Soil Report* (Broadbent, 2022a). Five sample locations were identified as outliers within the Muddy Creek Formation, and these five locations were removed from the background dataset in determining the BTVs. The following details the sample locations and a discussion of how they are handled in the risk assessment dataset:

- Three samples identified as potential outliers (BG-111-01-01 [due to anomalous lead and manganese], BG-111-02-01 [due to anomalous zinc], and BG-111-05-01 [due to anomalous copper]) were located in or very close to a geologic subunit that is described as older alluvial fan sediment noted as having a significant amount of clasts deriving from the River Mountain Volcanics. These samples are adjacent to the exposure area defined as the River Mountain

Volcanics (stratum 121). For this reason, these three samples may represent a mixture between the Muddy Creek Formation/sediments derived from the Muddy Creek Formation and the River Mountain volcanics and are not representative of the sedimentary background units and were thus eliminated for calculation of BTVs. These samples are all mapped within the Qtg geologic unit, which is an older alluvial fan deposit that originates from the River Mountains (Broadbent, 2022a). Based upon the sample locations and the sample descriptions, these sample locations were included within the River Mountain Volcanics risk assessment dataset.

- Arsenic concentrations measured in sample BG-111-07-01 were more than twice the concentrations measured in other samples in the Muddy Creek Formation, so this sample was eliminated from the dataset as an outlier for calculating the BTVs. Results for chromium, copper, and zinc concentrations in sample BG- 111-07-01 were also high relative to other samples collected. This sample location was included within the Muddy Creek Formation risk assessment dataset.

- Sample BG-111-23-01, potentially an outlier due to concentrations of antimony, was eliminated from the BTV calculation because it was spatially distinct from other sedimentary background samples and was collected from an alluvial channel surrounded by the River Mountain Volcanics. This sample is adjacent to the exposure area defined as the River Mountain Volcanics (stratum 121). The *Background Soil Report* proposed that this sample location may be a mixture between the sedimentary background and volcanic background areas. This sample location is mapped as Qr1, which is a wash deposit and is surrounded by the River Mountain Volcanics (Broadbent, 2022a). Based upon the sample location and the sample description, this sample location was included within the River Mountain Volcanics dataset.

In summary, the following sample locations, identified as outliers for the Muddy Creek Formation in the *Background Soil Report*, were excluded from the Muddy Creek Formation dataset and included in the River Mountain Volcanics dataset for the risk assessment:

- BG-111-01-01
- BG-111-02-01
- BG-111-05-01
- BG-111-23-01

The following sample location was retained in the Muddy Creek Formation risk assessment dataset:

- BG-111-07-01.

A total of 19 samples were evaluated in the HHRA as part of the Three Kids Mine Muddy Creek Formation borrow area. Table 2 presents a list of sample locations evaluated as part of the Muddy Creek Formation.

3.3.2 River Mountain Volcanics Samples

A total of 27 samples were collected within the River Mountain Volcanics as identified in the *Background Soil Report* (identified as stratum 121) (Broadbent, 2022a). Four sample locations were identified as outliers within the River Mountain Volcanics. These locations were removed from the background dataset

for the calculation of the BTV. The following details the sample locations and a discussion of how they are handled in the risk assessment dataset:

- The four River Mountain Volcanics background samples identified as potential outliers included: BG-121-01-01 (due to anomalous chromium, copper, and zinc), BG-121-02-01 (due to anomalous chromium, copper, selenium, and zinc), BG-121-07-01 (due to anomalous copper), and BG-121-24-01 (due anomalous copper). These sample locations were located together geographically on the south end of the ridge to the east of the Site. Slightly higher metals concentrations measured in these four samples may be the result of windblown sediment on the ridge. While these sample locations are mapped as Tpd (Resistant volcanic units of Powerline Road) unit, these sample locations on the eastern ridge are spatially distinct from the River Mountain Volcanics and separated by a fault (Broadbent, 2022a). These samples were located on the same ridge as the Downwind River Mountain Volcanics area, and therefore, these sample locations were included within the Downwind River Mountain Volcanics risk assessment dataset.

- BG-121-06-01 was also removed for the calculation of the BTV because of its proximity to BG-121-01-01, BG-121-07-01, and BG-121-24-01. Based upon the sample locations near the Downwind Parcels and the sample descriptions, this sample location was included within the Downwind River Mountain Volcanics risk assessment dataset.

- Analytical results for individual metals that were excluded for River Mountains Volcanics for the calculation of the BTV included: background samples BG-121-18-01 (anomalous manganese) and BG-121-26-01 (anomalous lead and manganese). These results were excluded at the request of NDEP in the meeting held on October 13, 2021 (Broadbent, 2022a). Based upon the sample locations near the Downwind Parcels and the sample descriptions, these sample locations were retained within the Three Kids Mine River Mountain Volcanics risk assessment dataset.

In summary, the following sample locations, identified as outliers for the River Mountain Volcanics in the *Background Soil Report*, were excluded from the River Mountain Volcanics dataset and included in the Downwind River Mountain Volcanics dataset in the risk assessment:

- BG-121-01-01
- BG-121-02-01
- BG-121-06-01
- BG-121-07-01
- BG-121-24-01

As noted in the Muddy Creek Formation section, the following sample locations were included in the River Mountain Volcanics risk assessment dataset, that were originally identified as Muddy Creek Formation sample locations, in the *Background Soil Report* (Broadbent, 2022a):

- BG-111-01-01
- BG-111-02-01
- BG-111-05-01
- BG-111-23-01

A total of 26 samples were evaluated in the HHRA as part of the River Mountain Volcanics. Table 2 presents a summary of the sample locations evaluated for this area.

3.3.3 Downwind River Mountain Volcanics Samples

A total of 9 samples were collected within the Downwind River Mountain Volcanic as identified in the Background Soil Report (identified as stratum 122 (Broadbent, 2022a). No sample locations were removed from the background dataset for the determination of the BTV. However, the following sample location was removed from the risk assessment dataset:

- Sample BG-122-06-01 is a single sample isolated from the remaining samples collected as part of the Downwind Parcels. This sample represents a spatially separate and small area of soil located north of Lake Mead Parkway (Figure 4). The sample is not considered representative of the Downwind River Mountain Volcanics borrow area and was removed from the dataset.

As noted in the River Mountain Volcanics section, the following sample locations were included in the Downwind River Mountain Volcanics dataset that were originally identified as River Mountain Volcanics sample locations in the *Background Soil Report* (Broadbent, 2022a):

- BG-121-01-01
- BG-121-02-01
- BG-121-06-01
- BG-121-07-01
- BG-121-24-01

A total of 13 samples were evaluated in the HHRA as part of the Downwind River Mountain Volcanics borrow area. Table 2 presents sample locations evaluated for this borrow area.

4.0 RISK ASSESSMENT METHODOLOGY

To ensure that a risk assessment focuses on those chemicals that contribute to the overall risk (U.S. Environmental Protection Agency [USEPA], 1989), the following procedures were used for each area (i.e., Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics) to identify chemicals as constituents of potential concern (COPCs) for quantitative evaluation in the risk assessment:

- Comparison to Background: Detected analytes were compared to a regional background dataset (Section 4.1). Analytes identified with detected levels greater than regional background concentrations were considered further; and
- Risk- based Screening: Chemicals that exceeded regional background concentrations were compared to risk-based screening levels (Section 4.2). Chemicals with maximum concentrations above risk-based screening levels were considered COPCs and evaluated further in the HHRA.

The procedures for evaluating COPCs relative to background conditions and further selection of COPCs based on the risk-based screenings are presented below.

4.1 EVALUATION OF CONCENTRATIONS RELATIVE TO BACKGROUND CONDITIONS

Some chemicals detected within the native soils, particularly metals, are known to be naturally occurring constituents. Therefore, chemicals detected within the native soils were compared to a regional background dataset.

4.1.1 Basic Management, Inc. Regional Background Datasets

The regional background soil source soil used for the background evaluation were collected for the Basic Management, Inc. (BMI) Complex Site (Basic Remediation Company [BRC] 2009a,b). The BMI Complex Site was chosen as a suitable background comparison dataset due to location and similar geologic units. The BMI Complex Site is located approximately 3.5 miles southwest of Three Kids Mine. Metals detected in the Three Kids Mine background study were evaluated in comparison to the BMI background dataset. Duplicate samples were not present in the Three Kids Mine datasets. For duplicates in the BMI datasets, the parent sample and field duplicate were evaluated as independent sample results (BRC, 2009a,b).

The Three Kids Mine River Mountain Volcanics and Downwind River Mountain Volcanics datasets were compared to the datasets provided in the BMI *2008 Supplemental Shallow Soil Background Report* (identified as the 2008 River dataset) (BRC 2009a). The Supplemental Soil dataset was used because this study specifically targeted the "Pediment and fan deposits of the River Mountains" in a part of the BMI Complex that is closest to the northern part of the River Mountains Range (BRC, 2009a). These samples were collected approximately 2 miles from the Three Kids Mine Site.

It is noted that background samples were also collected within Quaternary alluvium originating from the McCullough and River Mountain Ranges, as provided in the *Background Shallow Soil Summary Report* (identified as the 2005 BRC/TIMET dataset) (BRC, 2007). The BRC/TIMET dataset consists of samples collected almost exclusively from soils originating from the McCullough Range (BRC, 2009a). No samples from the BRC/TIMET background shallow soil investigation were collected exclusively from the alluvial fan materials downgradient of the River Mountains (BRC, 2007, 2009a). Only one background sample location from the BRC/TIMET dataset was identified as a mix of McCullough and River Mountain Ranges. A statistical comparison of the 2008 River dataset to the 2005 BRC/TIMET dataset was completed to determine if the datasets could be pooled for comparisons (BRC, 2009a). The statistical comparison determined, "All in all, from these statistical comparisons, it may be inferred that the 2008 River data differ with respect to metal concentrations and radionuclide activities from the 2005 lithologic units. Therefore, it is recommended that the 2008 Supplemental Background dataset not be pooled with the 2005 BRC/TIMET background dataset for future applications (BRC, 2009a)." As a result, only analytical results from the 2008 River dataset were used for comparison to the Three Kids Mine dataset.

For the Muddy Creek Formation, the dataset from the BMI *Deep Soil Background Report* (BRC, 2009b) was used. This dataset contained soil samples collected from the Upper Muddy Creek Formation. The BMI datasets are presented in Appendix B.

4.1.2 Statistical Analysis

To evaluate concentrations relative to BMI background conditions, the Gilbert Toolbox was utilized. The Gilbert Toolbox is a suite of four statistical tests that are commonly used to test whether soil concentrations at a potentially contaminated site are similar to background soil concentrations for a given

chemical. A detailed description of the Gilbert Toolbox Simulation is presented in NDEP's *Significance Levels for The Gilbert Toolbox of Background Comparison Tests* guidance (NDEP 2009). The simulation study considers various conditions involving the number of Site background and BMI background samples, distributions of the Site background and BMI background data, censoring mechanisms, and inclusion of non-detects. The Gilbert Toolbox suite consists of the following tests:

- Two-sample t-Test
- Gehan Test
- Quantile Test
- Slippage Test

The following null hypothesis (H0) was used for the statistical tests:

H0: BMI soil = Three Kids Mine (TKM) soil.

The null hypothesis was evaluated against the following two alternative hypotheses:

HA1: BMI > TKM
HA2: BMI < TKM (alternatively TKM > BMI).

In accordance with the NDEP guidance (2009), the null hypothesis is rejected if the p-value of a given test is <0.025. Non-detects are treated as half of the reporting limit for the t-test but are treated as zero for the quantile and slippage tests. The Gehan test treats non-detects as left-censored values at the reporting limit.

Side-by-Side box plots and normal Q-Q plots were also utilized to compare the Site (i.e., Three Kids Mine) and BMI background data. These plots give a visual indication of the similarities and differences between the Site and BMI background datasets. The outputs of these plots and the Gilbert Toolbox tests are presented in Appendix C.

4.1.3 BMI Background Comparison Results

Results for the nine metals evaluated for each geologic formation at Three Kids Mine Site were compared to BMI background results in each exposure area individually. The results of this comparison indicate that a number of metals within the Three Kids Mine geologic units are statistically significant (greater than) with respect to the BMI Complex background levels. A summary of the results of the statistical Site background and BMI background comparison evaluation are presented in Table 3. The Site background concentrations for the following constituents were determined to be greater than BMI background conditions:

- **Muddy Creek Formation**: antimony, lead, manganese, selenium, zinc
- **River Mountain Volcanics**: selenium
- **Downwind River Mountain Volcanics**: copper, lead, selenium, zinc.

4.2 COMPARISON TO RISK-BASED SCREENING LEVELS

Chemicals that were identified as greater than BMI background levels were then compared to risk-based screening levels. The comparison to risk-based screening levels identifies chemicals that warrant further evaluation. When a chemical is detected at a concentration less than its respective risk-based criteria, exposure is not expected to result in health effects or concerns, and the chemical does not need to be considered further. Chemicals detected at concentrations exceeding their respective risk-based screening criteria do not necessarily represent a health concern. Instead, the results of the screening identify those chemicals that warrant a more detailed, site-specific evaluation to evaluate if health effects may occur. Risk-based screening was conducted by comparing maximum detected chemical concentrations to risk-based screening concentrations. A chemical which the maximum measured concentration exceeds the risk-based screening concentration was retained as a COPC.

The November 2024 USEPA residential soil regional screening levels (RSLs) (USEPA, 2024) were the screening levels used for risk-based screening purposes. The USEPA residential soil RSLs are based on default exposure parameters and factors that represent Reasonable Maximum Exposure (RME) conditions for long-term/chronic exposures (USEPA, 2024). The residential soil RSLs evaluate an adult and child exposure to soil for exposures over 350 days per year for a total long-term exposure of 26 years. Therefore, the residential soil RSLs evaluate the primary land use at the Three Kids Mine Site. Additionally, the evaluation of a residential land use is protective of all other land uses (e.g., recreational, commercial) that may occur. The RSLs are based on specific, conservative, fixed levels of risk. For carcinogens, this is 10^{-4}, which is the upper bound for excess lifetime potential carcinogenic risk as defined by the NCP (USEPA, 1990). For non-carcinogens, the RSLs were based on an acceptable hazard quotient of 1.

The risk assessment datasets identified in Section 3.3 were used for risk-based screening for each borrow area. A list of the samples used for the risk-based screening for each borrow area is presented in Table 2. The risk-based screening results are presented in Table 4. For the chemicals identified as exceeding BMI background concentrations, there were no exceedances of USEPA RSLs. Therefore, no chemicals were selected as COPCs in any of the exposure areas. As a result, concentrations of metals within the Three Kids Mine native soil units are below levels that would result in potential health effects for residential land uses or all other land uses at the Three Kids Mine Site.

5.0 UNCERTAINTY ANALYSIS

The following is a summary of the types of uncertainties inherent to each component of the HHRA process. Two types of uncertainty are addressed: (1) measurement uncertainty, and (2) informational uncertainty. The goal is not to eliminate uncertainty but to gather information sufficient to support an informed risk management decision (USEPA, 1989).

Measurement uncertainty refers to the usual variance that accompanies scientific measurements, such as the uncertainties associated with sampling and measurement variability. Measurement uncertainty is inherent in the assessment of environmental conditions and is introduced during both sampling and laboratory analysis.

To demonstrate data quality, data validation procedures were followed to minimize potential errors in analysis of chemicals. Due to uncertainty of quantification, individual chemicals were sometimes listed as detected, but with the concentration qualified as “estimated” in accordance with data validation

procedures (identified as a "J" qualifier). The estimated value was used as reported. This introduces some uncertainty in the reported analytical result. However, the data was reviewed and identified as acceptable for use in the HHRA (Broadbent, 2022b).

6.0 CONCLUSIONS

The former Three Kids Mine Site is undergoing remediation and reclamation to allow for future redevelopment as a mixed-use community. To allow for future residential redevelopment, a majority of the area will be covered with a 10-foot soil cover consisting of native materials. As part of the remediation, NDEP specified in the ROD that risk assessments, based on the background study of the borrow areas for the 10-foot cover, will be included in the Closure Unit Work Completion Report for each area. This HHRA was performed to evaluate potential risks to human health and the environment due to exposure to constituents in native soils of the Muddy Creek Formation, River Mountain Volcanics, and Downwind River Mountain Volcanics that are planned for use as the 10-foot cover material.

A comparison of the Three Kids Mine Site metal concentrations in native soils to BMI background soil conditions was performed. A number of metals were revealed to have Site background concentrations greater than BMI background concentrations. However, a comparison to risk-based screening levels revealed no metals in native soils that warrant further evaluation. Therefore, no potential human health concerns were identified for use of the Muddy Creek Formation, River Mountain Volcanics, or Downwind River Mountain Volcanics soils as cover material.

7.0 LIMITATIONS

The risk assessment is required as part of the development process to document that the Site has been sufficiently remediated to allow for the planned future land uses. The findings presented are based upon publicly available databases, statements of others, reports previously prepared by others, and visual inspection of the Site to identify the proposed sampling locations and chemicals of potential concern. Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No warranty expressed or implied is made, and Broadbent assumes no liability for any loss resulting from errors or omissions arising from the use of inaccurate/incomplete information or misrepresentations made by others. Third parties who rely on this report shall do so at their own risk.

