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July 17, 2017

**RI PHASE 2 MODIFICATION NO. 6
SOIL BACKGROUND CONCENTRATION STUDY WORK PLAN
NEVADA ENVIRONMENTAL RESPONSE TRUST SITE;
HENDERSON, NEVADA**

Dear Mr. Jay Steinberg, Mr. Andy Steinberg, and Mr. Clough:

Ramboll Environ US Corporation (Ramboll Environ) has prepared this work plan for a soil background concentration study in support of the Remedial Investigation (RI) of the Nevada Environmental Response Trust (NERT) Site in Henderson, Nevada (the "Site"). This work is being undertaken in response to the July 13, 2016 letter from the Nevada Division of Environmental Protection (NDEP) commenting on the Remedial Investigation Data Evaluation Technical Memorandum (Ramboll Environ 2016; "RI Tech Memo"). Specifically, NDEP Comment 5 indicates that the background data set used should apply to the NERT site; however, the only background data set available that applies to the NERT site is limited to the top ten feet of soil.

The purpose of this proposed soil background concentration study will be to provide a more representative data set for metals and radionuclides for comparison to the results from the on-going RI as well as previous and future investigations. Specifically, few background samples are available from soil at depths greater than 10 feet below ground surface (bgs) in the alluvium or Upper Muddy Creek formation (UMCf). This work plan describes the rationale for the proposed soil boring locations, the procedures for sample collection and analysis, and the methods to be used for evaluation of the data.

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Location and Geologic Setting

The NERT Site is located on the eastern edge of the Las Vegas Valley in Clark County, Nevada, approximately one mile north of the McCullough Mountain Range. The mountains on the south (McCullough Range) and southeast (River Range) sides of the Las Vegas Valley consist primarily of Tertiary volcanic rocks (basalts, rhyolites, andesites, and related rocks) that overlie Precambrian metamorphic and granitic rocks (ENSR 2007). At and in the vicinity of the Site, three main geologic units are present, described as follows:

Alluvium

The uppermost unit is composed of Quaternary alluvial deposits originating from the McCullough Range that slope north toward Las Vegas Wash. The alluvium consists of a reddish-brown heterogeneous mixture of well-graded sand and gravel with lesser amounts of silt, clay, and caliche. Clasts within the alluvium are primarily composed of volcanic material. Boulders and cobbles are common. Due to the mode of deposition, no distinct beds or units are continuous in the vicinity of the Site. The thickness of the alluvial deposits range from less than 1 foot to more than 50 feet bgs beneath the Site. Soil types identified in on-site soil borings include poorly sorted gravel, silty gravel, poorly sorted sand, well sorted sand, and silty sand.

Transitional (or reworked) Muddy Creek Formation

Where present, Transitional Muddy Creek Formation (xM Cf) is encountered at the base of the alluvium. The Transitional Muddy Creek Formation consists of reworked sediments derived from the Muddy Creek Formation, which is described below. Therefore, the xM Cf appears similar to the Muddy Creek Formation, but it consists of reworked, less consolidated and indurated sediments.

Muddy Creek Formation

The Upper Muddy Creek Formation (UM Cf) of Pleistocene age occurs in the Las Vegas Valley as valley-fill deposits that are coarse-grained near mountain fronts and become progressively finer-grained toward the center of the valley. Where encountered beneath the Site, the Muddy Creek Formation is composed of at least two thicker units of fine-grained sediments of clay and silt (the first and second fine-grained facies) interbedded with at least two thinner units of coarse-grained sediments of sand, silt, and gravel (the first and second coarse-grained facies). Except for the southernmost 1,000 ft adjacent to Lake Mead Parkway, the first fine-grained facies (UM Cf-fg1) separates the first coarse-grained facies (UM Cf-cg1) from the overlying Quaternary alluvium at the Site. Within the southern 1,000 feet of the Site, the Muddy Creek Formation's UM Cf-fg1 pinches out along a roughly west-northwesterly trending line. In the southern area of the Site, the UM Cf-cg1 directly underlies the alluvium.

Prior Background Studies and Data Sets

The primary background data set approved for use at the NERT site by NDEP is from Remediation Zone A (NDEP 2010b; "RZ-A"). The RZ-A background data set has a maximum of 31 samples (depending on the specific analyte) from depths ranging between 0 and 10 feet bgs that were collected in August and September 2009. For some inorganics, (i.e., lithium, niobium, palladium and zirconium), there is no RZ-A background data. A comprehensive background data set with 103-120 samples (depending on the specific analyte) for depths ranging between 0 and 10 feet bgs was collected in 2005 by TIMET and BRC (TIMET/BRC 2007). This data set is used to compare Site data to background levels for analytes that the RZ-A data set is lacking (Ramboll

Environ 2016), although it should be noted that this background data set contains alluvial samples from both the McCullough and River Range sources, and therefore applies to the BMI Complex and Common Areas Vicinity, and not the NERT Site specifically. Both the RZ-A data set and the TIMET/BRC shallow data set are limited to the upper ten feet of soil within the quaternary alluvium. Neither data set accounts for changes in background concentrations as a result of lithologic changes that may occur at depths greater than 10 feet bgs. For example, it is likely that background concentrations for certain metals may be different in the UMCf in comparison to the alluvium.

Because background concentrations may vary between geologic units, BRC completed a deep soil background study in 2008 (ERM-West 2009), obtaining 23 samples in the McCullough Range alluvium (Qh1) below 10 ft bgs and 24 samples (number of valid results is dependent on the specific analyte) within the fine grained UMCf. While this background data set applies to the BMI Complex and Common Areas Vicinity and not the NERT Site specifically, as part of the background study proposed herein, a statistical analysis may be performed if needed on a per-analyte and per-lithology basis to determine whether the data from this data set can be combined with the data obtained during the proposed background study investigation to create an even more robust data set. The potentially usable data from the BRC deep soil background study are presented in Table 1.

Rationale for Current Study

The RI Tech Memo presented plots of detected concentrations in metals versus sample depth; however, no statistical analysis was done to differentiate concentration populations in different lithologic units.

With regards to the Site, a review of the arsenic soil concentration in soil relative to depth suggests the importance of establishing background concentrations for different lithologic units at the Site. Figure 1 shows arsenic concentrations in Site soil as presented in the RI Tech Memo, with samples collected in the alluvium and UMCf colored blue and red, respectively. A single depth cannot be used to differentiate alluvial and UMCf samples due to the varying depth of the alluvium-UMCf contact around the Site. The site-specific target remediation goal of 7.2 mg/kg (NDEP 2010a) is also shown for reference. It is important to note that most of the samples collected in the deeper soil (i.e., in the UMCf) have arsenic concentrations above the site-specific remediation goal. Since it is unlikely that arsenic contamination has migrated to these deeper soils, Figure 1 suggests that the background concentration of arsenic increases with depth and that this increase may be related to changes in lithology at the site.

Figure 2 shows a statistical analysis of the data shown in Figure 1. The data are broken out into three depth categories – top ten feet of soil, the entire alluvium, and the UMCf. On the left side of the figure are histograms of each category of data, with the site-specific remediation goal represented by a vertical line. On the right are probability plots that compare the measured arsenic concentrations to a lognormal distribution. The thin red line in each plot represents the ideal lognormal distribution for the entire category; however, any section of data that follows a straight line would be considered lognormally distributed if considered as an entire population. In the top ten feet of soil, the data follow a lognormal distribution up to about the site-specific remediation goal. In the entire alluvium, a bimodal distribution emerges; most of the data are below the site-specific remediation goal, but another lognormally distributed population is present up to approximately 35 mg/kg, suggesting that these concentrations may not be due to

contamination. In the UMCf, the data fit a lognormal distribution, suggesting that the concentrations in the UMCf may not be due to contamination. The 95th percentile of the UMCf data is 34.7 mg/kg, which is also approximately the maximum concentration of the second distribution in the alluvium.

While this statistical analysis suggests that concentrations of arsenic in the UMCf and lower alluvium may not be due to contamination, elevated arsenic concentrations in soil as a result of prior industrial use at the Site may exist. A background data set from uncontaminated locations in the UMCf may be helpful in the determination of the extent of arsenic contamination related to prior industrial activities at the Site.

Proposed Scope of Work

Rationale for Selecting Soil Background Investigation Areas

Figure 3 shows the general areas selected for background soil borings in relation to the NERT site and the area of perchlorate in shallow groundwater. An area south of the Site has been selected for the investigation of the deeper alluvium, and an area west of the Endeavour (former AMPAC) perchlorate plume has been selected for the investigation of the fine-grained UMCf-fg1 unit.

The alluvium in the Site vicinity consists of overlapping alluvial fan deposits originating from the surrounding mountains. The Site is situated on alluvial deposits (termed Qh (undifferentiated), or Qh1) originating primarily from the McCullough Range. As shown on Figure 4, the Qh/Qh1 deposits are also present in the area south (upgradient) of the Site. The composition of the offsite Qh/Qh1 alluvial sediments is most likely to be comparable with the alluvial soils beneath the Site. Therefore, the selected background soil investigation area for alluvium is situated south of the Site.

However, this area south of the Site is not suitable for collection of the UMCf-fg1 background soil samples. Previous Site investigations have shown that within the southern 1,000 feet of the Site, the UMCf-fg1 pinches out along a roughly west-northwesterly trending line. South of this line, the UMCf-cg1 directly underlies the alluvium in the southern portion of the Site. In addition, several of the 2008 deep background borings were located in the current proposed alluvium investigation area, and a review of the previous deep background boring logs shows that the alluvium is underlain by coarse-grained deposits in this area.

During the 2008 deep background soil investigation conducted by BRC, samples of the UMCf-fg1 were collected from borings located east of the NERT Eastside Study Area boundary (see Figure 3 for locations with potentially usable data). To complement this existing data set, the UMCf-fg1 background investigation will be conducted in an area west of the Endeavour perchlorate plume. The alluvium in this area (termed Qas) is from a different source area than the Qh/Qh1 alluvium beneath the Site. However, based on a review of regional geologic studies the UMCf-fg1 unit extends throughout this area, and it is likely present directly beneath the alluvium in the proposed UMCf-fg1 background investigation area shown on Figure 3.

Both of the areas selected for this investigation are off-Site locations in relatively close proximity to the Site that are up-gradient or cross-gradient of known industrial operations in the area so that adverse subsurface impacts from the Site or other industrial operations are not likely.

Figures 5a and 5b show the land usage in the selected areas. The areas proposed for this investigation are designated as residential or public use. Although a significant fraction of each area is privately-owned, suitable locations are found on public right-of-ways or in parks owned by the City of Henderson (COH). Potential target locations are shown on Figures 5a and 5b. Figure 5a also shows locations drilled during prior background studies. Potentially usable data from these locations are shown in Table 1. Specific drilling locations will be chosen and evaluated once this work plan is approved. Evaluation of specific locations will include determination of access limitations, buried underground utilities, and potential hazards such as proximity to overhead electrical power lines.

