

# **BACKGROUND SOIL COMPILATION REPORT**

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## **BMI COMPLEX AND COMMON AREAS CLARK COUNTY, NEVADA**

### **Prepared for:**

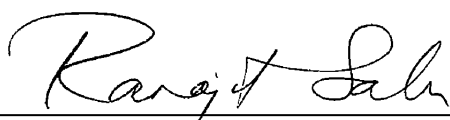
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**JANUARY 2010**

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.



January 11, 2010

Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2011)      Date  
BRC Project Manager

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- A NDEP Comments and BRC's Response to Comments [*Placeholder*]
- B Electronic Dataset and Report

## **ABBREVIATION AND ACRONYM LIST**

bgs	below ground surface
BMI	Basic Management, Inc.
BRC	Basic Remediation Company
DBSA	Daniel B Stevens & Associates
DOE	U.S. Department of Energy
DVSR	Data Validation Summary Report
Environ	Environ International Corporation
ERM	ERM-West, Inc.
NDEP	Nevada Division of Environmental Protection
QA/QC	quality assurance/quality control
Qal	Quaternary alluvium
QAPP	Quality Assurance Project Plan
SOP	standard operating procedure
TIMET	Titanium Metals Corporation
UMCf	Upper Muddy Creek formation
USEPA	U.S. Environmental Protection Agency

## 1.0 INTRODUCTION

On behalf of Basic Remediation Company (BRC), ERM-West, Inc. (ERM) has prepared this Background Soil Compilation Report applicable to the Basic Management, Inc. (BMI) Complex and Common Areas in Clark County, Nevada (Figure 1). As described in the *BRC Closure Plan* for the BMI Common Areas (BRC *et al.* 2007; hereinafter “Closure Plan”) residual chemical concentrations in BMI Common Areas (the properties east of Boulder Highway, hereinafter “Eastside” or “Site”) soils will be compared to background concentrations as part of the risk assessment for Site Closure. Soil data have been collected by BRC and others during various sampling events to establish background conditions for the Site and BMI Complex. This report presents each of the background datasets that have been collected, and that may be used for closure purposes for the Site.

The sole purpose of this report is to compile all of the various background investigations and datasets into a single document. It does provide general descriptive summary statistics for each of the stratigraphic units and depths profiles, as presented in each of the individual background investigation reports, but it does not present any comparative statistical analyses, nor does it suggest how and where these background datasets should be used. The user of these data should evaluate and select which is most appropriate for their particular site. In other words, data usability is the responsibility of the user of these data and is not discussed nor evaluated in this report.

This initial version of the Background Compilation Report incorporates comments received from the Nevada Division of Environmental Protection (NDEP) on previously submitted background investigation reports prepared for the Site. The NDEP comments and BRC’s response to these comments are not included; however, Appendix A is provided as a placeholder for potential future iterations of this report. An electronic version of the entire report, including original format files (MS Word and MS Excel) of all text and tables, as well as an electronic version of the background dataset are included in Appendix B.

## 2.0 BACKGROUND SOIL SAMPLING EVENTS

This section identifies the four field investigations during which background soil data relevant to the Site and BMI Complex were collected. These investigations are:

- A shallow background soil sampling event conducted in 2003 by Environ International Corporation (Environ) for the City of Henderson;
- A shallow background soil sampling event jointly conducted in 2005 by BRC and the Titanium Metals Corporation (TIMET);
- A supplemental shallow background soil sampling event conducted in 2008 by BRC; and
- A deep background soil sampling event conducted in 2008 by BRC.

These events are briefly described in the following sub-sections, and the associated sampling locations are depicted on Figures 2 and 3. The detection frequencies for metals and radionuclides<sup>1</sup> evaluated during each of these investigations are presented in Table 1. Detailed descriptions of the scope of work, sampling procedures, results, and data and statistical evaluations are provided in the associated reports listed in each section.

### 2.1 2003 CITY OF HENDERSON SAMPLING EVENT

During this sampling event, Environ collected samples from eight locations southwest of the Site (Figures 2 and 3, locations BG01 through BG08), in accordance with a March 2002 work plan submitted to NDEP. These sample locations are presumed reflective of sediments derived from McCullough Range and/or the River Mountains<sup>2</sup> as follows:

McCullough Range Source	River Mountain Source	Mixed Source
<ul style="list-style-type: none"><li>• BG01</li><li>• BG02</li><li>• BG03</li></ul>	<ul style="list-style-type: none"><li>• BG05</li><li>• BG06</li><li>• BG07</li><li>• BG08</li></ul>	<ul style="list-style-type: none"><li>• BG04</li></ul>

<sup>1</sup> With NDEP concurrence, the project list of analytes was reduced in 2007 from 35 radionuclides to the following eight: uranium-238, uranium-233/234, thorium-230, and radium-226 (Uranium-238 Decay Chain), thorium-232, radium-228, and thorium-228 (Thorium-232 Decay Chain) and uranium-235/236 (Uranium-235 Decay Chain). Only these radionuclides are included in this Background Soil Compilation Report (and electronic dataset).

<sup>2</sup> This distinction between the various presumed sources was not made at the time of the 2003 study, but was done as part of the 2007 report for the 2005 BRC/TIMET background investigation (see Section 2.2).

Samples from (1) the 0 to 1 foot bgs interval; and (2) a deeper interval (ranging from 3 to 4 feet bgs) were collected from each boring. Seventeen (17) independent samples were collected during this event. Sample analyses consisted of a suite of 24 metals<sup>3</sup> and 18 radionuclides. The scope and results of this field investigation were presented in Appendix E of *Risk Assessment for the Water Reclamation Facility Expansion Site, Henderson, Nevada* (Environ 2003).

As summarized in the report for the BRC/TIMET 2005 Shallow Soil Sampling Event (see Section 2.2 below), a quality assurance/quality control (QA/QC) review was conducted on this dataset by Neptune and Company (consultant for NDEP) upon direction by NDEP. It was not possible to conduct a full validation, as the analytical laboratory reports contained only QC summaries, and did not contain raw data, instrument calibration data, instrument reporting criteria, or internal standard data. Metals data were reviewed in accordance with the U.S. Environmental Protection Agency (USEPA) guidance document *U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004a). Neptune and Company used professional judgment and analytical method requirements for the radionuclide QA/QC review. The QA/QC review determined that the Environ dataset was usable for the intended purpose (*i.e.*, as background data) with the exception of the hexavalent chromium and radium-224, -226, and -228 data.

## 2.2 2005 SHALLOW BACKGROUND SOIL SAMPLING EVENT

This sampling event was conducted in accordance with the *Background Soil Sampling Workplan for BMI Common Areas and Complex Vicinity* (ERM and Tetra Tech 2005), which was approved with comments by the NDEP on May 27, 2005. That work plan was prepared and implemented jointly by BRC and TIMET, whose properties were located near each other and had similar geology and soil types. Since that time, TIMET has sold their property within the Eastside (the TIMET Ponds sub-area) to BRC. The scope and results of this field investigation, including a statistical analysis of the results, were presented in *Background Shallow Soil Summary Report – BMI Complex and Common Areas Vicinity* (BRC/TIMET 2007).

The general scope of work included the collection of soil samples from 11 locations on undeveloped properties upgradient of the Site (Figures 2 and 3, location IDs BRC-BKG-01 through -09, -11, and -12). These samples were analyzed for metals and radionuclides that are of

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<sup>3</sup> This suite of metals is a subset of those included in the list of Site-Related Chemicals that was subsequently established for the project (BRC *et al.* 2007).

interest at the Site. With the exception of location BRC-BKG-12, all of these locations are presumed reflective of sediments derived from the McCullough Range. BRC-BKG-12 is located at the junction of McCullough and River derived sediments. Three borings were advanced at each location, and samples representative of (1) the 0 to 0.5 foot bgs interval; (2) the 4 to 6 foot bgs interval; and (3) the 9 to 11 foot bgs interval were collected from each boring. A total of 104 independent samples<sup>4</sup> and three split samples were collected during this event.

Sample analyses consisted of a full suite of metals (43 individual constituents, including all the metals in the current Site-Related Chemical list) and radionuclides (35 isomers). These analytes and methods were consistent with the BRC and TIMET site-related chemicals list and analytical program previously established for the BMI Common Areas project (BRC *et al.* 2007) and the TIMET site (Tetra Tech 2004). All radionuclide analyses underwent full dissolution preparatory methods.

The data were subjected to a data review consisting of full validation for 10 percent of the dataset, and partial validation for the remaining 90 percent. The results of that data review were presented in *Background Shallow Soil Summary Report – BMI Complex and Common Areas Vicinity* (BRC/TIMET 2007); approved by NDEP on July 7, 2007. Metals data were validated in accordance with the USEPA guidance document *U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004a) and *Region 9 Superfund Data Evaluation/Validation Guidance* (USEPA 2001). USEPA has not standardized the validation of radionuclide data. Radionuclide validation was conducted using several documents, including the USEPA document *Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP)* (USEPA 2004b) the U.S. Department of Energy (DOE) reference document *Evaluation of Radiochemical Data Usability* (DOE 1997), and QC requirements and criteria summarized in the applicable methods.

### 2.3 2008 SUPPLEMENTAL SHALLOW BACKGROUND SOIL SAMPLING EVENT

This sampling event was conducted in accordance with the *Supplemental Background Shallow Soil Sampling and Analysis Plan – BMI Complex and Common Areas Vicinity, Clark County, Nevada* (BRC 2008), which was approved by the NDEP in March 2008. The purpose of this investigation was to collect and analyze data for metals and radionuclides in background shallow

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<sup>4</sup> Additional samples were collected at one location due to step-outs performed in response to the presence of a subsurface obstruction.

soils that are comparable to site soils in geologic units not covered by the 2005 background dataset described above, specifically, sediments derived from the River Mountains. The scope and results of this field investigation, including a statistical analysis of the results, were presented in *2008 Supplemental Shallow Soil Background Report - BMI Common Areas (Eastside), Clark County, Nevada* (BRC and ERM 2009a).

The scope of work included the collection of soil samples from 10 sampling locations adjacent to Lake Mead Parkway, on the south side of the roadway across from the Site. These 10 locations are shown on Figures 2 and 3 (location IDs BRC-BKG-R01 through -R10). Samples representative of (1) the 0 to 0.5 foot bgs interval; (2) the 4 to 6 foot bgs interval; and (3) the 9 to 11 foot bgs interval were collected from each boring. A total of 33 independent samples, including field duplicates, were collected during this event. The report entitled *Supplemental Shallow Background Data Set* (GES 2008), describes the drilling and sampling procedures, including detailed boring logs for each drilling location.

Sample analyses included a full suite of metals (38 individual metals) and eight radionuclides (radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238). These analytes and methods are consistent with the BRC site-related chemicals list and analytical program established in the *BRC Quality Assurance Project Plan* (QAPP; BRC and ERM 2009). All radionuclide analyses underwent full dissolution preparatory methods. All preparatory methods and analyses are consistent with the 2005 BRC/TIMET background dataset.

All of the data were subjected to a Level 3 review. In addition to the Level 3 review, 20 percent of all data collected during the course of the investigation were subjected to full Level 4 data validation. Level 3 and 4 reviews are provided in the *Data Validation Summary Report (DVSR)—2008 Supplemental Shallow Soil Background Sampling Event* (BRC and ERM 2008a; approved by NDEP on June 9, 2008). Metals data were validated in accordance with the USEPA guidance document *U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004a) and the data validation standard operating procedure (SOP-40; BRC, ERM and MWH 2009). USEPA has not standardized the validation of radionuclide data. Radionuclide results for supplemental shallow background soil samples were validated in accordance with SOP-40 (BRC, ERM and MWH 2009) and the project QAPP (BRC and ERM 2009b).

## 2.4 2008 DEEP BACKGROUND SOIL SAMPLING EVENT

This sampling event was conducted in accordance with the *Revised Work Plan for Determination of Deep Quaternary Alluvium and Upper Muddy Creek Formation Background Soil Chemistry and Upgradient Alluvial Aquifer Conditions – BMI Common Areas and Complex Vicinity* (Daniel B Stevens & Associates [DBSA] 2007), which was approved by the NDEP on June 12, 2007. The primary purpose of this investigation was to collect and analyze data for metals and radionuclides in background deep soils that are comparable to Site soils in geologic units and depths not covered by the existing *Background Shallow Soil Summary Report* (BRC/TIMET 2007) and *2008 Supplemental Shallow Soil Background Report* (BRC and ERM 2009a) datasets, which address shallower (0 to 10 feet below ground surface [bgs]) stratigraphic intervals. The results of this field investigation, including all statistical analyses, were presented in *2008 Deep Soil Background Report - BMI Common Areas (Eastside), Clark County, Nevada* (BRC and ERM 2009c).

This deep background study was primarily undertaken because 1) insufficient background chemical data exist to evaluate whether concentrations of certain Site-related chemicals in deeper Site samples statistically exceed concentrations of these chemicals in background soils, and 2) insufficient background chemical data exist for the Upper Muddy Creek formation (UMCf), which outcrops to the northeast of the Site. The UMCf is near the ground surface in certain areas of the Common Areas (*i.e.*, within the Western Hook sub-areas), but does not appear to outcrop within the Site. As presented in the two shallow background soil summary reports identified above (BRC/TIMET 2007; BRC and ERM 2009a), the existing datasets focused on shallow Quaternary alluvium (Qal) soils (*i.e.*, surface to 10 feet bgs) and did not include data for the UMCf.

The general scope of work included the collection of soil samples from 21 background areas upgradient of the BMI Complex and Common Areas and analysis of these samples for Site-related metals and radionuclides for determining background concentrations. These 21 locations (Figures 2 and 3) are within map units 117, 182, and 184 with presumed source material as follows:

McCullough Range Source	River Mountain Source	Mixed Source
<ul style="list-style-type: none"><li>• DBSA-01</li><li>• DBSA-02</li><li>• DBSA-03</li><li>• DBSA-04</li><li>• DBSA-08</li><li>• DBSA-09</li><li>• DBSA-10</li><li>• DBSA-11</li><li>• DBSA-13</li><li>• DBSA-14</li><li>• DBSA-15</li></ul>	<ul style="list-style-type: none"><li>• DBSA-23</li><li>• DBSA-26</li><li>• DBSA-27</li><li>• DBSA-29</li><li>• DBSA-30<sup>5</sup></li><li>• DBSA-32</li><li>• DBSA-33</li></ul>	<ul style="list-style-type: none"><li>• DBSA-17</li><li>• DBSA-20</li><li>• DBSA-21</li></ul>

The underlying UMCf was assumed to be the same unit across the study area, and all data collected from the UMCf were compiled into a single dataset.