ACRONYMS

bgs	Below ground surface
BMI	Basic Management, Inc.
BRC	Basic Remediation Company
Broadbent	Broadbent & Associates, Inc.
BTV	background threshold value
COPC	constituent of potential concern
EA	EA Engineering, Science, and Technology, Inc., PBC
GES	Geotechnical and Environmental Services, Inc.
HHRA	human health risk assessment
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
RSL	Regional Screening Level
ROD	Record of Decision
TKM	Three Kids Mine
USEPA	U.S. Environmental Protection Agency

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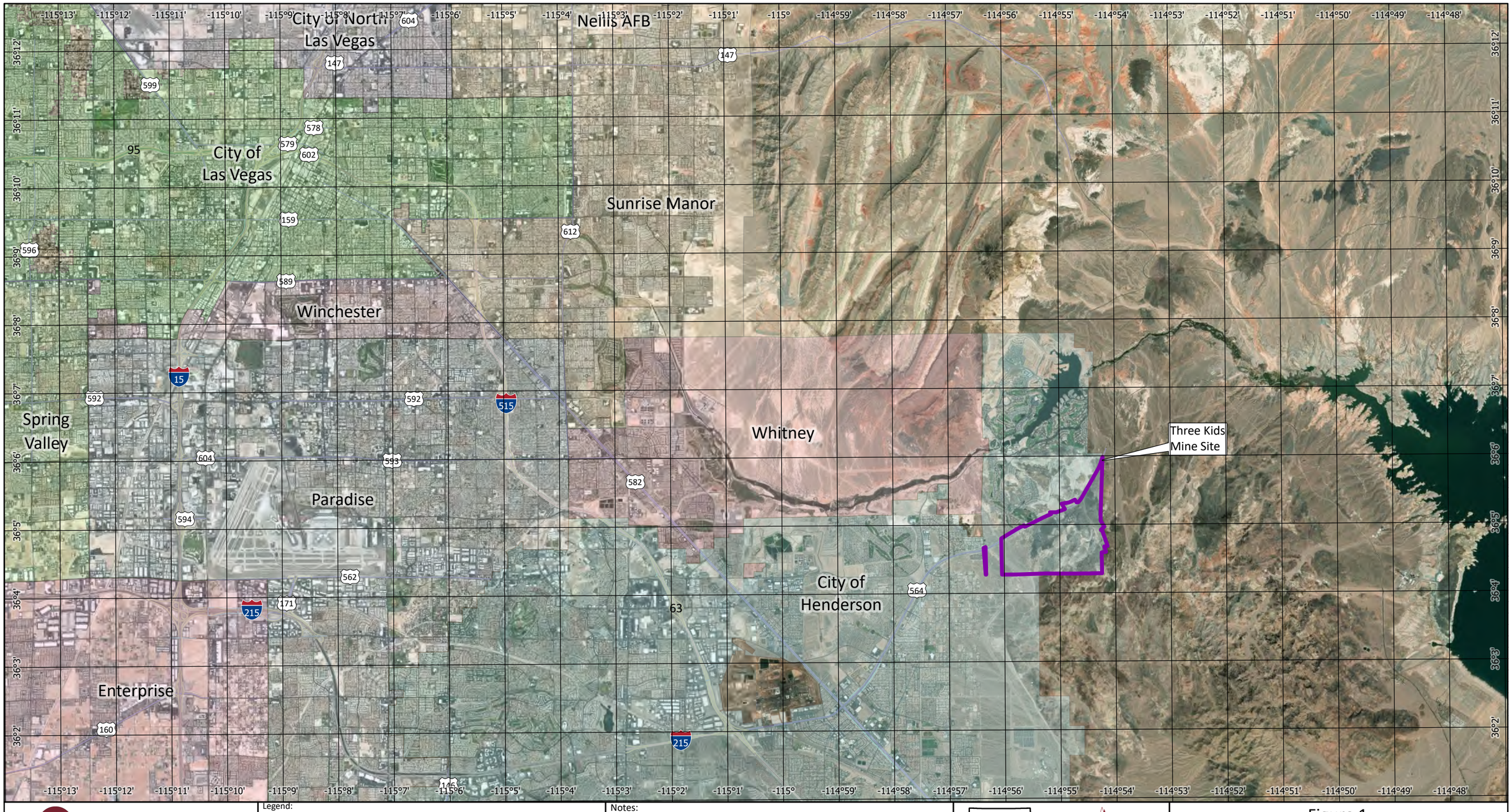
FIGURES



BROADBENT

8 West Pacific Avenue
Henderson, NV, 89015
(702) 563-0600 (P) • (702) 563-0610 (F)

Job # 14-01-156 Date: 1/12/2023

Legend:

- Three Kids Mine Site
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County
- Enterprise
- Nellis AFB
- Paradise
- Spring Valley
- Sunrise Manor
- Whitney
- Winchester

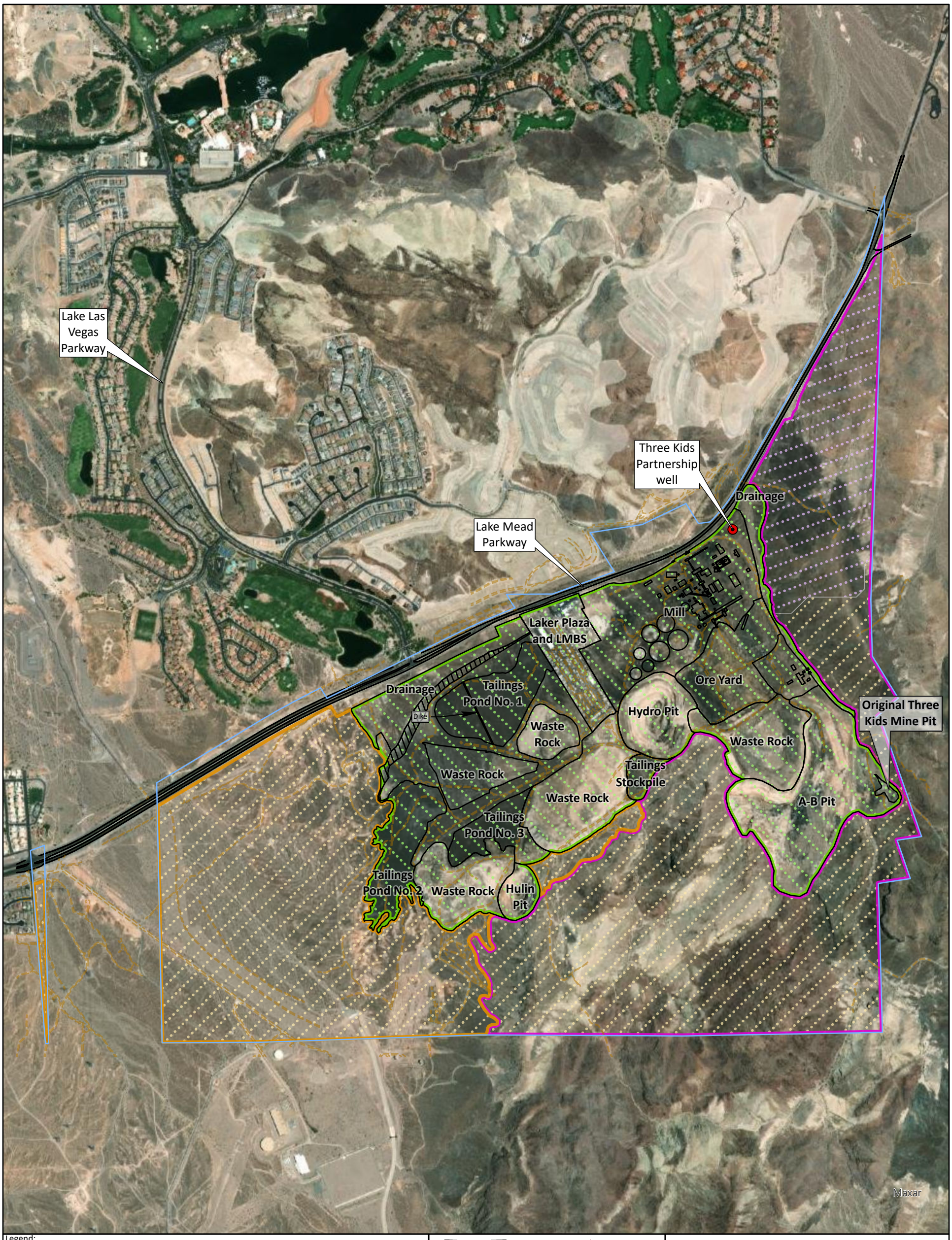
Notes:
1. Imagery Source: Esri World Imagery (Earthstar Geographics)
2. Datum: NAD 1983 StatePlane Nevada East FIPS 2701 Feet
3. Political Boundary Source: Clark County GIS Management Office.
4. Parcel Boundary Source: Clark County Assessor.
5. Roads Source: Nevada DOT GeoHub.

N

Scale: 1:100,000

1 0.5 0 1 Miles

Figure 1	
Site Location	
Three Kids Mine	
Designed	
Drawn	JCM
Approved	



Legend:

- Site Feature
- Three Kids Partnership well
- Unimproved Road
- Tailings Dam
- Project Area
- Mine Site
- Sedimentary Units (alluvium and Muddy Creek Formation)
- River Mountain Volcanics
- Disturbed former mine site
- Area evaluated for impacts by windblown sediment, receiving a no further action determination from NDEP
- Undisturbed/background

Nevada

N

Scale: 1:14,000

1,000 500 0 1,000 Feet

Figure 2

Mine Site Layout

Three Kids Mine

Notes:
1. Imagery Source: Esri World Imagery
2. Datum: NAD 1983 StatePlane Nevada East FIPS 2701 Feet
3. Not a survey. Derived from aerial imagery.

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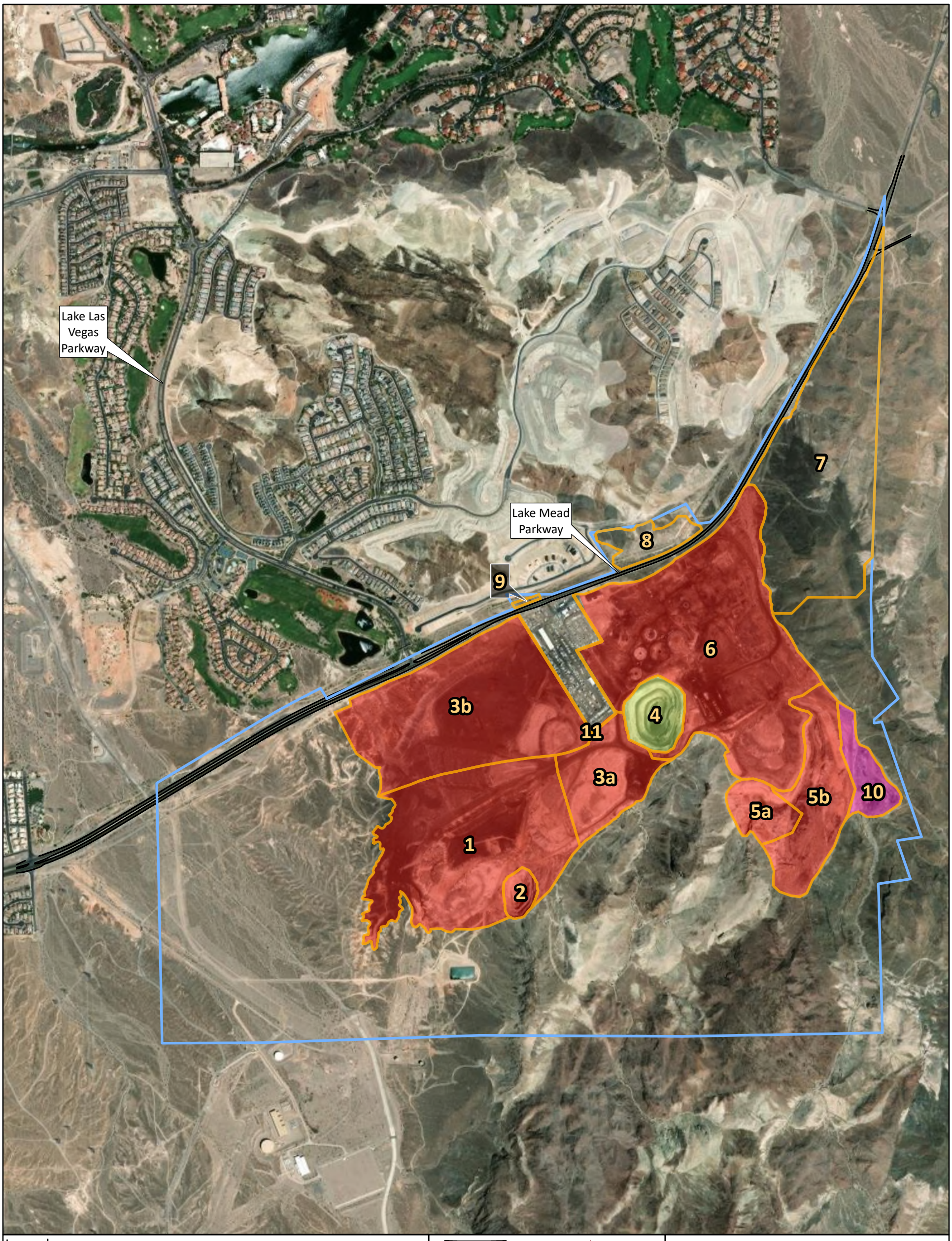
Job # 14-01-156 Date: 9/19/2022

Designed	
Drawn	JCM
Approved	



Legend:

- Ten-foot native soil cover
- Two-foot native soil cover
- Liner plus two-foot native soil cover
- Closure Unit
- Project Area

Nevada

N

Scale: 1:14,000

1,000 500 0 1,000 Feet

Figure 3

Location of Ten-Foot Cover

Three Kids Mine

Designed	
Drawn	JCM
Approved	

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Henderson, NV, 89015
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Job # 14-01-156 Date: 12/9/2024

Notes:

1. Imagery Source: Esri World Imagery (Maxar)
2. Datum: NAD 1983 StatePlane Nevada East FIPS 2701 Feet
3. Not a survey. Derived from aerial imagery.
4. A four-foot border around Laker Plaza and Lake Mead Boat Storage (LMBS) will not receive the full ten-foot native soil cover due to slope safety requirements. Additional details are provided in the Remedial Design engineering figures.

Legend:

- Project Area
- Borrow Source
- Samples not included in HHRA

Sample

- Muddy Creek Formation
- River Mountain Volcanics
- Downwind River Mountain Volcanics

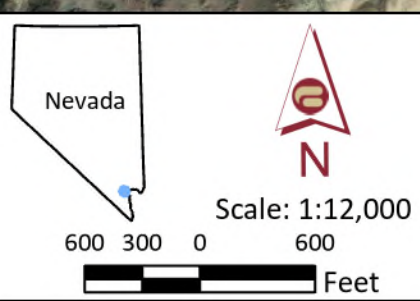

Figure 4

Background Sample Locations

Three Kids Mine

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8 West Pacific Avenue
Henderson, NV, 89015
(702) 563-0600 (P) * (702) 563-0610 (F)

Job # 23-01-200 Date: 12/1/2025

Notes:
1. Imagery Source: Esri World Imagery
2. Datum: NAD 1983 StatePlane Nevada East FIPS 2701 Feet
3. Not a survey.

Designed	
Drawn	JCM
Approved	

TABLES

Table 1
Summary of Samples Removed from Background Dataset
Three Kids Mine
Henderson, Nevada

Stratum	Included in the HHRA?	Location	Removed from Background Data	Comment
Muddy Creek Formation	Yes	BG-111-01-01	Yes (anomalous concentrations of lead and manganese)	Mixture of Muddy Creek (111) and River Mountain (121) zones
Muddy Creek Formation	Yes	BG-111-02-01	Yes (anomalous concentrations of zinc)	Mixture of Muddy Creek (111) and River Mountain (121) zones
Muddy Creek Formation	Yes	BG-111-05-01	Yes (anomalous concentrations of copper)	Mixture of Muddy Creek (111) and River Mountain (121) zones
Muddy Creek Formation	Yes	BG-111-07-01	Yes (anomalous concentrations of arsenic and copper)	Not representative of Muddy Creek (111)
Muddy Creek Formation	Yes	BG-111-23-01	Yes (anomalous concentrations of antimony)	Spatially remote and not representative of Muddy Creek (111)
River Mountain Volcanics	Yes	BG-121-01-01	Yes (anomalous concentrations of chromium, copper, and zinc)	Not representative of River Mountain Background (121)
River Mountain Volcanics	Yes	BG-121-02-01	Yes (anomalous concentrations of chromium, copper, selenium, and zinc)	Not representative of River Mountain Background (121)
River Mountain Volcanics	Yes	BG-121-03-01	No (anomalous concentrations of lead)	No other rationale to remove
River Mountain Volcanics	Yes	BG-121-06-01	Yes (located near BG-121-01-01)	Not representative of River Mountain Background (121)
River Mountain Volcanics	Yes	BG-121-07-01	Yes (anomalous concentrations of copper)	Not representative of River Mountain Background (121)
River Mountain Volcanics	Yes	BG-121-24-01	Yes (anomalous concentrations of copper)	Not representative of River Mountain Background (121)
River Mountain Volcanics	Yes	BG-121-18-01	Excluded for manganese	
River Mountain Volcanics	Yes	BG-121-26-01	Excluded for lead and manganese	

Table 2
Samples Used in the Human Health Risk Assessment for Soil Borrow Areas
Three Kids Mine
Henderson, Nevada

Soil Borrow Area	Sample Name
Muddy Creek Formation	BG-111-03-01
Muddy Creek Formation	BG-111-04-01
Muddy Creek Formation	BG-111-06-01
Muddy Creek Formation	BG-111-07-01
Muddy Creek Formation	BG-111-08-01
Muddy Creek Formation	BG-111-09-01
Muddy Creek Formation	BG-111-10-01
Muddy Creek Formation	BG-111-11-01
Muddy Creek Formation	BG-111-12-01
Muddy Creek Formation	BG-111-13-01
Muddy Creek Formation	BG-111-14-01
Muddy Creek Formation	BG-111-15-01
Muddy Creek Formation	BG-111-16-01
Muddy Creek Formation	BG-111-17-01
Muddy Creek Formation	BG-111-18-01
Muddy Creek Formation	BG-111-19-01
Muddy Creek Formation	BG-111-20-01
Muddy Creek Formation	BG-111-21-01
Muddy Creek Formation	BG-111-22-01
River Mountain Volcanics	BG-111-01-01
River Mountain Volcanics	BG-111-02-01
River Mountain Volcanics	BG-111-05-01
River Mountain Volcanics	BG-111-23-01
River Mountain Volcanics	BG-121-03-01
River Mountain Volcanics	BG-121-04-01
River Mountain Volcanics	BG-121-05-01
River Mountain Volcanics	BG-121-08-01
River Mountain Volcanics	BG-121-09-01
River Mountain Volcanics	BG-121-10-01
River Mountain Volcanics	BG-121-11-01
River Mountain Volcanics	BG-121-12-01
River Mountain Volcanics	BG-121-13-01
River Mountain Volcanics	BG-121-14-01
River Mountain Volcanics	BG-121-15-01
River Mountain Volcanics	BG-121-16-01
River Mountain Volcanics	BG-121-17-01
River Mountain Volcanics	BG-121-18-01
River Mountain Volcanics	BG-121-19-01
River Mountain Volcanics	BG-121-20-01
River Mountain Volcanics	BG-121-21-01
River Mountain Volcanics	BG-121-22-01