Depending on the evaluation of specific locations, the number of ultimately suitable locations, and sampling progress, up to three borings may be located in close proximity (10-15 foot separation) to each other at each location. A total of 10 borings are planned for the proposed investigation; five for the deep alluvium and five for the UMCf. It is anticipated that the alluvium in the area south of the Site will extend to approximately 35 feet bgs. Eight (8) samples will be collected at three-foot intervals in the alluvium between 10 and 35 feet bgs in each boring at up to five (5) boring locations. The alluvium in the area to the west of the Site is anticipated to be between 30 and 50 feet thick. Borings in this area will extend approximately 25 feet below the UMCf contact (for total depths of approximately 55 to 75 feet bgs). Eight samples will be collected at three-foot intervals per boring from the UMCf at up to five boring locations.

Assuming that 8 samples can be obtained from each boring, approximately 40 samples will be collected from each lithologic unit. This sample size is sufficient to enable estimation of the statistical properties of the population¹. The number of borings drilled at each location will be dependent upon the actual lithology encountered and the sampling progress up to that point (e.g. incomplete core recovery may necessitate additional borings in order to obtain 40 samples). If multiple borings are drilled at a single location, individual borings will be designated with lower-case letters (e.g., "RIBK-01a", "RIBK-01b").

Field Procedures

All soil sampling and related activities conducted as part of this investigation will be performed in general concurrence with the NDEP-approved Sampling and Analysis Plan, Revision 1 (SAP) for the Site. The SAP is comprised of the Field Sampling Plan ("FSP"; ENVIRON 2014a), Health and Safety Plan ("HASP"; ENVIRON 2014b), and the Quality Assurance Project Plan ("QAPP"; ENVIRON 2014c, currently under revision).

Upon receiving approval of this work plan, Ramboll Environ will identify specific drilling locations for the approximately 10 soil borings (five for the deep alluvium and five for the UMCf) proposed for this investigation. A majority of the borings are expected to be located in public- or privately-owned residential streets and/or in COH-owned parks. After selecting the proposed boring locations, Ramboll Environ will work with the Trust to procure the necessary access agreements and COH Barricade Plans for each sampling location.

Boring locations will then be field-marked for Underground Service Alert notifications for underground utilities. Prior to drilling and sampling activities, Ramboll Environ will also retain a private utility locating company to clear each proposed boring location of subsurface utilities.

¹ A statistical analysis of site data for arsenic and several other metals and radionuclides indicates that a minimum of 35-37 background samples are necessary to determine if site data are consistent with background levels.

Proposed boring locations may be modified based on field observations, access restrictions, and/or subsurface utilities.

Ramboll Environ will retain a Nevada-state certified drilling company to conduct drilling activities for this investigation. Based on the anticipated depth of the proposed boring, rotary sonic is the preferred drilling method due to relative ease of use, speed, and presence of an outer casing in the drill tooling. Continuous soil cores, which are extracted from the metal drilling stem into plastic core bags and/or core boxes, will be logged in the field by a Ramboll Environ geologist with experience logging soil cores at and in the vicinity of the Site.

Sample Collection and Analysis

Discrete depth samples at approximately three-foot intervals will be collected from the soil cores produced during drilling and submitted to a Nevada-state certified laboratory in accordance with the SAP. Soil samples collected during the investigation will be analyzed for a full suite of metals and selected radionuclides. The proposed analytes and laboratory methods are presented in Table 2, in accordance with the QAPP. Detection limits and other data quality indicators are detailed in Section 1.6.2 and Table 2 of the QAPP, and quality assurance / quality control (QA/QC) procedures that will be followed during this investigation are detailed in Section 2.5 and Table 6 of the QAPP.

Data Evaluation

The data obtained during the background sampling activities described in this work plan will undergo a QA/QC review in accordance with the procedures described in the QAPP. Only those data determined by the QA/QC review to be suitable for use will be considered for the background data set.

The data determined to be suitable for use will be subjected to statistical analysis. Exploratory data analysis will include evaluation of histograms, box plots, quantile-quantile plots, and summary statistics. Quantile-quantile plots of untransformed and log-transformed data will be used to evaluate whether multiple populations or outliers are present. Identified outliers will be evaluated and excluded from the data set if they are found to be the result of error. No outlier should be excluded solely by a statistical test, and professional judgment will be used when assessing outliers.

Distributional testing, such as the Shapiro-Wilk test, and probability plots will be used to identify the type of data distribution for each chemical. The data in each unit from the BRC Deep Background study may be included with the current data to provide an even more robust background population for each lithologic unit. Two-sample statistical tests will be used to evaluate whether the data being compared are from the same population, although the choice of specific test will depend on the distribution of the populations.

Reporting and Applicability of Results

The results of the soil sampling and analysis will be summarized in a complete report that will be prepared and submitted to the NDEP. The report will include a summary of analytical data, tabulated and graphical results of the descriptive and statistical data analyses, appended laboratory reports, boring logs, a data validation summary report, and an electronic data deliverable (EDD). Applicability and use of the background data will be addressed on a case-by-case basis in future work plans; however, it is anticipated that this background data set will be of

use for soils deeper than ten feet bgs in the upcoming RI report. The geology encountered in the borings will also be used to refine the conceptual site model (CSM) for the Site, as needed.

Schedule

Upon receiving approval of this work plan, it is anticipated that the work will be performed along the timeline proposed in the below schedule:

Task Description	Time Required
Task 1. Pre-field activities including sample location selection, access agreements, permitting, subcontracting, and mobilization.	4 to 6 weeks
Task 2. Drilling and Sampling Activities.	6 to 8 weeks
Task 3. Data Analysis and Reporting.	4 to 6 weeks

Closure

Ramboll Environ appreciates the opportunity to provide this work plan to the Trust. Please contact John Pekala at (602)734-7710 or jpekala@ramboll.com if you have any questions regarding the approach described herein.

Sincerely,

John M. Pekala, PG
Senior Manager
Nevada CEM #2347,
expires 9/20/2018

Anne W. Gates, PE
Senior Manager

Jessica E. Donovan, PG
Principal

Attachments

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Figure 5b UMCf Background – Proposed Soil Boring Locations

References

- ENSR. 2007. Phase A Source Area Investigation Results Report, Tronox LLC Facility, Henderson, Nevada. September. NDEP approved November 30, 2007.
- ERM-West, Inc. 2009. 2008 Deep Soil Background Report, BMI Common Areas (Eastside), Clark County, Nevada. October.
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- ENVIRON, 2014b. Health and Safety Plan for Remedial Investigation and General Site Activities, Revision 1; Nevada Environmental Response Trust Site; Henderson, Nevada. July 18. NDEP approved August 1, 2014.
- ENVIRON, 2014c. Quality Assurance Project Plan, Revision 1; Nevada Environmental Response Trust Site; Henderson, Nevada. July 18. NDEP approved August 1, 2014.
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- NDEP, 2010b. NDEP Response to Background Issues and Determination of Background Dataset for TRX. August 17.
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Soil Background Concentration Study Work Plan

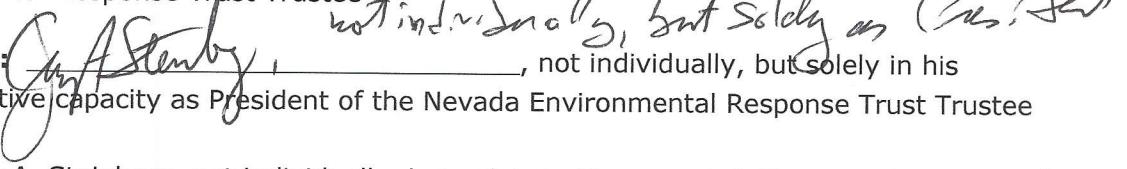
Nevada Environmental Response Trust Site (Former Tronox LLC Site) Henderson, Nevada

Nevada Environmental Response Trust (NERT) Representative Certification

I certify that this document and all attachments submitted to the Division were prepared at the request of, or under the direction or supervision of NERT. Based on my own involvement and/or my inquiry of the person or persons who manage the system(s) or those directly responsible for gathering the information or preparing the document, or the immediate supervisor of such person(s), the information submitted and provided herein is, to the best of my knowledge and belief, true, accurate, and complete in all material respects.

Office of the Nevada Environmental Response Trust

Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

Signature:  _____, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

Name: Jay A. Steinberg, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

Title: Solely as President and not individually

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Date: 7/17/17

Soil Background Concentration Study Work Plan

**Nevada Environmental Response Trust Site
(Former Tronox LLC Site)
Henderson, Nevada**

Responsible Certified Environmental Manager (CEM) for this project

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



7/17/17

**John M. Pekala, PG
Senior Manager**

Date

Certified Environmental Manager
Ramboll Environ US Corporation
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TABLES

TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-04		DBSA-08	
				Alluvium (Qh1)		Alluvium (Qh1)	
				20 ft bgs	30 ft bgs	20 ft bgs	
Metals	Aluminum	EPA 6020	mg/kg	6,960	6,070	7,240	8,100 J
	Antimony	EPA 6020	mg/kg	0.17 J-	0.14 J-	0.16 J-	0.14 J-
	Arsenic	EPA 6020	mg/kg	3.5	3.2	3.1	3.7
	Barium	EPA 6020	mg/kg	120 J-	101 J-	167 J-	108 J+
	Beryllium	EPA 6020	mg/kg	0.52	0.46	0.51	0.51
	Boron	EPA 6020	mg/kg	5.9 J	3.9 J	3.6 J	2.82 UJ
	Cadmium	EPA 6020	mg/kg	0.084 J	0.078 J	0.076 J	<0.01
	Calcium	EPA 6020	mg/kg	21,100	21,000	21,700	29,800
	Chromium VI	EPA 7196A	mg/kg	<0.17	<0.17	<0.17	<0.17
	Cobalt	EPA 6020	mg/kg	7.7	7	10.3	5.8 J
	Copper	EPA 6020	mg/kg	16.2 J-	16.8 J-	16.9 J-	16 J+
	Iron	EPA 6020	mg/kg	15,800 J	16,400 J	16,100 J	12,300 J
	Lead	EPA 6020	mg/kg	7.3	6.5	9.2	6.6
	Lithium	EPA 6010	mg/kg	17.2	15.6	<1.46	25
	Magnesium	EPA 6020	mg/kg	8,880	7,750	9,660	10,800 J
	Manganese	EPA 6020	mg/kg	261	243	507	256 J
	Mercury	EPA 7471	mg/kg	0.0084 J-	0.00668 UJ	0.01 J-	0.0085 J-
	Molybdenum	EPA 6020	mg/kg	1 J	1.1	0.58 J	1.9
	Nickel	EPA 6020	mg/kg	15.8	14.9	16.5	13.1
	Niobium	EPA 6020	mg/kg	3.8 J+	<1.51	<1.51	1.51 UJ
	Palladium	EPA 6020	mg/kg	0.62	0.5	0.6	0.7
	Phosphorus (total)	EPA 6020	mg/kg	1,300 J	1,230 J	1,130 J	836 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	1,240	1,220	1,420	1,350 J
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	383 J	225 J	363 J+	908
	Silver	EPA 6020	mg/kg	0.18 J	0.19 J	0.25 J	2.2
	Sodium	EPA 6020	mg/kg	701	705	751	841 J
	Strontium	EPA 6020	mg/kg	241 J+	191 J+	218 J+	294
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.68	0.57	0.56	0.76
	Titanium	EPA 6020	mg/kg	750	668	735	558
	Tungsten	EPA 6020	mg/kg	<0.2	<0.2	<0.2	0.2 UJ
	Uranium (total)	EPA 6020	mg/kg	1.4	1.2	1.5	1.4
	Vanadium	EPA 6020	mg/kg	54.7 J	56.9 J	59.9 J	34.7 J+
	Zinc	EPA 6020	mg/kg	27.7 J-	27.9 J-	29.9 J-	25
	Zirconium	EPA 6020	mg/kg	26.8 J-	25.2 J-	25.7 J-	22.7 J-
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.98	1.75	1.47	2.06
	Radium-228	EPA 904.0	pCi/g	1.25 J	1.36 J	1.53 J	1.28 J-
	Thorium-228	HASL-300 TH MOD	pCi/g	2.03	2.13	2	1.96
	Thorium-230	HASL-300 TH MOD	pCi/g	1.79	1.93	1.42	2.66
	Uranium-233/234	KWSR	pCi/g	1.85	1.62	1.6	2.29
	Uranium-235/236	KWSR	pCi/g	0.0814 J	0.0235 U	0.0875 J	0.0759 J