Soil samples were collected at 10-foot intervals at 21 sampling locations, from surface soil (0 to 0.5 feet bgs), to a maximum of 160 feet bgs. Of these samples, a subset was submitted for laboratory analysis. A total of 173 soil samples were collected and analyzed for metals and radionuclides as part of this investigation. The report entitled *Deep Background Investigation Report* (GES 2007), describes the drilling and sampling procedures, including detailed boring logs for each drilling location.

Sample analyses included a full suite of metals (38 individual metals), and eight radionuclides (radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238). These analytes and methods are consistent with the BRC site-related chemicals list and analytical program previously established in the BRC QAPP (BRC and ERM 2009b). All radionuclide analyses underwent full dissolution preparatory methods. All preparatory methods and analyses are consistent with the 2005 BRC/TIMET background dataset.

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<sup>5</sup> Original interpretation of the boring log for DBSA-30 indicated that the UMCf contact was identified based on the presence of clay at 148 feet bgs—accordingly, the 130 and 140 ft bgs samples were assigned to Qal/River. However, further scrutiny of the boring log reveals that soils overlying the clay UMCf are clayey sands with distinct clay beds, and may represent transitional UMCf. Based on this and the observed similarity in metal concentrations in the 130 ft bgs, 140 ft bgs, 150 ft bgs, and 160 ft bgs samples, data associated with the 130 ft bgs and 140 ft bgs samples were re-assigned to the UMCf dataset.

All of the data were subjected to a Level 3 review. In addition to the Level 3 review, 20 percent of all data collected during the course of the investigation were subjected to full Level 4 data validation. Level 3 and 4 reviews are provided in the *Data Validation Summary Report (DVSr) - Deep Background Soil Investigation – August-October 2007 (Dataset 34c) – BMI Common Areas (Eastside), Clark County, Nevada* (BRC and ERM 2008b; approved by NDEP in June 25, 2008). Metals sample results were validated in accordance with *U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004a). USEPA has not standardized the validation of radionuclide data. Radionuclide results for deep background soil samples were validated in accordance with SOP-40 (BRC, ERM and MWH 2009) and the project QAPP (BRC and ERM 2009b).

### 3.0 BACKGROUND SOIL DATASETS

The data generated from the background investigations listed in Section 2 have been assigned to the following datasets:

Depth Interval	Unit	Sample Locations (Event)
Shallow Qal Soil (0 to 10 ft bgs)	McCullough	BG01 through BG03 (2003 Environ dataset) BRC-BKG-01 through -09 and BRC-BKG -11 (2005 Shallow event);
	River – South <sup>6</sup>	BG05 through BG08 (2003 Environ dataset)
	River – North <sup>6</sup>	BRC-BKG-R01 through –R10 (2008 Supplemental Shallow event)
	Mixed	BG04 (2003 Environ dataset) BRC-BKG-12 (2005 Shallow event)
Deep Qal Soil (> 10 ft bgs)	McCullough	Samples from DBSA-01 through -04, DBSA- 08 through -11, and DBSA-13 through -15 (2008 Deep Soil event)
	River	Samples from DBSA-23, DBSA-26 & -27, DBSA-29 & -30, and DBSA-32 & -33 (2008 Deep Soil event)
	Mixed	Samples from DBSA-17, DBSA-20 & -21 (2008 Deep Soil event)
UMCf	All Sources	Samples from DBSA-09, DBSA-11, DBSA- 17, DBSA-20, DBSA-21, DBSA-23, DBSA- 27, DBSA-30, DBSA-32, and DBSA-33 (2008 Deep Soil event)

General descriptive summary statistics for each of these datasets are presented in Tables 2 through 14. Appendix B contains an electronic version of all background data collected for the project. As noted in Section 1, the user of these data should evaluate and select which is most appropriate for their particular site. In other words, data usability is the responsibility of the user of these data and is not discussed nor evaluated in this report (except as noted in footnote 6 below).

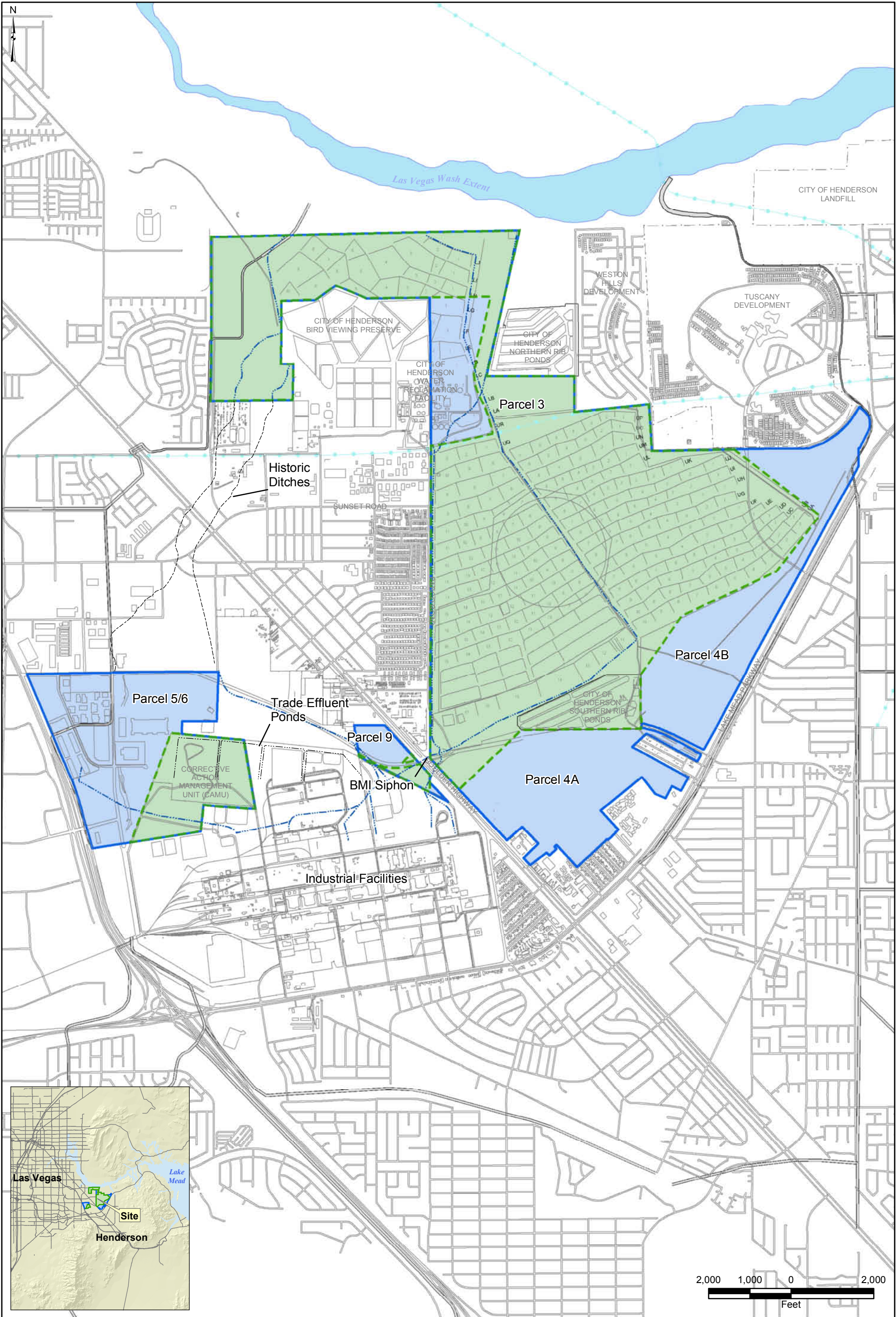
<sup>6</sup> As discussed in the 2008 supplemental background report, there were distinct differences observed between the 2005 and 2008 shallow River datasets. Although it may be appropriate to perform comparisons of background to Site data using either the 2008 (North) River or the 2005 (South) River datasets, given the proximity of the 2008 River dataset to the Site, this is considered the more appropriate dataset for comparison purposes. Future use of the 2005 (South) River dataset is considered unlikely. Therefore, this dataset is not included in the general descriptive summary statistics in Tables 2 through 14.



#### 4.0 REFERENCES

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## FIGURES



-  Site Soil Boundary
-  Site AOC3 Boundary

BMI Common Areas  
Clark County, Nevada

FIGURE 1  
SITE LOCATION MAP

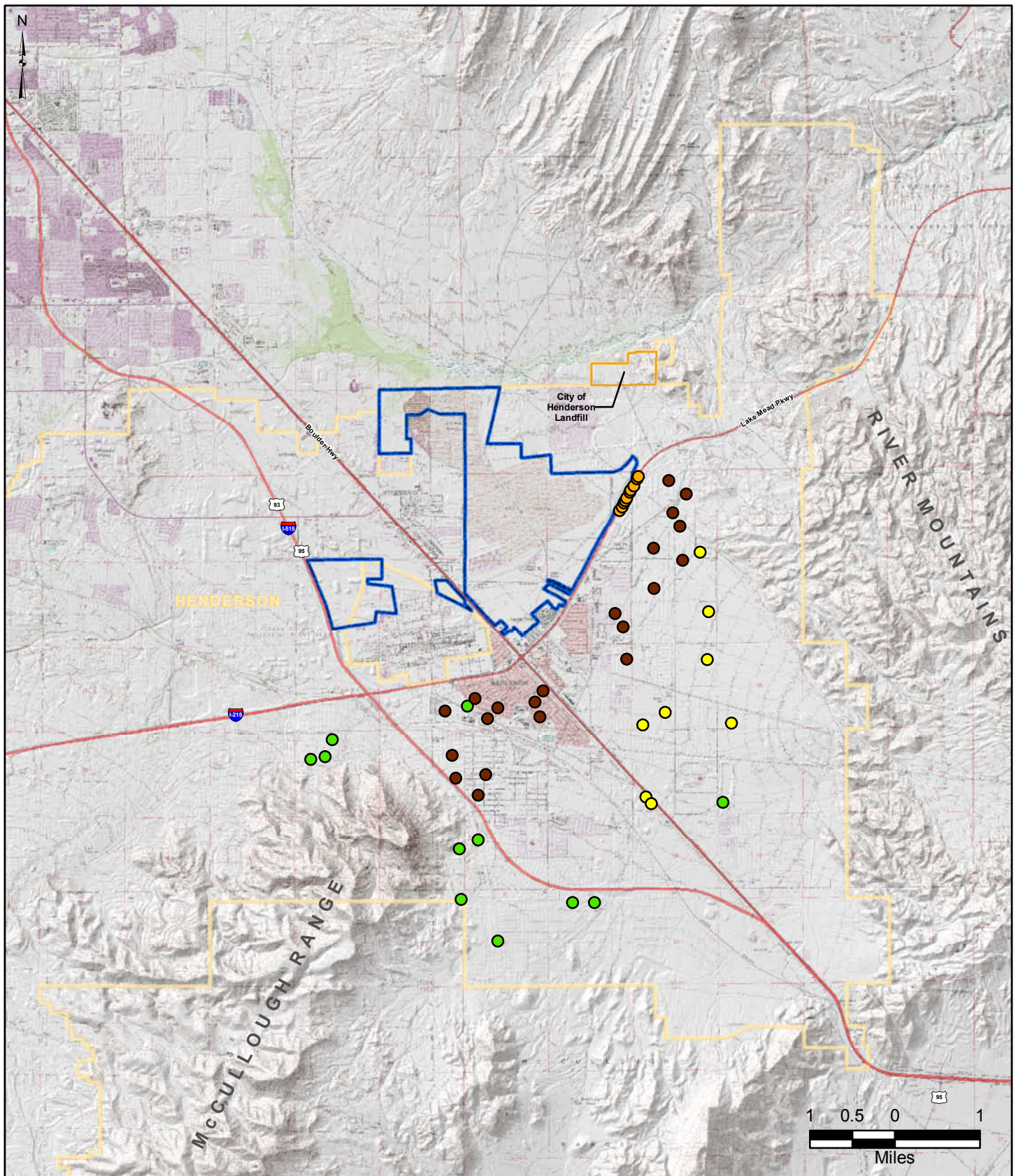








Prepared by  
MKJ (ERM)



Date  
01/11/10

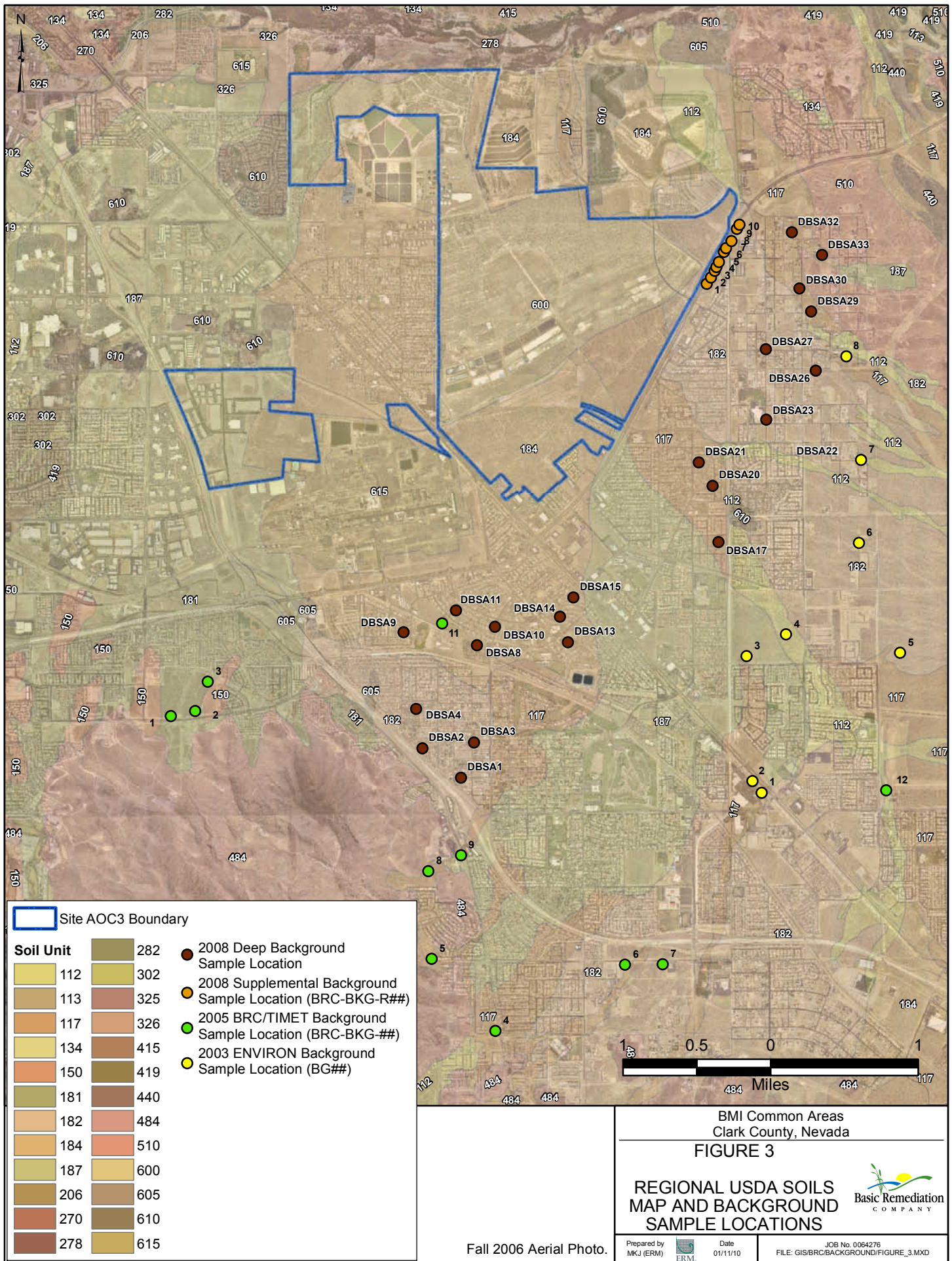
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FILE: GIS/BRC/BACKGROUND/FIGURE\_1.MXD