Table 2
Samples Used in the Human Health Risk Assessment for Soil Borrow Areas
Three Kids Mine
Henderson, Nevada

Soil Borrow Area	Sample Name
River Mountain Volcanics	BG-121-23-01
River Mountain Volcanics	BG-121-25-01
River Mountain Volcanics	BG-121-26-01
River Mountain Volcanics	BG-121-27-01
Downwind River Mountain Volcanics	BG-121-01-01
Downwind River Mountain Volcanics	BG-121-02-01
Downwind River Mountain Volcanics	BG-121-06-01
Downwind River Mountain Volcanics	BG-121-07-01
Downwind River Mountain Volcanics	BG-121-24-01
Downwind River Mountain Volcanics	BG-122-01-01
Downwind River Mountain Volcanics	BG-122-02-01
Downwind River Mountain Volcanics	BG-122-03-01
Downwind River Mountain Volcanics	BG-122-04-01
Downwind River Mountain Volcanics	BG-122-05-01
Downwind River Mountain Volcanics	BG-122-07-01
Downwind River Mountain Volcanics	BG-122-08-01
Downwind River Mountain Volcanics	BG-122-09-01

Table 3
Summary of Statistical Background Comparison Evaluation
Three Kids Mine
Henderson, Nevada

Exposure Area	Constituent	Greater than Background?	Basis
Muddy Creek Formation	Antimony	**YES**	Gehan test
	Arsenic	No	Multiple tests
	Cadmium	No	Multiple tests
	Chromium (Total)	No	Multiple tests
	Copper	No	Multiple tests
	Lead	**YES**	Multiple tests
	Manganese	**YES**	Multiple tests
	Selenium[1]	**YES**	Multiple tests
	Zinc	**YES**	Multiple tests
River Mountain Volcanics	Antimony	No	Multiple tests
	Arsenic	No	Multiple tests
	Cadmium	No	Multiple tests
	Chromium (Total)	No	Multiple tests
	Copper	No	Multiple tests
	Lead	No	Multiple tests
	Manganese	No	Multiple tests
	Selenium[1]	**YES**	Multiple tests
	Zinc	No	Multiple tests
Downwind River Mountain Volcanics	Antimony	No	Multiple tests
	Arsenic	No	Multiple tests
	Cadmium	No	Multiple tests
	Chromium (Total)	No	Multiple tests
	Copper	**YES**	Multiple tests
	Lead[2]	**YES**	Slippage test
	Manganese	No	Multiple tests
	Selenium[1]	**YES**	Multiple tests
	Zinc	**YES**	Multiple tests

Notes:
1. Less than 25% frequency of detection in either background or Site data sets
2. Failed Gilbert's Toolbox in only 1 out of 4 tests

Table 4
Occurrence, Distribution, and Selection of Constituents of Potential Concern in Borrow Materials
Three Kids Mine
Henderson, Nevada

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Three Kids Mine

CAS Number	Chemical	Minimum [1] Concentration	Minimum Qualifier	Maximum [1] Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Concentration [2] Used for Screening	Risk-Based Screening Value [3]		COPC Flag	Rationale for [4] Contaminant Deletion or Selection
Muddy Creek Formation Soil Borrow Area													
7440-36-0	Antimony	1.77E-01	J	4.56E-01	J	mg/kg	BG-111-16-01	15/19	4.56E-01	3.13E+01	N	No	BSL
7439-92-1	Lead	3.25E+00	J	4.19E+01	J	mg/kg	BG-111-23-01	19/19	4.19E+01	2.00E+02		No	BSL
7439-96-5	Manganese	1.37E+02	J	9.81E+02	J	mg/kg	BG-111-16-01	19/19	9.81E+02	1.83E+03	N	No	BSL
7782-49-2	Selenium	1.87E-01	J	4.86E-01	J	mg/kg	BG-111-12-01	19/19	4.86E-01	3.91E+02	N	No	BSL
7440-66-6	Zinc	1.84E+01	J	1.23E+02		mg/kg	BG-111-07-01	19/19	1.23E+02	2.35E+04	N	No	BSL
River Mountain Volcanics Soil Borrow Area													
7782-49-2	Selenium	2.14E-01	J	8.77E-01	J	mg/kg	BG-121-17-01	26/26	8.77E-01	3.91E+02	N	No	BSL
Downwind River Mountain Volcanics Soil Borrow Area													
7439-92-1	Lead	7.39E+00	J+	8.54E+01		mg/kg	BG-122-08-01	13/13	8.54E+01	2.00E+02		No	BSL
7440-50-8	Copper	2.25E+00	J	4.21E+01		mg/kg	BG-121-24-01	13/13	4.21E+01	3.13E+03	N	No	BSL
7782-49-2	Selenium	2.02E-01	J	1.43E+00	J	mg/kg	BG-121-02-01	13/13	1.43E+00	3.91E+02	N	No	BSL
7440-66-6	Zinc	1.14E+01	J	4.81E+02		mg/kg	BG-122-05-01	13/13	4.81E+02	2.35E+04	N	No	BSL

Notes:

(1) Minimum/maximum detected concentration.

(2) Maximum concentration used as screening value.

(3) EPA Regional Screening Levels for residential soil, November 2024. For non-carcinogens, value shown is HQ=1. For carcinogens, the value shown is equal to cancer risk level of 1E-04.

(4) Rationale Codes — Selection Reason: ASL = Above Screening Toxicity Level; Deletion Reason: BSL = Below Screening Toxicity Level

Definitions:
C = Carcinogenic
COPC = Constituent of Potential Concern
NA = Not Applicable
mg/kg = milligrams per kilogram
N = Non-Carcinogenic

Data Qualifiers:
J = Indicates an estimated value
J+ = Indicates an estimated value, may be biased high

APPENDICES

APPENDIX A

Analytical Results

Appendix A
Analytical Results
Muddy Creek Formation Borrow Area

		Location ID	BG-111-03-01	BG-111-04-01	BG-111-06-01	BG-111-07-01	BG-111-08-01	BG-111-09-01	BG-111-10-01	BG-111-11-01	BG-111-12-01	BG-111-13-01	BG-111-14-01
		Sample Name	BG-111-03-01	BG-111-04-01	BG-111-06-01	BG-111-07-01	BG-111-08-01	BG-111-09-01	BG-111-10-01	BG-111-11-01	BG-111-12-01	BG-111-13-01	BG-111-14-01
		Sample Date	5/18/2021	5/19/2021	5/17/2021	5/19/2021	5/19/2021	5/20/2021	5/18/2021	5/18/2021	5/19/2021	5/18/2021	5/20/2021
		Sample Depth	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals (SW6020A)													
Antimony	31	mg/kg	0.177 J	0.324 J	0.228 J	0.315 J	< 0.168 U	0.202 J-	< 0.169 U	0.382 J	< 0.17 U	0.255 J	0.23 J-
Arsenic	35	mg/kg	4.38	6.26	7.64	**48.8**	7.62	3.69 J	8.02	16.4	16.4	14.9	9.26 J
Cadmium	7.1	mg/kg	0.1 J	0.116 J	0.142 J	< 0.0907 U	< 0.0867 U	< 0.0873 U	0.0971 J	0.122 J	0.0952 J	0.151 J	< 0.0897 U
Chromium	120000	mg/kg	8.19	12.8	11.1	20.7	7.1	3.28 J	5.5	11.2	12.4	12.5	8.21
Copper	3100	mg/kg	8.57	15.3	13.2	38.6	7.98	7.17 J	9.21	11.3	13.5	16.1	11.8 J
Lead	200	mg/kg	11.4 J	34.6 J	33.2 J	23.4 J	12.8 J	3.25 J	11.2 J	21.9 J	10.6 J	24.7 J	13 J
Manganese	1800	mg/kg	449 J	625 J	602 J	518 J	593 J	137 J	277 J	451 J	406 J	637 J	597 J
Selenium	390	mg/kg	0.268 J	0.388 J	0.335 J	0.363 J	< 0.183 U	0.187 J	< 0.184 U	0.401 J	0.486 J	0.395 J	0.432 J
Zinc	23000	mg/kg	57.2	74.1	81.5	123	23.4 J	18.5 J	26.6	58.7	34	74.8	34.6 J
PAHS (SW8270C/E SIM)													
Benzo[a]anthracene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	11	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	1800	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Chrysene	11000	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Dibenzo[a,h]anthracene	11	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	18000	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Pyrene	1800	mg/kg	--	--	--	--	--	--	--	--	--	--	--

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

Appendix A
Analytical Results
Muddy Creek Formation Borrow Area

		Location ID	BG-111-15-01	BG-111-16-01	BG-111-17-01	BG-111-18-01	BG-111-19-01	BG-111-20-01	BG-111-21-01	BG-111-22-01
		Sample Name	BG-111-15-01	BG-111-16-01	BG-111-17-01	BG-111-18-01	BG-111-19-01	BG-111-20-01	BG-111-21-01	BG-111-22-01
		Sample Date	5/20/2021	5/18/2021	5/18/2021	5/17/2021	5/18/2021	5/18/2021	5/17/2021	5/20/2021
		Sample Depth	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals (SW6020A)										
Antimony	31	mg/kg	0.3 J-	0.456 J	< 0.169 U	0.205 J	0.334 J	0.187 J	0.177 J	0.197 J-
Arsenic	35	mg/kg	7.79 J	6.43	6.9	7.18	8.29	7.83	6.6	4.9 J
Cadmium	7.1	mg/kg	0.137 J	0.203 J	< 0.0873 U	0.104 J	0.106 J	< 0.0874 U	0.14 J	< 0.0874 U
Chromium	120000	mg/kg	7.14	8.04	6.03	10.7	11.7	9.17	10.3	3.34 J
Copper	3100	mg/kg	11.4 J	12	10.5	13.7	12.7	10.8	13.4	8.92 J
Lead	200	mg/kg	17.4 J	34.8 J	7.94 J	25.1 J	41.9 J	9.7 J	31.7 J	25.8 J
Manganese	1800	mg/kg	372 J	981 J	196 J	896 J	747 J	250 J	495 J	331 J
Selenium	390	mg/kg	0.44 J	0.355 J	< 0.184 U	0.363 J	0.436 J	0.375 J	0.321 J	0.25 J
Zinc	23000	mg/kg	35.7 J	49.4	18.4 J	65.8	68.1	33.9	65.4	29.4 J
PAHS (SW8270C/E SIM)										
Benzo[a]anthracene	110	mg/kg	--	--	--	--	--	--	--	--
Benzo[a]pyrene	11	mg/kg	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	110	mg/kg	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	1800	mg/kg	--	--	--	--	--	--	--	--
Chrysene	11000	mg/kg	--	--	--	--	--	--	--	--
Dibenzo[a,h]anthracene	11	mg/kg	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	110	mg/kg	--	--	--	--	--	--	--	--
Phenanthrene	18000	mg/kg	--	--	--	--	--	--	--	--
Pyrene	1800	mg/kg	--	--	--	--	--	--	--	--

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

Appendix A
Analytical Results
River Mountain Volcanics Borrow Area

	Location ID	BG-111-01-01	BG-111-02-01	BG-111-05-01	BG-111-23-01	BG-121-03-01	BG-121-04-01	BG-121-05-01	BG-121-08-01	BG-121-09-01	BG-121-10-01	BG-121-11-01
	Sample Name	BG-111-01-01	BG-111-02-01	BG-111-05-01	BG-111-23-01	BG-121-03-01	BG-121-04-01	BG-121-05-01	BG-121-08-01	BG-121-09-01	BG-121-10-01	BG-121-11-01
	Sample Date	5/19/2021	5/19/2021	5/19/2021	5/20/2021	5/18/2021	5/18/2021	5/17/2021	5/18/2021	5/18/2021	5/18/2021	5/18/2021
	Sample Depth	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals (SW6020A)													
Antimony	31	mg/kg	0.287 J	0.224 J	0.171 J	0.75 J-	0.194 J	< 0.166 UJ	0.494 J	< 0.166 UJ	< 0.167 UJ	< 0.167 UJ	0.324 J
Arsenic	35	mg/kg	11.9	11 J+	9.02	7.7 J	7.85 J	9.07 J	6.13 J	2.57 J	9.39 J	9.88 J	7.39 J
Cadmium	7.1	mg/kg	0.127 J	0.133 J	< 0.0864 U	< 0.0877 U	0.0959 J	< 0.0857 U	0.184 J	< 0.0857 U	< 0.0861 U	< 0.0858 U	0.124 J
Chromium	120000	mg/kg	16.6	12.6	3.06 J	5.91	4.97 J	7.78 J	4.52 J	3 J	3.25 J	4.31 J	3.91 J
Copper	3100	mg/kg	23.5	23.3	37.2	25.2 J	19	22	5.29	4.31 J	5.73	3.65 J	5.46
Lead	200	mg/kg	88.2 J	79.1 J	23.3 J	41.9 J	30.9	18.9	12.6	5.11	8.55	8.17	22.1
Manganese	1800	mg/kg	1670 J	1350 J	434 J	1230 J	312 J	253 J	254 J	111 J	174 J	200 J	306 J
Selenium	390	mg/kg	0.478 J	0.318 J	0.226 J	0.221 J	0.603 J	0.57 J	0.692 J	0.278 J	0.414 J	0.488 J	0.508 J
Zinc	23000	mg/kg	139	165	29.5	33.9 J	35.2 J	48.8 J	14.8 J	14.5 J	38.1 J	23.5 J	12.4 J
PAHS (SW8270C/E SIM)													
Benzo[a]anthracene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	11	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	1800	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Chrysene	11000	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Dibenzo[a,h]anthracene	11	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	18000	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Pyrene	1800	mg/kg	--	--	--	--	--	--	--	--	--	--	--

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

Appendix A
Analytical Results
River Mountain Volcanics Borrow Area

	Location ID	BG-121-12-01	BG-121-13-01	BG-121-14-01	BG-121-15-01	BG-121-16-01	BG-121-17-01	BG-121-18-01	BG-121-19-01	BG-121-20-01	BG-121-21-01	BG-121-22-01
	Sample Name	BG-121-12-01	BG-121-13-01	BG-121-14-01	BG-121-15-01	BG-121-16-01	BG-121-17-01	BG-121-18-01	BG-121-19-01	BG-121-20-01	BG-121-21-01	BG-121-22-01
	Sample Date	5/19/2021	5/18/2021	5/20/2021	5/20/2021	5/17/2021	5/17/2021	5/18/2021	5/19/2021	5/19/2021	5/20/2021	5/19/2021
	Sample Depth	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals (SW6020A)													
Antimony	31	mg/kg	0.371 J-	< 0.166 UJ	< 0.166 U	< 0.167 U	0.427 J	0.574 J	< 0.166 UJ	< 0.17 UJ	0.624 J-	< 0.166 U	< 0.169 UJ
Arsenic	35	mg/kg	5.6 J+	4.36 J	5.09	3.65 J+	8.41 J	7.48 J	4.71 J	14.2	12.3	1.51	6.19
Cadmium	7.1	mg/kg	< 0.0857 U	< 0.0857 U	< 0.0857 U	< 0.0859 U	0.13 J	0.157 J	< 0.0857 U	< 0.0874 U	0.166 J	< 0.0858 U	< 0.0868 U
Chromium	120000	mg/kg	4.88 J	2.7 J	4.18 J	3.95 J	3.73 J	4.66 J	3.01 J	2.25 J	8	1.8 J	2.29 J
Copper	3100	mg/kg	4.26 J	3.76 J	2.72 J	5.68 J	7.05	8.18	2.46 J	5.39	14.4	2.59 J	3.32 J
Lead	200	mg/kg	7.77 J+	7.08	9.03 J	7.03 J	8.64	9.91	8.69	11.4	13	5.73 J	8.36
Manganese	1800	mg/kg	232 J	170 J	265 J	195 J	406 J	474 J	802 J	174 J	309 J	127 J	263 J
Selenium	390	mg/kg	0.374 J	0.214 J	0.346 J	0.317 J	0.659 J	0.877 J	0.321 J	0.542 J	0.771 J	0.23 J	0.524 J
Zinc	23000	mg/kg	22.6 J+	14.7 J	19.7 J	28.7 J	17.7 J	20.2 J	16 J	32.5	44.8	11.3 J	32.6
PAHS (SW8270C/E SIM)													
Benzo[a]anthracene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	11	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	1800	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Chrysene	11000	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Dibenzo[a,h]anthracene	11	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	110	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	18000	mg/kg	--	--	--	--	--	--	--	--	--	--	--
Pyrene	1800	mg/kg	--	--	--	--	--	--	--	--	--	--	--

