HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR THE SOUTHERN RIBs SUB-AREA

BMI COMMON AREAS (EASTSIDE)
CLARK COUNTY, NEVADA

Prepared for:
Nevada Division of Environmental Protection
Bureau of Corrective Actions
2030 E. Flamingo Road, Suite 230
Las Vegas, Nevada 89119-0818

Prepared by:

Basic Remediation Company LLC
875 Warm Springs Road
Henderson, Nevada 89011

DECEMBER 2012

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.

Ranajit Sahu December 17, 2012

Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2013) Date
BRC Project Manager

TABLE OF CONTENTS

FIGURES

TABLES

TABLES

TABLES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
µg/L	micrograms per liter
$\mu g/m^2,min^{-1}$	micrograms per square meter per minute
µm	micrometer
Aa	alluvial aquifer
ADD	average daily dose
AOC3	Settlement Agreement and Administrative Order on Consent, Phase 3
ARR	asbestos-related risk
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
BCL	Basic Comparison Level
bgs	below ground surface
BMI	Basic Management, Inc.
BRC	Basic Remediation Company
CAMU	Corrective Action Management Unit
CD	compact disc
cm	centimeter
CoH	city of Henderson
COPC	chemical of potential concern
CSF	cancer slope factor
CSM	conceptual site model
CSP	Confirmation Sampling Plan
DAF	dilution attenuation factor
DBS&A	Daniel B. Stephens & Associates, Inc.
DOE	U.S. Department of Energy
DQI	data quality indicator
DQO	data quality objective
DVSR	Data Validation Summary Report
EC	exposure concentration
ECI	Environmental Conditions Investigation
ERM	Environmental Resources Management
FSSOP	Field Sampling and Standard Operating Procedures
GC/MS	gas chrmotograph/mass spectrometry
GES	Geotechnical and Environmental Services
GiSdT®	Guided Interactive Statistical Decision Tools
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment
HI	hazard index

ACRONYMS AND ABBREVIATIONS (Continued)

HQ	hazard quotient
IEUBK	Integrated Exposure Uptake Biokinetic Model
ILCR	Incremental lifetime cancer risk
IRIS	Integrated Risk Information System
IRM	interim remedial measure
IUR	inhalation unit risk
J	USEPA data qualifier, which indicates an estimated value
LADD	lifetime average daily dose
LBCL	BCLs for protection of groundwater
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LMS	linearized multi-stage
LOAEL	lowest-observed-adverse-effect-level
MDA	minimum detectable activity
mg/kg	milligrams per kilogram
mg/kg-d	milligram per kilogram per day
mg/m^3	milligram per cubic meter
MS/MSD	matrix spike/matrix spike duplicate
msl	mean sea level
MWH	Montgomery Watson Harza
NBMG	Nevada Bureau of Mines and Geology
NDEP	Nevada Division of Environmental Protection
NFAD	No Further Action Determination
NOAEL	no-observable-adverse-effect-level
ORNL	Oak Ridge National Laboratory
PAH	polynuclear aromatic hydrocarbon
PARCC	precision, accuracy, representativeness, comparability, and completeness
PCB	polychlorinated biphenyl
pCi/g	picoCuries per gram
PEF	particulate emission factor
PNNL	Pacific Northwest National Laboratories
ppt	parts per trillion
PQL	practical quantitation limit
QA/QC	quality assurance/quality control
Qal	Quaternary alluvium
QAPP	Quality Assurance Project Plan
R	rejected
RAGS	Risk Assessment Guidance for Superfund
RAS	Remedial Alternatives Study

ACRONYMS AND ABBREVIATIONS (Continued)

RAWP	Removal Action Work Plan
RfC	reference concentration
RfD	reference dose
RIB	Rapid Infiltration Basin
ROD	Record of Decision
RPD	relative percent difference
SAP	Sampling and Analysis Plan
SIM	selective ion mode
SOP	Standard Operating Procedure
SPLP	synthetic precipitation leaching procedure
SQL	sample quantitation limit
SRC	Site-related chemical
SVOC	semi-volatile organic compound
TCDD	tetrachlorodibenzo-*p*-dioxin
TDS	total dissolved solids
TEF	toxicity equivalency factor
TEQ	toxicity equivalency
TICs	tentatively identified compound
TIMET	Titanium Metals Corporation
TMCf	Tertiary Muddy Creek Formation
TPH	total petroleum hydrocarbons
U	undetected
UCL	upper confidence limit
UJ	USEPA data qualifier, which indicates a non-detect estimated value
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
WRS	Wilcoxon Rank Sum

EXECUTIVE SUMMARY

Basic Remediation Company LLC (BRC) has prepared this Human Health Risk Assessment (HHRA) and Closure Report for the Southern Rapid Infiltration Basins (RIBs) Sub-Area (Site) of the Basic Management, Inc. (BMI) Common Areas (Eastside) in Clark County, Nevada. This Sub-Area is so named due to the presence of features used by the city of Henderson as RIBs. The purpose of this report is to support a request for a No Further Action Determination (NFAD) by the Nevada Division of Environmental Protection (NDEP) for the Site.

The HHRA evaluates the potential for adverse human health impacts that may occur as a result of potential exposures to residual concentrations of chemicals in soil, groundwater, and air, following remediation of the Site. If the residual risks do not pose an unacceptable risk to human health and the environment, then an NFAD will be requested from the NDEP. Upon issuance of an NFAD by the NDEP, redevelopment of the Site is expected to proceed in a manner consistent with the Environmental Covenant (Instrument 201102030002818 Clark County Recorders Office) that is attached to the property. This report also describes the various remediation actions that were performed and presents the subsequent confirmation data collected from 2008 through 2010 at the Site.

BACKGROUND

An initial confirmation sampling investigation was conducted at the Site in 2008 in accordance with the BRC's *Sampling and Analysis Plan* (SAP, approved by the NDEP on September 11, 2008),[1] with follow-up sampling in 2009 and 2010. The SAP addressed sampling procedures such that remaining contaminants and their potential impacts to future Site uses (as discussed in Section 1.1 of the *BRC Closure Plan* for the BMI Common Areas [BRC, Environmental Resources Management (ERM), and Daniel B. Stephens & Associates, Inc. [DBS&A] 2007[2]]) can be determined. The Site investigation involved collection of soil matrix and surface flux samples from throughout the Site. The sampling plan performed for this purpose, as described in Section 4, of the SAP (BRC 2008) was consistent with the approach presented in Section 2 of the *Statistical Methodology Report* (NewFields 2006). The *Statistical Methodology Report* describes the statistical methods that are used to confirm the final soils closure at each of the Eastside sub-

[1] The SAP for the Southern RIBs Sub-Area assumed Site boundaries that are more extensive than the current site boundaries. Specifically, the Site was revised to exclude 1) the Warm Springs Road Right-of-Way, which was granted an NFAD in November 2010; and 2) along the northernmost boundary and adjacent to the Beta Ditch.

[2] The BRC Closure Plan was finalized and approved by NDEP in 2007. Subsequent to this date revisions were made to Section 9 of the BRC Closure Plan (Risk Assessment Methodology–Human Health). The latest revision to Section 9 is March 2010. No other sections of the BRC Closure Plan have been revised since 2007.

areas of the BMI Common Areas. Several subsequent rounds of soil remediation and confirmation sampling were performed. The final number of samples collected was determined to be adequate for the completion of a statistically robust dataset upon which to perform a HHRA.

CONCEPTUAL SITE MODEL

The conceptual site model for the Site considers current and potential future land-use conditions. Currently, the Site is undeveloped. Current receptors that may be exposed to Site chemicals of potential concern (COPCs) include on-site trespassers, occasional on-site workers, and off-site residents. Future receptors identified as "on-site receptors" are defined as receptors located within the current Site boundaries (Figure 1), while future "off-site receptors" are those located outside the current Site boundaries. Under the prospective redevelopment plan, the Site may be used for a variety of potential purposes, including Urban Core; retail/commercial development; high and medium density residential structures; and associated streets, parking areas, and parks. However, the HHRA assumes unrestricted future land use.

Therefore, future receptors may include on-site residents and visitors, indoor workers, outdoor maintenance workers, construction workers, trespassers, and off-site residents. Due to the requirement for use of default reasonable maximum exposure parameters for future receptors, exposures to future receptors are greater than current exposures. Accordingly, for conservatism only future receptors were assessed in the HHRA. Potential exposures to off-site residents were qualitatively evaluated. The entire Site will be enhanced by restoration and redevelopment once remediation is complete. Therefore, there is no exposure to ecological receptors, because the Site will be prepared for human use in a residential and/or commercial setting. The HHRA conforms to the methodology included in Section 9 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

DATA REVIEW AND USABILITY EVALUATION

A data review and usability evaluation was performed to identify appropriate data for use in the HHRA. The results of the data usability evaluation indicate that the data collected in 2008 through 2010 are adequate in terms of quality for use in a risk assessment.

HUMAN HEALTH RISK ASSESSMENT

The HHRA was conducted to determine if chemical concentrations in Site soils are either: (1) representative of background conditions; or (2) do not pose an unacceptable risk to human health and the environment under current and potential future use conditions. The HHRA followed the procedures outlined in U.S. Environmental Protection Agency (USEPA) and the

NDEP guidance documents. As noted above, the HHRA also conforms to the methodology presented in Section 9 of the NDEP-approved *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), and includes all COPCs for the Site. The Site was divided into three exposure areas: (1) SRC-J02/J03, (2) SRC-J21, and (3) the total Site ("Site-Wide"); cancer risks and non-cancer hazards were calculated for each of the exposure areas. This was done to accommodate the different distributions (and related exposure point concentrations) for metals due to multiple remedial actions surrounding original sample locations SRC-J02/J03 and SRC-J21. For all other COPCs, the exposure point concentrations were based on the entire Site-wide data set. Radionuclides were not included as COPCs because radionuclide activities were consistent with background conditions. Results of the HHRA are summarized in Table ES-1.

TABLE ES-1: SUMMARY OF HUMAN HEALTH RISK ASSESSMENT CALCULATIONS

Residential Scenario			
	Exposure Area		
	Site-Wide	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	1.6	2.2	2.5
Target Organ Non-Cancer HI[2]	0.67	0.88	0.96
Background Non-Cancer HI[3]	1.2	1.2	1.2
Chemical Cancer Risk[4]	3×10^{-6}	3×10^{-6}	3×10^{-6}
Asbestos Risk[5]	1×10^{-8} to 2×10^{-7}	--	--

Construction Worker Scenario			
	Exposure Area		
	Site-Wide	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	0.60	0.79	0.89
Chemical Cancer Risk[4]	4×10^{-8}	5×10^{-8}	6×10^{-8}
Asbestos Risk[5]	2×10^{-8} to 3×10^{-7}	--	--

Commercial Worker Scenario			
	Exposure Area		
	Site-Wide	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	0.047	0.061	0.069
Chemical Cancer Risk[4]	3×10^{-7}	3×10^{-7}	3×10^{-7}
Asbestos Risk[5]	2×10^{-9} to 4×10^{-8}	--	--

Maintenance Worker Scenario			
	Exposure Area		
	Site-Wide	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	0.077	0.10	0.12
Chemical Cancer Risk[4]	3×10^{-7}	3×10^{-7}	3×10^{-7}
Asbestos Risk[5]	5×10^{-9} to 9×10^{-8}	--	--

1 – HI = hazard index; the value presented is the total cumulative non-cancer HI.
2 – Target organ-specific non-cancer HIs are discussed in the uncertainty section of the report, and also include a bioaccessibility factor of 30 percent for cobalt. They are included to provide informed risk management decisions.
3 – Background risks were calculated for future on-site residents only.
4 – Cancer risk is the maximum theoretical upper-bound incremental lifetime cancer risk (ILCR).
5 – Asbestos risks represent the cumulative asbestos risks for chrysotile and amphibole fibers. However, the risk estimates are dominated by amphibole, which fiber type was not detected at the Site in the confirmation samples. Asbestos risks were calculated for the entire Site and not divided by exposure area.

Indoor air exposures were evaluated on a sample-by-sample basis, per NDEP requirements, using surface flux data measurements. Because of this, the minimum and maximum surface flux risks and HI estimates are summed with the soil risk and HI estimates to provide a range of cumulative risks and HIs. The risk estimates shown above incorporate the maximum surface flux risks. Primary risk contributors are discussed in the main body of the report.

In addition, BRC has performed a more detailed Site-specific evaluation of vapor intrusion potential at a comparison study area within the Eastside property. Given the results of this study, and based on the results of the tiered approach followed from USEPA's (2002d) Vapor Intrusion Guidance, it has been demonstrated that there is no likelihood of adverse vapor intrusion into any indoor spaces that may be constructed in the Southern RIBs Sub-Area.

The NDEP has recently determined that HHRAs for Eastside property sub-areas do not need to evaluate the pathway of radon migration from groundwater to indoor air for sub-areas with a separation distance of at least 15 feet between any current or future building structure base and the high water table (letter dated November 9, 2010, from Greg Lovato, NDEP, to Mark Paris, BRC). Therefore, given the depth to groundwater at the Site is at least 50 feet below ground surface (bgs), the intrusion of radon into indoor air is not evaluated in this HHRA.

EVALUATION OF UNCERTAINTIES

Risk estimates are values that have uncertainties associated with them. These uncertainties, which arise at every step of a risk assessment, are evaluated in the report to provide an indication of the uncertainty associated with a risk estimate. Uncertainties from different sources are compounded in the HHRA. Because the uncertainties are compounded and because the exposure assumptions and toxicity criteria used are considered conservative, the risk estimates calculated in this HHRA are likely to overestimate rather than underestimate potential risks. A detailed discussion of these uncertainties is provided in the Uncertainty Analysis (Section 7) of the report.

POTENTIAL IMPACTS TO GROUNDWATER

As noted in a letter dated September 17, 2012, from Greg Lovato, NDEP, to Mark Paris, BRC, HHRA reports for the project no longer evaluate the potential leaching impacts to groundwater for any sub-area. This issue will be addressed in the Eastside groundwater remedial alternatives study (GW RAS). As provided for in Section XVII of the Phase III Administrative Order on Consent, No Further Action Determinations issued for sub-areas are subject to continuing Work to address Water Pollution Conditions, Operation and Maintenance, maintenance of existing Institutional Controls, and/or Efficacy Review.

SUMMARY

Based on the results of the various investigations, the HHRA, and the conclusions presented in this report, exposures to residual levels of chemicals in soil at the Southern RIBs Sub-Area should not result in adverse health effects to any of the future receptors evaluated. As a result, an NFAD for the Southern RIBs Sub-Area is warranted given the following provisos:

1. The NFAD does not pertain to groundwater. BRC retains the responsibility to address any environmental impacts to groundwater beneath the Site, pursuant to the *Settlement Agreement and Administrative Order on Consent, Phase 3* (NDEP 2006). As such, additional investigation may be necessary on the Site as it relates to BRC's responsibilities for groundwater. BRC must be granted access to the Site for activities such as well or soil boring installations or other investigative or remedial efforts.

2. Except for their physical parameters, the soils beneath 10 feet bgs of the Recorded Environmental Covenant redevelopment grading plan for the Site have not been assayed to date. Accordingly, the NFAD does not pertain to soil below the top 10 feet of the redevelopment grading plan for the Site. The property owner should note that these soils should not be disturbed without additional investigation or evaluation. BRC understands that this provision will be reflected in an Environmental Covenant for the Site.

3. The property owner should ensure that activities at the Site do not exacerbate existing, sub-surface, environmental conditions. The redevelopment grading plan (Figure 2) that has been prepared for redevelopment of the Site has been incorporated as an Environmental Covenant for the Site to control subsurface excavation.

4. Site use is otherwise suitable for purposes of residential, recreational, civic, commercial, or industrial use.

1.0 INTRODUCTION

Basic Remediation Company LLC (BRC) has prepared this Human Health Risk Assessment (HHRA) and Closure Report for the Southern Rapid Infiltration Basins (RIBs) Sub-Area (Site; Figure 1) of the Basic Management, Inc. (BMI) Common Areas (Eastside) in Clark County, Nevada. The purpose of this report is to support a request for a No Further Action Determination (NFAD) by the Nevada Division of Environmental Protection (NDEP) for the Site. As presented in Section XVII.1.a. of the *Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3* (AOC3; NDEP 2006), the NDEP acknowledges that discrete Eastside areas may be issued an NFAD as remedial actions are completed for selected environmental media. Any such NFAD request shall identify the remedial actions and other work completed at the property in question, the results of such remedial actions and other work, the proposed land use(s), and the reasons supporting the eligibility of the property for an NFAD. This report provides this information for the Site.

BRC recognizes that the following conditions will be included in a Recorded Environmental Covenant (Instrument 201102030002818 Clark County Recorders Office) as a condition to receiving an NFAD from the NDEP:

1. The NFAD does not pertain to groundwater. BRC retains the responsibility to address any environmental impacts to groundwater beneath the Site, pursuant to the AOC3. As such, additional investigation may be necessary on the Site as it relates to BRC’s responsibilities for groundwater. BRC must be granted access to the Site for activities such as well or soil boring installations or other investigative or remedial efforts.

2. Except for their physical parameters, the soils beneath 10 feet below ground surface (bgs) of the redevelopment grading plan for the Site have not been assayed to date. Accordingly, the NFAD does not pertain to soil below the top 10 feet of the redevelopment grading plan for the Site. The property owner should note that these soils should not be disturbed without additional investigation or evaluation.

3. The property owner should ensure that activities at the Site do not exacerbate existing, sub-surface, environmental conditions. The grading plan (Figure 2), which has been prepared for redevelopment of the Site, has been incorporated as an Environmental Covenant for the Site to control subsurface excavation.

4. Site use is otherwise suitable for purposes of residential, recreational, civic, commercial, or industrial use.

As stated in Section VI of the NDEP's *Record of Decision, Remediation of Soils and Sediments in the Upper and Lower Ponds at the BMI Complex* (ROD; NDEP 2001), cleanup of the Site proceeded under Alternative 4B (soils transferred from the Site to a dedicated Corrective Action Management Unit [CAMU] within the BMI Complex),[3] as identified and described in Section 9 of the Remedial Alternatives Study (RAS) for the Eastside. The *Remedial Alternatives Study for Soils and Sediments in the Upper and Lower Ponds at the BMI Complex* (Environmental Resources Management [ERM] 2000) was submitted to the NDEP in March 2000. The RAS is documented via issuance of the ROD, dated November 2, 2001, by the NDEP.

This report is consistent in format with prior closure reports for other study areas, and incorporates comments received from the NDEP on those reports. This revision of the report, Revision 1, incorporates various discussions and comments/resolutions between BRC and the NDEP conducted subsequent to Revision 0 of the report (dated November 2011); resolution of outstanding issues received from the NDEP, dated August 8, 2012; draft comments received from the NDEP, dated July 14, 2011, on the interim deliverable of the report, dated June 2011; and discussions during August 2011 meetings between BRC and the NDEP. The NDEP comments on the previous revision and interim deliverable, BRC's response to these comments, and resolutions agreed upon between the NDEP and BRC are included in Appendix A. Also included in Appendix A is a redline/strikeout version of the text showing the revisions from the November 2011 versions of the report. An electronic version of the entire report, as well as original format files (MS Word and MS Excel) of all text, tables, modeling, and risk calculations are included on the report compact disc (CD) in Appendix B.

1.1 PURPOSE OF THE RISK ASSESSMENT

The purpose of the HHRA is to evaluate the potential for adverse human health impacts that may occur as a result of potential exposures to residual concentrations of chemicals in soil, groundwater, and air following remediation, and to assess whether any additional remedial actions are necessary in order to request an NFAD from the NDEP to allow redevelopment of the Site to proceed. The results of the risk assessment provide risk managers an understanding of the potential human health risks associated with background conditions and additional risks

[3] Under this alternative, the Site could be developed in accordance with the current development plan and the recorded Environmental Covenant for the Site that assures appropriate management of soils beneath 10 feet bgs (post-graded), should they need to be disturbed in the future.

associated with past Site activities.[4] Pending issuance of an NFAD by the NDEP, redevelopment of the Site is expected to proceed in a manner consistent with the Recorded Environmental Covenant attached to the property.

As presented in Section 2.5 of the *Sampling and Analysis Plan for the Southern RIBs Sub-Area, BMI Common Areas (Eastside) Clark County, Nevada* (BRC 2008; hereinafter "SAP"; approved by the NDEP on September 2, 2008) no interim remedial measures (IRMs) were conducted within the Site. However, the sampling conducted in accordance with the SAP identified areas within the Site that warranted remediation, as discussed in Section 3.3. These areas have been addressed. The overall goal of the risk assessment presented in this report, therefore, is to confirm that residual chemical concentrations are either: (1) representative of background conditions; or (2) do not pose an unacceptable risk to human health and the environment under current and potential future land use conditions. Findings of the HHRA are intended to support the Site closure process.

For human health protection, BRC's goal is to remediate Site soils such that they are suitable for residential uses, assuring health-protective conditions at 1/8th-acre exposure areas. The 1/8th-acre area corresponds to the size of a typical residential lot size, as presented in the U.S. Environmental Protection Agency (USEPA) guidance (1989) and is applicable to future Site conditions. It should be noted that sampling has not occurred on every 1/8th-acre exposure area. Rather, the statistical protocol presented in the NDEP-approved *BRC Closure Plan* (BRC, ERM, and Daniel B. Stephens & Associates, Inc. [DBS&A] 2007) and *Statistical Methodology Report* (NewFields 2006) was followed, which allows estimates to be applied to 1/8th-acre exposure areas based on similar populations across the Site. The decision can hence be made simultaneously for many 1/8th-acre exposure areas based on the data and documentation that the exposure areas can be aggregated. This can result in aggregation across the entire Site if concentration distributions appear to be relatively homogeneous and representative of a single population, or within separate sub-areas of the Site if those sub-areas exhibit different

[4] The HHRA presents total Site-related risk. Background risk is the risk to which a population is normally exposed, and does not include risks from Site contamination. Total Site-related risk includes both incremental (Site only) and background risks. Because naturally occurring constituents are typically included in a risk assessment (i.e., metals and radionuclides) the total Site-related risk will have some element of total risk included. However, because risks are only calculated for a subset of metal and radionuclides, a 'total' risk is not calculated. In instances where the total Site-related risk is calculated to exceed a cancer risk of 10^{-5} (typically when radionuclides are included in the risk assessment calculations) or a non-cancer hazard index greater than 1.0, then a background risk, only including those naturally occurring constituents included in the risk assessment, will also be calculated to provide context to the risk assessment results.

distributions. Note that an assumption was made in the SAP for the Southern RIBs Sub-Area (see Section 3.4 of that document) that the concentration distribution across the entire Site is relatively homogeneous. This assumption was evaluated prior to performing the risk assessment, and three exposure areas were subsequently identified (Section 3.5).

Project-specific risk level and remediation goals consistent with USEPA precedents and guidelines for residential uses have been established, as summarized below. It should be noted that: (1) all comparisons to risk or chemical-specific goals are made on an exposure area basis consistent with likely exposure assumptions; and (2) these comparisons are demonstrated through the use of spatial statistical analysis to apply to each 1/8th-acre exposure area.

Human health risks are represented by estimated theoretical upper-bound cancer risks and non-cancer hazards derived in accordance with standard USEPA and NDEP methods. If the carcinogenic risks or non-cancer hazards exceed USEPA acceptable levels or NDEP risk goals, then remedial action alternatives must be considered. The acceptable risk levels defined by USEPA for the protection of human health, as identified in Section 9.1.1 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), are:

- Post-NFAD chemical and radionuclide concentrations in Site soils are targeted to have an associated residual, cumulative theoretical upper-bound incremental lifetime cancer risk (ILCR) level point of departure of 10^{-6}. This is the target risk goal for the project. For cases where the NDEP identifies this goal to be infeasible, it is BRC understands that the NDEP will re-evaluate the goal in accordance with USEPA (1991a) guidance. In no case will the residual, cumulative theoretical upper-bound carcinogenic risk levels exceed those allowed per USEPA guidance.

- Post-NFAD chemical concentrations in Site soils are targeted to have an associated cumulative, non-carcinogenic hazard index (HI) of 1.0 or less. If the screening HI is determined to be greater than 1.0, target organ-specific HIs will be calculated for primary and secondary organs. The final risk goal will be to achieve target organ-specific non-carcinogenic HIs of less than 1.0.

- Where background levels exceed risk level goals or chemical-specific remediation goals, metal concentrations and radionuclide activities in Site soils are targeted to have risks no greater than those associated with background conditions.

In addition to the risk goals discussed above, chemical-specific remediation goals have been established for lead and dioxins/furans. The target goal for lead is 400 milligrams per kilogram (mg/kg) for residential land use, which is a residential soil concentration identified by USEPA (based on the Integrated Exposure Uptake Biokinetic Model [IEUBK] model) as protective of a residential scenario (USEPA 2004a).

For dioxins/furans and polychlorinated biphenyl (PCB) congeners, the USEPA toxicity equivalency (TEQ) procedure, developed to describe the cumulative toxicity of these compounds, is used. This procedure involves assigning individual toxicity equivalency factors (TEFs) to the 2,3,7,8 substituted dioxin/furan and PCB congeners. TEFs are estimates of the toxicity of dioxin-like compounds relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD), which is assigned a TEF of 1.0. Calculating the TEQ of a mixture involves multiplying the concentration of individual congeners by their respective TEF. One-half the detection limit is used for calculating the TEQ for individual congeners that are non-detect in a particular sample. The sum of the TEQ concentrations for the individual congeners is the TCDD TEQ concentration for the mixture. TEFs from USEPA (2010) are used.[5] Consistent with the Agency for Toxic Substances and Disease Registry (ATSDR) *Update to the ATSDR Policy Guideline for Dioxins and Dioxin-Like Compounds in Residential Soil* (2008a), the target goal for residential land use is the ATSDR screening value and the NDEP residential Basic Comparison Level (BCL; NDEP 2012a) of 50 parts per trillion (ppt) TCDD TEQ.

1.2 METHODOLOGY AND REGULATORY GUIDANCE

This risk assessment follows procedures outlined in USEPA *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual* (RAGS; USEPA 1989), and conforms to Section 9 (Risk Assessment Methodology–Human Health) of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010) which was approved by the NDEP on July 16, 2007. Various NDEP guidance documents are also relied on for the risk assessment (as referenced throughout this report). In addition, the NDEP's BCLs (NDEP 2012a) are used for comparison of Site characterization data to provide for an initial screening evaluation, assist in the evaluation of data usability, and aid in determination of extent of contamination. A full list of guidance documents consulted is provided in Section 6 and the References section at the end of this document.

[5] Consistent with the letter dated September 17, 2012, from Greg Lovato, NDEP, to Mark Paris, BRC. BRC will revise the *BRC Closure Plan* accordingly.

This report also relies upon methodology and information provided in the NDEP-approved *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010). The main text of the *BRC Closure Plan* provides discussions of the following elements relative to the BMI Common Areas project as a whole:

- The project history, including cleanup goals and project objective (Closure Plan Sections 1 and 2);
- The list of Site-related chemicals (SRCs; Closure Plan Section 3);
- The conceptual site model (CSM) addressing potential contaminant sources, the nature and extent of chemical of potential concern (COPC) occurrence, and potential exposure pathways (Closure Plan Section 4; a CSM discussion specific to the Site is provided in Section 2.5 of this report);
- Data verification and validation procedures (Closure Plan Section 5);
- The procedures used to evaluate the usability and adequacy of data for use in the risk assessment (Closure Plan Sections 6 and 9 [2010 revision]);
- The data quality objectives (DQOs; Closure Plan Section 7[6]);
- The RAS process for the Site (Closure Plan Section 8);
- Risk assessment procedures that will be used for Site closure (Closure Plan Section 9 for human health [2010 revision] and Section 10 for ecological); and
- Data quality assessment (Closure Plan Section 5).

As discussed in this report, the risk assessment for the Site is conducted primarily using the data collected during implementation of the Site-specific SAP and subsequent confirmation sampling events, which have been designed to produce data representative of the conditions to which current (non-remediation workers) and future users would be exposed.

[6] As noted in the *BRC Closure Plan*, per discussions with the NDEP, the DQO process is addressed, on an Eastside sub-area by sub-area basis (for soils), in the respective sub-area SAPs developed for each sub-area relating to the soils cleanup. Therefore, the DQO process for the Site is presented in the SAP and is not repeated here. This DQO process was incorporated in the data usability/data adequacy evaluation for the Site data used in the risk assessment.

1.3 REPORT ORGANIZATION

The closure report is composed of 11 sections, as outlined below:

- This section (Section 1) presents the purpose of the risk assessment and the methods used in this assessment.
- Section 2 presents Site background, the environmental setting for the Site, and a summary of previous investigations. Section 2 also presents the CSM for the risk assessment. This includes identification of potentially exposed populations, and the potential pathways of human exposure.
- Section 3 presents the confirmation data collected in 2009 and 2010, as well as discussions on the various remedial actions conducted at the Site.
- Section 4 presents data evaluation procedures, including statistical analysis of background concentrations, and data usability and quality.
- Section 5 presents the selection of COPCs recommended for further assessment, including comparisons of Site metals and radionuclides to background conditions.
- Section 6 presents the HHRA. This includes relevant statistical analyses, determination of representative exposure point concentrations, applicable fate and transport modeling, exposure assessment, toxicity assessment, and risk characterization.
- In Section 7, the uncertainties associated with the risk assessment are discussed.
- A summary of the risk assessment results is provided in Section 8.
- The data quality assessment for the risk assessment is presented in Section 9.
- A summary of the HHRA and Closure Report is provided in Section 10; and
- A list of references is provided in Section 11.

Smaller tables with supporting information are inserted in the text at the place of reference. The text is followed by the larger tables, and figures and appendices.

2.0 SITE DESCRIPTION

This section presents a description of the Site, including Site background and history, the environmental setting, and a summary of previous investigations. The area known as the "BMI Common Areas," of which the Southern RIBs Sub-Area is a part, is delineated in Appendix A of the AOC3. The subject Site is near the BMI Industrial Complex, in Clark County, Nevada, approximately 13 miles southeast of Las Vegas; and within the city of Henderson (CoH) (Figure 1) corporate limits, northeast of the City Hall. The total extent of the Site is approximately 71 acres. The Site is a portion of the Eastside sub-area previously defined as the Southern RIBs Sub-Area in the 2008 SAP, which is in turn a sub-area of the Southern RIBs Sub-Area defined in Figure 1-2 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

The 2008 SAP and current Site boundaries are depicted on Figure 3. As seen on that figure, a portion of the Beta Ditch—which was once associated with historical conveyance of operations effluent and cooling water by companies operating at the BMI Complex—is north of the Site. The revised boundaries of the Site have been specifically designed to exclude this feature. The Site boundary was also revised to exclude the Warm Springs Road Right-of-Way, which was granted an NFAD by the NDEP in November 2010. The Site is immediately south of the Upper Ponds portion of Eastside, along the western Eastside boundary (Figure 1). The Site is outside of any known areas used for any waste disposal associated with the BMI Common Areas; however, the eastern half of the Site comprises an area formerly used by the CoH as RIBs associated with municipal wastewater treatment. As noted above, the Site is traversed by the Warm Springs Road Right-of-Way.

2.1 SITE HISTORY

Approximately 400 of the more than 2,200 acres comprising the BMI Common Areas contained a network of ditches, canals, flumes, and lined and unlined ponds that were used for the disposal of aqueous waste from the original magnesium plant and, later, other industrial plants and the adjacent municipality. Effluent wastes discharged to the ponds of the BMI Common Areas from the war-time Basic Magnesium operations can be characterized as salts from the production process (chloride salts of a variety of metals and radionuclides), organic solids, and inorganic solids and dissolved components of various types. Chlorinated organic chemicals were included in the effluent. Notable processes that contributed to the waste stream from the plants that succeeded Basic Magnesium included effluents from the manufacture of the following types of products: chlorine and sodium hydroxide (caustic soda); a variety of chlorate and perchlorate compounds, and halogenated boron compounds; manganese dioxide; titanium and related compounds; and a variety of pesticides. Among these wastes were salts; organic and inorganic chemicals; and metals. A more detailed description of these processes and their effluents is found in Sections 2.2 and 2.3 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

The RIBs and related structures, which represent approximately 45 acres of the Site, were in use from approximately 1992 to 2002 by the CoH for municipal wastewater disposal. The only known historical use of the Site is as a wastewater treatment plant and transfer station. The remaining undeveloped property in the western half of the property (approximately 26 acres) has no known history of use.

2.2 ENVIRONMENTAL SETTING

The BMI Common Areas and Complex are located in Clark County, Nevada, and are situated approximately 2 miles west of the River Mountains and 1 mile north of the McCullough Range. The local surface topography slopes in a westerly to northwesterly direction from the River Mountains and in a northerly to northeasterly direction from the McCullough Range. Near the BMI Common Areas and Complex, the surface topography slopes north toward the Las Vegas Wash. The River Mountains and McCullough Range consist of volcanic rocks: dacite in the River Mountains and andesite in the McCullough Range (Umhoefer et al. 2010).

The Site (Figure 3) comprises approximately 71 acres of land that is undeveloped with the exception of the previously mentioned RIBs and associated structures (approximately 45 acres) in the eastern half of the Site. The land surface gently slopes to the north-northwest, ignoring the former RIBs, which were engineered to be topographically flat. As depicted on Figure 3, the Site has no other features of historical use; this Site has historically been undeveloped except for the RIBs and related structures. The native soils are compacted, poorly sorted, non-plastic, light brown to red silty sand with varying amounts of gravel.

2.2.1 Site Location, Climate and Physical Attributes

The Site is in the northeastern quarter of Section 5, Township 22 South, Range 63 East Mount Diablo Base and Meridian. The Site is in the Las Vegas Valley, a broad alluvial valley that occupies a structural basin in the Basin and Range Physiographic Province. The valley is about 1,550-square miles in size, and the structural and topographical axis is aligned approximately northwest to southeast. The eastern edge of the valley is about 5 miles west of Lake Mead, a major multipurpose artificial reservoir on the Colorado River. The Las Vegas Valley is surrounded mostly by mountains, ranging from 2,000 to 10,000 feet higher than the valley floor. The valley floor ranges in elevation from about 3,000 feet above mean sea level (msl), in the west at the mountain front, to 1,500 feet above msl, in the east at the Wash (Clark County GIS Management Office 2003). The surrounding mountain ranges are:

- Sheep Range to the north;
- Frenchman and Sunrise Mountains to the northeast;
- River Range to the east;
- McCullough Range to the south; and
- Spring Mountains and Sierra Nevada Mountains of California to the west.

The Site is approximately 0.7 mile south of the Las Vegas Wash (Figure 1) within the CoH corporate limits, northeast of the City Hall, and approximately 13 miles southeast of the city of Las Vegas. The Site is located south of the CoH northern RIBs, east of the CoH WRF, and north of the Upper Ponds portion of Eastside.

The Site is situated in a natural desert area, where evaporation/evapotranspiration rates are high, due to high temperatures, high winds, and low humidity. Precipitation in this area averages approximately 0.4 inch per month or 4.8 inches per year (Western Regional Climate Center 2008). As discussed in the *Sources/Sinks and Input Parameters for Groundwater Flow Model Revised Technical Memorandum* (DBS&A 2009), in arid settings, recharge from precipitation is typically a small percentage of annual precipitation. Based on values from Scanlon et al. (2006), recharge as a percentage of annual precipitation for the Site area was estimated to be between 0.1 and 5 percent. Recharge is thus estimated to be between 0.0048 and 0.24 inch per year.

According to the Southern Nevada Water Authority's document entitled *Extent and Potential Use of the Shallow Aquifer and Wash Flow in Las Vegas Valley, Nevada* (1996), annual potential evapotranspiration exceeds 86 inches. Pan evaporation data measured from 1985 through 1988 were as high as 17 inches per month; the months with the highest evaporation (May through September) coincide with those months with the highest intensity of rainfall (Law Engineering 1993). However, evaporation and evapotranspiration are functions of vegetation type and density and other Site-specific conditions (especially anthropogenic conditions). Therefore, Site-specific evaporation/evapotranspiration may vary from these regional conditions. These climatic parameters may be appreciably influenced by future redevelopment (e.g., vegetation removal, pavement extent, and construction).

Wind flow patterns are fairly consistent from one month to another, but vary slightly between measurement stations (McCarran International Airport and a station within the BMI Complex adjacent to the employee parking lot at the Titanium Metals Corporation [TIMET] plant entrance). For the McCarran station, the prevailing wind direction is from the southwest. The TIMET station also showed a predominant wind direction from the southwest, with southeasterly components. Wind velocity at both locations tends to be the highest in the spring and early summer months (April through July).

2.2.2 Geology/Hydrology

As is common throughout the Las Vegas Valley, Site soils are primarily sand and gravel, with occasional cobbles. This is consistent with the depositional environment of an alluvial fan. The Site is located on alluvial fan sediments, with a surface that slopes to the north-northeast at a gradient of approximately 0.02 foot per foot towards the Las Vegas Wash. Regional drainage is generally to the east.

The uppermost strata beneath the Site consist primarily of alluvial sands and gravels derived from the River Mountains and from the volcanic source rocks in the McCullough Range, located southeast and southwest of the Site, respectively. These uppermost alluvial sediments were deposited within the last 2 million years and are of Quaternary Age, and are thus mapped and referred to as the Quaternary alluvium (Qal; Carlsen et al. 1991). The Qal is typically on the order of 50 feet thick at the Site with variations due, in part, to the non-uniform contact between the Qal and the underlying Tertiary Muddy Creek Formation (TMCf).

The TMCf underlies the Qal. The Muddy Creek formation, of which the TMCf is the uppermost part, is a lacustrine deposition from the Tertiary Age, and it underlies much of the Las Vegas Valley. It is more than 2,000 feet thick in places. The lithology of the TMCf underlying the Site is typically fine-grained (sandy silt and clayey silt), although layers with increased sand content are sporadically encountered. These TMCf materials have typically low permeability, with hydraulic conductivities on the order of 10^{-6} to 10^{-8} centimeters per second (Weston 1993). The TMCf in the vicinity of the Site was encountered to the maximum explored depth of 430 feet bgs. Lithologic cross sections are shown on Figures 4 and 5.

Two distinct, laterally continuous water-bearing zones are present within the upper 400 feet of the Site subsurface: (1) an upper, unconfined water-bearing zone primarily within the Qal referred to herein as the alluvial aquifer (Aa); and (2) a deep, confined water-bearing zone that occurs in a sandier depth interval within the silts of the deeper TMCf. Both of these water-bearing zones contain high concentrations of total dissolved solids. Between these two distinct water-bearing zones, a series of saturated sand stringers was sporadically and unpredictably encountered during drilling.

The Aa is an unconfined, shallower, water-bearing zone that occurs across the Site. For the most part, water in the Aa occurs in the Qal. The water surface in the Aa generally follows topography, with the water surface sloping towards the Las Vegas Wash. The depth from the surface to first groundwater at the Site is approximately 50 feet bgs (Figure 3). Wells completed in the Aa are not highly productive, with sustainable flows typically less than 5 gallons per minute.

2.2.3 Surface Water

Surface water flow occurs for brief periods of time during periodic precipitation events. The Las Vegas Wash collects storm water, shallow groundwater, urban runoff, and treated municipal wastewater. It is the receiving water body for all major Las Vegas area discharges. In dry weather, flow in the Wash comprises mainly treated effluent from the Clark County Water Reclamation District and the City of Las Vegas Water Pollution Control Facility. The CoH contributes smaller amounts. Aggregate flow is in excess of 160 million gallons per day (Las Vegas Wash Coordination Committee 2000). Discharge from these sources is sufficient to maintain surface flows in the Wash throughout the year. In winter, low-intensity rains fall over broad areas; in the spring and fall, thunderstorms provide short periods of high-intensity rainfall. The latter creates high run-off conditions. Run-off is also affected by human development, which tends to (1) create conduits for surface water flow and (2) decrease infiltration into native soils by covering them with man-made structures or materials (e.g., pavement).

Under current conditions, it is unlikely that ephemeral surface waters generated within the Site will migrate via overland transport to the Las Vegas Wash from the Site due to (1) the distance to the Wash (greater than 2 miles away); (2) the presence of the southern RIBs; and (3) the intervening presence of the existing ponds and northern RIBs between the Site and the Wash. However, the presence of the nearby drainage ditches (Alpha Ditch to the northwest and Beta Ditch along the northern boundary) suggests the current potential for rainfall to be carried from that portion of the Site to the Wash. After redevelopment, when the ditch has been removed, there will be an even lower likelihood that ephemeral surface waters generated within the Site will migrate via overland transport to the Las Vegas Wash from the Site because of the proposed design of the future storm water facilities and the regional requirement that nuisance flows not be discharged directly into the Las Vegas Wash unless they do so under existing conditions. (Flows from future development do not meet this criterion).

Groundwater seeps currently exist at various locations north of the BMI Common Areas near the Las Vegas Wash. An evaluation of historical aerial photos taken between 1964 and 1970 indicates apparent historical seeps within Eastside and at nearby off-site locations in association with past effluent infiltration at the Eastside ponds and with infiltration of municipal wastewater at the southern RIBs. Evidence of seeps was not observed within the Site in these aerial photographs.

2.3 SUMMARY OF HISTORICAL INVESTIGATIONS

Several historical field investigations were conducted at the Site to characterize the nature and extent of chemical occurrence in Site soils. Based on these sampling events, BRC identified portions of the Site that warranted remediation for protection of human health and the environment,[7] and subsequently performed remediation in those areas. The SAP presents a detailed analysis of data collected during the following historical field investigations conducted at the Southern RIBs Sub-Area. Of those investigations, the following sampling events included sampling within the Site boundaries:

- An investigation conducted during December 2000 (dataset 14) to assess conditions in this area to support potential transfer of the property for educational uses. The soil investigation activities were not performed in accordance with an NDEP-approved work plan, and the soil sampling results were not formally presented to the NDEP prior to this SAP. Data validation results are presented in the Data Validation Summary Report (DVSR) for dataset 14 (MWH 2006a), which was approved by the NDEP on November 8, 2006.

- A soil investigation conducted in May 2001 (dataset 21) in the Southern RIBs proper. These data were not collected under a formal NDEP-approved work plan, and the soil sampling results were not formally presented to the NDEP prior to this SAP. Data validation results

[7] It should be noted that this determination was based on comparison of chemical detections to then-applicable human-health risk-based screening levels.

are presented in the DVSR for dataset 21 (MWH 2006b), which was approved by the NDEP on October 25, 2006.

- Deep soil characterization conducted in May 2004 during monitoring well installation at one location (SB-01-B [MCF-01A]) as part of the hydrologic investigation (dataset 27). Data validation results are presented in the DVSR for dataset 27 (MWH 2006c), which was approved by the NDEP on August 31, 2006.

The Site-related data from the above investigations were also presented in Appendix B of the SAP. During these investigations, soil samples at various depths were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochlorine pesticides, organophosphorus pesticides, PCBs, chlorinated herbicides, dioxins/furans, aldehydes, glycols/alcohols, organic acids, metals, perchlorate, radionuclides, and/or asbestos. The data from these investigations have been validated, as noted above. Data validations are presented in the respective DVSRs for each of the datasets, which have been approved by the NDEP.

Previous investigations focused on the portion of the Southern RIBs Sub-Area (as defined in the Closure Plan) that contained the Upper Ponds and ditches; only nine of these sampling locations were within the Site boundaries. Furthermore, most of the previous samples were collected at least 10 years ago; few of the previous samples have been analyzed for all of the major chemicals or chemical families now mandated; several analyses used different analytical methods than established in the current analytical program for the BMI Common Areas; and spatial coverage of the Site was incomplete. Therefore, because of these various factors, the data collected as part of the SAP in 2008 through 2010 (as discussed in Section 3) are considered more representative of current Site conditions[8] than data collected from previous investigations, and these recent 2008 through 2010 data are therefore relied upon for risk assessment purposes as described in this report.

2.4 HISTORICAL REMEDIAL ACTIVITIES

Prior to 2009, remedial activities (other than characterization) had not been conducted within the Site boundaries. The exception to the foregoing occurred in January 2001, when BRC elected to perform an IRM for a portion of the Beta Ditch running north and immediately adjacent to the

[8] This determination is also based on the data usability evaluation summarized in Section 4.2.

Site. This IRM was conducted in response to the presence of elevated detections of arsenic, lead, vanadium, and hexachlorobenzene within the Beta Ditch. This IRM was not performed in accordance with an NDEP-approved work plan. IRM activities consisted of excavation of the impacted shallow soils within the base and sidewalls of the Beta Ditch, transportation to a secured location within the Upper Ponds, and treatment to prevent generation of wind-blown dusts and runoff. Results of the IRM for the Site were not formally presented in a report to the NDEP. The IRM area is depicted on Figure 3.

2.5 CONCEPTUAL SITE MODEL

The CSM is a tool used in risk assessment to describe relationships between chemicals and potentially exposed human receptor populations, thereby delineating the relationships between the suspected sources of chemicals identified at the Site, the mechanisms by which the chemicals might be released and transported in the environment, and the means by which the receptors could come in contact with the chemicals. The CSM provides a basis for defining DQOs, guiding Site characterization, and developing exposure scenarios. The Site history, land uses, climate, physical attributes, including geology and hydrogeology, and various field investigations are described in Sections 2.1 through 2.4 of this HHRA. The history and environmental conditions of the BMI Common Areas are described in Sections 2 and 4 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised in March 2010), and in the Site-wide CSM (in preparation).

The HHRA evaluates current and potential future land-use conditions. The Site is currently undeveloped, with the exception of the former CoH RIBs and associated features, which are no longer in use; and Warm Springs Right-of-Way, which passes through the Site. The potential on-site and off-site receptors are currently trespassers, occasional on-site workers, and off-site residents. Exposures to current receptors are being managed through Site access control.

Under the prospective redevelopment plan, the Site may be used for a variety of potential purposes, including Urban Core, retail/commercial development, high and medium density residential structures, and associated streets, parking areas and parks. The entire Site will be enhanced by restoration and redevelopment once remediation is complete. Therefore, exposures to ecological receptors will be mitigated or removed. Future receptors identified as "on-site receptors" are defined as receptors located within current Site boundaries (Figure 1), while future "off-site receptors" are those located outside current Site boundaries. Many potential human receptors are possible at the Site in the period during and after redevelopment. The potentially exposed populations and their potential routes of exposure are discussed in Section 2.5.3.

The current development plan for the Site is shown on Figure 6. This is an example and actual features may change in the future. To construct parks, commercial structures, and residences, the land will be cut and/or filled, paved with roads or foundations, and nurtured with imported top soils[9] as needed. Figure 2 shows the redevelopment grading plan for the Site (Environmental Covenant Grading Plan), indicating which areas will be filled and which areas will be cut.

The CSM includes the planned redevelopment of the Site. All potential transfer pathways are included in the CSM. The human health aspects of the CSM for the Site are presented on Figure 7.

Numerous release mechanisms influence chemical behavior in environmental media. Under both current and future land use conditions at the Site, the principal release mechanisms involved are:

- Vertical migration in the vadose zone;
- Storm/surface water runoff into surface water and sediments;
- Fugitive dust generation and transport;
- Vapor emission and transport; and
- Uptake by plants.

Although these release mechanisms are identified here, no quantitative modeling is presented in this section. Instead, those primary release mechanisms identified for particular receptors are presented in this section, and are quantitatively evaluated in Section 6.

2.5.1 Impacted Environmental Media

Environmental media at the Site consist of five categories: surface soil, subsurface soil, groundwater, indoor air, and ambient outdoor air. Samples relative to Site baseline conditions have been collected at the Site for soil. Generally, impacted soil is the source of chemical exposures for other media at the Site.

[9] Imported soil data are not included in risk assessment calculations. However, the chemical data for fill material from a given site may be useful for evaluating sub-areas to receive fill from that site.

Because the background water quality of groundwater beneath the Site and in the surrounding area is generally poor (viz., high salt concentrations) and because BRC will place Environmental Covenants in the form of a deed restriction to prevent future users from utilizing groundwater beneath the Site, the use of private water wells by residents, businesses, or parks for drinking water, irrigation water, or other non-potable uses (e.g., washing cars, filling swimming pools) will not occur in the post-redevelopment phase. Therefore, exposure pathways relating to this type of use are incomplete, as defined by USEPA (1989).

Although direct exposures to groundwater will not occur, indirect exposures are possible. The primary indirect exposure pathway from groundwater is the infiltration of VOCs from soil and groundwater to indoor air. In addition, residual levels of chemicals in soil may leach and impact groundwater quality beneath the Site.

2.5.2 Inter-Media Transfers

Exposure to Site chemicals may be direct, as in the case of impacted surface soil, or indirect following inter-media transfers. Impacted soil is the initial source for inter-media transfers at the Site, which can be primary or secondary. For example, upward migration of VOCs from impacted subsurface soil into ambient air thereby reaching a point of human inhalation represents a secondary inter-media transfer.

These inter-media transfers represent the potential migration pathways that may transport one or more chemicals to an area away from the Site where a human receptor could be exposed. Discussions of each of the identified potential transfer pathways are presented below. Figure 7 presents a conceptualized diagram of the inter-media transfers and fate and transport modeling for the Site.

Five initial transfer pathways for which chemicals can migrate from impacted soil to other media have been identified. The first of these pathways is volatilization from soil and upward migration from soil into ambient air. Ambient air can be both indoor and outdoor air. The pathway of volatilization from both soil and groundwater and upward migration into ambient air was evaluated using the surface flux measurements collected. The secondary transfer pathway is downward migration of chemicals from soil to groundwater. The third transfer pathway is migration of chemicals in surface soil via surface runoff to sediments or surface water bodies. However, as discussed in Section 2.2.3, because of the distance from the Site to the Wash, and the various intervening structures, it is unlikely that surface waters (which are ephemeral) will drain to the Las Vegas Wash from the Site. Therefore, the surface water pathway was not evaluated in this risk assessment. The fourth transfer pathway is on-site fugitive dust generation. Finally, chemicals in soil can be transferred to plants grown on the Site via uptake through the roots. The plant uptake pathway is evaluated for residential receptors.

2.5.3 Potential Human Exposure Scenarios

The following section summarizes land use and the human exposure scenarios that are assessed herein.

2.5.3.1 Current and Future Land Use

Current receptors that may use the Site include trespassers, occasional on-site workers, and off-site residents. Current exposures to native soils at the Site are minimal, but exposures to future receptors will be much greater. For example, future receptors evaluated in the HHRA include on-site residents who are assumed to be exposed to soil at the Site for 350 days per year for 30 years, which is much greater than any current exposure scenario. In addition, as discussed above, exposures to current receptors are limited through Site access control. Therefore, a current land use scenario is not quantitatively evaluated in this risk assessment.

USEPA risk assessment guidance (1989) states that potential future land use should be considered in addition to current land use when evaluating the potential for human exposure at a site. As indicated above, under the prospective redevelopment plan, the Site may be used for a variety of potential purposes, including residential housing, parks, schools, commercial development, and streets. The entire Site will be enhanced by restoration and redevelopment once remediation is complete.

The entire Eastside property will be redeveloped in several phases. Throughout the redevelopment process, the sub-areas of the Site will be redeveloped sequentially. Future receptors identified as “on-site receptors” are defined as receptors located within the current Site boundaries (Figure 1), while future “off-site receptors” are those located outside the current Site boundaries. “On-site receptors” are those future receptors that will be located within the sub-area under evaluation. “Off-site receptors” are those future receptors that will be located outside the sub-area under evaluation that may have complete exposure pathways associated with sources within the sub-area. As noted above, remediation of the Site is to on-site residential standards. Consequently, risks to off-site receptors are addressed qualitatively in this risk assessment.

2.5.3.2 Identification of Potentially Exposed Populations and Pathways

Many potential human receptors are possible at the Site in the period during and after redevelopment. The potentially exposed populations and their potential routes of exposure are presented on Figure 7 and summarized below. For a complete exposure pathway to exist, each of the following elements must be present (USEPA 1989):

- A source and mechanism for chemical release;
- An environmental transport medium (i.e., air, water, soil);
- A point of potential human contact with the medium; and
- A route of exposure (e.g., inhalation, ingestion, dermal contact).

As presented in Section 9 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), the following are the primary exposure pathways for each of the potential receptors following remediation and redevelopment at the Site.

- Adult and child residents
  - Incidental soil ingestion*
  - External exposure from soil†
  - Dermal contact with soil
  - Consumption of homegrown produce*
  - Outdoor inhalation of dust*‡
  - Indoor inhalation of dust*‡
  - Outdoor and indoor inhalation of VOCs from soil and groundwater

- Indoor commercial workers
  - Incidental soil ingestion*
  - External exposure from soil†
  - Indoor inhalation of VOCs from soil and groundwater

- Outdoor maintenance workers
  - Incidental soil ingestion*
  - External exposure from soil†
  - Dermal contact with soil
  - Outdoor inhalation of dust*‡
  - Outdoor inhalation of VOCs from soil and groundwater

- Construction workers
  - Incidental soil ingestion*
  - External exposure from soil†
  - Dermal contact with soil
  - Outdoor inhalation of dust*‡
  - Outdoor inhalation of VOCs from soil and groundwater

*Includes radionuclide exposures
†Only radionuclide exposures
‡Includes asbestos exposures

Although trespassers/recreational users and downwind off-site residents are another potential receptor identified in the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), exposures for these receptors are less than those evaluated above. As noted in Sections 9.1.1 and 9.7.1 of the *BRC Closure Plan*, potential exposures for trespassers/recreational users will only be evaluated in areas of the BMI Common Areas that are designated as recreational end use (specifically the Western Hook-Open Space sub-area shown on Figure 1). Also, as noted in Section 9.5.4 of the *BRC Closure Plan*, off-site dust levels based on USEPA's model are much lower than those generated for on-site, construction-related activities. Therefore, risks evaluated for an on-site construction worker, as performed in this HHRA, are considered protective of off-site residents. Thus, trespassers/recreational users and downwind off-site receptors are not evaluated further in this report.

3.0 CONFIRMATION DATA PROCESS AND SUMMARY

Based on the historical data for the Site, no remediation was proposed prior to implementing the sampling prescribed in the SAP. Decisions for excavation during SAP implementation were based on the initial data (discussed below) in accordance with the Risk Assessment Methodology provided in the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010). The following is the initial scope of work for investigating the Site and meeting the SAP objectives. Much of the discussion below regarding confirmation soil sampling is taken from the NDEP-approved *Statistical Methodology Report* (NewFields 2006).

3.1 INITIAL CONFIRMATION SOIL SAMPLING

As per Section 2 of the *Statistical Methodology Report*, the initial confirmation sampling at the Site was conducted on the basis of combined random and biased (judgmental) sampling, as follows:

- **Stratified Random Locations:** For this purpose, the Site was covered by a 3-acre cell grid network. Within each 3-acre cell, a sampling location was randomly selected. Sampling locations were randomly selected within both full and partial grid cells if they were greater than 50 percent of the total grid cell area (based on the project-wide grid cell network and the Site boundaries; those partial grid cells that contain less than 50 percent of their area within the Site were included in the adjacent sub-area SAPs). The main objective of this stratified random sampling was to provide uniform coverage of the Site.

- **Biased Locations:** Additional sampling locations were selected within or near small-scale contamination points of interests, including but not limited to previous debris locations, ponds, and berms. For this purpose, the randomly selected location within a corresponding 3-acre cell was adjusted to cover a nearby point of interest. In the event that currently unknown impacted areas were identified during remediation, the presence of these areas were drawn to the NDEP's attention, the need for additional biased sampling points to address those areas was evaluated, and the sampling program modified as needed.

A Site reconnaissance was performed in July and August 2008 to check for environmentally significant features such as debris piles or stained soil. Several debris piles were observed within the Site boundaries during the reconnaissance (identified in Table 3 of the SAP; and shown on Figure 8 of this HHRA). Biased sampling locations were selected or random sample locations were shifted slightly to include sampling at each debris piles/soil staining location. A final reconnaissance was performed prior to sampling to check for any additional environmentally significant features since the initial reconnaissance; if found, these additional features would also have been sampled. No such features were found. The sampling program was developed to include sampling at an approximate 200-foot linear spacing along the length of the Beta Ditch (three biased sampling locations, including one associated with a debris pile, and three random sample locations). Figure 8 and accompanying Table 3-1 (see Tables section) show the sampling locations within the Site. Rationale for each of the biased sampling locations is presented below:

- SRC1-J02, SRC1-J07, and SRC1-J10 were included to provide coverage within debris areas observed at the Site;
- SRC1-J01 and SRC1-J03 were included to provide coverage along the Beta Ditch (Note: SRC1-J02, which was selected due to a debris area, also provides coverage along the Beta Ditch); and
- SRC1-J09 and SRC1-J11 through SRC1-15 were included to provide additional coverage within the RIBs (Note: SRC1-J07 and SRC1-J10, which were selected due to debris areas, also provide coverage within the RIBs).

The following discusses the multi-depth soil samples that were collected and analyzed for the SRC list at each selected location. Samples were collected at:

1. Existing surface (0 foot bgs) and 10 feet bgs for sample locations in relatively flat (ungraded) locations;
2. Existing surface (0 foot bgs), post-grading surface (post-redevelopment as shown on Figure 2), and post-grade 10 feet bgs for sample locations with substantial grading (that is, cut depths greater than 2 feet[10]) and the uppermost sampled soil expected to be used as surface fill;
3. Existing surface (0 foot bgs) and 10 feet bgs for sample locations with minimal grading (that is, cut depths less than 2 feet) and the uppermost sampled soil expected to be used as surface fill (at any Eastside location); and

[10] Because sample collection was over a 2- to 3-foot depth interval, locations with an anticipated cut depth less than 3 feet were only sampled at the surface and one post-grade subsurface depth. The sample depth designation (e.g., 10 feet bgs) is based on the center depth of the sample collection interval.

4. Existing surface (0 foot bgs) and 10 feet bgs for sampling locations in an area expected to be covered by fill material.

Additionally, at two sampling locations (SRC1-AH17 and SRC1-J11), soil physical parameter data were collected at 20 feet and every subsequent 10-foot interval until groundwater was reached.

The analytical sample results were then divided into surface (0- to 2-foot depth), subsurface (2- to 10-foot depth), and deep (>10-foot depth) layers,[11] according to the following rules:

- **Rule 1: IF** the sample was collected in a relatively flat (ungraded) part of the Site (i.e., an area not targeted for substantial grading), **THEN** the depth of the collected soil sample is used to designate its soil layer grouping.

- **Rule 2: IF** the sample was collected in a part of the Site targeted for substantial grading, **AND** the sampled soil is located in an area expected to be covered by fill material (e.g., exposed excavated surfaces of ponds), **THEN** the current surface soil sample is classified as a surface (0- to 2-foot depth) sample, and the soil layer grouping of the remaining deeper sampled soil is determined based on the difference between its elevation and the final (post-graded) surface elevation in that part of the Site.

- **Rule 3: IF** the sample is collected in a part of the Site targeted for substantial grading, **AND** the cut depth is expected to be greater than 2 feet, **AND** the sampled soil is expected to be used as surface fill (e.g., soil within a berm), **THEN** the current surface soil sample is classified as a fill material sample, a final (post-graded) surface sample is classified as a surface (0- to 2-foot depth) sample, and the soil layer grouping of the remaining deeper sampled soil is determined based on the difference between its elevation and the final (post-development, graded) surface elevation in that part of the Site.

- **Rule 4: IF** the sample is collected in a part of the Site targeted for substantial grading, **AND** the cut depth is expected to be less than 2 feet, **AND** the sampled soil is expected to be used as surface fill (e.g., soil within a berm), **THEN** the current surface soil sample is classified as both a fill material sample and as a surface (0- to 2-foot depth) sample, and the soil layer

[11] Note these depth ranges reflect samples depths associated with the confirmation sampling events (i.e., current grade), not sample depths associated with the redevelopment grading plan for the Site, which have a maximum sample depth of 10 feet bgs (see discussion above).

grouping of the remaining deeper sampled soil is determined based on the difference between its elevation and the final (post-graded) surface elevation in that part of the Site.

A schematic example of these rules is shown on Figure 9. The Redevelopment Grading Plan for the Site is shown on Figure 2.[12] The sample-specific collection depths are presented in Table 3-1 (Tables section).

As noted above, soil samples were generally collected over a 2- to 3-foot depth interval. This was because of volume of soil required for completion of all analyses. The 10 feet bgs (and deeper) samples were collected in 2- to 3-foot intervals centered on 10 feet (or centered on the deeper sampling depth as indicated in Table 3-1). Confirmation samples, which usually have a shortened analyte list, were collected over a smaller sampling interval. Contamination by the historical manufacturing processes upgradient is usually found predominantly in surface soils. The objective of remedial actions at the Site was to remove surface soils that were impacted by surface releases of off-site chemicals. Therefore, higher concentrations are expected – and have been generally observed – in surface samples. However, to adequately characterize the vertical extent of possible contamination, one or more deeper samples were also collected at each sampling location, as described above.

As discussed in Section 6.1.1, given the potential for change to the prospective grading plan, samples were classified into five different exposure depths. These different soil exposure depth classifications are considered to represent all possible exposure potential for all receptors, and thus a reasonable worst case scenario has been assessed. The five different exposure depth classifications evaluated are the following:

- All data; includes surface, subsurface and fill sample depths/locations, representative of potential exposures to all soil depths to a maximum post-grading depth of 10 feet bgs (representative of Site exposures if fill material remains on Site);

- Data classified as fill material only; that is, sample locations with substantial grading (cut depths greater than 2 feet) and the uppermost sampled soil is expected to be used as surface fill, including off Site;

[12] Note that the grading plan is reflected in an Environmental Covenant for the Site as a condition to receiving an NFAD from NDEP.

- Data classified as fill material and/or surface soil, sample locations with cut depths less than 2 feet, therefore, given the sample depth interval, soil could represent either fill or post-grading surface soil;

- Data classified as surface soil only, includes surface sample locations where no grading will occur, or sample locations where fill material will be placed, with a subsurface sample (those samples collected less than 10 feet bgs) collected at the post-grading surface; and

- All data excluding data classified as fill material, representative of exposure to all post-grading soil to a maximum post-grading depth of 10 feet bgs.

These different soil exposure classifications are considered to represent all possible exposure potential for all receptors, including use of soil as fill material elsewhere in the Eastside property, based on the future grade and use of Site soils. See Section 6.1.1 regarding how these different exposure depths are considered in the HHRA.

Initial sampling for the Site was conducted in October and November 2008. All soil samples were tagged in the database with numeric designations of their corresponding assigned soil layer grouping based on the rules presented above. The number of soil samples collected varies for different analytes and analytical suites. For example, for arsenic, initially 117 soil samples were collected from 45 soil boring locations (including field duplicates). This included 34 random and 11 biased sample locations. At these 45 locations, BRC initially collected 55 surface samples (one at each location, and duplicates at 10 locations) and 62 subsurface soil samples (two subsurface sampling intervals at 16 of the 45 soil boring locations, plus one field duplicate). As presented in Table 3-1 (Tables section), these 117 samples represent 17 fill material (including 1 field duplicate), 55 surface (including 10 field duplicates), and 45 subsurface soil samples.[13] Twenty-five of the surface soil samples (including field duplicates) also represent fill samples (see discussion above regarding fill samples).[14] An additional 24 supplemental samples and 37 confirmation samples (including 6 field duplicates) were subsequently collected (Section 3.3), bringing the total number of arsenic samples for the Site to 178 (117 initial samples and 61

[13] Note that in some cases, a soil sample may be considered both a fill sample and a surface sample (as indicated in Table 3-1). Therefore, the sum of the number of samples indicated for each post-grade sample type does not necessarily equal the total number of samples collected.

[14] As discussed with the NDEP, once a particular sub-area receives an NFAD from the NDEP, the cut material that is slated to be used as fill material elsewhere would not require additional testing. However, the chemical data for this fill material may be useful for evaluating sub-areas to receive fill (for example, if there is deeper contamination).

supplemental and confirmation samples).[15] Of the 178 arsenic samples, 14 were in remediated areas and removed from the risk assessment dataset; thus, there are 164 arsenic samples included in the human health risk assessment dataset. All sampling results, from which the total number of samples can be found for each analyte, are presented electronically on the report CD in Appendix B, and in Tables B-1 through B-12. As discussed below in Section 3.5, two areas, which due to repeated cleanups triggered primarily by metals, have a number of sample results within these locations, were evaluated separately for metals. The numbers of metals samples for these two areas are 28 in exposure area SRC-J02/J03 and 10 in exposure area SRC-J21.

3.2 CHEMICALS SELECTED FOR ANALYSIS

The analyte list for soil samples collected during the initial 2009 investigation comprised the BRC project SRC list, and was consistent with the analytical program presented in Section 3 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010)[16] and Table 3-2 (Tables section), with the following exceptions for this Site:

- Asbestos and dioxins/furans were only analyzed for in surface soil samples.[17]
- USEPA Method 8141A for organophosphorus pesticides was not conducted. There have been only 47 detections of these compounds in over 10,000 soil sample records (<0.5 percent) from throughout the Eastside, and no detections in any soil sample records associated with prior sampling within the Site. The few detections are well below the NDEP BCLs.
- USEPA Method 8151A for chlorinated herbicides was not conducted. There have been no detections of these compounds in over 1,400 soil sample records from throughout the Eastside. Detection limits are below the NDEP BCLs.

---

[15] Note that in Table 3-4, which summarizes the post-remediation HHRA samples, the number of samples reported in that table for a given analysis does not always equal 164. This is due to 1) exclusion of data that were removed during remediation activities; 2) inclusion in the final dataset of confirmation samples collected to assess the extent of chemical impacts in certain areas following remediation; 3) certain analytes were not included in the subsurface samples, as noted in the following section; and 4) rejected data are excluded.
[16] Specific analytes and analyte-specific reporting limits for each analysis are listed in Table 4 of the QAPP.
[17] Note that all samples collected at the Site were discrete samples, with the exception of asbestos samples, which were composite samples collected as per the NDEP-approved Standard Operating Procedure [SOP]-12 as provided in the *Field Sampling and Standard Operating Procedures* [FSSOP; BRC, ERM and MWH 2009]).