Notes:

ft bgs = feet below ground surface

< = Less than

mg/kg = milligrams per kilogram

J = Estimated with undetermined bias

pCi/g = picoCuries per gram

J+ = Estimated with a high bias

UMCf-fg1 = Upper Muddy Creek Formation, first facies

J- = Estimated with a low bias

-- = not analyzed

UJ = Estimated Non-Detect

TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-08	DBSA-09		
				Alluvium (Qh1)	Alluvium (Qh1)		UMCf-fg1
				30 ft bgs	20 ft bgs	30 ft bgs	160 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	7,600 J	7,540 J	6,520 J	9,820 J
	Antimony	EPA 6020	mg/kg	0.15 J-	0.16 J-	0.16 J-	0.22 J-
	Arsenic	EPA 6020	mg/kg	4.7	3.7	3.7	5.2
	Barium	EPA 6020	mg/kg	125 J+	113 J+	112 J+	175 J+
	Beryllium	EPA 6020	mg/kg	0.54	0.57	0.48	0.63
	Boron	EPA 6020	mg/kg	4.6 J-	<2.82	<2.82	<2.82
	Cadmium	EPA 6020	mg/kg	<0.01	0.075 J	0.08 J	0.097 J
	Calcium	EPA 6020	mg/kg	15,700	26,400	29,600	31,600
	Chromium VI	EPA 7196A	mg/kg	<0.17	<0.17	0.22 J	<0.17
	Cobalt	EPA 6020	mg/kg	7.2 J	6.6 J	6.4 J	7 J
	Copper	EPA 6020	mg/kg	14.2 J+	16.2 J-	14.1 J-	14.4 J-
	Iron	EPA 6020	mg/kg	14,200 J	13,800 J	12,800 J	14,100 J
	Lead	EPA 6020	mg/kg	7.6	5.2	5.5	7.8
	Lithium	EPA 6010	mg/kg	23	18.7	19.6	25.8
	Magnesium	EPA 6020	mg/kg	9,070 J	9,720	9,170	12,500
	Manganese	EPA 6020	mg/kg	289 J	263 J	272 J	344 J
	Mercury	EPA 7471	mg/kg	0.0215 J-	<0.00668	0.0072 J	<0.00668
	Molybdenum	EPA 6020	mg/kg	<0.105	1.5	1.3	<0.105
	Nickel	EPA 6020	mg/kg	13.8	13.8	13.6	14.8
	Niobium	EPA 6020	mg/kg	<1.51	1.51 UJ	1.51 UJ	<1.51
	Palladium	EPA 6020	mg/kg	0.61	0.56	0.5	0.73
	Phosphorus (total)	EPA 6020	mg/kg	1,290 J	1,290 J	1,440 J	950 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	1,330 J	1,430 J	1,430 J	2,390 J
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	694	751	793	869
	Silver	EPA 6020	mg/kg	0.48	0.32 J	0.16 J	0.2 J
	Sodium	EPA 6020	mg/kg	728 J	852	697	868
	Strontium	EPA 6020	mg/kg	249	236 J	207 J	291 J
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.57	0.62	0.54	0.63
	Titanium	EPA 6020	mg/kg	680	701	691	728
	Tungsten	EPA 6020	mg/kg	0.2 UJ	<0.2	<0.2	<0.2
	Uranium (total)	EPA 6020	mg/kg	1.8	1.3	1.4	1.8
	Vanadium	EPA 6020	mg/kg	47.2 J+	40.7	45.3	44.7
	Zinc	EPA 6020	mg/kg	31	23.6	23.1	28.6
	Zirconium	EPA 6020	mg/kg	24.2 J-	24.2	20.5 J	29.6
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.29	2.13	1.91	1.56
	Radium-228	EPA 904.0	pCi/g	1.66 J-	1.45 J	1.15 J	1.68 J
	Thorium-228	HASL-300 TH MOD	pCi/g	1.66	1.8	1.43	1.72
	Thorium-230	HASL-300 TH MOD	pCi/g	1.79	2.04	2.15	1.85
	Uranium-233/234	KWSR	pCi/g	1.76	2.34	2.34	1.62
	Uranium-235/236	KWSR	pCi/g	0.0736 J	0.0606 J	0.0752 J	0.0502 J

Notes:

ft bgs = feet below ground surface

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J = Estimated with undetermined bias

pCi/g = picoCuries per gram

J+ = Estimated with a high bias

UMCf-fg1 = Upper Muddy Creek Formation, first facies

J- = Estimated with a low bias

-- = not analyzed

UJ = Estimated Non-Detect

TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-10		DBSA-11	
				Alluvium (Qh1)		Alluvium (Qh1)	
				20 ft bgs	30 ft bgs	20 ft bgs	30 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	9,360 J	9,150 J	9,520 J	9,190 8,830
	Antimony	EPA 6020	mg/kg	0.14 J-	0.12 J-	0.15 J-	0.2 J- 0.18 J-
	Arsenic	EPA 6020	mg/kg	2.8	2.4	4.5	5.8 7.4
	Barium	EPA 6020	mg/kg	135 J+	134 J+	125 J+	117 122
	Beryllium	EPA 6020	mg/kg	0.54	0.53	0.53	0.59 0.61
	Boron	EPA 6020	mg/kg	<2.82	<2.82	<2.82	2.82 UJ 2.82 UJ
	Cadmium	EPA 6020	mg/kg	0.075 J	0.071 J	0.074 J	0.084 J 0.08 J
	Calcium	EPA 6020	mg/kg	29,400 J	31,900 J	20,400 J	31,700 15,500
	Chromium VI	EPA 7196A	mg/kg	1.6 J	0.17 UJ	<0.17	<0.17 <0.18
	Cobalt	EPA 6020	mg/kg	7.3 J	7.9 J	8.2 J	5.6 J 8 J
	Copper	EPA 6020	mg/kg	14.2	16.1	17.7	13.7 16.7
	Iron	EPA 6020	mg/kg	14,900 J	14,600 J	14,600 J	12,800 14,400
	Lead	EPA 6020	mg/kg	6.7	6.8	7.9	6.1 7.9
	Lithium	EPA 6010	mg/kg	14.7	15.3	20.1	24 18.7
	Magnesium	EPA 6020	mg/kg	9,530 J	10,100 J	10,800 J	12,000 12,300
	Manganese	EPA 6020	mg/kg	276 J	341 J	377 J	218 321
	Mercury	EPA 7471	mg/kg	<0.00668	<0.00668	0.0088 J	0.00668 UJ 0.00668 UJ
	Molybdenum	EPA 6020	mg/kg	0.32 J	0.35 J	0.5 J	0.53 J 0.56 J
	Nickel	EPA 6020	mg/kg	12.8	15.6	14.8	13.3 15.1
	Niobium	EPA 6020	mg/kg	3.4 J+	<1.51	<1.51	1.7 J+ <1.51
	Palladium	EPA 6020	mg/kg	0.77	0.64	0.75	1.2 0.67
	Phosphorus (total)	EPA 6020	mg/kg	1,170 J	1,100 J	1,360 J	1,180 J 1,090 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	<0.02 0.025 J
	Potassium	EPA 6020	mg/kg	999 J	923 J	1,470 J	1,320 1,870
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32 <0.32
	Silicon	EPA 6020	mg/kg	823	688	602	481 460
	Silver	EPA 6020	mg/kg	0.12 J	0.11 J	0.13 J	0.096 J 0.15 J
	Sodium	EPA 6020	mg/kg	711 J	623 J	752 J	1,100 749
	Strontium	EPA 6020	mg/kg	287 J	258 J	288 J	476 257
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2 <0.2
	Tin	EPA 6020	mg/kg	0.55	0.48	0.5	0.56 0.66
	Titanium	EPA 6020	mg/kg	547 J	550 J	658 J	522 579
	Tungsten	EPA 6020	mg/kg	0.2 UJ	0.2 UJ	0.2 UJ	<0.2 <0.2
	Uranium (total)	EPA 6020	mg/kg	1.1	1.1	1.8	2.3 2.8
	Vanadium	EPA 6020	mg/kg	42.7	40.9	46.1	39.2 J 50.2 J
	Zinc	EPA 6020	mg/kg	29.6 J-	28.9 J-	31.3 J-	28.2 31.1
	Zirconium	EPA 6020	mg/kg	19.8 J	20.1 J	24.6	21.5 J 26.4
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.93	2.12	1.86	2.29 J- 2.03 J-
	Radium-228	EPA 904.0	pCi/g	1.34 J	0.855 J	1.54 J	1.18 J- 1.57 J-
	Thorium-228	HASL-300 TH MOD	pCi/g	1.95	1.83	1.93	1.5 1.78
	Thorium-230	HASL-300 TH MOD	pCi/g	2.27	1.89	1.77	2.6 2.25
	Uranium-233/234	KWSR	pCi/g	2.13	1.98	1.77	2.61 2.17
	Uranium-235/236	KWSR	pCi/g	0.0684 J	0.0585 J	0.0696 J	0.0809 J 0.0764 J

Notes:

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UMCf-fg1 = Upper Muddy Creek Formation, first facies