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

Appendix A
Analytical Results
River Mountain Volcanics Borrow Area

		Location ID	BG-121-23-01	BG-121-25-01	BG-121-26-01	BG-121-27-01
		Sample Name	BG-121-23-01	BG-121-25-01	BG-121-26-01	BG-121-27-01
		Sample Date	5/19/2021	5/19/2021	5/19/2021	5/18/2021
		Sample Depth	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**	**Result**	**Result**
Metals (SW6020A)						
Antimony	31	mg/kg	0.512 J	< 0.17 UJ	< 0.166 UJ	< 0.168 UJ
Arsenic	35	mg/kg	9.21 J	13.6 J	2.84 J	6.67 J
Cadmium	7.1	mg/kg	0.095 J	< 0.0873 U	< 0.0857 U	< 0.0863 U
Chromium	120000	mg/kg	9.13 J	1.37 J	2.99 J	3.38 J
Copper	3100	mg/kg	13.8	6.05	11.9	9.82
Lead	200	mg/kg	9.29	16	42.8	13.8
Manganese	1800	mg/kg	251 J	405 J	721 J	186 J
Selenium	390	mg/kg	0.597 J	0.598 J	0.227 J	0.832 J
Zinc	23000	mg/kg	41.4 J	36.4 J	15.5 J	32.8 J
PAHS (SW8270C/E SIM)						
Benzo[a]anthracene	110	mg/kg	--	--	--	--
Benzo[a]pyrene	11	mg/kg	--	--	--	--
Benzo[b]fluoranthene	110	mg/kg	--	--	--	--
Benzo[g,h,i]perylene	1800	mg/kg	--	--	--	--
Chrysene	11000	mg/kg	--	--	--	--
Dibenzo[a,h]anthracene	11	mg/kg	--	--	--	--
Indeno[1,2,3-cd]pyrene	110	mg/kg	--	--	--	--
Phenanthrene	18000	mg/kg	--	--	--	--
Pyrene	1800	mg/kg	--	--	--	--

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

Appendix A
Analytical Results
Downwind River Mountain Volcanics Borrow Area

	Location ID	BG-121-01-01	BG-121-02-01	BG-121-06-01	BG-121-07-01	BG-121-24-01	BG-122-01-01	BG-122-02-01	BG-122-03-01	BG-122-04-01	BG-122-05-01	BG-122-07-01
	Sample Name	BG-121-01-01	BG-121-02-01	BG-121-06-01	BG-121-07-01	BG-121-24-01	BG-122-01-01	BG-122-02-01	BG-122-03-01	BG-122-04-01	BG-122-05-01	BG-122-07-01
	Sample Date	5/19/2021	5/19/2021	5/19/2021	5/19/2021	5/18/2021	5/20/2021	5/20/2021	5/20/2021	5/20/2021	5/20/2021	5/20/2021
	Sample Depth	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals (SW6020A)													
Antimony	31	mg/kg	0.286 J	0.178 J	< 0.166 UJ	< 0.167 UJ	< 0.166 UJ	< 0.168 U	< 0.166 U	< 0.167 UJ	0.167 J-	< 0.168 UJ	< 0.17 UJ
Arsenic	35	mg/kg	7.48 J	6.35 J	4.09 J	7.89 J	2.94 J	3.53 J+	3.56	3.67	10.2	13.1	3.79 J+
Cadmium	7.1	mg/kg	0.11 J	0.106 J	0.101 J	< 0.0858 U	< 0.0857 U	< 0.0864 U	< 0.0856 U	< 0.0862 U	0.136 J	0.15 J	< 0.0874 U
Chromium	120000	mg/kg	17.9 J	16.6 J	7.12 J	10.4 J	7.18 J	1.23 J	4.33 J	1.63 J	18.1	22.3	0.994 J
Copper	3100	mg/kg	28.2	38.9	20.1	27.1	42.1	4.88 J	2.25 J	2.87 J	28.9	33.3	3.11 J
Lead	200	mg/kg	18.6	24.5	12.3	8.74	14.3	11.5 J	18.6 J	12.3	63.7	56.8	7.39 J+
Manganese	1800	mg/kg	337 J	369 J	245 J	201 J	182 J	190 J	234 J	129 J	477 J	558 J	109 J
Selenium	390	mg/kg	1.21 J	1.43 J	0.735 J	0.802 J	0.544 J	0.257 J	0.216 J	0.202 J	1.41 J	1.37 J	0.23 J
Zinc	23000	mg/kg	147 J	230 J	54.2 J	59.5 J	40 J	106 J	11.4 J	51.2	136	481	80.4 J+
PAHS (SW8270C/E SIM)													
Benzo[a]anthracene	110	mg/kg	--	--	--	--	--	0.00513 J+	< 0.00175 U	0.00323 J	< 0.00174 U	< 0.00174 U	< 0.00175 U
Benzo[a]pyrene	11	mg/kg	--	--	--	--	--	0.00202 J+	< 0.00181 U	0.00313 J	< 0.0018 U	< 0.00181 U	< 0.00181 U
Benzo[b]fluoranthene	110	mg/kg	--	--	--	--	--	0.0098 J+	< 0.00154 U	0.0111	0.00205 J	0.00392 J	< 0.00155 U
Benzo[g,h,i]perylene	1800	mg/kg	--	--	--	--	--	0.00884 J+	0.00294 J	0.0108	0.00201 J	< 0.00179 U	0.0019 J+
Chrysene	11000	mg/kg	--	--	--	--	--	0.0166 J+	0.00361 J	0.0111	0.00394 J	0.00868	0.00443 J+
Dibenzo[a,h]anthracene	11	mg/kg	--	--	--	--	--	0.00367 J+	< 0.00174 U	0.00238 J	< 0.00173 U	< 0.00173 U	< 0.00174 U
Indeno[1,2,3-cd]pyrene	110	mg/kg	--	--	--	--	--	0.00644 J+	0.00196 J	0.00843	< 0.00182 U	< 0.00183 U	< 0.00183 U
Phenanthrene	18000	mg/kg	--	--	--	--	--	0.00406 J+	< 0.00233 U	0.00258 J	< 0.00232 U	< 0.00233 U	< 0.00234 U
Pyrene	1800	mg/kg	--	--	--	--	--	0.0106 J+	0.00223 J	0.00661	0.00223 J	0.00251 J	0.00208 J+

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

Appendix A
Analytical Results
Downwind River Mountain Volcanics Borrow Area

		Location ID	BG-122-08-01	BG-122-09-01
		Sample Name	BG-122-08-01	BG-122-09-01
		Sample Date	5/20/2021	5/21/2021
		Sample Depth	0-1 ft bgs	0-1 ft bgs
Analyte	**USEPA RSL[1]**	**Unit**	**Result**	**Result**
Metals (SW6020A)				
Antimony	31	mg/kg	< 0.167 UJ	< 0.166 UJ
Arsenic	35	mg/kg	11.2	4.59
Cadmium	7.1	mg/kg	0.0872 J	< 0.0857 U
Chromium	120000	mg/kg	18.1	8.62
Copper	3100	mg/kg	35.5	18.3
Lead	200	mg/kg	85.4	18.9
Manganese	1800	mg/kg	637 J	231 J
Selenium	390	mg/kg	1.25 J	0.827 J
Zinc	23000	mg/kg	101	59.4
PAHS (SW8270C/E SIM)				
Benzo[a]anthracene	110	mg/kg	0.00973	< 0.00174 U
Benzo[a]pyrene	11	mg/kg	0.00474 J	< 0.0018 U
Benzo[b]fluoranthene	110	mg/kg	0.0241	< 0.00154 U
Benzo[g,h,i]perylene	1800	mg/kg	0.0186	< 0.00178 U
Chrysene	11000	mg/kg	0.0331	< 0.00234 U
Dibenzo[a,h]anthracene	11	mg/kg	0.0068	< 0.00173 U
Indeno[1,2,3-cd]pyrene	110	mg/kg	0.0144	< 0.00182 U
Phenanthrene	18000	mg/kg	0.00598 J	< 0.00233 U
Pyrene	1800	mg/kg	0.0164	< 0.00201 U

[1] USEPA Regional Screening Level (RSL) for Residential Soil (TR=1E-04, HQ=1), November 2024. Surrogates used: Chromium(III) for chromium; anthracene for phenanthrene; pyrene for benzo[g,h,i]perylene.

-- = not analyzed
ft bgs = feet below ground surface
J = Estimated value.
J+ = Estimated value, biased high.
J- = Estimated value, biased low.
mg/kg = milligram(s) per kilogram
NSL = no screening level available
PAH = polycyclic aromatic hydrocarbons
U = Analyte not detected.
Values exceeding the USEPA RSL are bolded.

APPENDIX B

BMI Complex Site Datasets

Appendix B
BMI Complex Site Datasets
Deep Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7440-36-0	Antimony	0.17		Y	J-	0.0523	0.1	1.1	mg/kg	TMC	TMC	D	0.17
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7440-36-0	Antimony	0.19		Y	J-	0.0523	0.1	1.1	mg/kg	TMC	TMC	D	0.19
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7440-36-0	Antimony	0.16		Y	J-	0.0523	0.1	1.1	mg/kg	TMC	TMC	D	0.16
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7440-36-0	Antimony	0.18		Y	J-	0.0523	0.1	1.1	mg/kg	TMC	TMC	D	0.18
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7440-36-0	Antimony	0.19		Y	J-	0.0523	0.1	1.1	mg/kg	TMC	TMC	D	0.19
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7440-36-0	Antimony	0.27		Y	J-	0.0523	0.1	1.3	mg/kg	TMC	TMC	D	0.27
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7440-36-0	Antimony	0.16		Y	J-	0.0523	0.1	1.2	mg/kg	TMC	TMC	D	0.16
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7440-36-0	Antimony	0.18		Y	J-	0.0523	0.1	1.2	mg/kg	TMC	TMC	D	0.18
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7440-36-0	Antimony	0.14		Y	J-	0.0523	0.1	1.1	mg/kg	TMC	TMC	D	0.14
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7440-36-0	Antimony	0.22		Y	J-	0.0523	0.1	1.2	mg/kg	TMC	TMC	D	0.22
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7440-36-0	Antimony	0.19		Y	J-	0.0523	0.1	1.2	mg/kg	TMC	TMC	D	0.19
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7440-36-0	Antimony	0.34		Y	J-	0.0523	0.1	1.3	mg/kg	TMC	TMC	D	0.34
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7440-36-0	Antimony	0.29		Y	J-	0.0523	0.1	1.3	mg/kg	TMC	TMC	D	0.29
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7440-36-0	Antimony	0.18		Y	J-	0.0523	0.13	1.5	mg/kg	TMC	TMC	D	0.18
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7440-36-0	Antimony	0.13		Y	J-	0.0523	0.1	0.56	mg/kg	TMC	TMC	D	0.13
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7440-36-0	Antimony	0.15		Y	J-	0.0523	0.1	0.56	mg/kg	TMC	TMC	D	0.15
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7440-36-0	Antimony	0.066		Y	J-	0.0523	0.1	0.55	mg/kg	TMC	TMC	D	0.066
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7440-36-0	Antimony	0.1		Y	J-	0.0523	0.1	0.56	mg/kg	TMC	TMC	D	0.1
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7440-36-0	Antimony			N	UJ	0.0523	0.1	1.1	mg/kg	TMC	TMC	ND	0.105
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7440-36-0	Antimony	0.15		Y	J-	0.0523	0.1	1.2	mg/kg	TMC	TMC	D	0.15
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7440-36-0	Antimony	0.15		Y	J-	0.0523	0.1	1.2	mg/kg	TMC	TMC	D	0.15
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7440-36-0	Antimony	0.15		Y	J-	0.0523	0.1	0.6	mg/kg	TMC	TMC	D	0.15
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7440-36-0	Antimony	0.14		Y	J-	0.0523	0.1	0.59	mg/kg	TMC	TMC	D	0.14
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7440-36-0	Antimony	0.13		Y	J-	0.0523	0.1	0.57	mg/kg	TMC	TMC	D	0.13
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7440-38-2	Arsenic	13.1		Y		0.1087	0.22	2.2	mg/kg	TMC	TMC	D	13.1
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7440-38-2	Arsenic	7.4		Y		0.1087	0.22	2.2	mg/kg	TMC	TMC	D	7.4
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7440-38-2	Arsenic	7.4		Y		0.1087	0.22	2.3	mg/kg	TMC	TMC	D	7.4
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7440-38-2	Arsenic	11.7		Y		0.1087	0.22	2.3	mg/kg	TMC	TMC	D	11.7
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7440-38-2	Arsenic	14.6		Y		0.1087	0.22	2.2	mg/kg	TMC	TMC	D	14.6
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7440-38-2	Arsenic	24.8		Y		0.1087	0.22	2.5	mg/kg	TMC	TMC	D	24.8
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7440-38-2	Arsenic	8		Y		0.1087	0.22	2.4	mg/kg	TMC	TMC	D	8
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7440-38-2	Arsenic	8		Y		0.1087	0.22	2.4	mg/kg	TMC	TMC	D	8
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7440-38-2	Arsenic	8.4		Y		0.1087	0.22	2.1	mg/kg	TMC	TMC	D	8.4
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7440-38-2	Arsenic	9.9		Y		0.1087	0.22	2.4	mg/kg	TMC	TMC	D	9.9
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7440-38-2	Arsenic	12		Y		0.1087	0.22	2.4	mg/kg	TMC	TMC	D	12
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7440-38-2	Arsenic	19.4		Y		0.1087	0.22	2.6	mg/kg	TMC	TMC	D	19.4
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7440-38-2	Arsenic	11		Y		0.1087	0.22	2.6	mg/kg	TMC	TMC	D	11
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7440-38-2	Arsenic	10.5		Y		0.1087	0.27	3	mg/kg	TMC	TMC	D	10.5
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7440-38-2	Arsenic	2.2		Y		0.1087	0.22	1.1	mg/kg	TMC	TMC	D	2.2
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7440-38-2	Arsenic	2.3		Y		0.1087	0.22	1.1	mg/kg	TMC	TMC	D	2.3
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7440-38-2	Arsenic	2.1		Y		0.1087	0.22	1.1	mg/kg	TMC	TMC	D	2.1
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7440-38-2	Arsenic	3.1		Y		0.1087	0.22	1.1	mg/kg	TMC	TMC	D	3.1
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7440-38-2	Arsenic	5.2		Y		0.1087	0.22	2.3	mg/kg	TMC	TMC	D	5.2
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7440-38-2	Arsenic	4.7		Y		0.1087	0.22	2.4	mg/kg	TMC	TMC	D	4.7
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7440-38-2	Arsenic	7.3		Y		0.1087	0.22	2.4	mg/kg	TMC	TMC	D	7.3
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7440-38-2	Arsenic	6.5		Y		0.1087	0.22	1.2	mg/kg	TMC	TMC	D	6.5
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7440-38-2	Arsenic	6.9		Y		0.1087	0.22	1.2	mg/kg	TMC	TMC	D	6.9

Appendix B
BMI Complex Site Datasets
Deep Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7440-38-2	Arsenic	4.8		Y		0.1087	0.22	1.1	mg/kg	TMC	TMC	D	4.8
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7440-43-9	Cadmium	0.098		Y	J	0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.098
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7440-43-9	Cadmium	0.12		Y		0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.12
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7440-43-9	Cadmium	0.11		Y	J	0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.11
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7440-43-9	Cadmium	0.15		Y		0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.15
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7440-43-9	Cadmium	0.081		Y	J	0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.081
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7440-43-9	Cadmium	0.13		Y		0.005	0.01	0.13	mg/kg	TMC	TMC	D	0.13
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7440-43-9	Cadmium	0.14		Y		0.005	0.01	0.12	mg/kg	TMC	TMC	D	0.14
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7440-43-9	Cadmium	0.11		Y	J	0.005	0.01	0.12	mg/kg	TMC	TMC	D	0.11
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7440-43-9	Cadmium	0.11		Y	J	0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.11
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7440-43-9	Cadmium	0.084		Y	J	0.005	0.01	0.12	mg/kg	TMC	TMC	D	0.084
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7440-43-9	Cadmium	0.11		Y	J	0.005	0.01	0.12	mg/kg	TMC	TMC	D	0.11
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7440-43-9	Cadmium	0.2		Y		0.005	0.01	0.13	mg/kg	TMC	TMC	D	0.2
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7440-43-9	Cadmium	0.078		Y	J	0.005	0.01	0.13	mg/kg	TMC	TMC	D	0.078
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7440-43-9	Cadmium	0.1		Y	J	0.005	0.01	0.15	mg/kg	TMC	TMC	D	0.1
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7440-43-9	Cadmium			N	U	0.005	0.01	0.06	mg/kg	TMC	TMC	ND	0.01
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7440-43-9	Cadmium			N	U	0.005	0.01	0.06	mg/kg	TMC	TMC	ND	0.01
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7440-43-9	Cadmium			N	U	0.005	0.01	0.06	mg/kg	TMC	TMC	ND	0.01
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7440-43-9	Cadmium	0.06		Y		0.005	0.01	0.06	mg/kg	TMC	TMC	D	0.06
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7440-43-9	Cadmium	0.11		Y	J	0.005	0.01	0.11	mg/kg	TMC	TMC	D	0.11
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7440-43-9	Cadmium	0.064		Y	J	0.005	0.01	0.12	mg/kg	TMC	TMC	D	0.064
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7440-43-9	Cadmium	0.11		Y	J	0.005	0.01	0.12	mg/kg	TMC	TMC	D	0.11
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7440-43-9	Cadmium			N	U	0.005	0.01	0.06	mg/kg	TMC	TMC	ND	0.01
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7440-43-9	Cadmium			N	U	0.005	0.01	0.06	mg/kg	TMC	TMC	ND	0.01
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7440-43-9	Cadmium			N	U	0.005	0.01	0.06	mg/kg	TMC	TMC	ND	0.01
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7440-47-3	Chromium (Total)	12.7		Y		0.1	0.2	2.2	mg/kg	TMC	TMC	D	12.7
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7440-47-3	Chromium (Total)	10.2		Y		0.1	0.2	2.2	mg/kg	TMC	TMC	D	10.2
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7440-47-3	Chromium (Total)	9.9		Y		0.1	0.2	2.3	mg/kg	TMC	TMC	D	9.9
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7440-47-3	Chromium (Total)	16.6		Y		0.1	0.2	2.3	mg/kg	TMC	TMC	D	16.6
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7440-47-3	Chromium (Total)	13.8		Y	J	0.1	0.2	2.2	mg/kg	TMC	TMC	D	13.8
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7440-47-3	Chromium (Total)	21.3		Y		0.1	0.2	2.5	mg/kg	TMC	TMC	D	21.3
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7440-47-3	Chromium (Total)	16.9		Y	J+	0.1	0.2	2.4	mg/kg	TMC	TMC	D	16.9
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7440-47-3	Chromium (Total)	17.9		Y	J+	0.1	0.2	2.4	mg/kg	TMC	TMC	D	17.9
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7440-47-3	Chromium (Total)	14.9		Y	J+	0.1	0.2	2.1	mg/kg	TMC	TMC	D	14.9
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7440-47-3	Chromium (Total)	27.9		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	27.9
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7440-47-3	Chromium (Total)	16.7		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	16.7
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7440-47-3	Chromium (Total)	22.6		Y		0.1	0.2	2.6	mg/kg	TMC	TMC	D	22.6
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7440-47-3	Chromium (Total)	27.7		Y		0.1	0.2	2.6	mg/kg	TMC	TMC	D	27.7
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7440-47-3	Chromium (Total)	22.7		Y	J+	0.1	0.25	3	mg/kg	TMC	TMC	D	22.7
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7440-47-3	Chromium (Total)	3.6		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	3.6
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7440-47-3	Chromium (Total)	4.1		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	4.1
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7440-47-3	Chromium (Total)	2.9		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	2.9
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7440-47-3	Chromium (Total)	5.5		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	5.5
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7440-47-3	Chromium (Total)	7.3		Y	J-	0.1	0.2	2.3	mg/kg	TMC	TMC	D	7.3
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7440-47-3	Chromium (Total)	10.2		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	10.2
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7440-47-3	Chromium (Total)	13.7		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	13.7
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7440-47-3	Chromium (Total)	5.6		Y		0.1	0.2	1.2	mg/kg	TMC	TMC	D	5.6