- HPLC Method for organic acids was not conducted. There have been only three detections of these compounds in 567 soil sample records (<0.5 percent) from throughout the Eastside. Moreover, the NDEP has not established BCLs for these compounds.

- USEPA Method 8015B for non-halogenated organics (e.g., methanol and glycols) was not conducted. There have been only five detections of these compounds in 420 soil sample records (1 percent) from throughout the Eastside. The few detections have been well below the NDEP BCLs.

- USEPA Method 8015 for total petroleum hydrocarbons (TPH) was not conducted. There have been only three detections of these compounds in over 299 soil sample records (1 percent) from throughout the Eastside. The few detections have been below 100 mg/kg, which is the typical low-end aesthetic threshold used for these compounds. There are no indications of possible TPH source areas (e.g., abandoned vehicles, dumping of oils/hydraulic fluids, soil staining) at the Site. While TPH was not analyzed for, its components were, via other methods. In addition, TPH cannot be included in a risk assessment while its components can.

- Consistent with the current project analyte list, the following radionuclides were analyzed for: radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238.

The soil analyte list consisted of 280 of the 418 compounds (including water-only parameters) on the project SRC list, as well as physical parameters to support the evaluation of potential impacts to groundwater from migration of chemicals from soil. The analytical and preparatory methods (Table 3-2) used in accordance with the SAP adhered to the most recent version of the BRC QAPP (BRC and ERM 2009a; see Section B4, Table 4 of that document). As noted in Section 3.6, the analyte list for surface flux samples was composed of the list specified in the NDEP-approved Standard Operating Procedure (SOP)-16, as provided in the *Field Sampling and Standard Operating Procedures* (FSSOP; BRC, ERM and MWH 2009). Surface flux samples were analyzed for VOCs by USEPA Method TO-15 full scan, plus selective ion mode (SIM) analyses for a subset of the analytes.

3.3 INTERMEDIATE SAMPLING AND CLEANUP

3.3.1 September 2009 Remedial Action

All initial data were reviewed and a determination made, in consultation with the NDEP, as to whether localized soil removals were warranted. In August 2009, BRC submitted a Confirmation Sampling Plan (CSP) (BRC 2009a) to the NDEP. This CSP was approved by the NDEP on August 31, 2009. The overall goal of the CSP was to present a cleanup strategy for the Site that effectively minimized, to the extent feasible, the human health risks associated with the identified soil in the impacted areas of the Site.

There were four different remediation areas proposed for the Site, three of which were established due to the presence of elevated dioxin detections,[18] and one of which was based on asbestos detections. The extent of the excavations is depicted on Figure 10.

The remediation areas were developed based on a Thiessen map overlaid across the Site. Thiessen maps are constructed from a series of polygons formed around each sampling location. Thiessen polygons are created so that every location within a polygon is closer to the sampling location in that polygon than any other sampling location. These polygons do not take into account the respective concentrations at each sample location. These polygons were used as the basis for the areal extent of remediation for each of the locations with elevated dioxins/furans, arsenic and/or asbestos levels. There were four polygons associated with elevated chemical levels that were excavated at the Site during September 2009 remediation activities. These polygons were centered around the following locations: SRC1-AH16 (Area 1), SRC1-AI19 (Area 2), SRC1-J02/SRC1-J03 (Area 3), and SRC1-AM27/SRC1-J11 (Area 4).

During these remediation activities, surface soils were scraped from approximately 8.1 acres. Following remediation, confirmation surface soil samples were collected at each of the original sample locations associated with the remediation area polygons described above. Confirmation samples collected during this event were assigned sample IDs with a "SRC2" prefix (Appendix B tables). All sample locations are shown on Figure 11. The analyte list was composed of those chemicals that triggered the remediation at each sample location. These included dioxins/furans, metals, and asbestos. In addition, supplemental samples were collected at 16 locations along the northern boundary of the Site (SRC2-J20 through SRC2-J34), based on

[18] One location also exhibited an elevated arsenic detection.

elevated detections in initial samples to the immediate north.[19] For these northern boundary samples, the full analyte list was run.

3.3.2 December 2009 Remedial Action

Following the review of data collected from the September 2009 remedial action, five additional remediation areas were identified for the Site (Figure 10). In November 2009, BRC submitted a *Remedial Action Work Plan* (RAWP; BRC 2009b) to the NDEP. The RAWP proposed additional remediation in Area 3 (two polygons, one of which extended slightly outside the original Area 3 polygon), Area 4, and new areas centered about locations SRC2-J21 and SRC2-J23. The latter two areas were identified based on the presence of elevated metals and dioxin/furan/PCB congeners detections, respectively.

During these remediation activities, surface soils were scraped from approximately 1.2 acres. Following remediation, confirmation surface soil samples were collected from within each remediation area polygon. Confirmation samples collected during this event were assigned sample IDs with a “SRC3” prefix (Appendix B tables), and were analyzed for the SRCs triggering the remediation (metals and dioxins/furans/PCB congeners).

3.3.3 March 2010 Remedial Action

Following the review of data collected from the December 2009 remedial action, BRC determined that additional excavation was warranted for all five of the polygons excavated during the prior remediation event in December 2009. As depicted on Figure 10, these remediation areas in some cases extended slightly beyond the original polygon boundaries. During the March 2010 remediation activities, surface soils were scraped from approximately 0.5 acre. Following remediation, confirmation surface soil samples were collected from within each remediation area polygon. Confirmation samples collected during this event were assigned sample IDs with a “SRC4” prefix (Appendix B tables), and were analyzed for the SRCs triggering the remediation (metals and dioxins/furans/PCB congeners).

[19] Those elevated detections were along the Beta Ditch, and were the basis for revising the sub-area boundary to exclude the immediate Beta Ditch area.

3.3.4 June 2010 Remedial Action

Following the review of data collected from the March 2010 remedial action, BRC determined that additional excavation was warranted for two of the polygons excavated during the prior remediation event in March 2009 (SRC4-J21 and SRC4-J11), for remediation of elevated metals and dioxins/furans/PCBs, respectively. As depicted on Figure 10, these remediation areas extended slightly beyond the previous polygon boundaries.

During the June 2010 remediation activities, surface soils were scraped from approximately 0.2 acre. Following remediation, confirmation surface soil samples were collected from within each remediation area polygon (samples SRC5-J21CE2 [initial and duplicate], SRC5-J11N2 [initial and duplicate] and SRC5-J11W2) (Appendix B tables), and were analyzed for the SRCs triggering the remediation (metals and dioxins/furans/PCB congeners).

3.3.5 September 2010 Remedial Action

Following the review of data collected from the June 2010 remedial action, BRC determined that additional excavation was warranted for the SRC4-J11 area, for remediation of elevated dioxins/furans/PCBs. As depicted on Figure 10, this remediation area was within the previous polygon boundaries. During the September 2010 remediation activities, surface soils were scraped from an approximately 2,500-square-foot area. Following remediation, a confirmation surface soil sample (SRC6-J11N3 – initial and duplicate) was collected from within the remediation area polygon (Appendix B tables), and was analyzed for the SRCs triggering the remediation (dioxins/furans/PCB congeners).

3.4 FINAL CONFIRMATION DATASET

Post-scrape analyses associated with follow-up rounds of remediation focused on the constituents triggering that additional remediation and, therefore, did not include the full suite analyses of the original analytical program. Analytical results from the original SAP dataset were retained for all constituents except those that were re-analyzed after additional scraping. The final confirmation dataset included the following sampling results:

- SAP sampling data, retaining the results that were not superseded by subsequent sampling;
- Data generated after intermediate sampling and remediation (retaining the results that were not superseded by subsequent sampling); and

- Additional samples collected for confirmation after completion of remediation activities.

The soil dataset was subjected to a series of statistical analyses to determine representative exposure concentrations for the sub-area, as described in Sections 4 and 5 of the NDEP-approved *Statistical Methodology Report* (NewFields 2006). Consistent with the project *Statistical Methodology Report*, kriging or geostatistical analysis was not performed on the data because each measurement was assumed to be equally representative for that chemical at any point in each sub-area of the Eastside property. Hence, calculation of the 95 percent upper confidence limit (UCL) by exposure area directly from the data is considered reasonable.

As discussed in Section 4, all data have been validated. Results of all confirmation sampling and analysis are presented in Appendix B, and electronically on the report CD in Appendix B, as is the dataset used in the HHRA for the Site. All confirmation sampling locations for the Site are shown on Figure 11. Table 3-3 provides a matrix of which analytical suite was analyzed for in each of the samples collected from the Site. Geotechnical and Environmental Services (GES) conducted all field work at the Site. The GES field reports, including boring logs, for each investigation are provided electronically in Appendix C (included on the report CD in Appendix B).

3.5 FINAL CONFIRMATION DATA SUMMARY

Using the compound-specific information presented in Table 2 of the QAPP (BRC and ERM 2009a), the comparison levels for each chemical included in the investigation were compiled for comparison to Site data. Specific soil comparison levels used for this effort were as follows:

- NDEP BCLs for residential soil (NDEP 2012a);
- NDEP BCLs for protection of groundwater (LBCL), assuming dilution attenuation factors (DAF) of 1 and 20 (NDEP 2012a); and
- The maximum soil background concentration (for metals and radionuclides only), derived from the background soil dataset presented in Section 5.[20]

A DAF of 1 is used when little or no dilution or attenuation of soil leachate concentrations is expected, and a DAF of 20 may be used when significant attenuation of the leachate is expected

[20] This value is used for comparison only; as discussed in Section 5.1, background comparisons were performed for the Site dataset using statistical tests.

due to Site-specific conditions. For the Site, the LBCLs based on a DAF of 1 were used for discussion purposes. Data for the Site, including the number of instances in which chemical concentrations exceed each of the comparison levels, are listed in Table 3-4,[21] and summarized below. It is important to note that these comparisons are used to provide for an initial screening evaluation, to assist in the evaluation of data usability, and to determine the extent of contamination. They are not used for decision-making purposes or as an indication of the risks associated with the Site.

Aluminum

Aluminum was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). All of the detections were lower than the 77,200 mg/kg BCL, but were higher than the 75 mg/kg $LBCL_{DAF1}$. Of these 164 detections, the 25 that were in excess of the maximum soil background concentration (15,300 mg/kg) are shown in Table 3-5.

TABLE 3-5: ALUMINUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Aluminum Value (mg/kg)
SRC1-AK21	0	15600
SRC1-AK21	0	15600
SRC3-J02NW	0	15800
SRC4-J02C2	0	15800 J
SRC3-J21NW	0	16000 J
SRC3-J02NW	0	16300
SRC4-J03SE2	0	16500 J
SRC4-J21CW2	0	16500 J
SRC3-J03SW	0	16600 J
SRC4-J21NE2	0	16600 J
SRC3-J02C2	0	16800
SRC3-J02SW	0	16900
SRC4-J02NW2	0	16900 J

Sample ID	Depth (feet bgs)	Reported Aluminum Value (mg/kg)
SRC4-J03SW2	0	17100 J
SRC1-AK21	18	17300
SRC4-J02NE2	0	17300 J
SRC1-AJ27	0	17500 J
SRC4-J03C2	0	17600 J
SRC4-J21NW2	0	17600 J
SRC4-J03NE2	0	17700 J
SRC4-J02SE2	0	17800 J
SRC1-AK23	14	18100
SRC4-J02SW2	0	18100 J
SRC1-AL24	18	18400
SRC4-J21SE2	0	18400 J

[21] Pre-scrape data for the target constituents are not included in Table 3-4. That is, these have been replaced by post-scrape data; however, pre-scrape data for the non-target constituents are included in Table 3-4. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in the tables in Appendix B, which include all data, regardless of status.

Antimony

Antimony was detected in 1 of the 164 soil samples in which it was analyzed for (1 surface sample; Table B-4). That detection (an estimated value of 0.37 mg/kg [near the reporting limit] in a soil sample collected from 0 foot bgs at SRC1-J11) was lower than the 31.3 mg/kg BCL, but exceeded the 0.3 mg/kg $LBCL_{DAF1}$. However, the detection did not exceed the maximum soil background concentration of 0.5 mg/kg.

In addition, in 79 of 163 antimony samples reported as non-detect; the associated reporting limits (0.315 mg/kg to 2.7 mg/kg) are higher than the $LBCL_{DAF1.}$ Of those, 39 antimony non-detect samples had associated reporting limits (0.82 mg/kg to 2.7 mg/kg) higher than the maximum soil background concentration.

Arsenic

Arsenic was detected in 141 of the 164 soil samples in which it was analyzed for (80 surface and 61 subsurface samples; Table B-4). All of the detections were higher than the 0.39 mg/kg BCL and the 1 mg/kg $LBCL_{DAF1}$. All but two of the detections (8.6 mg/kg at SRC1-AM27 at 3 ft bgs and 10 mg/kg at SRC3-J03SW at 0 ft bgs) were lower than the maximum soil background concentration (7.2 mg/kg).

In all 23 arsenic samples reported as non-detect; the associated reporting limits (0.945 mg/kg to 5.5 mg/kg) are higher than the screening levels (BCL and $LBCL_{DAF1}$). However, these reporting limits were sufficiently low to indicate that none of these samples contained arsenic at concentrations above background.

Barium

Barium was detected in all 164 soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 15,300 mg/kg BCL; but all of the barium detections except for one exceeded the 82 mg/kg $LBCL_{DAF1}$. All but two of the detections (548 mg/kg at SRC1-J14 at 12 ft bgs and 450 mg/kg at SRC3-J03SW at 0 ft bgs) were lower than the maximum soil background concentration (445 mg/kg).

Beryllium

Beryllium was detected in 161 of the 164 soil samples in which it was analyzed for (99 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 155 mg/kg

BCL. None of the detections were higher than the 3 mg/kg $LBCL_{DAF1}$ or the maximum soil background concentration of 0.89 mg/kg, except for one surface soil sample (SRC4-J21CW2) that had a detection of 5 mg/kg.

Boron

Boron was detected in 11 of the 164 soil samples in which it was analyzed for (4 surface and 7 subsurface samples; Table B-4). None of the detections were higher than the 15,600 mg/kg BCL. However, one of the surface soil samples, SRC1-J11 (68.3 mg/kg), exceeded the 23.4 mg/kg $LBCL_{DAF1}$. This exceedance was also higher than the maximum soil background concentration (11.6 mg/kg) as were two other samples (21.4 mg/kg at SRC1-J13 at 0 ft bgs and 22.4 mg/kg at SRC1-J13 at 3 ft bgs).

Most of the analytical reporting limits were sufficiently low such that BCL or $LBCL_{DAF1}$ exceedances would have been observed. However, 20 out of 153 boron non-detections had reporting limits above the $LBCL_{DAF1}$.

Cadmium

Cadmium was detected in 46 of the 164 soil samples in which it was analyzed for (30 surface and 16 subsurface samples; Table B-4). None of the detections were higher than the 38.9 mg/kg BCL; however, one of the surface soil samples, SRC3-J21SW (0.53 mg/kg), was higher than the 0.4 mg/kg $LBCL_{DAF1}$. There were 24 detections were higher than the 0.1291 mg/kg maximum soil background detection. The 24 cadmium exceedances higher than background are shown in Table 3-6.

TABLE 3-6: CADMIUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)
SRC3-J21SW	0	0.53 J+	SRC1-J07	0	0.18
SRC1-J10	0	0.35	SRC1-AJ19	0	0.15 J
SRC1-AG17	0	0.3	SRC1-AJ19	11	0.15 J
SRC4-J21SE2	0	0.28 J+	SRC2-AM27C	0	0.15 J
SRC1-AJ20	0	0.26 J+	SRC1-AH19	0	0.14
SRC1-J11	0	0.24 J	SRC1-AI17	0	0.14
SRC1-J03	5	0.23 J+	SRC5-J21CE2	0	0.14 J+
SRC1-J02	3	0.21 J+	SRC1-AG18	0	0.13
SRC1-AH15	0	0.2	SRC1-AH19	0	0.13
SRC1-AG16	0	0.18	SRC1-AI17	3	0.13

TABLE 3-6: CADMIUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)
SRC1-AH17	0	0.18 J	SRC1-AI20	0	0.13
SRC1-AJ18	0	0.18	SRC1-AK21	0	0.13

All of the reporting limits for non-detect samples were sufficiently low such that additional BCL or $LBCL_{DAF1}$ exceedances would have been observed.

Chromium

Chromium was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 100,000 mg/kg BCL, but all chromium detections were higher than the 2 mg/kg $LBCL_{DAF1}$. Of these, 33 detections were higher than the 16.7 mg/kg maximum soil background detection. The 33 chromium exceedances higher than background are shown in Table 3-7.

TABLE 3-7: CHROMIUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Chromium Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Chromium Value (mg/kg)
SRC3-J21SW	0	28.2	SRC4-J02NW2	0	19.2
SRC4-J03SE2	0	27.4	SRC1-AJ19	0	19
SRC3-J03SW	0	26.3 J	SRC4-J03SW2	0	19
SRC4-J21NE2	0	26	SRC1-AM28	7	18.9
SRC4-J02NW2	0	25.2	SRC4-J21SW2	0	18.7
SRC4-J03C2	0	24.1	SRC1-AJ25	0	18.6 J+
SRC1-J11	0	24	SRC3-J02C2	0	18.5
SRC4-J21CW2	0	24	SRC1-AL28	4	18.2
SRC4-J03NE2	0	22.7	SRC1-J13	3	18.1
SRC4-J21SE2	0	22.5	SRC4-J02NE2	0	17.9
SRC1-AM27	3	22.4	SRC1-AI17	0	17.6
SRC4-J21NW2	0	22.4	SRC5-J21CE2	0	17.5 J+
SRC4-J02SW2	0	22.1	SRC1-AG17	0	17.4
SRC4-J02SE2	0	21.8	SRC3-J02SW	0	16.9
SRC3-J21NW	0	19.6	SRC1-AJ19	11	16.8
SRC1-AJ18	0	19.5	SRC1-AK26	0	16.8 J-
SRC4-J02C2	0	19.5			

Cobalt

Cobalt was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 23.4 mg/kg BCL. There were 109 detections exceeding the 9.9 mg/kg $LBCL_{DAF1}$. Of these, 12 detections were also higher than the maximum soil background concentration (16.3 mg/kg). The 12 cobalt exceedances are shown in Table 3-8.

TABLE 3-8: COBALT DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Cobalt Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Cobalt Value (mg/kg)
SRC4-J21SE2	0	22.9 J+	SRC5-J21CE2	0	17.1 J+
SRC4-J02C2	0	20.8 J+	SRC4-J02NW2	0	17 J+
SRC1-AL28	4	19.7	SRC3-J03NE	0	16.8 J
SRC1-J13	3	19.7	SRC3-J21NW	0	16.8 J
SRC4-J21CW2	0	18.6 J+	SRC4-J02SW2	0	16.7 J+
SRC4-J03SE2	0	17.1 J+	SRC4-J21NE2	0	16.5 J+

Copper

Copper was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 2,910 mg/kg BCL. Four of the detections exceeded the 35.2 mg/kg $LBCL_{DAF1}$; and 38 detections were also higher than the maximum soil background concentration (25.9 mg/kg). The 38 copper exceedances are shown in Table 3-9.

TABLE 3-9: COPPER DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)
SRC1-AL28	4	88.9	SRC1-J09	0	28.3
SRC3-J21SW	0	56.1 J	SRC4-J02NW2	0	28.3 J+
SRC4-J21SE2	0	42.1 J+	SRC1-AM28	7	28.2
SRC1-J07	0	38.1	SRC4-J02C2	0	28.2 J+
SRC4-J21NE2	0	34.8 J+	SRC2-J23	0	28
SRC1-AJ25	0	34.3	SRC4-J02NE2	0	27.9 J+
SRC3-J21NW	0	32.8 J	SRC3-J02C2	0	27.8 J+
SRC1-J13	3	31.5	SRC5-J21CE2	0	27.8 J+
SRC4-J02NW2	0	31.5 J+	SRC1-AJ22	0	27.6
SRC4-J21CW2	0	31.2 J+	SRC1-J09	0	27.6
SRC4-J03SE2	0	30.6 J+	SRC3-J02NW	0	27.6 J+
SRC1-J11	0	30	SRC3-J03NE	0	27.5 J+

TABLE 3-9: COPPER DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)
SRC4-J03C2	0	29.9 J+	SRC4-J21NW2	0	27.5 J+
SRC2-J24	0	29.8	SRC3-J02SE	0	27.4 J+
SRC3-J03SW	0	29.7 J+	SRC3-J03NW	0	27.4 J+
SRC4-J02SW2	0	29.4 J+	SRC3-J02NW	0	27.2 J+
SRC4-J03NE2	0	29.4 J+	SRC3-J02SW	0	26.4 J+
SRC4-J03SW2	0	29 J+	SRC2-AM27C	0	26.1
SRC4-J02SE2	0	28.4 J+	SRC1-AM28	0	26

Iron

Iron was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 54,800 mg/kg BCL, but all detections were higher than the 7.56 mg/kg $LBCL_{DAF1}$. Of these, 45 detections were higher than the 19,700 mg/kg maximum soil background concentration. These 45 iron exceedances higher than background are shown in Table 3-10.

TABLE 3-10: IRON DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)
SRC5-J21CE2	0	28400 J	SRC3-J21NE	0	21600 J
SRC3-J21SW	0	28100 J	SRC1-AJ24	0	21500
SRC3-J21NW	0	26800 J	SRC1-J11	0	21500
SRC3-J02C2	0	25900	SRC4-J02NW2	0	21500
SRC3-J02NW	0	25000	SRC1-AK27	0	21300 J
SRC3-J02NW	0	24900	SRC1-J12	0	21300 J
SRC3-J03NE	0	24700 J	SRC1-AK20	9	21200
SRC3-J02SW	0	24500	SRC1-AK26	0	21200 J
SRC1-AL28	4	24400 J	SRC4-J21CW2	0	21200
SRC3-J03NW	0	24400 J	SRC1-J10	0	21100 J
SRC1-AJ28	0	24000 J	SRC2-J02N	0	21000 J
SRC3-J02SE	0	23900 J	SRC4-J02SW2	0	20900
SRC1-AJ19	0	23700	SRC1-J13	3	20800 J
SRC1-AJ19	11	23400	SRC2-AM27C	0	20800
SRC3-J03SW	0	23300 J	SRC1-J09	0	20700
SRC5-J21CE2	0	23100 J	SRC1-J09	0	20600
SRC1-AM28	7	23000 J	SRC1-J10	0	20500 J
SRC1-AK25	0	22800	SRC1-AI20	0	20300
SRC1-AJ24	10	22600	SRC1-J14	0	20300 J
SRC4-J03SE2	0	22400	SRC1-J10	11	19900 J

TABLE 3-10: IRON DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)
SRC1-AM28	7	22200 J
SRC4-J21NE2	0	21900
SRC2-J03N	0	21600
SRC4-J03SW2	0	19900
SRC1-AJ22	0	19800

Magnesium

Magnesium was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 100,000 mg/kg BCL, but all detections were higher than the 649 mg/kg $LBCL_{DAF1}$. However, none of the detections were higher than the 17,500 mg/kg maximum soil background detection.

Manganese

Manganese was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). Of these detections, none were higher than the 1,820 mg/kg BCL; however, all detections were higher than the 3.26 mg/kg $LBCL_{DAF1}$. Of these, 10 detections were also higher than the maximum soil background concentration (863 mg/kg). The 10 manganese exceedances are shown in Table 3-11.

TABLE 3-11: MANGANESE DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Manganese Value (mg/kg)
SRC1-AG17	0	1260
SRC3-J03SW	0	1110 J
SRC4-J03NE2	0	1070 J
SRC4-J21NE2	0	1020 J
SRC1-AH15	0	961 J
SRC2-J03N	0	956
SRC3-J03NE	0	924
SRC3-J21NW	0	869 J
SRC4-J03SE2	0	869 J
SRC1-AJ20	0	865

Mercury

Mercury was detected in 74 of the 158 soil samples in which it was analyzed for (55 surface and 19 subsurface samples; Table B-4). None of the detections were higher than the 12.5 mg/kg BCL. However, one detection (0.402 mg/kg, surface soil sample collected at SRC3-J21SW) was higher than the 0.105 mg/kg $LBCL_{DAF1}$. This detection was also higher than the 0.11 mg/kg maximum soil background concentration. The analytical reporting limits for non-detections were sufficiently low such that additional BCL or $LBCL_{DAF1}$ exceedances would have been observed.

Nickel

Nickel was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of these detections exceeded the 1,540 mg/kg BCL, but all were higher than the 7 mg/kg $LBCL_{DAF1}$. All but one of the nickel detections were lower than the 30 mg/kg maximum soil background concentration. That exceedance (38.7 mg/kg) was associated with a soil sample collected from 0 foot bgs at SRC4-J21SE2.

Selenium

Selenium was detected in 2 of the 164 soil samples in which it was analyzed for (2 surface samples; Table B-4). Neither of these detections were higher than the 391 mg/kg BCL; however, both of the detections were higher than the 0.3 mg/kg $LBCL_{DAF1}$. Of these, one selenium result was higher than the 0.6 mg/kg maximum soil background concentration. That exceedance (1.7 mg/kg) was associated with a soil sample collected from 0 foot bgs at SRC2-AM27C.

The reporting limits for the non-detections were adequately low for detections of BCL exceedances; however, 114 out of 162 selenium non-detections had reporting limits above the $LBCL_{DAF1}$ (ranging from 0.32 to 2.8 mg/kg) and 24 had reporting limits above the maximum soil background concentration. It is not known whether selenium is present at concentrations above these comparison levels at these locations.

Silver

Silver was detected in 99 of the 164 soil samples in which it was analyzed for (61 surface and 38 subsurface samples; Table B-4). Of these detections, none were higher than the 391 mg/kg BCL; however, three detections were higher than the 0.85 mg/kg $LBCL_{DAF1}$. These exceedances (10.4 mg/kg from 0 foot bgs at SRC3-J21SW, 1.1 mg/kg from 0 foot bgs at SRC1-J07, and 0.97 mg/kg from 0 foot bgs at SRC1-AJ25) were also higher than the maximum soil background concentration (0.2609 mg/kg).

Thallium

Thallium was detected in 10 of the 164 soil samples in which it was analyzed for (6 surface and 4 subsurface samples; Table B-4). None of the detections were higher than the 5.48 mg/kg BCL;

however, three samples were detected higher the 0.4 mg/kg $LBCL_{DAF1}$. None of the detections were higher than the maximum soil background concentration (1.8 mg/kg).

The reporting limits for the non-detections were adequately low for detections of BCL exceedances; however 81 out of 154 thallium non-detections had reporting limits above the $LBCL_{DAF1}$, such that exceedances would not necessarily have been observed. However, these reporting limits were sufficiently low to indicate that samples did not contain thallium at concentrations above background.

Other Inorganics

As seen in Table 3-4 and Tables B-3 and B-4 in Appendix B, several inorganic constituents in addition to those listed above were routinely detected in soil samples. None of these additional inorganic constituents were detected at concentrations in excess of either the BCL or the $LBCL_{DAF1}$, with the exception of nitrate and perchlorate which had 65 and 82 exceedances of their respective $LBCL_{DAF1}$. The reporting limits for the other inorganic constituents were generally sufficiently low such that concentrations in excess of the BCL or $LBCL_{DAF1}$, if present, would have been reported.

Organochlorine Pesticides

Organochlorine pesticides were analyzed for in 133 soil samples[22] (71 surface and 62 subsurface samples; Table B-5). The following constituents were detected in at least one sample:

- 2,4-DDD
- 2,4-DDE
- 4,4-DDD
- 4,4-DDE
- 4,4-DDT
- beta-BHC
- Methoxychlor

2,4-DDE, 4,4-DDE, 4,4-DDT, and beta-BHC were the most commonly detected (in more than 5 percent of the samples in which they were analyzed for). None of the detections were higher than the BCL, and all of the detections were lower than the $LBCL_{DAF1}$, except for beta-BHC. Six

[22] As noted in Footnote 21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. Organochlorine pesticide analysis was only performed for initial SAP samples (i.e., was not included in the analyses for confirmation samples); thus the tally of organochlorine pesticide analyses is lower than for some of the other analytical suites, such as metals.

beta-BHC detections were higher than the 0.00596 mg/kg $LBCL_{DAF1}$. The six LBCL beta-BHC exceedances were associated with the samples listed in Table 3-12.

TABLE 3-12: BETA-BHC DETECTIONS GREATER THAN $LBCL_{DAF1}$

Sample ID	Depth (feet bgs)	Reported Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Value (mg/kg)
SRC1-AH15	0	0.0066	SRC1-J01	0	0.017 J
SRC1-AI17	3	0.0082 J+	SRC1-AK20	0	0.019 J+
SRC2-J24	0	0.011	SRC1-AJ18	0	0.035

The standard analytical reporting limits for most organochlorine pesticides were sufficiently low such that concentrations in excess of the comparison levels, if present, would be reported. The exceptions are dieldrin and gamma-BHC ("Lindane") which each had reporting limits in three samples higher than their respective $LBCL_{DAF1}$ (0.0002 and 0.0005 mg/kg).

Volatile Organic Compounds

VOCs were analyzed for in 132 soil samples[23] (70 surface and 62 subsurface samples; Table B-10). As seen in Table 3-4 and Table B-10, the following 15 VOCs were detected in at least one sample:

- 1,2,4-Trimethylbenzene
- 1,2-Dichlorobenzene
- 1,3,5- Trimethylbenzene
- 1,3- Dichlorobenzene
- Acetone
- Dichloromethane
- Ethylbenzene
- Freon-11
- m,p-Xylenes
- Methyl ethyl ketone
- n-Propylbenzene
- o-Xylene
- Tetrachloroethene
- Toluene
- Xylenes (total)

Acetone was detected the most frequently, in approximately 27 percent of the samples. None of the detections were above the BCL. None of the VOC detections were above the $LBCL_{DAF1}$, with

[23] As noted in Footnote 21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. VOC analysis was only performed for initial SAP samples (i.e., was not included in the analyses for confirmation samples); thus the tally of VOC analyses is lower than for some of the other analytical suites, such as metals.

the exception of dichloromethane. Dichloromethane was detected in the following four soil samples at concentrations higher than the 0.001 mg/kg $LBCL_{DAF1}$:

- SRC1-AJ23 at 0 foot bgs: 0.0052 J mg/kg;
- SRC2-J24 at 0 foot bgs: 0.0057 mg/kg;
- SRC1-AI20 at 10 feet bgs: 0.0077 mg/kg; and
- SRC2-J21 at 0 foot bgs: 0.0097 J mg/kg.

It should be noted that the reporting limits for dichloromethane were often higher than the $LBCL_{DAF1}$; therefore, concentrations in excess of this comparison level, if present, could have potentially gone unreported. For the other VOCs, the standard reporting limits were lower than the BCL and $LBCL_{DAF1}$, and concentrations in excess of these screening levels, if present, would have been reported.

Semi-Volatile Organic Compounds

SVOCs were analyzed for in 129 soil samples[24] (68 surface and 61 subsurface samples; Table B-9). As seen in Table 3-4 and Table B-9, the following SVOCs were detected in one or more samples:

- Acetophenone
- bis(2-ethylhexyl)Phthalate
- Butylbenzyl phthalate
- Di-n-butyl phthalate
- Fluoranthene
- Hexachlorobenzene
- Phthalic acid

Fluoranthene was detected the most often, in 5.4 percent of the samples. All SVOC detections were lower than the BCL and the $LBCL_{DAF1}$. For SVOC non-detects, the standard reporting limits were lower than the BCL, except for dichloromethyl ether and n-nitrosodi-n-propylamine, which routinely had analytical reporting limits higher than the BCL. With the exception of these

[24] As noted in Footnote 21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. The tally of SVOC analyses is lower than for some of the other analytical suites, such as metals. SVOC analysis was not performed at four locations (11 feet bgs sample from SRC1-AJ19, and surface samples SRC2-J33 [and its duplicate) and SRC2-J34).

compounds, concentrations in excess of the BCL, if present, would have been reported for SVOCs.

For several other SVOC non-detections, the analytical reporting limits are higher than the $LBCL_{DAF1}$, and it is unknown whether these constituents are present in those samples at concentrations in excess of the $LBCL_{DAF1.}$ The constituents with reporting limits routinely higher than the $LBCL_{DAF1}$ are as follows:

- 2,2'-Dichlorobenzil
- 2,4,6-Trichlorophenol
- 2,4-Dichlorophenol
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- 3,3'-Dichlorobenzidine
- bis(2-chloroethyl)ether
- Hexachloroethane
- Isophorone
- Nitrobenzene
- p-Chloroaniline
- Pentachlorophenol

Dioxins and Furans

For dioxins/furans, as discussed in Section 1.1, the USEPA TEQ procedure, developed to describe the cumulative toxicity of these compounds, is used. Dioxins and furans were analyzed for in 123 surface soil samples[25] (Table B-2). All of the individual dioxins and furans congeners analyzed were reported as detections in at least one sample, except for 1,2,3,4,7,8-hexachlorodibenzo-*p*-dioxin, which was not detected in any samples. None of the samples analyzed had calculated TCDD TEQ concentrations in excess of the NDEP BCL of 50 ppt. $LBCL_{DAF1}$ values have not been established for dioxin/furans; thus the potential for impacts to groundwater quality due to their presence could not be assessed by comparisons to the $LBCL_{DAF1}$.

Polychlorinated Biphenyls

PCBs were analyzed for in 123 surface soil samples[26] (individual PCB congeners) (Table B-7). All of the PCB congeners were detected in at least one sample, except for PCB 123, PCB 77, and

[25] This tally includes field duplicates and confirmation samples.
[26] This tally includes field duplicates and confirmation samples.

PCB 81, which were not detected in any samples. BCL values have not been established for individual congeners. PCB congeners are included in the calculation of the TCDD TEQ, and are evaluated in this manner, not on an individual congener basis. $LBCL_{DAF1}$ values have not been established for individual PCB congeners.

Polynuclear Aromatic Hydrocarbons

Polynuclear aromatic hydrocarbons (PAHs) were analyzed for in 129 soil samples[27] (68 surface and 61 subsurface samples; Table B-6); each PAH constituent was detected in at least one soil sample, except for acenaphthene, which was not detected in any samples. The PAH detections did not exceed either the BCL or the $LBCL_{DAF1}$ where established. The standard PAH reporting limits were lower than the BCL and the $LBCL_{DAF1}$; thus concentrations in excess of these comparison levels, if present, would have been reported.

Aldehydes

Aldehydes were analyzed for in 115 soil samples[28] (53 surface and 62 subsurface samples; Table B-9). Acetaldehyde was detected in one sample, and formaldehyde was detected in 64 samples (56 percent). None of the detections exceeded the BCL. The reporting limits were lower than the BCL; thus concentrations in excess of the BCL, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Radionuclides

Radionuclides were analyzed for in 132 soil samples[29] (71 surface and 61 subsurface soil samples; Table B-8). Exceedances of comparison levels for radionuclides are shown in Table 3-4 for the eight radionuclides currently included in the project analyte list (radium-226, radium-228,

[27] As noted in Footnote 21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. The tally of PAH analyses is lower than for some of the other analytical suites, such as metals. PAH analysis was not performed at four locations (11 feet bgs sample from SRC1-AJ19, and surface samples SRC2-J33 [and its duplicate) and SRC2-J34).

[28] As noted in Footnote 21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. Aldehyde analysis was only performed for initial SAP samples (i.e., was not included in the analyses for confirmation samples); thus the tally of aldehyde analyses is lower than for some of the other analytical suites, such as metals.

[29] As noted in Footnote 21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. Radionuclide analyses was only performed for initial SAP samples (i.e., they were not included in the analyses for confirmation samples). In addition, radionuclide analyses were not performed at one location (11 feet bgs samples from SRC1-AJ19. Thus the tally of radionuclide analyses is lower than for some of the other analytical suites, such as metals.

thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238). Of those activities greater than comparison levels, most are lower than the maximum soil background activity, as shown in Table 3-4. Activities higher than comparison levels and background are summarized below for each radionuclide:

- Radium-226 activities were reported in 119 soil samples (63 surface and 56 subsurface soil samples; Table B-8). All detections were higher than the BCL and $LBCL_{DAF1}$ (0.013 and 0.016 picoCuries per gram [pCi/g], respectively). However, only one of those results were higher than the 2.36 pCi/g maximum soil background activity (2.39 pCi/g from SRC1-AK26 at 0 foot bgs);
- Radium-228 activities were reported in 126 soil samples (84 surface and 42 subsurface soil samples; Table B-8). All detections were higher than the BCL and $LBCL_{DAF1}$ (0.013 and 0.016 picoCuries per gram [pCi/g], respectively). However, only five of those results were higher than the 2.94 pCi/g maximum soil background activity. Those results are as follows:
  - SRC2-J33 at 0 foot bgs: 2.98 pCi/g;
  - SRC1-AL26 at 11 feet bgs: 3.03 pCi/g;
  - SRC1-AN28 at 0 foot bgs: 3.18 J pCi/g;
  - SRC1-AL28 at 0 foot bgs: 3.25 pCi/g; and
  - SRC2-J29 at 0 foot bgs: 3.64 pCi/g.
- Thorium-228 activities were reported in all but one of the 132 soil samples (86 surface and 45 subsurface soil samples; Table B-8). All detections were higher than the BCL and $LBCL_{DAF1}$ (0.0078 pCi/g and 0.0023 pCi/g, respectively). Ten results were higher than the 2.28 pCi/g maximum soil background activity (Table 3-13).

TABLE 3-13: THORIUM-228 DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND ACTIVITY

Sample ID	Depth (feet bgs)	Reported Thorium-228 Value (pCi/g)	Sample ID	Depth (feet bgs)	Reported Thorium-228 Value (pCi/g)
SRC1-AJ18	0	3.71	SRC1-AJ28	0	2.6 J
SRC1-J13	3	2.83	SRC1-J13	0	2.51
SRC1-J15	0	2.79 J	SRC1-AK20	19	2.43
SRC1-AI17	13	2.74	SRC1-J10	0	2.42 J
SRC1-AH15	0	2.73	SRC1-AI17	0	2.37

- Thorium-232 activities were reported in all of the 132 soil samples (86 surface and 46 subsurface soil samples; Table B-8). None of the detections were higher than the BCL (2.8 pCi/g), while all detections were higher than the $LBCL_{DAF1}$ (0.0029 pCi/g, respectively). Nine results were higher than the 2.23 pCi/g maximum soil background activity (Table 3-14).

TABLE 3-14: THORIUM-232 DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND ACTIVITY

Sample ID	Depth (feet bgs)	Reported Thorium-232 Value (pCi/g)
SRC2-J23	0	2.8
SRC2-J32	0	2.67
SRC1-J10	0	2.5 J
SRC1-AH17	11	2.49
SRC1-AH19	10	2.49 J

Sample ID	Depth (feet bgs)	Reported Thorium-232 Value (pCi/g)
SRC1-AJ26	11	2.44
SRC1-AL26	0	2.41
SRC1-AJ23	4	2.28
SRC1-AJ26	0	2.26

- Uranium-235/236 activities were reported in 11 Site soil samples (6 surface and 5 subsurface soil samples; Table B-8). Nine of the detections were higher than the 0.11 pCi/g BCL. Of these, four of the detections were higher than the 0.241 pCi/g maximum soil background activity. Those four results are as follows:

  - SRC1-AH15 at 10 feet bgs: 0.251 mg/kg;
  - SRC1-J03 at 15 feet bgs: 0.252 mg/kg;
  - SRC1-AJ18 at 0 foot bgs: 0.378 mg/kg; and
  - SRC1-AK20 at 0 foot bgs: 0.412 mg/kg.

As presented in NDEP guidance (NDEP 2009a), as part of the process used to evaluate radionuclide data for the BMI Common Areas, BRC assessed whether radionuclides are in secular equilibrium. As discussed in Section 5.1, secular equilibrium is an indication of background conditions.

The data indicate that radionuclides are in secular equilibrium at the Site. Specifically, the mean radioactivities for the Thorium-232 decay chain (i.e., thorium-232, radium-228, and thorium-228) are comparable (1.5, 1.7, and 1.8 pCi/g, respectively). Similarly, the mean values for the uranium-238 decay chain (uranium-238, uranium-233/234, thorium-230, and radium-226) are also comparable, ranging from 0.92 to 1.0 pCi/g. All of the mean values are lower than their respective maximum soil background activity levels. A quantitative evaluation of secular equilibrium is presented in Section 5.1.

Summary of Soil Exceedances

As summarized above and in the associated data tables (Table 3-4 and Appendix B), some BCL and $LBCL_{DAF1}$ exceedances are currently observed in Site soils. The following constituents were reported at concentrations higher than the BCL and the maximum soil background concentration (where applicable):

- Radionuclides (10 samples)

The following constituents were reported at concentrations higher than the $LBCL_{DAF1}$ and the maximum soil background concentration (where applicable):

- Aluminum (25 samples)
- Arsenic (2 samples)
- Barium (2 samples)
- Beryllium (1 sample)
- Boron (1 sample)
- Cadmium (1 sample)
- Chromium (8 samples)
- Cobalt (12 samples)
- Copper (2 samples)
- Iron (45 samples)
- Lithium (1 sample)
- Manganese (10 samples)
- Mercury (1 sample)
- Nickel (1 sample)
- Selenium (1 sample)
- Silver (3 samples)
- Radionuclides (10 samples)
- Dichloromethane (4 samples)

The limited number of BCL and $LBCL_{DAF1}$ exceedances indicates that there is a low likelihood of adverse impacts to human health and the environment due to residual chemical concentrations in Site soils.

One observation from the data review was the presence of two areas, which due to repeated cleanups triggered primarily by metals, have a number of sample results within these locations. Although not considered 'hot spots;' because of the density of data in these two areas, they were considered separately for subsequent evaluations in the HHRA for metals. That is, three 'exposure areas' are considered:

1. Exposure area SRC-J02/J03, using metals data for just this area, and Site-wide data for all other analytes;

2. Exposure area SRC-J21, using metals data for just this area, and Site-wide data for all other analytes; and

3. "Site-Wide" exposures using all data except exposure areas SRC-J02/J03 and SRC-J21 data for metals, and Site-wide data for all other analytes.

3.6 SURFACE FLUX SAMPLING

Concurrent with the confirmation soil sampling, BRC implemented surface flux sampling across the Site. This sampling conformed to the most recent NDEP-approved version of SOP-16 (BRC, ERM, and MWH 2009). The sampling procedure for the effort included the USEPA surface emission isolation flux chamber (flux chamber) sampling to support an air pathway analysis for the Site.

It should be noted that while radon samples were collected, they are not included in this HHRA for the following reason: BRC recently submitted a technical memorandum to the NDEP (BRC 2010), in which the results of recent radon testing performed in groundwater and indoor air samples were presented. Based on the findings of this memorandum, the NDEP concluded that HHRAs for Eastside property sub-areas do not need to evaluate the pathway of radon migration from groundwater to indoor air for sub-areas with a separation distance of at least 15 feet between any current or future building structure base and the high water table (letter dated November 9, 2010, from Greg Lovato, NDEP, to Mark Paris, BRC). Based on this conclusion and given the depth to groundwater at the Site is at least 50 feet bgs, the intrusion of radon into indoor air is not evaluated in the HHRA. Furthermore, as discussed in Section 5.1, other radionuclides are consistent with background levels, which indicate that radon should also be consistent with background, naturally occurring levels in soil.

The flux chamber sample collection rationale was based on the project goal of obtaining a representative dataset of air emissions per sub-area. Flux chamber samples were collected from 36 locations (Figure 11); 27 random sampling locations and 9 biased locations (and 1 field duplicate; 37 samples total). This density of sample collection is considered adequate for sub-area characterization given the biased nature of the sample locations, the size of the sub-area, and the number of sample locations suggested by the USEPA (1986) in the flux chamber User's Guide for assessing zones of homogeneous sites.

The analyte list for surface flux samples is composed of the list provided in the most recent NDEP-approved version of SOP-16 (BRC, ERM, and MWH 2009). This analyte list is provided in Table 3-15, and consists of the USEPA Method TO-15 full scan, plus SIM analyses for a subset of the analytes. The analytical results are summarized in Table B-11 (Appendix B), and the principal investigator Report of Findings (which includes descriptions of sampling procedures) is provided in Appendix D (included on the report CD in Appendix B).[30] It should be noted that, in addition to VOC data for the Site, the flux chamber report also contains data for the remainder of the Southern RIBs sub-area outside the Site boundaries. Data collected from outside the Site boundaries are not included in this HHRA. A data summary for the flux chamber sample results is provided in Table 3-16.

As seen in Table 3-16 and Table B-11, 44 organic constituents were detected in at least one surface flux sample. The most commonly detected constituents were acetone, carbon tetrachloride, chloroform, dichloromethane, and toluene, which were detected in more than 85 percent of the samples. Nearly all of the detections were qualified with "J" flags, indicating the reported concentrations were estimated. The highest concentrations were of ethanol (6.3 $\mu g/m^2,min^{-1}$ at SRC1-AH-19 and 2.4 $\mu g/m^2,min^{-1}$ at SRC1-AH15) and acetone (1.1 $\mu g/m^2,min^{-1}$ at SRC1-AH16). Both of these constituents are common laboratory contaminants.

As discussed in Section 4, all data have been validated. The HHRA surface flux dataset for the Site is included on the report CD in Appendix B. Surface flux sample locations are shown on Figure 11.

3.7 LEACHATE DATA

As specified in the SAP, one sample collected within the Site during the initial sampling event was submitted for synthetic precipitation leaching procedure (SPLP) analysis.[31] This sample was collected from location SRC1-AJ19 at 11 feet bgs. This soil sample was analyzed for aldehydes, general chemistry and ions, metals, organochlorine pesticides, PAHs, radionuclides, and SVOCs.

[30] Note that this report was prepared prior to data validation; therefore, data qualifiers may differ from those in the remainder of this report.
[31] SPLP analysis prepped per USEPA Method 1312 - West solution pH 4.95 with 60/40 weight sulfuric/nitric acid.

As noted in the SAP, these constituents are considered those of greatest concern for potential migration and impacts to groundwater. Data associated with this SPLP sample are summarized in Appendix B, Table B-12. For reference, Table B-12 includes constituent-specific comparison levels (viz., NDEP's residential water BCLs and USEPA Maximum Contaminant Levels). As summarized in Table B-12, there were few detections in the leachate sample from SRC1-AJ19. All of the detections in this leachate sample were inorganic constituents (i.e., general chemistry and ions, metals and radionuclides); organic compounds were not detected. Of these detections, only arsenic (0.003 milligrams per liter) was higher than the respective comparison level.

4.0 DATA EVALUATION

This section describes the procedures used to evaluate the acceptability of data for use in the risk assessment. Overall quality of sample results is a function of proper sample management. Management of samples began at the time of collection and continued throughout the analytical process. SOPs were followed to ensure that samples were collected and managed properly and consistently and to optimize the likelihood that the resultant data are valid and representative.

The primary objective of the data review and usability evaluation was to identify appropriate data for use in the HHRA. The analytical data were reviewed for applicability and usability following procedures in USEPA's *Guidance for Data Usability in Risk Assessment (Part A)* (1992a) and *Risk Assessment Guidance for Superfund: Volume I* (1989), and the NDEP's *Supplemental Guidance for Assessing Data Usability for Environmental Investigations at the BMI Complex and Common Areas* (2008a). A quality assurance/quality control (QA/QC) review of the analytical results was conducted during the sampling events. According to the USEPA Data Usability Guidance, there are six principal evaluation criteria by which data are judged for usability in risk assessment. The six criteria are:

- Reports to risk assessor (availability of information associated with Site data);
- Documentation;
- Data sources;
- Analytical methods and detection limits;
- Data review; and
- Data quality indicators (DQIs), including precision, accuracy, representativeness, comparability, and completeness (PARCC).

A summary of these six criteria for determining data usability is provided below. In addition to the six principal evaluation criteria, the NDEP's Data Usability Guidance includes a step for data usability analysis, which is discussed after these six USEPA evaluation criteria. Data usability evaluation tables are provided electronically in Appendix E (included on the report CD in Appendix B).

4.1 CRITERION I – REPORTS TO RISK ASSESSOR (AVAILABILITY OF INFORMATION ASSOCIATED WITH SITE DATA)

The usability analysis of the site characterization data requires the availability of sufficient data for review. The required information is available from documentation associated with the Site data and data collection efforts. Data have been validated as described in the following DVSRs, which are provided electronically in Appendix F:

- *Data Validation Summary Report, Southern RIBs Sub-Area Soil Investigations, October-November2008; February 2009; September 2009 (Dataset 53)* (BRC and ERM 2010a), approved by the NDEP on March 11, 2010;

- *Data Validation Summary Report, Southern RIBs Sub-Area 2nd Round Confirmation Soil Investigations –December 2009 (Dataset 53a)* (BRC and ERM 2010b), approved by the NDEP on February 15, 2010;

- *Data Validation Summary Report, Southern RIBs And Western Hook Sub-Area Soil Flux Revised Data –October 2008 (Dataset 53c)* (BRC and ERM 2010c), approved by the NDEP on November 24, 2010; and

- *Data Validation Summary Report, Eastside North Confirmation Soil Investigations – December 2008 through October 2010 (Dataset 72b)* (BRC and ERM 2011), approved by the NDEP on May 9, 2011.

The information sources and the availability of such information for the data usability process are as follows:

- A Site description provided in this report and the NDEP-approved SAPs identifies the location and features of the Site, the characteristics of the vicinity, and contaminant transport mechanisms.

- A Site map with sampling locations is provided on Figure 11.

- Sampling design and procedures are provided in the NDEP-approved SAPs.

- Analytical methods and sample quantitation limits (SQLs) are provided in the dataset file included on the report CD in Appendix B.

- A complete dataset is provided in the dataset file included on the report CD in Appendix B.

- A narrative of qualified data is provided with each analytical data package; the laboratory provided a narrative of QA/QC procedures and results. These narratives are included as part of the DVSRs (BRC and ERM 2010a,b,c; 2011).

- QC results are provided by the laboratory, including blanks, replicates, and spikes. The laboratory QC results are included as part of the DVSRs (BRC and ERM 2010a,b,c; 2011).

- Data flags used by the laboratory are defined adequately.

- Electronic files containing the raw data made available by the laboratory are included as part of the DVSRs (BRC and ERM 2010a,b,c; 2011).

4.2 CRITERION II – DOCUMENTATION REVIEW

The objective of the documentation review is to confirm that the analytical results provided are associated with a specific sampling location and collection procedure, using available documentation. For the purposes of this data usability analysis, the chain-of-custody forms prepared in the field were reviewed and compared to the analytical data results provided by the laboratory to ensure completeness of the dataset as discussed in the DVSRs (BRC and ERM 2010a,b,c; 2011). Based on the documentation review, all samples analyzed by the laboratory were correlated to the correct geographic location at the Site, as shown on Figure 11. The samples were collected in accordance with the SAP, CSP, and RAWP (BRC 2008, 2009a,b), and the SOPs developed for the BMI Common Areas as provided in the FSSOP (BRC, ERM and MWH 2009). Field procedures included documentation of sample times, dates, and locations; other sample-specific information such as sample depth was also recorded. Information from field forms generated during sample collection activities was imported into the project database.

The analytical data were reported in a format that provides adequate information for evaluation, including appropriate QC measures and acceptance criteria. Each laboratory report describes the analytical method used, provides results on a sample-by-sample basis along with sample-specific SQLs, and provides the results of appropriate QC samples such as laboratory control spike samples, sample surrogates and internal standards, and matrix spike samples. All laboratory reports, except for asbestos, were prepared as provided by the documentation required by USEPA's Contract Laboratory Program (USEPA 2003a, 2004b,c), which includes chain-of-custody records, calibration data, QC results for blanks, duplicates, and spike samples from the field and laboratory, and all supporting raw data generated during sample analysis. Reported analytical results were imported into the project database.

Measurement of asbestos was conducted consistent with the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils* (2009b). The recommended method for providing asbestos data that are useful for risk assessment purposes was performed by EMSL Analytical, Inc., in Westmont, New Jersey. Although this laboratory is not currently certified in Nevada, it does have State of California and U.S. accreditation for asbestos analysis. Because many of the QC procedures associated with other analyses do not apply to asbestos analysis (e.g., laboratory blanks, duplicates and spikes), data validation of the asbestos laboratory reports involved a somewhat lesser level of effort than for other analyses (consistent with the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils*).

4.3 CRITERION III – DATA SOURCES

The review of data sources is performed to determine whether the analytical techniques used in the site characterization process (i.e., SAP sampling) are appropriate for risk assessment purposes. The data collection activities specified in the SAP were developed to characterize a broad spectrum of chemicals potentially present on the Site, including asbestos, aldehydes, general chemistry and ions, VOCs, SVOCs, metals, dioxins/furans, PAHs, organochlorine pesticides, radionuclides, and PCBs (SRCs and analyses performed under SAP implementation are listed in Table 3-2, and Table 3-15 for surface flux samples).[32] Because of the soil removals that have occurred on the Site, data collected prior to SAP implementation had significant gaps and inconsistencies in analytical methodology, and as discussed in Section 2, those historical data are not evaluated further in the data usability process, or the HHRA. Only post-remediation data collected under the SAP (and subsequent RAWPs) are being used in the HHRA, and these were subjected to the formal data usability evaluation described in this section. Figure 11 demonstrates that samples collected in accordance with the SAP are situated across the entire Site; analyses associated with these samples are summarized in Tables 3-2 (soil) and 3-15 (surface flux).

The State of Nevada is in the process of certifying the laboratories used to generate the analytical data. As such, standards of practice in these laboratories follow the quality program prescribed by the Nevada Revised Statutes and are within the guidelines of the analytical methodologies established by the USEPA. Based on the review of the available information, the data sources for chemical and physical parameter measurements are adequate for use in a risk assessment.

[32] Although radon samples were collected and analyzed for the Site, radon has been evaluated through a separate process and is not considered further in the data usability process (see Section 3.6).

4.4 CRITERION IV – ANALYTICAL METHODS AND DETECTION LIMITS

In addition to the appropriateness of the analytical techniques evaluated as part of Criterion III, it is necessary to evaluate if the detection limits are low enough to allow adequate characterization of risks. At a minimum, this data usability criterion can be met through the determination that routine USEPA and U.S. Department of Energy (DOE) reference analytical methods were used in analyzing samples collected from the Site. The USEPA and DOE methods that were used in conducting the laboratory analysis of soil and surface flux samples are identified in the dataset file included on the report CD in Appendix B. Each of the identified methods is considered the most appropriate method for the respective constituent class and each was approved by the NDEP as part of the SAP, CSP, and RAWPs (BRC 2008, 2009a,b). As recommended by the NDEP's guidance on *Detection Limits and Data Reporting* (NDEP 2008b) the laboratory reported SQL was used in evaluating detection limits.

Laboratory practical quantitation limits (PQLs) were based on those outlined in the reference method, the SAP (BRC 2008), and the project QAPP. In accordance with respective laboratory SOPs, the analytical processes included performing instrument calibration, laboratory method blanks, and other verification standards used to ensure QC during the analyses of collected samples.

The range of SQLs achieved in field samples was compared to NDEP BCLs (NDEP 2012a). There are no BCLs comparable to surface flux data. As seen in the summary of the Site dataset provided in Table 3-4 (soil), of the standard analytes, only six constituents had SQLs that exceeded their respective residential soil BCLs. Twenty-one SPLP constituents exceeded their respective residential water BCLs. The SQLs exceedances of NDEP BCLs are discussed below.

- The radium-226, radium-228, and thorium-228 minimum detectable activity (MDA) in all sample analyses were higher than the BCL; the uranium-235/236 MDA in most sample analyses were higher than the BCL. However, all radionuclides were statistically similar to background.

- Organics with SQLs higher than the BCL were n-nitrosodi-n-propylamine in 75 of 129 samples, and dichloromethyl ether in all 129 samples analyzed. Neither of these compounds was detected in any samples. The n-nitrosodi-n-propylamine SQL was only slightly higher than the BCL. The dichloromethyl ether SQL is greater than 200 times the BCL and a reduction in the SQL is not likely to be achieved by the laboratory. Therefore, the analytical SQLs are considered adequate for risk assessment purposes.

- The following analytes have SPLP SQLs higher than their residential water BCL (see Table B-12): 1,2-diphenylhydrazine, 2,2'-dichlorobenzil, 2,4,6-trichlorophenol, 2,4-dinitro-toluene, 3,3-dichlorobenzidine, aldrin, aniline, benzo(a)anthracene, benzo(a)pyrene, benzo-(b)fluoranthene, bis(2-chloroethyl)ether, bis(2-chloroisopropyl)ether, bis(2-ethylhexyl)-phthalate, dibenzo(a,h)anthracene, formaldehyde, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, indeno(1,2,3-cd)pyrene, nitrobenzene, and pentachlorophenol. Of these, only benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, formaldehyde, hexachlorobenzene, and bis(2-ethylhexyl)phthalate were detected in soils. Because the non-detect SPLP data were also not detected in soils, they are not anticipated to be of concern with respect to potential impacts to groundwater. Of those detected in soils, the soil concentrations were all below the $LBCL_{DAF1}$.

As discussed in the *2008 Supplemental Shallow Soil Background Report* (BRC and ERM 2009b), there are differences in SQLs among datasets that may affect data comparability for datasets comprised primarily of non-detect values. For these datasets, left-censored data can result in difficulties in differentiating whether datasets are actually different or merely an artifact of detection limits.

4.5 CRITERION V – DATA REVIEW

The data review portion of the data usability process focuses primarily on the quality of the analytical data received from the laboratory. Soil and surface flux sample data were subject to data validation. DVSRs were prepared as separate deliverables (BRC and ERM 2010a,b,c; 2011; Appendix F). The analytical data were validated according to the internal procedures using the principles of USEPA National Functional Guidelines (USEPA 1999, 2004d, 2005a, 2008) and were designed to ensure completeness and adequacy of the dataset. Additionally, the DVSRs were issued utilizing the NDEP's two *Supplemental Guidance on Data Validation* documents (NDEP 2009c,d). Any analytical errors and/or limitations in the data have been addressed and an explanation for data qualification provided in the respective data tables. The results of ERM's data review for these issues are presented in the DVSRs and are summarized below.

One-hundred and nine (109) data points were rejected (these are identified in a separate workbook in the dataset file included on the report CD in Appendix B). These include the following:

- One cyanide result (SRC1-AJ28-0) due to very low matrix spike recovery.

- Four benzyl alcohol results (SRC2-J20-0, SRC2-J21-0, SRC2-J22-0, SRC2-J28-0) were rejected due to very low LCS recoveries. Sample SRC2-J23-0 was also rejected due to very low matrix spike/matrix spike duplicate (MS/MSD) recoveries.

- One vinyl acetate result (SRC1-AJ28-0) was rejected due to very low MS/MSD recoveries.

- Twenty-one VOC analytes were rejected in sample SRC1-AJ28-0, and all VOC analytes in sample SRC1-J10-0, due to very low internal standard recoveries.

Data qualifications are discussed in the subsections that follow.

4.5.1 Holding Time Exceedances / Sample Condition Qualifications

Holding time refers to the period of time between sample collection and the preparation and/or analysis of the sample. The accuracy of analytical results may depend upon analysis within specified holding times and sample temperature. In general, a longer holding time is assumed to result in a less accurate measurement due to the potential for loss or degradation of the analyte over time. Sample temperature is of greatest concern for VOCs that may volatilize from the sample at higher temperatures. As described in the DVSRs (BRC and ERM 2010a,b,c; 2011) sample results were reviewed for compliance with the method-prescribed preparation and analysis holding times.

USEPA guidance for validation allows professional judgment to be used in evaluating qualification due to holding time exceedances. Sample results that were generated after the required holding time, but less than two times after the holding time, were qualified as estimated (J or UJ flagged). If the samples were prepared after two times the holding time was exceeded, non-detect results were qualified as rejected (R). Qualifications to five samples were made on the basis of exceeded holding times (see Table 2-2 of DVSRs 53 and 72b [BRC and ERM 2010a, 2011]; Appendix F), as follows:

- Hexavalent chromium results for 27 soil samples were qualified due to holding time exceedances. All samples were 1 day beyond the method-prescribed 4-day period. The results were qualified as estimated with a potential low bias (J-/UJ). The samples qualified are listed in Table 4-1.

TABLE 4-1: HEXAVALENT CHROMIUM SAMPLES QUALIFIED DUE TO HOLDING TIME EXCEEDANCES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AH17-11	F8K150163010	SRC4-J03SE2	F0C180550014
SRC1-AH17-0	F8K150163009	SRC4-J02NE2	F0C180550013
SRC1-AJ19-11	F8K150163008	SRC4-J02SE2	F0C180550012
SRC1-AJ19-0	F8K150163007	SRC4-J02C2	F0C180550011
SRC1-J11-10	F8K150163004	SRC4-J02NW2-DUP	F0C180550010
SRC1-J11-0	F8K150163003	SRC4-J02NW2	F0C180550009
SRC1-J12-12	F8K140154019	SRC4-J02SW2	F0C180550008
SRC1-J12-0	F8K140154018	SRC4-J21NE2	F0C180550007
SRC1-AJ27-10	F8K140154017	SRC4-J21SE2	F0C180550006
SRC1-AJ27-0	F8K140154016	SRC4-J21SW2	F0C180550003
SRC1-AJ26-11	F8K140154015	SRC4-J21NW2	F0C180550002
SRC1-AJ26-0	F8K140154014	SRC4-J21CW2	F0C180550001
SRC4-J03SW2	F0C180550017	SRC4-J03NE2	F0C180550015
SRC4-J03C2	F0C180550016		

- Acetaldehyde and formaldehyde results for 12 soil samples were qualified due to holding time exceedances. All samples were 1 day beyond the method-prescribed 3-day period. The results were qualified as estimated with a potential low bias (J-/UJ). The samples qualified are listed in Table 4-2.

TABLE 4-2: ACETALDEHYDE AND FOMALDEHYDE SAMPLES QUALIFIED DUE TO HOLDING TIME EXCEEDANCES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-J12-12	NRK1378-19	SRC1-J10-11	NRK1378-13
SRC1-J12-0	NRK1378-18	SRC1-AJ28-12	NRK1378-12
SRC1-AJ27-10	NRK1378-17	SRC1-J14-12	NRK1378-09
SRC1-AJ27-0	NRK1378-16	SRC1-J14-0	NRK1378-08
SRC1-AJ26-11	NRK1378-15	SRC1-J10-0-FD	NRK1378-07
SRC1-AJ26-0	NRK1378-14	SRC1-J28-0-FD	NRK1378-11

- VOC results associated with several soil samples were associated with analyses performed 4 to 8 days outside the method-prescribed holding time. The results were qualified as estimated with a potential low bias ("J-") for detections or "UJ" for non-detections. The results and samples are listed in Table 4-3.

TABLE 4-3: VOLATILE ORGANIC COMPOUNDS SAMPLES QUALIFIED DUE TO HOLDING TIME EXCEEDANCES

Sample ID	Lab ID	Analyte	No. of Days Holding Time Exceeded
SRC2-J20-0 SRC2-J21-0 SRC2-J22-0 SRC2-J23-0 SRC2-J24-0 SRC2-J25-0 SRC2-J26-0 SRC2-J27-0 SRC2-J28-0 SRC2-J29-0 SRC2-J30-0 SRC2-J31-0 SRC2-J32-0 SRC2-J29-0	F9I150136002 F9I150136003 F9I150136004 F9I150136005 F9I150136006 F9I150136007 F9I150136008 F9I150136009 F9I150136010 F9I150136011 F9I150136012 F9I150136013 F9I150136014 F9I150136011	Acetone Methyl ethyl ketone MTBE	4
SRC2-J33-0 SRC2-J33-0-DUP SRC2-J34-0	F9I180183001 F9I180183002 F9I180183003	1,1-Dichloroethane 1,2-Dichloroethene 1,2-Dichloropropane Bromodichloromethane Dichloromethane Freon-113 Trans-1,2-Dichloroethene Vinyl Acetate	8

- SVOC results for one soil sample (SRC1-J11-0) were qualified due to holding time exceedances. The sample was extracted 4 days beyond the method-prescribed 14-day period. The results were qualified as estimated with a potential low bias (J-/UJ).

- Filtering post-SPLP extraction were not performed immediately for one soil sample (SRC1-AJ19-11) associated with analytes, chloride, fluoride, nitrite, orthophosphate, ammonia (as N), total Kjeldahl nitrogen, total organic carbon, metals, and organochlorine pesticides. The results were qualified as estimated with a potential low bias (J-/UJ).

As noted in the DVSRs (BRC and ERM 2010a,b,c; 2011), all samples were received at the laboratory within the required temperatures range of 4°± 2° Celsius. No sample results were qualified based on sample temperatures. Results for one radionuclide sample (SRC1-AJ19-11) were qualified as estimated (J/UJ) due to inadequate sample preservation.