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|--|--|
|  Site AOC3 Boundary         |  2008 Deep Background Sample Location         |
|  City of Henderson Boundary |  2008 Supplemental Background Sample Location |
|  |  2005 BRC/TIMET Background Sample Location    |
|  |  2003 ENVIRON Background Sample Location      |

BMI Common Areas Clark County, Nevada <b>FIGURE 2</b>	
<b>REGIONAL TOPOGRAPHIC MAP AND BACKGROUND SAMPLE LOCATIONS</b>	
Prepared by MKJ (ERM)	Date 01/11/10
JOB No. 0064276 FILE: GIS/BRC/BACKGROUND/FIGURE_2.MXD	





## TABLES

**TABLE 1**  
**DATASET ANALYTE LIST AND DETECTION FREQUENCY**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
**(Page 1 of 1)**

Analyte Group	Analyte	2008 Deep (All Data)			2008 Supplemental Shallow			2005 BRC/TIMET Shallow <sup>a</sup>		
		Sample Size	No. of Detects	Detection Frequency	Sample Size	No. of Detects	Detection Frequency	Sample Size	No. of Detects	Detection Frequency
Metals (mg/kg)	Aluminum	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Antimony	163	155	95.1%	33	13	39.4%	120	49	40.8%
	Arsenic	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Barium	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Beryllium	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Boron	163	38	23.3%	33	15	45.5%	104	34	32.7%
	Cadmium	163	139	85.3%	33	21	63.6%	120	16	13.3%
	Calcium	163	163	100.0%	33	33	100.0%	104	104	100.0%
	Chloride	--	--	--	--	--	--	104	72	69.2%
	Chromium (Total)	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Chromium (VI)	158	38	24.1%	33	0	0.0%	104	0	0.0%
	Cobalt	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Copper	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Fluoride	--	--	--	--	--	--	104	13	12.5%
	Iron	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Lead	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Lithium	163	151	92.6%	33	6	18.2%	104	104	100.0%
	Magnesium	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Manganese	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Mercury	151	55	36.4%	33	0	0.0%	120	93	77.5%
	Molybdenum	163	140	85.9%	33	33	100.0%	120	120	100.0%
	Nickel	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Niobium	163	13	8.0%	33	1	3.0%	104	0	0.0%
	Nitrate	--	--	--	--	--	--	104	90	86.5%
	Nitrite	--	--	--	--	--	--	104	5	4.8%
	Palladium	163	163	100.0%	33	33	100.0%	104	104	100.0%
	Phosphorus	163	163	100.0%	33	33	100.0%	--	--	--
	Platinum	163	9	5.5%	33	0	0.0%	104	5	4.8%
	Potassium	163	163	100.0%	33	33	100.0%	104	104	100.0%
	Selenium	163	0	0.0%	33	0	0.0%	120	52	43.3%
	Silicon	163	163	100.0%	33	33	100.0%	104	104	100.0%
	Silver	163	163	100.0%	33	14	42.4%	120	104	13.3%
	Sodium	163	163	100.0%	33	33	100.0%	104	104	100.0%
	Strontium	163	163	100.0%	33	33	100.0%	104	81	100.0%
	Sulfate	--	--	--	--	--	--	104	42	77.9%
	Thallium	163	4	2.5%	33	6	18.2%	120	16	35.0%
	Tin	163	127	77.9%	33	16	48.5%	104	104	100.0%
	Titanium	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Tungsten	163	54	33.1%	33	2	6.1%	104	0	0.0%
	Uranium	163	163	100.0%	33	33	100.0%	103	103	100.0%
	Vanadium	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Zinc	163	163	100.0%	33	33	100.0%	120	120	100.0%
	Zirconium	163	147	90.2%	33	13	39.4%	104	104	100.0%
Radionuclides (pCi/g)	Radium 226	125	121	96.8%	33	31	93.9%	104	96	92.3%
	Radium 228	124	122	98.4%	33	28	84.8%	84	68	81.0%
	Thorium-228	159	159	100.0%	33	33	100.0%	120	120	100.0%
	Thorium-230	159	159	100.0%	33	27	81.8%	120	120	100.0%
	Thorium-232	159	159	100.0%	33	33	100.0%	120	120	100.0%
	Uranium-233/234	141	126	89.4%	33	33	100.0%	120	61	50.8%
	Uranium-235/236	141	111	78.7%	33	11	33.3%	120	54	45.0%
	Uranium-238	141	124	87.9%	33	33	100.0%	120	120	100.0%

**Notes:**

<sup>a</sup>Combined 2003 Environ and 2005 BRC/TIMET background datasets.

mg/kg milligrams per kilogram

pCi/g picocuries per gram

**TABLE 2**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal (ALL)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	284	100.0%	0	--	--	--	--	--	--	284	3740	7130	8750	8950	10600	15500
	Antimony	284	68.3%	90	0.0394	0.126	0.33	0.241	0.33	0.3298	194	0.089	0.14	0.175	0.199	0.23	0.61
	Arsenic	284	100.0%	0	--	--	--	--	--	--	284	2.1	3.6	4.8	5.43	6.58	27.6
	Barium	284	100.0%	0	--	--	--	--	--	--	284	73	143	204	273	366	1350
	Beryllium	284	100.0%	0	--	--	--	--	--	--	284	0.16	0.45	0.54	0.539	0.61	0.89
	Boron	276	29.0%	196	2.824	2.82	2.82	3.31	3.2	6.6	80	3	5.63	6.6	7.85	8.28	57
	Cadmium	284	52.8%	134	0.01	0.129	0.129	0.105	0.129	0.1291	150	0.034	0.077	0.0905	0.096	0.11	0.26
	Calcium	276	100.0%	0	--	--	--	--	--	--	276	0.43	18400	23700	25900	31000	82800
	Chromium (Total)	284	100.0%	0	--	--	--	--	--	--	284	1.1	8.4	10.1	10.4	12.1	24.2
	Chromium (VI)	272	13.2%	236	0.16	0.17	0.25	0.246	0.26	0.56	36	0.16	0.205	0.28	0.401	0.448	1.6
	Cobalt	284	100.0%	0	--	--	--	--	--	--	284	3.5	5.4	7.25	7.32	8.9	16.3
	Copper	284	100.0%	0	--	--	--	--	--	--	284	8	12.7	15.7	15.5	18.1	36.2
	Iron	284	100.0%	0	--	--	--	--	--	--	284	5410	10900	13200	13200	15500	22500
	Lead	284	100.0%	0	--	--	--	--	--	--	284	3	6.7	9	10.1	11.5	53
	Lithium	276	85.9%	39	1.4628	3.66	3.66	7.91	14.6	36.57	237	7.5	13.1	17.4	19.5	23.2	124
	Magnesium	284	100.0%	0	--	--	--	--	--	--	284	1550	7440	9120	9230	10800	17500
	Manganese	284	100.0%	0	--	--	--	--	--	--	284	87.5	267	344	369	449	2070
	Mercury	276	48.9%	141	0.00668	0.00668	0.00668	0.00678	0.00668	0.0072	135	0.007	0.01	0.0141	0.0182	0.021	0.11
	Molybdenum	284	92.3%	22	0.1046	0.105	0.105	0.105	0.105	0.1046	262	0.17	0.41	0.52	0.607	0.7	2.3
	Nickel	284	100.0%	0	--	--	--	--	--	--	284	7.9	12.5	14.9	14.8	16.5	30
	Niobium	276	4.7%	263	1.015	1.02	1.51	1.5	1.51	3	13	1.7	2.7	3	3.13	3.55	4.6
	Palladium	276	100.0%	0	--	--	--	--	--	--	276	0.14	0.36	0.54	0.596	0.778	2.2
	Phosphorus	276	100.0%	0	--	--	--	--	--	--	276	296	894	1240	1210	1490	2010
	Platinum	276	4.3%	264	0.02	0.0333	0.0323	0.0435	0.048	0.048	12	0.022	0.025	0.0455	0.0483	0.064	0.099
	Potassium	276	100.0%	0	--	--	--	--	--	--	276	625	1340	1750	2250	2630	12600
	Selenium	284	16.5%	237	0.0467	0.158	0.32	0.275	0.32	0.36	47	0.1	0.26	0.3	0.312	0.36	0.6
	Silicon	276	100.0%	0	--	--	--	--	--	--	276	109	436	684	811	916	7480
	Silver	284	56.7%	123	0.11	0.261	0.261	0.238	0.261	0.2609	161	0.043	0.0875	0.12	0.198	0.19	2.2
	Sodium	276	100.0%	0	--	--	--	--	--	--	276	111	418	703	831	1030	4210
	Strontium	276	100.0%	0	--	--	--	--	--	--	276	69	177	243	265	319	808
	Thallium	284	15.5%	240	0.2	0.2	0.2	0.323	0.543	0.5428	44	0.12	0.355	1.1	0.968	1.48	2
	Tin	276	81.9%	50	0.0526	0.0526	0.0526	0.14	0.3	0.3	226	0.2	0.41	0.51	0.497	0.57	1
	Titanium	284	100.0%	0	--	--	--	--	--	--	284	200	447	545	551	659	1010
	Tungsten	276	18.5%	225	0.0175	0.0175	0.2	0.157	0.2	0.5	51	0.19	0.26	0.33	0.447	0.46	3.6
	Uranium	275	100.0%	0	--	--	--	--	--	--	275	0.43	0.9	1.1	1.21	1.4	4.3
	Vanadium	284	100.0%	0	--	--	--	--	--	--	284	19	31.1	37.1	38.2	43.9	73.3
	Zinc	284	100.0%	0	--	--	--	--	--	--	284	15.4	30.5	34.2	35.9	40.2	121
	Zirconium	276	87.0%	36	0.5	0.5	0.8	0.668	0.8	0.8	240	7.7	19.6	27.9	66.5	120	179
Radionuclides (pCi/g)	Radium-226	244	99.2%	2	--	--	--	--	--	--	242	0.153	0.941	1.16	1.24	1.51	2.75
	Radium-228	223	97.3%	6	--	--	--	--	--	--	217	0.452	1.28	1.53	1.61	1.94	2.94
	Thorium-228	280	100.0%	0	--	--	--	--	--	--	280	0.944	1.45	1.66	1.68	1.9	3.37
	Thorium-230	280	97.9%	6	--	--	--	--	--	--	274	0.552	1.03	1.29	1.36	1.6	3.64
	Thorium-232	280	100.0%	0	--	--	--	--	--	--	280	0.898	1.37	1.52	1.55	1.74	2.8
	Uranium-233/234	266	97.4%	7	--	--	--	--	--	--	259	0.47	0.95	1.18	1.32	1.61	4.78
	Uranium-235/236	266	59.4%	108	--	--	--	--	--	--	158	-0.000681	0.042	0.059	0.066	0.0832	0.241
	Uranium-238	266	97.0%	8	--	--	--	--	--	--	258	0.545	0.94	1.14	1.24	1.47	4.01

**Notes:**

mg/kg     milligrams per kilogram  
 Max       maximum concentration  
 Min       minimum concentration  
 pCi/g     picocuries per gram  
 Q1        1st quartile (25th percentile)  
 Q3        3rd quartile (75th percentile)