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TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-11		DBSA-13	
				UMCf-fg1		Alluvium (Qh1)	
				150 ft bgs	160 ft bgs	20 ft bgs	30 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	8,590 J	8,190 J	9,660 J	10,100 J
	Antimony	EPA 6020	mg/kg	0.19 J-	0.16 J-	0.12 J-	0.13 J-
	Arsenic	EPA 6020	mg/kg	7.4	7.4	2.3	2.4
	Barium	EPA 6020	mg/kg	140	620	172	171
	Beryllium	EPA 6020	mg/kg	0.67	0.63	0.49	0.55
	Boron	EPA 6020	mg/kg	6 J	4.4 J	<2.82	<2.82
	Cadmium	EPA 6020	mg/kg	0.12	0.11 J	0.081 J	0.083 J
	Calcium	EPA 6020	mg/kg	35,800 J	38,600 J	37,700 J	29,100 J
	Chromium VI	EPA 7196A	mg/kg	0.18 J	0.19 J	<0.17	<0.17
	Cobalt	EPA 6020	mg/kg	6.2 J	6.4 J	10.8 J	10 J
	Copper	EPA 6020	mg/kg	14.9 J-	15.8 J-	19.1 J+	17 J+
	Iron	EPA 6020	mg/kg	12,700 J	12,900 J	19,800 J	22,200 J
	Lead	EPA 6020	mg/kg	8.6 J+	6.8 J+	8.6	8
	Lithium	EPA 6010	mg/kg	18.3	23.3	<3.66	<3.66
	Magnesium	EPA 6020	mg/kg	7,370 J	9,420 J	10,200 J	9,550 J
	Manganese	EPA 6020	mg/kg	321 J	301 J	386 J	390 J
	Mercury	EPA 7471	mg/kg	<0.00668	<0.00668	0.0137 J	<0.00668
	Molybdenum	EPA 6020	mg/kg	1.1 J+	0.74 J+	0.36 J	0.47 J
	Nickel	EPA 6020	mg/kg	14.1	14.4	18	15.9
	Niobium	EPA 6020	mg/kg	<1.51	<1.51	3.5 J+	<1.51
	Palladium	EPA 6020	mg/kg	0.68	0.52	0.82	0.75
	Phosphorus (total)	EPA 6020	mg/kg	1,020 J	1,130 J	1,370 J	1,310 J
	Platinum	EPA 6020	mg/kg	0.027 J	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	2,420 J	2,040 J	854 J	1,020 J
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	319 J+	292 J+	387	409
	Silver	EPA 6020	mg/kg	0.82	0.48	0.26 J	0.26 J
	Sodium	EPA 6020	mg/kg	771 J	891 J	1,030 J	1,090 J
	Strontium	EPA 6020	mg/kg	234 J	188 J	314 J	301 J
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.76	0.65	0.53	0.59
	Titanium	EPA 6020	mg/kg	612 J	544 J	767 J	813 J
	Tungsten	EPA 6020	mg/kg	0.2 UJ	0.2 UJ	0.57 J	0.34 J
	Uranium (total)	EPA 6020	mg/kg	1.3	1.2	1.4	1.4
	Vanadium	EPA 6020	mg/kg	32.5 J	33.1 J	64.6 J	67.5 J
	Zinc	EPA 6020	mg/kg	29.6 J-	29.2 J-	33.8 J-	36.6 J-
	Zirconium	EPA 6020	mg/kg	32.4	29	20.5 J-	24.7 J-
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.39 J-	--	1.74	1.57
	Radium-228	EPA 904.0	pCi/g	1.55 J-	--	1.28 J	1.11 J
	Thorium-228	HASL-300 TH MOD	pCi/g	2.15	1.68	1.42	1.39
	Thorium-230	HASL-300 TH MOD	pCi/g	1.19	1.1	2.72	2.01
	Uranium-233/234	KWSR	pCi/g	1.34	1.23	1.43	1.68
	Uranium-235/236	KWSR	pCi/g	0.0455 J	0.0563 J	0.0954 J	0.074 J

Notes:

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UMCf-fg1 = Upper Muddy Creek Formation, first facies

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TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-14		DBSA-15	
				Alluvium (Qh1)		Alluvium (Qh1)	
				20 ft bgs	30 ft bgs	20 ft bgs	
Metals	Aluminum	EPA 6020	mg/kg	10,200	10,200	11,100	12,200 J
	Antimony	EPA 6020	mg/kg	0.15 J-	0.12 J-	0.13 J-	0.105 UJ
	Arsenic	EPA 6020	mg/kg	3.1	2.6	4.4	3.2
	Barium	EPA 6020	mg/kg	186 J-	177 J-	159 J-	206 J+
	Beryllium	EPA 6020	mg/kg	0.59	0.54	0.6	0.57
	Boron	EPA 6020	mg/kg	5.9 J	5.2 J	5.8 J	7.5 J
	Cadmium	EPA 6020	mg/kg	0.085 J	0.074 J	0.076 J	0.11 J
	Calcium	EPA 6020	mg/kg	35,700	40,600	24,600	25,900 J
	Chromium VI	EPA 7196A	mg/kg	0.4 J	0.25 J	0.19 J	0.22 J-
	Cobalt	EPA 6020	mg/kg	8.1 J	6.9 J	8.6 J	9.1 J
	Copper	EPA 6020	mg/kg	15.2 J-	14.8 J-	14.6 J-	15.7
	Iron	EPA 6020	mg/kg	16,100 J	15,100 J	15,500 J	20,400 J
	Lead	EPA 6020	mg/kg	9.1	6.8	7.7	9
	Lithium	EPA 6010	mg/kg	18.8	17.8	24.9	<3.66
	Magnesium	EPA 6020	mg/kg	10,800 J	10,600 J	11,400 J	8,950 J
	Manganese	EPA 6020	mg/kg	349 J	296 J	379 J	459 J
	Mercury	EPA 7471	mg/kg	<0.00668	0.0096 J	0.0086 J	0.00668 UJ
	Molybdenum	EPA 6020	mg/kg	0.79 J	1 J	0.48 J	0.49 J
	Nickel	EPA 6020	mg/kg	14.8 J-	14.1 J-	14 J-	16.3
	Niobium	EPA 6020	mg/kg	<1.51	<1.51	<1.51	1.51 UJ
	Palladium	EPA 6020	mg/kg	0.93	0.8	0.93	1.4
	Phosphorus (total)	EPA 6020	mg/kg	1,380 J	1,080 J	1,240 J	1,570 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	1,050 J	1,120 J	1,320 J	1,210 J
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	164 J+	164 J+	210 J+	143 J+
	Silver	EPA 6020	mg/kg	0.23 J	0.31 J	0.64	0.15 J
	Sodium	EPA 6020	mg/kg	1,110	1,030	1,170	1,420 J
	Strontium	EPA 6020	mg/kg	348 J	317 J	339 J	404 J
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.57	0.54	0.52	0.33 J
	Titanium	EPA 6020	mg/kg	740 J	650 J	578 J	734 J
	Tungsten	EPA 6020	mg/kg	0.33 J-	0.26 J-	0.37 J-	<0.2
	Uranium (total)	EPA 6020	mg/kg	1.6	1.5	1.4	1.5
	Vanadium	EPA 6020	mg/kg	45.4 J	39.8 J	41.4 J	57.6 J
	Zinc	EPA 6020	mg/kg	32.1 J-	28.5 J-	35 J-	36.8 J-
	Zirconium	EPA 6020	mg/kg	29.4	27.3	25	25.9 J-
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.77	2.24 J-	1.34	1.39
	Radium-228	EPA 904.0	pCi/g	1.23 J-	1.4 J	1.21 J	1.08 J-
	Thorium-228	HASL-300 TH MOD	pCi/g	1.33	1.75	1.95	2.02
	Thorium-230	HASL-300 TH MOD	pCi/g	2.52	2.15	1.51	1.71
	Uranium-233/234	KWSR	pCi/g	2.45	2.63	1.44	1.6
	Uranium-235/236	KWSR	pCi/g	0.0839 J	0.0756 J	0.0543 J	0.083 J

Notes:

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TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-15	DBSA-17			DBSA-20
				Alluvium (Qh1)	UMCf-fg1			UMCf-fg1
				30 ft bgs	130 ft bgs	140 ft bgs	150 ft bgs	90 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	9,920 J	12,500	13,700 J	19,700	10,100
	Antimony	EPA 6020	mg/kg	0.12 J-	0.18 J-	0.19 J-	0.27 J-	0.16 J-
	Arsenic	EPA 6020	mg/kg	6.1	11.7	14.6	24.8	8
	Barium	EPA 6020	mg/kg	146 J+	400	343	228	439 J+
	Beryllium	EPA 6020	mg/kg	0.51	0.66	0.7 J	1.1	0.55
	Boron	EPA 6020	mg/kg	7.6 J	<2.82	2.82 UJ	<2.82	<2.82
	Cadmium	EPA 6020	mg/kg	0.11	0.15	0.081 J	0.13	0.14
	Calcium	EPA 6020	mg/kg	44,200 J	35,300	10,900 J	23,300	32,200
	Chromium VI	EPA 7196A	mg/kg	0.17 UJ	<0.18	<0.18	<0.2	<0.19
	Cobalt	EPA 6020	mg/kg	7.6 J	8.5	8.8 J	9.7	7.3
	Copper	EPA 6020	mg/kg	12.4	15.8	17.1 J	20.4	16.8
	Iron	EPA 6020	mg/kg	15,600 J	17,600	17,700 J	20,100	16,100
	Lead	EPA 6020	mg/kg	7.5	12.3	11.5	15.7	10.7 J+
	Lithium	EPA 6010	mg/kg	23.2	22.1	31.5	41.1	20
	Magnesium	EPA 6020	mg/kg	11,700 J	11,800 J-	13,500 J	17,600 J-	10,300
	Manganese	EPA 6020	mg/kg	375 J	498	525 J	423	379
	Mercury	EPA 7471	mg/kg	0.00668 UJ	0.012 J	0.0085 J	0.0114 J	0.00668 UJ
	Molybdenum	EPA 6020	mg/kg	0.62 J	0.96 J	0.52 J	0.61 J	0.63 J
	Nickel	EPA 6020	mg/kg	15.4	16.2	15.6 J	20.8	17.9
	Niobium	EPA 6020	mg/kg	<1.51	<1.51	<1.51	<1.51	<1.51
	Palladium	EPA 6020	mg/kg	1.1	0.75	0.74	0.61	0.8
	Phosphorus (total)	EPA 6020	mg/kg	1,390 J	1,090 J	927 J	1,010 J	937 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	1,650 J	2,820	2,560 J	4,840	2,410
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	139 J+	335 J+	232 J	412 J+	190 J+
	Silver	EPA 6020	mg/kg	0.13 J	0.28 J	0.13 J	0.14 J	0.52
	Sodium	EPA 6020	mg/kg	774 J	356	475 J	397	272
	Strontium	EPA 6020	mg/kg	308 J	280	256 J	211	250 J+
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.25 J	0.6	0.6	0.83	0.54
	Titanium	EPA 6020	mg/kg	545 J	547	556 J	500	589 J+
	Tungsten	EPA 6020	mg/kg	<0.2	0.33 J	<0.2	<0.2	0.46 J
	Uranium (total)	EPA 6020	mg/kg	2.3	1.2	1.1	1.5	1.1
	Vanadium	EPA 6020	mg/kg	37.9 J	45.3	43.4 J	45	40.2
	Zinc	EPA 6020	mg/kg	30.3 J-	38.2 J-	39.5 J	52.1 J-	35.9 J-
	Zirconium	EPA 6020	mg/kg	22.9 J-	23.5	25 J	27.9 J	16.5 J
Radionuclides	Radium-226	EPA 903.1	pCi/g	2.09	0.877 J-	1.1 J-	1.19 J-	0.818 J-
	Radium-228	EPA 904.0	pCi/g	1.5 J-	1.3 J-	1.23 J-	1.39 J-	1.53 J-
	Thorium-228	HASL-300 TH MOD	pCi/g	1.5	1.33	1.42	1.25	1.48
	Thorium-230	HASL-300 TH MOD	pCi/g	1.96	0.841	0.85	0.878	1.11
	Uranium-233/234	KWSR	pCi/g	1.91	--	--	0.909 J	1 U
	Uranium-235/236	KWSR	pCi/g	0.0941 J	--	--	0.0391 J	0.0125 U