4.5.2 Blank Contamination

Blanks are artificial samples designed to evaluate the nature and extent of contamination of environmental samples that may be introduced by field or laboratory procedures. Field and laboratory blanks, consisting of contaminant-free water, were prepared and analyzed as part of standard QA/QC procedures to monitor for potential contamination of field equipment, laboratory process reagents, and sample containers. As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), 982 results were qualified as undetected (U) or estimated (J+) due to laboratory or field blank contamination, as discussed below. Of these, the majority, 956 results were qualified as undetected (U). Detections of constituents qualified as non-detections due to comparable detections in laboratory or field blanks are known as "censored" data, and are presented in Tables 2-5 and 2-6 of DVSR 53, Tables 2-3 and 2-4 of DVSR 53a, Table 2-2 of DVSR 53c, and Tables 2-6 and 2-7 of DVSR 72b (Appendix F). In these cases, non-detections are represented in the database as "< [*the PQL*]" in the case of inorganics detected below the PQL, or as "<[*result value*]" for all others.[33]

These censored data are summarized in Appendix E, Table E-14 (included on the report CD in Appendix B) by compound class. As seen in that table, analytes were initially reported as detections in samples, but were later qualified as non-detections based on the presence of comparable concentrations of that analyte in blank samples. As seen in Appendix E, compounds most often censored for soil results included the following:

- Dichloromethane (80 samples)
- Cyanide (57 samples)
- Silver (60 samples)
- Cadmium (98 samples)
- Molybdenum (55 samples)
- 1,2,4-Trimethylbenzene (55 samples)
- Total organic carbon (55 samples)
- Formaldehyde (30 samples)
- Tungsten (34 samples)
- Tin (26 samples)

In addition, benzene (14 of 37 samples), 1,4-dichlorobenzene (23 of 37 samples), tetrachloroethene (17 of 37 samples), and trichloroethene (17 of 37 samples) were frequently censored for flux samples.

Table 4-4 presents the metals most likely to be affected by this issue.

[33] Although NDEP has issued recent guidance regarding qualifying data due to blank contamination (NDEP 2012b); BRC has addressed this issue in the *Technical Memorandum – BRC Comments on NDEP Blank Contamination Guidance* (BRC 2011) and, consistent with this Technical Memorandum, no changes were made to the Site dataset.

TABLE 4-4: METALS MOST FREQUENTLY CENSORED DURING BLANK SAMPLE EVALUATION

Metal	Number of Detect	Number of Samples	Number of Censored Results	Max Non-Detect (mg/kg)	NDEP Residential BCL (mg/kg)
Cadmium	46	164	98	0.27	38.9
Silver	99	164	60	1.1	391
Tin	61	164	26	1.1	46900
Tungsten	20	164	33	2.8	587
Molybdenum	74	164	55	2.7	391

What this table demonstrates is that while the number of censored results is numerous compared to the number of detections, the censored values are still much lower than residential soil BCLs.

4.5.3 Sample/Duplicate Differences Outside Permissible Range or Greater than Permissible Values

During the data validation process, sample/duplicate results are evaluated to determine whether differences in those results suggest potential issues with data quality. Specifically, the analyst evaluates the following:

- MS/MSD relative percent difference (RPDs), to determine if the RPDs are outside acceptance limits;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPDs, to determine if the RPDs are outside acceptance limits;
- Sample/field duplicate results to determine if differences are greater than the permissible value; and
- Sample/laboratory duplicate results to determine if differences are greater than the permissible value.

4.5.3.1 Qualifications Due to MS/MSD Recoveries Outside Acceptance Criteria

As discussed in the DVSRs (BRC and ERM 2010a,b,c; 2011), 915 inorganic sample results and 1 organic sample result were qualified as estimated (either UJ for non-detections or J for detections; "+" or " – " added to denote potential high or low bias, respectively) based on MS/MSD recoveries; there were three rejections for data associated with MS/MSD recoveries. The qualifications applied on the basis of MS/MSD recoveries were as follows:

- Two cyanide results, SRC1-J13-0 and SRC2-J20-0, were qualified as estimated and one cyanide result, SRC1-AJ28-0, was rejected due to recoveries below the acceptance limits.

- One sulfide result SRC2-J20-0 was qualified due to a recovery below the acceptance limit.

- One perchlorate result, SRC1-AK21-0 was qualified due to a recovery greater than the acceptance criteria and eight perchlorate results were qualified due to a recovery below the acceptance criteria. These samples include the following: SRC1-AL28-0, SRC1-AM28-0, SRC1-AM28-17, SRC1-AM28-7, SRC1-AM28-7-FD, SRC1-J13-0, SRC1-J13-13, and SRC1-J13-3.

- The Total Kjeldahl Nitrogen results for the 17 soil samples identified in Table 4-5 were qualified as estimated due to recoveries greater than the acceptance criteria and three were qualified as estimated due to recoveries below the acceptance criteria.

TABLE 4-5: TOTAL KJELDAHL NITROGEN SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AJ21-0	F8K070216011	SRC1-AJ21-12	F8K070216012
SRC1-AK21-0	F8K070216007	SRC1-AK21-0-FD	F8K070216008
SRC1-AK21-18	F8K070216010	SRC1-AK21-8	F8K070216009
SRC1-AK23-0	F8K070216001	SRC1-AK23-14	F8K070216003
SRC1-AK23-4	F8K070216002	SRC1-AK24-0	F8K070216016
SRC1-AK24-10	F8K070216017	SRC1-AL24-0	F8K070216004
SRC1-AL24-18	F8K070216006	SRC1-AL24-8	F8K070216005
SRC2-J20-0	F9I150136002	SRC2-J21-0	F9I150136003
SRC2-J22-0	F9I150136004	SRC2-J33-0	F9I180183001
SRC2-J33-0-DUP	F9I180183002	SRC2-J34-0	F9I180183003

- The radium-226 results for the 17 soil samples identified in Table 4-6 were qualified as estimated due to a recoveries lower than the acceptance criteria.

TABLE 4-6: RADIUM-226 SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AJ25-0	219546003	SRC1-AJ25-13	219546005
SRC1-AJ25-3	219546004	SRC1-AJ26-0	219546009
SRC1-AJ26-11	219546010	SRC1-AJ27-0	219546011
SRC1-AJ27-10	219546012	SRC1-AJ28-0	219546017
SRC1-AJ28-0-FD	219546018	SRC1-AJ28-12	219546019
SRC1-J10-0	219546006	SRC1-J10-0-FD	219546007
SRC1-J10-11	219546008	SRC1-J12-0	219546013
SRC1-J12-12	219546014	SRC1-J14-0	219546015
SRC1-J14-12	219546016		

- Five radium-228 results, SRC1-AH17-0, SRC1-AH17-11, SRC1-AJ19-0, SRC1-J11-0, and SRC1-J11-10, were qualified as estimated due to a recovery below the acceptance criteria.

- The total organic carbon results for the 13 soil samples identified in Table 4-7 were qualified as estimated due to a recovery above the acceptance criteria.

TABLE 4-7: TOTAL ORGANIC CARBON SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AG16-0	F8K010144001	SRC1-AG16-11	F8K010144002
SRC1-AG17-0	F8K010144003	SRC1-AG17-11	F8K010144004
SRC1-AG18-0	F8K010144005	SRC1-AG18-11	F8K010144006
SRC1-AH18-0	F8K010144007	SRC1-AH18-11	F8K010144008
SRC1-AH19-0	F8K010144009	SRC1-AH19-0-FD	F8K010144010
SRC1-AH19-10	F8K010144011	SRC1-AI20-0	F8K010144012
SRC1-AI20-10	F8K010144013		

- During data usability process, barium qualifiers for seventeen samples from DVSR 72b were revised from rejected “R”, to estimated “J-“. Typically, only non-detections are rejected due to very low MS/MSD recoveries. The seventeen samples were detected and therefore, should be qualified as estimated. The seventeen samples are SRC4-J02C2, SRC4-J02NE2, SRC4-J02NW2, SRC4-J02NW2-DUP, SRC4-J02SE2, SRC4-J02SW2, SRC4-J03C2, SRC4-J03NE2, SRC4-J03SE2, SRC4-J03SW2, SRC4-J21CE2, SRC4-J21CE2-DUP, SRC4-J21CW2, SRC4-J21NE2, SRC4-J21NW2, SRC4-J21SE2, and SRC4-J21SW2.

- Metals results for soil samples in various laboratory data packages were qualified due to recoveries outside the acceptance criteria, as summarized in Table 4-8.

TABLE 4-8: METALS SAMPLES QUALIFIED DUE TO RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package	Antimony	Arsenic	Barium	Chromium	Cadmium	Cobalt	Copper	Lead	Magnesium	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
F0C180550	-		-		+	+	+				+		+	+	+			+			+		
F0I240488	-												+							-			
F8K010144	-														+		+						-
F8K040227	-						-		-														
F8K060286	-		+												+					-		-	
F8K070216	-						-		-							-				-			-
F8K080135	-		+	-					-	+										-		-	-
F8K110239	-														+					-			-

TABLE 4-8: METALS SAMPLES QUALIFIED DUE TO RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package	Antimony	Arsenic	Barium	Chromium	Cadmium	Cobalt	Copper	Lead	Magnesium	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
F8K130268	-		-	+					+						+					-			
F8K140154	-			+					+						+					-			
F9I150136	-		+														-			-			
F9I180183	-		-														-			-			
F9L090511		+	+		+		+	+			+			+	+	+	-	+					+
F9L080476		+			+					-	+				+			+					+
F0F220529		+		+	+	+	+	+				+	+	+		+	+		+		+	+	+
F0I240488				+																			

+ = Recovery greater than the acceptance limits
- = Recovery less than the acceptance limits
Blank entry signifies that the recovery was within the acceptance limits

- One Freon-11 result, SRC1-AH15-10, was qualified as estimated due to a recovery below the acceptance limit.
- One vinyl acetate result, SRC1-AJ28-0, was qualified as rejected due to a zero recovery.
- One benzyl alcohol result, SRC2-J23-0, was qualified as rejected due to a zero recovery.

Appendix E, Table E-11 (included on the report CD in Appendix B) lists the samples and associated analytes exhibiting MS/MSD percent recoveries below the laboratory control limits. In cases in which the recoveries were higher than the acceptance criteria, the results have the potential of being similarly biased high, and using these data in the HHRA could result in risks being calculated that are higher than would be associated with actual Site conditions. Of more concern for the HHRA is underestimation of risk, which could be associated with the use of data that are biased low.

As indicated in that table, reported detections and non-detects for soil data were flagged as estimated ("J-" or "UJ," respectively) due to low MS/MSD recoveries (*i.e.*, from 30 to 74 percent for metals).[34] Non-detects associated with "very low" MS/MSD recoveries (i.e., less than 30 percent for metals), are generally rejected as unusable. Because only three of the MS/MSD

[34] If additional validation criteria (aside from the MS/MSD recoveries) did not suggest a low bias for a given result, the sample result was flagged with "J" (no bias inferred).

recoveries were that low and associated with non-detect results, only three sample results were rejected on this basis.

The data flagged as estimated based on low MS/MSD recoveries were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.3.2 Qualifications Due to LCS/LCSD Recoveries Outside Acceptance Criteria

Organic and inorganic constituent results for 74 soil samples were qualified as estimated (either UJ for non-detections or J for detections; "+" or " – " added to denote potential high or low bias, respectively) based on LCS/LCSD recoveries. Five benzyl alcohol soil results were rejected due to a very low LCS recovery. The qualifications applied on the basis of LCS/LCSD recoveries to soil samples are presented in Table 4-9.

TABLE 4-9: RESULTS QUALIFIED DUE TO LCS/LCSD RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package	Arsenic	Cadmium	Molybdenum	Acetone	Freon-11	Vinyl acetate	Benzyl alcohol
F8K060286	+	+			-		
F0C180550			+				
F8K070216			+		-		
F8K140154				+		-	
F8K040227					-		
237201							**R**

+ = Recovery greater than the acceptance limits
- = Recovery less than the acceptance limits
R = Rejected results
Blank entry signifies that the recovery was within the acceptance limits

In addition, one benzyl alcohol SPLP result, SRC1-AJ19-11, was qualified as estimated due to a recovery below the acceptance limit.

Surface flux results were qualified as estimated for the results presented in Table 4-10.

TABLE 4-10: SURFACE FLUX SAMPLES QUALIFIED DUE TO LCS/LCSD RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Sample	Analyte	Bias
SRC1-AG-16 SRC1-AH16 SRC1-AH-18 SRC1-AJ20 SRC1-AJ23 SRC1-AK20 SRC1-AK23	Benzene	+
SRC1-AG-17 SRC1-AH15 SRC1-AH-19 SRC1-AI-17 SRC1-AI20 SRC1-AL28 SRC1-J01 SRC1-J10	Benzene Dichloromethane	+ +
SRC1-AG-18	1,2-Dichloropropane Benzene	+ +
SRC1-AH-17	1,2-Dichloropropane Benzene Dichloromethane	+ + +
SRC1-AJ21 SRC1-AJ22 SRC1-AK24	1,1-Dichloroethane 1,1-Dichloroethene	- -
SRC1-AJ24	1,2-Dichloropropane Benzene Dichloromethane 1,2-Dibromoethane	+ + + +
SRC1-AJ27 SRC1-AJ28 SRC1-J02 SRC1-J12 SRC1-J14	1,1-Dichloroethane 1,1-Dichloroethene Benzene Dichloromethane	- - + +

+ = Recovery greater than the acceptance limits
- = Recovery less than the acceptance limits

As noted above, recoveries below the lower laboratory limits are of the most concern in terms of data usability. Appendix E, Table E-11 (included on the report CD in Appendix B) lists the samples and associated analytes exhibiting LCS/LCSD percent recoveries below the lower laboratory control limit. As discussed, five results for benzyl alcohol were rejected as unusable based on very low LCS/LCSD recovery. The data flagged as estimated based on low LCS/LCSD recoveries were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.3.3 Qualifications Due to Sample/Field Duplicate Differences Outside Acceptance Criteria

The following 24 soil field duplicates were collected during the sampling activities:

- SRC1-AJ28-0-FD
- SRC1-AK21-0-FD
- SRC4-J02NW2-DUP
- SRC4-J21CE2-DUP
- SRC1-AM28-7-FD
- SRC1-J01-0-FD
- SRC2-AJ28-0-FD
- SRC1-J09-0-FD
- SRC2-J18S-WALL-FD
- SRC3-J03-SE-0 DUP
- SRC4-J23SE2-DUP
- SRC5-J21CE2-0-DUP
- SRC1-AH15-0-FD
- SRC1-AH19-0-FD
- SRC1-AK20-9-FD
- SRC1-AK26-0-FD
- SRC1-J10-0-FD
- SRC1-J15-0-FD
- SRC2-AI19W-FD
- SRC2-J33-0-DUP
- SRC3-J02NW-0-DUP
- SRC3-J11SE-0 DUP
- SRC5-J11N2-0-DUP
- SRC6-J11N3-0-DUP

In addition, the following surface flux field duplicate was also collected during the sampling activities: SRC1-AN28R.

Field duplicate differences in excess of acceptance limits were noted in 18 field duplicate pairs of soil samples. The differences are presented in Appendix E, Table E-12 (included on the report CD in Appendix B). All associated data were flagged as estimated (J/UJ). No data were rejected on the basis of sample/field duplicate differences.

4.5.3.4 Qualifications Due to Sample/Laboratory Duplicate Differences Outside Acceptance Criteria

Of the samples representing post-remediation conditions (i.e., not including those data points associated with samples from soil intervals subsequently removed from the Site), results for the 47 soil samples identified in Table 4-11 had sample/laboratory duplicate differences greater than permissible values.

TABLE 4-11: RESULTS QUALIFIED DUE TO SAMPLE/LABORATORY DUPLICATE DIFFERENCES OUTSIDE ACCEPTANCE CRITERIA

Field Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD or Difference
SRC5-J21CE2-0	F0F220529001	Cation Exchange Capacity	14.6	meq/100g	RPD=26
SRC5-J21CE2-0-DUP	F0F220529002	Cation Exchange Capacity	7.2	meq/100g	RPD=26
SRC1-AH17-0	219578003	Radium-228	1.74	pCi/g	Diff = 1.45
SRC1-AH17-11	219578004	Radium-228	<0.313	pCi/g	Diff = 1.45
SRC1-AJ19-0	219578001	Radium-228	2.68	pCi/g	Diff = 1.45
SRC1-AK27-0	219349019	Radium-228	1.78	pCi/g	Diff = 1.28
SRC1-AK27-13	219349021	Radium-228	1.14	pCi/g	Diff = 1.28
SRC1-AK27-3	219349020	Radium-228	<0.738	pCi/g	Diff = 1.28
SRC1-AL28-14	219349013	Radium-228	1.89	pCi/g	Diff = 1.28
SRC1-AL28-4	219349012	Radium-228	1.81	pCi/g	Diff = 1.28
SRC1-AN28-0	219349014	Radium-228	3.18	pCi/g	Diff = 1.28
SRC1-AN28-11	219349015	Radium-228	2.59	pCi/g	Diff = 1.28
SRC1-J11-0	219578007	Radium-228	1.9	pCi/g	Diff = 1.45
SRC1-J11-10	219578008	Radium-228	1.04	pCi/g	Diff = 1.45
SRC1-J15-0	219349016	Radium-228	2.48	pCi/g	Diff = 1.28
SRC1-J15-0-FD	219349017	Radium-228	2.2	pCi/g	Diff = 1.28
SRC1-J15-12	219349018	Radium-228	1.18	pCi/g	Diff = 1.28
SRC1-AJ19-11	219578002	Thorium-230	<0.512	pCi/L	Diff = 1.215
SRC1-AG16-0	218570001	Thorium-232	1.08	pCi/g	Diff = 1.14
SRC1-AG16-11	218570002	Thorium-232	2.09	pCi/g	Diff = 1.14
SRC1-AG17-0	218570003	Thorium-232	1.36	pCi/g	Diff = 1.14
SRC1-AG17-11	218570004	Thorium-232	1.45	pCi/g	Diff = 1.14
SRC1-AG18-0	218570005	Thorium-232	1.69	pCi/g	Diff = 1.14
SRC1-AG18-11	218570006	Thorium-232	1.31	pCi/g	Diff = 1.14
SRC1-AH18-0	218570007	Thorium-232	0.525	pCi/g	Diff = 1.14
SRC1-AH18-11	218570008	Thorium-232	0.928	pCi/g	Diff = 1.14
SRC1-AH19-0	218570009	Thorium-232	1.78	pCi/g	Diff = 1.14
SRC1-AH19-0-FD	218570010	Thorium-232	0.994	pCi/g	Diff = 1.14
SRC1-AH19-10	218570011	Thorium-232	2.49	pCi/g	Diff = 1.14
SRC1-AI20-0	218570012	Thorium-232	1.26	pCi/g	Diff = 1.14
SRC1-AI20-10	218570013	Thorium-232	1.23	pCi/g	Diff = 1.14
SRC1-AK27-0	219349019	Uranium-233/234	0.734	pCi/g	Diff = 1.06
SRC1-AK27-3	219349020	Uranium-233/234	2.4	pCi/g	Diff = 1.06
SRC1-AL28-0	219349011	Uranium-233/234	1.2	pCi/g	Diff = 1.06
SRC1-AL28-14	219349013	Uranium-233/234	0.984	pCi/g	Diff = 1.06
SRC1-AL28-4	219349012	Uranium-233/234	2.4	pCi/g	Diff = 1.06
SRC1-AM28-0	219349004	Uranium-233/234	1.1	pCi/g	Diff = 1.06
SRC1-AM28-17	219349007	Uranium-233/234	1.08	pCi/g	Diff = 1.06
SRC1-AM28-7	219349005	Uranium-233/234	1.19	pCi/g	Diff = 1.06
SRC1-AM28-7-FD	219349006	Uranium-233/234	1.22	pCi/g	Diff = 1.06
SRC1-AN28-0	219349014	Uranium-233/234	0.457	pCi/g	Diff = 1.06
SRC1-AN28-11	219349015	Uranium-233/234	1.31	pCi/g	Diff = 1.06
SRC1-J13-0	219349008	Uranium-233/234	1.21	pCi/g	Diff = 1.06

TABLE 4-11: RESULTS QUALIFIED DUE TO SAMPLE/LABORATORY DUPLICATE DIFFERENCES OUTSIDE ACCEPTANCE CRITERIA

Field Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD or Difference
SRC1-J13-3	219349009	Uranium-233/234	1.31	pCi/g	Diff = 1.06
SRC1-J15-0	219349016	Uranium-233/234	1.54	pCi/g	Diff = 1.06
SRC1-J15-0-FD	219349017	Uranium-233/234	0.876	pCi/g	Diff = 1.06
SRC1-J15-12	219349018	Uranium-233/234	3.36	pCi/g	Diff = 1.06

The above data flagged as estimated based on sample/laboratory duplicate differences were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.4 Internal Standards Outside Acceptance Criteria

Internal standards are prepared for certain organic gas chromatograph/mass spectrometry (GC/MS) and inductively coupled plasma/mass spectrometry analyses by adding compounds similar to target compounds of interest to sample aliquots. Internal standards are used in the quantitation of target compounds in the sample or sample extract. The evaluation of internal standards involved comparing the instrument response and retention time from the target compounds in the sample with the response and retention time of specific internal standards added to the sample extract prior to analysis.

As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), select VOC sample results from three samples were rejected based on internal standards. The following results were rejected:

- VOC results for 21 analytes for sample SRC1-AJ28-0 and all VOCs for samples SRC1-J10-0 and SRC1-J10-0-FD.

The following results were qualified as estimated due to internal standard exceedances:

- Metal results for eight soil samples (SRC1-AJ21-0, SRC1-AK23-4, SRC1-AK24-0, SRC1-AL24-18, SRC3-J02SE-0, SRC3-J03NE-0, SRC3-J03NW-0, and SRC3-J03SW-0).

- PCB results for five soil samples (SRC1-AH19-0, SRC1-AK23-0, SRC1-AM27-0, SRC1-J07-0, and SRC1-J12-0).

- VOC results for 21 flux samples (SRC1-AK26, SRC1-AL28, SRC1-AM27, SRC1-AN26, SRC1-AN27, SRC1-AN28, SRC1-AN28R, SRC1-J07, SRC1-J08, SRC1-J10, SRC1-J11, SRC1-J15, KT-002, KT-005, KT-007, SRC1-AG-18, SRC1-AL26, SRC1-AM27, SRC1-J04, SRC1-J10, and SRC1-J11).

- VOC results for 49 soil samples, as presented in Table 4-12.

TABLE 4-12: VOLATILE ORGANIC COMPOUND SOIL SAMPLE RESULTS QUALIFIED DUE TO INTERNAL STANDARDS OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package #	Sample ID	
F8K010144	SRC1-AG-17-0	
F8K040227	SRC1-AI17-3	SRC1-AJ18-0
	SRC1-J01-0	SRC1-AH16-0
	SRC1-J01-0-FD	
F8K060286	SRC1-AJ20-0	SRC1-AJ22-0
	SRC1-AJ22-10	SRC1-J03-0
F8K070216	SRC1-AJ21-12	SRC1-AK21-0-FD
	SRC1-AK21-8	SRC1-AK24-0
	SRC1-AK24-10	
F8K110239	SRC1-AJ24-0	SRC1-AJ24-10
	SRC1-AK25-0	SRC1-AK25-11
	SRC1-AM27-0	SRC1-AM27-13
	SRC1-AM27-3	SRC1-J09-0
	SRC1-J09-0-FD	SRC1-J09-11
F8K140154	SRC1-AJ25-0	SRC1-AJ25-13
	SRC1-AJ25-3	SRC1-AJ26-0
	SRC1-AJ26-11	SRC1-AJ27-0
	SRC1-AJ27-10	SRC1-J14-12
	SRC1-AJ28-0-FD	SRC1-AJ28-12
	SRC1-J10-11	SRC1-J12-0
	SRC1-J12-12	SRC1-J14-0
F9I150136	SRC2-J21-0	SRC2-J23-0
	SRC2-J25-0	SRC2-J26-0
	SRC2-J27-0	SRC2-J28-0
	SRC2-J29-0	SRC2-J30-0
	SRC2-J31-0	SRC2-J32-0

- Dioxins/furans results for 34 soil samples, as presented in Table 4-13.

TABLE 4-13: DIOXIN/FURAN SOIL SAMPLE RESULTS QUALIFIED DUE TO INTERNAL STANDARDS OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package #	Sample ID	
F9I120183	SRC2-JS13C	
F9I150136	SRC2-J19SWALL-0	SRC2-J20-0
	SRC2-J26-0	SRC2-J27-0
F9L080461	SRC3-J11C2-0	SRC3-J11SE-0 DUP
F9L090504	SRC3-J02C2-0	SRC3-J02NW-0
	SRC3-J02NW-0 DUP	
F0C180556	SRC4-J02C2	SRC4-J02NE2
	SRC4-J02NW2-DUP	SRC4-J02SE2
	SRC4-J03NE2	SRC4-J03SE2
	SRC4-J11CN2	SRC4-J11CS2
	SRC4-J11E2	SRC4-J11S2
	SRC4-J23NW2	SRC4-J23SE2-DUP
F0I240465	SRC6-J11N3-0	
F8K010144	SRC1-AH19-0	SRC1-AH19-0-FD
	SRC1-AI20-0	
F8K060286	SRC1-AJ20-0	SRC1-J02-0
F8K110239	SRC1-AJ24-0	
F8K070216	SRC1-AK21-0	
F8K130268	SRC1-AL28-0	SRC1-AM28-0
	SRC1-J15-0	
F8K040227	SRC1-J01-0-FD	

4.5.5 Surrogate Percent Recoveries Outside Laboratory Control Limit

As discussed in the DVSRs (BRC and ERM 2010a,b,c; 2011), surrogate spikes were added to each of the samples submitted for organic analysis to monitor potential interferences from the matrix. Results associated with unacceptable surrogate recoveries were qualified as estimated (J+, J- or UJ). Generally, when surrogate recoveries are less than 10 percent, associated non-detect results are qualified as rejected (R) because false negatives are a possibility. No sample results were rejected due to surrogate recoveries. The soil samples listed in Table 4-14 were qualified due to surrogate recovery exceedances.

TABLE 4-14: RESULTS QUALIFIED DUE TO SURROGATE RECOVERIES OUTSIDE LABORATORY CONTROL LIMIT

Sample ID	Lab ID	Analysis	Recovery	Acceptable Range
SRC1-AI17-3	F8K040227006	Organochorine Pesticides	1090%	61-137
SRC1-AK20-0	F8K060286006	Organochorine Pesticides	147%	61-137
SRC1-AM27-0	F8K110239010	Organochorine Pesticides	177%	61-137
SRC1-J13-0	F8K130268001	Organochorine Pesticides	147%	61-137
SRC1-AH16-0	F8K040227015	VOCs	126% 151%	81-124 80-125
SRC1-AJ23-0	F8K080135001	VOCs	79% 78%	81-124 80-125
SRC1-AJ28-0	F8K140154010	VOCs	158%	47-150
SRC1-AJ28-12	F8K140154012	VOCs	127%	80-125
SRC1-AK25-11	F8K110239004	VOCs	125%	81-124
SRC1-J10-0-FD	F8K140154007	VOCs	169% 217%	80-125 81-124
SRC2-J20-0	F9I150136002	VOCs	71%	80-126
SRC2-J21-0	F9I150136003	VOCs	134% 143%	82-121 80-131
SRC1-AL28-0	219349011	SVOCs	36% 31%	40-104 39-110
SRC1-J03-0	219067004	PAHs	49%	50-150

In addition, two flux samples (SRC1-AK26 and SRC1-J07) were qualified due to surrogate recovery exceedances, all higher than the acceptable range.

Appendix E (included on the report CD in Appendix B) lists the samples and associated analytes exhibiting surrogate percent recoveries below the laboratory control limits. As seen in that appendix, with the exception of the two VOC samples, one SVOC sample and one PAH sample, the recoveries outside the acceptance criteria were higher than the upper laboratory control limit. These samples were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.6 Calibrations Outside Laboratory Control Limits

Requirements for instrument calibration ensure that the instrument is capable of producing acceptable quantitative data. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run. Continuing calibrations checks document satisfactory maintenance and adjustment of the instrument on a day-to-day basis. As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), certain data were qualified due to initial or continuing calibration issues. Of specific concern are analytes with a final qualifier indicating a low bias due to calibration. In the following tables the percentage of analyte recovered is based on the percent difference of the actual amount and recovered amount reported from the continuing calibration. As the percentage decreases, the potential for false negatives increases.

Table 4-15 summarizes the SVOC results that were qualified during the evaluation of the continuing calibrations.

TABLE 4-15: SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUND RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-Detect	Percentage of Analyte Recovered as Indicated by Outlier
1,4-Dioxane	87	100%	52-73%
3-Nitroaniline	34	100%	60-76%
4-Nitroaniline	36	100%	53-74%
4-Nitrophenol	14	100%	73%
Acetophenone	24	100%	68-70%
Benzenethiol	5	100%	73%
Benzidine	13	100%	72-74%
Benzoic Acid	1	100%	72%
Benzyl alcohol	12	100%	66-71%
Hydroxymethyl phthalimide	20	100%	48-73%
Phthalic Acid	38	100%	45-74%

Table 4-16 summarizes the organochlorine pesticide results that were qualified due to continuing calibrations.

TABLE 4-16: SUMMARY OF ORGANOCHLORINE PESTICIDE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
2,4-DDE	3	0%	120-122%
4,4-DDD	19	100%	82-84%
4,4’-DDT	20	90%	79-84%
Alpha-Chlordane	17	100%	84%
Endosulfan II	17	100%	83%
Endosulfan sulfate	19	100%	81-84%

TABLE 4-16: SUMMARY OF ORGANOCHLORINE PESTICIDE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
Endrin aldehyde	19	100%	79-81%
Endrin ketone	19	100%	76-80%
Gamma-Chlordane	17	100%	82-83%
Methoxychlor	19	100%	78-84%
Toxaphene	3	100%	81-83%

Table 4-17 summarizes the VOC results that were qualified in soil samples due to continuing calibrations.

TABLE 4-17: SUMMARY OF VOLATILE ORGANIC COMPOUND SOIL RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
Acetone	1	0%	129%
2,2,3-Trimethylbutane	26	100%	51-64%
2,2-Dimethylpentane	1	100%	74%
3-Methylhexane	26	100%	53-59%
Freon 12	39	100%	73%
Vinyl acetate	1	100%	65%

In addition, low instrument response was noted for acetonitrile and ethanol as indicated by the relative response factor.

Table 4-18 summarizes the aldehydes results that were qualified due to continuing calibrations.

TABLE 4-18: SUMMARY OF ALDEHYDE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
Formaldehyde	26	0%	118-141%

Table 4-19 summarizes the dioxin/furans results that were qualified due to continuing calibrations.

TABLE 4-19: SUMMARY OF DIOXIN/FURANS RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
OCDD	1	100%	62%
OCDF	1	0%	62%

Table 4-20 summarizes the VOC (TO-15) results that were qualified in surface flux samples due to continuing calibrations.

TABLE 4-20: SUMMARY OF VOLATILE ORGANIC COMPOUND (TO-15) SURFACE FLUX SAMPLE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
1,2,4-Trimethylbenzene	23	78%	64%
1,3,5-Trimethylbenzene	2	100%	69%
2-Methyl-1-propanol	57	100%	37-62%
2-Hexanone	57	93%	38-51%
4-Methyl-2-pentanone	32	100%	43-59%
Acetonitrile	12	75%	58-67%
Chlorobromomethane	10	100%	65%
Cymene	2	50%	69%
Ethanol	44	45%	54-69%
Freon-11	3	0%	148%
Heptane	8	75%	58%
M,p-Xylene	16	100%	63%
n-Butylbenzene	57	100%	53-69%
n-Propylbenzene	9	100%	67%
o-Xylene	25	88%	69%
tert-Butylbenzene	57	100%	56-68%
Vinyl acetate	19	53%	49-61%

Table 4-21 summarizes the VOC (TO-15 SIM) results that were qualified in surface flux samples due to continuing calibrations.

TABLE 4-21: SUMMARY OF VOLATILE ORGANIC COMPOUND (TO-15 SIM) SURFACE FLUX SAMPLE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
1,1,2,2-Tetrachloroethane	21	95%	132%
1,2,3-Trichloropropane	11	91%	68%
1,2,4-Trichlorobenzene	57	100%	29-43%
1,2-Dichlorobenzene	54	93%	44-60%
1,3-Dichlorobenzene	57	93%	46-68%
1,4-Dichlorobenzene	55	98%	45-67%
Benzene	5	40%	155%
Benzyl chloride	52	96%	59-69%
Dibromochloropropane	56	100%	38-51%
Hexachlorobutadiene	55	96%	24-57%
Naphthalene	57	74%	31-53%

4.5.7 Tentatively Identified Compounds

For the GC/MS methods, a list and estimated concentrations for tentatively identified compounds (TICs) was provided by the laboratory if detected. Most of the reported TICs were identified as "unknown" or "unknown aldol condensate." Others were as follows:

- (1S,2E,4S,5R,7E,11E)-Cembra-2,7,11-trien
- 1,2-Benzisothiazole, 3-(hexahydro-1H-aze
- 1,5-Anhydro-4-O-acetyl-2,3,6-tri-O-methy
- 1-Bromo-11-iodoundecane
- 1-Isopropenyl-4,5-dimethylbicyclo[4.3.0]
- 2-(4a,8-Dimethyl-6-oxo-1,2,3,4,4a,5,6,8a
- 2-[1-(4-Cyano-1,2,3,4-tetrahydronaphthyl
- 2-Dodecen-1-yl(-)succinic anhydride
- 2,3,4-trimethyl-2-Pentene
- 4-[3-Ethoxypropylamino]benzo-1,2,3-triaz
- 5-(1-Isopropenyl-4,5-dimethylbicyclo[4.3
- 5-Methyl-2-thiophenecarboxaldehyde thios
- (z)-9-Octadecenamide
- (5.beta.)-Androstane
- 1,2-dichloro-4-isocyanato-Benzene
- Chloroform
- (1-octylnonyl)-Cyclohexane
- octadecamethyl-Cyclononasiloxane
- 1,2,4,5-Tetrazin-3-amine
- 11,12-Dibromo-tetradecan-1-ol acetate
- 11,13-Dimethyl-12-tetradecen-1-ol acetate
- 1H-Indene, 5-butyl-6-hexyloctahydro-
- 2,4-DDE
- 3-dodecyl-2,5-Furandione
- 28-Nor-17.beta.(H)-hopane
- 2-Pentanol
- (E)-3-Eicosene
- 4H-Imidazol-4-one, 2-amino-1,5-dihydro-
- 5-alpha-Androstane
- 6-Isopropenyl-4,8a-dimethyl-4a,5,6,7,8,8
- Androstane
- Benzene
- 1-chloro-2-isocyanato-Benzene
- (3.beta.,5.alpha.,6-Cholestane-3,6-diol
- dodecamethyl-Cyclohexasiloxane
- decamethyl Cyclopentasiloxane

- 1,2,3,3,4-pentamethyl-Cyclopentene
- 1,7,11-trimethyl-4-(1-Cyclotetradecane
- Dodecanamide
- E-8-Methyl-9-tetradecen-1-ol acetate
- Erucylamide
- Heptadecane
- oxybis[dichloro-Methane
- Nonadecanamide
- Octamethylcyclotetrasiloxane
- 2-methyl-, 3-methylbutyl Propanoic acid
- 1,8-dimethyl-8,9-Spiro[4.5]decan-7-one
- Tributyl phosphate
- 1,2,3,4,5-pentamethyl-Cyclopentene
- (5.alpha.,13.alpha.)-D-Homoandrostane
- Dodecanoic acid
- Eicosane
- 2-(1,1-dimethylethyl)-4-methyl-Furan
- Hexadecanamide
- n-Hexadecane
- Octadecanamide
- 11-[(trimethylsilyl Pregnane-3,20-dione
- trichlorooctadecyl-Silane
- Tetradecanamide
- Triphenylphosphate

Only three of the detected TICs—2,4-DDE, benzene, and chloroform—have associated toxicity criteria. The others do not. Reported TICs such as siloxanes and amides are indicative of column breakdown and saturated fatty acids. With the exception of the 2,4-DDE, benzene, chloroform, 1,1-difluoroethane, and the androstanes, the above-named compounds are indicative of column breakdown and are not likely to be Site-related. 2,4-DDE, benzene, and chloroform were reported as TICs for the SVOC analysis, but are target compounds in other analyses. 1,1-Difluoroethane is an aerosol propellant with low toxicity. The androstanes are steroids, and it is unclear what the source could be; however, it is unlikely to result in adverse health effects to those exposed. With exception of those that are target compounds of other analyses, toxicity criteria have not been established for any of these TICs.

4.5.8 Data Review Summary

For 7,719 of the 40,604 analytical results in the final HHRA dataset, quality criteria were not met and various data qualifiers were added to indicate limitations and/or bias in the data. The definitions for the data qualifiers, or data validation flags, used during validation are those defined in SOP-40 (BRC, ERM and MWH 2009) and the project QAPP (BRC and ERM 2009a). Sample results are rejected based on findings of significant deficiencies in the ability to properly collect or analyze the sample and meet QC criteria. Only rejected data are considered unusable for decision-making purposes, and rejected analytical results are not used in the HHRA.

As noted above, 109 sample results were rejected in the Site dataset and excluded from the HHRA for the reasons previously noted. Other data points were excluded from the risk assessment not due to data quality issues, but for one of the following reasons: (1) the sample was reanalyzed by the laboratory, or (2) the sample location was removed during a remedial action.

4.6 CRITERION VI – DATA QUALITY INDICATORS

DQIs are used to verify that sampling and analytical systems used in support of project activities are in control and the quality of the data generated for this project is appropriate for making decisions affecting future activities. The DQIs address the field and analytical data quality aspects as they affect uncertainties in the data collected for site characterization and risk assessment. The DQIs include PARCC. The project QAPP provides the definitions and specific criteria for assessing DQIs using field and laboratory QC samples and is the basis for determining the overall quality of the dataset. Data validation activities included the evaluation of PARCC parameters, and all data not meeting the established PARCC criteria were qualified during the validation process using the guidelines presented in the National Functional Guidelines for Laboratory Data Review for Organics, Inorganics, and Dioxin/Furans (USEPA 1999, 2004d, 2005a, 2008).

4.6.1 Evaluation of Data Precision

Precision is a measure of the degree of agreement between replicate measurements of the same source or sample. Precision is expressed by RPD between replicate measurements. Replicate measurements can be made on the same sample or on two samples from the same source. Precision is generally assessed using a subset of the measurements made. The precision of the data was evaluated using several laboratory QA/QC procedures. Based on BRC's review of the results of these procedures, the overall level of precision for the Site data and the background data (BRC and ERM 2009b) does not limit the usability of a particular analyte, sample, method, or dataset as a whole.

4.6.2 Evaluation of Data Accuracy

Accuracy measures the level of bias that an analytical method or measurement exhibits. To measure accuracy, a standard or reference material containing a known concentration is analyzed or measured and the result is compared to the known value. Several QC parameters are used to evaluate the accuracy of reported analytical results, including:

- Holding times and sample temperatures;
- Calibration limits;
- LCS percent recovery;

- MS/MSD percent recovery;
- Spike sample recovery (inorganics);
- Surrogate spike recovery (organics); and
- Blank sample results.

Detailed discussions of specific exceedances to precision and accuracy (with tables) are provided in the DVSRs (BRC and ERM 2010a,b,c; 2011) and data qualified as a result of this evaluation are presented with qualifiers in the data usability tables in Appendix E (included on the report CD in Appendix B). As presented in Section 4.5, 109 sample results were rejected in the Site dataset and excluded from the HHRA. The remaining results were considered sufficiently accurate for risk assessment purposes, as discussed below.

4.6.2.1 Holding Time Exceedances/Sample Condition

There is a potential for analyte loss if the holding time for a sample is exceeded. As discussed in Section 4.5.1, holding times were exceeded in 27 soil samples for hexavalent chromium analysis (less than 17 percent of the samples analyzed for that constituent), in 12 soil samples for aldehydes (less than 10 percent of the samples), in 17 soil samples for VOCs (less than 13 percent of VOC samples), and in one sample for SVOC analysis (less than 1 percent of the samples analyzed). All of the samples were qualified as estimated. Based on the limited holding time issues, there is not likely to be a significant potential for a low bias to the datasets for Site soils. In addition, one soil flux sample for VOC analysis was analyzed past the specified holding time. This is less than 2 percent of flux samples. This is unlikely to be a significant potential for low bias for the flux dataset.

As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), all Site samples with temperature requirements were received at the laboratory within the required range of 4°± 2° Celsius. One radionuclide sample was qualified due to inadequate sample preservation. This is less than 1 percent of samples for radionuclides and is unlikely to have significant potential for a low bias to Site soils for radionuclides. No other sample results were qualified based on sample temperatures or due to lack of proper preservation.

4.6.2.2 Calibration Violations Indicating a Low Bias

The instrument calibration checks that resulted in a low bias are summarized in the tables presented in Section 4.5.6. Two SVOCs, hydroxymethyl phthalimide, and phthalic acid had recoveries below 50 percent in some samples. Hydroxymethyl phthalimide was non-detect in all samples, and has never been detected at BRC Common Areas. Phthalic acid was detected in one sample; however, it is rarely detected frequently. There were four TO-15 surface flux analytes, 2-methyl-1-propanol, 2-hexanone, 4-methyl-2-pentanone, and vinyl acetate, that had recoveries below 50 percent in some samples. 2-Methyl-1-propanol and 2-hexanone were qualified in all samples due to calibration violations. However, only 2-methyl-1-propanol was non-detect in all samples. 2-Methyl-1-propanol does not have available toxicity criteria; therefore, it is unlikely to be of significant concern at the Site. There were seven TO-15SIM surface flux analytes, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dibromochloropropane, hexachlorobutadiene, and naphthalene that had recoveries below 50 percent in some samples. 1,2,4-Trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dibromochloropropane, hexachlorobutadiene, and naphthalene were qualified in all samples due to calibration violations. However, only 1,2,4-trichlorobenzene and dibromochloropropane were non-detect in all samples. The remainder of the surface flux analytes were detected in at least one surface flux sample. For the other non-detect analytes with SQLs, the maximum SQLs were compared to the residential soil BCL. It is unlikely, even with a potential for a false negative, that the bias could affect the result to such a degree that the analyte is present at the Site in excess of the BCL.

4.6.2.3 MS/MSD or LCS/LCSD Recoveries below Acceptance Criteria

During the data usability review, results associated with MS/MSD and/or LCS/LCSD recoveries that were only slightly lower than the lower acceptance limit (i.e., 50 to 75 percent recoveries for inorganics) were accepted as usable without further evaluation. Samples with lower percent recoveries (i.e., recoveries lower than 50 percent for inorganics and one-half the lower limit or 30 percent, whichever is greater, for organics) were reviewed more closely to assess if it was appropriate to use them in the HHRA. Inorganic results with MS/MSD recoveries less than 50 percent [35] were as follows:

[35] Only samples associated with MS/MSD results in which both recoveries were below 50 percent are listed.

- Total Kjeldahl nitrogen results for three soil samples in TestAmerica data package F9I1501360 (all detections);
- A total cyanide result in one sample in TestAmerica data package F8K140154 (non-detected; the result was rejected for this reason);
- Antimony results for 66 soil samples in TestAmerica data packages F8K070216, F8K080135, F8K110239, F8K130268, F8K140154, F8K060286 (all results were either non-detections or qualified as non-detect due to blank contamination);
- Barium results for 20 soil samples in TestAmerica data packages F0C180550 and F9I180183 (all results were detected);
- Mercury results for three soil samples in TestAmerica data package F9L080476 (all results were detected); and
- Strontium results for 13 soil samples in TestAmerica data package F9I150136 (all results were detected).

Antimony was qualified for a significant number of samples; however, it was only detected in one sample out of 164 total samples. It is only sporadically detected in the BMI Common Areas, therefore, it is unlikely to be present in these samples. Given the limited number of samples for the other inorganics involved, these data points are not likely to have a significant effect on risk assessment.

Organic results less than one-half the lower laboratory limit were as follows:

- A vinyl acetate result for one sample (SRC1-AJ28-0) in TestAmerica data package F8K140154 (the non-detect result was rejected for this reason); and
- A benzyl alcohol result for one sample (SRC2-J23-0) in GEL data package 237201 (the non-detect result was rejected for this reason).

Given the small number of samples involved, these data points are not likely to have a significant effect on risk assessment.

As noted in Section 4.5.3, LCS/LCSD recoveries lower than the lower laboratory control limit were observed for the following analytes:

- Benzyl alcohol results in five soil samples in GEL data package 237201 (all non-detected and were rejected);
- Freon-11 in 17 soil samples in TestAmerica data packages F8K040227, F8K060286, and F8K070216 (all results were non-detected),
- Vinyl acetate in nine soil samples from TestAmerica data package F8K140154 (all results were non-detected),
- 1,1-Dichloroethene, 1,2-dibromoethane, 1,1-dichloroethane, and vinyl chloride in nine surface flux samples (all results were non-detected).

With the exception of the rejected benzyl alcohol results, the recoveries were only slightly lower than the lower laboratory control limit; therefore, no concerns were identified regarding their usability. Benzyl alcohol was not detected in any of the other 124 samples collected. Therefore, there is no concern regarding the usability of the remainder of the benzyl alcohol data.

4.6.2.4 Surrogate Percent Recoveries below Laboratory Control Limit

As noted in Section 4.5.5, surrogate recoveries lower than the lower laboratory control limit were observed in only four samples: two VOC samples (SRC1-AJ23-0 and SRC2-J20-0), one SVOC sample (SRC1-AL28-0) and one PAH sample (SRC1-J03-0). Because the recoveries were only slightly lower than the lower laboratory control limits, no concerns were identified regarding their usability.

4.6.2.5 Blank Contamination

As noted in Section 4.5.2, certain detections were flagged during the data review as being non-detections or estimated with a high bias due to laboratory or field blank contamination. If the associated constituent qualified as being a non-detection was, in fact, present in the samples related to the affected blank sample, revising its status to non-detect could result in risk underestimation. In the dataset for the Site, 956 results were censored due to blank contamination. Affected soil analytes are listed in Table 4-22.

TABLE 4-22: SUMMARY OF SOIL ANALYTES CENSORED DURING BLANK SAMPLE EVALUATION

Analyte	# of Censored Results	Analyte	# of Censored Results
1,2,4-Trimethylbenzene	55	m,p-Xylene	1
1,2-Dichlorobenzene	2	Mercury	23
1,3,5-Trimethylbenzene	1	Molybdenum	55
Acetaldehyde	2	Octachlorodibenzodioxin	1
Acetone	7	Orthophosphate as P	18
Ammonia (as N)	4	o-Xylene	2
Anthracene	1	PCB 105	3
Antimony	21	PCB 118	4
Arsenic	22	Pyrene	1
Benzo(a)anthracene	6	Radium-228	1
Benzo(b)fluoranthene	1	Selenium	24
Benzoic acid	1	Silver	60
Beryllium	3	Sulfate	3
bis(2-Ethylhexyl) phthalate	20	Thallium	24
Boron	20	Thorium-230	9
Bromide	1	Tin	26
Cadmium	98	Toluene	2
Chlorate	4	Total Organic Carbon	55
Chromium (VI)	22	Tungsten	34
Chrysene	18	Uranium-233/234	4
Cyanide, Total	57	Chromium-SPLP	1
Dichloromethane	80	Lithium-SPLP	1
Ethylbenzene	5	Sodium-SPLP	1
Formaldehyde	30	Total Organic Carbon-SPLP	1

In addition, there were several TICs qualified due to blank contamination. See discussion of TICs in Section 4.5.7.

Affected surface flux analytes are listed in Table 4-23.

TABLE 4-23: SUMMARY OF SURFACE FLUX ANALYTES CENSORED DURING BLANK SAMPLE EVALUATION

Analyte	# of Censored Results	Analyte	# of Censored Results
1,1,2,2-Tetrachloroethane	1	Chloroform	3
1,1,2-Trichloroethane	1	Chloromethane	2
1,2,4-Trimethylbenzene	2	Dichloromethane	1
1,2-Dibromoethane	1	Ethylbenzene	2
1,2-Dichlorobenzene	8	F-11 (Trichlorofluoromethane)	1
1,3,5-Trimethylbenzene	2	Hexachlorobutadiene	3
1,3-Dichlorobenzene	10	m & p-Xylene	2
1,4-Dichlorobenzene	23	o-Xylene	2
Benzene	14	Styrene	1
Carbon disulfide	3	Tetrachloroethene	17
Carbon tetrachloride	2	Toluene	2
Chlorobenzene	1	Trichloroethene	17

The constituents for which this potential concern has the most bearing in risk assessment are those in soil samples for which the detections are close to or exceed either (1) background conditions, or (2) relevant human health comparison levels (e,g., NDEP BCLs). As determined during that evaluation, qualification of detections as non-detections based on blank contamination are not likely to have an appreciable effect on the risk estimates, as discussed below.

Censored results that are less than the maximum background concentration and 1/10th the residential soil BCL have a negligible impact on risk assessment findings. If a portion of the result reflects an actual Site concentration, then the uncertainty related to the censored result is low. However, data censored at values at or above background or greater than 1/10th the residential soil BCLs, may pose a potential underestimation of human health risks. Therefore, censored results at values in excess of 1/10th the residential soil BCL (or the maximum background concentration, if higher) were evaluated further. With the exception of certain radionuclides, none of the soil data censored due to blank contamination were in excess of the BCLs (and background). Table 4-24 identifies the analytes that were censored with results greater than the BCLs (and background).

TABLE 4-24: SUMMARY OF CHEMICAL RESULTS CENSORED AT VALUES ABOVE 1/10TH THE RESIDENTIAL BCL

Analyte	1/10th BCL	Number of Samples Censored Above 1/10th BCL	Range of Reported Concentrations
Formaldehyde	1.06	4	0.181 – 0.905
Arsenic	0.039	22	2.4-4.3
Thallium	0.548	4	0.12 – 1.2

The number of samples censored above 1/10th BCL is limited to three analytes, formaldehyde, arsenic, and thallium and few samples for each analyte. Arsenic and thallium were both found to be statistically similar to background as described in Section 5. The remaining analyte, formaldehyde, was selected as a COPC, and the maximum detection exceeded the reported concentration of the censored results. Therefore, the risks due to censored results in soil are unlikely to be underestimated.

Surface flux data are not comparable with BCLs. Tetrachloroethene, trichloroethene, 1,4-dichlorobenzene, and benzene were associated with greater than 15 censored data points; the remaining censored analytes were associated with 15 or fewer surface flux samples. Widespread blank contamination was noted for the full scan soil flux analysis of benzene. Since benzene was also detected in the SIM analysis (and not censored), risk estimates were calculated for benzene based on the SIM analysis results. Therefore, there is likely no effect on the final risk estimates for the Site. Benzene is discussed further in the Uncertainty Analysis (Section 7) of this report.

4.6.2.6 Data Usability Summary

As discussed above, because the qualifications with the potential for low bias were small in number, the data usability evaluation determined it was unlikely that they could lead to significant risk underestimation. Furthermore, the small amount of rejected data points (one ammonia result) does not represent a significant data gap in terms of risk assessment.

4.6.3 Evaluation of Data Representativeness

Representativeness is the degree to which data accurately and precisely represent a characteristic of the population at a sampling point or an environmental condition (USEPA 2002a). There is no standard method or formula for evaluating representativeness, which is a qualitative term. Representativeness is achieved through selection of sampling locations that are appropriate relative to the objective of the specific sampling task, and by collection of an adequate number of samples from the relevant types of locations. The sampling locations at the Site were based on both systematic sampling with random point placement within each grid cell, as well as focused samples collected from specific areas to further investigate potential areas of concern.

The samples were analyzed for a broad spectrum of chemical classes across the Site. Samples were delivered to the laboratory in coolers packed with ice to minimize the loss of analytes. In a few instances, such as samples being analyzed slightly beyond the holding time or delayed preservation of SPLP samples, the representativeness of the associated data is in question; however, there were few instances of this, as noted in Section 4.5.1. As previously noted, no sample results were qualified based on sample temperatures or preservation. Sample specific results are discussed in the DVSRs. A discussion of representativeness for the background dataset is provided in each of the background investigation reports.

4.6.4 Evaluation of Data Completeness

Completeness is commonly expressed as a percentage of measurements that are valid and usable relative to the total number of measurements made. Analytical completeness is a measure of the number of overall accepted analytical results, including estimated values, compared to the total number of analytical results requested on samples submitted for analysis after review of the analytical data. Some of the data were eliminated due to data usability concerns. The percent completeness for the Site is 99.8 percent and includes the surface flux chamber data. The percent completeness for the soil only dataset is 99.8 percent. The percent completeness for the background dataset used in the HHRA is 98.8 percent.

4.6.5 Evaluation of Data Comparability

Comparability is a qualitative characteristic expressing the confidence with which one dataset can be compared with another. The desire for comparability is the basis for specifying the analytical methods; these methods are generally consistent with those used in previous investigations of the Site. The comparability goal is achieved through using standard techniques to collect and analyze representative samples and reporting analytical results in appropriate units. The ranges of detected sample results from the current investigation are generally comparable to recent results at the Eastside, as well as to the Site background datasets (Section 5).

One exception may be uranium-235/236, which has reported activities that are slightly elevated compared to background and other reported isotopes of uranium. This difference may be because the Site dataset's radionuclide analyses were performed at a different laboratory than the background dataset. The laboratory that performed the Site radionuclide analysis has indicated that the activities for uranium-235/236 hover around the noise level of the instrument and secular equilibrium is still achieved. Therefore, activities at the noise level of the instrument may vary between the instruments used at either laboratory.

There are differences in SQLs among datasets that may affect data comparability for datasets comprised primarily of non-detect values. Examples of the differences in SQLs at the Site and in background soil for several analytes with low detection frequency are provided in Table 4-25.

TABLE 4-25: LOW DETECTION ANALYTES EXHIBITING SQL DIFFERENCES BETWEEN BACKGROUND AND SITE SAMPLES

Analyte	Background Min SQL	Background Max SQL	Site Min SQL	Site Max SQL[36]
Antimony	0.1046	0.3298	0.126	2.7
Boron	2.824	6.6	2.99	54
Selenium	0.1579	0.36	0.16	2.7
Thallium	0.2	0.5428	0.105	1.1
Tungsten	0.0175	0.5	0.185	2.7

All results in units of mg/kg.

Cumulative probability plots and side-by-side boxplots for the background and Site datasets are included in Appendix G. For these datasets, left-censored data can result in difficulties in differentiating whether datasets are actually different or merely an artifact of detection limits. Note that for constituents with SQLs that meet project limit requirements, comparisons between Site and background may be less important as these left-censored data are likely to indicate conditions that pose an "acceptable" risk and further evaluation is not necessary.

4.7 DATA ANALYSIS

Data validation and usability evaluations tend to look at the data on a result by result basis. The data analysis step is intended to take a step back and look at the dataset as a whole. The intent of this is to identify any anomalies or unusual data trends that may indicate any potential laboratory issues. This is performed by reviewing summary statistics, cumulative probability plots and side-by-side boxplots, or other visual aids. The soil dataset used for the HHRA is summarized in tabular format in Table 3-4. While it is not feasible to present all the detected analytes in a graphical format, cumulative probability plots and side-by-side boxplots are provided in

[36] The SQLs reported here may differ from the detection limits reported elsewhere (e.g., background comparisons). Detection limits may be raised due to blank contamination.

Appendix G for the analytes included in the background comparisons (that is, metals and radionuclides). No anomalies in the dataset were identified.

As discussed in Section 4.5, the data validation process resulted in numerous sample results being qualified as estimated, with only the above-listed results being rejected. Sample results qualified as estimated are likely to be quantitatively biased to some degree; estimated analytical results are used in the HHRA. Data qualified as anomalous, as defined in the DVSRs, refers to data that were qualified ("U") due to blank contamination, and are used in the HHRA. These data usability decisions follow the guidelines provided in the *Guidance for Data Usability in Risk Assessment (Part A)* (USEPA 1992a).

For the HHRA, all soil data associated with post-remediation conditions that were not rejected during data validation, replaced by reanalysis results, or removed during a soil remedial action were included. Some data were qualified as estimated due to recoveries being outside the acceptance criteria. In cases where the recoveries were higher than the acceptance criteria, the results have the potential of being similarly biased high, and using these data in the risk assessment could result in risks being calculated that are higher than would be associated with actual Site conditions. Of more concern for the HHRA is underestimation of risk, which could be associated with the use of data that are biased low. Results associated with the following QA/QC issues could lead to results that are biased low, and were subjected to further scrutiny during the data usability evaluation:

- Results associated with holding time exceedances;
- Detections qualified during the data review as being non-detections due to laboratory or field blank contamination;
- Results associated with calibration violations indicating a low bias;
- Results associated with MS/MSD or LCS/LCSD recoveries below acceptance criteria; and/or
- Results associated with surrogate percent recoveries below laboratory control limits.

Such data, which are listed above in Section 4.5, were evaluated during the data usability process to determine whether it was appropriate to use them in the risk assessment. The data usability evaluation determined that the estimated results listed in Section 4.5 were appropriate for use in the risk assessment and that the rejected data did not constitute significant data gaps and/or were not otherwise likely to lead to an underestimation of risk, as discussed in Section 4.6.2. This conclusion is true for each of the three exposure areas evaluated in the HHRA.

5.0 SELECTION OF CHEMICALS OF POTENTIAL CONCERN

The broad suite of analytes sampled for was the initial list of potential COPCs at the Site. However, to ensure that a risk assessment focuses on those substances that contribute the greatest to the overall risk (USEPA 1989); the following procedures were used to eliminate analytes as COPCs for quantitative evaluation in the risk assessment:[37]

- Identification of chemicals with detected levels similar to background concentrations (where applicable) (Section 5.1);
- Chemicals that are considered essential nutrients (Section 5.2); and
- Chemicals with maximum concentrations below risk-based comparison levels (i.e., below one-tenth of the residential soil BCLs) (Section 5.3).

Following USEPA guidance (1989), compounds reliably associated with Site activities based on historical information were not eliminated from the risk assessment, even if the results of the procedures given in this section indicate that such elimination is possible. The procedures for evaluating COPCs relative to background conditions and further selection of COPCs based on the other procedures are presented below.

The Site has been subjected to a number of remedial actions (see discussion in Section 3.3). Subsequent to these remedial actions, mitigated areas were resampled (in some cases, resampled several times) to confirm achievement of mitigation objectives. Because the two remediation areas were targeted primarily for metals reduction, for other inorganics, organics, asbestos, and radionuclides, the cumulative Site dataset is considered representative for all three exposure areas. For metals, each of the three exposure areas is evaluated separately. Therefore, for the purposes of this assessment, a total of three exposure areas were identified for evaluation—the two removal areas, and Site-wide. Based on the data sources considered representative of these locations, these three exposure areas are referred to as: SRC-J02/03, SRC-J21, and Site-Wide.

[37] Note that these procedures for selection of COPCs deviate somewhat from those presented in the BRC *Closure Plan*, but are consistent with discussions between BRC and NDEP and their consultants in a December 9, 2010, meeting. BRC will use these procedures for all subsequent risk assessments. BRC will also revise the *Closure Plan* accordingly to make it consistent with these procedures.

5.1 EVALUATION OF CONCENTRATIONS/ACTIVITIES RELATIVE TO BACKGROUND CONDITIONS

Some chemicals at the Site, particularly metals and radionuclides, are known to be naturally occurring constituents of soils and groundwater. A risk assessment should consider the contribution of background concentrations to overall Site risks, as differentiated from those concentrations associated with historical Site operations or regional anthropogenic conditions. Therefore, it is necessary to establish Site-specific background conditions to support the risk assessment.

As indicated in the *Background Soil Compilation Report* (BRC and ERM 2010d), the Site is in an area of McCullough lithology (see Figure 12, Qh_1 label). Based on discussions between BRC and the NDEP, background data recommended for the Site is the shallow Qal McCullough background dataset.[38] Therefore, comparison of Site-related soil concentrations to background levels was conducted using the shallow Qal McCullough background dataset presented in the *Background Soil Compilation Report* (BRC and ERM 2010d). The background dataset used is included in the dataset file on the enclosed report CD in Appendix B.

Background comparisons were performed using the Quantile test, Slippage test, the *t*-test, and the Wilcoxon Rank Sum (WRS) test with Gehan modification. The Guided Interactive Statistical Decision Tools (GiSdT®) library (Neptune and Company 2009) run from within the R statistical computer software program was used to perform all background comparison statistics. A weight-of-evidence approach is utilized to interpret the results of these analyses. If the detection frequency in both Site and background datasets is greater than 40 percent, then the following rationale is used for evaluation: (1) where one or two results fail one or more of the statistical tests, the remaining testing and statistical information (boxplots, summary statistics) are reviewed to support decision-making regarding whether or not the chemical should be considered consistent with background (as described by the rationale in the table below); and (2) where three or more statistical tests fail, the constituent is considered inconsistent with background. If the detection frequency is less than 40 percent in either the background or Site datasets, then the constituent is evaluated based on boxplots and summary statistics.

[38] As noted in a letter dated September 17, 2012, from Greg Lovato, NDEP, to Mark Paris, BRC, the 2003 soil background dataset collected by Environ for the City of Henderson is not used for background soil comparison purposes.

For samples with primary and field duplicate results, the Site sample and field duplicate[39] are treated as independent samples and both are included in all subsequent data analyses, regardless of whether one or both are non-detect. This is considered appropriate because field duplicate samples represent a discrete and unique measurement of soil chemical conditions proximal to the primary sample (unlike split samples). The field duplicates were compared to the primary sample during the course of data validation. The variances were not out of the line with the variance in results across the Site. Therefore, as distinct soil chemical measurements, they are treated as unique samples in the analyses.

For metals, the shallow Qal McCullough background dataset was compared to the HHRA dataset for the three areas separately (Site-Wide, SRC-J02/03, and SRC-J21). For radionuclides, the shallow Qal McCullough background dataset as a whole was compared to the HHRA dataset as a whole. The shallow Qal McCullough background dataset is presented in the *Background Soil Compilation Report* (BRC and ERM 2010d), and is included in the dataset file on the enclosed report CD in Appendix B. The results of these background comparison statistics are presented in Tables 5-1a, 5-1b and 5-1c (Tables section) and summarized below in Tables 5-2a, 5-2b, and 5-2c.

TABLE 5-2a: BACKGROUND COMPARISON EVALUATION SUMMARY – SITE-WIDE

Chemical	Greater than Background?	Basis
Aluminum	**YES**	Multiple tests
Antimony	NO	Multiple tests
Arsenic	NO	Multiple tests
Barium	**YES**	Multiple tests
Beryllium	**YES**	Multiple tests
Boron	**YES**	Multiple tests
Cadmium	**YES**	Multiple tests
Calcium	NO	Multiple tests
Chromium	**YES**	Multiple tests
Chromium (VI)	**YES**	Quantile test
Cobalt	**YES**	Multiple tests

[39] Field duplicates are shown in Appendix B and indicated with the “FD” qualifier under the column entitled “Sample Type”.

TABLE 5-2a: BACKGROUND COMPARISON EVALUATION SUMMARY – SITE-WIDE

Chemical	Greater than Background?	Basis
Copper	**YES**	Multiple tests
Iron	**YES**	Multiple tests
Lead	**YES**	Multiple tests
Lithium	NO	Multiple tests
Magnesium	NO	Multiple tests
Manganese	**YES**	Multiple tests
Mercury	**YES**	WRS test
Molybdenum	NO	Multiple tests
Nickel	NO	Multiple tests
Potassium	NO	Multiple tests
Selenium	**YES**	Multiple tests
Silver	NO	Multiple tests
Sodium	**YES**	Multiple tests
Strontium	**YES**	Multiple tests
Thallium	NO	Multiple tests
Tin	**YES**	Multiple tests
Titanium	**YES**	Multiple tests
Tungsten	**YES**	Multiple tests
Uranium	**YES**	Multiple tests
Vanadium	**YES**	Multiple tests
Zinc	**YES**	Multiple tests
Radium-226	NO	Multiple tests
Radium-228	NO	Multiple tests
Thorium-228	NO	Multiple tests; see text
Thorium-230	NO	Multiple tests
Thorium-232	NO	Multiple tests; see text
Uranium-233/234	NO	Multiple tests
Uranium-235/236	NO	Secular equilibrium; all results near noise level of instrument
Uranium-238	NO	Multiple tests

TABLE 5-2b: BACKGROUND COMPARISON EVALUATION SUMMARY – SRC-J02/J03

Chemical	Greater than Background?	Basis
Aluminum	**YES**	Multiple tests
Antimony	NO	ND in Site
Arsenic	NO	Multiple tests
Barium	**YES**	Multiple tests
Beryllium	**YES**	WRS test
Boron	NO	ND in Site
Cadmium	**YES**	Multiple tests
Calcium	NO	Multiple tests
Chromium	**YES**	Multiple tests
Chromium (VI)	**YES**	Multiple tests
Cobalt	**YES**	Multiple tests
Copper	**YES**	Multiple tests
Iron	**YES**	Multiple tests
Lead	**YES**	Multiple tests
Lithium	NO	Multiple tests
Magnesium	**YES**	Multiple tests
Manganese	**YES**	Multiple tests
Mercury	NO	Multiple tests
Molybdenum	NO	ND in Site
Nickel	**YES**	Multiple tests
Potassium	**YES**	Multiple tests
Selenium	NO	ND in Site
Silver	**YES**	Multiple tests
Sodium	**YES**	Multiple tests
Strontium	**YES**	Multiple tests
Thallium	NO	ND in Site
Tin	**YES**	Multiple tests
Titanium	**YES**	Multiple tests
Tungsten	**YES**	Multiple tests
Uranium	**YES**	Multiple tests
Vanadium	**YES**	Multiple tests
Zinc	**YES**	Multiple tests

TABLE 5-2c: BACKGROUND COMPARISON EVALUATION SUMMARY – SRC-J21

Chemical	Greater than Background?	Basis
Aluminum	**YES**	Multiple tests
Antimony	NO	ND in Site
Arsenic	NO	Multiple tests
Barium	**YES**	Multiple tests
Beryllium	NO	Multiple tests
Boron	NO	ND in Site
Cadmium	**YES**	Multiple tests
Calcium	NO	Multiple tests
Chromium	**YES**	Multiple tests
Chromium (VI)	**YES**	Multiple tests
Cobalt	**YES**	Multiple tests
Copper	**YES**	Multiple tests
Iron	**YES**	Multiple tests
Lead	**YES**	Multiple tests
Lithium	NO	Multiple tests
Magnesium	**YES**	Multiple tests
Manganese	**YES**	Multiple tests
Mercury	NO	Multiple tests
Molybdenum	NO	ND in Site
Nickel	**YES**	Multiple tests
Potassium	**YES**	Multiple tests
Selenium	NO	ND in Site
Silver	**YES**	Multiple tests
Sodium	**YES**	Multiple tests
Strontium	**YES**	Multiple tests
Thallium	NO	Multiple tests
Tin	**YES**	Multiple tests
Titanium	**YES**	Multiple tests
Tungsten	**YES**	Multiple tests
Uranium	**YES**	Multiple tests
Vanadium	**YES**	Multiple tests
Zinc	**YES**	Multiple tests

Cumulative probability plots and side-by-side boxplots[40] were also prepared and are included in Appendix G. These plots give a visual indication of the similarities/differences between the Site and background datasets. The results of this comparison indicate that a large number of metals are statistically significant (greater than) background levels for each of the three areas.