Appendix B
BMI Complex Site Datasets
Deep Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7440-47-3	Chromium (Total)	5.4		Y		0.1	0.2	1.2	mg/kg	TMC	TMC	D	5.4
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7440-47-3	Chromium (Total)	6		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	6
2008 Deep	DBSA-09	DBSA-09	DBSA-9-T-160	160	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-11	DBSA-11	DBSA 11-T-150	150	N	EPA 7196A	18540-29-9	Chromium (VI)	0.18		Y	J	0.17	0.17	1.1	mg/kg	TMC	TMC	D	0.18
2008 Deep	DBSA-11	DBSA-11	DBSA 11-T-160	160	N	EPA 7196A	18540-29-9	Chromium (VI)	0.19		Y	J	0.18	0.18	1.1	mg/kg	TMC	TMC	D	0.19
2008 Deep	DBSA-17	DBSA-17	DBSA 17-T-130	130	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-17	DBSA-17	DBSA 17-T-140	140	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-17	DBSA-17	DBSA 17-T-150	150	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.2	0.2	1.3	mg/kg	TMC	TMC	ND	0.2
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.19	0.19	1.2	mg/kg	TMC	TMC	ND	0.19
2008 Deep	DBSA-20	DBSA-20	DBSA 20-T-90-FD	90	FD	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.19	0.19	1.2	mg/kg	TMC	TMC	ND	0.19
2008 Deep	DBSA-20	DBSA-20	DBSA 20-T-100	100	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.17	0.17	1.1	mg/kg	TMC	TMC	ND	0.17
2008 Deep	DBSA-21	DBSA-21	DBSA21-T-80	80	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.2	0.2	1.2	mg/kg	TMC	TMC	ND	0.2
2008 Deep	DBSA-21	DBSA-21	DBSA21-T-90	90	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.19	0.19	1.2	mg/kg	TMC	TMC	ND	0.19
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.21	0.21	1.3	mg/kg	TMC	TMC	ND	0.21
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.2	0.2	1.3	mg/kg	TMC	TMC	ND	0.2
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.18	0.18	1.1	mg/kg	TMC	TMC	ND	0.18
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.16	0.16	1	mg/kg	TMC	TMC	ND	0.16
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.16	0.16	1	mg/kg	TMC	TMC	ND	0.16
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.16	0.16	1	mg/kg	TMC	TMC	ND	0.16
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.16	0.16	1	mg/kg	TMC	TMC	ND	0.16
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.16	0.16	1	mg/kg	TMC	TMC	ND	0.16
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	EPA 7196A	18540-29-9	Chromium (VI)			N	U	0.16	0.16	1	mg/kg	TMC	TMC	ND	0.16
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7440-50-8	Copper	14.2		Y	J-	0.1	0.2	2.2	mg/kg	TMC	TMC	D	14.2
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7440-50-8	Copper	14.9		Y	J-	0.1	0.2	2.2	mg/kg	TMC	TMC	D	14.9
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7440-50-8	Copper	15.8		Y	J-	0.1	0.2	2.3	mg/kg	TMC	TMC	D	15.8
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7440-50-8	Copper	15.8		Y		0.1	0.2	2.3	mg/kg	TMC	TMC	D	15.8
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7440-50-8	Copper	17.1		Y	J	0.1	0.2	2.2	mg/kg	TMC	TMC	D	17.1
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7440-50-8	Copper	20.4		Y		0.1	0.2	2.5	mg/kg	TMC	TMC	D	20.4
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7440-50-8	Copper	16.8		Y		0.1	0.2	2.4	mg/kg	TMC	TMC	D	16.8
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7440-50-8	Copper	14.5		Y		0.1	0.2	2.4	mg/kg	TMC	TMC	D	14.5
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7440-50-8	Copper	13		Y		0.1	0.2	2.1	mg/kg	TMC	TMC	D	13
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7440-50-8	Copper	18.5		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	18.5
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7440-50-8	Copper	16		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	16
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7440-50-8	Copper	21.3		Y		0.1	0.2	2.6	mg/kg	TMC	TMC	D	21.3
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7440-50-8	Copper	14.9		Y		0.1	0.2	2.6	mg/kg	TMC	TMC	D	14.9
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7440-50-8	Copper	13.3		Y		0.1	0.25	3	mg/kg	TMC	TMC	D	13.3
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7440-50-8	Copper	4.4		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	4.4
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7440-50-8	Copper	5.2		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	5.2
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7440-50-8	Copper	4.1		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	4.1
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7440-50-8	Copper	5.8		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	5.8
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7440-50-8	Copper	10.5		Y	J-	0.1	0.2	2.3	mg/kg	TMC	TMC	D	10.5
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7440-50-8	Copper	9.8		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	9.8
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7440-50-8	Copper	10.6		Y	J-	0.1	0.2	2.4	mg/kg	TMC	TMC	D	10.6
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7440-50-8	Copper	6		Y		0.1	0.2	1.2	mg/kg	TMC	TMC	D	6

Appendix B
BMI Complex Site Datasets
Deep Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7440-50-8	Copper	5.8		Y		0.1	0.2	1.2	mg/kg	TMC	TMC	D	5.8
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7440-50-8	Copper	5		Y		0.1	0.2	1.1	mg/kg	TMC	TMC	D	5
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7439-92-1	Lead	10.7		Y		0.1	0.2	0.66	mg/kg	TMC	TMC	D	10.7
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7439-92-1	Lead	8.6		Y	J+	0.1	0.2	0.65	mg/kg	TMC	TMC	D	8.6
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7439-92-1	Lead	6.8		Y	J+	0.1	0.2	0.68	mg/kg	TMC	TMC	D	6.8
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7439-92-1	Lead	12.3		Y		0.1	0.2	0.68	mg/kg	TMC	TMC	D	12.3
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7439-92-1	Lead	11.5		Y		0.1	0.2	0.67	mg/kg	TMC	TMC	D	11.5
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7439-92-1	Lead	15.7		Y		0.1	0.2	0.76	mg/kg	TMC	TMC	D	15.7
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7439-92-1	Lead	10.7		Y	J+	0.1	0.2	0.71	mg/kg	TMC	TMC	D	10.7
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7439-92-1	Lead	11.2		Y	J+	0.1	0.2	0.72	mg/kg	TMC	TMC	D	11.2
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7439-92-1	Lead	8.7		Y	J+	0.1	0.2	0.64	mg/kg	TMC	TMC	D	8.7
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7439-92-1	Lead	11.8		Y		0.1	0.2	0.73	mg/kg	TMC	TMC	D	11.8
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7439-92-1	Lead	15.3		Y		0.1	0.2	0.71	mg/kg	TMC	TMC	D	15.3
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7439-92-1	Lead	16.1		Y		0.1	0.2	0.77	mg/kg	TMC	TMC	D	16.1
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7439-92-1	Lead	13		Y		0.1	0.2	0.77	mg/kg	TMC	TMC	D	13
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7439-92-1	Lead	12.8		Y		0.1	0.25	0.9	mg/kg	TMC	TMC	D	12.8
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7439-92-1	Lead	15.7		Y	J-	0.1	0.2	0.34	mg/kg	TMC	TMC	D	15.7
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7439-92-1	Lead	9.1		Y	J-	0.1	0.2	0.34	mg/kg	TMC	TMC	D	9.1
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7439-92-1	Lead	7.8		Y	J-	0.1	0.2	0.33	mg/kg	TMC	TMC	D	7.8
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7439-92-1	Lead	9.3		Y	J-	0.1	0.2	0.34	mg/kg	TMC	TMC	D	9.3
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7439-92-1	Lead	13.1		Y		0.1	0.2	0.68	mg/kg	TMC	TMC	D	13.1
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7439-92-1	Lead	11.4		Y		0.1	0.2	0.71	mg/kg	TMC	TMC	D	11.4
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7439-92-1	Lead	13.7		Y		0.1	0.2	0.73	mg/kg	TMC	TMC	D	13.7
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7439-92-1	Lead	4.6		Y	J-	0.1	0.2	0.36	mg/kg	TMC	TMC	D	4.6
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7439-92-1	Lead	4.4		Y	J-	0.1	0.2	0.35	mg/kg	TMC	TMC	D	4.4
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7439-92-1	Lead	5		Y	J-	0.1	0.2	0.34	mg/kg	TMC	TMC	D	5
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7439-96-5	Manganese	371		Y	J	0.15	0.3	0.44	mg/kg	TMC	TMC	D	371
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7439-96-5	Manganese	321		Y	J	0.15	0.3	0.44	mg/kg	TMC	TMC	D	321
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7439-96-5	Manganese	301		Y	J	0.15	0.3	0.45	mg/kg	TMC	TMC	D	301
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7439-96-5	Manganese	498		Y		0.15	0.3	0.46	mg/kg	TMC	TMC	D	498
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7439-96-5	Manganese	525		Y	J	0.15	0.3	0.45	mg/kg	TMC	TMC	D	525
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7439-96-5	Manganese	423		Y		0.15	0.3	0.51	mg/kg	TMC	TMC	D	423
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7439-96-5	Manganese	379		Y		0.15	0.3	0.48	mg/kg	TMC	TMC	D	379
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7439-96-5	Manganese	373		Y		0.15	0.3	0.48	mg/kg	TMC	TMC	D	373
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7439-96-5	Manganese	279		Y		0.15	0.3	0.43	mg/kg	TMC	TMC	D	279
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7439-96-5	Manganese	476		Y		0.15	0.3	0.49	mg/kg	TMC	TMC	D	476
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7439-96-5	Manganese	262		Y		0.15	0.3	0.47	mg/kg	TMC	TMC	D	262
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7439-96-5	Manganese	786		Y	J	0.15	0.3	0.51	mg/kg	TMC	TMC	D	786
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7439-96-5	Manganese	294		Y	J	0.15	0.3	0.51	mg/kg	TMC	TMC	D	294
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7439-96-5	Manganese	296		Y	J	0.15	0.38	0.6	mg/kg	TMC	TMC	D	296
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7439-96-5	Manganese	126		Y		0.15	0.3	0.22	mg/kg	TMC	TMC	D	126
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7439-96-5	Manganese	137		Y		0.15	0.3	0.22	mg/kg	TMC	TMC	D	137
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7439-96-5	Manganese	162		Y		0.15	0.3	0.22	mg/kg	TMC	TMC	D	162
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7439-96-5	Manganese	236		Y		0.15	0.3	0.22	mg/kg	TMC	TMC	D	236
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7439-96-5	Manganese	177		Y		0.15	0.3	0.45	mg/kg	TMC	TMC	D	177
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7439-96-5	Manganese	135		Y		0.15	0.3	0.47	mg/kg	TMC	TMC	D	135
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7439-96-5	Manganese	307		Y		0.15	0.3	0.49	mg/kg	TMC	TMC	D	307

Appendix B
BMI Complex Site Datasets
Deep Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7439-96-5	Manganese	165		Y		0.15	0.3	0.24	mg/kg	TMC	TMC	D	165
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7439-96-5	Manganese	159		Y		0.15	0.3	0.24	mg/kg	TMC	TMC	D	159
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7439-96-5	Manganese	174		Y		0.15	0.3	0.23	mg/kg	TMC	TMC	D	174
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.3	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.2	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.2	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.2	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.2	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.3	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.3	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.4	1.5	mg/kg	TMC	TMC	ND	0.4
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.56	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.56	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.55	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.56	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.2	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.2	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.6	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.59	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	0.57	mg/kg	TMC	TMC	ND	0.32
2008 Deep	DBSA-09	DBSA-09	DBSA 9-T-160	160	N	SW6020	7440-66-6	Zinc	30.6		Y		0.65	1.3	4.4	mg/kg	TMC	TMC	D	30.6
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-150	150	N	SW6020	7440-66-6	Zinc	29.6		Y	J-	0.65	1.3	4.4	mg/kg	TMC	TMC	D	29.6
2008 Deep	DBSA-11	DBSA-11	DBSA-11-T-160	160	N	SW6020	7440-66-6	Zinc	29.2		Y	J-	0.65	1.3	4.5	mg/kg	TMC	TMC	D	29.2
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-130	130	N	SW6020	7440-66-6	Zinc	38.2		Y	J-	0.65	1.3	4.6	mg/kg	TMC	TMC	D	38.2
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-140	140	N	SW6020	7440-66-6	Zinc	39.5		Y	J	0.65	1.3	4.5	mg/kg	TMC	TMC	D	39.5
2008 Deep	DBSA-17	DBSA-17	DBSA-17-T-150	150	N	SW6020	7440-66-6	Zinc	52.1		Y	J-	0.65	1.3	5.1	mg/kg	TMC	TMC	D	52.1
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90	90	N	SW6020	7440-66-6	Zinc	35.9		Y	J-	0.65	1.3	4.8	mg/kg	TMC	TMC	D	35.9
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-90-FD	90	FD	SW6020	7440-66-6	Zinc	34.2		Y	J-	0.65	1.3	4.8	mg/kg	TMC	TMC	D	34.2
2008 Deep	DBSA-20	DBSA-20	DBSA-20-T-100	100	N	SW6020	7440-66-6	Zinc	29.5		Y	J-	0.65	1.3	4.3	mg/kg	TMC	TMC	D	29.5
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-80	80	N	SW6020	7440-66-6	Zinc	43.2		Y	J-	0.65	1.3	4.9	mg/kg	TMC	TMC	D	43.2
2008 Deep	DBSA-21	DBSA-21	DBSA-21-T-90	90	N	SW6020	7440-66-6	Zinc	35.5		Y	J-	0.65	1.3	4.7	mg/kg	TMC	TMC	D	35.5
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-140	140	N	SW6020	7440-66-6	Zinc	61.3		Y		0.65	1.3	5.1	mg/kg	TMC	TMC	D	61.3
2008 Deep	DBSA-23	DBSA-23	DBSA23-T-150	150	N	SW6020	7440-66-6	Zinc	43.8		Y		0.65	1.3	5.1	mg/kg	TMC	TMC	D	43.8
2008 Deep	DBSA-27	DBSA-27	DBSA-27-T-100	100	N	SW6020	7440-66-6	Zinc	56.4		Y		0.65	1.63	6	mg/kg	TMC	TMC	D	56.4
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-130	130	N	SW6020	7440-66-6	Zinc	24.2		Y		0.65	1.3	2.2	mg/kg	TMC	TMC	D	24.2
2008 Deep	DBSA-30	DBSA-30	DBSA-30-Q-140	140	N	SW6020	7440-66-6	Zinc	17.3		Y		0.65	1.3	2.2	mg/kg	TMC	TMC	D	17.3
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-150	150	N	SW6020	7440-66-6	Zinc	16.1		Y		0.65	1.3	2.2	mg/kg	TMC	TMC	D	16.1
2008 Deep	DBSA-30	DBSA-30	DBSA-30-T-160	160	N	SW6020	7440-66-6	Zinc	19.3		Y		0.65	1.3	2.2	mg/kg	TMC	TMC	D	19.3
2008 Deep	DBSA-32	DBSA-32	DBSA-32-Q-70	70	N	SW6020	7440-66-6	Zinc	40.4		Y	J-	0.65	1.3	4.5	mg/kg	TMC	TMC	D	40.4
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-80	80	N	SW6020	7440-66-6	Zinc	37		Y	J-	0.65	1.3	4.7	mg/kg	TMC	TMC	D	37

Appendix B
BMI Complex Site Datasets
Deep Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Deep	DBSA-32	DBSA-32	DBSA-32-T-95	95	N	SW6020	7440-66-6	Zinc	33.2		Y	J-	0.65	1.3	4.9	mg/kg	TMC	TMC	D	33.2
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20	20	N	SW6020	7440-66-6	Zinc	20.5		Y		0.65	1.3	2.4	mg/kg	TMC	TMC	D	20.5
2008 Deep	DBSA-33	DBSA-33	DBSA-33-20-FD	20	FD	SW6020	7440-66-6	Zinc	19.9		Y		0.65	1.3	2.4	mg/kg	TMC	TMC	D	19.9
2008 Deep	DBSA-33	DBSA-33	DBSA-33-T-30	30	N	SW6020	7440-66-6	Zinc	21.2		Y		0.65	1.3	2.3	mg/kg	TMC	TMC	D	21.2