**TABLE 3**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal (SHALLOW)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	145	100.0%	0	--	--	--	--	--	--	145	3740	6700	8620	9090	11400	15500
	Antimony	145	42.8%	83	0.0394	0.126	0.33	0.253	0.33	0.3298	62	0.12	0.17	0.235	0.256	0.32	0.61
	Arsenic	145	100.0%	0	--	--	--	--	--	--	145	2.1	3.55	4.4	5.2	6	27.6
	Barium	145	100.0%	0	--	--	--	--	--	--	145	73	152	211	269	323	836
	Beryllium	145	100.0%	0	--	--	--	--	--	--	145	0.16	0.42	0.5	0.543	0.665	0.89
	Boron	137	35.8%	88	3.2	3.2	3.2	3.9	3.2	6.6	49	5.2	6.05	7.5	8.99	8.95	57
	Cadmium	145	20.0%	116	0.04	0.129	0.129	0.12	0.129	0.1291	29	0.053	0.0885	0.11	0.119	0.14	0.26
	Calcium	137	100.0%	0	--	--	--	--	--	--	137	3430	18000	24500	28100	35400	82800
	Chromium (Total)	145	100.0%	0	--	--	--	--	--	--	145	2.6	7.05	9.1	9.43	11.5	23.6
	Chromium (VI)	137	0.0%	137	0.25	0.255	0.26	0.302	0.295	0.56	0	--	--	--	--	--	--
	Cobalt	145	100.0%	0	--	--	--	--	--	--	145	3.7	5.4	7.5	7.71	9.5	16.3
	Copper	145	100.0%	0	--	--	--	--	--	--	145	8	13	16.7	16.5	19.6	36.2
	Iron	145	100.0%	0	--	--	--	--	--	--	145	5410	9500	12400	12400	14900	21700
	Lead	145	100.0%	0	--	--	--	--	--	--	145	3	6.6	8.9	10.3	11.6	53
	Lithium	137	80.3%	27	3.657	3.66	7.31	9.89	14.6	36.57	110	7.5	10.9	13.1	14.9	17.3	41.8
	Magnesium	145	100.0%	0	--	--	--	--	--	--	145	1550	7050	9190	9420	11700	17500
	Manganese	145	100.0%	0	--	--	--	--	--	--	145	151	303	398	422	491	2070
	Mercury	145	58.6%	60	0.00668	0.00668	0.00668	0.00691	0.0072	0.0072	85	0.0084	0.012	0.017	0.0218	0.027	0.11
	Molybdenum	145	100.0%	0	--	--	--	--	--	--	145	0.17	0.415	0.52	0.616	0.72	2.3
	Nickel	145	100.0%	0	--	--	--	--	--	--	145	7.9	11.4	14.8	14.8	17.5	30
	Niobium	137	0.7%	136	1.015	1.02	1.02	1.48	1.02	3	1	4.6	--	4.6	4.6	--	4.6
	Palladium	137	100.0%	0	--	--	--	--	--	--	137	0.14	0.315	0.47	0.54	0.72	1.6
	Phosphorus	137	100.0%	0	--	--	--	--	--	--	137	296	943	1300	1270	1600	2010
	Platinum	137	3.6%	132	0.0435	0.0435	0.0435	0.0446	0.0469	0.048	5	0.045	0.0545	0.064	0.0708	0.0905	0.099
	Potassium	137	100.0%	0	--	--	--	--	--	--	137	625	1280	1750	2160	2520	9000
	Selenium	145	32.4%	98	0.0467	0.158	0.158	0.211	0.32	0.32	47	0.1	0.26	0.3	0.312	0.36	0.6
	Silicon	137	100.0%	0	--	--	--	--	--	--	137	335	609	798	1090	1220	7480
	Silver	145	15.2%	123	0.11	0.261	0.261	0.238	0.261	0.2609	22	0.043	0.0555	0.0725	0.081	0.087	0.17
	Sodium	137	100.0%	0	--	--	--	--	--	--	137	111	292	568	748	878	4210
	Strontium	137	100.0%	0	--	--	--	--	--	--	137	69	148	219	264	363	808
	Thallium	145	27.6%	105	0.3	0.3	0.543	0.48	0.543	0.5428	40	0.12	0.443	1.15	1.04	1.5	2
	Tin	137	86.9%	18	0.187	0.3	0.3	0.294	0.3	0.3	119	0.2	0.39	0.48	0.48	0.56	1
	Titanium	145	100.0%	0	--	--	--	--	--	--	145	200	378	495	498	594	1010
	Tungsten	137	1.5%	135	0.0175	0.0175	0.0175	0.128	0.0175	0.5	2	0.96	--	0.98	0.98	--	1
	Uranium	136	100.0%	0	--	--	--	--	--	--	136	0.43	0.793	0.94	1.04	1.1	4.3
	Vanadium	145	100.0%	0	--	--	--	--	--	--	145	19	28.1	34.2	35.3	42	59.1
	Zinc	145	100.0%	0	--	--	--	--	--	--	145	15.4	29.4	37.3	37.5	43.2	121
	Zirconium	137	85.4%	20	0.8	0.8	0.8	0.8	0.8	0.8	117	9.1	103	121	114	142	179
Radionuclides (pCi/g)	Radium-226	137	98.5%	2	--	--	--	--	--	--	135	0.153	0.875	1.06	1.11	1.27	2.75
	Radium-228	117	95.7%	5	--	--	--	--	--	--	112	0.573	1.43	1.86	1.81	2.11	2.94
	Thorium-228	145	100.0%	0	--	--	--	--	--	--	145	1.1	1.46	1.72	1.73	1.93	3.37
	Thorium-230	145	95.9%	6	--	--	--	--	--	--	139	0.66	1.01	1.2	1.31	1.5	3.64
	Thorium-232	145	100.0%	0	--	--	--	--	--	--	145	1.05	1.4	1.57	1.61	1.8	2.8
	Uranium-233/234	145	100.0%	0	--	--	--	--	--	--	145	0.47	0.85	1.04	1.21	1.31	4.78
	Uranium-235/236	145	42.1%	84	--	--	--	--	--	--	61	0.0009	0.0475	0.064	0.0761	0.0987	0.241
	Uranium-238	145	100.0%	0	--	--	--	--	--	--	145	0.545	0.86	1.02	1.13	1.26	4.01

**Notes:**

mg/kg    milligrams per kilogram  
 Max    maximum concentration  
 Min    minimum concentration  
 pCi/g    picocuries per gram  
 Q1    1st quartile (25th percentile)  
 Q3    3rd quartile (75th percentile)

**TABLE 4**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal (DEEP)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	139	100.0%	0	--	--	--	--	--	--	139	5060	7600	8780	8810	9920	15100
	Antimony	139	95.0%	7	0.1046	0.105	0.105	0.105	0.105	0.1046	132	0.089	0.14	0.16	0.172	0.2	0.37
	Arsenic	139	100.0%	0	--	--	--	--	--	--	139	2.2	3.7	5.4	5.66	7.3	13.9
	Barium	139	100.0%	0	--	--	--	--	--	--	139	84.7	134	191	278	399	1350
	Beryllium	139	100.0%	0	--	--	--	--	--	--	139	0.29	0.49	0.54	0.534	0.59	0.73
	Boron	139	22.3%	108	2.824	2.82	2.82	2.82	2.82	2.824	31	3	4.5	5.8	6.05	6.4	24.1
	Cadmium	139	87.1%	18	0.01	0.01	0.01	0.01	0.01	0.01	121	0.034	0.076	0.086	0.0904	0.105	0.16
	Calcium	139	100.0%	0	--	--	--	--	--	--	139	0.43	18700	23200	23800	29100	46600
	Chromium (Total)	139	100.0%	0	--	--	--	--	--	--	139	1.1	9.5	10.6	11.4	13.1	24.2
	Chromium (VI)	135	26.7%	99	0.16	0.17	0.17	0.169	0.17	0.2	36	0.16	0.205	0.28	0.401	0.448	1.6
	Cobalt	139	100.0%	0	--	--	--	--	--	--	139	3.5	5.4	7	6.91	7.9	12.9
	Copper	139	100.0%	0	--	--	--	--	--	--	139	8	12.3	15.4	14.5	16.7	24
	Iron	139	100.0%	0	--	--	--	--	--	--	139	7250	11900	14100	14100	15800	22500
	Lead	139	100.0%	0	--	--	--	--	--	--	139	4.9	6.8	9	9.92	11.4	35.1
	Lithium	139	91.4%	12	1.4628	3.66	3.66	3.47	3.66	3.657	127	7.5	17.4	20.8	23.4	26.4	124
	Magnesium	139	100.0%	0	--	--	--	--	--	--	139	4990	7700	9040	9030	10200	13900
	Manganese	139	100.0%	0	--	--	--	--	--	--	139	87.5	246	297	314	368	836
	Mercury	131	38.2%	81	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	50	0.007	0.00848	0.0102	0.012	0.0144	0.0254
	Molybdenum	139	84.2%	22	0.1046	0.105	0.105	0.105	0.105	0.1046	117	0.26	0.4	0.52	0.595	0.68	1.9
	Nickel	139	100.0%	0	--	--	--	--	--	--	139	8.5	13.5	14.9	14.8	15.9	27.5
	Niobium	139	8.6%	127	1.5118	1.51	1.51	1.51	1.51	1.5118	12	1.7	2.65	3	3.01	3.48	3.8
	Palladium	139	100.0%	0	--	--	--	--	--	--	139	0.2	0.43	0.61	0.651	0.8	2.2
	Phosphorus	139	100.0%	0	--	--	--	--	--	--	139	511	892	1180	1150	1410	1930
	Platinum	139	5.0%	132	0.02	0.02	0.02	0.02	0.02	0.023	7	0.022	0.023	0.025	0.0323	0.046	0.049
	Potassium	139	100.0%	0	--	--	--	--	--	--	139	850	1380	1750	2330	2720	12600
	Selenium	139	0.0%	139	0.32	0.32	0.32	0.32	0.32	0.36	0	--	--	--	--	--	--
	Silicon	139	100.0%	0	--	--	--	--	--	--	139	109	249	510	536	766	1340
	Silver	139	100.0%	0	--	--	--	--	--	--	139	0.046	0.097	0.13	0.216	0.2	2.2
	Sodium	139	100.0%	0	--	--	--	--	--	--	139	235	567	781	912	1100	3250
	Strontium	139	100.0%	0	--	--	--	--	--	--	139	123	206	249	266	300	793
	Thallium	139	2.9%	135	0.2	0.2	0.2	0.2	0.2	0.23	4	0.15	0.163	0.21	0.228	0.31	0.34
	Tin	139	77.0%	32	0.0526	0.0526	0.0526	0.0528	0.0526	0.059	107	0.25	0.47	0.53	0.515	0.58	0.78
	Titanium	139	100.0%	0	--	--	--	--	--	--	139	309	512	595	606	691	912
	Tungsten	139	35.3%	90	0.2	0.2	0.2	0.2	0.2	0.23	49	0.19	0.26	0.33	0.426	0.445	3.6
	Uranium	139	100.0%	0	--	--	--	--	--	--	139	0.64	1.1	1.3	1.37	1.5	2.8
	Vanadium	139	100.0%	0	--	--	--	--	--	--	139	24.6	34.7	39.5	41.1	45.3	73.3
	Zinc	139	100.0%	0	--	--	--	--	--	--	139	18.1	30.7	33.2	34.1	36.4	68.2
	Zirconium	139	88.5%	16	0.5	0.5	0.5	0.504	0.5	0.56	123	7.7	16.8	21.9	21.6	26.4	33.9
Radionuclides (pCi/g)	Radium-226	107	100.0%	0	--	--	--	--	--	--	107	0.394	1.02	1.37	1.4	1.77	2.29
	Radium-228	106	99.1%	1	--	--	--	--	--	--	105	0.452	1.19	1.39	1.4	1.57	2.31
	Thorium-228	135	100.0%	0	--	--	--	--	--	--	135	0.944	1.45	1.62	1.64	1.83	2.3
	Thorium-230	135	100.0%	0	--	--	--	--	--	--	135	0.552	1.06	1.39	1.42	1.72	2.72
	Thorium-232	135	100.0%	0	--	--	--	--	--	--	135	0.898	1.34	1.49	1.49	1.65	2.01
	Uranium-233/234	121	94.2%	7	--	--	--	--	--	--	114	0.641	1.12	1.41	1.44	1.69	2.63
	Uranium-235/236	121	80.2%	24	--	--	--	--	--	--	97	-0.000681	0.0371	0.0496	0.0538	0.0751	0.116
	Uranium-238	121	93.4%	8	--	--	--	--	--	--	113	0.57	1.06	1.3	1.37	1.57	2.79

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 5**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – UMCF**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	24	100.0%	0	--	--	--	--	--	--	24	3190	7100	9340	9850	13400	19700
	Antimony	24	95.8%	1	0.1046	--	0.105	0.105	--	0.1046	23	0.066	0.14	0.16	0.175	0.19	0.34
	Arsenic	24	100.0%	0	--	--	--	--	--	--	24	2.1	4.9	7.7	8.8	11.5	24.8
	Barium	24	100.0%	0	--	--	--	--	--	--	24	64.5	141	203	264	386	620
	Beryllium	24	100.0%	0	--	--	--	--	--	--	24	0.17	0.355	0.59	0.557	0.693	1.1
	Boron	24	29.2%	17	2.824	2.82	2.82	2.87	2.82	3.53	7	4.4	6	21.5	16.1	22.5	22.9
	Cadmium	24	75.0%	6	0.01	0.01	0.01	0.01	0.01	0.01	18	0.06	0.0833	0.11	0.109	0.123	0.2
	Calcium	24	100.0%	0	--	--	--	--	--	--	24	4190	14600	22200	22600	31900	38600
	Chromium (Total)	24	100.0%	0	--	--	--	--	--	--	24	2.9	5.7	13.2	13.2	17.7	27.9
	Chromium (VI)	23	8.7%	21	0.16	0.16	0.18	0.18	0.19	0.21	2	0.18	--	0.185	0.185	--	0.19
	Cobalt	24	100.0%	0	--	--	--	--	--	--	24	1.6	2.6	6.45	5.8	8.33	9.7
	Copper	24	100.0%	0	--	--	--	--	--	--	24	4.1	5.85	13.8	12.2	16	21.3
	Iron	24	100.0%	0	--	--	--	--	--	--	24	3620	6940	12800	12600	17400	20100
	Lead	24	100.0%	0	--	--	--	--	--	--	24	4.4	8.63	11.3	10.8	13.1	16.1
	Lithium	24	100.0%	0	--	--	--	--	--	--	24	18.3	23.3	32.3	52.6	47.1	189
	Magnesium	24	100.0%	0	--	--	--	--	--	--	24	2780	7150	10300	11300	13600	31000
	Manganese	24	100.0%	0	--	--	--	--	--	--	24	126	167	295	307	378	786
	Mercury	20	25.0%	15	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	5	0.008	0.00825	0.0101	0.01	0.0117	0.012
	Molybdenum	24	95.8%	1	0.1046	--	0.105	0.105	--	0.1046	23	0.12	0.32	0.51	0.523	0.65	1.1
	Nickel	24	100.0%	0	--	--	--	--	--	--	24	4.5	7.05	14.4	13.7	16.2	30.9
	Niobium	24	4.2%	23	1.5118	1.51	1.51	1.53	1.51	1.88975	1	4	--	4	4	--	4
	Palladium	24	100.0%	0	--	--	--	--	--	--	24	0.16	0.303	0.615	0.55	0.74	1
	Phosphorus	24	100.0%	0	--	--	--	--	--	--	24	299	562	843	794	1030	1370
	Platinum	24	8.3%	22	0.02	0.02	0.02	0.0202	0.02	0.025	2	0.027	--	0.03	0.03	--	0.033
	Potassium	24	100.0%	0	--	--	--	--	--	--	24	1030	2170	2820	3070	3580	6190
	Selenium	24	0.0%	24	0.32	0.32	0.32	0.323	0.32	0.4	0	--	--	--	--	--	--
	Silicon	24	100.0%	0	--	--	--	--	--	--	24	188	222	304	373	452	1000
	Silver	24	100.0%	0	--	--	--	--	--	--	24	0.051	0.0805	0.14	0.21	0.275	0.82
	Sodium	24	100.0%	0	--	--	--	--	--	--	24	259	367	460	610	883	1200
	Strontium	24	100.0%	0	--	--	--	--	--	--	24	68.5	172	224	207	250	324
	Thallium	24	0.0%	24	0.2	0.2	0.2	0.202	0.2	0.25	0	--	--	--	--	--	--
	Tin	24	83.3%	4	0.0526	0.0526	0.0526	0.0526	0.0526	0.0526	20	0.24	0.345	0.6	0.557	0.728	0.96
	Titanium	24	100.0%	0	--	--	--	--	--	--	24	175	262	565	503	612	1000
	Tungsten	24	20.8%	19	0.2	0.2	0.2	0.203	0.2	0.25	5	0.26	0.265	0.33	0.38	0.52	0.58
	Uranium	24	100.0%	0	--	--	--	--	--	--	24	0.31	0.793	1.15	1.27	1.58	4.4
	Vanadium	24	100.0%	0	--	--	--	--	--	--	24	10	13.6	33.4	30.6	41.9	45.8
	Zinc	24	100.0%	0	--	--	--	--	--	--	24	16.1	22	33.7	33.7	40.2	61.3
	Zirconium	24	100.0%	0	--	--	--	--	--	--	24	6.2	14.8	18	19.7	25.1	36.7
Radionuclides (pCi/g)	Radium-226	18	77.8%	4	--	--	--	--	--	--	14	0.754	0.888	1	1.04	1.1	1.63
	Radium-228	18	94.4%	1	--	--	--	--	--	--	17	0.989	1.08	1.26	1.25	1.37	1.55
	Thorium-228	24	100.0%	0	--	--	--	--	--	--	24	1.01	1.18	1.34	1.38	1.51	2.15
	Thorium-230	24	100.0%	0	--	--	--	--	--	--	24	0.495	0.846	0.979	1.02	1.15	2.09
	Thorium-232	24	100.0%	0	--	--	--	--	--	--	24	0.966	1.19	1.3	1.34	1.47	2.05
	Uranium-233/234	20	60.0%	8	--	--	--	--	--	--	12	0.626	1	1.02	1.11	1.22	1.81
	Uranium-235/236	20	70.0%	6	--	--	--	--	--	--	14	0.0112	0.0212	0.039	0.0426	0.0557	0.101
	Uranium-238	20	55.0%	9	--	--	--	--	--	--	11	0.839	1	1	1.1	1.19	1.75