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TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-20		DBSA-21		DBSA-23
				UMCf-fg1		UMCf-fg1		UMCf-fg1
				90 ft bgs	100 ft bgs	80 ft bgs	90 ft bgs	140 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	11,300	9,290	14,200	11,000	16,400 J
	Antimony	EPA 6020	mg/kg	0.18 J-	0.14 J-	0.22 J-	0.19 J-	0.34 J-
	Arsenic	EPA 6020	mg/kg	8	8.4	9.9	12	19.4
	Barium	EPA 6020	mg/kg	554 J+	327 J+	280	428	620
	Beryllium	EPA 6020	mg/kg	0.64	0.49	0.76	0.66	0.93
	Boron	EPA 6020	mg/kg	<2.82	<2.82	<2.82	<2.82	21.5 J
	Cadmium	EPA 6020	mg/kg	0.11 J	0.11 J	0.084 J	0.11 J	0.2
	Calcium	EPA 6020	mg/kg	25,800	36,700	9,040	15,900	15,900 J
	Chromium VI	EPA 7196A	mg/kg	<0.19	<0.17	<0.2	<0.19	<0.21
	Cobalt	EPA 6020	mg/kg	7.1	6.5	9	7.8	9.7 J
	Copper	EPA 6020	mg/kg	14.5	13	18.5 J-	16 J-	21.3
	Iron	EPA 6020	mg/kg	16,300	13,900	19,400	17,200	19,400 J
	Lead	EPA 6020	mg/kg	11.2 J+	8.7 J+	11.8	15.3	16.1
	Lithium	EPA 6010	mg/kg	19.6	20.4	40.9	26.2	78.9
	Magnesium	EPA 6020	mg/kg	10,200	10,100	17,200 J	12,400 J	31,000 J
	Manganese	EPA 6020	mg/kg	373	279	476	262	786 J
	Mercury	EPA 7471	mg/kg	0.00668 UJ	0.00668 UJ	<0.00668	<0.00668	0.0101 J
	Molybdenum	EPA 6020	mg/kg	0.56 J	0.44 J	0.7 J	0.49 J	0.97 J
	Nickel	EPA 6020	mg/kg	16.1	14.3	20.1 J-	15.7 J-	21.3
	Niobium	EPA 6020	mg/kg	<1.51	<1.51	<1.51	<1.51	4 J
	Palladium	EPA 6020	mg/kg	1	0.74	0.77	0.83	0.49
	Phosphorus (total)	EPA 6020	mg/kg	1,030 J	778 J	1,040 J	945 J	761 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	0.033 J	<0.02
	Potassium	EPA 6020	mg/kg	2,820	2,160	3,030	2,210	6,190 J
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	219 J+	188 J+	238	205	212 J+
	Silver	EPA 6020	mg/kg	0.19 J	0.099 J	0.3 J+	0.21 J+	0.14 J
	Sodium	EPA 6020	mg/kg	361	259	384	357	719 J
	Strontium	EPA 6020	mg/kg	324 J+	238 J+	212	232	164 J
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.5	<0.0526	0.73	0.96	0.8
	Titanium	EPA 6020	mg/kg	611 J+	573 J+	610	670	616 J
	Tungsten	EPA 6020	mg/kg	0.27 J	<0.2	0.58 J-	0.26 J-	0.2 UJ
	Uranium (total)	EPA 6020	mg/kg	1.2	1	1.5	1.9	4.4
	Vanadium	EPA 6020	mg/kg	40.8	34.3	45.8	42.2	36.9
	Zinc	EPA 6020	mg/kg	34.2 J-	29.5 J-	43.2 J-	35.5 J-	61.3
	Zirconium	EPA 6020	mg/kg	17.1 J	15.4 J	20.2 J	36.7	25.1 J+
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.1 J-	0.857 J-	0.892 J-	1 UJ	1.63 J-
	Radium-228	EPA 904.0	pCi/g	1.3 J-	1.12 J-	1.48 J-	1.36 J-	1.08 J-
	Thorium-228	HASL-300 TH MOD	pCi/g	1.46	1.27	1.36	1.63	1.01
	Thorium-230	HASL-300 TH MOD	pCi/g	1.13	0.827	1.3	1	2.09
	Uranium-233/234	KWSR	pCi/g	1 U	1 U	1.04	1 U	1.81
	Uranium-235/236	KWSR	pCi/g	0.0155 U	0.0285 J	0.0426 J	0.0539 J	0.0883 J

Notes:

ft bgs = feet below ground surface

< = Less than

mg/kg = milligrams per kilogram

J = Estimated with undetermined bias

pCi/g = picoCuries per gram

J+ = Estimated with a high bias

UMCf-fg1 = Upper Muddy Creek Formation, first facies

J- = Estimated with a low bias

-- = not analyzed

UJ = Estimated Non-Detect

TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-23	DBSA-27	DBSA-30		
				UMCf-fg1	UMCf-fg1	UMCf-fg1		
				150 ft bgs	100 ft bgs	130 ft bgs	140 ft bgs	150 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	13,700 J	14,300 J	3,190	3,790	3,380
	Antimony	EPA 6020	mg/kg	0.29 J-	0.18 J-	0.13 J-	0.15 J-	0.066 J-
	Arsenic	EPA 6020	mg/kg	11	10.5	2.2	2.3	2.1
	Barium	EPA 6020	mg/kg	113	231	64.5 J+	115 J+	118 J+
	Beryllium	EPA 6020	mg/kg	0.67	0.86	0.17	0.21	0.19
	Boron	EPA 6020	mg/kg	13.9 J+	<3.53	<2.82	<2.82	<2.82
	Cadmium	EPA 6020	mg/kg	0.078 J	0.1 J	<0.01	<0.01	<0.01
	Calcium	EPA 6020	mg/kg	4,190 J	19,000 J	19,200	15,800	10,900
	Chromium VI	EPA 7196A	mg/kg	<0.2	--	<0.18	<0.18	<0.18
	Cobalt	EPA 6020	mg/kg	6.7 J	6.6	2.1	2.2	1.6
	Copper	EPA 6020	mg/kg	14.9	13.3	4.4	5.2	4.1
	Iron	EPA 6020	mg/kg	15,300 J	12,700 J	4,520	4,800	3,620
	Lead	EPA 6020	mg/kg	13	12.8	15.7 J-	9.1 J-	7.8 J-
	Lithium	EPA 6010	mg/kg	47.7	53.4	35.6	31.6	33
	Magnesium	EPA 6020	mg/kg	15,700 J	18,300 J	2,780 J+	3,130 J+	3,000 J+
	Manganese	EPA 6020	mg/kg	294 J	296 J	126	137	162
	Mercury	EPA 7471	mg/kg	<0.00668	--	0.008 J	<0.00668	<0.00668
	Molybdenum	EPA 6020	mg/kg	0.65 J	0.51 J	0.12 J	0.18 J	0.15 J
	Nickel	EPA 6020	mg/kg	15.3	16	7	7	4.5
	Niobium	EPA 6020	mg/kg	<1.51	1.89 UJ	<1.51	<1.51	<1.51
	Palladium	EPA 6020	mg/kg	0.7	0.31	0.18	0.21	0.16
	Phosphorus (total)	EPA 6020	mg/kg	703 J	608 J	546 J	479 J	657 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.025	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	5,770 J	6,050 J	1,030	1,340	1,260
	Selenium	EPA 6020	mg/kg	<0.32	<0.4	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	465 J+	1,000	315	288	323
	Silver	EPA 6020	mg/kg	0.088 J	0.1 J+	0.055 J+	0.078 J+	0.07 J+
	Sodium	EPA 6020	mg/kg	1,080 J	966 J	583	722	332
	Strontium	EPA 6020	mg/kg	249 J	178 J	71.8	88.5	68.5
	Thallium	EPA 6020	mg/kg	<0.2	<0.25	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.6	0.72	<0.0526	<0.0526	<0.0526
	Titanium	EPA 6020	mg/kg	579 J	619	228 J+	251 J+	175 J+
	Tungsten	EPA 6020	mg/kg	0.2 UJ	0.25 UJ	<0.2	<0.2	<0.2
	Uranium (total)	EPA 6020	mg/kg	2.5	1.7 J+	0.31	0.35	0.32
	Vanadium	EPA 6020	mg/kg	33.1	30	12.8 J+	13.8 J+	10 J+
	Zinc	EPA 6020	mg/kg	43.8	56.4	24.2	17.3	16.1
	Zirconium	EPA 6020	mg/kg	20.4 J+	21.5 J	7.3 J	7.3 J	6.2 J
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.01 J-	--	--	--	--
	Radium-228	EPA 904.0	pCi/g	0.989 J-	--	--	--	--
	Thorium-228	HASL-300 TH MOD	pCi/g	1.16	1.58	1.34	1.51	1.12
	Thorium-230	HASL-300 TH MOD	pCi/g	1.12	1.2	0.634	0.868	0.957
	Uranium-233/234	KWSR	pCi/g	1.51	1.32	1 U	1 U	--
	Uranium-235/236	KWSR	pCi/g	0.0669 J	0.048 J	0.0373 J	0.0388 J	--

Notes:

ft bgs = feet below ground surface

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J+ = Estimated with a high bias