Appendix B
BMI Complex Site Datasets
Supplemental Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7440-36-0	Antimony	0.41		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.41
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7440-36-0	Antimony	0.33		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.33
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7440-36-0	Antimony	0.28		Y	J-	0.063	0.126	1.1	mg/kg	RIVER	Qal	D	0.28
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7440-36-0	Antimony	0.32		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.32
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7440-36-0	Antimony	0.3		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.3
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7440-36-0	Antimony	0.42		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.42
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7440-36-0	Antimony	0.27		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.27
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7440-36-0	Antimony	0.24		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.24
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7440-36-0	Antimony	0.3		Y	J-	0.063	0.126	1.1	mg/kg	RIVER	Qal	D	0.3
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7440-36-0	Antimony	0.2		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.2
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7440-36-0	Antimony	0.61		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.61
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7440-36-0	Antimony	0.27		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.27
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7440-36-0	Antimony	0.19		Y	J-	0.063	0.126	1	mg/kg	RIVER	Qal	D	0.19
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1.1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1.1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1.4	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7440-36-0	Antimony			N	UJ	0.063	0.126	1	mg/kg	RIVER	Qal	ND	0.126
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7440-38-2	Arsenic	9.8		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	9.8
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7440-38-2	Arsenic	8		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	8
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7440-38-2	Arsenic	10.1		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	10.1
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7440-38-2	Arsenic	9		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	9
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7440-38-2	Arsenic	6.7		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6.7
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7440-38-2	Arsenic	10.6		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	10.6
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7440-38-2	Arsenic	20.2		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	20.2
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7440-38-2	Arsenic	6		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7440-38-2	Arsenic	9.4		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	9.4
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7440-38-2	Arsenic	5.1		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	5.1
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7440-38-2	Arsenic	10.5		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	10.5
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7440-38-2	Arsenic	8.7		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	8.7
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7440-38-2	Arsenic	6.7		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6.7
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7440-38-2	Arsenic	6.4		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6.4
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7440-38-2	Arsenic	5.5		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	5.5
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7440-38-2	Arsenic	9.9		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	9.9
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7440-38-2	Arsenic	7.2		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	7.2
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7440-38-2	Arsenic	8.7		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	8.7
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7440-38-2	Arsenic	4.8		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	4.8
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7440-38-2	Arsenic	6.1		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6.1
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7440-38-2	Arsenic	6		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6

Appendix B
BMI Complex Site Datasets
Supplemental Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7440-38-2	Arsenic	6.8		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6.8
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7440-38-2	Arsenic	7.7		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	7.7
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7440-38-2	Arsenic	7.3		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	7.3
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7440-38-2	Arsenic	8.1		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	8.1
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7440-38-2	Arsenic	5.9		Y	J	0.189	0.378	2.1	mg/kg	RIVER	Qal	D	5.9
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7440-38-2	Arsenic	10.5		Y	J	0.189	0.378	2.1	mg/kg	RIVER	Qal	D	10.5
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7440-38-2	Arsenic	4.5		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	4.5
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7440-38-2	Arsenic	27.6		Y		0.189	0.378	2.8	mg/kg	RIVER	Qal	D	27.6
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7440-38-2	Arsenic	6.2		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	6.2
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7440-38-2	Arsenic	7.2		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	7.2
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7440-38-2	Arsenic	9.1		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	9.1
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7440-38-2	Arsenic	9.1		Y		0.189	0.378	2.1	mg/kg	RIVER	Qal	D	9.1
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7440-43-9	Cadmium	0.26		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.26
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7440-43-9	Cadmium	0.16		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.16
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7440-43-9	Cadmium	0.073		Y	J+	0.02	0.04	0.11	mg/kg	RIVER	Qal	D	0.073
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7440-43-9	Cadmium	0.085		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.085
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7440-43-9	Cadmium	0.092		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.092
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7440-43-9	Cadmium	0.082		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.082
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7440-43-9	Cadmium	0.098		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.098
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7440-43-9	Cadmium	0.079		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.079
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7440-43-9	Cadmium	0.093		Y	J+	0.02	0.04	0.11	mg/kg	RIVER	Qal	D	0.093
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7440-43-9	Cadmium	0.053		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.053
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7440-43-9	Cadmium	0.17		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.17
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7440-43-9	Cadmium	0.069		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.069
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7440-43-9	Cadmium	0.068		Y	J+	0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.068
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.11	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7440-43-9	Cadmium	0.11		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.11
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7440-43-9	Cadmium	0.13		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.13
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.11	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7440-43-9	Cadmium	0.12		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.12
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7440-43-9	Cadmium	0.13		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.13
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7440-43-9	Cadmium	0.14		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.14
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7440-43-9	Cadmium	0.19		Y		0.02	0.04	0.14	mg/kg	RIVER	Qal	D	0.19
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7440-43-9	Cadmium	0.12		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.12
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7440-43-9	Cadmium			N	U	0.02	0.04	0.1	mg/kg	RIVER	Qal	ND	0.04
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7440-43-9	Cadmium	0.2		Y		0.02	0.04	0.1	mg/kg	RIVER	Qal	D	0.2
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7440-47-3	Chromium (Total)	23.6		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	23.6
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7440-47-3	Chromium (Total)	16.9		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	16.9
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7440-47-3	Chromium (Total)	11.3		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	11.3
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7440-47-3	Chromium (Total)	10.5		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	10.5
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7440-47-3	Chromium (Total)	18.4		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	18.4
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7440-47-3	Chromium (Total)	13		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	13
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7440-47-3	Chromium (Total)	12.1		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	12.1
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7440-47-3	Chromium (Total)	16.3		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	16.3
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7440-47-3	Chromium (Total)	13.6		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	13.6

Appendix B
BMI Complex Site Datasets
Supplemental Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7440-47-3	Chromium (Total)	8.4		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	8.4
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7440-47-3	Chromium (Total)	15.3		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	15.3
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7440-47-3	Chromium (Total)	13.6		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	13.6
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7440-47-3	Chromium (Total)	9.9		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	9.9
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7440-47-3	Chromium (Total)	8		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	8
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7440-47-3	Chromium (Total)	9.2		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	9.2
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7440-47-3	Chromium (Total)	8.2		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	8.2
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7440-47-3	Chromium (Total)	7.3		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	7.3
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7440-47-3	Chromium (Total)	6.8		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	6.8
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7440-47-3	Chromium (Total)	5.9		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	5.9
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7440-47-3	Chromium (Total)	6.4		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	6.4
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7440-47-3	Chromium (Total)	7.6		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	7.6
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7440-47-3	Chromium (Total)	7.2		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	7.2
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7440-47-3	Chromium (Total)	6.7		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	6.7
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7440-47-3	Chromium (Total)	9.6		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	9.6
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7440-47-3	Chromium (Total)	13.9		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	13.9
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7440-47-3	Chromium (Total)	6		Y	J	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	6
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7440-47-3	Chromium (Total)	11.6		Y	J	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	11.6
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7440-47-3	Chromium (Total)	3.2		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	3.2
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7440-47-3	Chromium (Total)	19.8		Y	J+	0.637	1.274	2.8	mg/kg	RIVER	Qal	D	19.8
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7440-47-3	Chromium (Total)	11.2		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	11.2
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7440-47-3	Chromium (Total)	11.7		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	11.7
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7440-47-3	Chromium (Total)	5.4		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	5.4
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7440-47-3	Chromium (Total)	8.9		Y	J+	0.637	1.274	2.1	mg/kg	RIVER	Qal	D	8.9
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7440-50-8	Copper	36.2		Y	J	0.2	0.4	2.1	mg/kg	RIVER	Qal	D	36.2
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7440-50-8	Copper	17.7		Y	J	0.2	0.4	2.1	mg/kg	RIVER	Qal	D	17.7
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7440-50-8	Copper	16.4		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	16.4
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7440-50-8	Copper	16.6		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	16.6
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7440-50-8	Copper	13.5		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	13.5
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7440-50-8	Copper	12.8		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	12.8
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7440-50-8	Copper	13.3		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	13.3
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7440-50-8	Copper	12.2		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	12.2
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7440-50-8	Copper	10.2		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	10.2
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7440-50-8	Copper	12.8		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	12.8
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7440-50-8	Copper	18.1		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	18.1
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7440-50-8	Copper	10.1		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	10.1
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7440-50-8	Copper	12		Y		0.2	0.4	2.1	mg/kg	RIVER	Qal	D	12
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7440-50-8	Copper	8.6		Y		0.2	1	5.1	mg/kg	RIVER	Qal	D	8.6
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7440-50-8	Copper	10		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	10
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7440-50-8	Copper	8		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	8
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7440-50-8	Copper	10.7		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	10.7
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7440-50-8	Copper	10		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	10
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7440-50-8	Copper	8.2		Y	J+	0.2	1	5.2	mg/kg	RIVER	Qal	D	8.2
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7440-50-8	Copper	8.7		Y		0.2	1	5.3	mg/kg	RIVER	Qal	D	8.7
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7440-50-8	Copper	9.4		Y		0.2	1	5.1	mg/kg	RIVER	Qal	D	9.4
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7440-50-8	Copper	9.2		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	9.2
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7440-50-8	Copper	9.5		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	9.5
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7440-50-8	Copper	11.3		Y		0.2	1	5.1	mg/kg	RIVER	Qal	D	11.3
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7440-50-8	Copper	12.4		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	12.4
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7440-50-8	Copper	9.7		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	9.7
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7440-50-8	Copper	9.4		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	9.4
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7440-50-8	Copper	27.6		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	27.6
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7440-50-8	Copper	14.7		Y		0.2	1	6.9	mg/kg	RIVER	Qal	D	14.7
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7440-50-8	Copper	10.4		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	10.4

Appendix B
BMI Complex Site Datasets
Supplemental Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7440-50-8	Copper	13.5		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	13.5
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7440-50-8	Copper	8.3		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	8.3
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7440-50-8	Copper	10.8		Y		0.2	1	5.2	mg/kg	RIVER	Qal	D	10.8
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7439-92-1	Lead	53		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	53
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7439-92-1	Lead	19.7		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	19.7
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7439-92-1	Lead	12.1		Y	J	0.1	0.2	0.63	mg/kg	RIVER	Qal	D	12.1
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7439-92-1	Lead	14.6		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	14.6
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7439-92-1	Lead	14.3		Y	J	0.1	0.2	0.63	mg/kg	RIVER	Qal	D	14.3
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7439-92-1	Lead	19.9		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	19.9
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7439-92-1	Lead	11.9		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	11.9
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7439-92-1	Lead	9.8		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	9.8
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7439-92-1	Lead	23.7		Y	J	0.1	0.2	0.64	mg/kg	RIVER	Qal	D	23.7
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7439-92-1	Lead	10		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	10
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7439-92-1	Lead	43.6		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	43.6
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7439-92-1	Lead	14		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	14
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7439-92-1	Lead	17.8		Y	J	0.1	0.2	0.62	mg/kg	RIVER	Qal	D	17.8
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7439-92-1	Lead	9		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	9
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7439-92-1	Lead	11.2		Y		0.1	0.2	0.63	mg/kg	RIVER	Qal	D	11.2
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7439-92-1	Lead	7.7		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	7.7
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7439-92-1	Lead	11.4		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	11.4
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7439-92-1	Lead	23.9		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	23.9
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7439-92-1	Lead	11.5		Y	J+	0.1	0.2	0.63	mg/kg	RIVER	Qal	D	11.5
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7439-92-1	Lead	10.5		Y		0.1	0.2	0.63	mg/kg	RIVER	Qal	D	10.5
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7439-92-1	Lead	12.2		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	12.2
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7439-92-1	Lead	8.2		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	8.2
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7439-92-1	Lead	14.7		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	14.7
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7439-92-1	Lead	15.8		Y		0.1	0.2	0.61	mg/kg	RIVER	Qal	D	15.8
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7439-92-1	Lead	11.9		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	11.9
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7439-92-1	Lead	12.7		Y		0.1	0.2	0.63	mg/kg	RIVER	Qal	D	12.7
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7439-92-1	Lead	11.3		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	11.3
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7439-92-1	Lead	10.4		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	10.4
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7439-92-1	Lead	9.3		Y		0.1	0.2	0.83	mg/kg	RIVER	Qal	D	9.3
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7439-92-1	Lead	7.6		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	7.6
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7439-92-1	Lead	16.2		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	16.2
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7439-92-1	Lead	8.4		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	8.4
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7439-92-1	Lead	12.7		Y		0.1	0.2	0.62	mg/kg	RIVER	Qal	D	12.7
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7439-96-5	Manganese	624		Y		0.15	1.5	2.1	mg/kg	RIVER	Qal	D	624
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7439-96-5	Manganese	495		Y		0.15	1.5	2.1	mg/kg	RIVER	Qal	D	495
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7439-96-5	Manganese	270		Y		0.15	0.75	1.1	mg/kg	RIVER	Qal	D	270
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7439-96-5	Manganese	351		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	351
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7439-96-5	Manganese	499		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	499
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7439-96-5	Manganese	1320		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	1320
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7439-96-5	Manganese	260		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	260
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7439-96-5	Manganese	323		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	323
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7439-96-5	Manganese	377		Y		0.15	0.75	1.1	mg/kg	RIVER	Qal	D	377
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7439-96-5	Manganese	286		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	286
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7439-96-5	Manganese	2070		Y		0.15	1.5	2.1	mg/kg	RIVER	Qal	D	2070
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7439-96-5	Manganese	253		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	253
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7439-96-5	Manganese	359		Y		0.15	0.75	1	mg/kg	RIVER	Qal	D	359
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7439-96-5	Manganese	199		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	199
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7439-96-5	Manganese	221		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	221
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7439-96-5	Manganese	178		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	178
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7439-96-5	Manganese	257		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	257
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7439-96-5	Manganese	348		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	348

Appendix B
BMI Complex Site Datasets
Supplemental Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7439-96-5	Manganese	289		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	289
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7439-96-5	Manganese	191		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	191
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7439-96-5	Manganese	295		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	295
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7439-96-5	Manganese	201		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	201
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7439-96-5	Manganese	311		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	311
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7439-96-5	Manganese	327		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	327
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7439-96-5	Manganese	220		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	220
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7439-96-5	Manganese	245		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	245
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7439-96-5	Manganese	211		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	211
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7439-96-5	Manganese	371		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	371
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7439-96-5	Manganese	277		Y		0.15	0.3	0.55	mg/kg	RIVER	Qal	D	277
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7439-96-5	Manganese	231		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	231
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7439-96-5	Manganese	729		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	729
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7439-96-5	Manganese	389		Y		0.15	0.3	0.41	mg/kg	RIVER	Qal	D	389
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7439-96-5	Manganese	569		Y		0.15	0.3	0.42	mg/kg	RIVER	Qal	D	569
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1.4	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7782-49-2	Selenium			N	U	0.16	0.32	1	mg/kg	RIVER	Qal	ND	0.32
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0	0	N	SW6020	7440-66-6	Zinc	70.5		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	70.5
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-0-FD	0	FD	SW6020	7440-66-6	Zinc	53.8		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	53.8
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-10	10	N	SW6020	7440-66-6	Zinc	37.7		Y	J-	2.5	5	4.2	mg/kg	RIVER	Qal	D	37.7
2008 Supplemental	BRC-BKG-R01	BRC-BKG-R01	BRC-BKG-R01-5	5	N	SW6020	7440-66-6	Zinc	34.4		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	34.4
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-0	0	N	SW6020	7440-66-6	Zinc	42.8		Y	J-	2.5	5	4.2	mg/kg	RIVER	Qal	D	42.8
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-10	10	N	SW6020	7440-66-6	Zinc	44.7		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	44.7

Appendix B
BMI Complex Site Datasets
Supplemental Background Dataset

Dataset	Loc Id	Location	sys_sample_code	Start Depth	smptype_sample_std	lab_anl_method_name	cas_rn	chemical_name	result_value	result_error_delta	lab_detect_flag	VAL_QUAL	MDL	SQL	PQL	result_unit	Origin	Lithology	VAL_Detect	Stat_VAL
2008 Supplemental	BRC-BKG-R02	BRC-BKG-R02	BRC-BKG-R02-5	5	N	SW6020	7440-66-6	Zinc	35.6		Y	J-	2.5	5	4.2	mg/kg	RIVER	Qal	D	35.6
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-0	0	N	SW6020	7440-66-6	Zinc	28.5		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	28.5
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-10	10	N	SW6020	7440-66-6	Zinc	42.8		Y	J-	2.5	5	4.2	mg/kg	RIVER	Qal	D	42.8
2008 Supplemental	BRC-BKG-R03	BRC-BKG-R03	BRC-BKG-R03-5	5	N	SW6020	7440-66-6	Zinc	30.7		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	30.7
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-0	0	N	SW6020	7440-66-6	Zinc	59.9		Y	J-	2.5	5	4.2	mg/kg	RIVER	Qal	D	59.9
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-10	10	N	SW6020	7440-66-6	Zinc	31.2		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	31.2
2008 Supplemental	BRC-BKG-R04	BRC-BKG-R04	BRC-BKG-R04-5	5	N	SW6020	7440-66-6	Zinc	33.2		Y	J-	2.5	5	4.1	mg/kg	RIVER	Qal	D	33.2
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0	0	N	SW6020	7440-66-6	Zinc	25		Y		2.5	12.5	10.2	mg/kg	RIVER	Qal	D	25
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-0-FD	0	FD	SW6020	7440-66-6	Zinc	27.2		Y		2.5	12.5	10.5	mg/kg	RIVER	Qal	D	27.2
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-10	10	N	SW6020	7440-66-6	Zinc	31.1		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	31.1
2008 Supplemental	BRC-BKG-R05	BRC-BKG-R05	BRC-BKG-R05-5	5	N	SW6020	7440-66-6	Zinc	27.3		Y		2.5	12.5	10.3	mg/kg	RIVER	Qal	D	27.3
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-0	0	N	SW6020	7440-66-6	Zinc	44.7		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	44.7
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-10	10	N	SW6020	7440-66-6	Zinc	35.2		Y	J+	2.5	12.5	10.5	mg/kg	RIVER	Qal	D	35.2
2008 Supplemental	BRC-BKG-R06	BRC-BKG-R06	BRC-BKG-R06-5	5	N	SW6020	7440-66-6	Zinc	38.8		Y		2.5	12.5	10.5	mg/kg	RIVER	Qal	D	38.8
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-0	0	N	SW6020	7440-66-6	Zinc	31.8		Y		2.5	12.5	10.3	mg/kg	RIVER	Qal	D	31.8
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-10	10	N	SW6020	7440-66-6	Zinc	41.8		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	41.8
2008 Supplemental	BRC-BKG-R07	BRC-BKG-R07	BRC-BKG-R07-5	5	N	SW6020	7440-66-6	Zinc	28.4		Y		2.5	12.5	10.3	mg/kg	RIVER	Qal	D	28.4
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-0	0	N	SW6020	7440-66-6	Zinc	37.3		Y		2.5	12.5	10.2	mg/kg	RIVER	Qal	D	37.3
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-10	10	N	SW6020	7440-66-6	Zinc	37.4		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	37.4
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5	5	N	SW6020	7440-66-6	Zinc	29.4		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	29.4
2008 Supplemental	BRC-BKG-R08	BRC-BKG-R08	BRC-BKG-R08-5-FD	5	FD	SW6020	7440-66-6	Zinc	32.7		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	32.7
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-0	0	N	SW6020	7440-66-6	Zinc	26.2		Y		2.5	12.5	10.3	mg/kg	RIVER	Qal	D	26.2
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-10	10	N	SW6020	7440-66-6	Zinc	44.1		Y		2.5	12.5	13.8	mg/kg	RIVER	Qal	D	44.1
2008 Supplemental	BRC-BKG-R09	BRC-BKG-R09	BRC-BKG-R09-5	5	N	SW6020	7440-66-6	Zinc	27.3		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	27.3
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-0	0	N	SW6020	7440-66-6	Zinc	39.8		Y		2.5	12.5	10.3	mg/kg	RIVER	Qal	D	39.8
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-10	10	N	SW6020	7440-66-6	Zinc	31.7		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	31.7
2008 Supplemental	BRC-BKG-R10	BRC-BKG-R10	BRC-BKG-R10-5	5	N	SW6020	7440-66-6	Zinc	38.2		Y		2.5	12.5	10.4	mg/kg	RIVER	Qal	D	38.2