Secular Equilibrium for Radionuclides. For radionuclides, secular equilibrium exists when the quantity of a radioactive isotope remains constant because its production rate (due to the decay of a parent isotope) is equal to its decay rate. In theory, if secular equilibrium exists, the parent isotope activity should be equivalent to the activity of all daughter radionuclides. Pure secular equilibrium is not expected in environmental samples because of the effect of natural chemical and physical processes. However, approximate secular equilibrium is expected under background conditions (NDEP 2009e). Both the thorium-232 and uranium-238 chains were determined to be in approximate secular equilibrium following equivalence testing outlined in the NDEP's *Guidance for Evaluating Secular Equilibrium at the BMI Complex and Common Areas February* (NDEP 2009e). The results of the equivalence testing for secular equilibrium are provided in Table 5-3.

TABLE 5-3: SECULAR EQUIVALENCE TESTING RESULTS

Chain	Equivalence Test		Secular Equilibrium?	Mean Proportion			
	Delta	*p*-value		Ra-226	Th-230	U-233/234	U-238
U-238	0.1	<0.0001	Yes	0.2272	0.2561	0.2681	0.2486
				Ra-228	Th-228	Th-232	
Th-232	0.1	<0.0001	Yes	0.3441	0.3537	0.3022	

Two radionuclides failed a single background comparison test (thorium-228 and thorium-232, slippage test);[41] however, their means were comparable to their respective background activities. As stated in the NDEP (2009a) guidance "If the radionuclide data exhibit secular equilibrium, then either the data are similar to background, or there is more general contamination for all radionuclides in the decay chain." Because radionuclides exhibit secular equilibrium, and there is no evidence of general contamination for all radionuclides, all radionuclides are considered to be similar to background. Radionuclides are therefore not evaluated further in the HHRA.

[40] Site was segregated by area (and all data).
[41] As noted in Section 4.6, the laboratory that performed the Site radionuclide analysis has indicated that the activities for uranium-235/236 hover around the noise level of the instrument.

5.2 ESSENTIAL NUTRIENTS

An essential nutrient is a chemical required for normal body functioning that either cannot be synthesized by the body at all, or cannot be synthesized in amounts adequate for good health, and thus must be obtained from a dietary source. USEPA (1989) states that "Chemicals that are (1) essential human nutrients, (2) present at low concentrations (i.e., only slightly elevated above naturally occurring levels), and (3) toxic only at very high doses (i.e., much higher than those that could be associated with contact at the Site) need not be considered further in the quantitative risk assessment. Examples of such chemicals are calcium, iron, magnesium, potassium, and sodium." As discussed with and approved by the NDEP,[42] and consistent with guidance and standard practices, no further quantitative evaluations are required for these essential nutrients.

5.3 COMPARISON TO RESIDENTIAL SOILS BCLs

BCLs for residential soils are chemical-specific, risk-based concentrations in soils that are protective of a residential land use scenario (NDEP 2012a). As discussed with and approved by the NDEP (see footnote 37), if the maximum detected concentration for a constituent is less than one-tenth of the residential soil BCL, then no further quantitative evaluation is required for that constituent. For those constituents with 100 percent non-detect values, if the maximum non-detect concentration[43] for a constituent is less than one-tenth of the residential soil BCL, no further evaluation will be conducted. If the maximum non-detect concentration is greater than one-tenth of the residential soil BCL, no further quantitative evaluation will be conducted; however, a discussion is provided in the Uncertainty Analysis (Section 7) for these constituents.

Consistent with the Closure Plan, if the TCDD TEQ concentrations do not exceed the NDEP residential BCL of 50 ppt for any sample within the Site,[44] dioxins/furans are not retained as COPCs. Therefore, because this criterion is met for the Site, dioxins/furans are not considered COPCs, and are not evaluated further in the HHRA. Lead was also not evaluated further in the HHRA since all concentrations were below its target goal of 400 mg/kg for residential land use.

The results of comparisons to one-tenth of the residential soil BCL for Site-Wide, SRC-J02/03, and SRC-J21 are presented in Tables 5-4a, 5-4b, and 5-4c (Tables section). Three organic compounds and seven inorganic/metals were found to exceed their respective one-tenth of the

[42] Meeting with NDEP on December 9, 2010.
[43] The non-detect value is equal to the SQL.
[44] See Section 2.5 for a discussion on future land use for the Southern RIBs sub-area.

residential soil BCL (two inorganic chemicals do not have BCLs, but do have relevant and available toxicity criteria [ammonia, asbestos]).

5.4 SUMMARY OF SELECTION OF COPCS

The procedures for COPC selection were discussed above. Results of the selection of COPCs, including the rationale for excluding chemicals as COPCs for Site-Wide, SRC-J02/03, and SRC-J21, are presented in Tables 5-5a, 5-5b, and 5-5c (Tables section). The resulting COPCs for soil are provided in Table 5-6 below.

TABLE 5-6: RESULTS OF THE SELECTION OF COPCS FOR SOIL

Chemical	COPC		
	Site Wide	SRC-J02/J03	SRC-J11
Inorganics			
Aluminum	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Asbestos	Yes	Yes	Yes
Cobalt	Yes	Yes	Yes
Manganese	Yes	Yes	Yes
Perchlorate	Yes	Yes	Yes
Vanadium	Yes	Yes	Yes
Polynuclear Aromatic Hydrocarbons			
Benzo(a)anthracene	Yes	Yes	Yes
Benzo(a)pyrene	Yes	Yes	Yes
Benzo(b)fluoranthene	Yes	Yes	Yes
Benzo(k)fluoranthene	Yes	Yes	Yes
Chrysene	Yes	Yes	Yes
Dibenzo(a,h)anthracene	Yes	Yes	Yes
Indeno(1,2,3-cd)pyrene	Yes	Yes	Yes
Semi-Volatile Organic Compounds			
Hexachlorobenzene	Yes	Yes	Yes
Volatile Organic Compounds			
Formaldehyde	Yes	Yes	Yes

These procedures apply to soil results. Indoor air exposures are evaluated on a sample-by-sample basis, per NDEP requirements, using the surface flux data measurements. Because of this, elimination of COPCs from the surface flux data is not done. Instead, every chemical detected in an individual surface flux location is included in the evaluation for that location. Therefore, the maximum surface flux risk estimates are summed with the soil risk estimates to provide an upper-bound risk for each receptor.

6.0 HUMAN HEALTH RISK ASSESSMENT

This section presents the HHRA of all COPCs identified in Section 5 for all receptors of concern via all complete pathways. The methods used in the risk assessment follow standard USEPA guidance. Specifically, the methods used in the risk assessment followed basic procedures outlined in the USEPA's *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual* (USEPA 1989). Other guidance documents consulted include:

- *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual. Supplemental Guidance: Standard Default Exposure Factors* (USEPA 1991b).
- *Guidelines for Exposure Assessment* (USEPA 1992b).
- *Soil Screening Guidance: Technical Background Document* (USEPA 1996).
- *Exposure Factors Handbook, Volumes I-III* (USEPA 1997).
- *Soil Screening Guidance for Radionuclides* (USEPA 2000b).
- *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (USEPA 2002b).
- *Technical Support Document for a Protocol to Assess Asbestos-Related Risk. Final Draft* (USEPA 2003b).
- *Child-Specific Exposure Factors Handbook* (USEPA 2006).
- *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)* (USEPA 2004e).
- *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)* (USEPA 2009).

Various NDEP guidance documents are also relied on for the HHRA. These include:

- *Supplemental Guidance for Assessing Data Usability for Environmental Investigations at the BMI Complex and Common Areas in Henderson, Nevada* (NDEP 2008a).
- *Guidance for Evaluating Secular Equilibrium at the BMI Complex and Common Areas* (NDEP 2009e).

- *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils for the Basic Management Incorporated (BMI) Complex and Common Areas* (NDEP 2009b, 2010).
- *Supplemental Guidance on Data Validation* (NDEP 2009c, d).
- *Guidance for Evaluating Radionuclide Data for the BMI Plant Sites and Common Areas Projects* (NDEP 2009a).

The risk assessment is a deterministic risk assessment, meaning that single values based on conservative assumptions are used for all modeling, exposure parameters, and toxicity criteria. These conservative estimates compound each other so that the calculated risks likely exceed the true risks at the Site.

The method used in the risk assessment consists of several steps. The first step is the calculation of exposure point concentrations representative of the particular area, for each medium of concern. This step includes fate and transport modeling to predict concentrations that may be present when direct measurements are not available. The second step is the exposure assessment for the various receptors present in the particular areas. The next step is to define the toxicity values for each COPC. The final step is risk characterization where theoretical upper-bound cancer risks and non-cancer HIs are calculated.

6.1 DETERMINATION OF EXPOSURE POINT CONCENTRATIONS

A representative exposure concentration is a COPC-specific and media-specific concentration value. In risk assessment, these exposure concentrations are values incorporated into the exposure assessment equations from which potential baseline human exposures are calculated. As described below, the methods, rationale, and assumptions employed in deriving these concentration values follow USEPA guidance and reflect Site-specific conditions.

Chemical, physical, and biological processes may affect the fate and transport of chemicals in water, soil, and air. Chemical processes include solubilization, hydrolysis, oxidation-reduction, and photolysis. Physical processes include advection and hydrodynamic dispersion, volatilization, dispersion, and sorption/desorption to soil, sediment, and other solid surfaces. Biological processes include biodegradation, bioaccumulation, and bioconcentration. All of these processes are dependent upon the physical and chemical properties of the chemicals, the physical and chemical properties of the soil and water, and other environmental factors such as temperature, humidity, and the conditions of water recharge and movement. The net effect of these environmental factors is a time-dependent reduction of chemical concentrations in water, soil, and air. The determination of exposure point concentrations for media other than soil take into account chemical-specific physical parameters and inter-media transfers as discussed below. All modeling input parameters, calculations and results are presented in Appendix H (included on the report CD in Appendix B).

6.1.1 Soil

Due to the uncertainty associated with determining the true average concentration at a site, where direct measurements of the site average are infeasible and unavailable, the USEPA recommends using the lower of the maximum detected concentration or the 95 percent UCL as the concentration of a chemical to which an individual could be exposed over time (USEPA 1992b). For the 95 percent UCL concentration approach, the 95 percent UCL was computed to represent the area-wide exposure point concentrations. The 95 percent UCL is a statistic that quantifies the uncertainty associated with the sample mean. If randomly drawn subsets of Site data are collected and the UCL is computed for each subset, the UCL equals or exceeds the true mean roughly 95 percent of the time. The purpose for using the 95 percent UCL is to derive a conservative, upper-bound estimate of the mean concentration, which takes into account the different concentrations to which a person may be exposed at the Site. That is, an individual will be exposed to a range of concentrations that exist at an exposure area, from non-detect to the maximum concentration, over an entire exposure period.

The 95 percent UCL statistical calculations were performed using the GiSdT® library (Neptune and Company 2009) run from within the R statistical computer software program. Section 5.1 outlines the treatment of sample locations with field duplicates prior to the 95 percent UCL statistical calculations described in this section. For these calculations, chemical non-detect results are assigned a value of one-half the SQL. The formulas for calculating the 95 percent UCL COPC concentration (as the representative exposure concentration) are presented in USEPA (1992c, 2002c) and GiSdT® (Neptune and Company 2009). Three UCL methods are employed in the GiSdT® library. They include the Student's t UCL, the bootstrap percentile UCL and the bootstrap BCa UCL. The maximum UCL of these three methods was used as the exposure point concentration, unless the maximum UCL of the three methods was greater than the maximum detected concentration. In these cases, the maximum detected concentration was selected as the exposure point concentration.

The representativeness of the 95 percent UCLs for each of the three exposure areas,[45] is further supported by the intensity plot figures included in Appendix I. Figures for each of the COPCs are included in Appendix I (in addition to the figures developed for all metals). A figure is also presented for TCDD TEQ. Although not COPCs for the Site, TCDD TEQ is a primary chemical of interest for the project. Based on the results of the background comparison tests, a review of the probability plots, boxplots, and distribution and intensity plot figures, data across the Site are assumed to be uncorrelated, that is, there is no discernible spatial correlation.[46] Although there may be spatial correlation of data across the Site, it has not been observed. Thus, the assumption is made for statistical testing purposes that the data are not spatially correlated. This results in lower p-values and hence a greater number of statistical differences than would be the case if spatial correlation is accounted for. Ignoring correlation therefore causes conservatism, and the need to further evaluate spatial correlation is not warranted. Therefore, consistent with the project *Statistical Methodology Report* (NewFields 2006), each measurement is assumed to be equally representative for that chemical at any point in the Site and calculation of the 95 percent UCL is appropriate.

Representative exposure concentrations for soil are based on the potential exposure depth for each of the receptors. For all receptors, five different exposure depths are considered, based on the sample depth rules schematic presented in Section 3: all data (surface, subsurface, and fill), data classified as fill material only, data classified as fill material and/or surface soil, data classified as surface soil only, and all data excluding data classified as fill material.

These different soil exposure classifications are considered to represent all possible exposure potential for all receptors, based on the future grade and use of Site soils. Ninety-five percent UCLs are calculated for each of these five different exposure depth scenarios. Although specific-receptors would not necessarily be exposed to all depth ranges (for example, residents and construction workers are considered to have potential exposures to 10 feet bgs, while commercial workers only to surface soils), to be conservative, the highest of the five values was used in the risk estimates for each COPC. The 95 percent UCL for each COPC is presented in Tables 6-1a (Site-Wide), 6-1b (SRC-J02/J03), and 6-1c (SRC-J21) (Tables section). For indirect exposures, this concentration was used in fate and transport modeling.

[45] Note that sample locations associated with exposure areas SRC-J02/J03 and SRC-J21 are shown on Figure 11 and identified in the Site dataset included on the report CD in Appendix B.

[46] Although the Statistical Methodology Report states that confirmation measurements of each chemical in a given soil layer will be used to compute variograms, as noted in the text above, this was not conducted for the Site, which is a deviation from the *BRC Closure Plan* methodology.

The exposure point concentrations for asbestos (USEPA 2003b, NDEP 2009b) were based on the pooled analytical sensitivity of the dataset. The asbestos data and analytical sensitivities are presented in Table 6-2 (Tables section). Therefore, asbestos exposure point concentrations are determined differently than those for the other COPCs. The pooled analytical sensitivity is calculated as follows:

$$\textit{Pooled Analytical Sensitivity} = 1/\left[\sum_i (1/\textit{analytical sensitivity for trial } i)\right]$$

Two estimates of the asbestos concentration were evaluated, best estimate and upper bound as defined in the draft methodology (USEPA 2003b). The best estimate concentration is similar to a central tendency estimate, while the upper bound concentration is comparable to a reasonable maximum exposure estimate. The pooled analytical sensitivity is multiplied by the number of chrysotile or amphibole structures to estimate concentration:

$$\text{Estimated Bulk Concentration } (10^6 \text{ s/gPM10}) = \text{Long fiber count} \times \text{Pooled analytical sensitivity}$$

For the best estimate, the number of fibers measured across all samples is incorporated into the calculation above. The upper bound of the asbestos concentration was also evaluated. It is calculated as the 95 percent UCL of the Poisson distribution mean, where the Poisson mean was estimated as the total number of structures detected across all samples. In Microsoft Excel, the following equation may be employed to calculate this value:

95 percent UCL of Poisson Distribution Mean = CHIINV(1-upper confidence percentile, 2 × (Long fiber count + 1))/2

This value is then multiplied by the pooled analytical sensitivity to estimate the upper bound concentration. The intent of the risk assessment methodology was to predict the risk associated with airborne asbestos. In order to quantify the airborne asbestos concentration, the estimated dust levels or particulate emission factors (PEFs) were used:

$$\text{Estimated Airborne Concentration } (\text{s/cm}^3) = \text{Estimated bulk concentration } (10^6 \text{ s/gPM10}) \times \text{Estimated dust level } (\text{ug/cm}^3)$$

Further explanation of the asbestos risk calculations and estimates are provided in the NDEP's Technical Guidance for the Calculation of Asbestos-Related Risk in Soils (2009b) and Workbook for the Calculation of Asbestos-Related Risk in Soils (2010).

6.1.2 Indoor Air

USEPA's 2002 Vapor Intrusion Guidance

BRC has reviewed USEPA's 2002 Vapor Intrusion Guidance (2002d), and believes that the approach used for the Site conforms to this guidance. The guidance recommends and BRC has followed a tiered approach to address vapor intrusion for each of the Eastside sub-areas, including the Southern RIBs sub-area. First, in each of the sub-area SAPs, including that for the Site, BRC has identified each of the chemicals (VOCs and volatile SVOCs) to be evaluated further in each sub-area (that is, a Tier 1 assessment).

Second, BRC explicitly compared the existing groundwater data for wells that are located within (or adjacent to) that sub-area with the USEPA 2002 Tier 2 comparison values (provided in lookup tables in the guidance document). Thus, this Tier 2 assessment was done in the NDEP-approved SAPs for each of the sub-areas. The Tier 2 comparison table for the Site is provided in Appendix J (Table J-1). As shown in this table, with the exception of tetrachloroethene,[47] all VOCs and volatile SVOCs pass a Tier 2 assessment.

Third, BRC has conducted a site-specific human health risk assessment for vapor intrusion using surface flux data on a sample-by-sample basis, per NDEP recommendations (that is, a Tier 3 assessment; see below). As noted in USEPA's 2002 guidance for a Tier 3 site-specific assessment: "If buildings are not available or not appropriate for sampling, for example in cases where future potential impacts need to be evaluated, other more direct measures of potential impacts, such as emission flux chambers or soil gas surveys, may need to be conducted in areas underlain by subsurface contamination." Thus flux measurements are allowed under USEPA's guidance.

Fourth, BRC has also evaluated the various factors pertaining to vapor intrusion, including depth to groundwater (now and in the future), the nature of the soil column from ground surface to groundwater, and, water quality (*i.e.*, the constituents likely to be present in groundwater and which might pose any vapor intrusion concerns). BRC has performed a more detailed site-specific evaluation of vapor intrusion potential at a comparison study area within the Eastside property. Based on site-specific conditions, including depth to groundwater, VOC concentrations in groundwater (which are generally less near the Site - for example, chloroform concentration in

[47] Note that elevated concentrations of tetrachloroethene are likely due to the TIMET facility immediately across Boulder Hwy from the Site. TIMET groundwater remediation should result in reduced concentrations.

groundwater of 74 to 420 µg/L near the Site versus 180 to 1,200 µg/L at the comparison study area), and expected similar soil physical property, the comparison study area presents a similar potential for vapor intrusion than the Site (and as shown below, in all cases ILCRs and non-cancer HIs are at or below acceptable levels). See the table below for various parameters.

Parameter	Comparison Study Area	Southern RIBs Sub-Area	Units
Particle Density[1]	1.8	1.50	g/cm^3
Percent Moisture[1]	4.46	4.44	percent
Porosity[1]	33.8	44.8	percent
Permeability[1]	0.0019	0.00096	cm/sec
Bulk Density[1]	2.7	2.7	g/cm^3
Organic Carbon Content[1]	1.1	0.44	percent
USCS Soil Types	SM/GM/GW/ML	SM/GM/GW/ML	--
Depth to Groundwater	49 to 60	50	ft bgs
Chloroform in Groundwater	180 to 1,200	74 to 420	µg/L

[1]Values presented are averages for each area. For example, the range of permeabilities for the Site are 0.00032 to 0.0014 cm/sec, while those for the comparison study area are 0.00029 to 0.0065 cm/sec.

BRC has performed a detailed evaluation of vapor intrusion risk assessments for chloroform at the comparison study area location, showing that risks were acceptable (residential indoor ILCRs ranged from 1×10^{-8} to 9×10^{-7}, and non-cancer HIs were well below 1.0).[48] The comparison study area risk estimate calculations are provided electronically in Appendix J (included on the report CD in Appendix B). Input parameters and results for the indoor air calculations for the comparison study area location are also provided in Appendix J (Tables J-2 through J-6).

Finally, BRC is aware of USEPA's recent *Review of the Draft 2002 Subsurface Vapor Intrusion Guidance*. Issues and recommendations identified in this documents as well as the USEPA Office of Inspector General's *Evaluation Report—Lack of Final Guidance on Vapor Intrusion Impedes Efforts to Address Indoor Air Risks* (December 14, 2009), focus primarily on Tier 1 and Tier 2 assessments, and ultimately will not affect how indoor air exposures have been evaluated for the Site.

[48] For comparison, chloroform residential indoor ILCRs for the Site were 8×10^{-9} to 1×10^{-7} and non-cancer HIs were well below 1.0; and vapor intrusion ILCRs for the Mohawk sub-area were 4×10^{-8} to 9×10^{-7} and non-cancer HIs were well below 1.0.

Site-Specific Tier 3 Assessment

Concentrations of volatile constituents (VOCs and certain SVOCs) in soil and groundwater that may infiltrate buildings to be constructed at the Site through cracks in the foundations are estimated using USEPA surface emission isolation flux chamber (flux chamber) measurements collected at the Site in accordance with USEPA (1986) guidance and the Flux Chamber SOP-16 (BRC, ERM, and MWH 2009). The flux chamber is used to measure the emission rates from surfaces emitting gas species. Use of the flux chamber reduces the need for modeling surface flux rates, which potentially reduces the uncertainty in the air representative exposure concentrations and the risk characterization. Because the flux chamber measurements were conducted outdoors on open soil, an "infiltration factor" is applied to the outdoor surface flux data to generate data supporting the inhalation of indoor air exposure pathway. The infiltration factor is based on the factors found in the American Society for Testing and Materials (ASTM) *Standard Guide for Risk Based Corrective Action* (2000). The indoor air concentrations are determined from the surface flux measurements using the following mixing equation:

$$C_a = \frac{J \times \eta}{L \times ER}$$

where:

C_a	=	indoor air concentration (milligram per cubic meter [mg/m^3])
J	=	measured flux of chemical (mg/m^2-min)
η	=	foundation crack fraction (unitless)
L	=	enclosed space volume/infiltration area ratio (meter [m])
ER	=	enclosed space air exchange rate (1/min)

Default parameter values from ASTM (2000) for residential buildings were used (as presented in Section 9 of the NDEP-approved *BRC Closure Plan* [BRC, ERM, and DBS&A 2007; Section 9 revised March 2010]). These default parameters are presented in the electronic indoor air calculation files in Appendix J (included on the report CD in Appendix B). As noted in Section 5.4, indoor air exposures are evaluated on a sample by sample basis, per NDEP requirements, using the surface flux data measurements. Every chemical detected in an individual surface flux location is included in the evaluation for that location.

Indoor air concentrations based on the surface flux data measurements are shown in the electronic indoor air calculation files in Appendix H (included on the report CD in Appendix B) and are summarized in Table 6-3 (Tables section). In all cases the maximum of the two flux chamber measurements (TO-15 full scan and TO-15 SIM) is used.

6.1.3 Outdoor Air

Long–term exposure to COPCs bound to dust particles is evaluated using the USEPA's PEF approach (USEPA 2002b). The PEF relates concentrations of a chemical in soil to the concentration of dust particles in the air. The Q/C (Site-Specific Dispersion Factor) values in this equation are for Las Vegas, Nevada (Appendix D of USEPA 2002b). The equation used is:

$$\mathrm{PEF} = \mathrm{Q/C_{wind}}\ \mathrm{x}\ \frac{3{,}600\ \mathrm{sec/hr}}{0.036\ \mathrm{x}\ (1 - \mathrm{V})\ \mathrm{x}\ (\mathrm{U_m} / \mathrm{U_t})^3\ \mathrm{x}\ \mathrm{F(x)}}$$

where:

PEF	=	Particulate emission factor (m^3/kg)
Q/C_{wind}	=	Inverse of the ratio of the geometric mean air concentration to the emission flux at the center of a square source (g/m^2 -s per kg/m^3)
V	=	Fraction of vegetative cover (unitless)
U_m	=	Mean annual windspeed (m/s)
U_t	=	Equivalent threshold value of windspeed at 7m (m/s)
F(x)	=	Function dependent on U_m/U_t derived using USEPA (1985) (unitless)

and

$$\mathrm{Q/C_{wind}} = A \times \exp\frac{(\ln A_{site} - B)^2}{C}$$

where

A_{site}	=	Source Area (acre)
A, B, C	=	Air Dispersion Constants for LV (unitless)

The dust model and parameters utilized to generate the PEF are presented in Table 6-4 (Tables section).

The USEPA guidance for dust generated by construction activities (USEPA 2002b) was used for assessing short-term construction worker exposures:

$$PEF = \frac{1}{\left(\left(\frac{1}{PEF_{sc}}\right) + \left(\frac{1}{PEF_{sc\_road}}\right)\right)}$$

where:

PEF_{sc} = Subchronic particulate emission factor for construction activities (m^3/kg)
PEF_{sc_road} = Subchronic particulate emission factor for unpaved road traffic (m^3/kg)

Input soil concentrations for the model are the exposure point concentrations as described above. The construction dust model and all relevant equations and parameters utilized to generate the construction worker PEF from this guidance are provided in Table 6-5 (Tables section). Site-specific surface soil moisture data were collected in January, February and August. The average of the surface soil data is 4.31 percent. This is considered an adequate representation of the annual average, therefore, this value is used for the percent moisture in dry road surface parameter instead of the NDEP model default value.

In addition, for receptors with indoor exposures (i.e., residents, indoor commercial workers), a dilution factor is applied to obtain an indoor air concentration of dust particles, based on USEPA (2000b).

The flux chamber measurements as described in Section 6.1.2 above are used for exposures to VOCs and volatile SVOCs in outdoor air if the chemical was present in the TO-15 analyte list. If the VOC or volatile SVOC was measured in soil but not on the TO-15 analyte list, then the exposure point concentration was estimated using USEPA's volatilization factor. Outdoor surface flux data are divided by the dispersion factor for volatiles (Q/C_{vol} for Las Vegas; from USEPA 2002b) for use in the outdoor air exposure pathway. The same dispersion factor is used for all scenarios. The dispersion factor for the construction worker is not adjusted to account for soil intrusion activities. Outdoor air concentrations based on soil data for all receptors are shown in Table 6-6 (Tables section). Outdoor air concentrations based on the surface flux data measurements are shown in the electronic indoor air calculation files in Appendix H (included on the report CD in Appendix B) and are summarized in Table 6-3.

6.1.4 Homegrown Produce

Consistent with the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010) and USEPA guidance, the consumption of homegrown produce is an applicable exposure pathway for residential receptors. Representative exposure concentrations in plants were obtained using the soil 95 percent UCL for each COPC, multiplied by plant uptake factors. As per the Closure Plan, plant uptake factors were obtained from USEPA (2005b) and Baes et al. (1984). Plant uptake factors for inorganics were obtained from empirical data, where available. Plant uptake factors for organics are calculated based on the following equations (from USEPA 2005b):

Aboveground plant uptake factor:

$$\log Br_{above} = 1.588 - 0.578 \log K_{ow}$$

Belowground plant uptake factor:

$$Br_{below} = \frac{RCF}{Kd_s} \times VG$$

where:

Br_{above}	=	aboveground plant uptake factor (mg/kg plant DW/mg/kg soil)
Br_{below}	=	belowground plant uptake factor (mg/kg plant DW/mg/kg soil)
K_{ow}	=	octanol/water partitioning coefficient (unitless)
RCF	=	root concentration factor (mg/g plant DW/mg/mL soil water)
Kd_s	=	Soil-water partition coefficient (mL water/g soil)
VG	=	empirical correction factor for belowground produce (unitless)(0.01 for COPCs with a log Kow greater than 4 and 1.0 for COPCs with a log Kow less than 4)

Plant uptake factors are presented in Table 6-7 (Tables section). See Section 7.2.3 regarding plant uptake of perchlorate.

6.2 EXPOSURE ASSESSMENT

In a risk assessment, the possible exposures of populations are examined to determine if the chemicals at a site could pose a threat to the health of identified receptors. The risks associated with exposure to chemicals depend not only on the concentration of the chemicals in the media, but also on the duration and frequency of exposure to those media. For example, the risks associated with exposure to chemicals for 1 hour a day are less than those associated with exposure to the same chemicals at the same concentrations for 2 hours a day. Potential health impacts from chemicals in a medium can occur via one or more exposure pathways. The exposure assessment step of a risk assessment combines information regarding impacted media at a site with assumptions about the people who could come into contact with these media. The result is an estimation of a person's potential rate of contact with impacted media from the Site. The intake rates are evaluated in the risk characterization step to estimate the risks they could pose.

In this section, assumptions regarding people's activities, such as the frequency with which a person could come into contact with impacted media, are discussed. Finally, the daily doses at the points of potential human contact were estimated using these assumptions, the models described in Section 6.1, and the chemical concentrations reported for soil and flux chamber samples collected from the Site.

6.2.1 Exposure Parameters

In this section, the assumptions regarding the extent of exposure are presented for each of the exposure pathways for each medium of concern at the Site. Tables 6-8 and 6-9 (Tables section) present each of the exposure parameters used in the risk assessment for each receptor and each pathway. Many of the assumptions regarding the extent of exposure were default factors developed by USEPA's Superfund program. Default values were modified to reflect Site-specific conditions, where possible. The exposure parameters used in the risk assessment were those defined in Tables 9-2 through 9-5 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

6.2.2 Quantification of Exposure

In this section, the concentrations of COPCs at the points of potential human exposure are combined with assumptions about the behavior of the populations potentially at risk to estimate the dose of COPCs that may be taken in by the exposed individuals. Later, in the risk characterization step of the assessment, the doses are combined with toxicity parameters for COPCs to estimate whether the calculated intake levels pose a threat to human health.

The method used to estimate the average daily dose (ADD) for non-carcinogens COPCs via each of the complete exposure pathways is based on USEPA (1989, 1992b) guidance. For carcinogens, lifetime ADD (LADD) estimates are based on chronic lifetime exposure, extrapolated over the estimated average lifetime (assumed to be 70 years). This establishes consistency with cancer slope factors (CSFs), which are based on chronic lifetime exposures. For non-carcinogens, ADD estimates are averaged over the estimated exposure period. ADDs and LADDs were calculated for each exposure scenario using the following generic equation:

$$Dose = \frac{C \times IR \times ED \times EF}{BW \times AT \times 365\ d/yr}$$

where:

Dose	=	ADD for non-carcinogens and LADD for carcinogens (in mg/kg-day)
C	=	chemical concentration in the contact medium (e.g., mg/kg soil)
IR	=	intake rate (e.g., mg/day soil ingestion and dermal contact [requires a conversion factor of 10^{-6} kg/mg];
ED	=	exposure duration (years of exposure)
EF	=	exposure frequency (number of days per year)
BW	=	average body weight over the exposure period (kilograms)
BIO	=	relative bioavailability (unitless)
AF	=	absorption fraction (percent)
AT	=	averaging time; same as the ED for non-carcinogens and 70 years (average lifetime) for carcinogens

Risk estimates for inhalation exposures follow USEPA's *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)* (USEPA 2009). That is, the concentration of a chemical in air is used as the exposure metric (e.g., mg/m^3), rather than inhalation intake of a chemical in air based on inhalation rate and body weight (e.g., mg/kg-day). The generic equation for calculating inhalation exposures is:

$$EC = \frac{C_{air} \times ET \times ED \times EF}{AT}$$

where:

EC	=	exposure concentration (in mg/m^3)
C_{air}	=	chemical concentration in air (in mg/m^3)
ET	=	exposure time (hours per day)
ED	=	exposure duration (years of exposure)
EF	=	exposure frequency (number of days per year)
AT	=	averaging time; same as the ED for non-carcinogens and 613,200 hours (i.e., 70 years; average lifetime) for carcinogens

Pathway-specific equations for calculating ADDs and LADDs are provided in Table 9-6 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

For conservatism, the relative oral bioavailability (BIO) of all COPCs was assumed to be 100 percent (see Section 7.3.3 for further discussion on this issue). Chemical-specific dermal absorption values from USEPA guidance (USEPA 2004e [Part E RAGS]) were used in the risk assessment. USEPA does not recommend absorption factors for VOCs based on the rationale that VOCs from the soil are volatilized on skin and exposure is accounted for via inhalation routes. In addition, RAGS Part E (USEPA 2004e) states "For inorganics, the speciation of the compound is critical to the dermal absorption and there are too little data to extrapolate a reasonable default value." Therefore, dermal absorption factors are also not used for inorganics. The NDEP and its consultants have concurred with this decision.

Exposure levels of potentially carcinogenic and non-carcinogenic chemicals are calculated separately because different exposure assumptions apply (i.e., ADD for non-carcinogens and LADD for carcinogens). Exposure levels are estimated for each relevant exposure pathway (i.e., soil, air, and water), and for each exposure route (i.e., oral, inhalation, and dermal). Daily doses for the same route of exposure are summed. The total dose of each chemical is the sum of doses across all applicable exposure routes. As noted previously, radionuclides are consistent with background concentrations and are not addressed in this HHRA.

6.2.3 Asbestos

Although final USEPA guidance is unavailable at this time, USEPA recommends that site-specific risk assessments be performed for asbestos (USEPA 2004f). Risks associated with asbestos in soil are evaluated using the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils* (2009b) and *Workbook for the Calculation of Asbestos-Related Risk in Soils* (2010), and the draft methodology proposed by USEPA (2003b). This methodology is an update of the method described in *Methodology for Conducting Risk Assessments at Asbestos Superfund Sites-Part 1: Protocol* and *Part 2: Technical Background Document* (Berman and Crump 1999a,b). Because the risk assessment methodology for asbestos is unlike that for other COPCs, asbestos risks are evaluated separately from other chemical risks.

The intent of the risk assessment methodology is to predict the amount of airborne asbestos, which causes an unacceptable risk to a human receptor. Asbestos concentrations are measured in soil, and are then used to predict airborne asbestos concentrations using a dust emissions model. Asbestos data are collected from the top 2 inches of soil. While asbestos might exist below the top 2 inches of soil due to soil turnover, the concentrations in the surface soil are likely to be greater than concentrations beneath the surface, and the exposure pathway is to near-surface soils. Therefore, the "shallow" surface soils asbestos concentration estimate is used to represent the potential exposure to asbestos.

To interpret measurements of asbestos in soils, it is necessary to establish the relationship between the asbestos concentrations observed in soils and concentrations that will occur in air when such soil is disturbed by natural or anthropogenic forces. This is because asbestos is a hazard when inhaled (see, for example, Berman and Crump 2001; USEPA 2003b). Indeed, the Modified Elutriator Method (Berman and Kolk 2000), which was the method employed to perform the analyses presented in this report, was designed specifically to facilitate prediction of airborne asbestos exposures based on bulk measurements (see, for example, Berman and Chatfield 1990).

Briefly, the Modified Elutriator Method incorporates a procedure for isolating and concentrating asbestos structures as part of the respirable dust fraction of a sample and analytical measurements are reported as the number of asbestos structures per mass of respirable dust in the sample. This turns out to be precisely the dimensions required to combine such measurements with published dust emission and dispersion models to convert them to asbestos emission and dispersion models. These models can be combined with measurements from the Modified Elutriator Method to predict airborne exposures and assess the attendant risks.

6.3 TOXICITY ASSESSMENT

This section describes the toxicity of the COPCs at the Site. Numerical toxicity values were developed for use in the calculation of the hazard quotients (HQs; for non-carcinogens) and risks (for carcinogens).

6.3.1 Toxicity Values

Toxicity values, when available, are published by the USEPA in the on-line Integrated Risk Information System [IRIS]; USEPA 2012). CSFs (in units of milligrams per kilogram per day $[mg/kg\text{-}d]^{-1}$) are chemical-specific and experimentally derived potency values that are used to calculate the risk of cancer resulting from exposure to potentially carcinogenic chemicals. Inhalation unit risks (IURs) represent the upper-bound excess lifetime cancer risk from continuous exposure to a chemical at a concentration of 1 microgram per cubic meter ($\mu g/m^3$). A higher value implies a more potent carcinogenic potential. Reference dosages (RfDs) are experimentally derived "no-effect" levels used to quantify the extent of toxic effects other than cancer due to exposure to chemicals (in units of mg/kg-d). Similarly, a reference concentration (RfC) is the derived "no-effect" concentration for a lifetime of continuous inhalation exposure (in units of milligrams per cubic meter [mg/m^3]). With RfDs or RfCs, a lower value implies a more potent toxicant. These criteria are generally developed by USEPA risk assessment work groups and listed in the USEPA risk assessment guidance documents and databases. Available toxicity values for all Site COPCs used in the risk assessment were obtained using the following hierarchy for selecting toxicity criteria (based on USEPA 2003c):

1. IRIS;
2. USEPA's Provisional Peer Reviewed Toxicity Values (PPRTVs);
3. National Center for Environmental Assessment (or other current USEPA sources);
4. Health Effects Assessment Summary Tables (HEAST);
5. USEPA Criteria Documents (e.g., drinking water criteria documents, drinking water Health Advisory summaries, ambient water quality criteria documents, and air quality criteria documents);
6. ATSDR toxicological profiles;
7. USEPA's Environmental Criteria and Assessment Office; and
8. Peer-reviewed scientific literature.

In addition, toxicity criteria and toxicological surrogates recommended by the NDEP are used in the risk assessment. Toxicity criteria are consistent with those used in the development of the NDEP's BCLs (NDEP 2012a), unless newer values are available from USEPA. Toxicity criteria have not been developed by BRC for elements or compounds that do not have criteria published in the above sources.

Although USEPA has developed toxicity criteria for the oral and inhalation routes of exposure, it has not developed toxicity criteria for the dermal route of exposure. USEPA has proposed a method for extrapolating oral toxicity criteria to the dermal route in the *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)* (USEPA 2004e). USEPA states that the adjustment of the oral toxicity factor for dermal exposures is necessary only when the oral-gastrointestinal absorption efficiency of the chemical of interest is less than 50 percent (due to the variability inherent in absorption studies). For COPCs to which dermal exposure might occur at the Site, the oral-gastrointestinal absorption efficiencies are greater than 50 percent, except for chromium, hexavalent chromium, mercury, nickel, and vanadium. Therefore, the USEPA indicated adjustment of the oral toxicity criteria to generate dermal criteria was performed for these COPCs.

6.3.2 Non-Carcinogenic Health Effects

For non-carcinogenic health effects, USEPA assumes that a dose threshold exists, below which adverse effects are not expected to occur. A chronic RfD or RfC of a chemical is an estimate of a lifetime daily dose to humans that is likely to be without appreciable deleterious non-carcinogenic health effects. To derive an RfD or RfC, a series of professional judgments is made to assess the quality and relevance of the human or animal data and to identify the critical study and the most critical toxic effect. Data typically used in developing the RfD or RfC are the highest no-observable-adverse-effect-levels (NOAELs) for the critical studies and effects of the non-carcinogen. For each factor representing a specific area of uncertainty inherent in the extrapolation from the available data, an uncertainty factor is applied. Uncertainty factors generally consist of multiples of 10, although values less than 10 are sometimes used.

Four major types of uncertainty factors are typically applied to NOAELs in the derivation of RfDs or RfCs. Uncertainty factors of 10 are used to (1) account for the variability between humans, (2) extrapolate from animals to humans, (3) account for a NOAEL based on a subchronic study instead of a chronic study, and (4) extrapolate from a lowest-observed-adverse-effect-level (LOAEL) to a NOAEL, if necessary. In addition, a modifying factor can be used to account for adequacy of the database. Typically, the modifying factor is set equal to one.

To obtain the RfD or RfC, all uncertainty factors associated with the NOAEL are multiplied together, and the NOAEL is divided by the total uncertainty factor. Therefore, each uncertainty factor adds a degree of conservatism (usually one order of magnitude) to the RfD or RfC. An understanding of the uncertainties associated with RfDs or RfCs is important in evaluating the significance of the HIs calculated in the risk characterization portion of the risk assessment. When available sub-chronic RfDs or RfCs were used to evaluate construction worker exposures. The COPCs in this assessment with USEPA-established oral/dermal and inhalation RfDs or RfCs are presented in Tables 6-10 and 6-11 (Tables section), for surface flux and soil COPCs, respectively.

6.3.3 Carcinogenic Health Effects

USEPA develops CSFs and IURs from chronic animal studies or, where possible, epidemiological data. Because animal studies use much higher doses over shorter periods of time than the exposures generally expected for humans, the data from these studies are adjusted, typically using a linearized multi-stage (LMS) mathematical model. To ensure protectiveness, CSFs/IURs are typically derived from the 95th percentile UCL of the slope, and thus the actual risks are unlikely to be higher than those predicted using the CSF/IUR, and may be considerably lower. The COPCs in this assessment with USEPA-established oral/dermal and inhalation CSFs/IURs are presented in Tables 6-10 and 6-12 (Tables section), for surface flux and soil COPCs, respectively.

6.3.4 Asbestos

Asbestos toxicity criteria were obtained from Table 8-1 of Berman and Crump's (2001) document and Tables 8-2 and 8-3 in the USEPA (2003b) guidance. The toxicity criteria vary based on fiber type, endpoint (lung cancer, mesothelioma, or combined) and percent of fibers longer than 10 micrometers (µm) and less than 0.4 µm in width. For this risk assessment the toxicity criteria were based on a combined endpoint of lung cancer and mesothelioma averaged over the smokers and non-smokers of the population, with the assumption that 50 percent of fibers are greater than 10 µm in length. The resulting unit risk factors (structures/cubic centimeter) are presented in Appendix H (included on the report CD in Appendix B). A complete discussion on issues associated with risk estimates for asbestos is presented in the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils* (2009b).

6.4 RISK CHARACTERIZATION

In the last step of a risk assessment, the estimated rate at which a receptor intakes a chemical is compared with information about the toxicity of that COPC to estimate the potential risks posed by exposure to the COPC. This step is known as risk characterization. The methods used for assessing cancer risks and non-cancer adverse health effects are discussed below.

6.4.1 Methods for Assessing Cancer Risks

In the risk characterization, carcinogenic risk is estimated separately as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to chemicals and asbestos. Carcinogenic risks for chemicals were evaluated by multiplying the estimated average exposure rate (i.e., LADD calculated in the exposure assessment) by the chemical's CSF or IUR. The CSF converts estimated daily doses averaged over a lifetime to incremental risk of an individual developing cancer. Because cancer risks are averaged over a person's lifetime, longer-term exposure to a carcinogen results in higher risks than shorter-term exposure to the same carcinogen, if all other exposure assumptions are constant. Theoretical risks associated with low levels of exposure in humans are assumed to be directly related to an observed cancer incidence in animals associated with high levels of exposure while the IUR converts estimated exposure concentrations averaged over a lifetime to incremental risk of an individual developing cancer. According to USEPA (1989), this approach is appropriate for theoretical upper-bound ILCRs of less than 1×10^{-2}. The following equations were used to calculate COPC-specific risks and total risks:

$$Risk = EC \times IUR \quad or \quad LADD \times CSF$$

where:

LADD	=	lifetime average daily dose (mg/kg-d)
EC	=	exposure concentration (mg/m^3)
IUR	=	inhalation unit risk $(mg/m^3)^{-1}$
CSF	=	cancer slope factor $(mg/kg\text{-}d)^{-1}$

and

$$Total\ Carcinogenic\ Risk = \Sigma\, Individual\ Risk$$

It is assumed that cancer risks for different chemicals and from multiple exposure routes are additive, which introduces a protective bias in the result of the cancer risk assessment. Carcinogenic risk estimates were compared to the USEPA acceptable, incremental risk range of 1 in 10,000 (10^{-4}) and 1 in 1 million (10^{-6}) and the NDEP's acceptable, incremental level of 10^{-6}. If the estimated incremental risk falls within or below this risk range, the chemical is considered unlikely to pose an unacceptable carcinogenic risk to individuals under the given exposure conditions. A risk level of 1×10^{-5} (1 E-5) represents an incremental probability of one in

100,000 that an individual could develop cancer from exposure to the potential carcinogen under a defined set of exposure assumptions.

6.4.2 Methods for Assessing Non-Cancer Health Effects

Non-cancer adverse health effects are estimated by comparing the estimated average exposure rate (i.e., ADDs estimated in the exposure assessment) with an exposure level at which no adverse health effects are expected to occur for a long period of exposure (e.g., the RfDs or RfCs). ADDs (or exposure concentrations [ECs]) and RfDs (or RfCs) are compared by dividing the ADD by the RfD (or EC by the RfC) to obtain the ADD:RfD (EC:RfC) ratio, as follows:

$$HQ = \frac{EC}{RfC} \text{ or } \frac{ADD}{RfD}$$

where:

HQ	=	hazard quotient
ADD	=	average daily dose (mg/kg-d)
EC	=	exposure concentration (mg/m^3)
RfD	=	reference dose (mg/kg-d)
RfC	=	reference concentration (mg/m^3)

The ADD-to-RfD (EC-to-RfC) ratio is known as an HQ. If a person's average exposure is less than the RfD or RfC (i.e., if the HQ is less than 1), the chemical is considered unlikely to pose a significant non-carcinogenic health hazard to individuals under the given exposure conditions. Unlike carcinogenic risk estimates, an HQ is not expressed as a probability. Therefore, while both cancer and non-cancer risk characterizations indicate a relative potential for adverse effects to occur from exposure to a chemical, a non-cancer adverse health effect estimate is not directly comparable with a cancer risk estimate.

If more than one pathway is evaluated, the HQs for each pathway are summed to determine whether exposure to a combination of pathways poses a health concern. This sum of the HQs is known as an HI.

$$Hazard\ Index = \Sigma\, Hazard\ Quotients$$

Any HI less than 1.0 indicates the exposure is unlikely to be associated with a potential health concern. If the HI is greater than 1.0, then the HQs are summed by the specific target organs affected by a particular chemical or chemicals. This is also summed across pathways and chemicals. Target organs are identified primarily by the source of the toxicity criteria (e.g., IRIS). Since a chemical may affect more than one organ, in addition to the source of the toxicity criteria Oak Ridge National Laboratory's (ORNL) Risk Assessment Information System's toxicity profiles were also searched for target organ information (ORNL 2012). The target organs for the COPCs are shown in Table 6-13 (Tables section).

6.4.3 Methods for Assessing Asbestos Risks

For assessing asbestos risks, Table 8-2 (Based on Optimum Risk Coefficients) of USEPA (2003b) was used. Table 8-2 presents best estimate risks optimized based upon separation of fiber type, size and endpoint (mesothelioma/lung cancer), thereby reducing apparent variation between the studies utilized. The values in Table 8-2 are used because they are the authors "best" estimates of potency based upon all the available data (whereas the "conservative values" presented in Table 8-3 present only the most conservative, and best "behaved" data). As described in USEPA (2003b), because the asbestos risks to male and female smokers/non-smokers are different, population averaged risks are evaluated based on Eqn. 8-1 of USEPA (2003b):

$$URF = 0.5 \times ((0.786 \times (NSM + NSF)) + ((0.214 \times (SM + SF)) \times CF$$

where:

URF	=	Population Averaged Unit Risk Factor (risk per fibers/cubic centimeter [cm^3])
NSM	=	risk for male non-smokers
NSF	=	risk for male non-smokers
SM	=	risk for male smokers
SF	=	risk for female smokers
CF	=	factor to convert risk from risk per 100,000 to risk per 1,000,000

This equation considers male smokers, male non-smokers, female smokers, and female non-smokers. In addition, because both chrysotile and amphibole have been detected at the BMI Common Areas, both amphibole and chrysotile fibers are evaluated in the risk assessments, regardless of if either was detected within an exposure area (as calculated using the 95 percent UCL of the mean of the assumed underlying Poisson distribution).

The basic equation for assessing inhalation cancer risk for asbestos is analogous to that recommended by USEPA for other inhalation carcinogens. As shown in Equation 11 of *Risk Assessment Guidance for Superfund, Part F* (USEPA 2009) inhalation cancer risk is the product of an IUR factor and an exposure concentration. The exposure concentration is a function of the asbestos air concentration, the length of time an individual is exposed, and the averaging time for which carcinogenic effects are evaluated for the unit risk factor. This calculation of asbestos-related risk (ARR) is also consistent with application of Berman and Crump (2003) to risk calculations described in Berman (2003a; 2003b; 2005). The risk equation used in performing an asbestos inhalation risk assessment is:

$$ARR = \frac{C_{air} \times URF \times ET \times EF \times ED}{AT}$$

where:

C_{air}	=	air concentration of asbestos (fibers/cm^3)
ET	=	exposure time (hours/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
AT	=	averaging time (hours)
URF	=	unit risk factor (risk per f/cm^3)

Asbestos risk estimates are compared to the USEPA acceptable, incremental risk range for carcinogens of 1 in 10,000 (10^{-4}) and 1 in 1 million (10^{-6}) and the NDEP's acceptable, incremental level of 10^{-6}, although the risk estimates represent the probability of death from mesothelioma or lung cancer rather than the probability of contracting cancer. If the estimated asbestos risk falls within or below this risk range, asbestos is considered unlikely to pose an unacceptable risk to individuals under the given exposure conditions. A risk level of 1×10^{-5} (1 E-5) represents a probability of one in 100,000 that an individual could die from contracting mesothelioma or lung cancer from exposure to asbestos under a defined set of exposure assumptions.

6.4.4 Risk Assessment Results

The calculation of theoretical upper-bound ILCRs and non-cancer health effects are presented by receptor in Tables 6-14a, 6-14b, 6-14c through 6-18a, 6-18b, 6-18c (Tables section) and are discussed in Section 8. These tables present the theoretical upper-bound ILCRs and non-cancer health effects calculations for residential, construction worker, commercial (indoor) worker, and maintenance (outdoor) worker receptors. The risk of death from lung cancer or mesothelioma as a consequence of exposure to asbestos on a Site-wide basis is presented in Table 6-19 (Tables section). All calculation spreadsheets are provided in Appendix H (included on the report CD in Appendix B). As discussed in Section 8, based on the results of the HHRA, exposures to residual levels of chemicals in soil at the Southern RIBs Sub-Area should not result in adverse health effects to any of the future receptors evaluated.

7.0 UNCERTAINTY ANALYSIS

Risk estimates are values that have uncertainties associated with them. These uncertainties, which arise at every step of a risk assessment, are evaluated to provide an indication of the uncertainty associated with a risk estimate. Risk assessments are not intended to estimate the true risk to a receptor associated with exposure to chemicals in the environment. In fact, estimating the true risk is impossible because of the variability in the exposed or potentially exposed populations. There are always gaps in knowledge because a true exposure for every individual human being cannot be measured. Therefore, risk assessment is a means of estimating the probability that an adverse health effect (e.g., cancer, impaired reproduction) will occur in a receptor to assist in decision-making regarding the protection of human health. The use of conservative values for a majority of the assumptions in risk assessments helps guard against the underestimation of risks.

Risk estimates are calculated by combining Site data, assumptions about individual receptor's exposures to impacted media, and toxicity data. The uncertainties in this HHRA can be grouped into four main categories that correspond to these steps:

- Uncertainties in environmental sampling and analysis;
- Uncertainties in fate and transport modeling;
- Uncertainties in assumptions concerning exposure scenarios; and
- Uncertainties in toxicity data and dose-response extrapolations.

General uncertainties associated with the HHRA for the Site are summarized in Table 7-1 (Tables section). In this table, "Low," "Moderate," and "High" are qualitative indicators as to whether the source of uncertainty will likely have a small, medium, or large effect on the risk calculations, respectively. In general, the scenarios and parameters evaluated and used in this HHRA are considered conservative based on how the Site will be developed. This is a large source of potential conservative bias in this HHRA. Additional discussion on the uncertainties associated with the HHRA is provided below.

7.1 ENVIRONMENTAL SAMPLING

The HHRA for the Site was based on the sampling results obtained from investigations conducted in 2008 and 2009. Errors in sampling results can arise from the field sampling, laboratory analyses, and data analyses.

The environmental sampling at the Site is one source of uncertainty in the evaluation. However, the number of sampling locations and events is large, widespread and spatially distributed, with consistent analytical results (i.e., no hot spots), and sampling was performed using approved procedures; therefore, the sampling and analytical data are sufficient to characterize the impacts and the associated potential risks.

Because of the surface soil removal undertaken for certain chemicals, the new surface layer of the Site could have different chemical concentrations than those measured prior to soil removal. Because only the trigger analytes were reanalyzed for in the post-scrape samples, the original measured surface soil data at the Site for all other chemicals was retained for further evaluation. However, it is reasonable to assume that the concentrations are now lower for some chemicals (e.g., metals, if due to contamination), because of the removal of some soil.

The laboratory data are another potential source of uncertainty. Maximum SQLs for 1,2-diphenylhydrazine, bis(2-chloroethyl) ether, hexachlorobenzene, and n-nitrosodi-n-propyl-amine exceeded one-tenth their respective residential soil BCL. These chemicals were not evaluated quantitatively in the HHRA as they were not detected in any Site samples. This may result in an underestimation of risk.

The types of analyses were chosen based on historical knowledge of the Site and BMI Common Areas. The data validation and data usability evaluations provided documentation that the HHRA database is adequate to support HHRA conclusions (Section 4 and Appendix E). Based on the data validation and data usability, the risk estimates are likely to be overestimated rather than underestimated.

NDEP has issued recent guidance regarding qualifying data due to blank contamination (NDEP 2012b). As noted in the guidance, NDEP requires that data validated before June 2011 and impacted by blank contamination be discussed in any report that uses such data. In so doing, a semi-quantitative comparison of the potential differences between approaches taken previously and the requirements specified in the guidance will be described and explained. The discussion below provides this semi-quantitative comparison for data impacted by blank contamination for the Site.

All data for the Site were collected and validated prior to June 2011; therefore, data were qualified using existing USEPA and NDEP guidance. The issue of blank contamination is not one that affects the typical primary risk drivers for the project, including those for the Site. The primary risk drivers for the Site are aluminum, cobalt, manganese, and vanadium, all of which have 100 percent detections and no blank contamination issues. The following other metals had samples qualified due to blank contamination: antimony (21 samples), arsenic (22 samples), beryllium (3 samples), boron (20 samples), cadmium (101 samples), hexavalent chromium (22 samples), mercury (23 samples), molybdenum (55 samples), selenium (24 samples), silver (60 samples), thallium (25 samples), tin (33 samples), and tungsten (34 samples). Given the number of samples qualified due to blank contamination for several of these, this may have an impact on the background comparison statistics. However, except for arsenic and thallium, the maximum detected concentrations for these metals are less than one-tenth their respective BCLs (and their maximum non-detect concentrations are also less than one-tenth their BCLs). Arsenic and thallium non-detect concentrations exceed one-tenth their respective BCLs, but are less than their respective maximum background concentrations. Therefore, with the possible exception of arsenic and thallium, this issue has no material effect on the selection of COPCs and the results of the HHRA for the Site.

Uncertainties are also introduced into the risk assessment by assumptions that are made regarding the grading plan. As described in Section 3.1, the grading plan affects the interpretation of the data in terms of assigning samples to the surface or the subsurface. This was done to avoid the situation in which current surface samples might not be included in the evaluation of exposures to future surface soils. The data were subdivided by depth intervals as described in Section 3.1, and the maximum of the UCLs for the subsets of data was used as the exposure point concentration. There is some uncertainty in the choice of subsetting on the concentrations of interest, and there is a potential small overestimation of risk by choosing the maximum of the UCLs as the exposure point concentration. The effects are likely to be small given the data, since there is not much variation in the different UCLs.

7.2 ESTIMATES OF EXPOSURE

The selection of exposure pathways is a process, often based on best professional judgment, which attempts to identify the most probable potentially harmful exposure scenarios. In a risk assessment it is possible that risks are not calculated for all of the exposure pathways that may occur, possibly causing some underestimation of risk.

7.2.1 Aggregation of Exposure Areas

For the residential scenario that is evaluated, default exposure areas are $1/8^{th}$-acre in size. However, sampling has not been performed at the frequency of guaranteeing at least one sample per every $1/8^{th}$-acre exposure area. Instead, sampling has been performed at the scale of approximately once every 3 acres. This is considered sufficient if the concentration distribution for COPCs appears similar across the Site. To the extent that this assumption is not valid the risk assessment might underestimate risks. However, considering the sampling protocols employed and the physical remediation activities performed, the risk estimates are considered both reasonable from this perspective and unlikely to have resulted in an underestimation of risk at the Site.

7.2.2 Types of Exposures Examined

In an evaluation, risks are sometimes not calculated for all of the exposure pathways that may occur, possibly causing some underestimation of risk. However, in this case, all principal potential exposure pathways were evaluated. In this assessment, risks were estimated for future on-site residents, and indoor and outdoor worker receptors. Risks for the most likely routes of exposure to these receptors were estimated. For example, risks to residents were estimated for soil ingestion, skin contact with soil, inhalation of outdoor air (including dust generation), inhalation of indoor air, and ingestion of homegrown produce. Although it is possible that other exposure routes could exist (e.g., downwind off-site residents), these exposures are expected to be lower than the risks associated with the pathways considered.

7.2.3 Intake Assumptions Used

The risks calculated depend largely on the assumptions used to calculate the rate of COPC intake. For this assessment, standard default values developed by USEPA are used for reasonable maximum exposures frequency and exposure duration for all receptors. These estimates are conservative values, and the possibility that they underestimate the risk is low. The uncertainties associated with particular parameters used in this risk assessment are described below.

The amount of COPCs the human body absorbs may be different from the amount of a COPC contacted, and the percentage absorbed may vary from one person to another. In this HHRA absorption of ingested and inhaled COPCs is conservatively assumed to be 100 percent.

Current USEPA guidance (USEPA 2004e) states that "There are no default dermal absorption values presented for volatile organic compounds nor inorganic classes of compounds. The rationale for this is that in the considered soil exposure scenarios, volatile organic compounds would tend to be volatilized from the soil on skin and should be accounted for via inhalation routes in the combined exposure pathway analysis. For inorganics, the speciation of the compound is critical to the dermal absorption and there are too little data to extrapolate a reasonable default value." While USEPA guidance does not specifically state that this pathway should be dismissed, consistent with the approach utilized in current USEPA guidance, the risk estimates in this HHRA do not include a dermal absorption value for VOCs or inorganics (unless a specific value has been identified). Thus, the risks presented in this assessment could be underestimated as a result.

While there have been numerous studies in recent years detailing the presence of perchlorate in vegetable and fruit produce, the homegrown exposure pathway was not evaluated for perchlorate in the HHRA. BRC has not been able to identify an appropriate soil-to-plant uptake factor for this pathway. The studies predominantly focus on water-to-plant uptake. Dr. W. Andrew Jackson at Texas Tech University has been studying perchlorate plant uptake and does not believe that the soil-to-plant pathway for a garden scenario is realistic for perchlorate (Jackson 2010). Perchlorate is extremely soluble and in surface soil would rapidly be flushed away due to application of irrigation water (Jackson 2010). In addition, laboratory experiments have demonstrated that perchlorate may be reduced to chloride in some plants (ATSDR 2008b). Also, concentrations of perchlorate in soils at this Site are quite low relative to risk levels of concern, so the contribution of perchlorate to risk is quite small. Adding the soil-to-plant component is unlikely to contribute significantly to the risk. Consequently, the effect on the risk assessment of excluding perchlorate from the soil-to-plant pathway is likely to be small.

Soil preparation for a backyard garden is not accounted for in the HHRA and would result in reduced soil concentrations. Las Vegas area soils are "…alkaline, clayish, caliche or hard and salty. [In addition,]…soils are lacking organic matter and nutrients" (Mills, 2000). Therefore, residential gardening cannot occur in Site soils in its existing condition. For non-native vegetation to grow, soil amendments must be added. Recommended soil preparations for the area include thoroughly blending equal amounts of organic matter with the soil as well as the addition of other soil amendments (e.g., fertilizers).

The construction activity dust emissions did not take into account dust control measures that would reduce the amount of dust generated to below those levels used in the HHRA. The Clark County Department of Air Quality and Environmental Management has dust control permitting requirements, and an inhalable particulate matter action level of 50 $\mu g/m^3$. The construction activity dust emissions predicted and used in the HHRA exceeded this level. Therefore, dust suppression activities would need to be implemented, thus reducing dust levels and exposures.

The dispersion factor for the construction worker is not adjusted to account for soil intrusion activities. Because these activities may cause increased air concentrations than that evaluated, risks to VOCs in soil may be underestimated for this receptor. However, VOCs are primarily associated with groundwater, this potential underestimation is considered low.

7.3 TOXICITY ASSESSMENT

The availability and quality of toxicological data is another source of uncertainty in the risk assessment. Uncertainties associated with animal and human studies may have influenced the toxicity criteria. Carcinogenic criteria are classified according to the amount of evidence available that suggests human carcinogenicity. In the establishment of the non-carcinogenic criteria, conservative safety factors, known as uncertainty and modifying factors, are used.

7.3.1 COPCs Lacking Toxicological Data

Toxicity criteria have not been established for some of the chemicals detected at the Site. These chemicals were not quantitatively evaluated in the HHRA. For example, potassium is a COPC for which no USEPA toxicity criteria have been established. The health effects and levels of concern for potassium in soil are not known. While not including potassium may have resulted in a low degree of underestimation of quantitative Site risk estimates, the available toxicological information suggests that this underestimation will not likely affect the decisions made relative to Site risks.

Because of the inconclusive nature of TICs as potentially SRCs, non-cancer surrogate toxicity criteria were not applied. Non-cancer surrogate toxicity criteria were not applied to the inorganic chemicals because of the complexity of ion and metal toxicity. A quantitative estimation of risk was not conducted for these COPCs. Thus, the risks presented in this assessment could be underestimated as a result.

For the surface flux results, a few organic chemicals detected (e.g., n-heptane, 2-hexanone, cymene) do not have toxicity criteria available. Surrogate toxicity criteria were applied for these chemicals. Thus, the risks presented in this assessment could be under- or over-estimated as a result.

7.3.2 Uncertainties in Animal and Human Studies

Extrapolation of toxicological data from animal tests is one of the largest sources of uncertainty in a risk assessment. There may be important, but unidentified, differences in uptake, metabolism, and distribution of chemicals in the body between the test species and humans. For the most part, these uncertainties are addressed through use of conservative assumptions in establishing values for RfDs, RfCs, CSFs, and IURs, which results in the likelihood that the risk is overstated.

Typically, test animals are administered high doses (e.g., maximum tolerated dose) of a chemical in a standard diet or in air. Humans are generally exposed to much lower doses in the environment, which may affect the toxicity of the chemical. In these studies, test animals, often laboratory rodents, are exposed daily to the chemical agent for various periods of time up to their 2-year lifetimes. Humans have an average 70-year lifetime and may be exposed either intermittently or regularly for an exposure period ranging from months to a full lifetime. Because of these differences, it is not surprising that extrapolation error is a large source of uncertainty in a risk assessment.

7.3.3 Non-Carcinogenic Toxicity Criteria

In the establishment of the non-carcinogenic criteria, conservative safety factors, known as uncertainty factors, are used. Most of the chronic non-carcinogenic toxicity criteria that were located in the IRIS database have uncertainty factors of 1,000. This means that the dose corresponding to a toxicological effect level (e.g., LOAEL) is divided by 1,000 to deem a safe, or "reference," dose. The purpose of the uncertainty factor is to account for the extrapolation of toxicity data from animals to humans and to ensure the protection of sensitive individuals.

For example, there is low confidence in the provisional subchronic and chronic RfDs that have been established by USEPA (2008) for cobalt, including low to medium confidence in both the principal study and database. As noted in USEPA (2008) "A temporal relationship between prolonged oral cobalt exposure and increased severity of thyroid effects in humans (or experimental animals) is not clear, based upon available data." In addition, it is possible that chronic exposures may have not greater effect in humans than sub-chronic exposures; however, an uncertainty factor of 10 was applied to the sub-chronic RfD to derive the chronic RfD used in the HHRA.

For cobalt, scientific literature recommendations on cobalt bioavailability (Golder Associates 2005; Rasmussen 2007; Ontario Ministry of the Environment 2002) indicate a cobalt oral bioavailability of 30 percent. Although these studies are for different sites, all indicate similar cobalt bioavailability. This value is further supported by a bioaccessibility study that was conducted for the Site. The results of this study indicate a site-specific cobalt bioaccessibility of 15 percent. This study also evaluated the bioaccessibility of several other metals, including aluminum (5 percent), manganese (20 percent), and vanadium (5 percent) all of which indicated site-specific bioaccessibilities well below 100 percent, which was used in the HHRA. However, because this study has not been submitted to or approved by the NDEP, these bioaccessibility values have not been included in the HHRA.

The results of the HHRA are based on cumulative risks, and have not been segregated by target organ. The target organ with the highest HI is blood (hematopoetic) effects. This is due primarily to several COPCs (cobalt, vanadium, and PAHs) having an effect on this target organ. Previously, manganese was also included as affecting this particular target organ; however, a strong argument can be made that it should not be. The primary target organ of manganese is the central nervous system (neurological), with reproductive effects a secondary target organ. Blood effects due to manganese occur at much greater dosages than those for either neurological or reproductive effects. Therefore, it is inappropriate to include manganese, using the RfD based on neurological effects, in the blood target organ.