UMCf-fg1 = Upper Muddy Creek Formation, first facies

J- = Estimated with a low bias

-- = not analyzed

UJ = Estimated Non-Detect

TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-30	DBSA-32			DBSA-33
				UMCf-fg1	UMCf-fg1			UMCf-fg1
				160 ft bgs	70 ft bgs	80 ft bgs	95 ft bgs	20 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	5,240	9,380 J	7,360 J	8,820 J	7,010
	Antimony	EPA 6020	mg/kg	0.1 J-	0.105 UJ	0.15 J-	0.15 J-	0.15 J-
	Arsenic	EPA 6020	mg/kg	3.1	5.2	4.7	7.3	6.5
	Barium	EPA 6020	mg/kg	188 J+	154	218	155	145 J+
	Beryllium	EPA 6020	mg/kg	0.3	0.44	0.39	0.52	0.35
	Boron	EPA 6020	mg/kg	<2.82	<2.82	<2.82	<2.82	22.9
	Cadmium	EPA 6020	mg/kg	0.06	0.11 J	0.064 J	0.11 J	<0.01
	Calcium	EPA 6020	mg/kg	12,900	31,100	14,200	29,900	23,200
	Chromium VI	EPA 7196A	mg/kg	<0.18	<0.16	<0.16	<0.16	<0.16
	Cobalt	EPA 6020	mg/kg	2.4	5	3.6	5.6	2.6
	Copper	EPA 6020	mg/kg	5.8	10.5 J-	9.8 J-	10.6 J-	6
	Iron	EPA 6020	mg/kg	5,430	10,900	11,100	11,300	7,010
	Lead	EPA 6020	mg/kg	9.3 J-	13.1	11.4	13.7	4.6 J-
	Lithium	EPA 6010	mg/kg	45.4	40.8	27	31.5	189
	Magnesium	EPA 6020	mg/kg	5,610 J+	7,080 J	4,930 J	9,530 J	13,500 J+
	Manganese	EPA 6020	mg/kg	236	177	135	307	165
	Mercury	EPA 7471	mg/kg	<0.00668	--	--	--	<0.00668
	Molybdenum	EPA 6020	mg/kg	0.3 J	0.26 J	0.59 J	0.46 J	0.4 J
	Nickel	EPA 6020	mg/kg	6.3	10.5	10.4	14.3	6.2
	Niobium	EPA 6020	mg/kg	<1.51	<1.51	<1.51	<1.51	<1.51
	Palladium	EPA 6020	mg/kg	0.18	0.38	0.3	0.27	0.73
	Phosphorus (total)	EPA 6020	mg/kg	474 J	1,120 J	908 J	615 J	311 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	1,780	3,250	2,870	3,280	3,620
	Selenium	EPA 6020	mg/kg	<0.32	<0.32	<0.32	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	397	700	649	736	285
	Silver	EPA 6020	mg/kg	0.12 J+	0.06 J+	0.051 J+	0.061 J+	0.24 J+
	Sodium	EPA 6020	mg/kg	405	1,200 J	1,050 J	857 J	445
	Strontium	EPA 6020	mg/kg	74.4	246 J+	195 J+	170 J+	294
	Thallium	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.24	0.28 J	0.27 J	0.38 J	0.36
	Titanium	EPA 6020	mg/kg	243 J+	672	556	584	271 J+
	Tungsten	EPA 6020	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
	Uranium (total)	EPA 6020	mg/kg	0.51	0.97	0.7	1.7	0.79
	Vanadium	EPA 6020	mg/kg	13.1 J+	36.6 J	33.7 J	31.1 J	13.5 J+
	Zinc	EPA 6020	mg/kg	19.3	40.4 J-	37 J-	33.2 J-	20.5
	Zirconium	EPA 6020	mg/kg	10.5 J	16.9 J	14.6 J	18.8 J	16.4
Radionuclides	Radium-226	EPA 903.1	pCi/g	1.04 J-	--	1 UJ	1 UJ	0.754 J-
	Radium-228	EPA 904.0	pCi/g	1.19 J-	--	1.06 J-	1.05 J-	1.03 U
	Thorium-228	HASL-300 TH MOD	pCi/g	1.51	1.16	1.08	1.1	1.29
	Thorium-230	HASL-300 TH MOD	pCi/g	0.845	0.495	0.53	0.879	1.15
	Uranium-233/234	KWSR	pCi/g	--	0.626 J	1 U	1.11	1.03
	Uranium-235/236	KWSR	pCi/g	--	0.0286 U	0.0112 U	0.0635 J	0.036 J

Notes:

ft bgs = feet below ground surface

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pCi/g = picoCuries per gram

J+ = Estimated with a high bias

UMCf-fg1 = Upper Muddy Creek Formation, first facies

J- = Estimated with a low bias

-- = not analyzed

UJ = Estimated Non-Detect

TABLE 1. ANALYTICAL RESULTS

2008 Deep Background Study, BRC

Henderson, Nevada

Chemical Group	Chemical Name	Method	Unit	DBSA-33	
				UMCf-fg1	
				20 ft bgs	30 ft bgs
Metals	Aluminum	EPA 6020	mg/kg	6,660	7,520
	Antimony	EPA 6020	mg/kg	0.14 J-	0.13 J-
	Arsenic	EPA 6020	mg/kg	6.9	4.8
	Barium	EPA 6020	mg/kg	159 J+	110 J+
	Beryllium	EPA 6020	mg/kg	0.35	0.37
	Boron	EPA 6020	mg/kg	22.5	21.5
	Cadmium	EPA 6020	mg/kg	<0.01	<0.01
	Calcium	EPA 6020	mg/kg	26,100	21,100
	Chromium VI	EPA 7196A	mg/kg	<0.16	<0.16
	Cobalt	EPA 6020	mg/kg	2.5	2.6
	Copper	EPA 6020	mg/kg	5.8	5
	Iron	EPA 6020	mg/kg	6,820	6,910
	Lead	EPA 6020	mg/kg	4.4 J-	5 J-
	Lithium	EPA 6010	mg/kg	185	176
	Magnesium	EPA 6020	mg/kg	13,100 J+	13,600 J+
	Manganese	EPA 6020	mg/kg	159	174
	Mercury	EPA 7471	mg/kg	<0.00668	<0.00668
	Molybdenum	EPA 6020	mg/kg	0.37 J	0.32 J
	Nickel	EPA 6020	mg/kg	6	7.2
	Niobium	EPA 6020	mg/kg	<1.51	<1.51
	Palladium	EPA 6020	mg/kg	0.68	0.55
	Phosphorus (total)	EPA 6020	mg/kg	303 J	299 J
	Platinum	EPA 6020	mg/kg	<0.02	<0.02
	Potassium	EPA 6020	mg/kg	3,450	3,870
	Selenium	EPA 6020	mg/kg	<0.32	<0.32
	Silicon	EPA 6020	mg/kg	271	195
	Silver	EPA 6020	mg/kg	0.17 J+	0.37 J+
	Sodium	EPA 6020	mg/kg	411	434
	Strontium	EPA 6020	mg/kg	278	215
	Thallium	EPA 6020	mg/kg	<0.2	<0.2
	Tin	EPA 6020	mg/kg	0.34	0.33
	Titanium	EPA 6020	mg/kg	259 J+	201 J+
	Tungsten	EPA 6020	mg/kg	<0.2	<0.2
	Uranium (total)	EPA 6020	mg/kg	0.81	0.8
	Vanadium	EPA 6020	mg/kg	13 J+	10.7 J+
	Zinc	EPA 6020	mg/kg	19.9	21.2
	Zirconium	EPA 6020	mg/kg	16.4	12.6
Radionuclides	Radium-226	EPA 903.1	pCi/g	1 J-	1 UJ
	Radium-228	EPA 904.0	pCi/g	1.26 J-	1.25 J-
	Thorium-228	HASL-300 TH MOD	pCi/g	1.23	1.24
	Thorium-230	HASL-300 TH MOD	pCi/g	1.14	0.862
	Uranium-233/234	KWSR	pCi/g	1.07	1 U
	Uranium-235/236	KWSR	pCi/g	0.0188 U	0.0188 U

Notes:

ft bgs = feet below ground surface

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J = Estimated with undetermined bias

pCi/g = picoCuries per gram

J+ = Estimated with a high bias

UMCf-fg1 = Upper Muddy Creek Formation, first facies

J- = Estimated with a low bias

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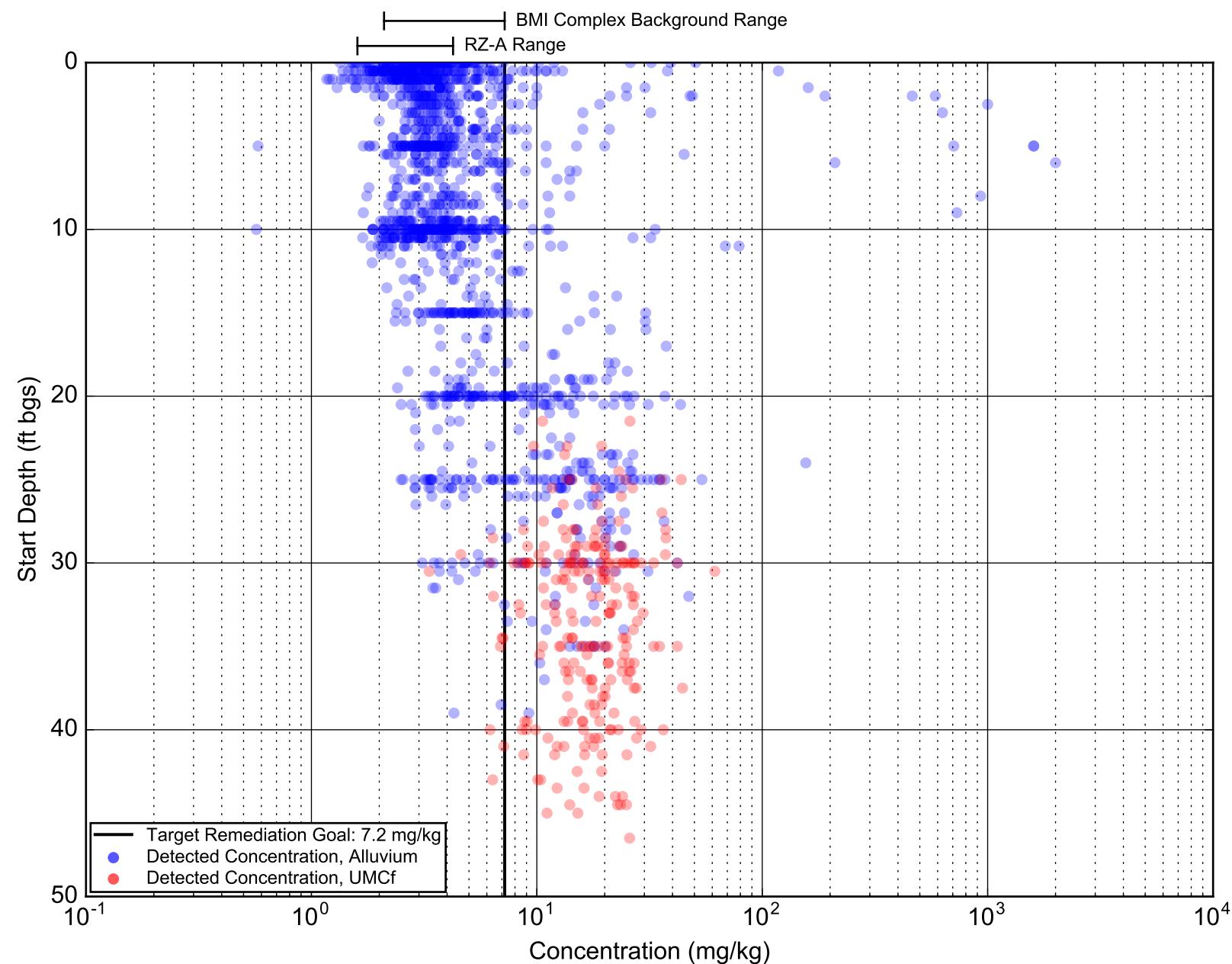
TABLE 2. PROPOSED BACKGROUND CHEMICAL ANALYSES