APPENDIX C

Statistical Analysis Outputs

Appendix C
Statistical Analysis Outputs
Muddy Creek Formation

Summary of TKM (Muddy Creek Formation) to BMI (2008 Deep) Soil Sample Data

	BMI (2008 Supplemental)								TKM (Volcanic Units of Downwind Parcels)							
Analyte	No. Samples	No. Detects	% Detects	Min. Detect	Max Detect	Median Detect	Mean Detect	Std. Dev. Detects	No. Samples	No. Detects	% Detects	Min. Detect	Max Detect	Median Detect	Mean Detect	Std. Dev. Detects
Antimony	24	23	96%	0.066	0.34	0.16	0.18	0.06	19	15	79%	0.18	0.46	0.23	0.26	0.084
Arsenic	24	24	100%	2.1	24.8	7.7	8.8	5.4	19	19	100%	3.7	49	7.6	10	10
Cadmium	24	18	75%	0.06	0.2	0.11	0.11	0.033	19	12	63%	0.095	0.2	0.12	0.13	0.031
Chromium (Total)	24	24	100%	2.9	27.9	13	13	7.5	19	19	100%	3.3	21	9.2	9.4	4.0
Copper	24	24	100%	4.1	21.3	14	12	5.4	19	19	100%	7.2	39	12	13	6.7
Lead	24	24	100%	4.4	16.1	11	11	3.5	19	19	100%	3.3	42	22	21	11
Manganese	24	24	100%	126	786	300	310	160	19	19	100%	140	980	500	500	220
Selenium	24	0	0%						19	16	84%	0.19	0.49	0.37	0.36	0.077
Zinc	24	24	100%	16.1	61.3	34	34	12	19	19	100%	18	120	49	51	27

Notes:
Concentration units in mg/kg

Appendix C
Statistical Analysis Outputs
Muddy Creek Formation

Comparison of TKM (Muddy Creek Formation) to BMI (2008 Deep) Soil Sample Data with Alternative Hypothesis (HA) that TKM is greater than BMI

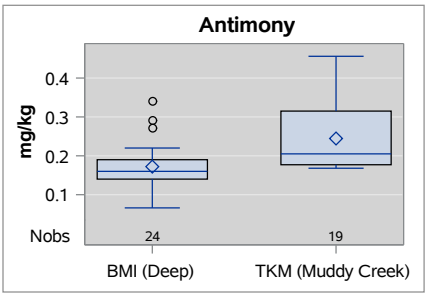
	Gilbert Toolbox (HA: TKM > BMI)					
Analyte	**Two-Sample t-Test**	**Gehan Test**	**Quantile Test (0.75)**	**Slippage Test**	**TKM Greater Than BMI?**	
Antimony	***0.0243***	***0.0041***	0.0653	0.1894	***Yes***	
Arsenic	0.2564	0.4368	0.7455	0.4419	No	
Cadmium	0.2077	0.2936	0.2156	0.4419	No	
Chromium (Total)	0.9777	0.9305	0.9990	1.0000	No	
Copper	0.3525	0.6745	0.9860	0.4419	No	
Lead	***0.0005***	***0.0021***	***0.0000***	***0.0000***	***Yes***	
Manganese	***0.0014***	***0.0014***	***0.0121***	0.1894	***Yes***	
Selenium	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***Yes***	1
Zinc	***0.0074***	***0.0212***	***0.0012***	***0.0016***	***Yes***	

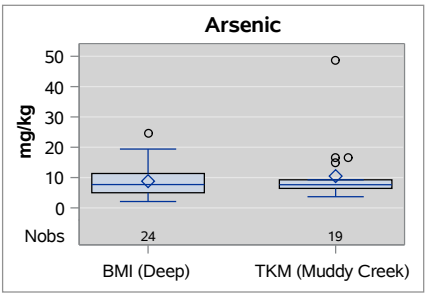
Notes:
HA = alternative hypothesis
p values in boldface indicate $p < 0.025$

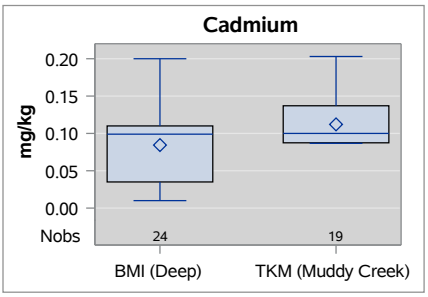
Background Qualifiers:
1 = Less than 25% frequency of detection (FOD) in either BMI or TMK data sets

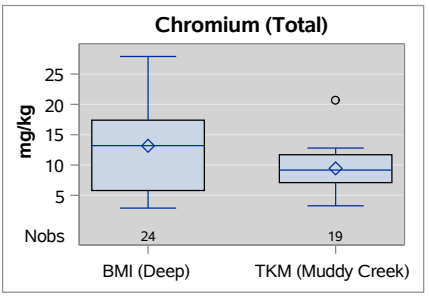
Appendix C
Statistical Analysis Outputs
Muddy Creek Formation

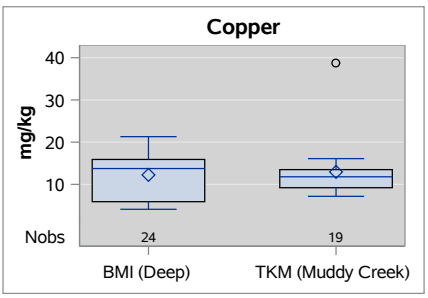
Box Plot Comparison of Metals in Soils from 2008 Deep (BMI) and Muddy Creek Background (TKM)

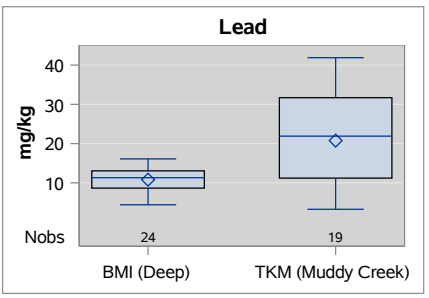


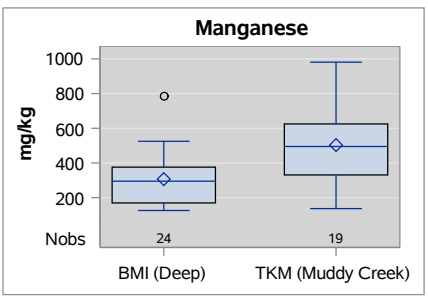


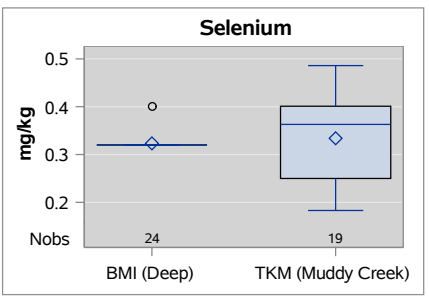


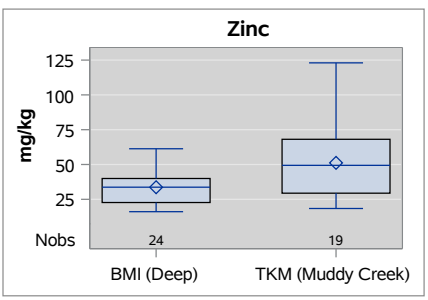






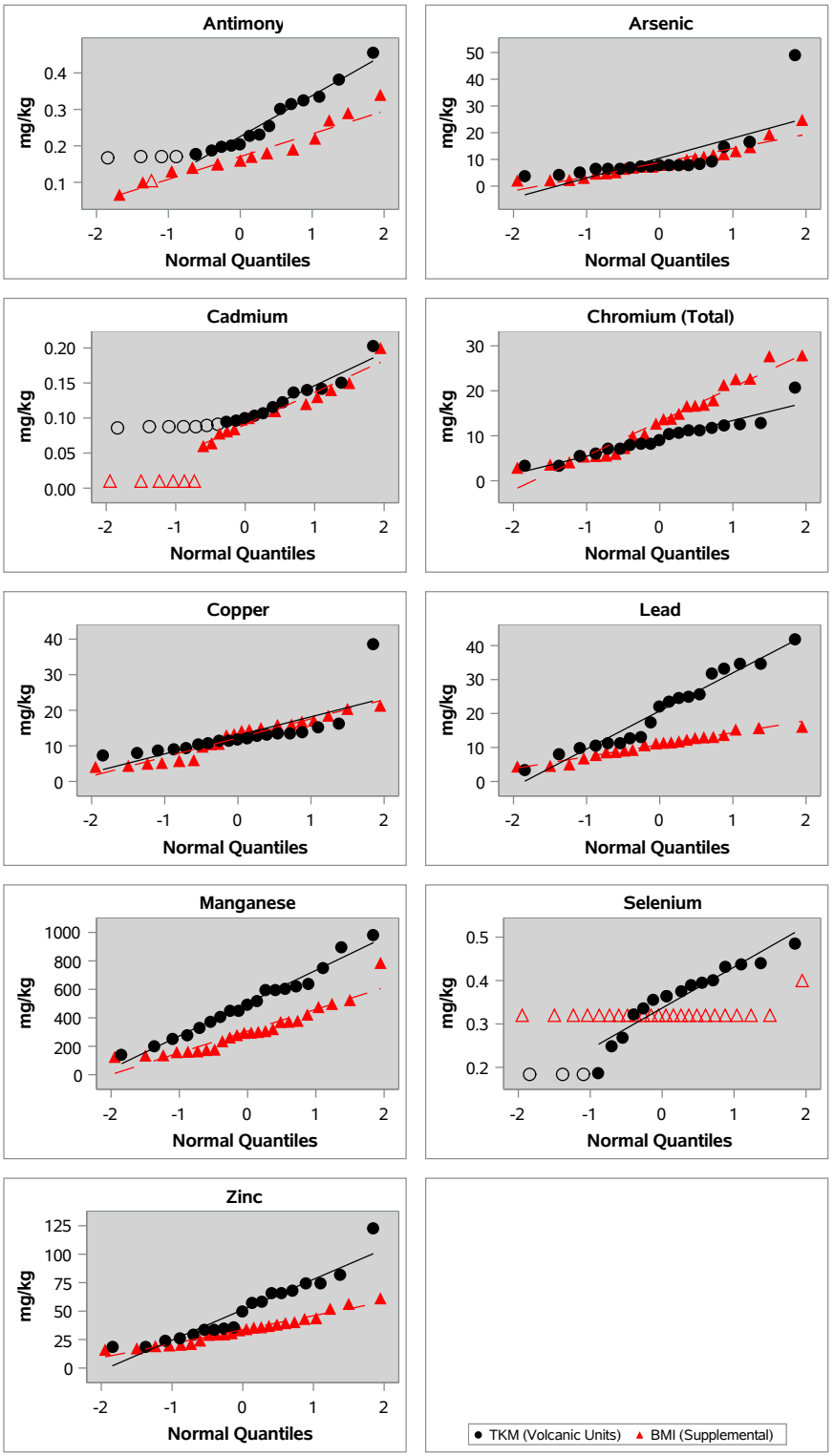






Appendix C
Statistical Analysis Outputs
Muddy Creek Formation

Q-Q Plots of Metals in Soils from 2008 Deep (BMI) and Muddy Creek Background (TKM)



Note:

1. Non-detects displayed with open symbols.

Appendix C
Statistical Analysis Outputs
River Mountain Volcanics

Summary of TKM (River Mountain Volcanics) and BMI (2008 Supplemental) Soil Sample Data

	BMI (2008 Supplemental)								TKM (River Mountain Background)							
Analyte	**No. Samples**	**No. Detects**	**% Detects**	**Min. Detect**	**Max Detect**	**Median Detect**	**Mean Detect**	**Std. Dev. Detects**	**No. Samples**	**No. Detects**	**% Detects**	**Min. Detect**	**Max Detect**	**Median Detect**	**Mean Detect**	**Std. Dev. Detects**
Antimony	33	13	39%	0.19	0.61	0.30	0.32	0.11	26	12	46%	0.17	0.75	0.4	0.41	0.18
Arsenic	33	33	100%	4.5	27.6	7.7	8.6	4.4	26	26	100%	1.5	14	7.6	7.6	3.4
Cadmium	33	21	64%	0.053	0.26	0.11	0.12	0.052	26	9	35%	0.095	0.18	0.13	0.13	0.03
Chromium (Total)	33	33	100%	3.2	23.6	9.9	11	4.6	26	26	100%	1.4	17	3.9	4.9	3.4
Copper	33	33	100%	8	36.2	11	13	5.7	26	26	100%	2.5	37	5.9	11	9.1
Lead	33	33	100%	7.6	53	12	15	9.6	26	26	100%	5.1	88	11	20	21
Manganese	33	33	100%	178	2070	300	410	370	26	26	100%	110	1700	260	430	400
Selenium	33	0	0%						26	26	100%	0.21	0.88	0.48	0.47	0.2
Zinc	33	33	100%	25	70.5	35	37	9.9	26	26	100%	11	170	29	36	36

Notes:
Concentration units in mg/kg

Appendix C
Statistical Analysis Outputs
River Mountain Volcanics

Comparison of TKM (River Mountain Volcanics) to BMI (2008 Supplemental) Soil Sample Data with Alternative Hypothesis (HA) that TKM is greater than BMI

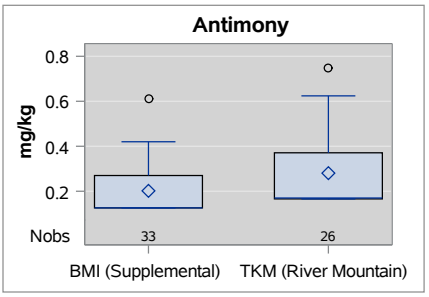
	Gilbert Toolbox (HA: TKM > BMI)				
Analyte	Two-Sample t-Test	Gehan Test	Quantile Test (0.75)	Slippage Test	TKM Greater Than BMI?
Antimony	0.0695	0.1841	0.2950	0.1899	No
Arsenic	0.8468	0.7217	0.6575	1.0000	No
Cadmium	0.7290	0.7280	0.6575	1.0000	No
Chromium (Total)	1.0000	1.0000	0.9988	1.0000	No
Copper	0.8539	0.9927	0.4171	0.4407	No
Lead	0.1517	0.7930	0.2058	0.1899	No
Manganese	0.4104	0.7797	0.4171	1.0000	No
Selenium	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***Yes*** 1
Zinc	0.5430	0.9905	0.8483	0.1899	No

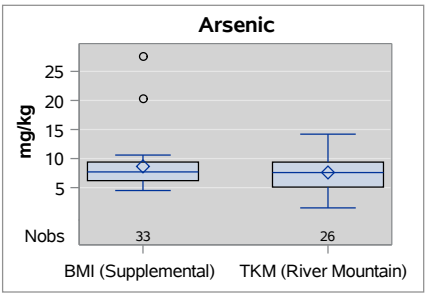
Notes:
HA = alternative hypothesis
p values in boldface indicate $p < 0.025$

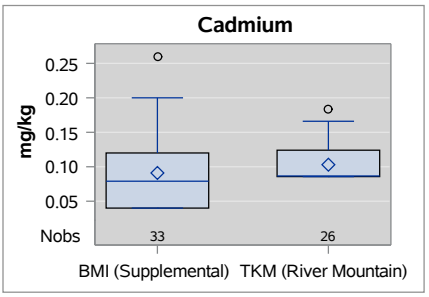
Background Qualifiers:
1 = Less than 25% frequency of detection (FOD) in either BMI or TMK data sets
2 = Failed Gilbert's Toolbox in only 1 out of 4 tests

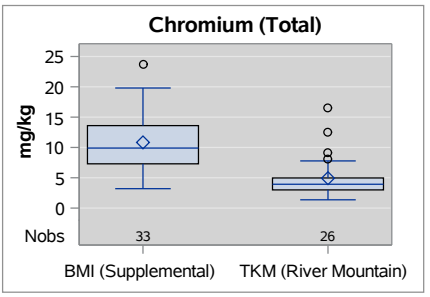
Appendix C
Statistical Analysis Outputs
River Mountain Volcanics