Based on the above discussion, it is considered reasonable and appropriate to evaluate the HHRA using bioaccessibility factors of less than 100 percent (for example, 30 percent for cobalt), and by segregating by target organ, but not including manganese in blood target organ. If both of these are factored into the risk assessment, none of the non-cancer HIs exceed 1.0. For example, using a bioaccessibility of 30 percent for cobalt (instead of the site-specific bioaccessibility of 15 percent, and leaving all other metals at 100 percent), the highest non-cancer HI under this scenario is 0.96 for exposure area SRC-J21.

7.3.4 Sub-Chronic Non-Carcinogenic Toxicity Criteria

Construction worker exposures are evaluated for an exposure duration of 1 year, which is more representative of a sub-chronic exposure rather than a chronic exposure. As such, where available, sub-chronic RfDs were used to characterize non-cancer effects for the construction worker. However, for many COPCs a sub-chronic RfD was not available and the chronic RfD was used. This likely presented an overestimation of non-cancer health risks to the construction worker.

7.3.5 Carcinogenic Toxicity Criteria

Uncertainty due to extrapolation of toxicological data for potential carcinogens tested in animals to human response is commonly the case for potentially carcinogenic chemicals. USEPA frequently uses the LMS model, or other non-threshold low dose extrapolation models, to extrapolate the toxicological data to estimate human response. These low dose extrapolation models assume that there is no threshold for carcinogenic substances; that is, exposure to even one molecule, fiber, or picocuries of a carcinogen is sufficient to cause cancer. This is a highly conservative assumption because the body has several mechanisms to protect against cancer.

The use of the LMS model to extrapolate is a well-recognized source of significant uncertainty in the development of carcinogenic toxicity criteria and, subsequently, theoretical carcinogenic risk estimates. At high levels of exposure, there may indeed be a risk of cancer regardless of whether or not the effect occurs via a threshold mechanism. An animal bioassay cannot determine what happens at low levels of exposure, however, which are generally typical of human exposure levels.

At low levels of exposure, the probability of cancer cannot be measured but must be extrapolated from higher dosages. To do this, test animals are typically exposed to carcinogens at levels that are orders of magnitude greater than those likely to be encountered by humans in the environment. It would be difficult, if not impossible, to perform animal experiments with a large enough number of animals to directly estimate the level of risk at the low exposure levels typically encountered by humans. Thus, to estimate the risk to humans exposed at low levels, dose-response data derived from animals given high dosages are extrapolated downward using mathematical models such as the LMS model, which assumes that there is no threshold of response. The dose-response curve generated by the model is known as the maximum likelihood estimate. The slope of the 95 percent lower confidence interval (i.e., upper-bound limit) curve, which is a function of the variability in the input animal data, is taken as the CSF. CSFs are then used directly in cancer risk assessment.

The U.S. federal government, including USEPA itself, has acknowledged the limitations of the high-to-low dose extrapolation models, particularly the LMS model (USEPA 1991c). In fact, this aspect of cancer risk assessment has been criticized by many scientists (including regulatory scientists) in recent years. USEPA has released revised cancer risk assessment guidelines (USEPA 2005c).

Even for genotoxic (i.e., non-threshold) substances, there are two major sources of bias embedded in the LMS model: (1) its inherent conservatism at low doses and (2) the routine use of the linearized form in which the 95 percent upper confidence interval is used instead of the unbiased maximum likelihood estimate. The inherent conservatism at low doses is due in part to the fact that the LMS model ignores all of the numerous biological factors that argue against a linear dose- response relationship for genotoxic effects (e.g., DNA repair, immunosurveillance, toxicokinetic factors).

Several other factors inherent in the LMS model result in overestimated carcinogenic potency: (1) any exaggerations in the extrapolation that can be produced by some high dose responses (if they occur) are generally neglected; (2) UCLs on the actual response observed in the animal study are used rather than the actual response, resulting in upper-bound low dose extrapolations, which can greatly overestimate risk; and (3) non-genotoxic chemicals (i.e., threshold carcinogens) are modeled in the same manner as highly genotoxic chemicals.

7.3.6 Uncertainties with the Asbestos Risk Assessment

For the risk assessment, asbestos concentrations were presented two ways, as a best estimate and upper bound based upon the UCL of the mean of the Poisson distribution. No detections of amphibole fibers were observed. However, when zero fibers are observed, the UCL of the mean is approximately three fibers, and this value is used as the basis for the reasonable maximum exposure point concentration for the asbestos risk assessment. Considering the remediation activities that have been performed, and the observation of zero amphibole fibers, this approach might result in overestimation of amphibole related risks.

Asbestos risk estimates are highly dependent on the number of samples to increase or decrease the pooled analytical sensitivity. That is, a larger number of non-detect samples with similar individual analytical sensitivity results in a lower pooled analytical sensitivity and subsequently a lower estimated ARR, whereas a smaller number of non-detect samples results in a higher ARR. Uncertainty is, thus, reduced as more samples are collected.

7.4 CUMULATIVE EFFECT OF UNCERTAINTIES

Uncertainties from different sources are compounded in the HHRA. For example, if a person's daily intake rate for a chemical is compared to an RfD to determine potential health risks, the uncertainties in the concentration measurements, exposure assumptions, and toxicities are all expressed in the result. Because the exposure assumptions and toxicity criteria are considered conservative, the risk estimates calculated in this HHRA are likely to overestimate rather than underestimate potential risks.

8.0 SUMMARY OF RESULTS

This HHRA has evaluated potential risks to human health associated with chemicals and asbestos detected in soil at the Southern RIBs Sub-Area located within the BMI Common Areas in Clark County, Nevada. All calculation spreadsheets for the HHRA are presented in Appendix H (included on the report CD in Appendix B) including the calculations of chemical theoretical upper-bound ILCRs and non-cancer health effects and asbestos risk calculations.

The risk estimates are based on reasonable maximum exposure scenarios, which results in estimates of the potential reasonable maximum, or high-end, risks associated with the Site. The calculated chemical theoretical upper-bound ILCRs and HIs are presented in Tables 6-14a, 6-14b, 6-14c through 6-18a, 6-18b, 6-18c for residential (including background), construction worker, commercial (indoor) worker, and maintenance (outdoor) worker receptors, respectively. Asbestos estimated risk of death from lung cancer or mesothelioma on a Site-wide basis are presented in Table 6-19.

8.1 RESIDENTS

<u>Exposure Area – Site-Wide</u>

For chemical exposures, the total cumulative non-cancer HI for future residential receptors at the Site is 1.6 (including the surface flux air risk estimates[49]), which is above the target HI of 1.0 (Table 6-14a), driven by cobalt and manganese soil exposures. Because the HI exceeds the target HI of 1.0, is driven primarily by metals, and as noted in USEPA guidance (1989), 'If background risk might be a concern, it should be calculated separately from site-related risk.' background risk estimates were also evaluated (Table 6-15). Background risk estimates are only evaluated for those metals selected as COPCs (aluminum, cobalt, manganese, and vanadium) and evaluated in the HHRA. In addition, representative exposure concentrations for background are the 95 percent UCL concentrations based on the background dataset used in Section 5. The background non-cancer HI for future residential receptors at the Site is 1.2 (Table 6-15).

Although the total cumulative HI exceeds 1.0, the potential for adverse health effects was not quantitatively evaluated by considering the target organs upon which each chemical could have

[49] The minimum and maximum surface flux risk estimates are summed with the soil risk estimates to provide a range of cumulative risks. The minimum and maximum surface flux risk estimates are provided in Appendix H (included on the report CD in Appendix B) and the receptor-specific chemical risk summary tables. The risks shown are cumulative risks using the maximum surface flux risk estimate.

an adverse effect. However, target organ-specific HIs were evaluated in the uncertainty analysis (Section 7.3.3). The maximum target organ-specific HI is 0.67. None of the target organ non-cancer HIs are above 1.0.

The maximum theoretical upper-bound ILCR for future residential receptors at the Site is 3×10^{-6} (including the surface flux air risk estimates, Table 6-14a). The range of ILCRs is 6×10^{-7} to 3×10^{-6}. The ILCR is near the low end of the risk goal of 1×10^{-6} and is driven by the indoor air ILCR for flux sample SRC1-AJ21 due to naphthalene.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to future residential receptors were below 1×10^{-6}. For residential receptors, the best estimate and upper bound concentrations for chrysotile fibers are 1×10^{-8} and 2×10^{-8}; and zero and 2×10^{-7} for amphibole fibers (Table 6-19). These estimated risks are below the low end of the risk goal of 1×10^{-6}. The upper bound estimated risk of death from lung cancer or mesothelioma is estimated based on the 95 percent UCL of the count of the number of fibers detected, assuming a Poisson distribution for the count. Note that when the observed count is zero, the 95 percent UCL is approximately three fibers. Therefore, the high-end risk estimate for deaths from lung cancer or mesothelioma is a conservative value since it is based on a 95 percent UCL of the Poisson distribution of three long amphibole structures although no long amphibole structures have been detected at the Site.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for future residential receptors at SRC-J02/J03 is 2.2 (including the surface flux air risk estimates), which is above the target HI of 1.0 (Table 6-14b), driven by cobalt and manganese soil exposures. Because the HI exceeds the target HI of 1.0, is driven primarily by metals, background risk estimates were also evaluated (Table 6-15). Background risk estimates are only evaluated for those metals selected as COPCs (aluminum, cobalt, manganese, and vanadium) and evaluated in the HHRA. In addition, representative exposure concentrations for background are the 95 percent UCL concentrations based on the background dataset used in Section 5. The background non-cancer HI for future residential receptors at SRC-J02/J03 is 1.2 (Table 6-15).

Although the total cumulative HI exceeds 1.0, the potential for adverse health effects was not quantitatively evaluated by considering the target organs upon which each chemical could have an adverse effect. However, target organ-specific HIs were evaluated in the uncertainty analysis

(Section 7.3.3). The maximum target organ-specific HI is 0.88. None of the target organ non-cancer HIs are above 1.0.

The maximum theoretical upper-bound ILCR for future residential receptors at SRC-J02/J03 is 3×10^{-6} (including the surface flux air risk estimates) (Table 6-14b). The range of ILCRs is 6×10^{-7} to 3×10^{-6}. The ILCR is near the low end of the risk goal of 1×10^{-6} and is driven by the indoor air ILCR for flux sample SRC1-AJ21 due to naphthalene.

<u>Exposure Area – SRC-J21</u>

For chemical exposures, the total cumulative non-cancer HI for future residential receptors at SRC-J21 is 2.5 (including the surface flux air risk estimates), which is above the target HI of 1.0 (Table 6-14c), driven by cobalt and manganese soil exposures. Because the HI exceeds the target HI of 1.0, is driven primarily by metals, background risk estimates were also evaluated (Table 6-15). Background risk estimates are only evaluated for those metals selected as COPCs (aluminum, cobalt, manganese, and vanadium) and evaluated in the HHRA. In addition, representative exposure concentrations for background are the 95 percent UCL concentrations based on the background dataset used in Section 5. The background non-cancer HI for future residential receptors at SRC-J21 is 1.2 (Table 6-15).

Although the total cumulative HI exceeds 1.0, the potential for adverse health effects was not quantitatively evaluated by considering the target organs upon which each chemical could have an adverse effect. However, target organ-specific HIs were evaluated in the uncertainty analysis (Section 7.3.3). The maximum target organ-specific HI is 0.96. None of the target organ non-cancer HIs are above 1.0.

The maximum theoretical upper-bound ILCR for future residential receptors at SRC-J21 is 3×10^{-6} (including the surface flux air risk estimates) (Table 6-14c). The range of ILCRs is 6×10^{-7} to 3×10^{-6}. The ILCR is near the low end of the risk goal of 1×10^{-6} and is driven by the indoor air ILCR for flux sample SRC1-AJ21 due to naphthalene.

8.2 CONSTRUCTION WORKERS

<u>Exposure Area – Site-Wide</u>

For chemical exposures, the total cumulative non-cancer HI for construction worker receptors at the Site is 0.60 (including the surface flux air risk estimates) (Table 6-16a), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for construction worker receptors at the Site is 4×10^{-8} (including the surface flux air risk estimates) (Table 6-16a) and is driven by cobalt dust exposures. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to construction workers were below 1×10^{-6}. For construction worker receptors, the best estimate and upper bound concentrations for chrysotile fibers are both 2×10^{-8}; and zero and 3×10^{-7} for amphibole fibers (Table 6-19). These estimated risks are below the low end of the risk goal of 1×10^{-6}.

<u>Exposure Area – SRC-J02/J03</u>

For chemical exposures, the total cumulative non-cancer HI for construction worker receptors at SRC-J02/J03 is 0.79 (including the surface flux air risk estimates) (Table 6-16b), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for construction worker receptors at SRC-J02/J03 is 5×10^{-8} (including the surface flux air risk estimates) (Table 6-16b) and is driven by cobalt dust exposures. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

<u>Exposure Area – SRC-J21</u>

For chemical exposures, the total cumulative non-cancer HI for construction worker receptors at SRC-J21 is 0.89 (including the surface flux air risk estimates) (Table 6-16c), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for construction worker receptors at SRC-J21 is 6×10^{-8} (including the surface flux air risk estimates) (Table 6-16c) and is driven by cobalt dust exposures. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

8.3 COMMERCIAL (INDOOR) WORKERS

Exposure Area – Site-Wide

For chemical exposures, the total cumulative non-cancer HI for commercial (indoor) worker receptors at the Site is 0.047 (including the surface flux air risk estimates) (Table 6-17a), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for commercial (indoor) worker receptors at the Site is 3×10^{-7} (including the surface flux air risk estimates) (Table 6-17a) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to commercial (indoor) workers were below 1×10^{-6}. For commercial (indoor) worker receptors, the best estimate and upper bound concentrations for chrysotile fibers are 2×10^{-9} and 3×10^{-9}; and zero and 4×10^{-8} for amphibole fibers (Table 6-19). These estimated risks are below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for commercial (indoor) worker receptors at SRC-J02/J03 is 0.061 (including the surface flux air risk estimates) (Table 6-17b), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for commercial (indoor) worker receptors at SRC-J02/J03 is 3×10^{-7} (including the surface flux air risk estimates) (Table 6-17b) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J21

For chemical exposures, the total cumulative non-cancer HI for commercial (indoor) worker receptors at SRC-J21 is 0.069 (including the surface flux air risk estimates) (Table 6-17c), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for commercial (indoor) worker receptors at SRC-J21 is 3×10^{-7} (including the surface flux air risk estimates) (Table 6-17c) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

8.4 MAINTENANCE (OUTDOOR) WORKERS

Exposure Area – Site-Wide

For chemical exposures, the total cumulative non-cancer HI for maintenance (outdoor) worker receptors at the Site is 0.077 (including the surface flux air risk estimates) (Table 6-18a), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for maintenance (outdoor) worker receptors at the Site is 3×10^{-7} (including the surface flux air risk estimates) (Table 6-18a) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to maintenance (outdoor) workers were below 1×10^{-6}. For maintenance (outdoor) worker receptors, the best estimate and upper bound concentrations for chrysotile fibers range from 5×10^{-9} to 7×10^{-9} and zero and 9×10^{-8} for amphibole fibers (Table 6-19). These estimated risks are below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for maintenance (outdoor) worker receptors at SRC-J02/J03 is 0.10 (including the surface flux air risk estimates) (Table 6-18b), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for maintenance (outdoor) worker receptors at SRC-J02/J03 is 3×10^{-7} (including the surface flux air risk estimates) (Table 6-18b) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J21

For chemical exposures, the total cumulative non-cancer HI for maintenance (outdoor) worker receptors at SRC-J02/J03 is 0.12 (including the surface flux air risk estimates) (Table 6-18c), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for maintenance (outdoor) worker receptors at SRC-J02/J03 is 3×10^{-7} (including the surface flux air risk estimates) (Table 6-18c) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

9.0 DATA QUALITY ASSESSMENT

Sample size calculations were conducted for 11 analytes (arsenic, chromium, hexavalent chromium, cobalt, formaldehyde, radium-226, TCDD TEQ, and vanadium) for the Site. Rationale for the inclusion of these constituents in the sample size calculations is provided below:

- Arsenic (Site-Wide and SRC-J02/J03) – a metal of primary concern for the overall project, often exceeding comparison levels;
- Manganese (Site-Wide and SRC-J02/J03) – a risk driver COPC in the HHRA;
- Cobalt (Site-Wide and SRC-J21) – a risk driver COPC in the HHRA;
- Vanadium (Site-Wide and SRC-J02/J03) – a metal COPC with the most results in excess of background concentrations;
- Formaldehyde – the organic COPC with the highest number of detected results;
- Radium-228 – a radionuclide with the most results in excess of background concentrations;
- Benzo(a)pyrene – the PAH COPC that exceeded its residential soil BCL; and
- TCDD TEQ – a chemical of primary concern for the overall project (note that the TCDD TEQs are based on the use of World Health Organization [WHO] 1998 TEFs).

The formula used here for calculation of sample size is based on a non-parametric test (the Wilcoxon signed rank test), and on simulation studies performed by Pacific Northwest National Laboratories (PNNL 2009) that formed the basis for an approximate formula that is based on the normal distribution. Essentially, the formula is the one that would be used if a normal-based test were being performed, but an adjustment is made (multiply by 1.16) to account for the intent to perform a non-parametric test. The formula is as follows:

$$n = 1.16\left[\frac{s^2}{\Delta^2}\left(z_{1-\alpha} + z_{1-\beta(\mu)}\right)^2 + 0.5 z_{1-\alpha}^2\right]$$

where,

n	=	number of samples
s	=	estimated standard deviation of concentrations/fibers
Δ	=	width of the gray region (the difference between the threshold value stated in the null hypothesis and the point at which β is specified)
α	=	significance level or Type I error tolerance
β (μ)	=	Type II error tolerance; and
z	=	quantile from the standard normal distribution

For each chemical, inputs for the calculations include an estimate of the variance from the measured data, a desired significance level, and desired power of the test that must be specified at a concentration of interest (which determines the tolerable difference from the threshold value). For arsenic and radium-228, the Site mean concentration exceed their respective BCLs based on the target cancer risk level of 10^{-6}. It is not appropriate to apply this calculation where the threshold value is less than the mean concentration. Therefore, the maximum soil background concentrations were used for their threshold values. The calculations provided here cover a range of Type I and Type II error tolerances, and the point at which the Type II error is specified. Results are presented in Table 9-1 (Tables section). In Table 9-1, various combinations of input values are used, including: values of α of 5, 10, and 15 percent; values of β of 15, 20, and 25 percent; and a gray region of width 10, 20, and 30 percent of the threshold level. It is clear from Table 9-1 that the number of samples collected is adequate for the Site. That is, all calculated adequate sample numbers are less than those actually collected at the Site for use in the HHRA.

The number of samples for cobalt in SRC-J21 (10 samples) meet the minimum calculated adequate sample number as shown in Table 9-1. In addition, because of the limited aerial extent of this separate exposure area, there are greater numbers of samples per acre than for the Site-wide values. There are approximately 13 cobalt samples per acre. Thus the number of samples for cobalt within this area is considered adequate. Note also that there are 53 samples for amphibole asbestos. Amphibole was not detected in any of these samples, however, because of the number of samples collected, the ARRS are all less than 1×10^{-6}. Consequently, sufficient samples have been collected to address ARRs.

10.0 SUMMARY

BRC has prepared this HHRA and Closure Report for the Site. The purpose of this report is to request an NFAD by the NDEP. The NDEP acknowledges that discrete portions of the Eastside may be issued an NFAD as remedial actions are completed for selected environmental media (NDEP 2006). The portion of the Eastside for which the NFAD is being requested based on this HHRA and Closure Report is shown in red on Figure 1. The legal description of the Site is provided in Appendix K.

The HHRA evaluated the potential for adverse human health impacts that may occur as a result of potential exposures to residual concentrations of chemicals in soil, groundwater, and air following remediation, and assessed whether any additional remedial actions are necessary in order to obtain an NFAD from the NDEP to allow redevelopment of the Site to proceed. The results of the risk assessment provide risk managers with an understanding of the potential human health risks associated with background conditions and additional risks associated with past Site activities.

Although the total cumulative non-cancer HI for future residential receptors at the Site exceeds the non-cancer target HI of 1.0, the background non-cancer HI for future residential receptors is also above 1.0. Five separate removal actions were conducted at the Site, in 2009 and 2010. These removal actions were primarily driven by elevated metals. All removal actions have fully addressed the identifiable contamination at the Site. Aluminum, cobalt, manganese, and vanadium were selected as COPCs because they failed background statistical comparisons as well as being greater than one-tenth their respective residential BCLs. However, a review of the statistical plots presented in Appendix G as well as the intensity plots in Appendix I demonstrate that concentrations of these metals (as well as others metals such as barium, chromium, iron, lead, sodium, titanium, and zinc) show a consistent trend of concentrations greater than background. Therefore, given the successful removal actions conducted at the Site, further removal actions at the Site will not affect the risk estimates in this HHRA. In addition, as discussed in Section 7.3.3, if bioaccessibility and target organs were to be considered in the HHRA, non-cancer HIs for the Site would be below 1.0. Therefore, BRC requests that these issues be considered in any risk management decisions for the Site.

For human health protection, BRC's goal is to remediate the Site soils such that they are suitable for unrestricted residential uses. Human health risks are represented by estimated theoretical upper-bound cancer risks and non-cancer hazards derived in accordance with standard USEPA and NDEP methods. If the carcinogenic risks or non-cancer hazards exceed USEPA acceptable levels or NDEP risk goals, then remedial action alternatives must be considered. Findings of the HHRA are intended to support the Site closure process. The major findings of this report are the following:

- Data collected for use in the HHRA are adequate and usable for their intended purpose;
- All relevant and reasonable exposure scenarios and pathway have been evaluated; and
- Residential, construction worker, commercial (indoor) worker, and maintenance (outdoor) worker cancer and non-cancer risk estimates are within or below the risk goals for the project, and/or concentrations of metals are consistent with naturally-occurring levels.

Following the Tiered approach from the USEPA 2002 Vapor Intrusion Guidance, BRC believes that it has demonstrated that there is no likelihood of adverse vapor intrusion into any indoor spaces that may be constructed in the Southern RIBs sub-area. Therefore, based on the results of the HHRA, and the conclusions in this report, exposures to residual levels of chemicals in soil at the Southern RIBs sub-area should not result in adverse health effects to all future receptors. Therefore, BRC concludes that an NFAD for the Southern RIBs sub-area is warranted and requests that the NDEP issue the NFAD (see Appendix K for the legal description of the Site).

11.0 REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR). 2008a. Update to the ATSDR Policy Guideline for Dioxins and Dioxin-Like Compounds in Residential Soil. U.S. Department of Health and Human Services, Public Health Service. November.

ATSDR. 2008b. Toxicological Profile for Perchlorates. U.S. Department of Health and Human Services, Public Health Service. September.

American Society for Testing and Materials (ASTM). 2000. Standard Guide for Risk-Based Corrective Action. E2081-00.

Baes, C.F., III, R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture, ORNL-5786, Health and Safety Research Division, Oak Ridge National Laboratory, Oak Ridge, TN.

Basic Remediation Company (BRC). 2008. Sampling and Analysis Plan for the Southern RIBs Sub-Area, BMI Common Areas (Eastside), Clark County, Nevada. August.

BRC. 2009a. Confirmation Sampling Plan for Soil, Southern RIBs Sub-Area, Henderson, Nevada. August 31.

BRC. 2009b. Second Removal Action Work Plan for Soil, Southern RIBs Sub-Area, Henderson, Nevada. November 18.

BRC. 2011. BRC Comments on NDEP Blank Contamination Guidance. Technical Memorandum. Draft. August 15.

BRC and Environmental Resources Management (ERM). 2009a. BRC Quality Assurance Project Plan. BMI Common Areas, Clark County, Nevada. May.

BRC and ERM. 2009b. 2008 Supplemental Shallow Soil Background Report. BMI Common Areas (Eastside), Clark County, Nevada. September.

BRC and ERM. 2010a. Data Validation Summary Report, Southern RIBs Sub-Area Soil Investigations, October-November 2008; February 2009; September 2009 (Dataset 53).

BRC and ERM. 2010b. Data Validation Summary Report, Southern RIBs Sub-Area 2nd Round Confirmation Soil Investigations –December 2009 (Dataset 53a).

BRC and ERM. 2010c. Data Validation Summary Report, Southern RIBs And Western Hook Sub-Area Soil Flux Revised Data –October 2008 (Dataset 53c).

BRC and ERM. 2011. Data Validation Summary Report, Eastside North Confirmation Soil Investigations – December 2008 through October 2010 (Dataset 72b).

BRC, ERM, and Daniel B. Stephens & Associates, Inc. (DBS&A). 2007. BRC Closure Plan, BMI Common Areas, Clark County, Nevada. May. [Section 9 revised March 2010]

BRC, ERM and MWH. 2009. BRC Field Sampling and Standard Operating Procedures, BMI Common Areas, Clark County, Nevada. December.

Berman D.W. 2003a. Analysis and Interpretation of Measurements for the Determination of Asbestos in Core Samples Collected at the Southdown Quarry in Sparta, New Jersey, November 12.

Berman D.W. 2003b. Evaluation of Asbestos Measurements and Assessment of Risks Attendant to Excavation and Use of Soils Within the Proposed Borrow Area of the BRC Corrective Action Management Unit, Henderson, NV, November 25.

Berman D.W. 2005. Draft Preliminary Evaluation of the Implications of Airborne Asbestos Exposure Concentrations Observed During Simulation of a Selected Set of Common, Outdoor Residential Activities Conducted at the North Ridge Estates Site, Klamath Falls, Oregon, February 18.

Berman, D.W. and Chatfield, E.J. 1990. Interim Superfund Method for the Determination of Asbestos in Ambient Air. Part 2: Technical Background Document, Office of Solid Waste and Remedial Response, U.S. EPA, Washington, D.C., EPA/540/2-90/005b, May.

Berman, D.W. and K. Crump. 1999a. Methodology for Conducting Risk Assessments at Asbestos Superfund Sites—Part 1: Protocol. Interim Version. Prepared for USEPA Region 9, February 15.

Berman, D.W. and K. Crump. 1999b. Methodology for Conducting Risk Assessments at Asbestos Superfund Sites—Part 2: Technical Background Document. Interim Version. Prepared for USEPA Region 9, February 15.

Berman, D.W. and Crump, K.S. 2001. Technical Support Document for a Protocol to Assess Asbestos-Related Risk. Prepared for Mark Raney, Volpe Center, U.S. Department of Transportation, 55 Broadway, Kendall Square, Cambridge, MA 02142. Under EPA Review.

Berman D.W. and Crump K.S. 2003. Final draft: Technical support document for a protocol to assess asbestos-related risk. Prepared for Mark Follensbee, Syracuse Research Corporation, Syracuse, NY, and the Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, DC. USEPA #9345.4-06. Limited revision draft.

Berman, D.W. and Kolk, A. 2000. Modified Elutriator Method for the Determination of Asbestos in Soils and Bulk Material. May (Revision 1).

Bonazountas, M., and J. Wagner. 1984. "SESOIL" A Seasonal Soil Compartment Model. Designed for the U.S. Environmental Protection Agency, Office of Toxic Substances, Washington, DC. EPA Contract No. 68-01-6271.

Carlsen, C.L., R.C. Lunnis, and D.E. Prudie. 1991. Changes in water levels and water quality in shallow groundwater, Pittman-Henderson Area, Clark County, Nevada, Resulting from diversion of industrial cooling water from ditch to pipeline in 1985. U.S. Geological Survey Water-Resources Investigation Report 89-4093. Carson City, Nevada.

Clark County GIS Management Office. 2003. 5 Foot Contours for the Las Vegas Valley, Mesquite and Laughlin. Fall 2003 Flight of Clark County.

Daniel B. Stephens & Associates, Inc. (DBS&A). 2009. Revised Technical Memorandum: Sources/Sinks and Input Parameters for Groundwater Flow Model, BMI Common Areas, Eastside Area.

Environmental Resources Management (ERM). 2000. Remedial Alternatives Study for Soils and Sediments in the Upper and Lower Ponds at the BMI Complex. Henderson, Nevada. March 1.

Gilbert, R.O. 1987. Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold Company, New York, NY.

Golder Associates. 2005. Bioaccessibility Testing of Soil and House Dust Samples from the Sudbury Soils Study. Final Report. 04-1112-069.

Hetrick, D., Travis, C., Leonard, S., and R. Kinerson. 1989. Qualitative Validation of Pollutant Transport Components of an Unsaturated Soil Zone Model (SESOIL). Oak Ridge National Laboratory, Health and Safety Research Division. Oak Ridge, Tennessee. ORNL/TM-10672.

Jackson, W.A. 2010. Email communication (RE: perchlorate and plant uptake) between Dr. Jackson, Texas Tech University and Sandra Mulhearn, ERM. March 2.

Las Vegas Wash Coordination Committee. 2000. The Las Vegas Wash Comprehensive Adaptive Management Plan. http://www.lvwash.org/resources/docs/lvwcamp.html.

Law Engineering Inc. 1993. Final Report of Phase I Environmental Condition Assessment, Titanium Metals Corporation (TIMET) - Henderson, Nevada.

Mills, L. 2000. Prepare your garden for cool-season vegetables now. Las Vegas Review-Journal, January 30.

MWH. 2006a. Data Validation Summary Report Common Areas Sampling Event #14 – College Site Investigation. October.

MWH. 2006b. Data Validation Summary Report Common Areas Sampling Event #21 – Southern RIBs Investigation. October.

MWH. 2006c. Data Validation Summary Report Common Areas Sampling Event #27 – 2004 Hydrogeologic Characterization. May.

Neptune and Company. 2009. Guided Interactive Statistical Decision Tools (GiSdT). www.gisdt.org.

Nevada Bureau of Mines and Geology. 1980. Las Vegas SE Folio Geologic Map (1977) and the Geologic Map of the Henderson Quadrangle, Nevada.

Nevada Division of Environmental Protection (NDEP). 2001. Record of Decision, Remediation of Soils and Sediments in the Upper and Lower Ponds at the BMI Complex. Henderson, Nevada. November 2.

NDEP. 2006. Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3 (AOC3).

NDEP. 2008a. Supplemental Guidance for Assessing Data Usability for Environmental Investigations at the BMI Complex and Common Areas in Henderson, Nevada. Bureau of Corrective Actions, Special Projects Branch. October 22.

NDEP. 2008b. Detection Limits and Data Reporting. Bureau of Corrective Actions, Special Projects Branch. December 3.

NDEP. 2009a. Guidance for Evaluating Radionuclide Data for the BMI Plant Sites and Common Areas Projects. February 6.

NDEP. 2009b. Technical Guidance for the Calculation of Asbestos-Related Risk in Soils for the Basic Management Incorporated (BMI) Complex and Common Areas. April.

NDEP. 2009c. Supplemental Guidance on Data Validation. March 19.

NDEP. 2009d. Supplemental Guidance on Data Validation. April 13.

NDEP. 2009e. Guidance for Evaluating Secular Equilibrium at the BMI Complex and Common Areas. BMI Plant Sites and Common Areas Projects, Henderson, Nevada. February 6.

NDEP. 2010. Workbook for the Calculation of Asbestos-Related Risk in Soils for the Basic Management Incorporated (BMI) Complex and Common Areas.

NDEP. 2012a. User's Guide and Background Technical Document for Nevada Division of Environmental Protection (NDEP) Basic Comparison Levels (BCLs) for Human Health for the BMI Complex and Common Areas. January.

NDEP. 2012b. Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas. January 5.

NewFields Companies, LLC (NewFields). 2006. Statistical Methodology Report, BMI Common Areas (Eastside), Henderson, Nevada. August.

Oak Ridge National Laboratory (ORNL). 2012. Risk Assessment Information System (RAIS) Toxicity Profiles. http://rais.ornl.gov/tools/tox_profiles.html

Ontario Ministry of the Environment 2002. Bioaccessibility and Bioavailability of Metals Following Ingestion of Rodney Street Community Soils / Dusts and Other Environmental Media (Food, Drinking Water). Soil Investigation and Human Health Risk Assessment for the Rodney Street Community, Port Colborne. March.

Pacific Northwest National Laboratory (PNNL). 2009. Visual Sample Plan. http://vsp.pnl.gov.

Rasmussen, P.E. 2007. Measurement of Metal Bioaccessibility in Urban Household Dust and Corresponding Garden Soil. Proceedings: ISEA Bioavailability Symposium, Durham, North Carolina. October.

Scanlon, B.R., K.E. Keese, A.L. Flint, L.E. Flint, C.B. Gaye, W.M. Edmunds, and I. Simmers. 2006. Global synthesis of groundwater recharge in semiarid and arid regions. Hydrological Processes Hydrol. Process. 20(15):3335–3370.

Southern Nevada Water Authority. 1996. Extent and Potential Use of the Shallow Aquifer and Wash Flow in Las Vegas Valley, Nevada.

Umhoefer, P.J., L.S. Beard, and M.A. Lamb. eds. 2010. Miocene Tectonics of the Lake Mead Region, Central Basin and Range. Geological Society of America. Special Paper 463.

U.S. Environmental Protection Agency (USEPA). 1985. Rapid Assessment of Exposure to Particulate Emissions From Surface Contamination Sites. EPA/600/8-85/002. Office of Health and Environmental Assessment. Washington, DC.

USEPA. 1986. Measurement of Gaseous Emission Rates From Land Surfaces Using an Emission Isolation Flux Chamber, Users Guide. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada, EPA Contract No. 68-02-3889, Radian Corporation, February.

USEPA. 1989. Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual (Part A). Interim Final. Office of Emergency and Remedial Response, Washington, D.C. USEPA/540/1-89/002. December.

USEPA. 1991a. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. Memorandum from D.R. Clay, Assistant Administrator, USEPA. OSWER Directive 9355.0-30, April.

USEPA. 1991b. Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual. Supplemental Guidance 'Standard Default Exposure Factors'. Office of Emergency and Remedial Response, Washington, D.C. OSWER Directive 9285.3-03. March.

USEPA. 1991c. Current Regulatory Issues in Risk Assessment and Risk Management. Executive Office of the President. Government Printing Office, Washington, DC. S/N 041 001 00354 1.

USEPA. 1992a. Guidance for Data Usability in Risk Assessment. Part A. Office of Emergency and Remedial Response, Washington D.C. Publication 9285.7-09A. PB92-963356. April.

USEPA. 1992b. Guidelines for Exposure Assessment. Federal Register, 57(104):22888-22938. May 29.

USEPA. 1992c. Supplemental Guidance to RAGS: Calculating the Concentration Term. Office of Emergency and Remedial Response, Washington, D.C. Publication 9285.7-08I. May.

USEPA. 1996. Soil Screening Guidance: Technical Background Document. Office of Emergency and Remedial Response, Washington, DC. USEPA/540/R-96/018. April.

USEPA. 1997. Exposure Factors Handbook. Office of Research and Development, Washington DC. USEPA/600/P-95/002Fa-c. August.

USEPA. 1999. National Functional Guidelines for Organic Data Review. EPA 540/R-99-008. OSWER 9240.1-05A-P. October.

USEPA. 2000a. Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds. Part II: Health Assessment for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) and Related Compounds. National Center for Environmental Assessment, Washington, DC. EPA/600/P-00/001Ae. May.

USEPA. 2000b. Soil Screening Guidance for Radionuclides. Office of Radiation and Indoor Air, Washington, DC. USEPA/540-R-00-007 and USEPA/540-R-00-006.

USEPA. 2002a. Guidance for Quality Assurance Project Plans. EPA QA/G-5. Office of Environmental Information, Washington, DC. December.

USEPA. 2002b. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and Emergency Response, Washington, DC. OSWER 9355.4-24. December.

USEPA. 2002c. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, Washington, DC. OSWER9285.6-10. December.

USEPA. 2002d. Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) EPA530-f-02-052. November.

USEPA. 2003a. Contract Laboratory Program Statement of Work for Organic Analysis: Multi-media, Multi-concentration. OLM04.3. Office of Emergency and Remedial Response. March.

USEPA. 2003b. Technical Support Document for a Protocol to Assess Asbestos-Related Risk. Final Draft. Office of Solid Waste and Emergency Response, Washington, DC.

USEPA. 2003c. Memorandum on Human Health Toxicity Values in Superfund Risk Assessments, from Michael B. Cook, Director, Office of Superfund Remediation and Technology Innovation to Superfund Remediation Policy Managers, Regions 1 - 10, dated 5 December. OSWER Directive 9285.7-53.

USEPA. 2004a. Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK). Office of Solid Waste and Emergency Response.

USEPA. 2004b. Contract Laboratory Program Statement of Work for Organic Analysis: Multi-media, Multi-concentration. SOM01.0. Office of Emergency and Remedial Response. October.

USEPA. 2004c. Contract Laboratory Program Statement of Work for Inorganic Analysis: Multi-media, Multi-concentration. ILM05.3. Office of Emergency and Remedial Response. March.

USEPA. 2004d. National Functional Guidelines for Inorganic Data Review. EPA 540-R-04-004. OSWER 9240.1-45. October.

USEPA. 2004e. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. Office of Emergency and Remedial Response, Washington, DC. EPA/540/R/99/005. July.

USEPA. 2004f. Memorandum on Clarifying Cleanup Goals and Identification of New Assessment Tools for Evaluating Asbestos at Superfund Cleanups, from Michael B. Cook, Director, Office of Superfund Remediation and Technology Innovation to Superfund Remediation Policy Managers, Regions 1-10, August. OSWER Directive 9345.4-05.

USEPA. 2005a. National Functional Guidelines for Chlorinated Dioxin/Furan Data Review. EPA 540-R-05-001. OSWER 9240.1-51. September.

USEPA. 2005b. Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities. Office of Solid Waste and Emergency Response, Washington DC. EPA530-R-05-006. September.

USEPA. 2005c. Guidelines for Carcinogen Risk Assessment. Risk Assessment Forum, Washington, DC. March.

USEPA. 2006. Child-Specific Exposure Factors Handbook. Interim Report. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. EPA/600/R/06/096A. September.

USEPA. 2008. National Functional Guidelines for Superfund Organic Methods Data Review. EPA 540-R-08-01. OSWER 9240.1-48. June.

USEPA. 2009. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment). EPA-540-R-070-002. http://www.epa.gov/oswer/ riskassessment/ ragsf/.

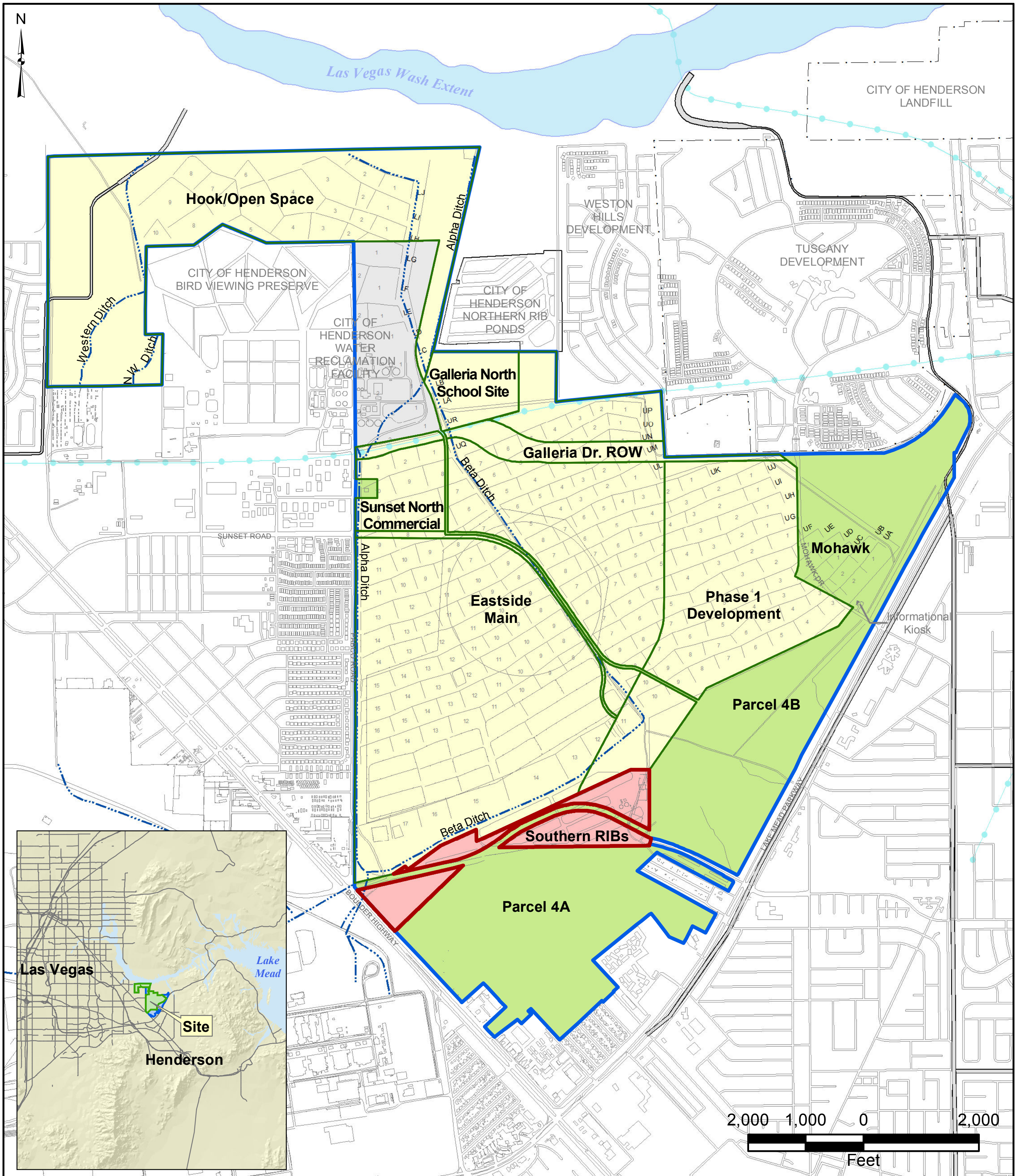
USEPA. 2010. Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds. Risk Assessment Forum, Washington, DC. EPA/600/R-10/005.

USEPA. 2012. Integrated Risk Information System. USEPA on-line database: http://www.epa.gov/iris/index.html.

Western Regional Climate Center (WRCC). 2008. Monthly average precipitation for Las Vegas. Desert Research Institute. <http://www.wrcc.dri.edu/summary/Climsmnv.html>.

Weston. 1993. Site Conceptual Model, Stauffer/Pioneer/Montrose Site, Henderson, Nevada, September.

FIGURES



Site AOC3 Boundary	Southern RIBs Sub-Area
Ditches	Eastside Sub-Areas
Flood Conveyance Channels	NFA Areas
Laterals	CoH WRF*

*Not part of the Closure Plan for soils.

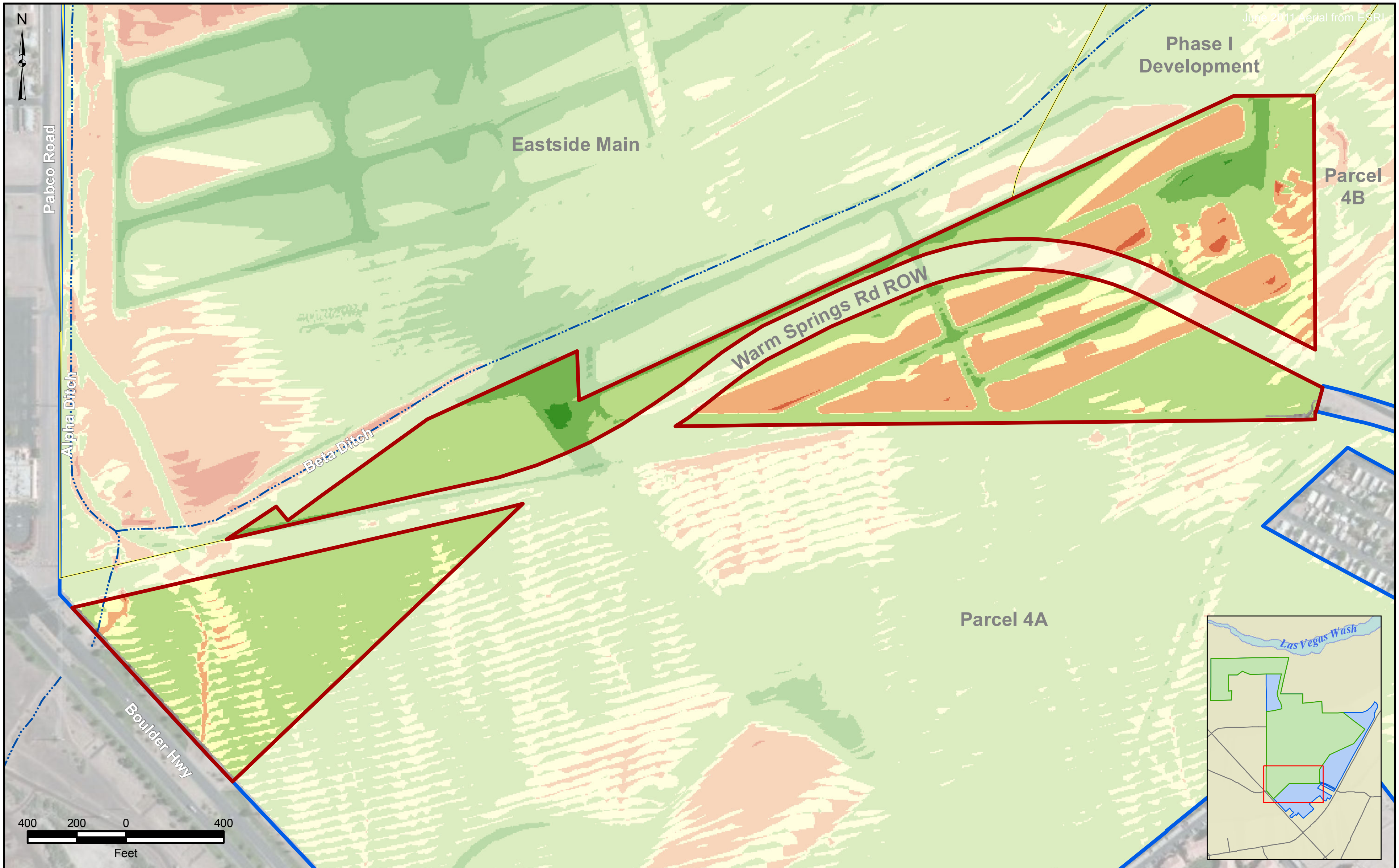
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 1

SOUTHERN RIBs
SUB-AREA LOCATION

Basic Remediation COMPANY

Prepared by		Date	
MKJ (ERM)	ERM	12/14/12	JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE_1.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Development Cut/Fill Areas

- > 10 Ft Fill
- 5 to 10 Ft Fill
- 0 to 5 Ft Fill
- No Change
- 0 to 5 Ft Cut
- 5 to 10 Ft Cut
- > 10 Ft Cut

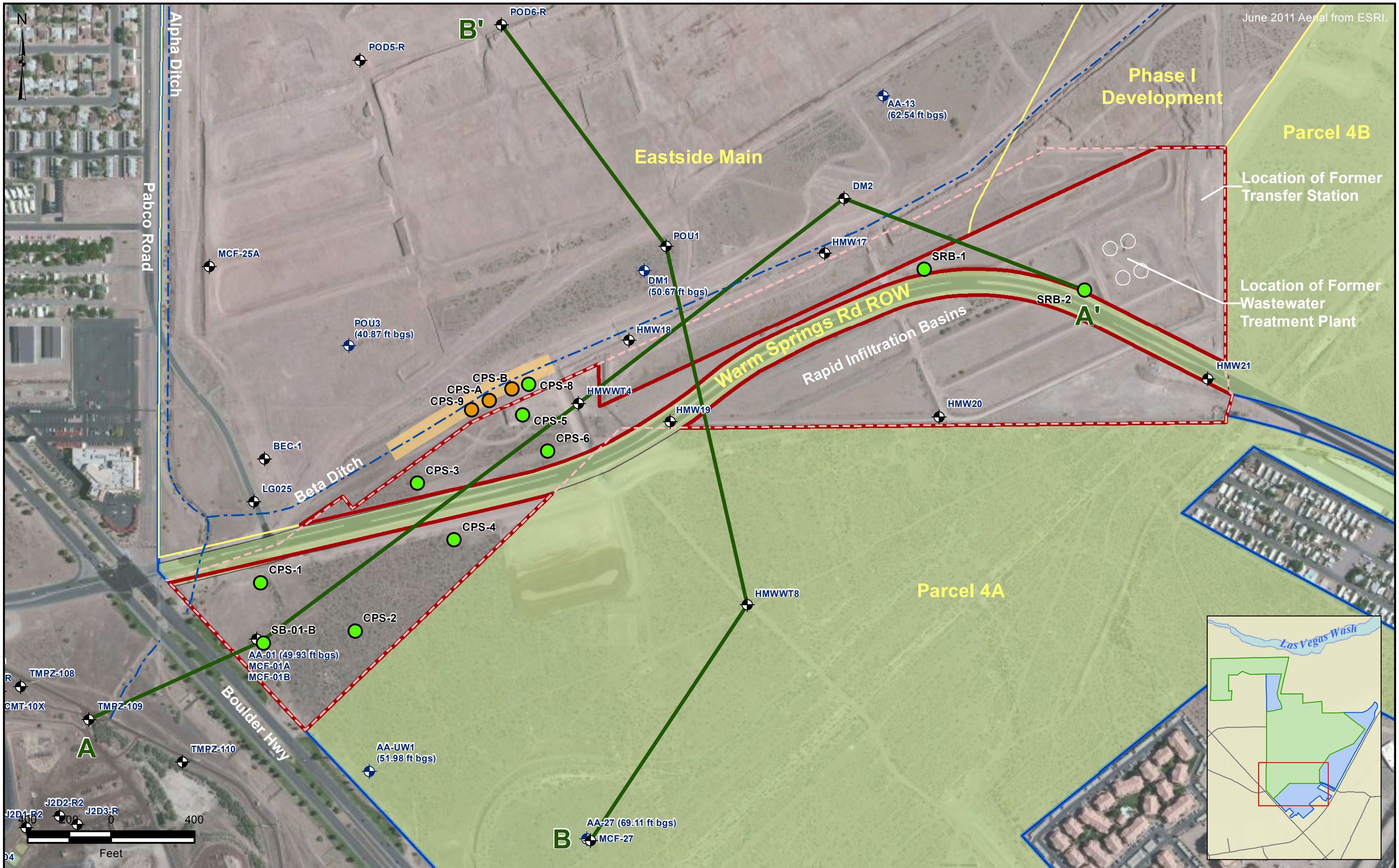
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 2

REDEVELOPMENT GRADING PLAN

Basic Remediation COMPANY

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 2.MXD



Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Original Southern RIBs Sub-Area

NFA Areas

Monitoring Wells

Alluvial Wells with Groundwater Data*

Other Monitoring Wells

Cross-Section Location

Interim Remedial Measure Areas

Historical Soil Sample Location

Sample Location

Removed Sample Location (Beta Ditch IRM)

*Depth to shallow zone water measured in August 2009 shown where available.

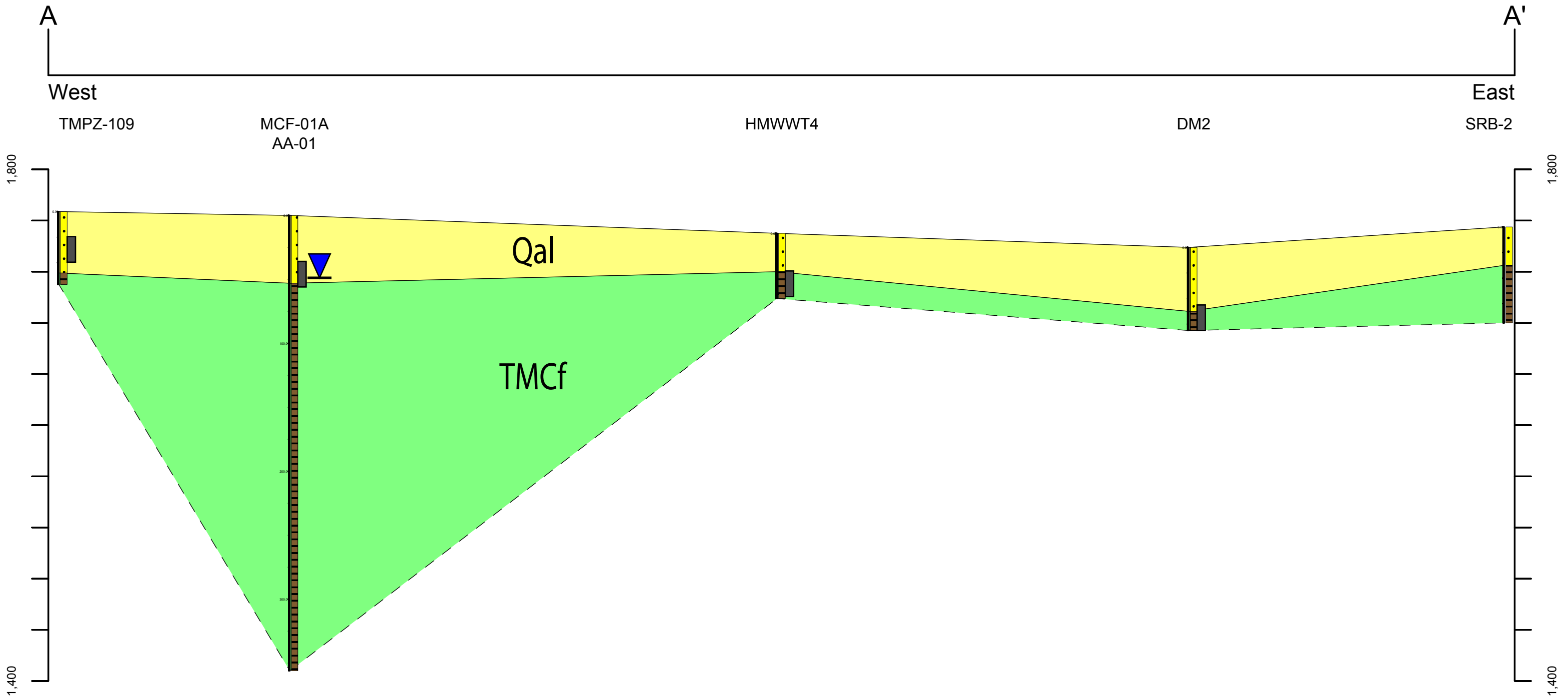
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 3

SITE PLAN WITH HISTORIC SOIL SAMPLE LOCATIONS AND MONITORING WELLS

Basic Remediation COMPANY

Prepared by MKJ (ERM)	ERM	Date 12/14/12	JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 3.MXD



= Screen Interval

= Shallow Zone Water Level (August 2009)

= Qal = Quaternary alluvium

= UMCf = Upper Muddy Creek formation

Vertical Scale = 5x Horizonal Scale

For soil lithology details, please see the individual boring logs.

See Figure 2 for cross-section location.

BMI Common Areas (Eastside)
Clark County, Nevada

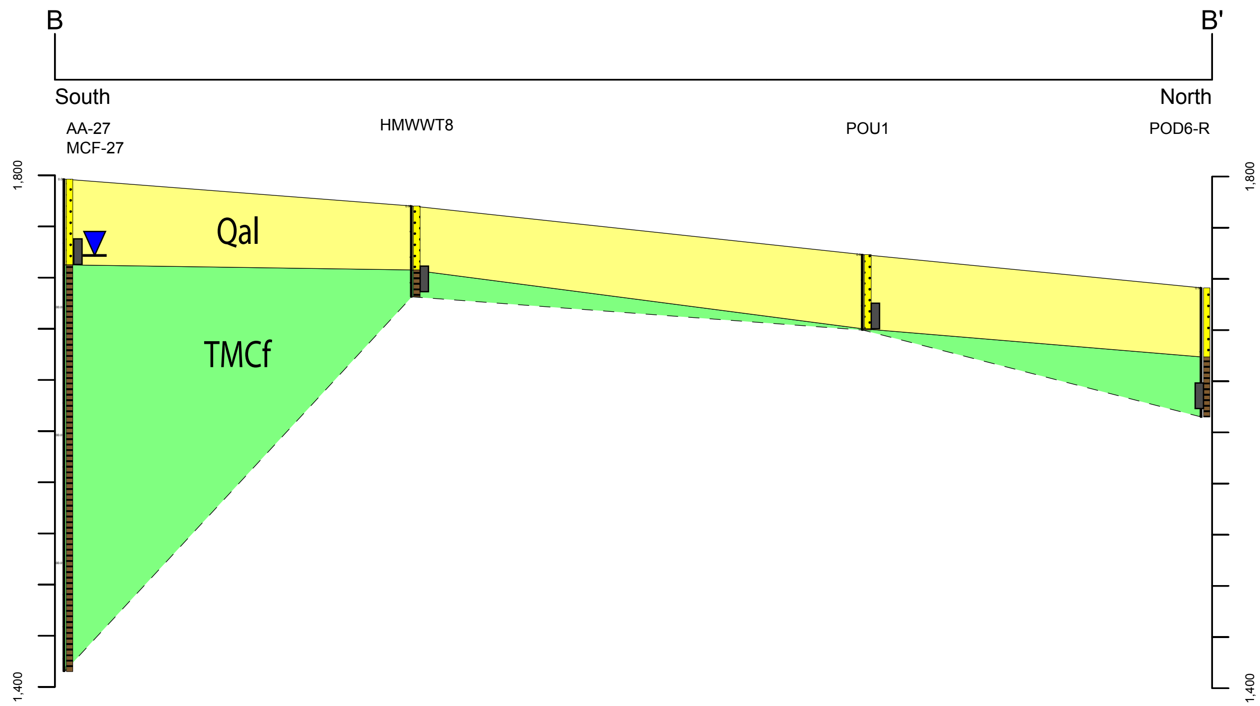
FIGURE 4

SOUTHERN RIBS
SUB-AREA
CROSS-SECTION A-A'

Basic Remediation
COMPANY

Prepared by MKJ (ERM)	ERM	Date 12/14/12	JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 4.AI

Cross-Section B-B'



= Screen Interval
= Shallow Zone Water Level (August 2009)
= Qal = Quaternary alluvium
= UMCf = Upper Muddy Creek formation
Vertical Scale = 5x Horizonal Scale
For soil lithology details, please see the individual boring logs.
See Figure 2 for cross-section location.

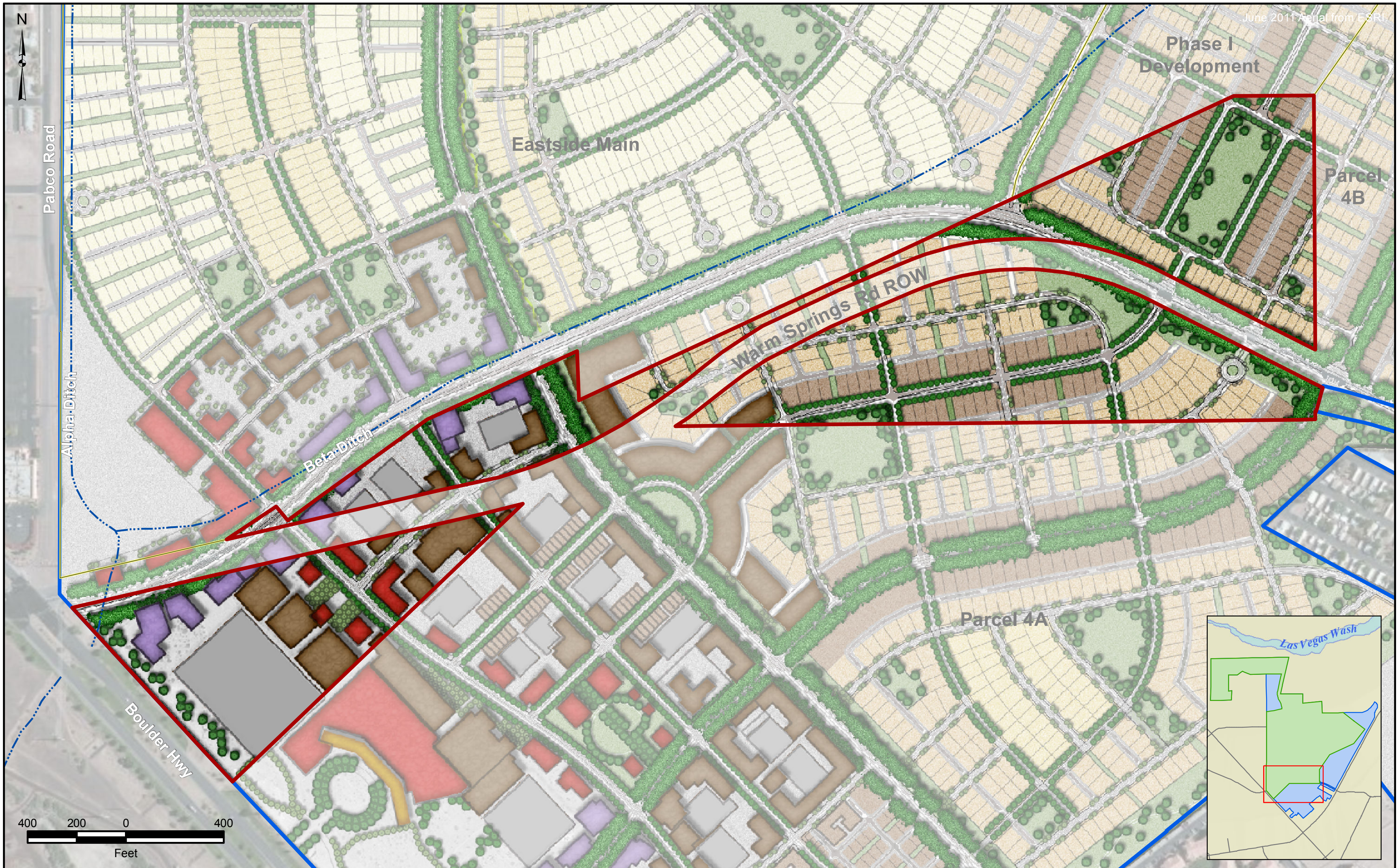
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 5

SOUTHERN RIBS
SUB-AREA
CROSS-SECTION B-B'

Basic Remediation COMPANY

Prepared by MKJ (ERM)	Date 12/14/12	JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 5.AI



- Southern RIBs Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas

Current Development Plan

- High Density Residential
- Medium Density Residential
- Low Density Residential
- Commercial
- Urban Core
- Retail/Commercial
- Parks & Trails
- Roads/Parking

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 6

CURRENT DEVELOPMENT PLAN

Basic Remediation COMPANY

Prepared by	Date	
MKJ (ERM)	12/14/12	JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 6.MXD

Source	Primary Inter-media Transfer	Initial Medium of Concern	Secondary Inter-media Transfer	Contact Medium	Exposure Route	Adult and Child Resident	Construction Worker	Indoor Commercial Worker	Outdoor Maintenance Worker	Trespasser/ Recreational User
						Potential Future Human Receptors				
Industrial Processes	Transfer to Ponds via Ditches	Soil	On-site Fugitive Dust Generation	Air	Inhalation*‡	■	■	□	■	■
			Uptake into Plants	Plants	Ingestion*	■	□	□	□	□
				Soil	Ingestion*	■	■	■	■	■
					Dermal Contact	■	■	□	■	■
					External†	■	■	■	■	■
			Volatilization into Indoor/Outdoor Air	Air	Inhalation*	■	■	■	■	■
			Migration to Groundwater	Ground-water	Ingestion*	□	■	□	□	□
					Dermal Contact	□	■	□	□	□
			Volatilization into Indoor/Outdoor Air	Air	Inhalation*	■	■	■	■	■
			Migration to Surface Water	Surface Water	Ingestion	□[1]	□	□	□	□[1]
					Dermal Contact	□[1]	□	□	□	□[1]

□ - Incomplete or insignificant exposure pathway.

■ - Complete or potentially complete exposure pathway.

Note: All potential exposure pathways are shown; however, a particular pathway shown as complete may be incomplete depending on the COPCs evaluated in the human health risk assessment.

[1]Potentially complete exposure pathway following discharge to Las Vegas Wash and Lake Mead. However, the Las Vegas Wash and Lake Mead are not subject to the Phase 3 Settlement Agreement and Administrative Order on Consent (Settlement Agreement). If these issues are found to be of significance NDEP and BRC will address them under separate cover.

*Includes radionuclide exposures.

†Only radionuclide exposures.

‡Includes asbestos exposures.