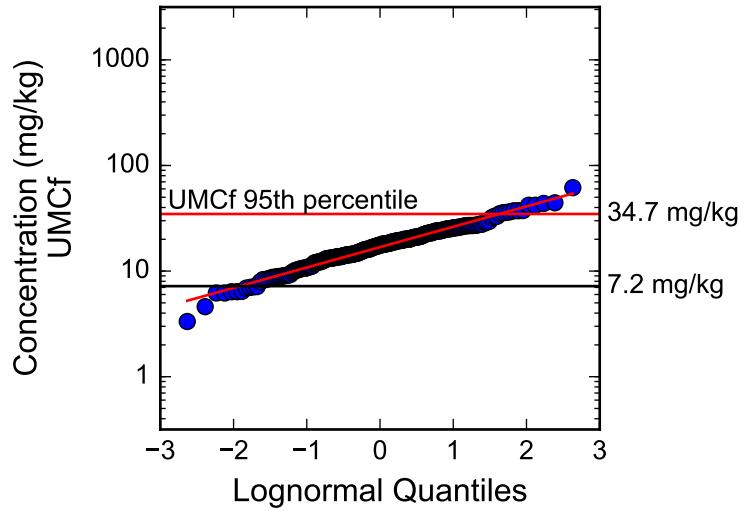
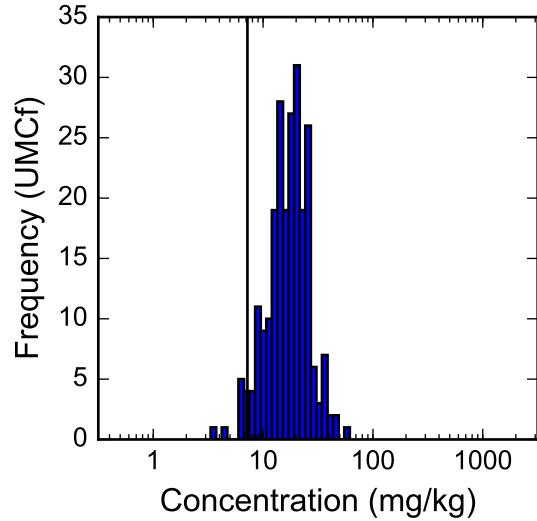
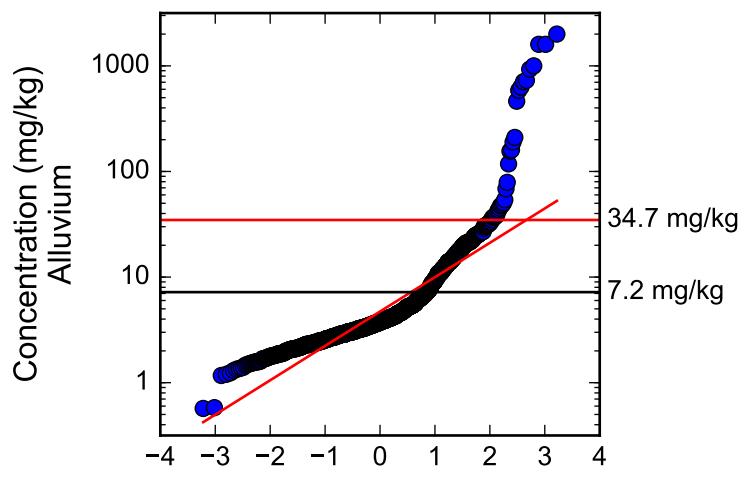
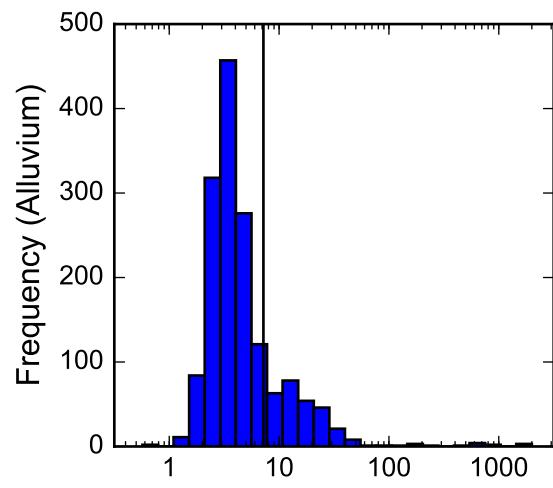
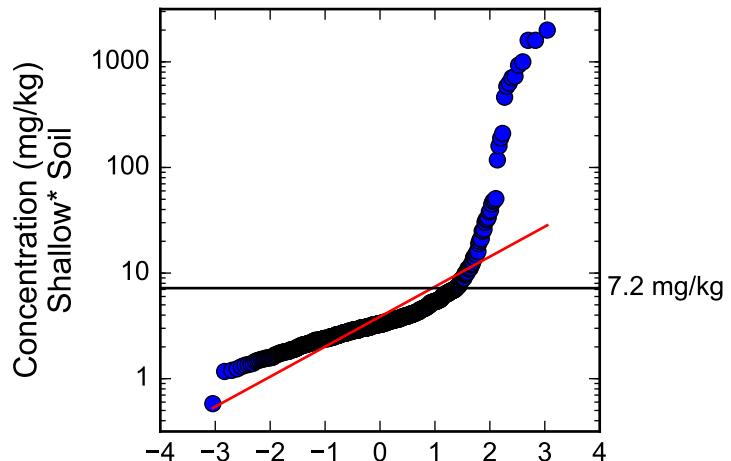
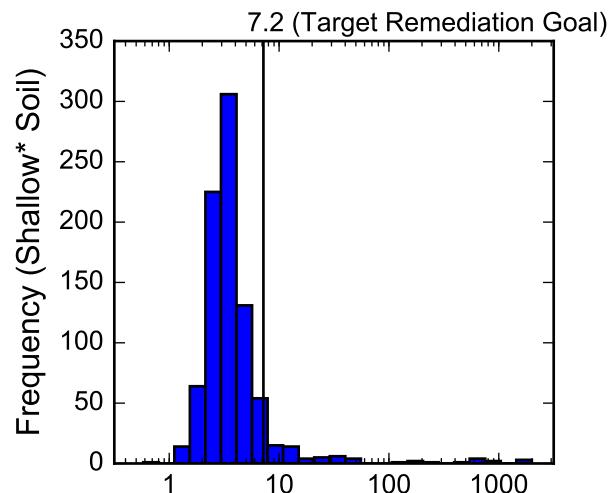
Nevada Environmental Response Trust Site

Henderson, Nevada

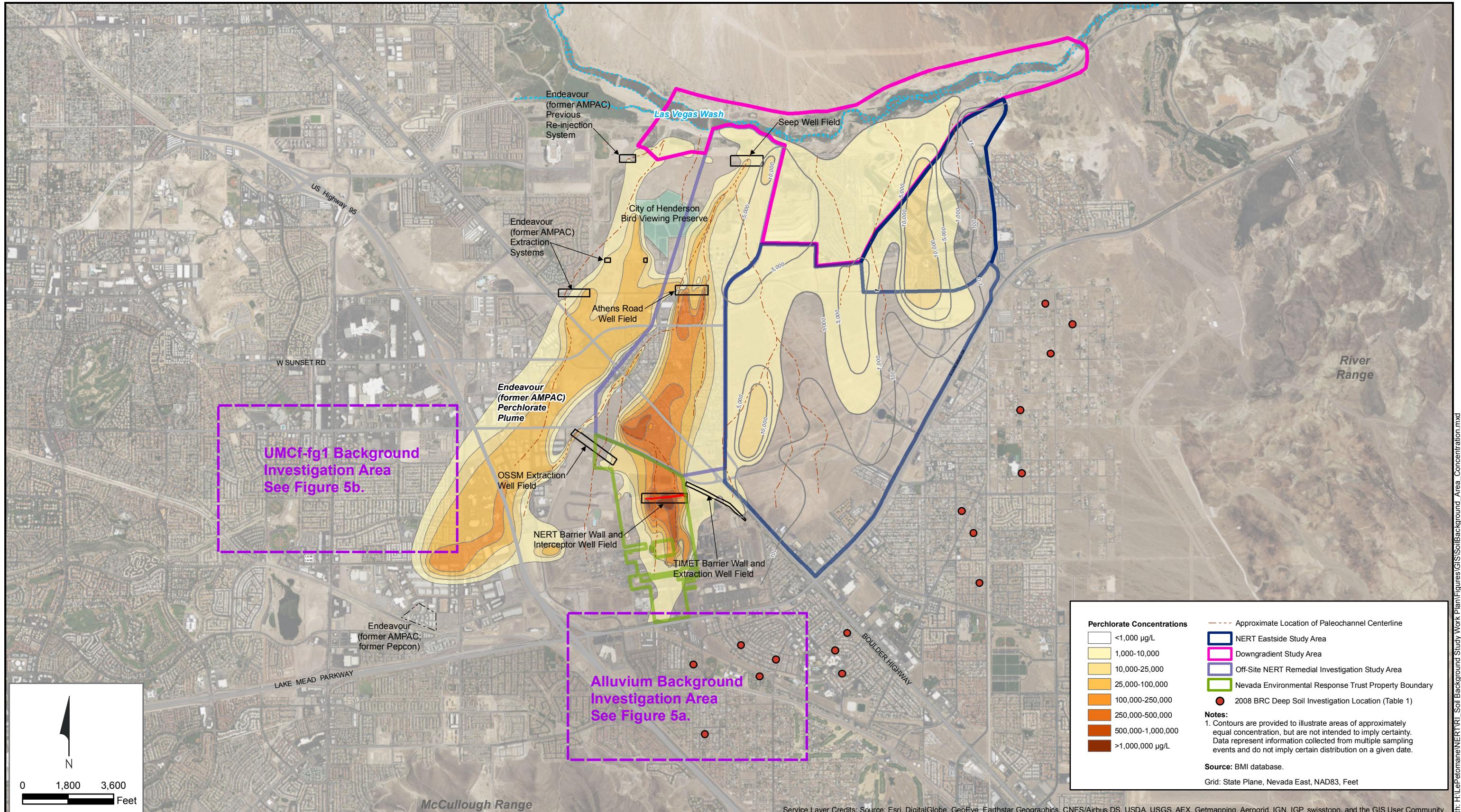
Chemical Group	Method	Chemical Name
Metals	EPA Method 200.7 / 6010	Aluminum
		Barium
		Boron
		Cadmium
		Chromium (total)
		Cobalt
		Copper
		Iron
		Lead
		Magnesium
		Manganese
		Molybdenum
		Nickel
		Phosphorus (total)
		Silver
		Strontium
		Tungsten
		Vanadium
		Zirconium
	EPA Method 200.8 / 6020 / 6020A	Antimony
		Arsenic
		Niobium
		Palladium
		Selenium
		Thallium
		Uranium-238
Radionuclides	EPA Method 7199	Chromium VI
	EPA Method 7471A	Mercury
	DOE EML HASL 300 A-01-R (alpha spectroscopy)	Thorium-228
	EPA Method 903.0	Thorium-230
		Thorium-232
		Uranium-233/234
		Uranium-235/236
		Uranium-238
		Radium-226
	EPA Method 904.0	Radium-228