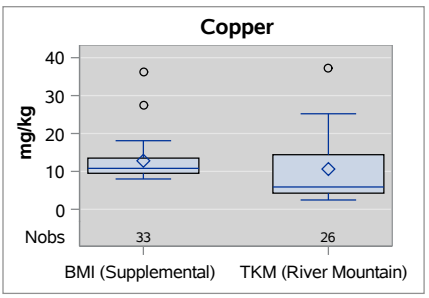
Box Plot Comparison of Metals in Soils from 2008 Supplemental (BMI) and River Mountain Background (TKM)

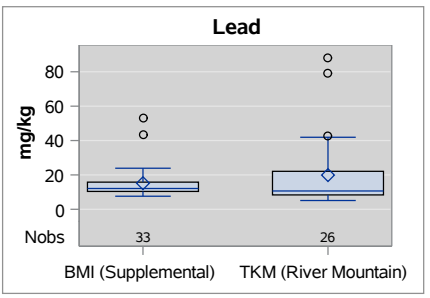


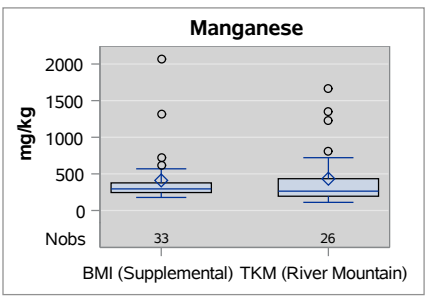


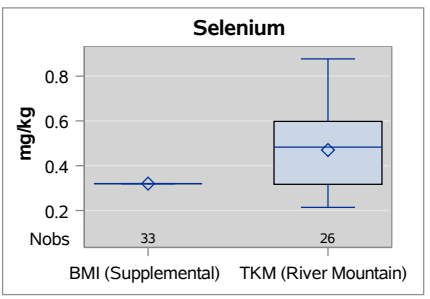


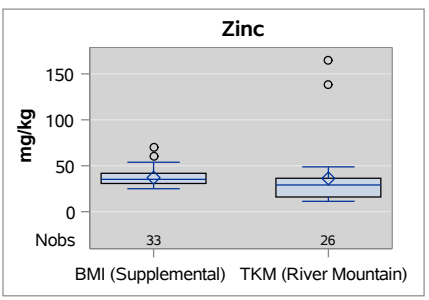






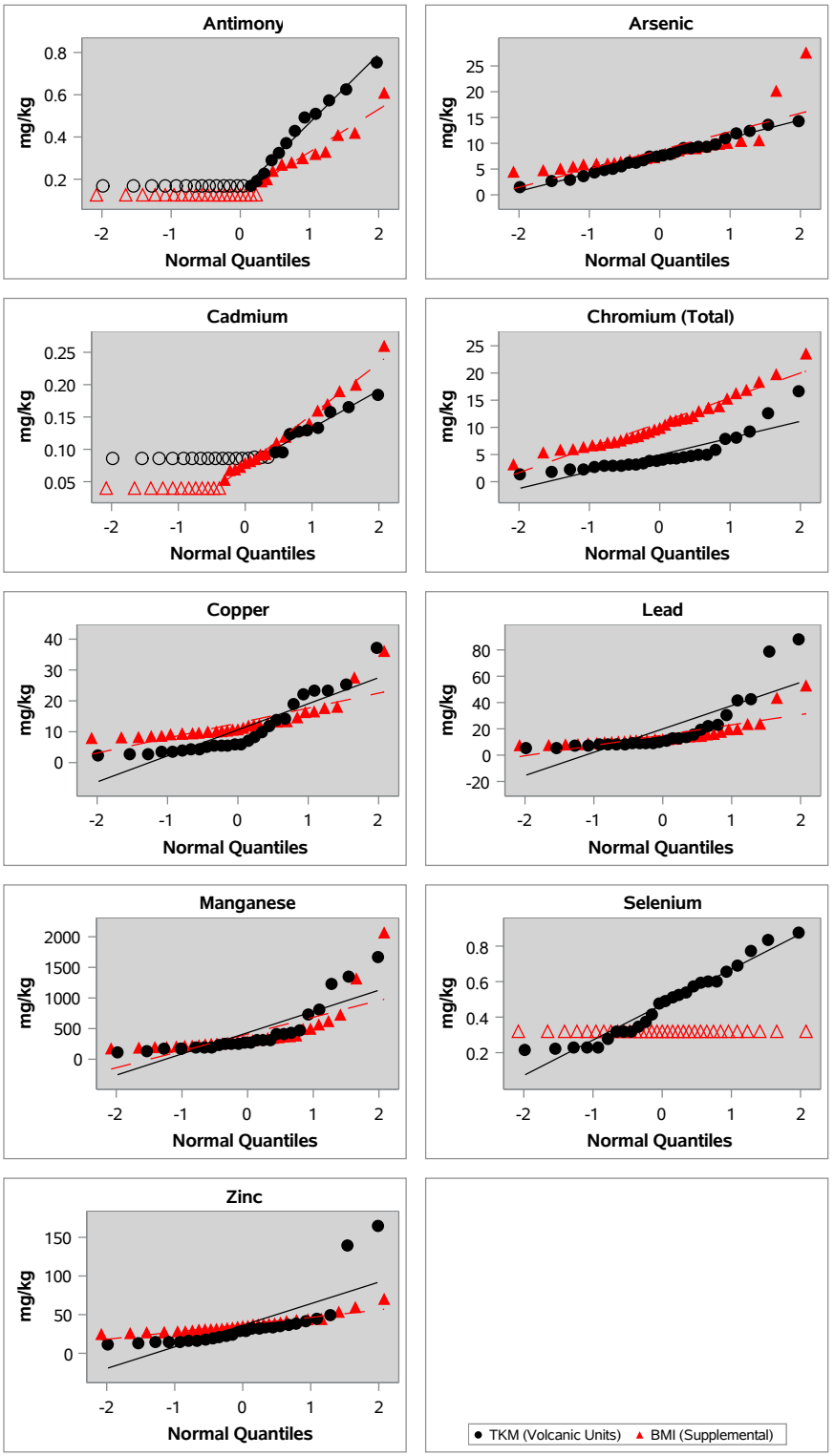






Appendix C
Statistical Analysis Outputs
River Mountain Volcanics

Q-Q Plots of Metals in Soils from 2008 Supplemental (BMI) and River Mountain Background (TKM)



Note:

1. Non-detects displayed with open symbols.

Appendix C
Statistical Analysis Outputs
Downwind River Mountain Volcanics

Summary of TKM (Volcanic Units of Downwind Parcels) and BMI (2008 Supplemental) Soil Sample Data

	BMI (2008 Supplemental)								TKM (Volcanic Units of Downwind Parcels)							
Analyte	**No. Samples**	**No. Detects**	**% Detects**	**Min. Detect**	**Max Detect**	**Median Detect**	**Mean Detect**	**Std. Dev. Detects**	**No. Samples**	**No. Detects**	**% Detects**	**Min. Detect**	**Max Detect**	**Median Detect**	**Mean Detect**	**Std. Dev. Detects**
Antimony	33	13	39%	0.19	0.61	0.30	0.32	0.11	13	3	23%	0.17	0.29	0.18	0.21	0.066
Arsenic	33	33	100%	4.5	27.6	7.7	8.6	4.4	13	13	100%	2.9	13	4.6	6.3	3.4
Cadmium	33	21	64%	0.053	0.26	0.11	0.12	0.052	13	6	46%	0.087	0.15	0.11	0.12	0.023
Chromium (Total)	33	33	100%	3.2	23.6	9.9	11	4.6	13	13	100%	0.99	22	8.6	10	7.4
Copper	33	33	100%	8	36.2	11	13	5.7	13	13	100%	2.3	42	27	22	15
Lead	33	33	100%	7.6	53	12	15	9.6	13	13	100%	7.4	85	19	27	25
Manganese	33	33	100%	178	2070	300	410	370	13	13	100%	110	640	230	300	170
Selenium	33	0	0%						13	13	100%	0.2	1.4	0.8	0.81	0.49
Zinc	33	33	100%	25	70.5	35	37	9.9	13	13	100%	11	480	80	120	120

Notes:
Concentration units in mg/kg

Appendix C
Statistical Analysis Outputs
Downwind River Mountain Volcanics

Comparison of TKM (Volcanic Units of Downwind Parcels) to BMI (2008 Supplemental) Soil Sample Data with Alternative Hypothesis (HA) that TKM is greater than BMI

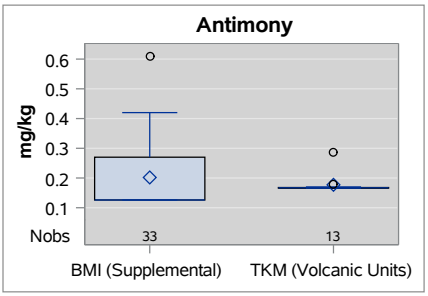
	Gilbert Toolbox (HA: TKM > BMI)					
Analyte	**Two-Sample t-Test**	**Gehan Test**	**Quantile Test (0.75)**	**Slippage Test**	**TKM Greater Than BMI?**	
Antimony	0.9496	0.9188	0.9855	1.0000	No	
Arsenic	0.9668	0.9766	0.6698	1.0000	No	
Cadmium	0.6796	0.5777	0.9262	1.0000	No	
Chromium (Total)	0.5856	0.6741	0.1432	1.0000	No	
Copper	***0.0226***	0.0385	***0.0000***	0.0754	***Yes***	
Lead	0.0572	0.0405	0.1432	***0.0188***	***Yes***	**2**
Manganese	0.9160	0.9215	0.6698	1.0000	No	
Selenium	***0.0002***	***0.0000***	***0.0000***	***0.0000***	***Yes***	**1**
Zinc	***0.0157***	***0.0000***	***0.0000***	***0.0000***	***Yes***	

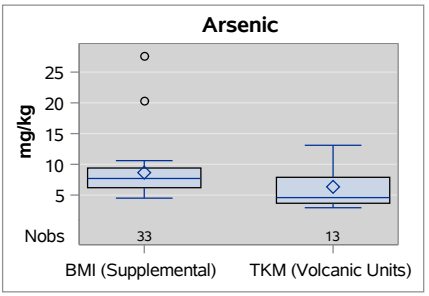
Notes:
HA = alternative hypothesis
p values in boldface indicate $p < 0.025$

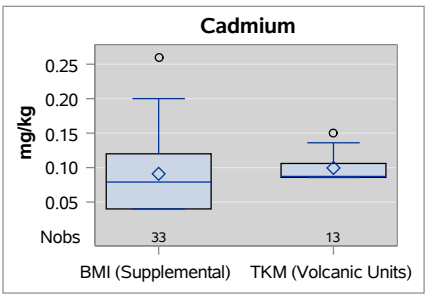
Background Qualifiers:
1 = Less than 25% frequency of detection (FOD) in either BMI or TMK data sets
2 = Failed Gilbert's Toolbox in only 1 out of 4 tests

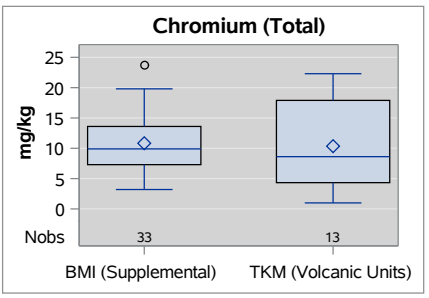
Appendix C
Statistical Analysis Outputs
Downwind River Mountain Volcanics

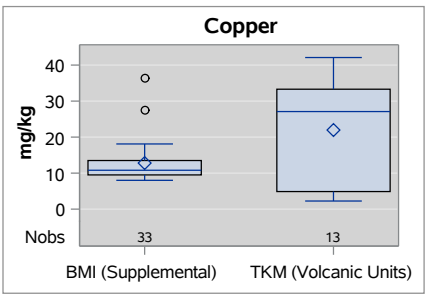
Box Plot Comparison of Metals in Soils from 2008 Supplemental (BMI) and Volcanic Units of Downwind Parcels

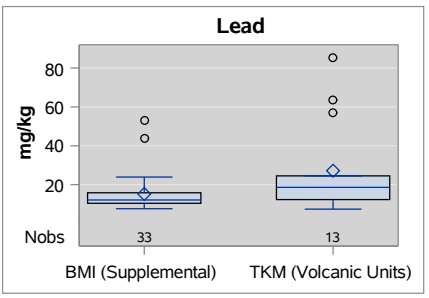


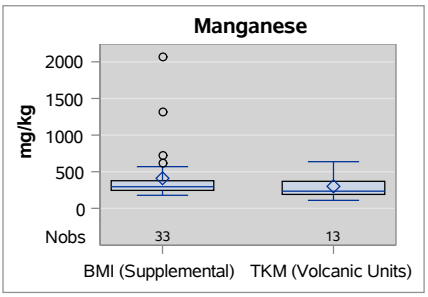


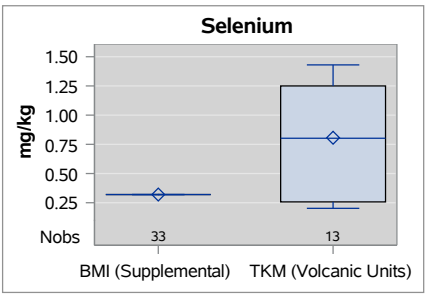


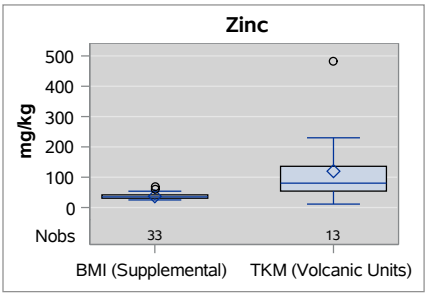






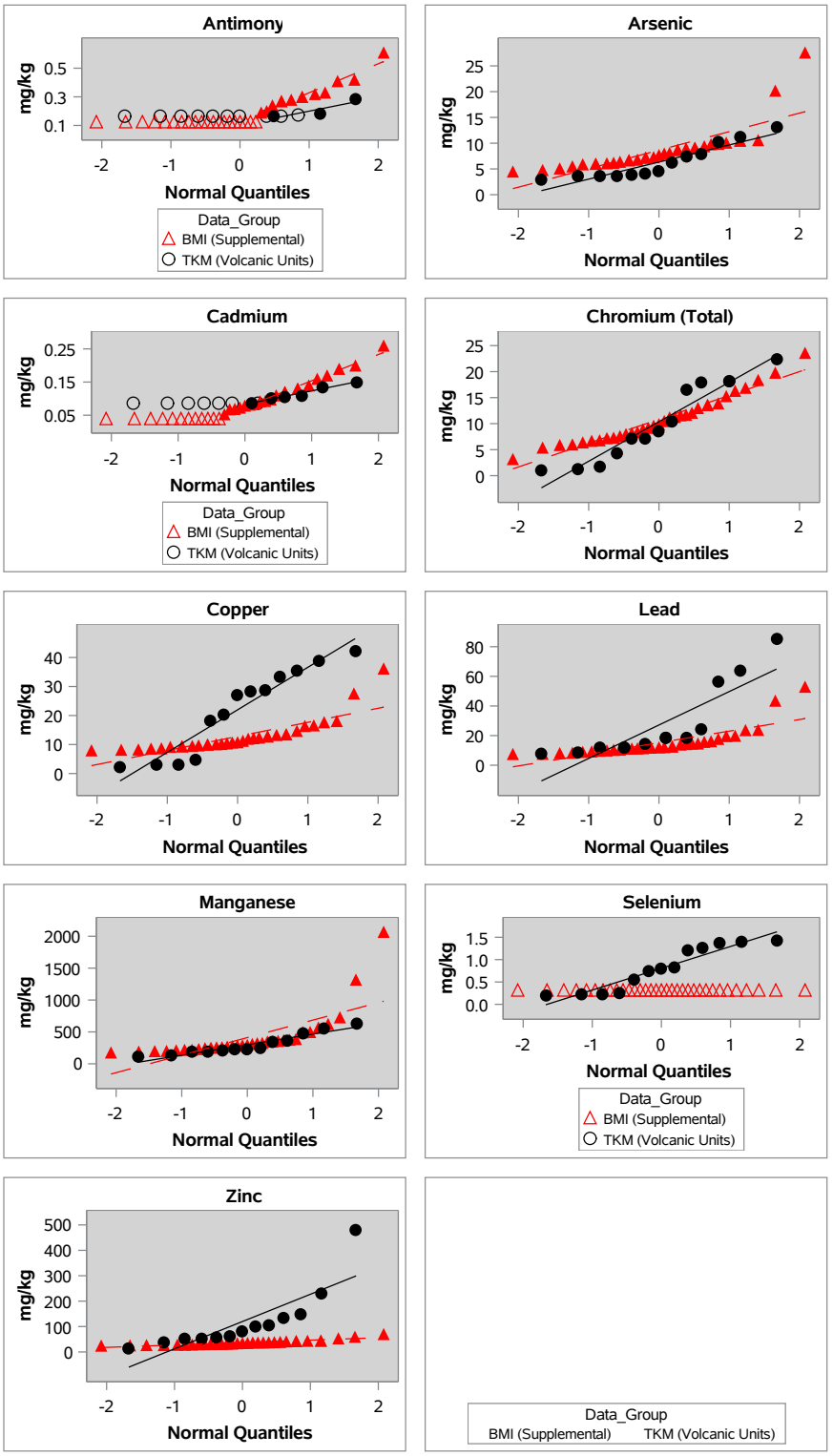






Appendix C
Statistical Analysis Outputs
Downwind River Mountain Volcanics

Q-Q Plots of Metals in Soils from 2008 Supplemental (BMI) and Volcanic Units of Downwind Parcels (TKM)



Note:

1. Non-detects displayed with open symbols.