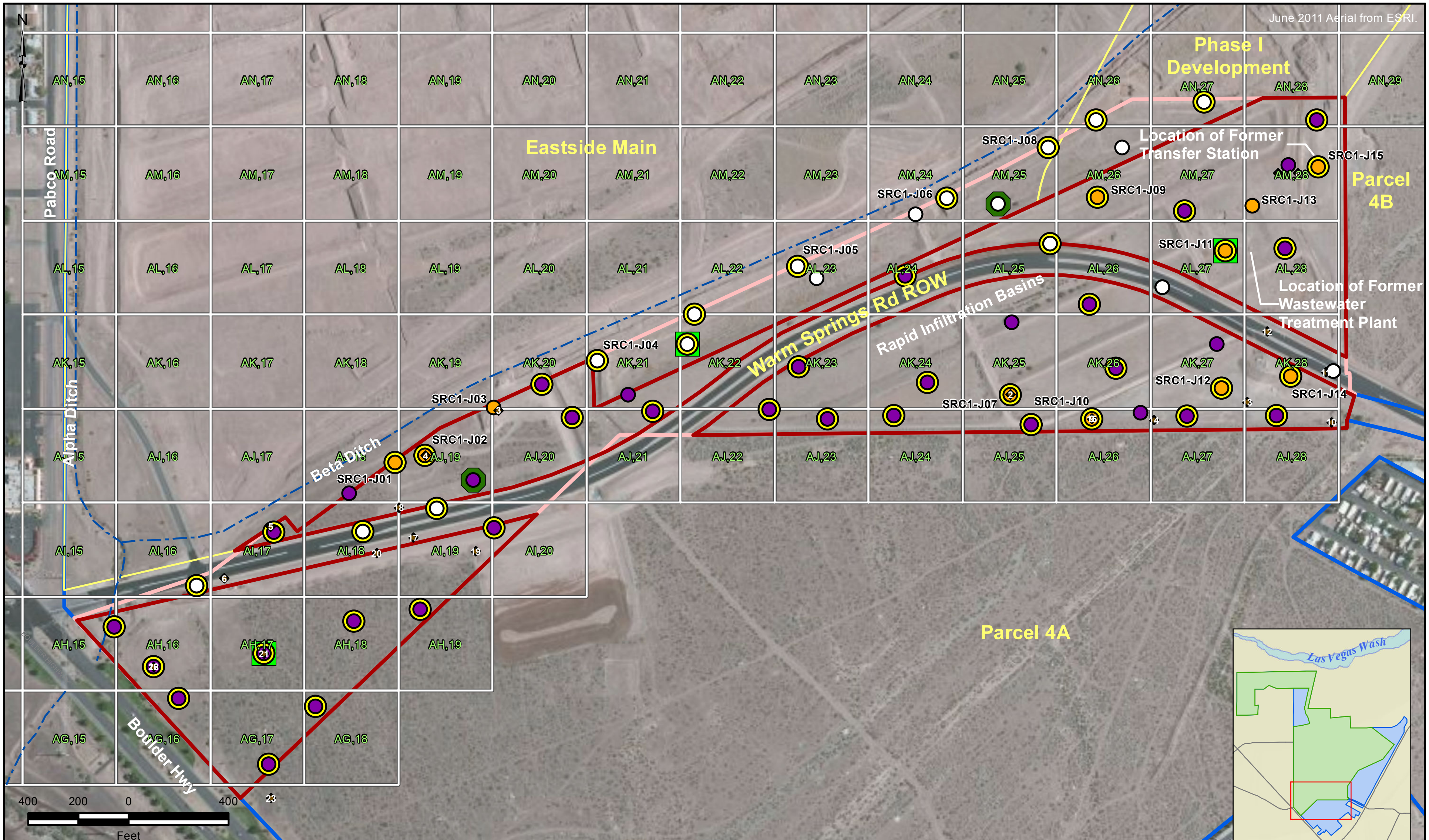
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 7

CONCEPTUAL SITE MODEL DIAGRAM FOR POTENTIAL HUMAN EXPOSURES

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/FIGURE 7.AI



Eastside 3-Acre Random Sampling Grid (Grid ID = "XX,##")	**Southern RIBs Sub-Area Soil Samples**
Southern RIBs Sub-Area	Biased Sample Location (15)
Original Southern RIBs Sub-Area	Random Sample Location (48)
Site AOC3 Boundary	Surface Flux Sample Location (48)
Eastside Soil Sub-Areas	Deep Sample Location (3; to GW)
2008 Survey Debris Locations	SPLP Sample Location (2; subsurface)
	Sample Location No Longer within Site

Note: Sample ID's are shown for debris sample locations. Sample ID's for random samples correspond to the grid cell ID.

The Southern RIBs sub-area boundary has changed since the Sampling and Analysis Plan (SAP) was prepared (original boundary is shown in pink). Portions of the northern boundary line were moved south, thus moving these sections into the Staging, TIMET Ponds, and Phase I Development sub-area; and the Warm Springs Rd. right-of-way cuts through the sub-area.

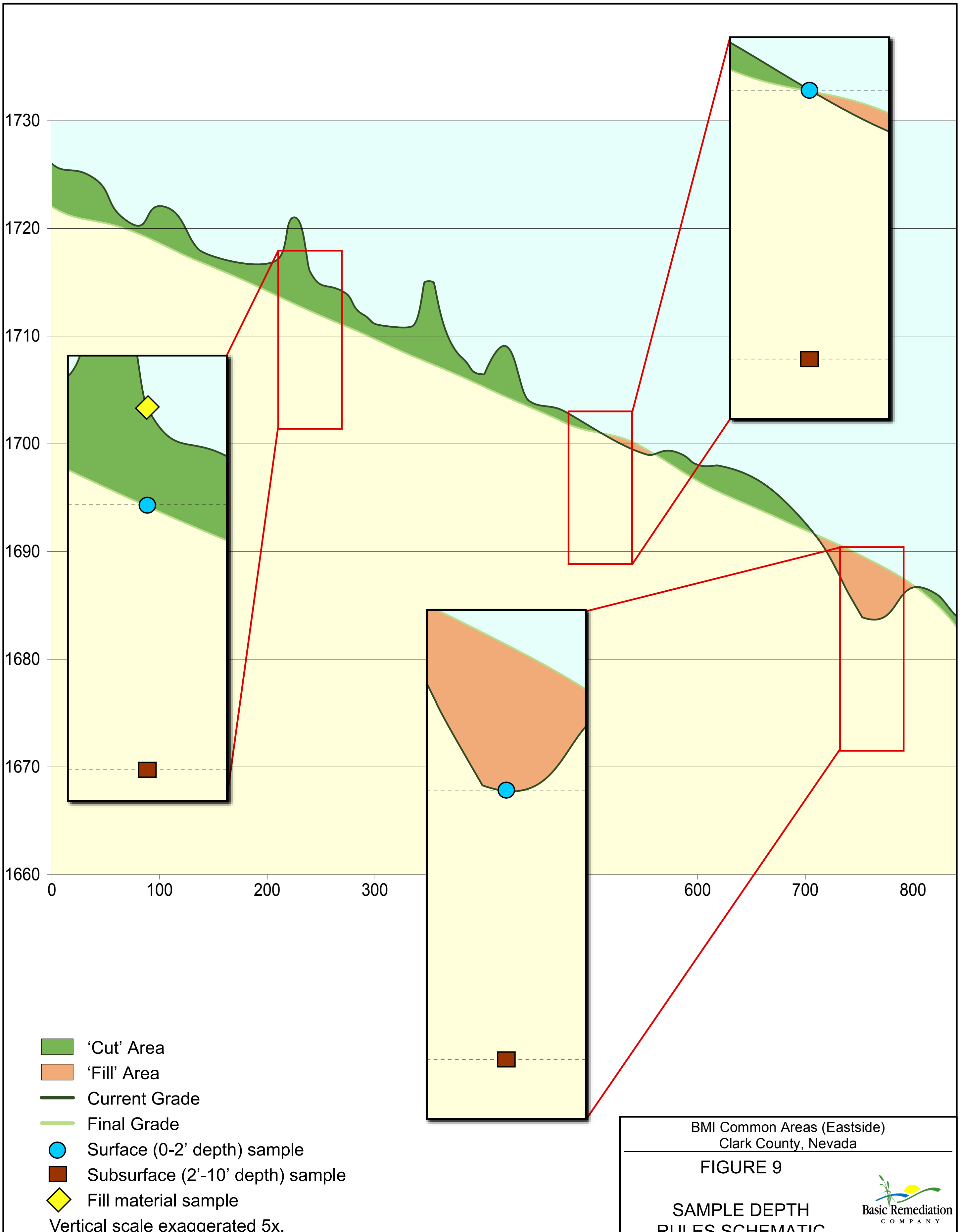
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 8

INITIAL SOIL AND SOIL VAPOR FLUX SAMPLING LOCATIONS

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/FIGURE 8.MXD



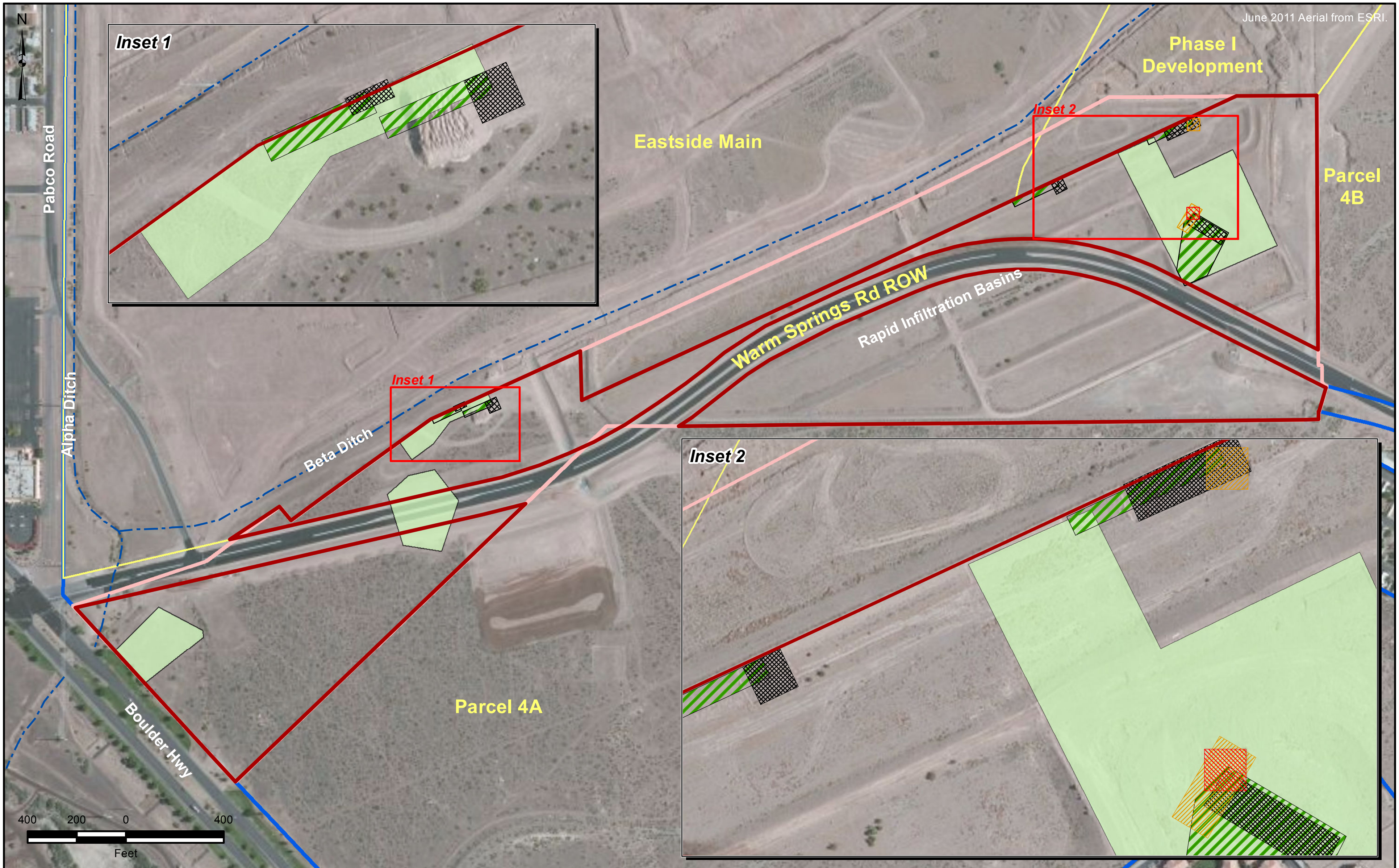
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 9

SAMPLE DEPTH
RULES SCHEMATIC

Basic Remediation COMPANY

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/FIGURE 9.AI



Southern RIBs Sub-Area
Original Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
September 2009 Remediation Areas
December 2009 Remediation Areas
March 2010 Remediation Areas
June 2010 Remediation Areas
September 2010 Remediation Areas

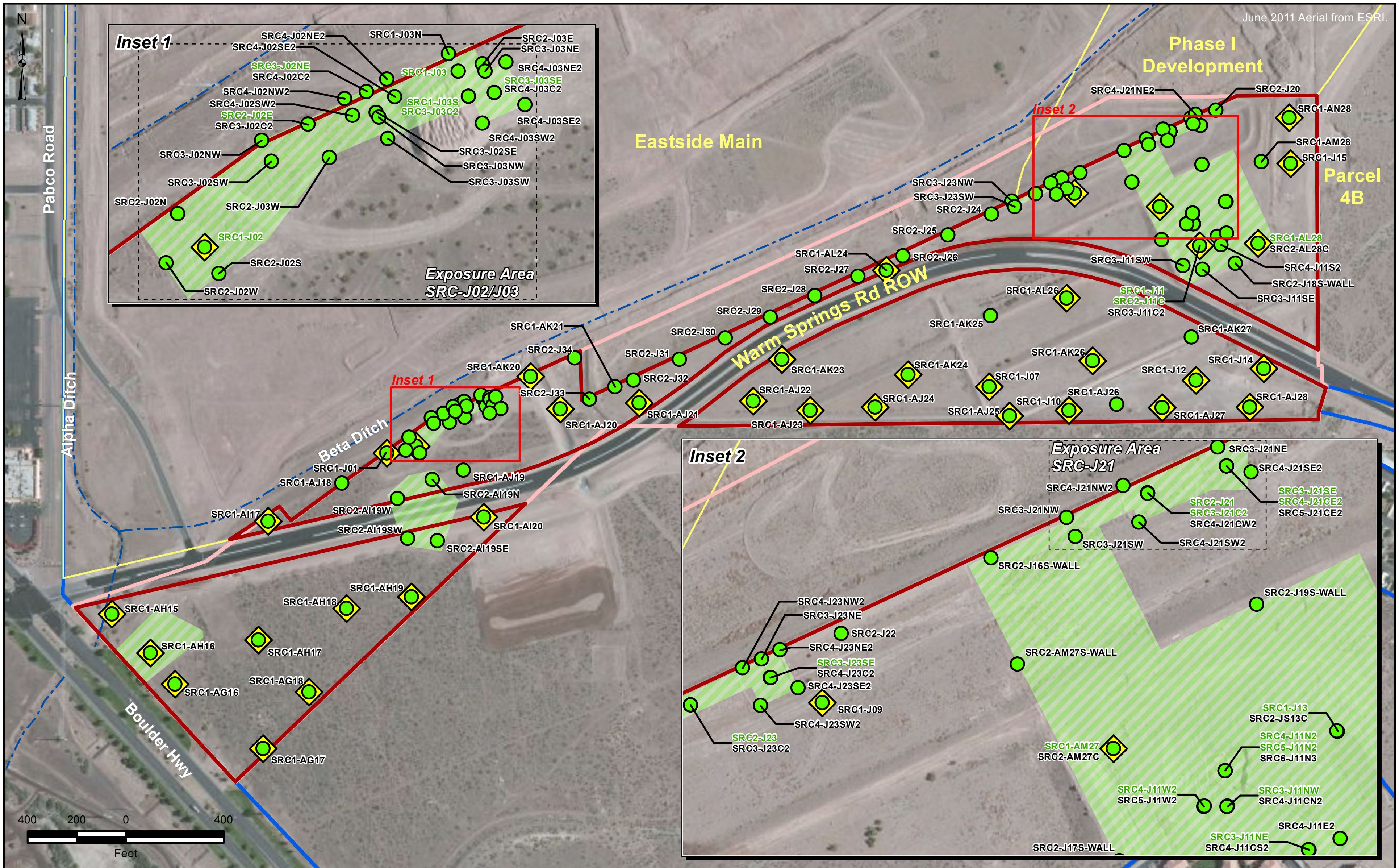
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 10

SOUTHERN RIBs SUB-AREA SOIL REMEDIATION AREAS

Basic Remediation COMPANY

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/FIGURE 10.MXD



Southern RIBs Sub-Area

Original Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Remediation Areas

Soil Sample Location[1]

Surface Flux Sample Location

SRC1-J01 - Scraped Sample Location
SRC1-AI20 - Existing Sample Location

(1) Although soil removal would affect the concentrations of all analytes, confirmatory sampling only analyzed for the constituent suites that triggered the soil removal. Therefore, in the absence of post-scrape data, the pre-scrape data are used for all other analytes in the human health risk assessment (see text).

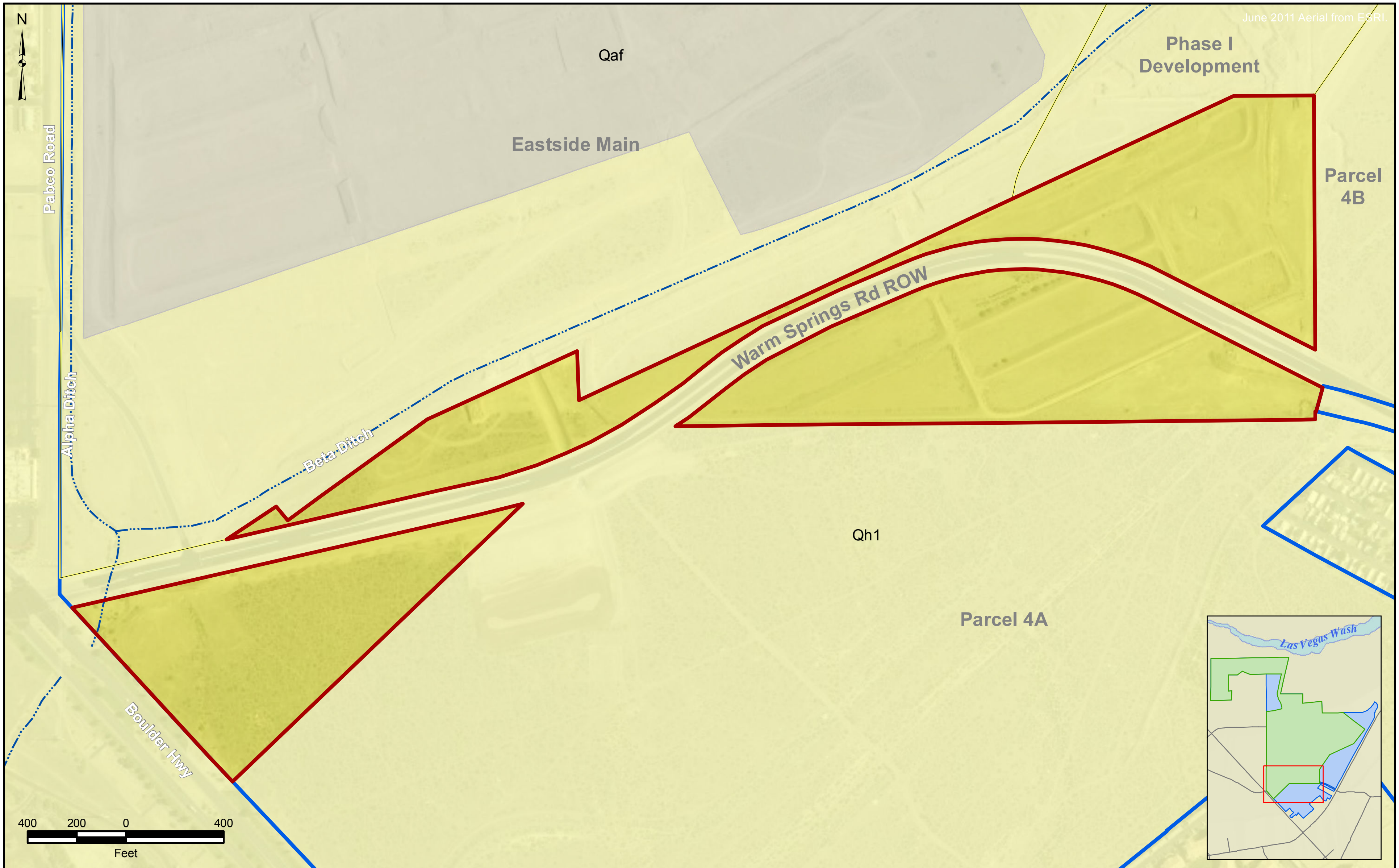
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 11

FINAL SOIL AND SOIL VAPOR FLUX SAMPLING LOCATIONS

Basic Remediation COMPANY

Prepared by MKJ (ERM)	ERM	Date 12/14/12	JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 11.MXD



Southern RIBs Sub-Area	**Lithology**
Site AOC3 Boundary	Qh1-McCullough
Eastside Soil Sub-Areas	Qaf-Disturbed

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 12

SOUTHERN RIBs
SUB-AREA LITHOLOGIES

Basic Remediation COMPANY

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/FIGURE 12.MXD

TABLES

TABLE 3-1
SAMPLE-SPECIFIC COLLECTION DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 5)

Sample Location	Sample Type	Grading Plan		Sample Depth 1	Sample Depth 2	Sample Depth 3
			Initial Sampling Event			
SRC1-AG16	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AG17	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AG18	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AH15	Random with Flux	Fill	+1	0 (Surface)	10 (Subsurface)	--
SRC1-AH16	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AH17	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AH18	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AH19	Random with Flux	--	0	0 (Surface)	10 (Subsurface)	--
SRC1-AI16	Random	Fill	+1	0 (Surface)	10 (Subsurface)	--
SRC1-AI17	Random with Flux	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AI18	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AI19	Random	Cut	-6	0 (Fill)	6 (Surface)	16 (Subsurface)
SRC1-AI20	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AJ18	Random	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AJ19	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AJ20	Random with Flux	Cut	-11	0 (Fill)	11 (Surface)	21 (Subsurface)
SRC1-AJ21	Random with Flux	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-AJ22	Random with Flux	Fill	+3	0 (Surface)	10 (Subsurface)	--
SRC1-AJ23	Random with Flux	Cut	-4	0 (Fill)	4 (Surface)	14 (Subsurface)
SRC1-AJ24	Random with Flux	Fill	+3	0 (Surface)	10 (Subsurface)	--
SRC1-AJ25	Random with Flux	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AJ26	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AJ27	Random with Flux	--	0	0 (Surface)	10 (Subsurface)	--
SRC1-AJ28	Random with Flux	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-AK20	Random with Flux	Cut	-9	0 (Fill)	9 (Surface)	19 (Subsurface)
SRC1-AK21	Random	Cut	-8	0 (Fill)	8 (Surface)	18 (Subsurface)
SRC1-AK22	Random	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-AK23	Random with Flux	Cut	-4	0 (Fill)	4 (Surface)	14 (Subsurface)
SRC1-AK24	Random with Flux	--	0	0 (Surface)	10 (Subsurface)	--
SRC1-AK25	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AK26	Random with Flux	Fill	+1	0 (Surface)	10 (Subsurface)	--
SRC1-AK27	Random	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AK28	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AL22	Random	Cut	-7	0 (Fill)	7 (Surface)	17 (Subsurface)
SRC1-AL23	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AL24	Random with Flux	Cut	-8	0 (Fill)	8 (Surface)	18 (Subsurface)

TABLE 3-1
SAMPLE-SPECIFIC COLLECTION DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Type	Grading Plan		Sample Depth 1	Sample Depth 2	Sample Depth 3
SRC1-AL25	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AL26	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AL27	Random	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-AL28	Random with Flux	Cut	-4	0 (Fill)	4 (Surface)	14 (Subsurface)
SRC1-AM24	Random	Cut	-7	0 (Fill)	7 (Surface)	17 (Subsurface)
SRC1-AM25	Random	Fill	+1	0 (Surface)	10 (Subsurface)	--
SRC1-AM26	Random	Fill	+2	0 (Surface)	10 (Subsurface)	--
SRC1-AM27	Random with Flux	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AM28	Random	Cut	-7	0 (Fill)	7 (Surface)	17 (Subsurface)
SRC1-AN26	Random	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AN27	Random	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-AN28	Random with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-J01	Biased with Flux	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-J02	Biased with Flux	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-J03	Biased	Cut	-6	0 (Fill)	6 (Surface)	16 (Subsurface)
SRC1-J04	Biased	Cut	-8	0 (Fill)	8 (Surface)	18 (Subsurface)
SRC1-J05	Biased	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-J06	Biased	Cut	-6	0 (Fill)	6 (Surface)	16 (Subsurface)
SRC1-J07	Biased with Flux	--	0	0 (Surface)	10 (Subsurface)	--
SRC1-J08	Biased	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-J09	Biased with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-J10	Biased with Flux	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SRC1-J11	Biased with Flux	Fill	+1	0 (Surface)	10 (Subsurface)	--
SRC1-J12	Biased with Flux	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-J13	Biased	Cut	-3	0 (Fill)	3 (Surface)	13 (Subsurface)
SRC1-J14	Biased with Flux	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SRC1-J15	Biased with Flux	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
Confirmation/Supplemental Sampling Events						
SRC2-AI19N	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC2-AI19SE	Confirm	--	0	0 (Surface)	--	--
SRC2-AI19SW	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC2-AI19W	Confirm	Cut	-2	0 (Fill/Surface)	--	--
SRC2-AL28C	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC2-AM27C	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC2-AM27S-WALL	Confirm	Fill	+1	0 (Surface)	--	--
SRC2-J02E	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC2-J02N	Confirm	Cut	-2	0 (Fill/Surface)	--	--

TABLE 3-1
SAMPLE-SPECIFIC COLLECTION DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Type	Grading Plan		Sample Depth 1	Sample Depth 2	Sample Depth 3
SRC2-J02S	Confirm	Cut	-2	0 (Fill/Surface)	--	--
SRC2-J02W	Confirm	Cut	-2	0 (Fill/Surface)	--	--
SRC2-J03E	Confirm	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J03N	Confirm	Cut	-6	0 (Fill/Surface)	--	--
SRC2-J03W	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC2-J11C	Confirm	Fill	+1	0 (Surface)	--	--
SRC2-J16S-WALL	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC2-J17S-WALL	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC2-J18S-WALL	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC2-J19S-WALL	Confirm	Cut	-7	0 (Fill/Surface)	--	--
SRC2-J20	Supplemental	Cut	-3	0 (Fill/Surface)	--	--
SRC2-J21	Supplemental	Cut	-5	0 (Fill/Surface)	--	--
SRC2-J22	Supplemental	Cut	-6	0 (Fill/Surface)	--	--
SRC2-J23	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J24	Supplemental	Cut	-7	0 (Fill/Surface)	--	--
SRC2-J25	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J26	Supplemental	Cut	-6	0 (Fill/Surface)	--	--
SRC2-J27	Supplemental	Cut	-7	0 (Fill/Surface)	--	--
SRC2-J28	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J29	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J30	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J31	Supplemental	Cut	-6	0 (Fill/Surface)	--	--
SRC2-J32	Supplemental	Cut	-6	0 (Fill/Surface)	--	--
SRC2-J33	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-J34	Supplemental	Cut	-8	0 (Fill/Surface)	--	--
SRC2-JS13C	Confirm	Cut	-2	0 (Fill/Surface)	--	--
SRC3-J02C2	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC3-J02NE	Confirm	Cut	-6	0 (Fill/Surface)	--	--
SRC3-J02NW	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC3-J02SE	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC3-J02SW	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC3-J03C2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC3-J03NE	Confirm	Cut	-7	0 (Fill/Surface)	--	--
SRC3-J03NW	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC3-J03SE	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC3-J03SW	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC3-J11C2	Confirm	--	0	0 (Surface)	--	--

Sample Location	Sample Type	Grading Plan		Sample Depth 1	Sample Depth 2	Sample Depth 3
SRC3-J11NE	Confirm	Fill	+4	0 (Surface)	--	--
SRC3-J11NW	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC3-J11SE	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC3-J11SW	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC3-J21C2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC3-J21NE	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC3-J21NW	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC3-J21SE	Confirm	--	0	0 (Surface)	--	--
SRC3-J21SW	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC3-J23C2	Confirm	Cut	-8	0 (Fill/Surface)	--	--
SRC3-J23NE	Confirm	Cut	-8	0 (Fill/Surface)	--	--
SRC3-J23NW	Confirm	Cut	-9	0 (Fill/Surface)	--	--
SRC3-J23SE	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC3-J23SW	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC4-J02C2	Confirm	Cut	-6	0 (Fill/Surface)	--	--
SRC4-J02NE2	Confirm	Cut	-6	0 (Fill/Surface)	--	--
SRC4-J02NW2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC4-J02SE2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC4-J02SW2	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC4-J03C2	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC4-J03NE2	Confirm	Cut	-6	0 (Fill/Surface)	--	--
SRC4-J03SE2	Confirm	Cut	-4	0 (Fill/Surface)	--	--
SRC4-J03SW2	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC4-J11CN2	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC4-J11CS2	Confirm	Fill	+4	0 (Surface)	--	--
SRC4-J11E2	Confirm	Fill	+4	0 (Surface)	--	--
SRC4-J11N2	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC4-J11S2	Confirm	Fill	+5	0 (Surface)	--	--
SRC4-J11W2	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC4-J21CE2	Confirm	--	0	0 (Surface)	--	--
SRC4-J21CW2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC4-J21NE2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC4-J21NW2	Confirm	Cut	-5	0 (Fill/Surface)	--	--
SRC4-J21SE2	Confirm	Fill	+1	0 (Surface)	--	--
SRC4-J21SW2	Confirm	--	0	0 (Surface)	--	--
SRC4-J23C2	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC4-J23NE2	Confirm	Cut	-7	0 (Fill/Surface)	--	--

TABLE 3-1
SAMPLE-SPECIFIC COLLECTION DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Type	Grading Plan		Sample Depth 1	Sample Depth 2	Sample Depth 3
SRC4-J23NW2	Confirm	Cut	-9	0 (Fill/Surface)	--	--
SRC4-J23SE2	Confirm	Cut	-2	0 (Fill/Surface)	--	--
SRC4-J23SW2	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC5-J11N2	Confirm	Cut	-3	0 (Fill/Surface)	--	--
SRC5-J11W2	Confirm	Cut	-1	0 (Fill/Surface)	--	--
SRC5-J21CE2	Confirm	--	0	0 (Surface)	--	--
SRC6-J11N3	Confirm	Cut	-3	0 (Fill/Surface)	--	--

Note: Because sample collection were over a two to three foot depth interval, sample locations with an anticipated cut depth less than three feet only sampled at the surface and one post-grade subsurface depth.
Gray shaded location (e.g., SRC1-AI16) indicates sample location outside current Site boundary and not included in this report.
Yellow shaded location (e.g., SRC1-AH17) indicates deep soil sample collected for physical parameter analyses.
Green shaded location (e.g., SRC1-AJ19) indicates subsurface soil sample also included synthetic precipitation leaching procedure (SPLP) sampling and analysis.
Depths are in feet bgs (current grade).

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Ions	**EPA 300.0**	**EPA 300.0**	Bromide	24959-67-9	✓	✓	(d)
			Chlorate	14866-68-3	✓	✓	(d)
			Chloride	16887-00-6	✓	✓	(d)
			Fluoride	16984-48-8	✓	✓	(d)
			Nitrate (as N)	14797-55-8	✓	✓	(d)
			Nitrite (as N)	14797-65-0	✓	✓	(d)
			Orthophosphate	14265-44-2	✓	✓	(d)
			Sulfate	14808-79-8	✓	✓	(d)
	EPA 314.0	**EPA 314.0**	Perchlorate	14797-73-0	✓	✓	(d)
Chlorinated Compounds	**EPA 551.1**	**EPA 551.1**	Chloral	75-87-6	(e)	(e)	(d)
			Dichloroacetaldehyde	79-02-7	(e)	(e)	(d)
Polychlorinated Dibenzodioxins/ Dibenzofurans	**EPA 8290**	**EPA 8290**	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	✓	(b)	(b)
			1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	✓	(b)	(b)
			1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	✓	(b)	(b)
			1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	✓	(b)	(b)
			1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	✓	(b)	(b)
			1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	✓	(b)	(b)
			1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	✓	(b)	(b)
			1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	✓	(b)	(b)
			1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	✓	(b)	(b)
			1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	✓	(b)	(b)
			1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	✓	(b)	(b)
			1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	✓	(b)	(b)
			1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	✓	(b)	(b)
			2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	✓	(b)	(b)
			2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	✓	(b)	(b)
			2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	✓	(b)	(b)
			2,3,7,8-Tetrachlororodibenzo-p-dioxin	1746-01-6	✓	(b)	(b)
Asbestos	**Elutrator**	**Elutriator/TEM**	Asbestos	1332-21-4	✓	(c)	(c)
General Chemistry Parameters	**EPA 350.1**	**EPA 350.2**	Ammonia (as N)	7664-41-7	✓	✓	(d)
	EPA 9012A	**EPA 9010/9014**	Cyanide (Total)	57-12-5	✓	✓	(d)
	NA	**EPA 9045C**	pH in soil	pH	✓	✓	✓
	EPA 376.1/376.2	**EPA 376.1/376.2**	Sulfide	18496-25-8	✓	✓	(d)
	Mod. EPA 415.1	**Mod. EPA 415.1**	Total inorganic carbon	7440-44-0	✓	✓	(d)
	EPA 351.2	**EPA 351.2**	Total Kjeldahl nitrogen (TKN)	TKN	✓	✓	(d)
	EPA 9060	**EPA 415.1**	Total organic carbon (TOC)	7440-44-0	✓	✓	✓

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Metals	**EPA 3050M**	**EPA 6020/6010B**	Aluminum	7429-90-5	✓	✓	(d)
			Antimony	7440-36-0	✓	✓	(d)
			Arsenic	7440-38-2	✓	✓	(d)
			Barium	7440-39-3	✓	✓	(d)
			Beryllium	7440-41-7	✓	✓	(d)
			Boron	7440-42-8	✓	✓	(d)
			Cadmium	7440-43-9	✓	✓	(d)
			Calcium	7440-70-2	✓	✓	(d)
			Chromium	7440-47-3	✓	✓	(d)
			Cobalt	7440-48-4	✓	✓	(d)
			Copper	7440-50-8	✓	✓	(d)
			Iron	7439-89-6	✓	✓	(d)
			Lead	7439-92-1	✓	✓	(d)
			Lithium	1313-13-9	✓	✓	(d)
			Magnesium	7439-95-4	✓	✓	(d)
			Manganese	7439-96-5	✓	✓	(d)
			Molybdenum	7439-98-7	✓	✓	(d)
			Nickel	7440-02-0	✓	✓	(d)
			Niobium	7440-03-1	(e)	(e)	(d)
			Palladium	7440-05-3	(e)	(e)	(d)
			Phosphorus	7723-14-0	(e)	(e)	(d)
			Platinum	7440-06-4	(e)	(e)	(d)
			Potassium	7440-09-7	✓	✓	(d)
			Selenium	7782-49-2	✓	✓	(d)
			Silicon	7440-21-3	(e)	(e)	(d)
			Silver	7440-22-4	✓	✓	(d)
			Sodium	7440-23-5	✓	✓	(d)
			Strontium	7440-24-6	✓	✓	(d)
			Sulfur	7704-34-9	(e)	(e)	(d)
			Thallium	7440-28-0	✓	✓	(d)
			Tin	7440-31-5	✓	✓	(d)
			Titanium	7440-32-6	✓	✓	(d)
			Tungsten	7440-33-7	✓	✓	(d)
			Uranium	7440-61-1	✓	✓	(d)
			Vanadium	7440-62-2	✓	✓	(d)
			Zinc	7440-66-6	✓	✓	(d)
			Zirconium	7440-67-7	(e)	(e)	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Metals (continued)	EPA 3060A	EPA 7196A	Chromium (VI)	18540-29-9	✓	✓	(d)
	EPA 7471A	EPA 7470/7471A	Mercury	7439-97-6	✓	✓	(d)
Organophosphorous Pesticides	EPA 8141A	EPA 8141A	Azinphos-ethyl	264-27-19	(a)	(a)	(a)
			Azinphos-methyl	86-50-0	(a)	(a)	(a)
			Carbophenothion	786-19-6	(a)	(a)	(a)
			Chlorpyrifos	2921-88-2	(a)	(a)	(a)
			Coumaphos	56-72-4	(a)	(a)	(a)
			Demeton-O	298-03-3	(a)	(a)	(a)
			Demeton-S	126-75-0	(a)	(a)	(a)
			Diazinon	333-41-5	(a)	(a)	(a)
			Dichlorvos	62-73-7	(a)	(a)	(a)
			Dimethoate	60-51-5	(a)	(a)	(a)
			Disulfoton	298-04-4	(a)	(a)	(a)
			EPN	2104-64-5	(a)	(a)	(a)
			Ethoprop	13194-48-4	(a)	(a)	(a)
			Ethyl parathion	56-38-2	(a)	(a)	(a)
			Fampphur	52-85-7	(a)	(a)	(a)
			Fenthion	55-38-9	(a)	(a)	(a)
			Malathion	121-75-5	(a)	(a)	(a)
			Methyl carbophenothion	953-17-3	(a)	(a)	(a)
			Methyl parathion	298-00-0	(a)	(a)	(a)
			Mevinphos	7786-34-7	(a)	(a)	(a)
			Naled	300-76-5	(a)	(a)	(a)
			O,O,O-Triethyl phosphorothioate (TEPP)	297-97-2	(a)	(a)	(a)
			Phorate	298-02-2	(a)	(a)	(a)
			Phosmet	732-11-6	(a)	(a)	(a)
			Ronnel	299-84-3	(a)	(a)	(a)
			Stirophos (Tetrachlorovinphos)	22248-79-9	(a)	(a)	(a)
			Sulfotep	3689-24-5	(a)	(a)	(a)
Chlorinated Herbicides	EPA 8151A	EPA 8151A	2,4,5-T	93-76-5	(a)	(a)	(a)
			2,4,5-TP (Silvex)	93-72-1	(a)	(a)	(a)
			2,4-D	94-75-7	(a)	(a)	(a)
			2,4-DB	94-82-6	(a)	(a)	(a)
			Dalapon	75-99-0	(a)	(a)	(a)
			Dicamba	1918-00-9	(a)	(a)	(a)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Chlorinated Herbicides (continued)	**EPA 8151A**	**EPA 8151A**	Dichloroprop	120-36-5	(a)	(a)	(a)
			Dinoseb	88-85-7	(a)	(a)	(a)
			MCPA	94-74-6	(a)	(a)	(a)
			MCPP	93-65-2	(a)	(a)	(a)
Organic Acids	**HPLC**	**HPLC**	4-Chlorobenzene sulfonic acid	98-66-8	(a)	(a)	(a)
			Benzenesulfonic acid	98-11-3	(a)	(a)	(a)
			O,O-Diethylphosphorodithioic acid	298-06-6	(a)	(a)	(a)
			O,O-Dimethylphosphorodithioic acid	756-80-9	(a)	(a)	(a)
Nonhalogenated Organics	**EPA 8015B**	**EPA 8015B**	Ethylene glycol	107-21-1	(a)	(a)	(a)
			Ethylene glycol monobutyl ether	111-76-2	(a)	(a)	(a)
			Methanol	67-56-1	(a)	(a)	(a)
			Propylene glycol	57-55-6	(a)	(a)	(a)
Organochlorine Pesticides	**EPA 3550B**	**EPA 8081A**	2,4-DDD	53-19-0	✓	✓	(d)
			2,4-DDE	3424-82-6	✓	✓	(d)
			4,4-DDD	72-54-8	✓	✓	(d)
			4,4-DDE	72-55-9	✓	✓	(d)
			4,4-DDT	50-29-3	✓	✓	(d)
			Aldrin	309-00-2	✓	✓	(d)
			alpha-BHC	319-84-6	✓	✓	(d)
			alpha-Chlordane	5103-71-9	✓	✓	(d)
			beta-BHC	319-85-7	✓	✓	(d)
			Chlordane	57-74-9	✓	✓	(d)
			delta-BHC	319-86-8	✓	✓	(d)
			Dieldrin	60-57-1	✓	✓	(d)
			Endosulfan I	959-98-8	✓	✓	(d)
			Endosulfan II	33213-65-9	✓	✓	(d)
			Endosulfan sulfate	1031-07-8	✓	✓	(d)
			Endrin	72-20-8	✓	✓	(d)
			Endrin aldehyde	7421-93-4	✓	✓	(d)
			Endrin ketone	53494-70-5	✓	✓	(d)
			gamma-BHC (Lindane)	58-89-9	✓	✓	(d)
			gamma-Chlordane	5103-74-2	✓	✓	(d)
			Heptachlor	76-44-8	✓	✓	(d)
			Heptachlor epoxide	1024-57-3	✓	✓	(d)
			Methoxychlor	72-43-5	✓	✓	(d)
			Toxaphene	8001-35-2	✓	✓	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Polychlorinated Biphenyls	**EPA 3510C**	**EPA 8082**	Aroclor 1016	12674-11-2	✓	(b)	(b)
			Aroclor 1221	11104-28-2	✓	(b)	(b)
			Aroclor 1232	11141-16-5	✓	(b)	(b)
			Aroclor 1242	53469-21-9	✓	(b)	(b)
			Aroclor 1248	12672-29-6	✓	(b)	(b)
			Aroclor 1254	11097-69-1	✓	(b)	(b)
			Aroclor 1260	11096-82-5	✓	(b)	(b)
		EPA 1668	PCB-77	32598-13-3	✓	(b)	(b)
			PCB-81	70362-50-4	✓	(b)	(b)
			PCB-105	32598-14-4	✓	(b)	(b)
			PCB-114	74472-37-0	✓	(b)	(b)
			PCB-118	31508-00-6	✓	(b)	(b)
			PCB-123	65510-44-3	✓	(b)	(b)
			PCB-126	57465-28-8	✓	(b)	(b)
			PCB-156	38380-08-4	✓	(b)	(b)
			PCB-157	69782-90-7	✓	(b)	(b)
			PCB-167	52663-72-6	✓	(b)	(b)
			PCB-169	32774-16-6	✓	(b)	(b)
			PCB-189	39635-31-9	✓	(b)	(b)
			PCB-209	2051-24-3	✓	(b)	(b)
Polynuclear Aromatic Hydrocarbons	**EPA 3550**	**EPA 8310 or EPA 8270SIM**	Acenaphthene	83-32-9	✓	✓	(d)
			Acenaphthylene	208-96-8	✓	✓	(d)
			Anthracene	120-12-7	✓	✓	(d)
			Benzo(a)anthracene	56-55-3	✓	✓	(d)
			Benzo(a)pyrene	50-32-8	✓	✓	(d)
			Benzo(b)fluoranthene	205-99-2	✓	✓	(d)
			Benzo(g,h,i)perylene	191-24-2	✓	✓	(d)
			Benzo(k)fluoranthene	207-08-9	✓	✓	(d)
			Chrysene	218-01-9	✓	✓	(d)
			Dibenzo(a,h)anthracene	53-70-3	✓	✓	(d)
			Indeno(1,2,3-cd)pyrene	193-39-5	✓	✓	(d)
			Phenanthrene	85-01-8	✓	✓	(d)
			Pyrene	129-00-0	✓	✓	(d)
Radionuclides	**HASL 3003**	**EPA 903.0 / 903.1**	Radium-226	13982-63-3	✓	✓	(d)
		EPA 904.0	Radium-228	15262-20-1	✓	✓	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Radionuclides (continued)	HASL 300 (Total Dissolution)	HASL A-01-R	Thorium-228	7440-29-1	✓	✓	(d)
			Thorium-230	14274-82-9	✓	✓	(d)
			Thorium-232	14269-63-7	✓	✓	(d)
	HASL 300 (Total Dissolution)		Uranium-233/234	13966-29-5	✓	✓	(d)
			Uranium-235/236	15117-96-1	✓	✓	(d)
			Uranium-238	7440-61-1	✓	✓	(d)
Aldehydes	EPA 8315A	EPA 8315A	Acetaldehyde	75-07-0	✓	✓	(d)
			Chloroacetaldehyde	107-20-0	(e)	(e)	(d)
			Dichloroacetaldehyde	79-02-7	(e)	(e)	(d)
			Formaldehyde	50-00-0	✓	✓	(d)
			Trichloroacetaldehyde	75-87-6	(e)	(e)	(d)
Semivolatile Organic Compounds	EPA 3550B	EPA 8270C	1,2,4,5-Tetrachlorobenzene	95-94-3	✓	✓	(d)
			1,2-Diphenylhydrazine	122-66-7	✓	✓	(d)
			1,4-Dioxane	123-91-1	✓	✓	(d)
			2,2'/4,4'-Dichlorobenzil	3457-46-3	✓	✓	(d)
			2,4,5-Trichlorophenol	95-95-4	✓	✓	(d)
			2,4,6-Trichlorophenol	88-06-2	✓	✓	(d)
			2,4-Dichlorophenol	120-83-2	✓	✓	(d)
			2,4-Dimethylphenol	105-67-9	✓	✓	(d)
			2,4-Dinitrophenol	51-28-5	✓	✓	(d)
			2,4-Dinitrotoluene	121-14-2	✓	✓	(d)
			2,6-Dinitrotoluene	606-20-2	✓	✓	(d)
			2-Chloronaphthalene	91-58-7	✓	✓	(d)
			2-Chlorophenol	95-57-8	✓	✓	(d)
			2-Methylnaphthalene	91-57-6	✓	✓	(d)
			2-Nitroaniline	88-74-4	✓	✓	(d)
			2-Nitrophenol	88-75-5	✓	✓	(d)
			3,3-Dichlorobenzidine	91-94-1	✓	✓	(d)
			3-Nitroaniline	99-09-2	✓	✓	(d)
			4,4'-Dichlorobenzil	3457-46-3	✓	✓	(d)
			4-Bromophenyl phenyl ether	101-55-3	✓	✓	(d)
			4-Chloro-3-methylphenol	59-50-7	✓	✓	(d)
			4-Chlorophenyl phenyl ether	7005-72-3	✓	✓	(d)
			4-Chlorothioanisole	123-09-1	✓	✓	(d)
			4-Chlorothiophenol	106-54-7	✓	✓	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Semivolatile Organic Compounds (continued)	**EPA 3550B**	**EPA 8270C**	4-Nitroaniline	100-01-6	✓	✓	(d)
			4-Nitrophenol	100-02-7	✓	✓	(d)
			Acetophenone	98-86-2	✓	✓	(d)
			Aniline	62-53-3	✓	✓	(d)
			Azobenzene	103-33-3	✓	✓	(d)
			Benzoic acid	65-85-0	✓	✓	(d)
			Benzyl alcohol	100-51-6	✓	✓	(d)
			bis(2-Chloroethoxy)methane	111-91-1	✓	✓	(d)
			bis(2-Chloroethyl) ether	111-44-4	✓	✓	(d)
			bis(2-Chloroisopropyl) ether	108-60-1	✓	✓	(d)
			bis(2-Ethylhexyl) phthalate	117-81-7	✓	✓	(d)
			bis(Chloromethyl) ether	542-88-1	✓	✓	(d)
			bis(p-Chlorophenyl) sulfone	80-07-9	✓	✓	(d)
			bis(p-Chlorophenyl)disulfide	1142-19-4	✓	✓	(d)
			Butylbenzyl phthalate	85-68-7	✓	✓	(d)
			Carbazole	86-74-8	✓	✓	(d)
			Dibenzofuran	132-64-9	✓	✓	(d)
			Dichloromethyl ether	542-88-1	✓	✓	(d)
			Diethyl phthalate	84-66-2	✓	✓	(d)
			Dimethyl phthalate	131-11-3	✓	✓	(d)
			Di-n-butyl phthalate	84-74-2	✓	✓	(d)
			Di-n-octyl phthalate	117-84-0	✓	✓	(d)
			Diphenyl disulfide	882-33-7	✓	✓	(d)
			Diphenyl sulfide	139-66-2	✓	✓	(d)
			Diphenyl sulfone	127-63-9	✓	✓	(d)
			Fluoranthene	206-44-0	✓	✓	(d)
			Fluorene	86-73-7	✓	✓	(d)
			Hexachlorobenzene	118-74-1	✓	✓	(d)
			Hexachlorobutadiene	87-68-3	✓	✓	(d)
			Hexachlorocyclopentadiene	77-47-4	✓	✓	(d)
			Hexachloroethane	67-72-1	✓	✓	(d)
			Hydroxymethyl phthalimide	118-29-6	✓	✓	(d)
			Isophorone	78-59-1	✓	✓	(d)
			m,p-Cresol	106-44-5	✓	✓	(d)
			Naphthalene	91-20-3	✓	✓	(d)
			Nitrobenzene	98-95-3	✓	✓	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Semivolatile Organic Compounds (continued)	EPA 3550B	EPA 8270C	N-nitrosodi-n-propylamine	621-64-7	✓	✓	(d)
			N-nitrosodiphenylamine	86-30-6	✓	✓	(d)
			o-Cresol	95-48-7	✓	✓	(d)
			Octachlorostyrene	29082-74-4	✓	✓	(d)
			p-Chloroaniline (4-Chloroaniline)	106-47-8	✓	✓	(d)
			p-Chlorobenzenethiol	106-54-7	✓	✓	(d)
			Pentachlorobenzene	608-93-5	✓	✓	(d)
			Pentachlorophenol	87-86-5	✓	✓	(d)
			Phenol	108-95-2	✓	✓	(d)
			Phthalic acid	88-99-3	✓	✓	(d)
			Pyridine	110-86-1	✓	✓	(d)
			Thiophenol	108-98-5	✓	✓	(d)
			Tentatively Identified Compounds (TICs)		✓	✓	(d)
Volatile Organic Compounds	EPA 5030B/ EPA 5035	EPA 8260B	1,1,1,2-Tetrachloroethane	630-20-6	✓	✓	(d)
			1,1,1-Trichloroethane	71-55-6	✓	✓	(d)
			1,1,2,2-Tetrachloroethane	79-34-5	✓	✓	(d)
			1,1,2-Trichloroethane	79-00-5	✓	✓	(d)
			1,1-Dichloroethane	75-34-3	✓	✓	(d)
			1,1-Dichloroethene	75-35-4	✓	✓	(d)
			1,1-Dichloropropene	563-58-6	✓	✓	(d)
			1,2,3-Trichlorobenzene	87-61-6	✓	✓	(d)
			1,2,3-Trichloropropane	96-18-4	✓	✓	(d)
			1,2,4-Trichlorobenzene	120-82-1	✓	✓	(d)
			1,2,4-Trimethylbenzene	95-63-6	✓	✓	(d)
			1,2-Dichlorobenzene	95-50-1	✓	✓	(d)
			1,2-Dichloroethane	107-06-2	✓	✓	(d)
			1,2-Dichloroethene	540-59-0	✓	✓	(d)
			1,2-Dichloropropane	78-87-5	✓	✓	(d)
			1,3,5-Trichlorobenzene	108-70-3	✓	✓	(d)
			1,3,5-Trimethylbenzene	108-67-8	✓	✓	(d)
			1,3-Dichlorobenzene	541-73-1	✓	✓	(d)
			1,3-Dichloropropene	542-75-6	✓	✓	(d)
			1,3-Dichloropropane	142-28-9	✓	✓	(d)
			1,4-Dichlorobenzene	106-46-7	✓	✓	(d)
			2,2-Dichloropropane	594-20-7	✓	✓	(d)
			2,2-Dimethylpentane	590-35-2	✓	✓	(d)
			2,2,3-Trimethylbutane	464-06-2	✓	✓	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Volatile Organic Compounds (continued)	**EPA 5030B/ EPA 5035**	**EPA 8260B**	2,3-Dimethylpentane	565-59-3	✓	✓	(d)
			2,4-Dimethylpentane	108-08-7	✓	✓	(d)
			2-Chlorotoluene	95-49-8	✓	✓	(d)
			2-Hexanone	591-78-6	✓	✓	(d)
			2-Methylhexane	591-76-4	✓	✓	(d)
			2-Nitropropane	79-46-9	✓	✓	(d)
			3,3-Dimethylpentane	562-49-2	✓	✓	(d)
			3-Ethylpentane	617-78-7	✓	✓	(d)
			3-Methylhexane	589-34-4	✓	✓	(d)
			4-Chlorobenzene	108-90-7	✓	✓	(d)
			4-Chlorotoluene	106-43-4	✓	✓	(d)
			4-Methyl-2-pentanone (MIBK)	108-10-1	✓	✓	(d)
			Acetone	67-64-1	✓	✓	(d)
			Acetonitrile	75-05-8	✓	✓	(d)
			Benzene	71-43-2	✓	✓	(d)
			Bromobenzene	108-86-1	✓	✓	(d)
			Bromodichloromethane	75-27-4	✓	✓	(d)
			Bromoform	75-25-2	✓	✓	(d)
			Bromomethane	74-83-9	✓	✓	(d)
			Carbon disulfide	75-15-0	✓	✓	(d)
			Carbon tetrachloride	56-23-5	✓	✓	(d)
			Chlorobenzene	108-90-7	✓	✓	(d)
			Chlorobromomethane	74-97-5	✓	✓	(d)
			Chlorodibromomethane	124-48-1	✓	✓	(d)
			Chloroethane	75-00-3	✓	✓	(d)
			Chloroform	67-66-3	✓	✓	(d)
			Chloromethane	74-87-3	✓	✓	(d)
			cis-1,2-Dichloroethene	156-59-2	✓	✓	(d)
			cis-1,3-Dichloropropene	10061-01-5	✓	✓	(d)
			Cymene (Isopropyltoluene)	99-87-6	✓	✓	(d)
			Dibromochloroethane	73506-94-2	✓	✓	(d)
			Dibromochloromethane	124-48-1	✓	✓	(d)
			Dibromochloropropane	96-12-8	✓	✓	(d)
			Dibromomethane	74-95-3	✓	✓	(d)
			Dichloromethane (Methylene chloride)	75-09-2	✓	✓	(d)
			Dimethyldisulfide	624-92-0	✓	✓	(d)
			Ethanol	64-17-5	✓	✓	(d)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Volatile Organic Compounds (continued)	**EPA 5030B/ EPA 5035**	**EPA 8260B**	Ethylbenzene	100-41-4	✓	✓	(d)
			Freon-11	75-69-4	✓	✓	(d)
			Freon-113	76-13-1	✓	✓	(d)
			Freon-12	75-71-8	✓	✓	(d)
			Heptane	142-82-5	✓	✓	(d)
			Isoheptane	31394-54-4	✓	✓	(d)
			Isopropylbenzene	98-82-8	✓	✓	(d)
			m,p-Xylene	mp-XYL	✓	✓	(d)
			Methyl ethyl ketone (2-Butanone)	78-93-3	✓	✓	(d)
			Methyl iodide	74-88-4	✓	✓	(d)
			MTBE (Methyl tert-butyl ether)	1634-04-4	✓	✓	(d)
			n-Butyl benzene	104-51-8	✓	✓	(d)
			n-Propylbenzene	103-65-1	✓	✓	(d)
			Nonanal	124-19-6	✓	✓	(d)
			o-Xylene	95-47-6	✓	✓	(d)
			sec-Butylbenzene	135-98-8	✓	✓	(d)
			Styrene	100-42-5	✓	✓	(d)
			tert-Butyl benzene	98-06-6	✓	✓	(d)
			Tetrachloroethene	127-18-4	✓	✓	(d)
			Toluene	108-88-3	✓	✓	(d)
			trans-1,2-Dichloroethene	156-60-5	✓	✓	(d)
			trans-1,3-Dichloropropene	10061-02-6	✓	✓	(d)
			Trichloroethene	79-01-6	✓	✓	(d)
			Vinyl acetate	108-05-4	✓	✓	(d)
			Vinyl chloride	75-01-4	✓	✓	(d)
			Xylenes (total)	1330-20-7	✓	✓	(d)
			Tentatively Identified Compounds (TICs)		✓	✓	(d)
Flashpoint	**NA**	**EPA 1010**	Flammables	NA	(a)	(a)	(a)
Total Petroleum Hydrocarbons	**EPA 3550 EPA 3550 EPA 1664A**	**EPA 8015**	Diesel	64742-46-7	(a)	(a)	(a)
			Gasoline	8006-61-9	(a)	(a)	(a)
			Grease	68153-81-1	(a)	(a)	(a)
			Mineral Spirits	NA	(a)	(a)	(a)
White Phosphorus	**EPA 7580M**	**EPA 7580M**	White phosphorus	12185-10-3	(a)	(a)	(a)
Methyl Mercury	**EPA 1630**	**EPA 1630**	Methyl mercury	22967-92-6	(a)	(a)	(a)

TABLE 3-2
SITE-RELATED CHEMICALS AND INITIAL SAMPLE ANALYSES AND DEPTHS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Preparation Method	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 3-1)		
					Depth 1	Depth 2/3	Deep
Soil Physical Parameters	NA	ASTM D2937/ MOSA1Ch .13	Dry bulk density	NA	(d)	✓	✓
		ASTM D2435/ MOSA1Ch .18	Total porosity	NA	(d)	✓	✓
		ASTM D5084	Soil permeability/saturated hydraulic cond.	NA	(d)	✓	✓
		ASTM D854	Specific gravity of soils	NA	(d)	✓	✓
		SW846 Method 9081	Cation exchange capacity	NA	(d)	✓	✓
		ASTM D2216/D4643/D2974	Volumetric water content	NA	(d)	✓	✓
		ASTM D422	Grain size analysis by sieve and hydrometer	NA	(d)	✓	✓
		EPA 415.1/ASTM 2947	Fractional organic carbon content	NA	(d)	✓	✓

Notes:

Laboratory limits are subject to matrix interferences and may not always be achieved in all samples.

The laboratory was instructed to report the top 25 Tentatively Identified Compounds (TICs) under method 8260B and 8270C.

NA = Not applicable.

a - Removed based on rationale provided in the text.

b - Dioxins/furans and PCBs analyzed for in fill and surface soil samples only.

c - Asbestos analyzed for in current grade surface soil samples only.

d - Soil physical parameters collected from at-depth samples only; from one sample location (see Table 3-1).

e - Removed based on Revisions to the Analyte List Technical Memorandum approved by NDEP on 10/16/2008.

TABLE 3-3
FINAL CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Depth	Sample Type	Scraped?	Asbestos	Alde-hydes	Dioxins	Gen Chem	Metals	OCPs	PAHs	PCBs	Rads	SVOCs	VOCs
SRC1-AG16	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AG17	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AG18	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AH15	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AH16	0	Random	YES	X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC2-AH16E	0	Confirmation		X										
SRC2-AH16N	0	Confirmation		X										
SRC2-AH16R	0	Confirmation		X										
SRC2-AH16S	0	Confirmation		X										
SRC2-AH16W	0	Confirmation		X										
SRC1-AH17	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AH18	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AH19	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AI17	0	Random		X	X	X	X	X	X	X	X	X	X	X
	3	Random			X		X	X	X	X		X	X	X
	13	Random			X		X	X	X	X		X	X	X
SRC2-AI19N	0	Confirmation				X					X			
SRC2-AI19SE	0	Confirmation				X					X			
SRC2-AI19SW	0	Confirmation				X					X			
SRC2-AI19W	0	Confirmation				X					X			
SRC1-AI20	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AJ18	0	Random		X	X	X	X	X	X	X	X	X	X	X
	3	Random			X		X	X	X	X		X	X	X
	13	Random			X		X	X	X	X		X	X	X
SRC1-AJ19	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X					X
SRC1-AJ20	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
	21	Random			X		X	X	X	X		X	X	X

TABLE 3-3
FINAL CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Depth	Sample Type	Scraped?	Asbestos	Alde-hydes	Dioxins	Gen Chem	Metals	OCPs	PAHs	PCBs	Rads	SVOCs	VOCs
SRC1-AJ21	0	Random		X	X	X	X	X	X	X	X	X	X	X
	12	Random			X		X	X	X	X		X	X	X
SRC1-AJ22	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AJ23	0	Random		X	X	X	X	X	X	X	X	X	X	X
	4	Random			X		X	X	X	X		X	X	X
	14	Random			X		X	X	X	X		X	X	X
SRC1-AJ24	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AJ25	0	Random		X	X	X	X	X	X	X	X	X	X	X
	3	Random			X		X	X	X	X		X	X	X
	13	Random			X		X	X	X	X		X	X	X
SRC1-AJ26	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AJ27	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AJ28	0	Random		X		X	X	X	X	X	X	X	X	X
	12	Random			X		X	X	X	X		X	X	X
SRC1-AK20	0	Random		X	X	X	X	X	X	X	X	X	X	X
	9	Random			X		X	X	X	X		X	X	X
	19	Random			X		X	X	X	X		X	X	X
SRC1-AK21	0	Random		X	X	X	X	X	X	X	X	X	X	X
	8	Random			X		X	X	X	X		X	X	X
	18	Random			X		X	X	X	X		X	X	X
SRC1-AK23	0	Random		X	X	X	X	X	X	X	X	X	X	X
	4	Random			X		X	X	X	X		X	X	X
	14	Random			X		X	X	X	X		X	X	X
SRC1-AK24	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
	13	Random			X		X	X	X					X
SRC1-AK25	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AK26	0	Random		X	X	X	X	X	X	X	X	X	X	X
	10	Random			X		X	X	X	X		X	X	X
SRC1-AK27	0	Random		X	X	X	X	X	X	X	X	X	X	X
	3	Random			X		X	X	X	X		X	X	X
	13	Random					X			X		X	X	

TABLE 3-3
FINAL CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 3 of 6)

Sample Location	Sample Depth	Sample Type	Scraped?	Asbestos	Alde-hydes	Dioxins	Gen Chem	Metals	OCPs	PAHs	PCBs	Rads	SVOCs	VOCs
SRC1-AL24	0	Random		X	X	X	X	X	X	X	X	X	X	X
	8	Random			X		X	X	X	X		X	X	X
	18	Random			X		X	X	X	X		X	X	X
SRC1-AL26	0	Random		X		X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-AL28	0	Random	YES	X	X	X	X	X	X	X	X	X	X	X
	4	Random			X		X	X	X	X		X	X	X
	14	Random			X		X	X	X	X		X	X	X
SRC2-AL28C	0	Confirmation				X					X			
SRC1-AM27	0	Random	YES	X	X	X	X	X	X	X	X	X	X	X
	3	Random			X		X	X	X	X		X	X	X
	13	Random			X		X	X	X	X		X	X	X
SRC2-AM27C	0	Confirmation				X		X			X			
SRC2-AM27S-WALL	0	Confirmation				X					X			
SRC1-AM28	0	Random			X	X	X	X	X	X	X	X	X	X
	7	Random			X		X	X	X	X		X	X	X
	17	Random			X		X	X	X	X		X	X	X
SRC1-AN28	0	Random		X	X	X	X	X	X	X	X	X	X	X
	11	Random			X		X	X	X	X		X	X	X
SRC1-J01	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	11	Biased			X		X	X	X	X		X	X	X
SRC1-J02	0	Biased	YES	X	X	X	X	X	X	X	X	X	X	X
	3	Biased			X		X	X	X	X		X	X	X
	13	Biased			X		X	X	X	X		X	X	X
SRC3-J02C2	0	Confirmation				X		X			X			
SRC4-J02C2	0	Confirmation				X		X			X			
SRC2-J02E	0	Confirmation	YES			X		X			X			
SRC2-J02N	0	Confirmation				X		X			X			
SRC3-J02NE	0	Confirmation	YES			X		X			X			
SRC4-J02NE2	0	Confirmation				X		X			X			
SRC3-J02NW	0	Confirmation				X		X			X			
SRC4-J02NW2	0	Confirmation				X		X			X			
SRC2-J02S	0	Confirmation				X		X			X			
SRC3-J02SE	0	Confirmation				X		X			X			
SRC4-J02SE2	0	Confirmation				X		X			X			
SRC3-J02SW	0	Confirmation				X		X			X			
SRC4-J02SW2	0	Confirmation				X		X			X			
SRC2-J02W	0	Confirmation				X		X			X			

TABLE 3-3
FINAL CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 4 of 6)

Sample Location	Sample Depth	Sample Type	Scraped?	Asbestos	Alde-hydes	Dioxins	Gen Chem	Metals	OCPs	PAHs	PCBs	Rads	SVOCs	VOCs
SRC1-J03	0	Biased	YES	X	X	X	X	X	X	X	X	X	X	X
	5	Biased			X		X	X	X	X		X	X	X
	15	Biased			X		X	X	X	X		X	X	X
SRC3-J03C2	0	Confirmation	YES			X		X			X			
SRC4-J03C2	0	Confirmation				X		X			X			
SRC2-J03E	0	Confirmation				X		X			X			
SRC2-J03N	0	Confirmation				X		X			X			
SRC3-J03NE	0	Confirmation				X		X			X			
SRC4-J03NE2	0	Confirmation				X		X			X			
SRC3-J03NW	0	Confirmation				X		X			X			
SRC2-J03S	0	Confirmation	YES			X		X			X			
SRC3-J03SE	0	Confirmation	YES			X		X			X			
SRC4-J03SE2	0	Confirmation				X		X			X			
SRC3-J03SW	0	Confirmation				X		X			X			
SRC4-J03SW2	0	Confirmation				X		X			X			
SRC2-J03W	0	Confirmation				X		X			X			
SRC1-J07	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	10	Biased			X		X	X	X	X		X	X	X
SRC1-J09	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	11	Biased			X		X	X	X	X		X	X	X
SRC1-J10	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	11	Biased			X		X	X	X	X		X	X	X
SRC1-J11	0	Biased	YES	X	X	X	X	X	X	X	X	X	X	X
	10	Biased			X		X	X	X	X		X	X	X
SRC2-J11C	0	Confirmation	YES			X					X			
SRC3-J11C2	0	Confirmation				X					X			
SRC4-J11CN2	0	Confirmation				X					X			
SRC4-J11CS2	0	Confirmation				X					X			
SRC4-J11E2	0	Confirmation				X					X			
SRC4-J11N2	0	Confirmation	YES			X					X			
SRC5-J11N2	0	Confirmation	YES			X					X			
SRC6-J11N3	0	Confirmation				X					X			
SRC3-J11NE	0	Confirmation	YES			X					X			
SRC3-J11NW	0	Confirmation	YES			X					X			
SRC4-J11S2	0	Confirmation				X					X			
SRC3-J11SE	0	Confirmation				X					X			
SRC3-J11SW	0	Confirmation				X					X			

TABLE 3-3
FINAL CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Depth	Sample Type	Scraped?	Asbestos	Alde-hydes	Dioxins	Gen Chem	Metals	OCPs	PAHs	PCBs	Rads	SVOCs	VOCs
SRC4-J11W2	0	Confirmation	YES			X					X			
SRC5-J11W2	0	Confirmation				X					X			
SRC1-J12	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	12	Biased			X		X	X	X	X		X	X	X
SRC1-J13	0	Biased	YES	X	X	X	X	X	X	X	X	X	X	X
	3	Biased			X		X	X	X	X		X	X	X
	13	Biased			X		X	X	X	X		X	X	X
SRC2-J13C	0	Confirmation				X					X			
SRC1-J14	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	12	Biased			X		X	X	X	X		X	X	X
SRC1-J15	0	Biased		X	X	X	X	X	X	X	X	X	X	X
	12	Biased			X		X	X	X	X		X	X	X
SRC2-J16S-WALL	0	Confirmation				X					X			
SRC2-J17S-WALL	0	Confirmation				X					X			
SRC2-J18S-WALL	0	Confirmation				X					X			
SRC2-J19S-WALL	0	Confirmation				X					X			
SRC2-J20	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J21	0	Supplemental	YES			X	X	X	X	X	X	X	X	X
SRC3-J21C2	0	Confirmation	YES					X						
SRC4-J21CE2	0	Confirmation	YES					X						
SRC5-J21CE2	0	Confirmation						X						
SRC4-J21CW2	0	Confirmation						X						
SRC3-J21NE	0	Confirmation						X						
SRC4-J21NE2	0	Confirmation						X						
SRC3-J21NW	0	Confirmation						X						
SRC4-J21NW2	0	Confirmation						X						
SRC3-J21SE	0	Confirmation	YES					X						
SRC4-J21SE2	0	Confirmation						X						
SRC3-J21SW	0	Confirmation						X						
SRC4-J21SW2	0	Confirmation						X						
SRC2-J22	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J23	0	Supplemental	YES			X	X	X	X	X	X	X	X	X
SRC3-J23C2	0	Confirmation				X					X			
SRC4-J23C2	0	Confirmation				X					X			
SRC3-J23NE	0	Confirmation				X					X			
SRC4-J23NE2	0	Confirmation				X					X			
SRC3-J23NW	0	Confirmation				X					X			
SRC4-J23NW2	0	Confirmation				X					X			

TABLE 3-3
FINAL CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample Location	Sample Depth	Sample Type	Scraped?	Asbestos	Alde-hydes	Dioxins	Gen Chem	Metals	OCPs	PAHs	PCBs	Rads	SVOCs	VOCs
SRC3-J23SE	0	Confirmation	YES			X					X			
SRC4-J23SE2	0	Confirmation				X					X			
SRC3-J23SW	0	Confirmation				X					X			
SRC4-J23SW2	0	Confirmation				X					X			
SRC2-J24	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J25	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J26	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J27	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J28	0	Supplemental			X	X	X	X	X	X	X	X	X	X
SRC2-J29	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J30	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J31	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J32	0	Supplemental				X	X	X	X	X	X	X	X	X
SRC2-J33	0	Supplemental				X	X	X	X		X	X		X
SRC2-J34	0	Supplemental				X	X	X	X		X	X		X

(shaded) = Location removed. As noted in the text, post-scrape analyses associated with follow-up rounds of remediation focused on the analytes triggering that additional remediation, and did not include the full suite analyses of the original analytical program. Therefore, analytical results from the original SAP dataset were retained for all analytes except those that were re-run after additional scraping.