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1        1st quartile (25th percentile)  
 Q3        3rd quartile (75th percentile)

**TABLE 6**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal McCULLOUGH (ALL)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	180	100.0%	0	--	--	--	--	--	--	180	3740	6970	8720	8940	10700	15300
	Antimony	180	64.4%	64	0.0394	0.33	0.33	0.281	0.33	0.3298	116	0.089	0.13	0.16	0.183	0.2	0.5
	Arsenic	180	100.0%	0	--	--	--	--	--	--	180	2.1	3.2	3.9	4.23	4.9	13.1
	Barium	180	100.0%	0	--	--	--	--	--	--	180	73	125	158	171	200	539
	Beryllium	180	100.0%	0	--	--	--	--	--	--	180	0.16	0.49	0.55	0.57	0.64	0.89
	Boron	174	31.0%	120	2.824	2.82	3.2	3.02	3.2	3.2	54	3	5.48	6.1	6.46	7.53	11.6
	Cadmium	180	43.9%	101	0.01	0.129	0.129	0.122	0.129	0.1291	79	0.05	0.076	0.084	0.0892	0.1	0.16
	Calcium	174	100.0%	0	--	--	--	--	--	--	174	9440	18800	24500	27200	31900	82800
	Chromium (Total)	180	100.0%	0	--	--	--	--	--	--	180	2.6	8.1	9.7	9.73	11.5	16.7
	Chromium (VI)	175	10.3%	157	0.16	0.17	0.25	0.223	0.26	0.32	18	0.18	0.2	0.255	0.409	0.393	1.6
	Cobalt	180	100.0%	0	--	--	--	--	--	--	180	3.7	6.93	8	8.28	9.5	16.3
	Copper	180	100.0%	0	--	--	--	--	--	--	180	8.8	14.8	16.7	17	19	25.9
	Iron	180	100.0%	0	--	--	--	--	--	--	180	5410	12300	14200	14100	16100	22500
	Lead	180	100.0%	0	--	--	--	--	--	--	180	3	6.3	7.25	8.02	9	35.1
	Lithium	174	93.1%	12	1.4628	3.66	3.66	3.47	3.66	3.657	162	7.5	11.9	15.4	16.6	18.8	124
	Magnesium	180	100.0%	0	--	--	--	--	--	--	180	4690	8590	9710	9910	11500	17500
	Manganese	180	100.0%	0	--	--	--	--	--	--	180	151	294	370	384	460	863
	Mercury	180	63.3%	66	0.00668	0.00668	0.00668	0.00685	0.0072	0.0072	114	0.0072	0.011	0.0149	0.0193	0.0224	0.11
	Molybdenum	180	90.6%	17	0.1046	0.105	0.105	0.105	0.105	0.1046	163	0.17	0.42	0.51	0.585	0.66	2
	Nickel	180	100.0%	0	--	--	--	--	--	--	180	7.9	13.8	15.5	15.8	17.4	30
	Niobium	174	3.4%	168	1.015	1.02	1.02	1.23	1.51	1.5118	6	1.7	2.68	3.35	3.12	3.58	3.8
	Palladium	174	100.0%	0	--	--	--	--	--	--	174	0.16	0.338	0.49	0.567	0.73	2.2
	Phosphorus	174	100.0%	0	--	--	--	--	--	--	174	649	1240	1430	1430	1590	2010
	Platinum	174	6.9%	162	0.02	0.02	0.0435	0.0331	0.0435	0.0435	12	0.022	0.025	0.0455	0.0483	0.064	0.099
	Potassium	174	100.0%	0	--	--	--	--	--	--	174	625	1240	1470	1640	1900	3890
	Selenium	180	21.7%	141	0.1579	0.158	0.32	0.249	0.32	0.32	39	0.1	0.26	0.3	0.306	0.35	0.6
	Silicon	174	100.0%	0	--	--	--	--	--	--	174	139	478	689	818	903	4150
	Silver	180	47.2%	95	0.2609	0.261	0.261	0.261	0.261	0.2609	85	0.043	0.105	0.14	0.237	0.195	2.2
	Sodium	174	100.0%	0	--	--	--	--	--	--	174	128	434	661	664	826	3250
	Strontium	174	100.0%	0	--	--	--	--	--	--	174	75.5	168	224	252	300	808
	Thallium	180	17.2%	149	0.2	0.2	0.2	0.37	0.543	0.5428	31	0.13	0.32	1.2	1.04	1.5	1.8
	Tin	174	98.3%	3	0.0526	0.0526	0.0526	0.0526	0.0526	0.0526	171	0.24	0.45	0.53	0.521	0.59	0.8
	Titanium	180	100.0%	0	--	--	--	--	--	--	180	262	505	602	608	700	1010
	Tungsten	174	14.4%	149	0.0175	0.0175	0.0175	0.0836	0.2	0.2	25	0.19	0.27	0.31	0.454	0.375	3.6
	Uranium	173	100.0%	0	--	--	--	--	--	--	173	0.62	0.94	1.2	1.27	1.4	2.8
	Vanadium	180	100.0%	0	--	--	--	--	--	--	180	20.2	35.1	40.6	41.7	47.1	73.3
	Zinc	180	100.0%	0	--	--	--	--	--	--	180	15.4	30.3	33.9	35.6	39.9	121
	Zirconium	174	100.0%	0	--	--	--	--	--	--	174	15.9	25.8	103	83.1	132	179
Radionuclides (pCi/g)	Radium-226	160	100.0%	0	--	--	--	--	--	--	160	0.494	1.04	1.28	1.36	1.68	2.36
	Radium-228	145	100.0%	0	--	--	--	--	--	--	145	0.855	1.36	1.68	1.7	2.02	2.92
	Thorium-228	180	100.0%	0	--	--	--	--	--	--	180	1.11	1.54	1.77	1.75	1.95	2.3
	Thorium-230	180	100.0%	0	--	--	--	--	--	--	180	0.73	1.16	1.42	1.46	1.7	3.01
	Thorium-232	180	100.0%	0	--	--	--	--	--	--	180	0.908	1.44	1.59	1.61	1.79	2.23
	Uranium-233/234	177	100.0%	0	--	--	--	--	--	--	177	0.63	1	1.25	1.38	1.69	2.84
	Uranium-235/236	177	63.8%	64	--	--	--	--	--	--	113	0.0009	0.0462	0.061	0.0668	0.0839	0.21
	Uranium-238	177	100.0%	0	--	--	--	--	--	--	177	0.65	1.02	1.23	1.32	1.56	2.79

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 7**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal MIXED (ALL)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	35	100.0%	0	--	--	--	--	--	--	35	4840	6370	9020	8630	10400	12300
	Antimony	35	82.9%	6	0.0394	0.0394	0.217	0.195	0.33	0.3298	29	0.12	0.145	0.17	0.183	0.2	0.44
	Arsenic	35	100.0%	0	--	--	--	--	--	--	35	2.9	5.3	6.3	6.4	7.5	10
	Barium	35	100.0%	0	--	--	--	--	--	--	35	211	395	464	490	573	836
	Beryllium	35	100.0%	0	--	--	--	--	--	--	35	0.38	0.49	0.55	0.541	0.59	0.73
	Boron	33	9.1%	30	2.824	2.82	2.82	2.94	3.2	3.2	3	4	4	4.5	4.5	5	5
	Cadmium	35	68.6%	11	0.01	0.129	0.129	0.107	0.129	0.1291	24	0.051	0.0813	0.1	0.0973	0.11	0.14
	Calcium	33	100.0%	0	--	--	--	--	--	--	33	0.43	14900	21500	21600	29600	40500
	Chromium (Total)	35	100.0%	0	--	--	--	--	--	--	35	1.1	9.8	13.1	12.5	15.8	18.3
	Chromium (VI)	23	8.7%	21	0.17	0.17	0.18	0.21	0.26	0.26	2	0.18	--	0.26	0.26	--	0.34
	Cobalt	35	100.0%	0	--	--	--	--	--	--	35	4.7	6.1	7.2	7.31	8	12.9
	Copper	35	100.0%	0	--	--	--	--	--	--	35	9.9	13.5	15.8	16.2	18	30.5
	Iron	35	100.0%	0	--	--	--	--	--	--	35	9180	12200	14300	14000	15900	17200
	Lead	35	100.0%	0	--	--	--	--	--	--	35	7.4	9.5	11.3	12.1	12.9	21.3
	Lithium	33	100.0%	0	--	--	--	--	--	--	33	9.1	13.4	19.6	18.8	22.3	33.4
	Magnesium	35	100.0%	0	--	--	--	--	--	--	35	4580	6650	8880	8340	9900	12800
	Manganese	35	100.0%	0	--	--	--	--	--	--	35	158	293	356	412	488	1090
	Mercury	35	45.7%	19	0.00668	0.00668	0.00668	0.00682	0.0072	0.0072	16	0.0076	0.00863	0.0121	0.0131	0.0167	0.0254
	Molybdenum	35	100.0%	0	--	--	--	--	--	--	35	0.22	0.45	0.62	0.69	0.89	1.8
	Nickel	35	100.0%	0	--	--	--	--	--	--	35	8.9	11.5	13.8	13.5	15.3	17.3
	Niobium	33	9.1%	30	1.015	1.02	1.51	1.36	1.51	1.5118	3	2.8	2.8	2.9	3.1	3.6	3.6
	Palladium	33	100.0%	0	--	--	--	--	--	--	33	0.14	0.405	0.54	0.576	0.8	1.1
	Phosphorus	33	100.0%	0	--	--	--	--	--	--	33	594	815	892	894	984	1200
	Platinum	33	0.0%	33	0.02	0.02	0.02	0.0264	0.0435	0.0435	0	--	--	--	--	--	--
	Potassium	33	100.0%	0	--	--	--	--	--	--	33	1220	1420	1840	1880	2280	3440
	Selenium	35	22.9%	27	0.0467	0.32	0.32	0.298	0.32	0.32	8	0.17	0.238	0.335	0.34	0.4	0.59
	Silicon	33	100.0%	0	--	--	--	--	--	--	33	109	182	204	348	545	883
	Silver	35	74.3%	9	0.2609	0.261	0.261	0.261	0.261	0.2609	26	0.048	0.0918	0.105	0.129	0.15	0.35
	Sodium	33	100.0%	0	--	--	--	--	--	--	33	111	247	313	341	400	901
	Strontium	33	100.0%	0	--	--	--	--	--	--	33	69	163	206	200	261	362
	Thallium	35	20.0%	28	0.2	0.2	0.2	0.249	0.2	0.5428	7	0.12	0.16	1.1	0.883	1.3	1.4
	Tin	33	69.7%	10	0.0526	0.0526	0.0526	0.066	0.0526	0.187	23	0.2	0.28	0.45	0.416	0.51	0.6
	Titanium	35	100.0%	0	--	--	--	--	--	--	35	200	313	468	425	516	638
	Tungsten	33	45.5%	18	0.0175	0.0175	0.109	0.109	0.2	0.2	15	0.24	0.26	0.33	0.395	0.55	0.76
	Uranium	33	100.0%	0	--	--	--	--	--	--	33	0.43	0.795	1	0.984	1.1	1.6
	Vanadium	35	100.0%	0	--	--	--	--	--	--	35	19.2	24.4	37.2	34.1	41.1	44.9
	Zinc	35	100.0%	0	--	--	--	--	--	--	35	21.4	26.8	32.6	32.6	36	52.4
	Zirconium	33	72.7%	9	0.5	0.5	0.5	0.5	0.5	0.5	24	7.7	14.7	16.8	37.2	67.8	92.9
Radionuclides (pCi/g)	Radium-226	23	100.0%	0	--	--	--	--	--	--	23	0.394	0.756	0.915	0.904	1.02	1.32
	Radium-228	17	94.1%	1	--	--	--	--	--	--	16	0.452	1.21	1.41	1.52	1.78	2.94
	Thorium-228	34	100.0%	0	--	--	--	--	--	--	34	1.07	1.38	1.54	1.53	1.69	1.91
	Thorium-230	34	100.0%	0	--	--	--	--	--	--	34	0.602	0.857	1.02	1.02	1.15	1.49
	Thorium-232	34	100.0%	0	--	--	--	--	--	--	34	1.05	1.3	1.47	1.48	1.6	1.93
	Uranium-233/234	22	81.8%	4	--	--	--	--	--	--	18	0.47	0.758	0.939	0.91	1.02	1.32
	Uranium-235/236	22	68.2%	7	--	--	--	--	--	--	15	0.021	0.0307	0.0467	0.0501	0.0606	0.13
	Uranium-238	22	81.8%	4	--	--	--	--	--	--	18	0.57	0.655	0.92	0.877	1.03	1.16