FIGURES

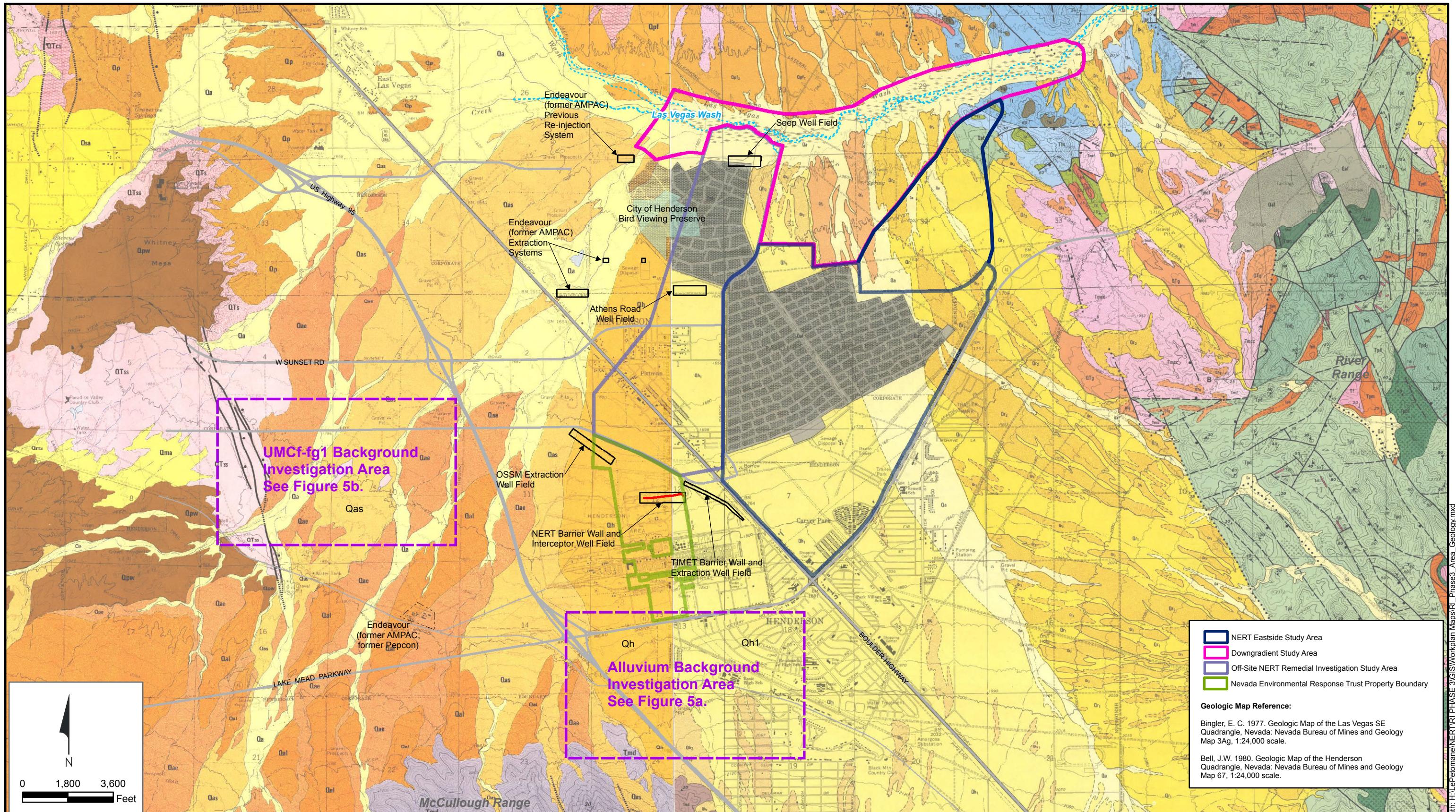


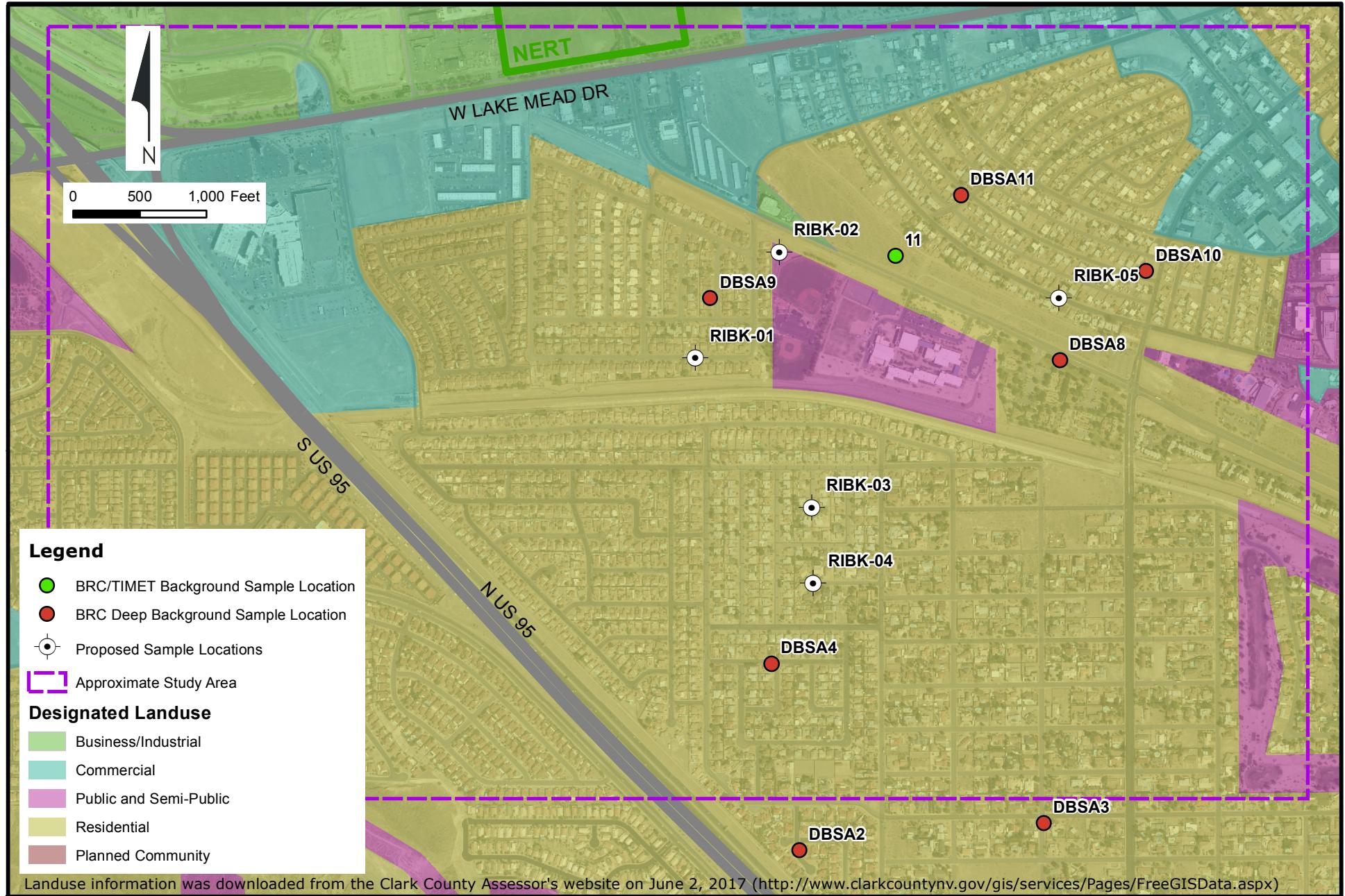


*Shallow soil includes all samples with end depths less than or equal to 10 feet below ground surface

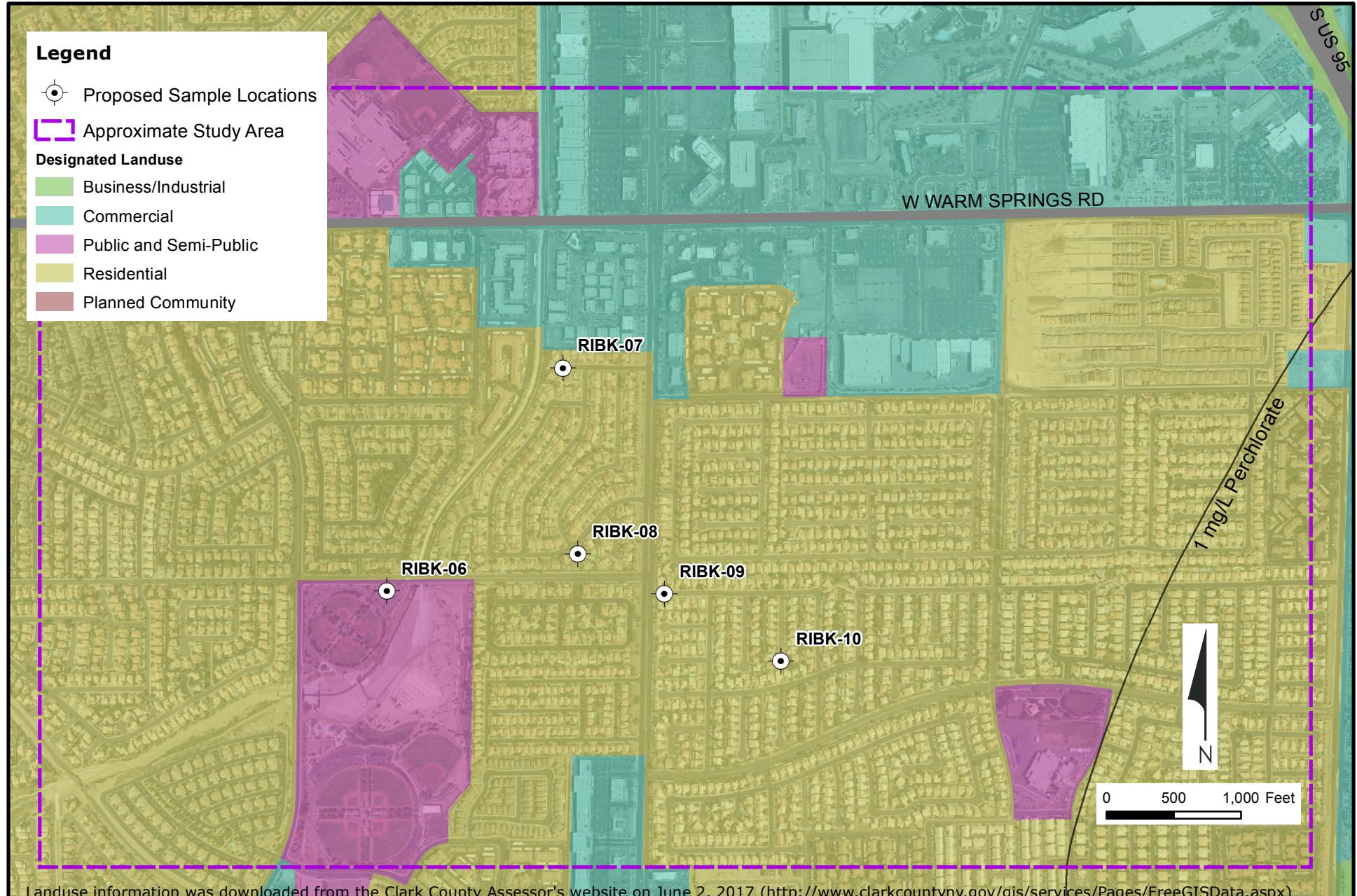


RAMBOLL ENVIRON	Area Overview Soil Background Concentration Study Work Plan Nevada Environmental Response Trust Site; Henderson, Nevada	Figure 3
Drafter: RS	Date: 7/14/2017	Contract Number: 21-41400C
		Approved by:
		Revised:





RAMBOLL ENVIRON	Alluvium Background - Proposed Soil Boring Locations Soil Background Concentration Study Work Plan Nevada Environmental Response Trust Henderson, Nevada	Figure 5a
Drafter: RS	Date: 7/14/2017	Contract Number: 21-41400C



RAMBOLL ENVIRON	UMCF Background - Proposed Soil Boring Locations Soil Background Concentration Study Work Plan Nevada Environmental Response Trust Henderson, Nevada	Figure 5b
Drafter: RS	Date: 7/14/2017	Contract Number: 21-41400C