TABLE 3-4
FINAL HUMAN HEALTH RISK ASSESSMENT SOIL DATASET RESULTS SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]							Residential Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[2]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Asbestos[3]	Amphibole	Structures	53	0%	53	--	--	--	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chrysotile	Structures	53	17.0%	44	--	--	--	--	--	--	9	1	--	--	--	--	7	--	--	--	--	--	--	--	--
Aldehydes	Acetaldehyde	mg/kg	115	0.9%	114	0.151	0.16	0.16	0.22	0.31	0.564	1	0.17	--	0.17	0.17	--	0.17	13.9	0	--	--	--	--	--	--
	Formaldehyde	mg/kg	115	55.7%	51	0.101	0.11	1	0.64	1	1.08	64	0.11	0.16	0.31	0.45	0.48	2.52	10.6	0	--	--	--	--	--	--
Dioxins/Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran[4]	pg/g	123	63.4%	45	0.046	0.29	0.63	0.85	1.1	2.4	78	2.6	8.8	26	38	60	140	--	--	--	--	--	--	--	--
	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin[4]	pg/g	123	40.7%	73	0.044	0.2	1	0.98	1.7	2.4	50	2.5	4.2	8.3	12	18	61	--	--	--	--	--	--	--	--
	1,2,3,4,7,8,9-Heptachlorodibenzofuran[4]	pg/g	123	52.8%	58	0.056	0.22	0.88	0.93	1.3	2.5	65	2.7	7.4	16	20	26	69	--	--	--	--	--	--	--	--
	1,2,3,4,7,8-Hexachlorodibenzofuran[4]	pg/g	123	58.5%	51	0.029	0.34	0.57	0.83	1.3	2.3	72	2.6	6.7	15	20	29	68	--	--	--	--	--	--	--	--
	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin[4]	pg/g	123	0%	123	0.003	0.069	0.45	0.55	0.79	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2,3,6,7,8-Hexachlorodibenzofuran[4]	pg/g	123	50.4%	61	0.032	0.24	0.51	0.8	1.3	2.5	62	2.6	6.6	12	14	20	40	--	--	--	--	--	--	--	--
	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin[4]	pg/g	123	10.6%	110	0.013	0.21	0.53	0.75	1.2	2.6	13	2.5	2.8	3.5	3.4	3.8	4.5	--	--	--	--	--	--	--	--
	1,2,3,7,8,9-Hexachlorodibenzofuran[4]	pg/g	123	17.1%	102	0.032	0.37	0.8	0.99	1.5	4.3	21	2.7	3.2	4.2	4.7	6.6	7.9	--	--	--	--	--	--	--	--
	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin[4]	pg/g	123	7.3%	114	0.027	0.21	0.49	0.78	1.3	2.5	9	2.8	3	3.4	3.3	3.8	3.9	--	--	--	--	--	--	--	--
	1,2,3,7,8-Pentachlorodibenzofuran[4]	pg/g	123	49.6%	62	0.035	0.31	0.6	0.79	1.1	2.3	61	2.5	6.7	12	13	18	37	--	--	--	--	--	--	--	--
	1,2,3,7,8-Pentachlorodibenzo-p-dioxin[4]	pg/g	123	3.3%	119	0.016	0.091	0.41	0.61	0.96	2.5	4	2.6	2.6	2.9	2.9	3.2	3.2	--	--	--	--	--	--	--	--
	2,3,4,6,7,8-Hexachlorodibenzofuran[4]	pg/g	123	30.1%	86	0.021	0.18	0.59	0.81	1.5	2.4	37	2.6	3.4	4.8	5.3	6.5	10	--	--	--	--	--	--	--	--
	2,3,4,7,8-Pentachlorodibenzofuran[4]	pg/g	123	42.3%	71	0.037	0.18	0.4	0.52	0.68	1.8	52	2.8	4.5	7	8.1	10	20	--	--	--	--	--	--	--	--
	2,3,7,8-Tetrachlorodibenzofuran[4]	pg/g	123	68.3%	39	0.053	0.16	0.23	0.3	0.52	0.58	84	0.51	1.8	5.8	7.7	12	32	--	--	--	--	--	--	--	--
	2,3,7,8-Tetrachlorodibenzo-p-dioxin[4]	pg/g	123	17.1%	102	0.0085	0.036	0.15	0.17	0.25	0.62	21	0.51	0.57	0.68	0.74	0.81	1.3	--	--	--	--	--	--	--	--
	Octachlorodibenzodioxin[4]	pg/g	123	44.7%	68	0.16	0.33	1.3	2	2.5	20	55	6	10	22	76	93	850	--	--	--	--	--	--	--	--
	Octachlorodibenzofuran[4]	pg/g	123	69.1%	38	0.29	1.1	1.5	1.5	2.1	3.2	85	5.2	34	89	160	250	700	--	--	--	--	--	--	--	--
	TCDD TEQ	pg/g	123	--[4]	--	--	--	--	--	--	--	123	0.09	0.7	2.2	6.5	10	32.9	50	0	--	--	--	--	--	--
General Chemistry/ Ions	Ammonia (as N)	mg/kg	133	24.8%	100	0.78	0.81	0.82	2	0.83	102	33	0.24	0.48	1.2	2.2	1.6	30.8	--	--	--	--	--	--	--	--
	Bromide	mg/kg	133	15.8%	112	0.25	0.26	0.26	0.28	0.27	2.6	21	0.29	0.93	2.1	2.1	3.2	4.8	--	--	--	--	--	--	--	--
	Chlorate	mg/kg	133	5.3%	126	0.48	0.54	0.55	0.7	0.56	5.5	7	0.95	1.8	4.2	5.8	9.2	15.4	--	--	--	--	--	--	--	--
	Chloride	mg/kg	133	100%	0	--	--	--	--	--	--	133	0.77	13	35	120	160	923	--	--	--	--	--	--	--	--
	Cyanide, Total	mg/kg	132	22.7%	102	0.08	0.084	0.51	0.33	0.52	0.57	30	0.094	0.13	0.17	0.21	0.21	0.75	1220	0	2	0	40	0	--	--
	Fluoride	mg/kg	133	86.5%	18	0.1	0.1	0.1	0.1	0.1	0.1	115	0.2	0.93	1.3	1.7	2.1	9.9	3670	0	--	--	--	--	--	--
	Nitrate	mg/kg	133	100%	0	--	--	--	--	--	--	133	0.3	2.1	6.8	41	27	918	100000	0	7	65	140	12	--	--
	Nitrite	mg/kg	133	9.0%	121	0.02	0.021	0.021	0.027	0.021	0.21	12	0.11	0.15	0.2	0.31	0.33	1.3	7820	0	--	--	--	--	--	--
	Orthophosphate as P	mg/kg	133	28.6%	95	0.51	0.52	0.53	1.4	0.54	5.4	38	1	2	6.2	7.3	11	26.4	--	--	--	--	--	--	--	--
	Perchlorate	mg/kg	129	71.3%	37	0.0101	0.011	0.011	0.011	0.011	0.011	92	0.0129	0.058	0.17	0.68	0.53	8.9	54.8	0	0.0263	82	0.526	23	--	--
	Sulfate	mg/kg	133	97.7%	3	5.1	5.1	5.2	5.2	5.2	5.2	130	5.2	60	120	350	260	5850	--	--	--	--	--	--	--	--
	Sulfide	mg/kg	133	3.0%	129	0.84	1.8	1.8	1.8	1.9	2	4	20.2	20	20	30	50	60.5	--	--	--	--	--	--	--	--
	Total Kjeldahl Nitrogen (TKN)	mg/kg	133	100%	0	--	--	--	--	--	--	133	19.1	46	78	140	150	1810	--	--	--	--	--	--	--	--
Metals	Aluminum	mg/kg	164	100%	0	--	--	--	--	--	--	164	7900	11000	12000	12000	14000	18400	77200	0	75	164	1500	164	15300	25
	Antimony	mg/kg	164	0.6%	163	0.126	0.23	0.25	0.42	0.32	2.7	1	0.37	--	0.37	0.37	--	0.37	31.3	0	0.3	1	6	0	0.5	0
	Arsenic	mg/kg	164	86.0%	23	0.945	5.2	5.3	5.1	5.4	5.5	141	1.4	2.7	3.5	3.7	4.3	10	0.39	141	1	141	20	0	7.2	2
	Barium	mg/kg	164	100%	0	--	--	--	--	--	--	164	70	220	260	270	310	548	15300	0	82	163	1640	0	445	2
	Beryllium	mg/kg	164	98.2%	3	0.52	0.52	0.53	0.53	0.53	0.53	161	0.43	0.58	0.63	0.67	0.71	5	155	0	3	1	60	0	0.89	1
	Boron	mg/kg	164	6.7%	153	2.99	6.6	13	16	17	55.7	11	5.2	7.4	9	16	21	68.3	15600	0	23.4	1	467	0	11.6	3
	Cadmium	mg/kg	164	28.0%	118	0.04	0.11	0.24	0.2	0.26	0.27	46	0.087	0.11	0.13	0.16	0.18	0.53	38.9	0	0.4	1	8	0	0.1291	24
	Calcium	mg/kg	164	100%	0	--	--	--	--	--	--	164	4630	18000	22000	23000	28000	57400	--	--	--	--	--	--	82800	0
	Chromium	mg/kg	164	100%	0	--	--	--	--	--	--	164	5.5	10	13	14	16	28.2	100000	0	--	--	--	--	16.7	33
	Chromium (VI)	mg/kg	164	42.7%	94	0.1	0.1	0.11	0.18	0.11	0.44	70	0.11	0.15	0.22	0.27	0.28	1.5	234	0	2	0	40	0	0.32	11
	Cobalt	mg/kg	164	100%	0	--	--	--	--	--	--	164	4.8	9.4	11	11	12	22.9	23.4	0	0.495	164	9.9	109	16.3	12
	Copper	mg/kg	164	100%	0	--	--	--	--	--	--	164	10.7	17	20	22	25	88.9	2910	0	45.8	2	915	0	25.9	38
	Iron	mg/kg	164	100%	0	--	--	--	--	--	--	164	9850	17000	18000	19000	20000	28400	54800	0	7.56	164	151	164	19700	45
	Lead	mg/kg	164	100%	0	--	--	--	--	--	--	164	5.9	9.3	11	13	14	66.2	400	0	--	--	--	--	35.1	6
	Lithium	mg/kg	164	100%	0	--	--	--	--	--	--	164	8.1	11	13	13	14	50.6	156	0	21.9	2	438	0	26.5	1
	Magnesium	mg/kg	164	100%	0	--	--	--	--	--	--	164	5530	9500	11000	11000	12000	17400	100000	0	973	164	19500	0	17500	0
	Manganese	mg/kg	164	100%	0	--	--	--	--	--	--	164	240	440	530	560	660	1260	1820	0	1.3	164	26.1	164	863	10

TABLE 3-4
FINAL HUMAN HEALTH RISK ASSESSMENT SOIL DATASET RESULTS SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]							Residential Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[2]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Metals	Mercury	mg/kg	158	46.8%	84	0.005	0.012	0.012	0.018	0.034	0.0371	74	0.0068	0.015	0.023	0.032	0.036	0.402	23.5	0	0.104	1	2.09	0	0.11	1
	Molybdenum	mg/kg	164	45.1%	90	0.376	0.47	2.5	1.7	2.6	2.7	74	0.28	0.42	0.53	0.62	0.66	2.7	391	0	3.69	0	73.7	0	2	1
	Nickel	mg/kg	164	100%	0	--	--	--	--	--	--	164	10.8	16	17	18	20	38.7	1540	0	7	164	140	0	30	1
	Potassium	mg/kg	164	100%	0	--	--	--	--	--	--	164	887	1400	2000	2000	2400	4000	--	--	--	--	--	--	3890	1
	Selenium	mg/kg	164	1.2%	162	0.16	0.23	0.33	0.64	0.4	2.8	2	0.34	--	1	1	--	1.7	391	0	0.3	2	6	0	0.6	1
	Silver	mg/kg	164	60.4%	65	0.11	0.43	0.85	0.79	1.1	1.1	99	0.075	0.12	0.14	0.3	0.2	10.4	391	0	0.85	3	17	0	0.2609	15
	Sodium	mg/kg	164	100%	0	--	--	--	--	--	--	164	260	520	660	730	880	2440	--	--	--	--	--	--	1320	6
	Strontium	mg/kg	164	100%	0	--	--	--	--	--	--	164	124	250	300	320	350	623	46900	0	--	--	--	--	808	0
	Thallium	mg/kg	164	6.1%	154	0.105	0.3	0.6	0.54	0.75	1.1	10	0.19	0.31	0.33	0.44	0.46	1.2	5.48	0	0.4	3	8	0	1.8	0
	Tin	mg/kg	164	37.2%	103	0.3	0.6	0.75	0.71	0.75	1.1	61	0.33	0.46	0.63	1.2	1.1	28.7	46900	0	--	--	--	--	0.8	24
	Titanium	mg/kg	164	100%	0	--	--	--	--	--	--	164	121	650	760	790	880	1510	100000	0	146000	0	2920000	0	1010	19
	Tungsten	mg/kg	164	12.2%	144	0.185	0.5	1	1.2	1.3	2.8	20	0.17	0.39	0.97	1.4	2	4.5	587	0	41.1	0	822	0	0.0175	20
	Uranium	mg/kg	164	100%	0	--	--	--	--	--	--	164	0.7	0.9	1.1	1.1	1.3	2.6	234	0	13.5	0	270	0	2.7	0
	Vanadium	mg/kg	164	100%	0	--	--	--	--	--	--	164	27.3	45	51	55	60	108	391	0	300	0	6000	0	59.1	43
	Zinc	mg/kg	164	100%	0	--	--	--	--	--	--	164	25.1	41	47	51	55	249	23500	0	620	0	12400	0	121	1
Organochlorine Pesticides	2,4-DDD	mg/kg	133	0.8%	132	0.00014	0.00031	0.00032	0.00036	0.00032	0.0032	1	0.004	--	0.004	0.004	--	0.004	--	--	--	--	--	--	--	--
	2,4-DDE	mg/kg	133	11.3%	118	0.00013	0.00021	0.00021	0.00024	0.00021	0.0021	15	0.0019	0.003	0.0045	0.0086	0.014	0.029	--	--	--	--	--	--	--	--
	4,4-DDD	mg/kg	133	0.8%	132	0.00009	0.000092	0.000094	0.00011	0.000095	0.00093	1	0.0023	--	0.0023	0.0023	--	0.0023	2.44	0	0.8	0	16	0	--	--
	4,4-DDE	mg/kg	133	21.1%	105	0.00019	0.0002	0.0002	0.00025	0.00021	0.002	28	0.0018	0.0031	0.0053	0.01	0.012	0.052	1.72	0	3	0	60	0	--	--
	4,4-DDT	mg/kg	133	9.8%	120	0.0002	0.00021	0.00021	0.00026	0.00022	0.0021	13	0.0019	0.0026	0.0043	0.0045	0.0055	0.0093	1.72	0	2	0	40	0	--	--
	Aldrin	mg/kg	133	0%	133	0.000092	0.000097	0.000099	0.00012	0.0001	0.00099	0	--	--	--	--	--	--	0.0286	--	0.02	--	0.4	--	--	--
	alpha-BHC	mg/kg	133	0%	133	0.000095	0.00029	0.00029	0.00032	0.0003	0.0029	0	--	--	--	--	--	--	21.1	--	0.0291	--	0.583	--	--	--
	alpha-Chlordane	mg/kg	133	0%	133	0.0001	0.00022	0.00022	0.00025	0.00022	0.0022	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	beta-BHC	mg/kg	133	9.8%	120	0.00013	0.00019	0.00019	0.00023	0.0002	0.0019	13	0.0018	0.0026	0.0053	0.0092	0.014	0.035	4.22	0	0.00596	6	0.119	0	--	--
	Chlordane	mg/kg	133	0%	133	0.0015	0.0024	0.0024	0.0028	0.0025	0.024	0	--	--	--	--	--	--	1.62	--	0.5	--	10	--	--	--
	delta-BHC	mg/kg	133	0%	133	0.00011	0.00017	0.00017	0.0002	0.00018	0.0017	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dieldrin	mg/kg	133	0%	133	0.000092	0.000094	0.000096	0.00011	0.000097	0.00095	0	--	--	--	--	--	--	0.0304	--	0.0002	--	0.004	--	--	--
	Endosulfan I	mg/kg	133	0%	133	0.000096	0.00011	0.00011	0.00013	0.00011	0.0011	0	--	--	--	--	--	--	367	--	0.9	--	18	--	--	--
	Endosulfan II	mg/kg	133	0%	133	0.000094	0.000096	0.000098	0.00012	0.0001	0.00097	0	--	--	--	--	--	--	367	--	0.9	--	18	--	--	--
	Endosulfan sulfate	mg/kg	133	0%	133	0.00013	0.00027	0.00027	0.00031	0.00028	0.0027	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Endrin	mg/kg	133	0%	133	0.000084	0.000086	0.000087	0.00011	0.000089	0.00087	0	--	--	--	--	--	--	18.3	--	0.05	--	1	--	--	--
	Endrin aldehyde	mg/kg	133	0%	133	0.00015	0.00018	0.00019	0.00022	0.00019	0.0019	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Endrin ketone	mg/kg	133	0%	133	0.00013	0.00017	0.00017	0.0002	0.00017	0.0017	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	gamma-BHC (Lindane)	mg/kg	133	0%	133	0.0001	0.00013	0.00013	0.00015	0.00013	0.0013	0	--	--	--	--	--	--	0.703	--	0.0005	--	0.01	--	--	--
	gamma-Chlordane	mg/kg	133	0%	133	0.000084	0.000086	0.000087	0.0001	0.000088	0.00087	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Heptachlor	mg/kg	133	0%	133	0.000096	0.00018	0.00018	0.0002	0.00018	0.0018	0	--	--	--	--	--	--	0.108	--	1	--	20	--	--	--
	Heptachlor epoxide	mg/kg	133	0%	133	0.00012	0.00013	0.00014	0.00016	0.00014	0.0014	0	--	--	--	--	--	--	0.0534	--	0.03	--	0.6	--	--	--
	Methoxychlor	mg/kg	133	1.5%	131	0.00032	0.00033	0.00033	0.0004	0.00034	0.0033	2	0.0038	--	0.0074	0.0074	--	0.011	306	0	8	0	160	0	--	--
	Toxaphene	mg/kg	133	0%	133	0.0057	0.0059	0.0061	0.0072	0.0062	0.061	0	--	--	--	--	--	--	0.442	--	2	--	40	--	--	--
Polynuclear Aromatic Hydrocarbons	Acenaphthene	mg/kg	129	0%	129	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	0	--	--	--	--	--	--	509	--	29	--	580	--	--	--
	Acenaphthylene	mg/kg	129	0.8%	128	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	1	0.00315	--	0.0032	0.0032	--	0.00315	147	0	--	--	--	--	--	--
	Anthracene	mg/kg	129	0.8%	128	0.00167	0.0017	0.0018	0.0018	0.0018	0.00683	1	0.00375	--	0.0038	0.0038	--	0.00375	2000	0	590	0	11800	0	--	--
	Benzo(a)anthracene	mg/kg	129	14.7%	110	0.00168	0.0017	0.0018	0.002	0.0018	0.00708	19	0.00177	0.002	0.0027	0.0048	0.0069	0.0135	0.621	0	0.08	0	1.6	0	--	--
	Benzo(a)pyrene	mg/kg	129	10.1%	116	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	13	0.00183	0.0025	0.0055	0.0065	0.01	0.0142	0.0621	0	0.4	0	8	0	--	--
	Benzo(b)fluoranthene	mg/kg	129	16.3%	108	0.00168	0.0017	0.0018	0.0018	0.0018	0.00708	21	0.00182	0.002	0.0048	0.0097	0.011	0.0576	0.621	0	0.2	0	4	0	--	--
	Benzo(g,h,i)perylene	mg/kg	129	9.3%	117	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	12	0.00207	0.0032	0.0071	0.0073	0.0077	0.0212	2350	0	--	--	--	--	--	--
	Benzo(k)fluoranthene	mg/kg	129	4.7%	123	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	6	0.00218	0.0023	0.006	0.0051	0.007	0.00747	6.21	0	2	0	40	0	--	--
	Chrysene	mg/kg	129	9.3%	117	0.00167	0.0017	0.0018	0.0037	0.0018	0.016	12	0.00205	0.0023	0.0042	0.0056	0.0096	0.0128	62.1	0	8	0	160	0	--	--
	Dibenzo(a,h)anthracene	mg/kg	129	0.8%	128	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	1	0.00279	--	0.0028	0.0028	--	0.00279	0.0621	0	0.08	0	1.6	0	--	--
	Indeno(1,2,3-cd)pyrene	mg/kg	129	9.3%	117	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	12	0.00183	0.0023	0.0063	0.0064	0.0071	0.0235	0.621	0	0.7	0	14	0	--	--
	Phenanthrene	mg/kg	129	7.0%	120	0.00167	0.0017	0.0018	0.0017	0.0018	0.00186	9	0.00192	0.0029	0.0042	0.005	0.0066	0.0114	24.5	0	--	--	--	--	--	--
	Pyrene	mg/kg	129	13.2%	112	0.00168	0.0017	0.0018	0.0018	0.0018	0.00683	17	0.00198	0.0022	0.0035	0.0073	0.0089	0.0239	1890	0	210	0	4200	0	--	--

TABLE 3-4
FINAL HUMAN HEALTH RISK ASSESSMENT SOIL DATASET RESULTS SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]							Residential Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[2]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Polychlorinated Biphenyls	PCB 105[4]	pg/g	123	78.9%	26	0.042	0.35	2	1.4	2.1	2.1	97	2.1	15	56	160	150	2700	--	--	--	--	--	--	--	--
	PCB 114[4]	pg/g	123	50.4%	61	0.041	0.13	0.44	1.1	2.1	2.1	62	2.5	4.9	8.6	15	19	110	--	--	--	--	--	--	--	--
	PCB 118[4]	pg/g	123	84.6%	19	0.038	0.43	2	2.3	2.1	7.4	104	2.5	19	98	260	250	4700	--	--	--	--	--	--	--	--
	PCB 123[4]	pg/g	123	0%	123	0.042	0.19	2	2	2.1	30	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCB 126[4]	pg/g	123	35.0%	80	0.052	0.14	0.37	1	2.1	2.1	43	2.2	3.3	5.6	7.7	9.9	40	--	--	--	--	--	--	--	--
	PCB 156[4]	pg/g	123	64.2%	44	0.027	0.1	2	1.2	2.1	2.1	79	2.3	11	23	58	54	740	--	--	--	--	--	--	--	--
	PCB 157[4]	pg/g	123	49.6%	62	0.027	0.085	2	1.1	2.1	2.1	61	2	4.2	7.7	17	18	170	--	--	--	--	--	--	--	--
	PCB 167[4]	pg/g	123	56.9%	53	0.032	0.099	2	1.1	2.1	2.1	70	2.2	5.3	11	22	26	260	--	--	--	--	--	--	--	--
	PCB 169[4]	pg/g	123	2.4%	120	0.043	0.15	0.42	0.95	2	2.1	3	2.7	2.7	2.7	3.6	5.5	5.5	--	--	--	--	--	--	--	--
	PCB 189[4]	pg/g	123	39.8%	74	0.028	0.098	0.36	1	2.1	2.1	49	2.2	3.7	5.6	8.3	10	46	--	--	--	--	--	--	--	--
	PCB 209[4]	pg/g	123	78.0%	27	0.017	0.12	2	1.3	2.1	2.1	96	21	160	580	880	1300	4900	--	--	--	--	--	--	--	--
	PCB 77[4]	pg/g	123	0%	123	0.045	0.2	2	2.7	2.1	26	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCB 81[4]	pg/g	123	0%	123	0.042	0.17	2	1.9	2.1	19	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Radionuclides	Radium-226	pCi/g	132	90.2%	13	--	--	--	--	--	--	119	0.0949	0.67	0.92	0.92	1.1	2.39	0.0071	119	0.016	119	0.32	119	2.36	1
	Radium-228	pCi/g	132	95.5%	6	--	--	--	--	--	--	126	0.313	1.3	1.6	1.7	2.1	3.64	0.013	126	0.016	126	0.32	126	2.92	5
	Thorium-228	pCi/g	132	99.2%	1	--	--	--	--	--	--	131	0.663	1.5	1.7	1.8	2	3.71	0.0078	131	0.0023	131	0.045	131	2.28	10
	Thorium-230	pCi/g	132	89.4%	14	--	--	--	--	--	--	118	0.306	0.8	1	1	1.3	2.59	3.2	0	0.00084	118	0.017	118	3.01	0
	Thorium-232	pCi/g	132	100%	0	--	--	--	--	--	--	132	0.525	1.2	1.4	1.5	1.8	2.8	2.8	0	0.0029	132	0.058	132	2.23	9
	Uranium-233/234	pCi/g	132	94.7%	7	--	--	--	--	--	--	125	0.341	0.86	1	1.1	1.2	3.36	4.2	0	--	--	--	--	2.84	2
	Uranium-235/236	pCi/g	132	8.3%	121	--	--	--	--	--	--	11	-0.19	0.00034	0.067	0.075	0.12	0.412	0.11	9	--	--	--	--	0.21	4
	Uranium-238	pCi/g	132	99.2%	1	--	--	--	--	--	--	131	0.371	0.8	0.96	0.99	1.1	2.24	0.46	128	--	--	--	--	2.37	0
Semivolatile Organic Compounds	1,2,4,5-Tetrachlorobenzene	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	18.3	--	--	--	--	--	--	--
	1,2-Diphenylhydrazine	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	0.608	--	--	--	--	--	--	--
	1,4-Dioxane	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	4.86	--	--	--	--	--	--	--
	2,2'-Dichlorobenzil	mg/kg	129	0%	129	0.0116	0.11	0.12	0.1	0.12	0.123	0	--	--	--	--	--	--	23.5	--	0.0003	--	0.006	--	--	--
	2,4,5-Trichlorophenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	6110	--	14	--	280	--	--	--
	2,4,6-Trichlorophenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	44.2	--	0.008	--	0.16	--	--	--
	2,4-Dichlorophenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	183	--	0.05	--	1	--	--	--
	2,4-Dimethylphenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	1220	--	0.4	--	8	--	--	--
	2,4-Dinitrophenol	mg/kg	129	0%	129	0.127	0.13	0.13	0.13	0.14	0.141	0	--	--	--	--	--	--	122	--	0.01	--	0.2	--	--	--
	2,4-Dinitrotoluene	mg/kg	129	0%	129	0.0335	0.034	0.035	0.035	0.036	0.0372	0	--	--	--	--	--	--	1.57	--	0.00004	--	0.0008	--	--	--
	2,6-Dinitrotoluene	mg/kg	129	0%	129	0.0335	0.034	0.035	0.035	0.036	0.0372	0	--	--	--	--	--	--	61.1	--	0.00003	--	0.0006	--	--	--
	2-Chloronaphthalene	mg/kg	129	0%	129	0.0117	0.012	0.012	0.012	0.012	0.013	0	--	--	--	--	--	--	82.6	--	--	--	--	--	--	--
	2-Chlorophenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	220	--	0.2	--	4	--	--	--
	2-Methylnaphthalene	mg/kg	129	0%	129	0.0067	0.0068	0.007	0.007	0.0071	0.00744	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	183	--	--	--	--	--	--	--
	2-Nitrophenol	mg/kg	129	0%	129	0.0335	0.034	0.035	0.035	0.036	0.0372	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3,3-Dichlorobenzidine	mg/kg	129	0%	129	0.1	0.1	0.11	0.1	0.11	0.112	0	--	--	--	--	--	--	1.08	--	0.0003	--	0.006	--	--	--
	3-Nitroaniline	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	mg/kg	129	0%	129	0.0335	0.034	0.035	0.035	0.036	0.0372	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	mg/kg	129	0%	129	0.0335	0.034	0.035	0.035	0.036	0.0372	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	mg/kg	129	0%	129	0.0335	0.034	0.035	0.035	0.036	0.0372	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorothioanisole	mg/kg	129	0%	129	0.0394	0.11	0.12	0.11	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitroaniline	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	489	--	--	--	--	--	--	--
	Acetophenone	mg/kg	129	0.8%	128	0.0335	0.034	0.035	0.035	0.036	0.0372	1	0.0478	--	0.048	0.048	--	0.0478	1740	0	--	--	--	--	--	--
	Aniline	mg/kg	129	0%	129	0.117	0.12	0.12	0.12	0.12	0.13	0	--	--	--	--	--	--	85.3	--	--	--	--	--	--	--
	Benzenethiol	mg/kg	129	0%	129	0.111	0.11	0.12	0.13	0.12	0.241	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzoic acid	mg/kg	129	0%	129	0.167	0.17	0.18	0.18	0.18	0.706	0	--	--	--	--	--	--	100000	--	20	--	400	--	--	--
	Benzyl alcohol	mg/kg	124	0%	124	0.1	0.1	0.11	0.1	0.11	0.112	0	--	--	--	--	--	--	30600	--	--	--	--	--	--	--
	bis(2-Chloroethoxy)methane	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	bis(2-Chloroethyl) ether	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	0.244	--	0.00002	--	0.0004	--	--	--

TABLE 3-4
FINAL HUMAN HEALTH RISK ASSESSMENT SOIL DATASET RESULTS SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]							Residential Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[2]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Semivolatile Organic Compounds	bis(2-Chloroisopropyl) ether	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	3.37	--	--	--	--	--	--	--
	bis(2-Ethylhexyl) phthalate	mg/kg	129	3.9%	124	0.067	0.068	0.07	0.087	0.072	0.18	5	0.0816	0.085	0.1	0.11	0.15	0.173	34.7	0	180	0	3600	0	--	--
	bis(p-Chlorophenyl) sulfone	mg/kg	129	0%	129	0.00782	0.11	0.12	0.1	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	bis(p-Chlorophenyl)disulfide	mg/kg	129	0%	129	0.0292	0.11	0.12	0.11	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Butylbenzyl phthalate	mg/kg	129	0.8%	128	0.067	0.068	0.07	0.07	0.071	0.0744	1	0.0722	--	0.072	0.072	--	0.0722	240	0	810	0	16200	0	--	--
	Carbazole	mg/kg	129	0%	129	0.01	0.01	0.011	0.01	0.011	0.0112	0	--	--	--	--	--	--	24.3	--	0.03	--	0.6	--	--	--
	Dibenzofuran	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	156	--	--	--	--	--	--	--
	Dichloromethyl ether	mg/kg	129	0%	129	0.111	0.11	0.12	0.12	0.12	0.123	0	--	--	--	--	--	--	0.000242	--	--	--	--	--	--	--
	Diethyl phthalate	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	48900	--	--	--	--	--	--	--
	Dimethyl phthalate	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	100000	--	--	--	--	--	--	--
	Di-n-butyl phthalate	mg/kg	129	1.6%	127	0.0335	0.034	0.035	0.035	0.036	0.0372	2	0.0448	--	0.066	0.066	--	0.0878	6110	0	270	0	5400	0	--	--
	Di-n-octyl phthalate	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diphenyl disulfide	mg/kg	129	0%	129	0.0275	0.11	0.12	0.11	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diphenyl sulfide	mg/kg	129	0%	129	0.0285	0.11	0.12	0.11	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diphenyl sulfone	mg/kg	129	0%	129	0.018	0.11	0.12	0.1	0.12	0.123	0	--	--	--	--	--	--	183	--	--	--	--	--	--	--
	Diphenylamine	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	1530	--	--	--	--	--	--	--
	Fluoranthene	mg/kg	129	5.4%	122	0.01	0.01	0.011	0.01	0.011	0.0112	7	0.0134	0.018	0.022	0.035	0.041	0.099	2290	0	210	0	4200	0	--	--
	Fluorene	mg/kg	129	0%	129	0.01	0.01	0.011	0.01	0.011	0.0112	0	--	--	--	--	--	--	671	--	28	--	560	--	--	--
	Hexachlorobenzene	mg/kg	129	0.8%	128	0.067	0.068	0.07	0.07	0.071	0.0744	1	0.078	--	0.078	0.078	--	0.078	0.304	0	0.1	0	2	0	--	--
	Hexachlorobutadiene	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	6.24	--	0.1	--	2	--	--	--
	Hexachlorocyclopentadiene	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	366	--	20	--	400	--	--	--
	Hexachloroethane	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	34.7	--	0.02	--	0.4	--	--	--
	Hydroxymethyl phthalimide	mg/kg	129	0%	129	0.0506	0.11	0.12	0.11	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Isophorone	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	512	--	0.03	--	0.6	--	--	--
	m,p-Cresols	mg/kg	129	0%	129	0.134	0.14	0.14	0.14	0.14	0.149	0	--	--	--	--	--	--	306	--	--	--	--	--	--	--
	Naphthalene	mg/kg	129	0%	129	0.01	0.01	0.011	0.01	0.011	0.0112	0	--	--	--	--	--	--	3.1	--	4	--	80	--	--	--
	Nitrobenzene	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	2.69	--	0.007	--	0.14	--	--	--
	N-nitrosodi-n-propylamine	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	0.0695	--	0.000002	--	0.00004	--	--	--
	o-Cresol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	3060	--	0.8	--	16	--	--	--
	Octachlorostyrene	mg/kg	129	0%	129	0.0194	0.11	0.12	0.1	0.12	0.123	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Chloroaniline	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	2.43	--	0.03	--	0.6	--	--	--
	p-Chlorobenzenethiol	mg/kg	129	0%	129	0.111	0.11	0.12	0.13	0.12	0.241	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pentachlorobenzene	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	48.9	--	--	--	--	--	--	--
	Pentachlorophenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	0.894	--	0.001	--	0.02	--	--	--
	Phenol	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	18300	--	5	--	100	--	--	--
	Phthalic acid	mg/kg	129	0.8%	128	0.0201	0.11	0.12	0.1	0.12	0.123	1	0.494	--	0.49	0.49	--	0.494	100000	0	--	--	--	--	--	--
	Pyridine	mg/kg	129	0%	129	0.067	0.068	0.07	0.07	0.071	0.0744	0	--	--	--	--	--	--	60.5	--	--	--	--	--	--	--
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	mg/kg	132	0%	132	0.00018	0.00018	0.00019	0.00021	0.00019	0.00041	0	--	--	--	--	--	--	3.69	--	--	--	--	--	--	--
	1,1,1-Trichloroethane	mg/kg	132	0%	132	0.00011	0.00011	0.00011	0.00013	0.00011	0.00025	0	--	--	--	--	--	--	1390	--	0.1	--	2	--	--	--
	1,1,2,2-Tetrachloroethane	mg/kg	131	0%	131	0.000079	0.000081	0.000082	0.00013	0.000083	0.00048	0	--	--	--	--	--	--	0.472	--	0.0002	--	0.004	--	--	--
	1,1,2-Trichloroethane	mg/kg	132	0%	132	0.000067	0.000069	0.00007	0.00011	0.000072	0.00039	0	--	--	--	--	--	--	1.05	--	0.0009	--	0.018	--	--	--
	1,1-Dichloroethane	mg/kg	132	0%	132	0.00007	0.000072	0.000074	0.00011	0.000075	0.0004	0	--	--	--	--	--	--	4.19	--	1	--	20	--	--	--
	1,1-Dichloroethene	mg/kg	132	0%	132	0.00012	0.00012	0.00013	0.00014	0.00013	0.00025	0	--	--	--	--	--	--	285	--	0.003	--	0.06	--	--	--
	1,1-Dichloropropene	mg/kg	132	0%	132	0.000088	0.00009	0.000091	0.00011	0.000093	0.00024	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2,3-Trichlorobenzene	mg/kg	131	0%	131	0.00039	0.0004	0.00041	0.00041	0.00041	0.00049	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2,3-Trichloropropane	mg/kg	131	0%	131	0.00025	0.00026	0.00026	0.00029	0.00027	0.00052	0	--	--	--	--	--	--	0.0213	--	--	--	--	--	--	--
	1,2,4-Trichlorobenzene	mg/kg	131	0%	131	0.00031	0.00034	0.00034	0.00034	0.00035	0.00037	0	--	--	--	--	--	--	22.1	--	0.3	--	6	--	--	--
	1,2,4-Trimethylbenzene	mg/kg	131	3.8%	126	0.00013	0.00014	0.0004	0.0024	0.0052	0.0057	5	0.00017	0.00023	0.0021	0.0025	0.0051	0.0051	144	0	--	--	--	--	--	--
	1,2-Dichlorobenzene	mg/kg	131	1.5%	129	0.00012	0.00013	0.00013	0.00023	0.00013	0.0052	2	0.00018	--	0.00019	0.00019	--	0.0002	373	0	0.9	0	18	0	--	--
	1,2-Dichloroethane	mg/kg	132	0%	132	0.000066	0.000068	0.000069	0.0001	0.000071	0.00035	0	--	--	--	--	--	--	0.433	--	0.001	--	0.02	--	--	--
	1,2-Dichloroethene	mg/kg	132	0%	132	0.00011	0.00011	0.00011	0.00018	0.00012	0.00067	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2-Dichloropropane	mg/kg	132	0%	132	0.00011	0.00011	0.00012	0.00015	0.00012	0.0004	0	--	--	--	--	--	--	0.82	--	0.001	--	0.02	--	--	--

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]							Residential Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[2]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Volatile Organic Compounds	1,3,5-Trichlorobenzene	mg/kg	131	0%	131	0.00037	0.00038	0.00039	0.0004	0.0004	0.00055	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,3,5-Trimethylbenzene	mg/kg	131	1.5%	129	0.000098	0.0001	0.0001	0.00016	0.0001	0.0051	2	0.00068	--	0.00074	0.00074	--	0.0008	57.9	0	--	--	--	--	--	--
	1,3-Dichlorobenzene	mg/kg	131	0.8%	130	0.00013	0.00014	0.00014	0.00018	0.00014	0.00047	1	0.00016	--	0.00016	0.00016	--	0.00016	214	0	--	--	--	--	--	--
	1,3-Dichloropropane	mg/kg	132	0%	132	0.000051	0.000053	0.000054	0.000098	0.000054	0.00044	0	--	--	--	--	--	--	15.2	--	0.001	--	0.02	--	--	--
	1,4-Dichlorobenzene	mg/kg	131	0%	131	0.00014	0.00014	0.00014	0.00016	0.00015	0.00033	0	--	--	--	--	--	--	2.59	--	0.1	--	2	--	--	--
	2,2,3-Trimethylbutane	mg/kg	132	0%	132	0.00021	0.00022	0.00022	0.00026	0.00022	0.00057	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,2-Dichloropropane	mg/kg	132	0%	132	0.00023	0.00024	0.00024	0.00025	0.00025	0.00033	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,2-Dimethylpentane	mg/kg	132	0%	132	0.00028	0.00028	0.00029	0.00032	0.00029	0.00057	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,3-Dimethylpentane	mg/kg	132	0%	132	0.00023	0.00023	0.00024	0.00026	0.00024	0.00047	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dimethylpentane	mg/kg	132	0%	132	0.00019	0.0002	0.0002	0.00024	0.00021	0.00052	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chlorotoluene	mg/kg	131	0%	131	0.00025	0.00026	0.00026	0.00027	0.00026	0.00036	0	--	--	--	--	--	--	248	--	--	--	--	--	--	--
	2-Hexanone	mg/kg	132	0%	132	0.00024	0.00024	0.00025	0.00025	0.00025	0.0003	0	--	--	--	--	--	--	460	--	--	--	--	--	--	--
	2-Methylhexane	mg/kg	132	0%	132	0.0002	0.00021	0.00021	0.00025	0.00022	0.00054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitropropane	mg/kg	132	0%	132	0.00032	0.00062	0.00063	0.00059	0.00064	0.00068	0	--	--	--	--	--	--	0.0109	--	--	--	--	--	--	--
	3,3-Dimethylpentane	mg/kg	132	0%	132	0.0002	0.00021	0.00021	0.00025	0.00022	0.00051	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3-Ethylpentane	mg/kg	132	0%	132	0.00021	0.00022	0.00022	0.00025	0.00022	0.00048	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3-Methylhexane	mg/kg	132	0%	132	0.00014	0.00014	0.00015	0.00019	0.00015	0.0005	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorotoluene	mg/kg	131	0%	131	0.00017	0.00018	0.00018	0.00019	0.00018	0.00027	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Methyl-2-pentanone (MIBK)	mg/kg	132	0%	132	0.00029	0.0003	0.0003	0.0003	0.00031	0.00033	0	--	--	--	--	--	--	5800	--	--	--	--	--	--	--
	Acetone	mg/kg	132	27.3%	96	0.0017	0.0018	0.0018	0.0039	0.0018	0.023	36	0.0023	0.008	0.011	0.016	0.021	0.072	60000	0	0.8	0	16	0	--	--
	Acetonitrile	mg/kg	132	0%	132	0.0035	0.0055	0.0056	0.0054	0.0057	0.0061	0	--	--	--	--	--	--	1470	--	--	--	--	--	--	--
	Benzene	mg/kg	132	0%	132	0.000088	0.00009	0.000091	0.00012	0.000093	0.00035	0	--	--	--	--	--	--	0.81	--	0.002	--	0.04	--	--	--
	Bromobenzene	mg/kg	131	0%	131	0.00012	0.00012	0.00013	0.00016	0.00013	0.0004	0	--	--	--	--	--	--	243	--	--	--	--	--	--	--
	Bromodichloromethane	mg/kg	132	0%	132	0.00021	0.00022	0.00022	0.00024	0.00023	0.00034	0	--	--	--	--	--	--	0.648	--	0.03	--	0.6	--	--	--
	Bromoform	mg/kg	132	0%	132	0.000059	0.000061	0.000062	0.00011	0.000063	0.00044	0	--	--	--	--	--	--	61.6	--	0.04	--	0.8	--	--	--
	Bromomethane	mg/kg	132	0%	132	0.00013	0.00013	0.00014	0.00017	0.00014	0.00043	0	--	--	--	--	--	--	8.7	--	0.01	--	0.2	--	--	--
	Carbon disulfide	mg/kg	132	0%	132	0.00012	0.00012	0.00013	0.00015	0.00013	0.0003	0	--	--	--	--	--	--	721	--	2	--	40	--	--	--
	Carbon tetrachloride	mg/kg	132	0%	132	0.00021	0.00021	0.00022	0.00023	0.00022	0.00033	0	--	--	--	--	--	--	0.735	--	0.003	--	0.06	--	--	--
	Chlorobenzene	mg/kg	132	0%	132	0.00011	0.00011	0.00011	0.00014	0.00012	0.00032	0	--	--	--	--	--	--	273	--	0.07	--	1.4	--	--	--
	Chlorobromomethane	mg/kg	132	0%	132	0.00023	0.00023	0.00024	0.00026	0.00024	0.00047	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chloroethane	mg/kg	132	0%	132	0.00031	0.00047	0.00048	0.00046	0.00049	0.00052	0	--	--	--	--	--	--	221	--	--	--	--	--	--	--
	Chloroform	mg/kg	132	0%	132	0.0001	0.0001	0.00011	0.00014	0.00011	0.00038	0	--	--	--	--	--	--	0.306	--	0.03	--	0.6	--	--	--
	Chloromethane	mg/kg	132	0%	132	0.00027	0.00028	0.00028	0.00028	0.00028	0.0003	0	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--
	cis-1,2-Dichloroethene	mg/kg	132	0%	132	0.000054	0.000056	0.000057	0.000091	0.000058	0.00036	0	--	--	--	--	--	--	148	--	0.02	--	0.4	--	--	--
	cis-1,3-Dichloropropene	mg/kg	132	0%	132	0.0001	0.0001	0.00011	0.00012	0.00011	0.00025	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Cymene (Isopropyltoluene)	mg/kg	131	0%	131	0.00012	0.00013	0.00013	0.00015	0.00013	0.00028	0	--	--	--	--	--	--	389	--	--	--	--	--	--	--
	Dibromochloromethane	mg/kg	132	0%	132	0.00012	0.00012	0.00012	0.00014	0.00013	0.00031	0	--	--	--	--	--	--	1.12	--	0.02	--	0.4	--	--	--
	Dibromochloropropane	mg/kg	131	0%	131	0.00021	0.00022	0.00022	0.00027	0.00023	0.00064	0	--	--	--	--	--	--	0.0104	--	--	--	--	--	--	--
	Dibromomethane	mg/kg	132	0%	132	0.00017	0.00017	0.00017	0.0002	0.00018	0.00037	0	--	--	--	--	--	--	43.4	--	--	--	--	--	--	--
	Dichloromethane (Methylene chloride)	mg/kg	132	3.0%	128	0.00069	0.00073	0.0052	0.0062	0.0093	0.025	4	0.0052	0.0053	0.0067	0.0071	0.0092	0.0097	11	0	0.001	4	0.02	0	--	--
	Dimethyldisulfide	mg/kg	132	0%	132	0.00018	0.00018	0.00018	0.00022	0.00019	0.00051	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethanol	mg/kg	132	0%	132	0.048	0.049	0.05	0.051	0.051	0.066	0	--	--	--	--	--	--	100000	--	--	--	--	--	--	--
	Ethylbenzene	mg/kg	132	1.5%	130	0.000059	0.00006	0.000061	0.00029	0.000062	0.0057	2	0.000088	--	0.00043	0.00043	--	0.00077	3.79	0	0.7	0	14	0	--	--
	Freon-11 (Trichlorofluoromethane)	mg/kg	132	0.8%	131	0.00022	0.00023	0.00023	0.00024	0.00023	0.00033	1	0.001	--	0.001	0.001	--	0.001	883	0	--	--	--	--	--	--
	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethan	mg/kg	132	0%	132	0.00015	0.00015	0.00015	0.00016	0.00015	0.00027	0	--	--	--	--	--	--	5550	--	--	--	--	--	--	--
	Freon-12 (Dichlorodifluoromethane)	mg/kg	132	0%	132	0.00025	0.0003	0.0003	0.0003	0.00031	0.00033	0	--	--	--	--	--	--	218	--	--	--	--	--	--	--
	Heptane	mg/kg	132	0%	132	0.00016	0.00017	0.00017	0.0002	0.00017	0.0004	0	--	--	--	--	--	--	220	--	0.03	--	0.6	--	--	--
	Isopropylbenzene	mg/kg	132	0%	132	0.0001	0.00011	0.00011	0.00013	0.00011	0.0003	0	--	--	--	--	--	--	371	--	--	--	--	--	--	--
	m,p-Xylene	mg/kg	132	0.8%	131	0.00017	0.00017	0.00017	0.00025	0.00018	0.0051	1	0.002	--	0.002	0.002	--	0.002	214	0	10	0	200	0	--	--
	Methyl ethyl ketone (2-Butanone)	mg/kg	132	3.0%	128	0.00057	0.00089	0.00091	0.00088	0.00092	0.00099	4	0.004	0.0041	0.0061	0.007	0.011	0.012	32100	0	--	--	--	--	--	--
	Methyl iodide	mg/kg	132	0%	132	0.00012	0.00013	0.00013	0.00016	0.00013	0.00041	0	--	--	--	--	--	--	360	--	--	--	--	--	--	--
	MTBE (Methyl tert-butyl ether)	mg/kg	132	0%	132	0.00009	0.000092	0.000094	0.00014	0.000095	0.0005	0	--	--	--	--	--	--	39.2	--	--	--	--	--	--	--

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]							Residential Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[2]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Volatile Organic Compounds	n-Butylbenzene	mg/kg	131	0%	131	0.00018	0.00019	0.00019	0.0002	0.00019	0.00032	0	--	--	--	--	--	--	237	--	--	--	--	--	--	--
	Nonanal	mg/kg	131	0%	131	0.00036	0.00048	0.00049	0.00048	0.0005	0.00053	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Propylbenzene	mg/kg	131	0.8%	130	0.00011	0.00011	0.00011	0.00013	0.00012	0.00029	1	0.00041	--	0.00041	0.00041	--	0.00041	237	0	--	--	--	--	--	--
	o-Xylene	mg/kg	132	2.3%	129	0.000077	0.000079	0.00008	0.00018	0.000081	0.0057	3	0.00016	0.00016	0.00074	0.002	0.0051	0.0051	282	0	9	0	180	0	--	--
	sec-Butylbenzene	mg/kg	131	0%	131	0.00011	0.00011	0.00011	0.00014	0.00011	0.00035	0	--	--	--	--	--	--	223	--	--	--	--	--	--	--
	Styrene	mg/kg	132	0%	132	0.00017	0.00018	0.00018	0.00018	0.00018	0.00022	0	--	--	--	--	--	--	1730	--	0.2	--	4	--	--	--
	tert-Butylbenzene	mg/kg	131	0%	131	0.0001	0.0001	0.0001	0.00012	0.00011	0.00024	0	--	--	--	--	--	--	393	--	--	--	--	--	--	--
	Tetrachloroethene	mg/kg	132	0.8%	131	0.000088	0.00009	0.000091	0.00014	0.000093	0.0005	1	0.0007	--	0.0007	0.0007	--	0.0007	0.624	0	0.003	0	0.06	0	--	--
	Toluene	mg/kg	132	0.8%	131	0.00024	0.00033	0.00034	0.0004	0.00034	0.0051	1	0.0018	--	0.0018	0.0018	--	0.0018	521	0	0.6	0	12	0	--	--
	trans-1,2-Dichloroethene	mg/kg	132	0%	132	0.000091	0.000093	0.000095	0.00012	0.000096	0.00036	0	--	--	--	--	--	--	122	--	0.03	--	0.6	--	--	--
	trans-1,3-Dichloropropene	mg/kg	132	0%	132	0.0001	0.0001	0.00011	0.00011	0.00011	0.00019	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene	mg/kg	132	0%	132	0.0001	0.00011	0.00011	0.00013	0.00011	0.00028	0	--	--	--	--	--	--	1.06	--	0.003	--	0.06	--	--	--
	Vinyl acetate	mg/kg	131	0%	131	0.00024	0.00025	0.00025	0.00027	0.00026	0.00041	0	--	--	--	--	--	--	988	--	8	--	160	--	--	--
	Vinyl chloride	mg/kg	132	0%	132	0.00011	0.00012	0.00012	0.00014	0.00012	0.00035	0	--	--	--	--	--	--	0.349	--	0.0007	--	0.014	--	--	--
	Xylenes (total)	mg/kg	132	0.8%	131	0.00023	0.00024	0.00024	0.00029	0.00025	0.00069	1	0.0027	--	0.0027	0.0027	--	0.0027	214	0	10	0	200	0	--	--

Notes:

This table includes only data included in the risk assessment. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in the tables in Appendix B, which include all data, regardless of status.
The values used are simply a comparison to NDEP BCL values for information purposes only.
Because both non-detect and detected radionuclides have reported activity levels, calculated summary statistics (and exceedances of comparison levels) are presented as detected regardless of the lab detect flag. Lab detect flags are represented by the censored (non-detect) and detect count fields in the table.
Values for Q1, median, mean, and Q3 are rounded to 2 significant figures. BCLs are rounded to 3 significant figures.
BCL = Basic Comparison Levels (BCLs) from NDEP 2012a.
LBCL = Leaching-based BCLs from NDEP 2012a.
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Comparisons are for information purposes only. See Chapter 5 for statistical background comparisons, and the background dataset used.
(3) Asbestos results shown are for long protocol structures (>10um). The minimum and maximum values represent the number of protocol structures in an individual sample. The detect count represents the number of samples with at least one detected protocol structure, not the total number of structures.
(4) TCDD TEQ values are calculated from congener-specific (dioxins, furans, and PCBs) concentrations. An individual TCDD TEQ value may include detect and non-detect congeners. Therefore, the number of detects and non-detects, and a frequency of detection for TCDD TEQ are not presented.
-- = Not applicable or no value has been established.

TABLE 3-15
SOIL VAPOR FLUX SAMPLE ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 3)

Compound	CAS Number	MDL ppbv	RL ppbv	MDL $\mu g/m^3$	RL $\mu g/m^3$
List of Compounds for USEPA Method TO-15 Full Scan Mode Operation and MDLs					
1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.51	0.72	3.62
1,1,1-Trichloroethane	71-55-6	0.1	0.52	0.58	2.89
1,1-Dichloroethane	75-34-3	0.1	0.52	0.43	2.15
1,1-Dichloroethene	75-35-4	0.1	0.52	0.42	2.13
1,1-Dichloropropene	563-58-6	0.1	0.49	0.46	2.3
1,2,4-Trimethylbenzene	95-63-6	0.1	0.52	0.52	2.61
1,3,5-Trimethylbenzene	108-67-8	0.1	0.52	0.53	2.64
1,3-Dichloropropane	142-28-9	0.11	0.54	0.52	2.58
1,4-Dioxane	123-91-1	0.09	0.44	0.33	1.64
2,2-Dichloropropane	594-20-7	0.11	0.53	0.5	2.53
2-Hexanone	591-78-6	0.09	0.44	0.37	1.86
2-Methyl-1-propanol	78-83-1	0.23	1.13	0.84	4.21
4-Methyl-2-pentanone (MIBK)	108-10-1	0.09	0.46	0.38	1.95
Acetone	67-64-1	0.09	0.45	0.22	1.1
Acetonitrile	75-05-8	0.22	1.12	0.48	2.39
Bromoform	75-25-2	0.09	0.47	0.99	4.96
Bromomethane	74-83-9	0.1	0.51	0.41	2.04
Carbon disulfide	75-15-0	0.09	0.45	0.29	1.45
Chlorobenzene	108-90-7	0.1	0.52	0.5	2.48
Chlorobromomethane	74-97-5	0.1	0.51	0.55	2.76
Chloroethane	75-00-3	0.1	0.51	0.28	1.39
Chloromethane	74-87-3	0.1	0.51	0.22	1.09
cis-1,2-Dichloroethene	156-59-2	0.1	0.52	0.42	2.11
cis-1,3-Dichloropropene	10061-01-5	0.1	0.52	0.48	2.41
Cymene (Isopropyltoluene)	99-87-6	0.11	0.55	0.62	3.12
Dibromomethane	74-95-3	0.11	0.55	0.97	4.84
Ethanol	64-17-5	0.22	1.12	0.44	2.18
Ethylbenzene	100-41-4	0.1	0.52	0.46	2.33
Freon-11 (Trichlorofluoromethane)	75-69-4	0.1	0.51	0.59	2.95

TABLE 3-15
SOIL VAPOR FLUX SAMPLE ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Compound	CAS Number	MDL ppbv	RL ppbv	MDL µg/m^3	RL µg/m^3
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	76-13-1	0.1	0.52	0.81	4.07
Freon-12 (Dichlorodifluoromethane)	75-71-8	0.1	0.51	0.52	2.61
Heptane	142-82-5	0.08	0.42	0.35	1.78
Isopropylbenzene	98-82-8	0.11	0.57	0.58	2.89
m & p-Xylene	108-38-3	0.21	1.03	0.92	4.61
Methyl ethyl ketone (2-Butanone)	78-93-3	0.09	0.43	0.26	1.31
Methyl iodide	74-88-4	0.19	0.94	1.13	5.67
MTBE (Methyl tert-butyl ether)	1634-04-4	0.08	0.39	0.29	1.45
n-Butyl benzene	104-51-8	0.1	0.52	0.59	2.95
n-Propylbenzene	103-65-1	0.11	0.54	0.55	2.74
o-Xylene	95-47-6	0.1	0.52	0.46	2.31
sec-Butylbenzene	135-98-8	0.11	0.52	0.59	2.95
Styrene	100-42-5	0.1	0.52	0.45	2.26
tert-Butylbenzene	98-06-6	0.11	0.52	0.59	2.85
Toluene	108-88-3	0.1	0.52	0.4	2
trans-1,2-Dichloroethene	156-60-5	0.09	0.44	0.36	1.8
trans-1,3-Dichloropropene	10061-02-6	0.1	0.52	0.48	2.41
Vinyl acetate	108-05-4	0.09	0.43	0.31	1.56
List of Compounds for USEPA Method TO-15 Selective Ion Mode (SIM) Operation and MDLs					
1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.026	0.035	0.18
1,1,2-Trichloroethane	79-00-5	0.005	0.026	0.028	0.14
1,2,3-Trichloropropane	96-18-4	0.005	0.026	0.031	0.16
1,2,4-Trichlorobenzene	120-82-1	0.06	0.13	0.5	1
1,2-Dibromoethane	106-93-4	0.005	0.026	0.039	0.2
1,2-Dichlorobenzene	95-50-1	0.005	0.026	0.031	0.16
1,2-Dichloroethane	107-06-2	0.005	0.026	0.021	0.11
1,2-Dichloropropane	78-87-5	0.005	0.026	0.024	0.12
1,3-Dichlorobenzene	541-73-1	0.005	0.026	0.031	0.16
1,4-Dichlorobenzene	106-46-7	0.005	0.026	0.031	0.16
Benzene	71-43-2	0.005	0.026	0.016	0.085

TABLE 3-15
SOIL VAPOR FLUX SAMPLE ANALYSES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Compound	CAS Number	MDL ppbv	RL ppbv	MDL $\mu g/m^3$	RL $\mu g/m^3$
Benzyl chloride	100-44-7	0.005	0.026	0.026	0.14
Bromodichloromethane	75-27-4	0.005	0.026	0.034	0.18
Carbon tetrachloride	56-23-5	0.005	0.026	0.032	0.17
Chloroform	67-66-3	0.005	0.026	0.025	0.13
Dibromochloromethane	124-48-1	0.005	0.026	0.043	0.23
Dibromochloropropane	96-12-8	0.01	0.026	0.098	0.26
Dichloromethane (Methylene chloride)	75-09-2	0.007	0.033	0.025	0.12
Hexachlorobutadiene	87-68-3	0.01	0.026	0.108	0.28
Naphthalene	91-20-3	0.01	0.026	0.534	0.14
Tetrachloroethene	127-18-4	0.005	0.026	0.035	0.18
Trichloroethene	79-01-6	0.005	0.026	0.027	0.14
Vinyl chloride	75-01-4	0.005	0.026	0.013	0.068

Note:
The actual reported MDL may vary based on Canister dilution or matrix interferences.
CAS - Chemical abstract system
MDL - Method detection limit
RL - Reporting limit
ppbv - Parts per billion by volume
$\mu g/m^3$ - microgram per cubic meter

TABLE 3-16
SOIL VAPOR FLUX SAMPLE RESULTS SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data(1)						
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0867	0.104	0.107	0.106	0.109	0.113	0	--	--	--	--	--	--
	1,1,1-Trichloroethane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0786	0.094	0.0975	0.0961	0.0998	0.103	0	--	--	--	--	--	--
	1,1,2,2-Tetrachloroethane	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00771	0.00867	0.00902	0.00891	0.00921	0.00948	2	0.00281	--	0.00399	0.00399	--	0.00516
	1,1,2-Trichloroethane	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00131	0.00143	0.00146	0.00284	0.00281	0.00773	2	0.00139	--	0.00168	0.00168	--	0.00197
	1,1-Dichloroethane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0578	0.0694	0.0717	0.0708	0.0732	0.0755	0	--	--	--	--	--	--
	1,1-Dichloroethene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0566	0.0678	0.0701	0.0692	0.0717	0.074	0	--	--	--	--	--	--
	1,1-Dichloropropene	$\mu g/m^2,min^{-1}$	37	0%	37	0.054	0.0646	0.0667	0.0659	0.0682	0.0701	0	--	--	--	--	--	--
	1,2,3-Trichloropropane	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.0057	0.00613	0.00632	0.00629	0.00647	0.00667	2	0.00304	--	0.00682	0.00682	--	0.0106
	1,2,4-Trichlorobenzene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0362	0.0389	0.0402	0.0398	0.041	0.0423	0	--	--	--	--	--	--
	1,2,4-Trimethylbenzene	$\mu g/m^2,min^{-1}$	37	10.8%	33	0.0382	0.0835	0.089	0.112	0.174	0.182	4	0.025	0.0255	0.0384	0.0449	0.0707	0.0777
	1,2-Dibromoethane	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00189	0.00208	0.00212	0.00403	0.00382	0.0109	2	0.00204	--	0.00339	0.00339	--	0.00474
	1,2-Dichlorobenzene	$\mu g/m^2,min^{-1}$	37	10.8%	33	0.00146	0.00628	0.00778	0.00671	0.00806	0.00832	4	0.00166	0.00173	0.00222	0.00298	0.00499	0.00582
	1,2-Dichloroethane	$\mu g/m^2,min^{-1}$	37	56.8%	16	0.00108	0.00108	0.00112	0.00248	0.00543	0.00573	21	0.00119	0.00133	0.00181	0.00231	0.00243	0.00933
	1,2-Dichloropropane	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00112	0.00123	0.00127	0.00253	0.00582	0.00654	2	0.00127	--	0.0015	0.0015	--	0.00173
	1,3,5-Trimethylbenzene	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.0181	0.0862	0.0925	0.114	0.18	0.189	1	0.0269	--	0.0269	0.0269	--	0.0269
	1,3-Dichlorobenzene	$\mu g/m^2,min^{-1}$	37	8.1%	34	0.00162	0.00412	0.00806	0.00668	0.0084	0.00863	3	0.00185	0.00185	0.00197	0.00302	0.00524	0.00524
	1,3-Dichloropropane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0543	0.0649	0.0674	0.0664	0.069	0.0709	0	--	--	--	--	--	--
	1,4-Dichlorobenzene	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00166	0.00239	0.00405	0.0048	0.00782	0.00819	2	0.00593	--	0.00597	0.00597	--	0.006
	1,4-Dioxane	$\mu g/m^2,min^{-1}$	37	16.2%	31	0.0447	0.0536	0.0555	0.0547	0.0566	0.0586	6	0.0123	0.0126	0.0162	0.0202	0.0262	0.0435
	2,2-Dichloropropane	$\mu g/m^2,min^{-1}$	37	0%	37	0.596	0.713	0.738	0.728	0.755	0.777	0	--	--	--	--	--	--
	2-Hexanone	$\mu g/m^2,min^{-1}$	37	10.8%	33	0.0509	0.0601	0.0632	0.0621	0.0644	0.0667	4	0.0131	0.0142	0.0225	0.0255	0.0399	0.0439
	2-Methyl-1-propanol	$\mu g/m^2,min^{-1}$	37	0%	37	0.105	0.126	0.131	0.129	0.133	0.138	0	--	--	--	--	--	--
	4-Methyl-2-pentanone (MIBK)	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.0532	0.0637	0.0659	0.0651	0.0674	0.0694	1	0.0139	--	0.0139	0.0139	--	0.0139
	Acetone	$\mu g/m^2,min^{-1}$	37	94.6%	2	0.0382	--	0.0575	0.0575	--	0.0767	35	0.0767	0.164	0.279	0.381	0.614	1.08
	Acetonitrile	$\mu g/m^2,min^{-1}$	37	43.2%	21	0.0578	0.0711	0.0724	0.0718	0.0738	0.0755	16	0.0181	0.0339	0.0686	0.178	0.267	0.954
	Benzene	$\mu g/m^2,min^{-1}$	37	59.5%	15	0.00821	0.0105	0.0145	0.0152	0.0178	0.0378	22	0.0117	0.0169	0.0271	0.0272	0.0328	0.0617
	Benzyl chloride	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.00466	0.00501	0.00516	0.00512	0.00528	0.00543	1	0.00555	--	0.00555	0.00555	--	0.00555
	Bromodichloromethane	$\mu g/m^2,min^{-1}$	37	48.6%	19	0.00116	0.00116	0.00119	0.00268	0.00582	0.00619	18	0.00127	0.00174	0.00239	0.00249	0.0026	0.0052
	Bromoform	$\mu g/m^2,min^{-1}$	37	0%	37	0.136	0.163	0.169	0.166	0.173	0.178	0	--	--	--	--	--	--
	Bromomethane	$\mu g/m^2,min^{-1}$	37	0%	37	0.057	0.0682	0.0705	0.0697	0.0724	0.0744	0	--	--	--	--	--	--
	Carbon disulfide	$\mu g/m^2,min^{-1}$	37	45.9%	20	0.0185	0.0455	0.0869	0.0702	0.0977	0.101	17	0.0123	0.0268	0.0401	0.0467	0.0635	0.114
	Carbon tetrachloride	$\mu g/m^2,min^{-1}$	37	86.5%	5	0.00166	0.00168	0.0017	0.00191	0.00224	0.00243	32	0.0017	0.00364	0.00476	0.00544	0.00643	0.0161
	Chlorobenzene	$\mu g/m^2,min^{-1}$	37	0%	37	0.022	0.0781	0.0821	0.0794	0.084	0.0867	0	--	--	--	--	--	--
	Chlorobromomethane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0644	0.0771	0.0798	0.0786	0.0813	0.084	0	--	--	--	--	--	--
	Chloroethane	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.0389	0.0466	0.0482	0.0475	0.0489	0.0505	1	0.452	--	0.452	0.452	--	0.452
	Chloroform	$\mu g/m^2,min^{-1}$	37	91.9%	3	0.00177	0.00177	0.00235	0.00263	0.00378	0.00378	34	0.00189	0.00388	0.00603	0.0087	0.0117	0.0361
	Chloromethane	$\mu g/m^2,min^{-1}$	37	37.8%	23	0.00963	0.0347	0.037	0.0351	0.0378	0.0389	14	0.00771	0.0102	0.0164	0.0184	0.0234	0.0428
	cis-1,2-Dichloroethene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0578	0.0692	0.0717	0.0706	0.0732	0.0755	0	--	--	--	--	--	--
	cis-1,3-Dichloropropene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0682	0.0813	0.0844	0.0831	0.0863	0.0886	0	--	--	--	--	--	--

TABLE 3-16
SOIL VAPOR FLUX SAMPLE RESULTS SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]						
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Volatile Organic Compounds	Cymene (Isopropyltoluene)	$\mu g/m^2,min^{-1}$	37	8.1%	34	0.141	0.17	0.175	0.173	0.179	0.184	3	0.0216	0.0216	0.0462	0.0386	0.0481	0.0481
	Dibromochloromethane	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.00767	0.00825	0.00852	0.00843	0.00871	0.00894	1	0.00185	--	0.00185	0.00185	--	0.00185
	Dibromochloropropane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0247	0.0266	0.0274	0.0272	0.028	0.0289	0	--	--	--	--	--	--
	Dibromomethane	$\mu g/m^2,min^{-1}$	37	0%	37	0.0882	0.106	0.109	0.108	0.112	0.115	0	--	--	--	--	--	--
	Dichloromethane (Methylene chloride)	$\mu g/m^2,min^{-1}$	37	97.3%	1	0.00443	--	0.00443	0.00443	--	0.00443	36	0.00216	0.006	0.00958	0.0158	0.0161	0.141
	Ethanol	$\mu g/m^2,min^{-1}$	37	67.6%	12	0.0651	0.0797	0.0809	0.0802	0.0825	0.0848	25	0.0316	0.0605	0.178	0.609	0.444	6.31
	Ethylbenzene	$\mu g/m^2,min^{-1}$	37	10.8%	33	0.0173	0.0752	0.079	0.0746	0.0806	0.0832	4	0.0166	0.0167	0.0207	0.0334	0.0629	0.0758
	Freon-11 (Trichlorofluoromethane)	$\mu g/m^2,min^{-1}$	37	8.1%	34	0.0435	0.0983	0.103	0.0994	0.105	0.108	3	0.0235	0.0235	0.0274	0.0359	0.0569	0.0569
	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	$\mu g/m^2,min^{-1}$	37	0%	37	0.111	0.133	0.137	0.135	0.14	0.144	0	--	--	--	--	--	--
	Freon-12 (Dichlorodifluoromethane)	$\mu g/m^2,min^{-1}$	37	10.8%	33	0.0736	0.0886	0.0909	0.0901	0.0933	0.096	4	0.0185	0.0186	0.0191	0.0202	0.0228	0.0239
	Heptane	$\mu g/m^2,min^{-1}$	37	29.7%	26	0.0543	0.0589	0.0601	0.0599	0.0617	0.0636	11	0.0108	0.0131	0.0197	0.0237	0.0312	0.0588
	Hexachlorobutadiene	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00312	0.0137	0.0146	0.0341	0.0149	0.399	2	0.00775	--	0.00808	0.00808	--	0.0084
	Isopropylbenzene	$\mu g/m^2,min^{-1}$	37	21.6%	29	0.0751	0.0809	0.0836	0.112	0.163	0.17	8	0.0162	0.0166	0.0209	0.0393	0.0418	0.143
	m & p-Xylenes	$\mu g/m^2,min^{-1}$	37	40.5%	22	0.0713	0.153	0.156	0.148	0.159	0.163	15	0.0316	0.0401	0.0486	0.0625	0.0563	0.236
	Methyl ethyl ketone (2-Butanone)	$\mu g/m^2,min^{-1}$	37	0%	37	0.0358	0.043	0.0443	0.0438	0.0455	0.0466	0	--	--	--	--	--	--
	Methyl iodide	$\mu g/m^2,min^{-1}$	37	0%	37	0.168	0.202	0.209	0.206	0.213	0.22	0	--	--	--	--	--	--
	MTBE (Methyl tert-butyl ether)	$\mu g/m^2,min^{-1}$	37	0%	37	0.0397	0.0476	0.0493	0.0486	0.0505	0.0516	0	--	--	--	--	--	--
	Naphthalene	$\mu g/m^2,min^{-1}$	37	24.3%	28	0.0131	0.0143	0.0147	0.0161	0.015	0.0305	9	0.00304	0.00461	0.00728	0.0311	0.00983	0.226
	n-Butylbenzene	$\mu g/m^2,min^{-1}$	37	0%	37	0.143	0.171	0.177	0.174	0.181	0.186	0	--	--	--	--	--	--
	n-Propylbenzene	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.0651	0.0702	0.074	0.0971	0.143	0.15	1	0.015	--	0.015	0.015	--	0.015
	o-Xylene	$\mu g/m^2,min^{-1}$	37	27.0%	27	0.0301	0.0748	0.0771	0.0731	0.0786	0.0805	10	0.0143	0.0165	0.0174	0.0249	0.0264	0.0762
	sec-Butylbenzene	$\mu g/m^2,min^{-1}$	37	0%	37	0.141	0.169	0.175	0.173	0.179	0.184	0	--	--	--	--	--	--
	Styrene	$\mu g/m^2,min^{-1}$	37	2.7%	36	0.0231	0.0728	0.0767	0.0743	0.0785	0.0809	1	0.0262	--	0.0262	0.0262	--	0.0262
	tert-Butylbenzene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0778	0.0842	0.0886	0.115	0.171	0.18	0	--	--	--	--	--	--
	Tetrachloroethene	$\mu g/m^2,min^{-1}$	37	51.4%	18	0.00181	0.00434	0.0106	0.0103	0.0154	0.0211	19	0.00401	0.00644	0.00817	0.0112	0.0183	0.0206
	Toluene	$\mu g/m^2,min^{-1}$	37	94.6%	2	0.0335	--	0.0376	0.0376	--	0.0416	35	0.0185	0.0339	0.0694	0.0801	0.089	0.435
	trans-1,2-Dichloroethene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0489	0.0584	0.0605	0.0597	0.062	0.0636	0	--	--	--	--	--	--
	trans-1,3-Dichloropropene	$\mu g/m^2,min^{-1}$	37	0%	37	0.0667	0.0798	0.0829	0.0816	0.0844	0.0871	0	--	--	--	--	--	--
	Trichloroethene	$\mu g/m^2,min^{-1}$	37	16.2%	31	0.00131	0.0015	0.00208	0.00316	0.00424	0.00762	6	0.00162	0.00168	0.00243	0.00386	0.00662	0.00925
	Vinyl acetate	$\mu g/m^2,min^{-1}$	37	18.9%	30	0.0428	0.0512	0.0532	0.0524	0.0543	0.0559	7	0.0216	0.0239	0.0574	0.0596	0.0859	0.123
	Vinyl chloride	$\mu g/m^2,min^{-1}$	37	5.4%	35	0.00062	0.00069	0.00069	0.00141	0.00324	0.00362	2	0.00069	--	0.00081	0.00081	--	0.00093

Notes:

Values for Q1, median, mean, and Q3 are rounded to 3 significant figures.