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 8**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal RIVER (ALL)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	69	100.0%	0	--	--	--	--	--	--	69	5330	7840	8620	9150	10300	15500
	Antimony	69	71.0%	20	0.126	0.126	0.126	0.126	0.126	0.126	49	0.14	0.2	0.22	0.247	0.29	0.61
	Arsenic	69	100.0%	0	--	--	--	--	--	--	69	4.5	6	7.3	8.05	9.1	27.6
	Barium	69	100.0%	0	--	--	--	--	--	--	69	188	283	393	431	534	1350
	Beryllium	69	100.0%	0	--	--	--	--	--	--	69	0.28	0.38	0.45	0.456	0.51	0.78
	Boron	69	33.3%	46	2.824	2.82	2.82	4.3	6.6	6.6	23	5	7.1	7.7	11.5	11.6	57
	Cadmium	69	68.1%	22	0.01	0.01	0.04	0.0264	0.04	0.04	47	0.034	0.077	0.099	0.107	0.13	0.26
	Calcium	69	100.0%	0	--	--	--	--	--	--	69	3430	17700	23000	24700	30100	71300
	Chromium (Total)	69	100.0%	0	--	--	--	--	--	--	69	3.2	8.5	10.4	11	12.6	24.2
	Chromium (VI)	74	21.6%	58	0.16	0.17	0.41	0.323	0.43	0.56	16	0.16	0.22	0.375	0.409	0.538	1.1
	Cobalt	69	100.0%	0	--	--	--	--	--	--	69	3.5	4.2	4.7	4.82	5.15	8.9
	Copper	69	100.0%	0	--	--	--	--	--	--	69	8	9.35	10.4	11.5	12.3	36.2
	Iron	69	100.0%	0	--	--	--	--	--	--	69	6210	8310	10300	10400	11800	21700
	Lead	69	100.0%	0	--	--	--	--	--	--	69	7.6	10.5	11.9	14.6	14.7	53
	Lithium	69	60.9%	27	3.657	3.66	7.31	9.89	14.6	36.57	42	20	26.2	31	31.2	35.5	47.2
	Magnesium	69	100.0%	0	--	--	--	--	--	--	69	1550	6500	7480	7900	8890	15000
	Manganese	69	100.0%	0	--	--	--	--	--	--	69	87.5	160	253	307	333	2070
	Mercury	61	8.2%	56	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	5	0.007	0.00725	0.0077	0.00832	0.0097	0.0102
	Molybdenum	69	92.8%	5	0.1046	0.105	0.105	0.105	0.105	0.1046	64	0.26	0.39	0.52	0.616	0.698	2.3
	Nickel	69	100.0%	0	--	--	--	--	--	--	69	9.1	11.1	12.6	13	14.3	22
	Niobium	69	5.8%	65	1.5118	1.51	1.51	2.24	3	3	4	2.5	2.53	2.8	3.18	4.2	4.6
	Palladium	69	100.0%	0	--	--	--	--	--	--	69	0.24	0.48	0.65	0.678	0.825	1.6
	Phosphorus	69	100.0%	0	--	--	--	--	--	--	69	296	707	807	818	917	1710
	Platinum	69	0.0%	69	0.02	0.02	0.02	0.0334	0.048	0.048	0	--	--	--	--	--	--
	Potassium	69	100.0%	0	--	--	--	--	--	--	69	1090	2620	3280	3960	4670	12600
	Selenium	69	0.0%	69	0.32	0.32	0.32	0.321	0.32	0.36	0	--	--	--	--	--	--
	Silicon	69	100.0%	0	--	--	--	--	--	--	69	224	526	797	1020	1200	7480
	Silver	69	72.5%	19	0.11	0.11	0.11	0.11	0.11	0.11	50	0.046	0.0698	0.098	0.166	0.203	1.4
	Sodium	69	100.0%	0	--	--	--	--	--	--	69	274	882	1290	1480	1910	4210
	Strontium	69	100.0%	0	--	--	--	--	--	--	69	146	241	308	329	386	761
	Thallium	69	8.7%	63	0.2	0.2	0.2	0.243	0.3	0.3	6	0.43	0.438	0.46	0.717	0.883	2
	Tin	69	46.4%	37	0.0526	0.0526	0.0526	0.166	0.3	0.3	32	0.25	0.333	0.385	0.425	0.468	1
	Titanium	69	100.0%	0	--	--	--	--	--	--	69	215	360	482	464	549	712
	Tungsten	69	15.9%	58	0.2	0.2	0.5	0.361	0.5	0.5	11	0.26	0.27	0.42	0.504	0.6	1
	Uranium	69	100.0%	0	--	--	--	--	--	--	69	0.56	0.775	1.1	1.16	1.3	4.3
	Vanadium	69	100.0%	0	--	--	--	--	--	--	69	19	27.1	31.1	31.1	34.3	55.3
	Zinc	69	100.0%	0	--	--	--	--	--	--	69	25	31.5	37.2	38.4	42.3	70.5
	Zirconium	69	60.9%	27	0.5	0.56	0.8	0.724	0.8	0.8	42	9.1	12.2	14.4	14.5	17	20.5
Radionuclides (pCi/g)	Radium-226	61	96.7%	2	--	--	--	--	--	--	59	0.153	0.797	0.99	1.04	1.23	2.75
	Radium-228	61	91.8%	5	--	--	--	--	--	--	56	0.573	1.1	1.38	1.43	1.59	2.86
	Thorium-228	66	100.0%	0	--	--	--	--	--	--	66	0.944	1.31	1.47	1.58	1.67	3.37
	Thorium-230	66	90.9%	6	--	--	--	--	--	--	60	0.552	1	1.09	1.26	1.49	3.64
	Thorium-232	66	100.0%	0	--	--	--	--	--	--	66	0.898	1.22	1.4	1.43	1.6	2.8
	Uranium-233/234	67	95.5%	3	--	--	--	--	--	--	64	0.641	0.87	1.1	1.28	1.46	4.78
	Uranium-235/236	67	44.8%	37	--	--	--	--	--	--	30	-0.000681	0.032	0.0538	0.0689	0.0915	0.241
	Uranium-238	67	94.0%	4	--	--	--	--	--	--	63	0.545	0.843	1	1.13	1.25	4.01

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 9**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal McCULLOUGH (SHALLOW)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	101	100.0%	0	--	--	--	--	--	--	101	3740	6810	8470	9130	11500	15300
	Antimony	101	42.6%	58	0.0394	0.33	0.33	0.3	0.33	0.3298	43	0.12	0.15	0.22	0.241	0.29	0.5
	Arsenic	101	100.0%	0	--	--	--	--	--	--	101	2.1	3.35	3.9	4.11	4.9	7.2
	Barium	101	100.0%	0	--	--	--	--	--	--	101	73	141	175	182	217	465
	Beryllium	101	100.0%	0	--	--	--	--	--	--	101	0.16	0.45	0.54	0.581	0.725	0.89
	Boron	95	35.8%	61	3.2	3.2	3.2	3.2	3.2	3.2	34	5.2	5.8	6.8	7.11	8.3	11.6
	Cadmium	101	5.9%	95	0.1291	0.129	0.129	0.129	0.129	0.1291	6	0.095	0.0965	0.105	0.115	0.138	0.16
	Calcium	95	100.0%	0	--	--	--	--	--	--	95	9440	18400	24500	29000	37300	82800
	Chromium (Total)	101	100.0%	0	--	--	--	--	--	--	101	2.6	6.85	9	9.03	11.2	16.7
	Chromium (VI)	95	0.0%	95	0.25	0.25	0.26	0.258	0.26	0.32	0	--	--	--	--	--	--
	Cobalt	101	100.0%	0	--	--	--	--	--	--	101	3.7	7.05	8.8	8.67	9.95	16.3
	Copper	101	100.0%	0	--	--	--	--	--	--	101	10.1	14.7	17.6	17.5	19.9	25.9
	Iron	101	100.0%	0	--	--	--	--	--	--	101	5410	10700	13500	13200	15600	19700
	Lead	101	100.0%	0	--	--	--	--	--	--	101	3	6.1	7.3	8.47	9.5	35.1
	Lithium	95	100.0%	0	--	--	--	--	--	--	95	7.5	10.8	12.9	14	17.1	26.5
	Magnesium	101	100.0%	0	--	--	--	--	--	--	101	4690	8410	10200	10200	12400	17500
	Manganese	101	100.0%	0	--	--	--	--	--	--	101	151	333	409	416	492	863
	Mercury	101	78.2%	22	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	79	0.0084	0.012	0.018	0.0223	0.027	0.11
	Molybdenum	101	100.0%	0	--	--	--	--	--	--	101	0.17	0.39	0.48	0.533	0.605	2
	Nickel	101	100.0%	0	--	--	--	--	--	--	101	7.9	12.9	16	15.9	18.4	30
	Niobium	95	0.0%	95	1.015	1.02	1.02	1.02	1.02	1.015	0	--	--	--	--	--	--
	Palladium	95	100.0%	0	--	--	--	--	--	--	95	0.16	0.3	0.42	0.48	0.58	1.5
	Phosphorus	95	100.0%	0	--	--	--	--	--	--	95	862	1250	1490	1470	1690	2010
	Platinum	95	5.3%	90	0.0435	0.0435	0.0435	0.0435	0.0435	0.0435	5	0.045	0.0545	0.064	0.0708	0.0905	0.099
	Potassium	95	100.0%	0	--	--	--	--	--	--	95	625	1180	1580	1750	2230	3890
	Selenium	101	38.6%	62	0.1579	0.158	0.158	0.158	0.158	0.1579	39	0.1	0.26	0.3	0.306	0.35	0.6
	Silicon	95	100.0%	0	--	--	--	--	--	--	95	335	551	721	1010	1120	4150
	Silver	101	5.9%	95	0.2609	0.261	0.261	0.261	0.261	0.2609	6	0.043	0.0438	0.051	0.0582	0.0785	0.083
	Sodium	95	100.0%	0	--	--	--	--	--	--	95	128	214	487	498	693	1320
	Strontium	95	100.0%	0	--	--	--	--	--	--	95	75.5	143	192	232	267	808
	Thallium	101	26.7%	74	0.5428	0.543	0.543	0.543	0.543	0.5428	27	0.13	1.1	1.2	1.16	1.5	1.8
	Tin	95	100.0%	0	--	--	--	--	--	--	95	0.24	0.41	0.51	0.499	0.57	0.8
	Titanium	101	100.0%	0	--	--	--	--	--	--	101	262	446	533	552	654	1010
	Tungsten	95	0.0%	95	0.0175	0.0175	0.0175	0.0175	0.0175	0.0175	0	--	--	--	--	--	--
	Uranium	94	100.0%	0	--	--	--	--	--	--	94	0.62	0.84	0.97	1.03	1.1	2.7
	Vanadium	101	100.0%	0	--	--	--	--	--	--	101	20.2	32.6	36.9	38.3	44.9	59.1
	Zinc	101	100.0%	0	--	--	--	--	--	--	101	15.4	31	38.9	38.5	44.1	121
	Zirconium	95	100.0%	0	--	--	--	--	--	--	95	86.1	116	129	131	146	179
Radionuclides (pCi/g)	Radium-226	95	100.0%	0	--	--	--	--	--	--	95	0.494	0.952	1.09	1.15	1.27	2.36
	Radium-228	81	100.0%	0	--	--	--	--	--	--	81	0.946	1.64	1.93	1.89	2.16	2.92
	Thorium-228	101	100.0%	0	--	--	--	--	--	--	101	1.15	1.51	1.78	1.74	1.93	2.28
	Thorium-230	101	100.0%	0	--	--	--	--	--	--	101	0.73	1.05	1.21	1.29	1.48	3.01
	Thorium-232	101	100.0%	0	--	--	--	--	--	--	101	1.22	1.44	1.66	1.66	1.85	2.23
	Uranium-233/234	101	100.0%	0	--	--	--	--	--	--	101	0.63	0.9	1.05	1.19	1.24	2.84
	Uranium-235/236	101	44.6%	56	--	--	--	--	--	--	45	0.0009	0.044	0.06	0.0696	0.0925	0.21
	Uranium-238	101	100.0%	0	--	--	--	--	--	--	101	0.65	0.92	1.05	1.16	1.32	2.37

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1        1st quartile (25th percentile)  
 Q3        3rd quartile (75th percentile)

**TABLE 10**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal MIXED (SHALLOW)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	11	100.0%	0	--	--	--	--	--	--	11	4840	5480	6180	6700	6370	10900
	Antimony	11	54.5%	5	0.0394	0.0394	0.33	0.214	0.33	0.3298	6	0.13	0.13	0.21	0.228	0.298	0.44
	Arsenic	11	100.0%	0	--	--	--	--	--	--	11	2.9	4.4	5.3	4.87	5.7	5.9
	Barium	11	100.0%	0	--	--	--	--	--	--	11	211	346	424	468	604	836
	Beryllium	11	100.0%	0	--	--	--	--	--	--	11	0.38	0.43	0.52	0.504	0.56	0.62
	Boron	9	0.0%	9	3.2	3.2	3.2	3.2	3.2	3.2	0	--	--	--	--	--	--
	Cadmium	11	18.2%	9	0.1291	0.129	0.129	0.129	0.129	0.1291	2	0.11	--	0.125	0.125	--	0.14
	Calcium	9	100.0%	0	--	--	--	--	--	--	9	8160	10200	16100	18600	28500	36400
	Chromium (Total)	11	100.0%	0	--	--	--	--	--	--	11	5	7.8	8.8	8.86	10.2	11.7
	Chromium (VI)	9	0.0%	9	0.25	0.25	0.26	0.257	0.26	0.26	0	--	--	--	--	--	--
	Cobalt	11	100.0%	0	--	--	--	--	--	--	11	5.1	5.4	6.1	6.91	7.8	12.3
	Copper	11	100.0%	0	--	--	--	--	--	--	11	11.1	14.3	18.3	18.6	23.2	30.5
	Iron	11	100.0%	0	--	--	--	--	--	--	11	9180	10800	11200	11700	13600	14000
	Lead	11	100.0%	0	--	--	--	--	--	--	11	8.9	9.1	9.9	12.6	17.5	21
	Lithium	9	100.0%	0	--	--	--	--	--	--	9	9.1	10.1	11.7	11.8	13.4	14.9
	Magnesium	11	100.0%	0	--	--	--	--	--	--	11	4580	5100	5450	6060	6880	9090
	Manganese	11	100.0%	0	--	--	--	--	--	--	11	345	414	469	507	504	1090
	Mercury	11	54.5%	5	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	6	0.0097	0.0129	0.016	0.0156	0.019	0.019
	Molybdenum	11	100.0%	0	--	--	--	--	--	--	11	0.22	0.73	0.9	0.859	1.1	1.3
	Nickel	11	100.0%	0	--	--	--	--	--	--	11	8.9	10.3	11.3	11.3	12.1	13.8
	Niobium	9	0.0%	9	1.015	1.02	1.02	1.02	1.02	1.015	0	--	--	--	--	--	--
	Palladium	9	100.0%	0	--	--	--	--	--	--	9	0.14	0.19	0.22	0.266	0.37	0.48
	Phosphorus	9	100.0%	0	--	--	--	--	--	--	9	636	725	804	798	874	984
	Platinum	9	0.0%	9	0.0435	0.0435	0.0435	0.0435	0.0435	0.0435	0	--	--	--	--	--	--
	Potassium	9	100.0%	0	--	--	--	--	--	--	9	1240	1240	1380	1470	1710	1840
	Selenium	11	72.7%	3	0.0467	0.0467	0.158	0.121	0.158	0.1579	8	0.17	0.238	0.335	0.34	0.4	0.59
	Silicon	9	100.0%	0	--	--	--	--	--	--	9	527	622	690	708	794	883
	Silver	11	18.2%	9	0.2609	0.261	0.261	0.261	0.261	0.2609	2	0.048	--	0.052	0.052	--	0.056
	Sodium	9	100.0%	0	--	--	--	--	--	--	9	111	135	265	352	572	901
	Strontium	9	100.0%	0	--	--	--	--	--	--	9	69	85.6	92	122	180	219
	Thallium	11	63.6%	4	0.5428	0.543	0.543	0.543	0.543	0.5428	7	0.12	0.16	1.1	0.883	1.3	1.4
	Tin	9	88.9%	1	0.187	--	0.187	0.187	--	0.187	8	0.2	0.21	0.235	0.255	0.318	0.34
	Titanium	11	100.0%	0	--	--	--	--	--	--	11	200	219	244	272	313	398
	Tungsten	9	0.0%	9	0.0175	0.0175	0.0175	0.0175	0.0175	0.0175	0	--	--	--	--	--	--
	Uranium	9	100.0%	0	--	--	--	--	--	--	9	0.43	0.57	0.71	0.678	0.79	0.84
	Vanadium	11	100.0%	0	--	--	--	--	--	--	11	19.2	21.7	23.2	23	24.4	26
	Zinc	11	100.0%	0	--	--	--	--	--	--	11	21.4	23.9	25.2	30.7	35.3	52.4
	Zirconium	9	100.0%	0	--	--	--	--	--	--	9	60.1	64.8	69	75.2	89.2	92.9
Radionuclides (pCi/g)	Radium-226	9	100.0%	0	--	--	--	--	--	--	9	0.583	0.611	0.756	0.735	0.854	0.926
	Radium-228	3	100.0%	0	--	--	--	--	--	--	3	2.14	2.14	2.42	2.5	2.94	2.94
	Thorium-228	11	100.0%	0	--	--	--	--	--	--	11	1.17	1.28	1.44	1.46	1.62	1.9
	Thorium-230	11	100.0%	0	--	--	--	--	--	--	11	0.66	0.78	0.84	0.905	1.02	1.37
	Thorium-232	11	100.0%	0	--	--	--	--	--	--	11	1.05	1.26	1.44	1.42	1.47	1.93
	Uranium-233/234	11	100.0%	0	--	--	--	--	--	--	11	0.47	0.68	0.76	0.736	0.8	0.9
	Uranium-235/236	11	45.5%	6	--	--	--	--	--	--	5	0.021	0.035	0.053	0.0594	0.076	0.13
	Uranium-238	11	100.0%	0	--	--	--	--	--	--	11	0.57	0.59	0.66	0.719	0.82	0.94

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 11**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal RIVER (SHALLOW)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	33	100.0%	0	--	--	--	--	--	--	33	5330	7170	9260	9740	12700	15500
	Antimony	33	39.4%	20	0.126	0.126	0.126	0.126	0.126	0.126	13	0.19	0.255	0.3	0.318	0.37	0.61
	Arsenic	33	100.0%	0	--	--	--	--	--	--	33	4.5	6.15	7.7	8.65	9.6	27.6
	Barium	33	100.0%	0	--	--	--	--	--	--	33	211	307	428	466	633	755
	Beryllium	33	100.0%	0	--	--	--	--	--	--	33	0.28	0.35	0.4	0.439	0.49	0.78
	Boron	33	45.5%	18	6.6	6.6	6.6	6.6	6.6	6.6	15	7.1	7.4	9.7	13.2	11.8	57
	Cadmium	33	63.6%	12	0.04	0.04	0.04	0.04	0.04	0.04	21	0.053	0.0805	0.11	0.12	0.15	0.26
	Calcium	33	100.0%	0	--	--	--	--	--	--	33	3430	20600	25400	27800	35500	71300
	Chromium (Total)	33	100.0%	0	--	--	--	--	--	--	33	3.2	7.25	9.9	10.8	13.6	23.6
	Chromium (VI)	33	0.0%	33	0.41	0.41	0.42	0.441	0.47	0.56	0	--	--	--	--	--	--
	Cobalt	33	100.0%	0	--	--	--	--	--	--	33	3.7	4.2	4.7	5.04	5.25	8.9
	Copper	33	100.0%	0	--	--	--	--	--	--	33	8	9.45	10.8	12.8	13.5	36.2
	Iron	33	100.0%	0	--	--	--	--	--	--	33	6210	7770	9310	10300	11800	21700
	Lead	33	100.0%	0	--	--	--	--	--	--	33	7.6	10.2	12.1	15.2	16	53
	Lithium	33	18.2%	27	3.657	3.66	7.31	9.89	14.6	36.57	6	26.3	30	33	33.2	35.9	41.8
	Magnesium	33	100.0%	0	--	--	--	--	--	--	33	1550	6480	7580	8210	9640	15000
	Manganese	33	100.0%	0	--	--	--	--	--	--	33	178	238	295	410	383	2070
	Mercury	33	0.0%	33	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	0	--	--	--	--	--	--
	Molybdenum	33	100.0%	0	--	--	--	--	--	--	33	0.28	0.5	0.64	0.788	1.05	2.3
	Nickel	33	100.0%	0	--	--	--	--	--	--	33	9.1	10.6	11.8	12.6	14	22
	Niobium	33	3.0%	32	3	3	3	3	3	3	1	4.6	--	4.6	4.6	--	4.6
	Palladium	33	100.0%	0	--	--	--	--	--	--	33	0.35	0.58	0.73	0.788	0.94	1.6
	Phosphorus	33	100.0%	0	--	--	--	--	--	--	33	296	621	754	806	951	1710
	Platinum	33	0.0%	33	0.048	0.048	0.048	0.048	0.048	0.048	0	--	--	--	--	--	--
	Potassium	33	100.0%	0	--	--	--	--	--	--	33	1090	2110	2820	3530	4400	9000
	Selenium	33	0.0%	33	0.32	0.32	0.32	0.32	0.32	0.32	0	--	--	--	--	--	--
	Silicon	33	100.0%	0	--	--	--	--	--	--	33	344	833	1190	1430	1530	7480
	Silver	33	42.4%	19	0.11	0.11	0.11	0.11	0.11	0.11	14	0.054	0.0693	0.076	0.095	0.123	0.17
	Sodium	33	100.0%	0	--	--	--	--	--	--	33	274	854	1370	1580	2030	4210
	Strontium	33	100.0%	0	--	--	--	--	--	--	33	172	294	379	392	471	761
	Thallium	33	18.2%	27	0.3	0.3	0.3	0.3	0.3	0.3	6	0.43	0.438	0.46	0.717	0.883	2
	Tin	33	48.5%	17	0.3	0.3	0.3	0.3	0.3	0.3	16	0.32	0.345	0.43	0.483	0.593	1
	Titanium	33	100.0%	0	--	--	--	--	--	--	33	215	319	380	408	523	611
	Tungsten	33	6.1%	31	0.5	0.5	0.5	0.5	0.5	0.5	2	0.96	--	0.98	0.98	--	1
	Uranium	33	100.0%	0	--	--	--	--	--	--	33	0.56	0.73	0.92	1.17	1.25	4.3
	Vanadium	33	100.0%	0	--	--	--	--	--	--	33	19	24.6	29.4	30.4	33.6	55.3
	Zinc	33	100.0%	0	--	--	--	--	--	--	33	25	30.1	35.2	37	42.3	70.5
	Zirconium	33	39.4%	20	0.8	0.8	0.8	0.8	0.8	0.8	13	9.1	10.4	11.5	11.7	12.5	16.8
Radionuclides (pCi/g)	Radium-226	33	93.9%	2	--	--	--	--	--	--	31	0.153	0.798	0.992	1.1	1.38	2.75
	Radium-228	33	84.8%	5	--	--	--	--	--	--	28	0.573	1.17	1.38	1.54	1.99	2.86
	Thorium-228	33	100.0%	0	--	--	--	--	--	--	33	1.1	1.35	1.64	1.79	2.24	3.37
	Thorium-230	33	81.8%	6	--	--	--	--	--	--	27	1	1.02	1.34	1.49	1.84	3.64
	Thorium-232	33	100.0%	0	--	--	--	--	--	--	33	1.14	1.35	1.49	1.54	1.71	2.8
	Uranium-233/234	33	100.0%	0	--	--	--	--	--	--	33	0.7	0.867	1.17	1.46	1.96	4.78
	Uranium-235/236	33	33.3%	22	--	--	--	--	--	--	11	0.0224	0.06	0.088	0.102	0.12	0.241
	Uranium-238	33	100.0%	0	--	--	--	--	--	--	33	0.545	0.788	0.938	1.2	1.43	4.01

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 12**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal McCULLOUGH (DEEP)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	79	100.0%	0	--	--	--	--	--	--	79	5060	7230	8790	8690	9860	15100
	Antimony	79	92.4%	6	0.1046	0.105	0.105	0.105	0.105	0.1046	73	0.089	0.13	0.15	0.148	0.165	0.22
	Arsenic	79	100.0%	0	--	--	--	--	--	--	79	2.2	3.1	3.8	4.38	5	13.1
	Barium	79	100.0%	0	--	--	--	--	--	--	79	84.7	117	138	156	173	539
	Beryllium	79	100.0%	0	--	--	--	--	--	--	79	0.29	0.51	0.55	0.556	0.6	0.67
	Boron	79	25.3%	59	2.824	2.82	2.82	2.82	2.82	2.824	20	3	3.98	5.6	5.36	6.35	7.6
	Cadmium	79	92.4%	6	0.01	0.01	0.01	0.01	0.01	0.01	73	0.05	0.075	0.084	0.0871	0.0975	0.13
	Calcium	79	100.0%	0	--	--	--	--	--	--	79	10700	19300	24500	25000	29600	46600
	Chromium (Total)	79	100.0%	0	--	--	--	--	--	--	79	7.1	9.3	10.3	10.6	11.8	16.6
	Chromium (VI)	80	22.5%	62	0.16	0.17	0.17	0.169	0.17	0.19	18	0.18	0.2	0.255	0.409	0.393	1.6
	Cobalt	79	100.0%	0	--	--	--	--	--	--	79	5.3	6.8	7.5	7.78	8.6	10.8
	Copper	79	100.0%	0	--	--	--	--	--	--	79	8.8	15.3	16.4	16.3	17.3	24
	Iron	79	100.0%	0	--	--	--	--	--	--	79	11200	13100	14700	15400	17000	22500
	Lead	79	100.0%	0	--	--	--	--	--	--	79	4.9	6.4	7.1	7.44	8.4	15.8
	Lithium	79	84.8%	12	1.4628	3.66	3.66	3.47	3.66	3.657	67	7.5	15.4	17.4	20.1	21.3	124
	Magnesium	79	100.0%	0	--	--	--	--	--	--	79	4990	8650	9530	9550	10600	12500
	Manganese	79	100.0%	0	--	--	--	--	--	--	79	217	276	319	343	390	579
	Mercury	79	44.3%	44	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	35	0.0072	0.0086	0.0129	0.0126	0.0146	0.0235
	Molybdenum	79	78.5%	17	0.1046	0.105	0.105	0.105	0.105	0.1046	62	0.31	0.47	0.575	0.67	0.815	1.9
	Nickel	79	100.0%	0	--	--	--	--	--	--	79	8.5	14.4	15.3	15.5	16.3	27.5
	Niobium	79	7.6%	73	1.5118	1.51	1.51	1.51	1.51	1.5118	6	1.7	2.68	3.35	3.12	3.58	3.8
	Palladium	79	100.0%	0	--	--	--	--	--	--	79	0.2	0.39	0.61	0.672	0.83	2.2
	Phosphorus	79	100.0%	0	--	--	--	--	--	--	79	649	1240	1390	1370	1500	1930
	Platinum	79	8.9%	72	0.02	0.02	0.02	0.02	0.02	0.02	7	0.022	0.023	0.025	0.0323	0.046	0.049
	Potassium	79	100.0%	0	--	--	--	--	--	--	79	850	1240	1430	1500	1720	2450
	Selenium	79	0.0%	79	0.32	0.32	0.32	0.32	0.32	0.32	0	--	--	--	--	--	--
	Silicon	79	100.0%	0	--	--	--	--	--	--	79	139	370	617	591	823	1080
	Silver	79	100.0%	0	--	--	--	--	--	--	79	0.074	0.11	0.15	0.251	0.2	2.2
	Sodium	79	100.0%	0	--	--	--	--	--	--	79	428	644	776	864	1000	3250
	Strontium	79	100.0%	0	--	--	--	--	--	--	79	123	207	250	275	311	793
	Thallium	79	5.1%	75	0.2	0.2	0.2	0.2	0.2	0.2	4	0.15	0.163	0.21	0.228	0.31	0.34
	Tin	79	96.2%	3	0.0526	0.0526	0.0526	0.0526	0.0526	0.0526	76	0.25	0.513	0.55	0.549	0.62	0.78
	Titanium	79	100.0%	0	--	--	--	--	--	--	79	445	597	671	680	751	912
	Tungsten	79	31.6%	54	0.2	0.2	0.2	0.2	0.2	0.2	25	0.19	0.27	0.31	0.454	0.375	3.6
	Uranium	79	100.0%	0	--	--	--	--	--	--	79	0.89	1.2	1.4	1.55	1.8	2.8
	Vanadium	79	100.0%	0	--	--	--	--	--	--	79	26.7	38.3	43.2	46	53.5	73.3
	Zinc	79	100.0%	0	--	--	--	--	--	--	79	18.1	29.9	32	31.9	34	41.2
	Zirconium	79	100.0%	0	--	--	--	--	--	--	79	15.9	22.3	25.5	25.2	27.3	33.9
Radionuclides (pCi/g)	Radium-226	65	100.0%	0	--	--	--	--	--	--	65	0.981	1.4	1.64	1.67	1.97	2.29
	Radium-228	64	100.0%	0	--	--	--	--	--	--	64	0.855	1.23	1.4	1.46	1.68	2.31
	Thorium-228	79	100.0%	0	--	--	--	--	--	--	79	1.11	1.57	1.75	1.76	1.96	2.3
	Thorium-230	79	100.0%	0	--	--	--	--	--	--	79	1.05	1.42	1.58	1.68	1.92	2.72
	Thorium-232	79	100.0%	0	--	--	--	--	--	--	79	0.908	1.44	1.54	1.56	1.69	2.01
	Uranium-233/234	76	100.0%	0	--	--	--	--	--	--	76	0.868	1.4	1.62	1.65	1.79	2.63
	Uranium-235/236	76	89.5%	8	--	--	--	--	--	--	68	0.0121	0.0465	0.065	0.0631	0.077	0.116
	Uranium-238	76	100.0%	0	--	--	--	--	--	--	76	0.993	1.28	1.51	1.55	1.7	2.79

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**TABLE 13**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal MIXED (DEEP)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	24	100.0%	0	--	--	--	--	--	--	24	7060	8380	9380	9510	10500	12300
	Antimony	24	95.8%	1	0.1046	--	0.105	0.105	--	0.1046	23	0.12	0.15	0.16	0.172	0.2	0.26
	Arsenic	24	100.0%	0	--	--	--	--	--	--	24	4.4	6.23	6.95	7.1	8.25	10
	Barium	24	100.0%	0	--	--	--	--	--	--	24	262	410	488	500	555	743
	Beryllium	24	100.0%	0	--	--	--	--	--	--	24	0.44	0.493	0.56	0.558	0.605	0.73
	Boron	24	12.5%	21	2.824	2.82	2.82	2.82	2.82	2.824	3	4	4	4.5	4.5	5	5
	Cadmium	24	91.7%	2	0.01	--	0.01	0.01	--	0.01	22	0.051	0.081	0.0995	0.0948	0.11	0.13
	Calcium	24	100.0%	0	--	--	--	--	--	--	24	0.43	16300	23100	22800	30000	40500
	Chromium (Total)	24	100.0%	0	--	--	--	--	--	--	24	1.1	13	15	14.2	16.2	18.3
	Chromium (VI)	14	14.3%	12	0.17	0.17	0.17	0.175	0.18	0.19	2	0.18	--	0.26	0.26	--	0.34
	Cobalt	24	100.0%	0	--	--	--	--	--	--	24	4.7	6.75	7.5	7.49	8	12.9
	Copper	24	100.0%	0	--	--	--	--	--	--	24	9.9	13.4	15.2	15	16.5	18.8
	Iron	24	100.0%	0	--	--	--	--	--	--	24	11900	14300	15400	15100	16400	17200
	Lead	24	100.0%	0	--	--	--	--	--	--	24	7.4	10.4	11.4	11.8	12.8	21.3
	Lithium	24	100.0%	0	--	--	--	--	--	--	24	13	18.5	20.9	21.4	23.1	33.4
	Magnesium	24	100.0%	0	--	--	--	--	--	--	24	5920	8620	9440	9390	10200	12800
	Manganese	24	100.0%	0	--	--	--	--	--	--	24	158	241	328	368	397	836
	Mercury	24	41.7%	14	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	10	0.0076	0.00828	0.0094	0.0117	0.0144	0.0254
	Molybdenum	24	100.0%	0	--	--	--	--	--	--	24	0.28	0.45	0.56	0.613	0.685	1.8
	Nickel	24	100.0%	0	--	--	--	--	--	--	24	9.7	13	15.1	14.5	15.7	17.3
	Niobium	24	12.5%	21	1.5118	1.51	1.51	1.51	1.51	1.5118	3	2.8	2.8	2.9	3.1	3.6	3.6
	Palladium	24	100.0%	0	--	--	--	--	--	--	24	0.41	0.52	0.705	0.693	0.853	1.1
	Phosphorus	24	100.0%	0	--	--	--	--	--	--	24	594	881	920	930	1010	1200
	Platinum	24	0.0%	24	0.02	0.02	0.02	0.02	0.02	0.02	0	--	--	--	--	--	--
	Potassium	24	100.0%	0	--	--	--	--	--	--	24	1220	1610	1960	2040	2400	3440
	Selenium	24	0.0%	24	0.32	0.32	0.32	0.32	0.32	0.32	0	--	--	--	--	--	--
	Silicon	24	100.0%	0	--	--	--	--	--	--	24	109	166	193	212	237	516
	Silver	24	100.0%	0	--	--	--	--	--	--	24	0.077	0.0925	0.11	0.135	0.15	0.35
	Sodium	24	100.0%	0	--	--	--	--	--	--	24	235	279	319	337	390	537
	Strontium	24	100.0%	0	--	--	--	--	--	--	24	153	175	219	230	271	362
	Thallium	24	0.0%	24	0.2	0.2	0.2	0.2	0.2	0.2	0	--	--	--	--	--	--
	Tin	24	62.5%	9	0.0526	0.0526	0.0526	0.0526	0.0526	0.0526	15	0.43	0.45	0.49	0.502	0.53	0.6
	Titanium	24	100.0%	0	--	--	--	--	--	--	24	323	462	500	495	547	638
	Tungsten	24	62.5%	9	0.2	0.2	0.2	0.2	0.2	0.2	15	0.24	0.26	0.33	0.395	0.55	0.76
	Uranium	24	100.0%	0	--	--	--	--	--	--	24	0.75	0.973	1.1	1.1	1.18	1.6
	Vanadium	24	100.0%	0	--	--	--	--	--	--	24	29.4	36.3	39.5	39.2	42.4	44.9
	Zinc	24	100.0%	0	--	--	--	--	--	--	24	26.8	30.7	33.3	33.4	36.1	46.4
	Zirconium	24	62.5%	9	0.5	0.5	0.5	0.5	0.5	0.5	15	7.7	12.1	15.2	14.3	16.7	17.7
Radionuclides (pCi/g)	Radium-226	14	100.0%	0	--	--	--	--	--	--	14	0.394	0.908	0.98	1.01	1.25	1.32
	Radium-228	14	92.9%	1	--	--	--	--	--	--	13	0.452	1.17	1.33	1.31	1.49	1.79
	Thorium-228	23	100.0%	0	--	--	--	--	--	--	23	1.07	1.39	1.59	1.57	1.7	1.91
	Thorium-230	23	100.0%	0	--	--	--	--	--	--	23	0.602	0.923	1.09	1.07	1.17	1.49
	Thorium-232	23	100.0%	0	--	--	--	--	--	--	23	1.12	1.31	1.51	1.51	1.66	1.89
	Uranium-233/234	11	63.6%	4	--	--	--	--	--	--	7	0.977	1	1.01	1.08	1.18	1.32
	Uranium-235/236	11	90.9%	1	--	--	--	--	--	--	10	0.0235	0.0303	0.0394	0.0407	0.0479	0.0624
	Uranium-238	11	63.6%	4	--	--	--	--	--	--	7	0.897	1	1.02	1.03	1.08	1.16

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1        1st quartile (25th percentile)  
 Q3        3rd quartile (75th percentile)

**TABLE 14**  
**DESCRIPTIVE SUMMARY STATISTICS FOR BACKGROUND METALS AND RADIONUCLIDES – Qal RIVER (DEEP)**  
**BRC BACKGROUND SOIL COMPILATION REPORT**  
**CLARK COUNTY, NEVADA**  
 (Page 1 of 1)

Analyte Group	Analyte	Sample Size	Detection Frequency	Censored (Non-Detect) Data							Detected Data						
				ND Count	Min	Q1	Median	Mean	Q3	Max	Detect Count	Min	Q1	Median	Mean	Q3	Max
Metals (mg/kg)	Aluminum	36	100.0%	0	--	--	--	--	--	--	36	5680	7860	8360	8610	8900	13400
	Antimony	36	100.0%	0	--	--	--	--	--	--	36	0.14	0.193	0.21	0.222	0.238	0.37
	Arsenic	36	100.0%	0	--	--	--	--	--	--	36	4.7	5.75	7.2	7.51	8.18	13.9
	Barium	36	100.0%	0	--	--	--	--	--	--	36	188	269	329	399	478	1350
	Beryllium	36	100.0%	0	--	--	--	--	--	--	36	0.34	0.44	0.46	0.471	0.515	0.72
	Boron	36	22.2%	28	2.824	2.82	2.82	2.82	2.82	2.824	8	5	5.45	6.15	8.36	7.18	24.1
	Cadmium	36	72.2%	10	0.01	0.01	0.01	0.01	0.01	0.01	26	0.034	0.0748	0.0985	0.096	0.12	0.16
	Calcium	36	100.0%	0	--	--	--	--	--	--	36	4680	16800	22000	21700	27700	45600
	Chromium (Total)	36	100.0%	0	--	--	--	--	--	--	36	7.2	9.43	10.4	11.1	11.4	24.2
	Chromium (VI)	41	39.0%	25	0.16	0.16	0.16	0.167	0.17	0.2	16	0.16	0.22	0.375	0.409	0.538	1.1
	Cobalt	36	100.0%	0	--	--	--	--	--	--	36	3.5	4.2	4.6	4.61	5.08	5.7
	Copper	36	100.0%	0	--	--	--	--	--	--	36	8	9.23	10.3	10.3	11	13.9
	Iron	36	100.0%	0	--	--	--	--	--	--	36	7250	9320	10900	10500	11800	13100
	Lead	36	100.0%	0	--	--	--	--	--	--	36	9.5	10.6	11.8	14.1	13.9	35.1
	Lithium	36	100.0%	0	--	--	--	--	--	--	36	20	25.2	30.3	30.9	36.3	47.2
	Magnesium	36	100.0%	0	--	--	--	--	--	--	36	5210	6500	7210	7630	8690	13900
	Manganese	36	100.0%	0	--	--	--	--	--	--	36	87.5	141	162	213	263	777
	Mercury	28	17.9%	23	0.00668	0.00668	0.00668	0.00668	0.00668	0.00668	5	0.007	0.00725	0.0077	0.00832	0.0097	0.0102
	Molybdenum	36	86.1%	5	0.1046	0.105	0.105	0.105	0.105	0.1046	31	0.26	0.34	0.4	0.432	0.52	0.72
	Nickel	36	100.0%	0	--	--	--	--	--	--	36	9.2	12.3	13.3	13.3	14.8	17.5
	Niobium	36	8.3%	33	1.5118	1.51	1.51	1.51	1.51	1.5118	3	2.5	2.5	2.6	2.7	3	3
	Palladium	36	100.0%	0	--	--	--	--	--	--	36	0.24	0.39	0.6	0.577	0.775	1.1
	Phosphorus	36	100.0%	0	--	--	--	--	--	--	36	511	739	820	829	911	1320
	Platinum	36	0.0%	36	0.02	0.02	0.02	0.0201	0.02	0.023	0	--	--	--	--	--	--
	Potassium	36	100.0%	0	--	--	--	--	--	--	36	2560	2950	3330	4370	5030	12600
	Selenium	36	0.0%	36	0.32	0.32	0.32	0.321	0.32	0.36	0	--	--	--	--	--	--
	Silicon	36	100.0%	0	--	--	--	--	--	--	36	224	451	618	634	797	1340
	Silver	36	100.0%	0	--	--	--	--	--	--	36	0.046	0.0695	0.12	0.194	0.245	1.4
	Sodium	36	100.0%	0	--	--	--	--	--	--	36	600	942	1250	1400	1890	2770
	Strontium	36	100.0%	0	--	--	--	--	--	--	36	146	202	252	270	312	559
	Thallium	36	0.0%	36	0.2	0.2	0.2	0.201	0.2	0.23	0	--	--	--	--	--	--
	Tin	36	44.4%	20	0.0526	0.0526	0.0526	0.0529	0.0526	0.059	16	0.25	0.323	0.355	0.366	0.418	0.49
	Titanium	36	100.0%	0	--	--	--	--	--	--	36	309	440	525	515	589	712
	Tungsten	36	25.0%	27	0.2	0.2	0.2	0.201	0.2	0.23	9	0.26	0.265	0.38	0.398	0.525	0.6
	Uranium	36	100.0%	0	--	--	--	--	--	--	36	0.64	0.885	1.2	1.15	1.38	2.2
	Vanadium	36	100.0%	0	--	--	--	--	--	--	36	24.6	28	31.3	31.8	35.8	40.9
	Zinc	36	100.0%	0	--	--	--	--	--	--	36	25.5	33.8	37.9	39.6	42.4	68.2
	Zirconium	36	80.6%	7	0.5	0.5	0.5	0.509	0.5	0.56	29	10	13.5	15.9	15.7	17.6	20.5
Radionuclides (pCi/g)	Radium-226	28	100.0%	0	--	--	--	--	--	--	28	0.491	0.781	0.984	0.966	1.14	1.39
	Radium-228	28	--	0	--	--	--	--	--	--	28	0.879	1.08	1.37	1.3	1.48	1.76
	Thorium-228	33	100.0%	0	--	--	--	--	--	--	33	0.944	1.26	1.38	1.38	1.5	1.71
	Thorium-230	33	100.0%	0	--	--	--	--	--	--	33	0.552	0.831	1.02	1.03	1.14	1.85
	Thorium-232	33	100.0%	0	--	--	--	--	--	--	33	0.898	1.14	1.35	1.31	1.45	1.67
	Uranium-233/234	34	91.2%	3	--	--	--	--	--	--	31	0.641	0.892	1.04	1.1	1.22	2.1
	Uranium-235/236	34	55.9%	15	--	--	--	--	--	--	19	-0.000681	0.02	0.0378	0.0372	0.0473	0.0961
	Uranium-238	34	88.2%	4	--	--	--	--	--	--	30	0.57	0.949	1	1.07	1.21	2.17

**Notes:**

mg/kg      milligrams per kilogram  
 Max        maximum concentration  
 Min        minimum concentration  
 pCi/g      picocuries per gram  
 Q1         1st quartile (25th percentile)  
 Q3         3rd quartile (75th percentile)

**APPENDIX A**

**NDEP COMMENTS AND  
BRC'S RESPONSE TO COMMENTS**

This is a placeholder for Appendix A.

## APPENDIX B

ELECTRONIC DATASET AND REPORT (on CD)