Max = Maximum

Min = Minimum

Q1 = 1st quartile (25th percentile)

Q3 = 3rd quartile (75th percentile)

(1) Range of detections include estimated values of detect results ("J" flagged values).

-- = Not applicable or no value has been established.

TABLE 5-1a
BACKGROUND COMPARISON SUMMARY - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Southern RIBs Sub-Area - Site-Wide															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Aluminum	126	100%	0	--	--	--	--	--	--	126	7900	10100	11500	11600	13000	18400
Antimony	126	1%	125	0.126	0.126	0.252	0.381	0.315	2.1	1	0.37	--	0.37	0.37	--	0.37
Arsenic	126	99%	1	0.945	--	0.945	0.945	--	0.945	125	1.4	2.6	3.3	3.52	4.25	8.6
Barium	126	100%	0	--	--	--	--	--	--	126	70	221	251	263	297	548
Beryllium	126	100%	0	--	--	--	--	--	--	126	0.43	0.578	0.63	0.642	0.7	0.86
Boron	126	9%	115	2.99	6.6	13.2	15.1	16.5	54	11	5.2	7.4	9	16.1	21.4	68.3
Cadmium	126	32%	86	0.04	0.1	0.21	0.176	0.25	0.27	40	0.087	0.11	0.12	0.144	0.15	0.35
Calcium	126	100%	0	--	--	--	--	--	--	126	4630	17800	21900	23500	28800	50500
Chromium	126	100%	0	--	--	--	--	--	--	126	5.5	9.68	12.2	12.3	14.3	24
Chromium (VI)	126	40%	75	0.1	0.1	0.11	0.137	0.11	0.43	51	0.11	0.15	0.21	0.265	0.27	1.5
Cobalt	126	100%	0	--	--	--	--	--	--	126	4.8	9	10.3	10.4	11.2	19.7
Copper	126	100%	0	--	--	--	--	--	--	126	10.7	16.9	18.4	20.3	22.1	88.9
Iron	126	100%	0	--	--	--	--	--	--	126	9850	16400	17800	17800	19400	24400
Lead	126	100%	0	--	--	--	--	--	--	126	5.9	9.1	10.4	12.6	12.7	49.7
Lithium	126	100%	0	--	--	--	--	--	--	126	8.1	10.9	12.6	13.3	14.5	50.6
Magnesium	126	100%	0	--	--	--	--	--	--	126	5530	9300	9950	10100	11300	13800
Manganese	126	100%	0	--	--	--	--	--	--	126	240	416	498	519	586	1260
Mercury	120	38%	74	0.005	0.0115	0.0115	0.0159	0.0115	0.0361	46	0.009	0.0196	0.0292	0.0328	0.0425	0.0876
Molybdenum	126	59%	52	0.376	0.4	0.47	1.19	2.5	2.7	74	0.28	0.418	0.53	0.623	0.66	2.7
Nickel	126	100%	0	--	--	--	--	--	--	126	10.8	15.5	16.7	16.9	18	29.5
Potassium	126	100%	0	--	--	--	--	--	--	126	887	1350	1770	1810	2170	3760
Selenium	126	2%	124	0.16	0.32	0.33	0.532	0.4	2.7	2	0.34	--	1.02	1.02	--	1.7
Silver	126	71%	36	0.11	0.41	0.62	0.584	0.84	0.87	90	0.075	0.128	0.15	0.201	0.2	1.1

TABLE 5-1a
BACKGROUND COMPARISON SUMMARY - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 6)

	Southern RIBs Sub-Area - Site-Wide															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	**Total Count**	**Detect Freq.**	**Count**	**Min**	**Q1**	**Median**	**Mean**	**Q3**	**Max**	**Count**	**Min**	**Q1**	**Median**	**Mean**	**Q3**	**Max**
Sodium	126	100%	0	--	--	--	--	--	--	126	283	515	648	716	867	2440
Strontium	126	100%	0	--	--	--	--	--	--	126	124	246	287	304	347	607
Thallium	126	7%	117	0.105	0.3	0.6	0.566	0.75	1.1	9	0.19	0.3	0.33	0.351	0.4	0.59
Tin	126	42%	73	0.3	0.6	0.75	0.64	0.75	1.1	53	0.33	0.43	0.57	0.722	0.885	1.8
Titanium	126	100%	0	--	--	--	--	--	--	126	121	609	727	722	827	1270
Tungsten	126	13%	109	0.185	0.5	1	1.08	1.25	2.7	17	0.17	0.435	0.64	1.15	1.7	3.6
Uranium	126	100%	0	--	--	--	--	--	--	126	0.7	0.88	1	1.12	1.3	2.6
Vanadium	126	100%	0	--	--	--	--	--	--	126	27.3	43.8	48.5	48.5	53.1	71.4
Zinc	126	100%	0	--	--	--	--	--	--	126	25.1	40.3	44.5	48.2	52.3	106
Radium-226[2]	132	90%	13	--	--	--	--	--	--	119	0.0949	0.671	0.925	0.922	1.13	2.39
Radium-228[2]	132	95%	6	--	--	--	--	--	--	126	0.313	1.3	1.63	1.72	2.12	3.64
Thorium-228[2]	132	99%	1	--	--	--	--	--	--	131	0.663	1.47	1.74	1.75	1.98	3.71
Thorium-230[2]	132	89%	14	--	--	--	--	--	--	118	0.306	0.8	1	1.04	1.26	2.59
Thorium-232[2]	132	100%	0	--	--	--	--	--	--	132	0.525	1.23	1.42	1.5	1.75	2.8
Uranium-233/234[2]	132	95%	7	--	--	--	--	--	--	125	0.341	0.863	1.03	1.1	1.24	3.36
Uranium-235/236[2]	132	8%	121	--	--	--	--	--	--	11	-0.19	0.000335	0.0672	0.0752	0.118	0.412
Uranium-238[2]	132	99%	1	--	--	--	--	--	--	131	0.371	0.799	0.956	0.994	1.14	2.24

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1a
BACKGROUND COMPARISON SUMMARY - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Background															
	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[1]						
			Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Aluminum	95	100%	0	--	--	--	--	--	--	95	3740	6700	8400	9000	11000	15300
Antimony	95	45%	52	0.3298	0.33	0.33	0.33	0.33	0.3298	43	0.12	0.15	0.22	0.24	0.29	0.5
Arsenic	95	100%	0	--	--	--	--	--	--	95	2.5	3.4	4	4.2	5	7.2
Barium	95	100%	0	--	--	--	--	--	--	95	73	140	170	180	220	445
Beryllium	95	100%	0	--	--	--	--	--	--	95	0.16	0.46	0.57	0.59	0.73	0.89
Boron	95	36%	61	3.2	3.2	3.2	3.2	3.2	3.2	34	5.2	5.8	6.8	7.1	8.3	11.6
Cadmium	95	0%	95	0.1291	0.13	0.13	0.13	0.13	0.1291	0	--	--	--	--	--	--
Calcium	95	100%	0	--	--	--	--	--	--	95	9440	18000	25000	29000	37000	82800
Chromium	95	100%	0	--	--	--	--	--	--	95	2.6	6.8	9	9.1	11	16.7
Chromium (VI)	95	0%	95	0.25	0.25	0.26	0.26	0.26	0.32	0	--	--	--	--	--	--
Cobalt	95	100%	0	--	--	--	--	--	--	95	3.7	7.3	9	8.8	10	16.3
Copper	95	100%	0	--	--	--	--	--	--	95	10.2	15	18	18	20	25.9
Iron	95	100%	0	--	--	--	--	--	--	95	5410	11000	13000	13000	16000	19700
Lead	95	100%	0	--	--	--	--	--	--	95	3	6	7.2	8.2	9.3	35.1
Lithium	95	100%	0	--	--	--	--	--	--	95	7.5	11	13	14	17	26.5
Magnesium	95	100%	0	--	--	--	--	--	--	95	4690	8500	10000	10000	13000	17500
Manganese	95	100%	0	--	--	--	--	--	--	95	151	320	410	410	500	863
Mercury	95	77%	22	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	73	0.0084	0.012	0.018	0.023	0.028	0.11
Molybdenum	95	100%	0	--	--	--	--	--	--	95	0.3	0.41	0.49	0.55	0.61	2
Nickel	95	100%	0	--	--	--	--	--	--	95	7.9	14	16	16	19	30
Potassium	95	100%	0	--	--	--	--	--	--	95	625	1200	1600	1800	2200	3890
Selenium	95	35%	62	0.1579	0.16	0.16	0.16	0.16	0.1579	33	0.23	0.28	0.31	0.33	0.36	0.6
Silver	95	0%	95	0.2609	0.26	0.26	0.26	0.26	0.2609	0	--	--	--	--	--	--

TABLE 5-1a
BACKGROUND COMPARISON SUMMARY - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Background															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Sodium	95	100%	0	--	--	--	--	--	--	95	128	210	490	500	690	1320
Strontium	95	100%	0	--	--	--	--	--	--	95	75.5	140	190	230	270	808
Thallium	95	22%	74	0.5428	0.54	0.54	0.54	0.54	0.5428	21	1.1	1.2	1.4	1.4	1.7	1.8
Tin	95	100%	0	--	--	--	--	--	--	95	0.24	0.41	0.51	0.5	0.57	0.8
Titanium	95	100%	0	--	--	--	--	--	--	95	262	460	540	560	660	1010
Tungsten	95	0%	95	0.0175	0.018	0.018	0.018	0.018	0.0175	0	--	--	--	--	--	--
Uranium	94	100%	0	--	--	--	--	--	--	94	0.62	0.84	0.97	1	1.1	2.7
Vanadium	95	100%	0	--	--	--	--	--	--	95	20.2	34	38	39	45	59.1
Zinc	95	100%	0	--	--	--	--	--	--	95	15.4	30	38	38	43	121
Radium-226[2]	95	96%	4	--	--	--	--	--	--	91	0.494	0.95	1.1	1.1	1.3	2.36
Radium-228[2]	81	80%	16	--	--	--	--	--	--	65	0.946	1.6	1.9	1.9	2.2	2.92
Thorium-228[2]	95	100%	0	--	--	--	--	--	--	95	1.15	1.5	1.8	1.7	1.9	2.28
Thorium-230[2]	95	100%	0	--	--	--	--	--	--	95	0.73	1	1.2	1.3	1.5	3.01
Thorium-232[2]	95	100%	0	--	--	--	--	--	--	95	1.22	1.4	1.7	1.7	1.9	2.23
Uranium-233/234[2]	95	47%	50	--	--	--	--	--	--	45	0.63	0.9	1.1	1.2	1.2	2.84
Uranium-235/236[2]	95	44%	53	--	--	--	--	--	--	42	0.0009	0.045	0.06	0.07	0.092	0.21
Uranium-238[2]	95	100%	0	--	--	--	--	--	--	95	0.65	0.94	1.1	1.2	1.4	2.37

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1a
BACKGROUND COMPARISON SUMMARY - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	T Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Background?	Units	Basis
Aluminum	1.6 E-13	8.7 E-4	3.3 E-2	6.7 E-12	YES	mg/kg	Multiple tests
Antimony	6.6 E-1	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Arsenic	1.0 E+0	1.0 E+0	5.7 E-1	1.0 E+0	NO	mg/kg	Multiple tests
Barium	1.2 E-20	5.9 E-9	5.7 E-1	0.0 E+0	YES	mg/kg	Multiple tests
Beryllium	2.5 E-3	8.9 E-1	1.0 E+0	3.0 E-3	YES	mg/kg	Multiple tests
Boron	1.3 E-8	1.0 E+0	6.0 E-2	0.0 E+0	YES	mg/kg	Multiple tests
Cadmium	1.2 E-15	7.1 E-12	NA	2.6 E-1	YES	mg/kg	Multiple tests
Calcium	1.0 E+0	1.0 E+0	1.0 E+0	9.8 E-1	NO	mg/kg	Multiple tests
Chromium	1.6 E-12	1.1 E-6	9.3 E-4	3.8 E-11	YES	mg/kg	Multiple tests
Chromium (VI)	1.3 E-1	6.1 E-16	NA	1.0 E+0	YES	mg/kg	Quantile test
Cobalt	1.3 E-7	3.7 E-3	3.2 E-1	2.1 E-8	YES	mg/kg	Multiple tests
Copper	8.8 E-4	2.6 E-3	5.1 E-4	2.5 E-3	YES	mg/kg	Multiple tests
Iron	3.0 E-22	9.7 E-11	4.9 E-7	0.0 E+0	YES	mg/kg	Multiple tests
Lead	9.6 E-9	1.9 E-6	1.0 E-1	1.1 E-16	YES	mg/kg	Multiple tests
Lithium	8.9 E-1	9.9 E-1	5.7 E-1	8.2 E-1	NO	mg/kg	Multiple tests
Magnesium	7.3 E-1	1.0 E+0	1.0 E+0	8.0 E-1	NO	mg/kg	Multiple tests
Manganese	4.4 E-8	5.7 E-4	1.8 E-1	6.4 E-8	YES	mg/kg	Multiple tests
Mercury	6.1 E-1	3.9 E-1	1.0 E+0	5.9 E-3	YES	mg/kg	WRS test
Molybdenum	7.7 E-2	9.7 E-1	5.3 E-1	3.2 E-2	NO	mg/kg	Multiple tests
Nickel	6.5 E-2	8.1 E-1	1.0 E+0	7.0 E-2	NO	mg/kg	Multiple tests
Potassium	2.6 E-1	6.1 E-1	1.0 E+0	5.8 E-2	NO	mg/kg	Multiple tests
Selenium	6.1 E-4	1.0 E+0	5.5 E-1	0.0 E+0	YES	mg/kg	Multiple tests
Silver	2.2 E-10	7.4 E-14	NA	1.0 E+0	NO	mg/kg	Multiple tests

Chemical	T Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Background?	Units	Basis
Sodium	1.6 E-7	2.6 E-2	5.8 E-2	1.7 E-7	YES	mg/kg	Multiple tests
Strontium	4.0 E-6	1.2 E-1	1.0 E+0	5.5 E-11	YES	mg/kg	Multiple tests
Thallium	1.0 E+0	1.0 E+0	1.0 E+0	9.8 E-1	NO	mg/kg	Multiple tests
Tin	6.2 E-1	8.5 E-1	6.7 E-5	1.3 E-8	YES	mg/kg	Multiple tests
Titanium	1.7 E-13	3.3 E-7	3.2 E-1	1.2 E-13	YES	mg/kg	Multiple tests
Tungsten	1.2 E-27	4.4 E-9	NA	0.0 E+0	YES	mg/kg	Multiple tests
Uranium	2.4 E-2	2.2 E-3	1.0 E+0	1.2 E-2	YES	mg/kg	Multiple tests
Vanadium	2.5 E-15	8.9 E-8	9.3 E-4	2.4 E-14	YES	mg/kg	Multiple tests
Zinc	1.5 E-8	4.3 E-5	1.0 E+0	8.7 E-11	YES	mg/kg	Multiple tests
Radium-226(2)	1.0 E+0	1.0 E+0	5.8 E-1	1.0 E+0	NO	pCi/g	Multiple tests
Radium-228(2)	9.9 E-1	6.7 E-1	8.9 E-2	1.0 E+0	NO	pCi/g	Multiple tests
Thorium-228(2)	3.7 E-1	2.2 E-1	3.8 E-3	5.9 E-1	NO	pCi/g	Multiple tests; see text
Thorium-230(2)	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests
Thorium-232(2)	1.0 E+0	9.8 E-1	6.8 E-3	1.0 E+0	NO	pCi/g	Multiple tests; see text
Uranium-233/234(2)	9.6 E-1	5.6 E-1	3.4 E-1	9.1 E-1	NO	pCi/g	Multiple tests
Uranium-235/236(2)	2.8 E-1	5.1 E-4	1.2 E-3	6.2 E-1	NO	pCi/g	Secular equilibrium; all results near noise level of instrument
Uranium-238(2)	1.0 E+0	9.9 E-1	1.0 E+0	1.0 E+0	NO	pCi/g	Multiple tests

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1b
BACKGROUND COMPARISON SUMMARY - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Southern RIBs Sub-Area - SRC-J02/J03															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Aluminum	28	100%	0	--	--	--	--	--	--	28	10700	12000	15400	14800	16900	18100
Antimony	28	0%	28	0.225	0.225	0.252	0.53	0.82	2.7	0	--	--	--	--	--	--
Arsenic	28	39%	17	5.2	5.3	5.3	5.32	5.4	5.5	11	3.2	3.7	4.6	4.96	5.2	10
Barium	28	100%	0	--	--	--	--	--	--	28	167	222	269	280	321	450
Beryllium	28	93%	2	0.53	--	0.53	0.53	--	0.53	26	0.54	0.62	0.665	0.672	0.733	0.82
Boron	28	0%	28	2.99	2.99	13.2	12.8	16.7	50.9	0	--	--	--	--	--	--
Cadmium	28	7%	26	0.21	0.25	0.27	0.26	0.27	0.27	2	0.21	--	0.22	0.22	--	0.23
Calcium	28	100%	0	--	--	--	--	--	--	28	11900	17400	21100	22800	24000	57400
Chromium	28	100%	0	--	--	--	--	--	--	28	10	12.7	16.2	17.2	21.2	27.4
Chromium (VI)	28	46%	15	0.11	0.11	0.41	0.315	0.43	0.43	13	0.13	0.18	0.23	0.266	0.37	0.49
Cobalt	28	100%	0	--	--	--	--	--	--	28	9.2	10.7	14	13.6	15.5	20.8
Copper	28	100%	0	--	--	--	--	--	--	28	16.7	20.7	27.5	25.6	28.9	31.5
Iron	28	100%	0	--	--	--	--	--	--	28	15500	18400	19800	20800	23800	25900
Lead	28	100%	0	--	--	--	--	--	--	28	8.4	10.2	12.5	13.8	15.2	37.2
Lithium	28	100%	0	--	--	--	--	--	--	28	9.1	10.4	11.9	12.1	12.8	19.3
Magnesium	28	100%	0	--	--	--	--	--	--	28	9660	11800	13500	13200	14700	17400
Manganese	28	100%	0	--	--	--	--	--	--	28	417	634	692	719	822	1110
Mercury	28	71%	8	0.0115	0.0171	0.0338	0.0282	0.0339	0.0339	20	0.0086	0.0122	0.0155	0.0163	0.0209	0.0262
Molybdenum	28	0%	28	2.1	2.5	2.65	2.56	2.7	2.7	0	--	--	--	--	--	--
Nickel	28	100%	0	--	--	--	--	--	--	28	15.9	18.2	22.2	21.7	23.5	28
Potassium	28	100%	0	--	--	--	--	--	--	28	1330	1860	2190	2330	2850	4000
Selenium	28	0%	28	0.225	0.225	0.225	0.917	2.5	2.7	0	--	--	--	--	--	--
Silver	28	21%	22	0.83	1	1.1	1.04	1.1	1.1	6	0.12	0.12	0.14	0.133	0.14	0.14

TABLE 5-1b
BACKGROUND COMPARISON SUMMARY - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Southern RIBs Sub-Area - SRC-J02/J03															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Sodium	28	100%	0	--	--	--	--	--	--	28	260	512	797	765	962	1330
Strontium	28	100%	0	--	--	--	--	--	--	28	210	278	333	348	414	563
Thallium	28	0%	28	0.105	0.151	0.29	0.469	0.9	1.1	0	--	--	--	--	--	--
Tin	28	11%	25	0.6	0.75	0.75	0.85	1.1	1.1	3	0.87	0.87	1.1	1.19	1.6	1.6
Titanium	28	100%	0	--	--	--	--	--	--	28	569	762	958	1000	1280	1510
Tungsten	28	7%	26	0.185	0.411	1	1.48	2.6	2.7	2	0.19	--	2.35	2.35	--	4.5
Uranium	28	100%	0	--	--	--	--	--	--	28	0.85	0.958	1.05	1.19	1.48	1.9
Vanadium	28	100%	0	--	--	--	--	--	--	28	39.5	62.6	69.9	72.8	87.5	108
Zinc	28	100%	0	--	--	--	--	--	--	28	39.9	46.1	50.4	53.1	61.5	76.7
Radium-226[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Radium-228[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thorium-228[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thorium-230[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thorium-232[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium-233/234[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium-235/236[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium-238[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1b
BACKGROUND COMPARISON SUMMARY - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Background															
			Censored (Non-Detect) Data							Detected Data[1]						
	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Aluminum	95	100%	0	--	--	--	--	--	--	95	3740	6700	8400	9000	11000	15300
Antimony	95	45%	52	0.3298	0.33	0.33	0.33	0.33	0.3298	43	0.12	0.15	0.22	0.24	0.29	0.5
Arsenic	95	100%	0	--	--	--	--	--	--	95	2.5	3.4	4	4.2	5	7.2
Barium	95	100%	0	--	--	--	--	--	--	95	73	140	170	180	220	445
Beryllium	95	100%	0	--	--	--	--	--	--	95	0.16	0.46	0.57	0.59	0.73	0.89
Boron	95	36%	61	3.2	3.2	3.2	3.2	3.2	3.2	34	5.2	5.8	6.8	7.1	8.3	11.6
Cadmium	95	0%	95	0.1291	0.13	0.13	0.13	0.13	0.1291	0	--	--	--	--	--	--
Calcium	95	100%	0	--	--	--	--	--	--	95	9440	18000	25000	29000	37000	82800
Chromium	95	100%	0	--	--	--	--	--	--	95	2.6	6.8	9	9.1	11	16.7
Chromium (VI)	95	0%	95	0.25	0.25	0.26	0.26	0.26	0.32	0	--	--	--	--	--	--
Cobalt	95	100%	0	--	--	--	--	--	--	95	3.7	7.3	9	8.8	10	16.3
Copper	95	100%	0	--	--	--	--	--	--	95	10.2	15	18	18	20	25.9
Iron	95	100%	0	--	--	--	--	--	--	95	5410	11000	13000	13000	16000	19700
Lead	95	100%	0	--	--	--	--	--	--	95	3	6	7.2	8.2	9.3	35.1
Lithium	95	100%	0	--	--	--	--	--	--	95	7.5	11	13	14	17	26.5
Magnesium	95	100%	0	--	--	--	--	--	--	95	4690	8500	10000	10000	13000	17500
Manganese	95	100%	0	--	--	--	--	--	--	95	151	320	410	410	500	863
Mercury	95	77%	22	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	73	0.0084	0.012	0.018	0.023	0.028	0.11
Molybdenum	95	100%	0	--	--	--	--	--	--	95	0.3	0.41	0.49	0.55	0.61	2
Nickel	95	100%	0	--	--	--	--	--	--	95	7.9	14	16	16	19	30
Potassium	95	100%	0	--	--	--	--	--	--	95	625	1200	1600	1800	2200	3890
Selenium	95	35%	62	0.1579	0.16	0.16	0.16	0.16	0.1579	33	0.23	0.28	0.31	0.33	0.36	0.6
Silver	95	0%	95	0.2609	0.26	0.26	0.26	0.26	0.2609	0	--	--	--	--	--	--

TABLE 5-1b
BACKGROUND COMPARISON SUMMARY - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Background															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	**Total Count**	**Detect Freq.**	**Count**	**Min**	**Q1**	**Median**	**Mean**	**Q3**	**Max**	**Count**	**Min**	**Q1**	**Median**	**Mean**	**Q3**	**Max**
Sodium	95	100%	0	--	--	--	--	--	--	95	128	210	490	500	690	1320
Strontium	95	100%	0	--	--	--	--	--	--	95	75.5	140	190	230	270	808
Thallium	95	22%	74	0.5428	0.54	0.54	0.54	0.54	0.5428	21	1.1	1.2	1.4	1.4	1.7	1.8
Tin	95	100%	0	--	--	--	--	--	--	95	0.24	0.41	0.51	0.5	0.57	0.8
Titanium	95	100%	0	--	--	--	--	--	--	95	262	460	540	560	660	1010
Tungsten	95	0%	95	0.0175	0.018	0.018	0.018	0.018	0.0175	0	--	--	--	--	--	--
Uranium	94	100%	0	--	--	--	--	--	--	94	0.62	0.84	0.97	1	1.1	2.7
Vanadium	95	100%	0	--	--	--	--	--	--	95	20.2	34	38	39	45	59.1
Zinc	95	100%	0	--	--	--	--	--	--	95	15.4	30	38	38	43	121
Radium-226[2]	95	96%	4	--	--	--	--	--	--	91	0.494	0.95	1.1	1.1	1.3	2.36
Radium-228[2]	81	80%	16	--	--	--	--	--	--	65	0.946	1.6	1.9	1.9	2.2	2.92
Thorium-228[2]	95	100%	0	--	--	--	--	--	--	95	1.15	1.5	1.8	1.7	1.9	2.28
Thorium-230[2]	95	100%	0	--	--	--	--	--	--	95	0.73	1	1.2	1.3	1.5	3.01
Thorium-232[2]	95	100%	0	--	--	--	--	--	--	95	1.22	1.4	1.7	1.7	1.9	2.23
Uranium-233/234[2]	95	47%	50	--	--	--	--	--	--	45	0.63	0.9	1.1	1.2	1.2	2.84
Uranium-235/236[2]	95	44%	53	--	--	--	--	--	--	42	0.0009	0.045	0.06	0.07	0.092	0.21
Uranium-238[2]	95	100%	0	--	--	--	--	--	--	95	0.65	0.94	1.1	1.2	1.4	2.37

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1b
BACKGROUND COMPARISON SUMMARY - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	T Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Background?	Units	Basis
Aluminum	4.6 E-14	3.4 E-8	4.2 E-11	4.6 E-12	YES	mg/kg	Multiple tests
Antimony	9.6 E-2	1.0 E+0	1.0 E+0	2.4 E-1	NO	mg/kg	ND in site
Arsenic	9.7 E-1	9.0 E-1	2.3 E-1	5.8 E-5	NO	mg/kg	Multiple tests
Barium	1.1 E-8	3.4 E-8	2.3 E-1	2.8 E-10	YES	mg/kg	Multiple tests
Beryllium	3.9 E-2	6.6 E-1	1.0 E+0	1.0 E-2	YES	mg/kg	WRS test
Boron	1.4 E-2	1.0 E+0	1.0 E+0	1.1 E-1	NO	mg/kg	ND in site
Cadmium	5.4 E-15	1.2 E-24	NA	0.0 E+0	YES	mg/kg	Multiple tests
Calcium	9.9 E-1	9.9 E-1	1.0 E+0	9.7 E-1	NO	mg/kg	Multiple tests
Chromium	7.7 E-10	2.1 E-9	3.0 E-10	1.7 E-12	YES	mg/kg	Multiple tests
Chromium (VI)	4.1 E-4	9.8 E-17	NA	2.7 E-1	YES	mg/kg	Multiple tests
Cobalt	2.7 E-10	1.0 E-10	4.5 E-4	3.9 E-11	YES	mg/kg	Multiple tests
Copper	5.0 E-11	3.4 E-8	7.5 E-15	3.0 E-11	YES	mg/kg	Multiple tests
Iron	9.7 E-17	2.4 E-17	4.2 E-11	2.3 E-14	YES	mg/kg	Multiple tests
Lead	2.0 E-5	2.0 E-7	2.3 E-1	4.1 E-10	YES	mg/kg	Multiple tests
Lithium	1.0 E+0	9.9 E-1	1.0 E+0	9.7 E-1	NO	mg/kg	Multiple tests
Magnesium	4.3 E-8	3.2 E-5	1.0 E+0	4.6 E-7	YES	mg/kg	Multiple tests
Manganese	5.5 E-11	3.8 E-12	4.5 E-4	1.8 E-12	YES	mg/kg	Multiple tests
Mercury	8.9 E-1	9.7 E-1	1.0 E+0	4.3 E-2	NO	mg/kg	Multiple tests
Molybdenum	2.7 E-43	1.0 E+0	1.0 E+0	4.4 E-16	NO	mg/kg	ND in site
Nickel	8.4 E-9	4.2 E-7	1.0 E+0	1.4 E-8	YES	mg/kg	Multiple tests
Potassium	8.4 E-5	1.6 E-2	2.3 E-1	3.8 E-5	YES	mg/kg	Multiple tests
Selenium	4.2 E-3	1.0 E+0	1.0 E+0	7.9 E-7	NO	mg/kg	ND in site
Silver	1.4 E-10	2.3 E-3	NA	2.0 E-10	YES	mg/kg	Multiple tests

TABLE 5-1b
BACKGROUND COMPARISON SUMMARY - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	T Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Background?	Units	Basis
Sodium	4.5 E-5	2.1 E-4	2.3 E-1	3.7 E-5	YES	mg/kg	Multiple tests
Strontium	9.5 E-7	4.6 E-3	1.0 E+0	2.4 E-7	YES	mg/kg	Multiple tests
Thallium	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0	NO	mg/kg	ND in site
Tin	4.4 E-1	9.9 E-1	4.0 E-3	3.0 E-14	YES	mg/kg	Multiple tests
Titanium	2.8 E-9	3.8 E-12	8.7 E-8	1.1 E-12	YES	mg/kg	Multiple tests
Tungsten	1.6 E-5	2.0 E-20	NA	0.0 E+0	YES	mg/kg	Multiple tests
Uranium	7.3 E-3	5.5 E-4	1.0 E+0	1.5 E-3	YES	mg/kg	Multiple tests
Vanadium	6.7 E-12	2.4 E-17	3.3 E-19	2.0 E-14	YES	mg/kg	Multiple tests
Zinc	1.2 E-9	4.2 E-7	1.0 E+0	3.5 E-10	YES	mg/kg	Multiple tests
Radium-226 (2)	--	--	--	--	--	--	--
Radium-228 (2)	--	--	--	--	--	--	--
Thorium-228 (2)	--	--	--	--	--	--	--
Thorium-230 (2)	--	--	--	--	--	--	--
Thorium-232 (2)	--	--	--	--	--	--	--
Uranium-233/234 (2)	--	--	--	--	--	--	--
Uranium-235/236 (2)	--	--	--	--	--	--	--
Uranium-238 (2)	--	--	--	--	--	--	--

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1c
BACKGROUND COMPARISON SUMMARY - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Southern RIBs Sub-Area - SRC-J21															
			Censored (Non-Detect) Data							Detected Data[1]						
	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Aluminum	10	100%	0	--	--	--	--	--	--	10	12600	13600	15400	15400	16900	18400
Antimony	10	0%	10	0.225	0.225	0.82	0.658	0.838	0.91	0	--	--	--	--	--	--
Arsenic	10	50%	5	5.1	5.15	5.3	5.28	5.4	5.4	5	3.3	3.5	3.9	4.02	4.6	5.3
Barium	10	100%	0	--	--	--	--	--	--	10	249	284	318	328	376	437
Beryllium	10	90%	1	0.52	--	0.52	0.52	--	0.52	9	0.53	0.55	0.59	1.1	0.735	5
Boron	10	0%	10	16.7	16.7	52.1	38.9	54.2	55.7	0	--	--	--	--	--	--
Cadmium	10	40%	6	0.04	0.205	0.26	0.225	0.263	0.27	4	0.12	0.125	0.21	0.268	0.468	0.53
Calcium	10	100%	0	--	--	--	--	--	--	10	8090	13100	23000	24000	35000	46800
Chromium	10	100%	0	--	--	--	--	--	--	10	12.4	17.2	21	20.8	24.5	28.2
Chromium (VI)	10	60%	4	0.41	0.413	0.425	0.425	0.438	0.44	6	0.18	0.188	0.215	0.27	0.375	0.48
Cobalt	10	100%	0	--	--	--	--	--	--	10	10.8	13.1	16	15.8	17.5	22.9
Copper	10	100%	0	--	--	--	--	--	--	10	20.6	24	29.5	32	36.6	56.1
Iron	10	100%	0	--	--	--	--	--	--	10	17000	19200	21800	22600	27100	28400
Lead	10	100%	0	--	--	--	--	--	--	10	9.9	12	13.4	21.3	26.9	66.2
Lithium	10	100%	0	--	--	--	--	--	--	10	11.2	12.1	13.8	14.4	16.5	19.3
Magnesium	10	100%	0	--	--	--	--	--	--	10	10200	11700	12700	13400	15900	16500
Manganese	10	100%	0	--	--	--	--	--	--	10	268	487	652	640	787	1020
Mercury	10	80%	2	0.0363	--	0.0367	0.0367	--	0.0371	8	0.0068	0.00945	0.0204	0.0678	0.0373	0.402
Molybdenum	10	0%	10	0.385	0.428	2.6	1.96	2.63	2.7	0	--	--	--	--	--	--
Nickel	10	100%	0	--	--	--	--	--	--	10	18.6	21.8	25	25.7	28.5	38.7
Potassium	10	100%	0	--	--	--	--	--	--	10	1970	2270	2480	2620	3070	3200
Selenium	10	0%	10	0.225	0.225	0.225	1.22	2.7	2.8	0	--	--	--	--	--	--
Silver	10	30%	7	1	1	1	1.04	1.1	1.1	3	0.089	0.089	0.12	3.54	10.4	10.4

TABLE 5-1c
BACKGROUND COMPARISON SUMMARY - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Southern RIBs Sub-Area - SRC-J21															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Sodium	10	100%	0	--	--	--	--	--	--	10	535	562	709	739	788	1290
Strontium	10	100%	0	--	--	--	--	--	--	10	231	258	323	359	430	623
Thallium	10	10%	9	0.105	0.105	0.29	0.408	0.695	1.1	1	1.2	--	1.2	1.2	--	1.2
Tin	10	50%	5	0.75	0.925	1.1	1.03	1.1	1.1	5	1.1	1.2	1.3	6.88	15.4	28.7
Titanium	10	100%	0	--	--	--	--	--	--	10	753	897	1120	1120	1340	1450
Tungsten	10	10%	9	0.4105	2.6	2.6	2.4	2.7	2.8	1	2.9	--	2.9	2.9	--	2.9
Uranium	10	100%	0	--	--	--	--	--	--	10	0.77	1.1	1.35	1.41	1.7	2.1
Vanadium	10	100%	0	--	--	--	--	--	--	10	54.5	64	82.3	80	95.1	103
Zinc	10	100%	0	--	--	--	--	--	--	10	47.1	53.4	61	80.7	74.3	249
Radium-226[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Radium-228[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thorium-228[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thorium-230[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thorium-232[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium-233/234[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium-235/236[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium-238[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1c
BACKGROUND COMPARISON SUMMARY - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Background															
			Censored (Non-Detect) Data							Detected Data[1]						
Chemical	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Aluminum	95	100%	0	--	--	--	--	--	--	95	3740	6700	8400	9000	11000	15300
Antimony	95	45%	52	0.3298	0.33	0.33	0.33	0.33	0.3298	43	0.12	0.15	0.22	0.24	0.29	0.5
Arsenic	95	100%	0	--	--	--	--	--	--	95	2.5	3.4	4	4.2	5	7.2
Barium	95	100%	0	--	--	--	--	--	--	95	73	140	170	180	220	445
Beryllium	95	100%	0	--	--	--	--	--	--	95	0.16	0.46	0.57	0.59	0.73	0.89
Boron	95	36%	61	3.2	3.2	3.2	3.2	3.2	3.2	34	5.2	5.8	6.8	7.1	8.3	11.6
Cadmium	95	0%	95	0.1291	0.13	0.13	0.13	0.13	0.1291	0	--	--	--	--	--	--
Calcium	95	100%	0	--	--	--	--	--	--	95	9440	18000	25000	29000	37000	82800
Chromium	95	100%	0	--	--	--	--	--	--	95	2.6	6.8	9	9.1	11	16.7
Chromium (VI)	95	0%	95	0.25	0.25	0.26	0.26	0.26	0.32	0	--	--	--	--	--	--
Cobalt	95	100%	0	--	--	--	--	--	--	95	3.7	7.3	9	8.8	10	16.3
Copper	95	100%	0	--	--	--	--	--	--	95	10.2	15	18	18	20	25.9
Iron	95	100%	0	--	--	--	--	--	--	95	5410	11000	13000	13000	16000	19700
Lead	95	100%	0	--	--	--	--	--	--	95	3	6	7.2	8.2	9.3	35.1
Lithium	95	100%	0	--	--	--	--	--	--	95	7.5	11	13	14	17	26.5
Magnesium	95	100%	0	--	--	--	--	--	--	95	4690	8500	10000	10000	13000	17500
Manganese	95	100%	0	--	--	--	--	--	--	95	151	320	410	410	500	863
Mercury	95	77%	22	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	73	0.0084	0.012	0.018	0.023	0.028	0.11
Molybdenum	95	100%	0	--	--	--	--	--	--	95	0.3	0.41	0.49	0.55	0.61	2
Nickel	95	100%	0	--	--	--	--	--	--	95	7.9	14	16	16	19	30
Potassium	95	100%	0	--	--	--	--	--	--	95	625	1200	1600	1800	2200	3890
Selenium	95	35%	62	0.1579	0.16	0.16	0.16	0.16	0.1579	33	0.23	0.28	0.31	0.33	0.36	0.6
Silver	95	0%	95	0.2609	0.26	0.26	0.26	0.26	0.2609	0	--	--	--	--	--	--

TABLE 5-1c
BACKGROUND COMPARISON SUMMARY - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Background															
			Censored (Non-Detect) Data							Detected Data[1]						
	Total Count	Detect Freq.	Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max
Sodium	95	100%	0	--	--	--	--	--	--	95	128	210	490	500	690	1320
Strontium	95	100%	0	--	--	--	--	--	--	95	75.5	140	190	230	270	808
Thallium	95	22%	74	0.5428	0.54	0.54	0.54	0.54	0.5428	21	1.1	1.2	1.4	1.4	1.7	1.8
Tin	95	100%	0	--	--	--	--	--	--	95	0.24	0.41	0.51	0.5	0.57	0.8
Titanium	95	100%	0	--	--	--	--	--	--	95	262	460	540	560	660	1010
Tungsten	95	0%	95	0.0175	0.018	0.018	0.018	0.018	0.0175	0	--	--	--	--	--	--
Uranium	94	100%	0	--	--	--	--	--	--	94	0.62	0.84	0.97	1	1.1	2.7
Vanadium	95	100%	0	--	--	--	--	--	--	95	20.2	34	38	39	45	59.1
Zinc	95	100%	0	--	--	--	--	--	--	95	15.4	30	38	38	43	121
Radium-226[2]	95	96%	4	--	--	--	--	--	--	91	0.494	0.95	1.1	1.1	1.3	2.36
Radium-228[2]	81	80%	16	--	--	--	--	--	--	65	0.946	1.6	1.9	1.9	2.2	2.92
Thorium-228[2]	95	100%	0	--	--	--	--	--	--	95	1.15	1.5	1.8	1.7	1.9	2.28
Thorium-230[2]	95	100%	0	--	--	--	--	--	--	95	0.73	1	1.2	1.3	1.5	3.01
Thorium-232[2]	95	100%	0	--	--	--	--	--	--	95	1.22	1.4	1.7	1.7	1.9	2.23
Uranium-233/234[2]	95	47%	50	--	--	--	--	--	--	45	0.63	0.9	1.1	1.2	1.2	2.84
Uranium-235/236[2]	95	44%	53	--	--	--	--	--	--	42	0.0009	0.045	0.06	0.07	0.092	0.21
Uranium-238[2]	95	100%	0	--	--	--	--	--	--	95	0.65	0.94	1.1	1.2	1.4	2.37

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-1c
BACKGROUND COMPARISON SUMMARY - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	T Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Background?	Units	Basis
Aluminum	2.2 E-7	1.8 E-7	2.6 E-6	4.5 E-7	YES	mg/kg	Multiple tests
Antimony	1.2 E-2	1.0 E+0	1.0 E+0	1.4 E-3	NO	mg/kg	ND in site
Arsenic	9.9 E-1	9.4 E-1	1.0 E+0	7.9 E-2	NO	mg/kg	Multiple tests
Barium	6.5 E-6	1.8 E-7	1.0 E+0	7.0 E-7	YES	mg/kg	Multiple tests
Beryllium	1.8 E-1	7.2 E-1	9.5 E-2	1.9 E-1	NO	mg/kg	Multiple tests
Boron	2.6 E-4	1.0 E+0	1.0 E+0	3.7 E-9	NO	mg/kg	ND in site
Cadmium	1.7 E-2	3.3 E-12	NA	5.0 E-10	YES	mg/kg	Multiple tests
Calcium	8.7 E-1	7.6 E-1	1.0 E+0	8.5 E-1	NO	mg/kg	Multiple tests
Chromium	1.1 E-5	1.1 E-7	1.6 E-10	2.6 E-7	YES	mg/kg	Multiple tests
Chromium (VI)	1.6 E-3	5.3 E-9	NA	1.3 E-1	YES	mg/kg	Multiple tests
Cobalt	5.3 E-5	1.8 E-7	2.6 E-6	5.4 E-7	YES	mg/kg	Multiple tests
Copper	1.0 E-3	5.8 E-6	5.3 E-9	5.0 E-7	YES	mg/kg	Multiple tests
Iron	1.3 E-5	1.8 E-7	5.3 E-9	3.1 E-7	YES	mg/kg	Multiple tests
Lead	2.0 E-2	8.7 E-6	9.5 E-2	2.4 E-6	YES	mg/kg	Multiple tests
Lithium	3.7 E-1	7.6 E-1	1.0 E+0	1.7 E-1	NO	mg/kg	Multiple tests
Magnesium	8.9 E-4	1.3 E-1	1.0 E+0	1.3 E-3	YES	mg/kg	Multiple tests
Manganese	4.5 E-3	2.0 E-3	8.2 E-3	4.4 E-4	YES	mg/kg	Multiple tests
Mercury	1.6 E-1	4.4 E-1	9.5 E-2	3.6 E-2	NO	mg/kg	Multiple tests
Molybdenum	1.5 E-2	1.0 E+0	1.0 E+0	1.6 E-3	NO	mg/kg	ND in site
Nickel	2.5 E-4	8.7 E-6	9.5 E-2	2.5 E-6	YES	mg/kg	Multiple tests
Potassium	2.9 E-5	2.0 E-3	1.0 E+0	2.2 E-4	YES	mg/kg	Multiple tests
Selenium	2.8 E-2	1.0 E+0	1.0 E+0	3.4 E-4	NO	mg/kg	ND in site
Silver	1.1 E-1	8.2 E-3	NA	5.0 E-10	YES	mg/kg	Multiple tests

TABLE 5-1c
BACKGROUND COMPARISON SUMMARY - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	T Test *p*	Quantile Test *p*	Slippage Test *p*	WRS Test *p*	Greater than Background?	Units	Basis
Sodium	4.1 E-3	6.5 E-2	1.0 E+0	5.1 E-3	YES	mg/kg	Multiple tests
Strontium	7.5 E-3	6.5 E-2	1.0 E+0	5.8 E-4	YES	mg/kg	Multiple tests
Thallium	9.5 E-1	9.2 E-1	1.0 E+0	1.0 E+0	NO	mg/kg	Multiple tests
Tin	1.4 E-1	6.5 E-2	7.6 E-8	1.2 E-7	YES	mg/kg	Multiple tests
Titanium	1.5 E-5	1.8 E-7	5.3 E-9	3.2 E-7	YES	mg/kg	Multiple tests
Tungsten	4.5 E-5	9.5 E-2	NA	0.0 E+0	YES	mg/kg	Multiple tests
Uranium	6.4 E-3	3.0 E-4	1.0 E+0	6.3 E-4	YES	mg/kg	Multiple tests
Vanadium	1.4 E-5	1.8 E-7	3.3 E-12	1.4 E-7	YES	mg/kg	Multiple tests
Zinc	2.6 E-2	1.8 E-7	9.5 E-2	9.2 E-7	YES	mg/kg	Multiple tests
Radium-226(2)	--	--	--	--	--	--	--
Radium-228(2)	--	--	--	--	--	--	--
Thorium-228(2)	--	--	--	--	--	--	--
Thorium-230(2)	--	--	--	--	--	--	--
Thorium-232(2)	--	--	--	--	--	--	--
Uranium-233/234(2)	--	--	--	--	--	--	--
Uranium-235/236(2)	--	--	--	--	--	--	--
Uranium-238(2)	--	--	--	--	--	--	--

Note: Background comparison statistics were performed using one-half the detection limit for metals and using GiSdT® (Neptune and Company 2009).
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
(1) Range of detections include estimated values of detect results between the detection limit and reporting limit. As such some minimum detected concentrations may be below the minimum reporting limit. In these cases the respective sample results are flagged in the dataset.
(2) Radionuclide background comparisons were conducted using all Site data. These were not differentiated between the three areas (SRC-J02/J03, SRC-J21, and remainder of Site); this was done for metals only.
BOLD with Highlight indicates Site concentrations are greater than background.
WRS = Wilcoxon Rank Sum Test with the Gehan Modification

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Aldehydes									
Acetaldehyde	mg/kg	1	115	0.9%	0.17	--	13.9	1.39	NO
Formaldehyde	mg/kg	64	115	55.7%	2.52	--	10.6	1.06	YES
Asbestos									
Asbestos	Structures	9	53	17.0%	7	--	--	--	--
Dioxins / Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/g	78	123	63.4%	140	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	pg/g	50	123	40.7%	61	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/g	65	123	52.8%	69	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/g	72	123	58.5%	68	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	pg/g	0	123	0%	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/g	62	123	50.4%	40	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	pg/g	13	123	10.6%	4.5	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/g	21	123	17.1%	7.9	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	pg/g	9	123	7.3%	3.9	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	61	123	49.6%	37	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	pg/g	4	123	3.3%	3.2	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/g	37	123	30.1%	10	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	pg/g	52	123	42.3%	20	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	pg/g	84	123	68.3%	32	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin	pg/g	21	123	17.1%	1.3	--	--	--	--
Octachlorodibenzodioxin	pg/g	55	123	44.7%	850	--	--	--	--
Octachlorodibenzofuran	pg/g	85	123	69.1%	700	--	--	--	--
TCDD TEQ	ppt	123	123	--	32.9	--	50	--	--
General Chemistry/Ions									
Ammonia (as N)	mg/kg	33	133	24.8%	30.8	--	--	--	--
Bromide	mg/kg	21	133	15.8%	4.8	--	--	--	--
Chlorate	mg/kg	7	133	5.3%	15.4	--	--	--	--
Chloride	mg/kg	133	133	100%	923	--	--	--	--
Cyanide, Total	mg/kg	30	132	22.7%	0.75	--	1220	122	NO
Fluoride	mg/kg	115	133	86.5%	9.9	--	3670	367	NO
Nitrate	mg/kg	133	133	100%	918	--	100000	10000	NO
Nitrite	mg/kg	12	133	9.0%	1.3	--	7820	782	NO
Orthophosphate as P	mg/kg	38	133	28.6%	26.4	--	--	--	--
Perchlorate	mg/kg	92	129	71.3%	8.9	--	54.8	5.48	YES
Sulfate	mg/kg	130	133	97.7%	5850	--	--	--	--
Sulfide	mg/kg	4	133	3.0%	60.5	--	--	--	--
Total Kjeldahl Nitrogen (TKN)	mg/kg	133	133	100%	1810	--	--	--	--

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Metals									
Aluminum	mg/kg	126	126	100%	18400	YES	77200	7720	YES
Antimony	mg/kg	1	126	0.8%	0.37	NO	31.3	3.13	--
Arsenic	mg/kg	125	126	99.2%	8.6	NO	0.39	0.039	--
Barium	mg/kg	126	126	100%	548	YES	15300	1530	NO
Beryllium	mg/kg	126	126	100%	0.86	YES	155	15.5	NO
Boron	mg/kg	11	126	8.7%	68.3	YES	15600	1560	NO
Cadmium	mg/kg	40	126	31.7%	0.35	YES	38.9	3.89	NO
Calcium	mg/kg	126	126	100%	50500	NO	--	--	--
Chromium	mg/kg	126	126	100%	24	YES	100000	10000	NO
Chromium (VI)	mg/kg	51	126	40.5%	1.5	YES	234	23.4	NO
Cobalt	mg/kg	126	126	100%	19.7	YES	23.4	2.34	YES
Copper	mg/kg	126	126	100%	88.9	YES	2910	291	NO
Iron	mg/kg	126	126	100%	24400	YES	54800	5480	YES
Lead	mg/kg	126	126	100%	49.7	YES	400	--	--
Lithium	mg/kg	126	126	100%	50.6	NO	156	15.6	--
Magnesium	mg/kg	126	126	100%	13800	NO	100000	10000	--
Manganese	mg/kg	126	126	100%	1260	YES	1820	182	YES
Mercury	mg/kg	46	120	38.3%	0.0876	YES	23.5	2.35	NO
Molybdenum	mg/kg	74	126	58.7%	2.7	NO	391	39.1	--
Nickel	mg/kg	126	126	100%	29.5	NO	1540	154	--
Potassium	mg/kg	126	126	100%	3760	NO	--	--	--
Selenium	mg/kg	2	126	1.6%	1.7	YES	391	39.1	NO
Silver	mg/kg	90	126	71.4%	1.1	NO	391	39.1	--
Sodium	mg/kg	126	126	100%	2440	YES	--	--	--
Strontium	mg/kg	126	126	100%	607	YES	46900	4690	NO
Thallium	mg/kg	9	126	7.1%	0.59	NO	5.48	0.548	--
Tin	mg/kg	53	126	42.1%	1.8	YES	46900	4690	NO
Titanium	mg/kg	126	126	100%	1270	YES	100000	10000	NO
Tungsten	mg/kg	17	126	13.5%	3.6	YES	587	58.7	NO
Uranium	mg/kg	126	126	100%	2.6	YES	234	23.4	NO
Vanadium	mg/kg	126	126	100%	71.4	YES	391	39.1	YES
Zinc	mg/kg	126	126	100%	106	YES	23500	2350	NO
Organochlorine Pesticides									
2,4-DDD	mg/kg	1	133	0.8%	0.004	--	--	--	--
2,4-DDE	mg/kg	15	133	11.3%	0.029	--	--	--	--
4,4-DDD	mg/kg	1	133	0.8%	0.0023	--	2.44	0.244	NO
4,4-DDE	mg/kg	28	133	21.1%	0.052	--	1.72	0.172	NO

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
4,4-DDT	mg/kg	13	133	9.8%	0.0093	--	1.72	0.172	NO
Aldrin	mg/kg	0	133	0%	--	--	0.0286	0.00286	--
alpha-BHC	mg/kg	0	133	0%	--	--	21.1	2.11	--
alpha-Chlordane	mg/kg	0	133	0%	--	--	--	--	--
beta-BHC	mg/kg	13	133	9.8%	0.035	--	4.22	0.422	NO
Chlordane	mg/kg	0	133	0%	--	--	1.62	0.162	--
delta-BHC	mg/kg	0	133	0%	--	--	--	--	--
Dieldrin	mg/kg	0	133	0%	--	--	0.0304	0.00304	--
Endosulfan I	mg/kg	0	133	0%	--	--	367	36.7	--
Endosulfan II	mg/kg	0	133	0%	--	--	367	36.7	--
Endosulfan sulfate	mg/kg	0	133	0%	--	--	--	--	--
Endrin	mg/kg	0	133	0%	--	--	18.3	1.83	--
Endrin aldehyde	mg/kg	0	133	0%	--	--	--	--	--
Endrin ketone	mg/kg	0	133	0%	--	--	--	--	--
gamma-BHC (Lindane)	mg/kg	0	133	0%	--	--	0.703	0.0703	--
gamma-Chlordane	mg/kg	0	133	0%	--	--	--	--	--
Heptachlor	mg/kg	0	133	0%	--	--	0.108	0.0108	--
Heptachlor epoxide	mg/kg	0	133	0%	--	--	0.0534	0.00534	--
Methoxychlor	mg/kg	2	133	1.5%	0.011	--	306	30.6	NO
Toxaphene	mg/kg	0	133	0%	--	--	0.442	0.0442	--
Polynuclear Aromatic Hydrocarbons									
Acenaphthene	mg/kg	0	129	0%	--	--	509	50.9	--
Acenaphthylene	mg/kg	1	129	0.8%	0.00315	--	147	14.7	NO
Anthracene	mg/kg	1	129	0.8%	0.00375	--	2000	200	NO
Benzo(a)anthracene	mg/kg	19	129	14.7%	0.0135	--	0.621	0.0621	NO
Benzo(a)pyrene	mg/kg	13	129	10.1%	0.0142	--	0.0621	0.00621	YES
Benzo(b)fluoranthene	mg/kg	21	129	16.3%	0.0576	--	0.621	0.0621	NO
Benzo(g,h,i)perylene	mg/kg	12	129	9.3%	0.0212	--	2350	235	NO
Benzo(k)fluoranthene	mg/kg	6	129	4.7%	0.00747	--	6.21	0.621	NO
Chrysene	mg/kg	12	129	9.3%	0.0128	--	62.1	6.21	NO
Dibenzo(a,h)anthracene	mg/kg	1	129	0.8%	0.00279	--	0.0621	0.00621	NO
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9.3%	0.0235	--	0.621	0.0621	NO
Phenanthrene	mg/kg	9	129	7.0%	0.0114	--	24.5	2.45	NO
Pyrene	mg/kg	17	129	13.2%	0.0239	--	1890	189	NO
Polychlorinated Biphenyls									
PCB 105	pg/g	97	123	78.9%	2700	--	--	--	--
PCB 114	pg/g	62	123	50.4%	110	--	--	--	--
PCB 118	pg/g	104	123	84.6%	4700	--	--	--	--

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
PCB 123	pg/g	0	123	0%	--	--	--	--	--
PCB 126	pg/g	43	123	35.0%	40	--	--	--	--
PCB 156	pg/g	79	123	64.2%	740	--	--	--	--
PCB 157	pg/g	61	123	49.6%	170	--	--	--	--
PCB 167	pg/g	70	123	56.9%	260	--	--	--	--
PCB 169	pg/g	3	123	2.4%	5.5	--	--	--	--
PCB 189	pg/g	49	123	39.8%	46	--	--	--	--
PCB 209	pg/g	96	123	78.0%	4900	--	--	--	--
PCB 77	pg/g	0	123	0%	--	--	--	--	--
PCB 81	pg/g	0	123	0%	--	--	--	--	--
Radionuclides									
Radium-226	pCi/g	119	132	90.2%	2.39	NO	0.0071	0.00071	--
Radium-228	pCi/g	126	132	95.5%	3.64	NO	0.013	0.0013	--
Thorium-228	pCi/g	131	132	99.2%	3.71	NO	0.0078	0.00078	--
Thorium-230	pCi/g	118	132	89.4%	2.59	NO	3.2	0.32	--
Thorium-232	pCi/g	132	132	100%	2.8	NO	2.8	0.28	--
Uranium-233/234	pCi/g	125	132	94.7%	3.36	NO	4.2	0.42	--
Uranium-235/236	pCi/g	11	132	8.3%	0.412	NO	0.11	0.011	--
Uranium-238	pCi/g	131	132	99.2%	2.24	NO	0.46	0.046	--
Semi-Volatile Organic Compounds									
1,2,4,5-Tetrachlorobenzene	mg/kg	0	129	0%	--	--	18.3	1.83	--
1,2-Diphenylhydrazine	mg/kg	0	129	0%	--	--	0.608	0.0608	--
1,4-Dioxane	mg/kg	0	129	0%	--	--	4.86	0.486	--
2,2'-Dichlorobenzil	mg/kg	0	129	0%	--	--	23.5	2.35	--
2,4,5-Trichlorophenol	mg/kg	0	129	0%	--	--	6110	611	--
2,4,6-Trichlorophenol	mg/kg	0	129	0%	--	--	44.2	4.42	--
2,4-Dichlorophenol	mg/kg	0	129	0%	--	--	183	18.3	--
2,4-Dimethylphenol	mg/kg	0	129	0%	--	--	1220	122	--
2,4-Dinitrophenol	mg/kg	0	129	0%	--	--	122	12.2	--
2,4-Dinitrotoluene	mg/kg	0	129	0%	--	--	1.57	0.157	--
2,6-Dinitrotoluene	mg/kg	0	129	0%	--	--	61.1	6.11	--
2-Chloronaphthalene	mg/kg	0	129	0%	--	--	82.6	8.26	--
2-Chlorophenol	mg/kg	0	129	0%	--	--	220	22	--
2-Methylnaphthalene	mg/kg	0	129	0%	--	--	--	--	--
2-Nitroaniline	mg/kg	0	129	0%	--	--	183	18.3	--
2-Nitrophenol	mg/kg	0	129	0%	--	--	--	--	--
3,3-Dichlorobenzidine	mg/kg	0	129	0%	--	--	1.08	0.108	--
3-Nitroaniline	mg/kg	0	129	0%	--	--	--	--	--

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
4-Bromophenyl phenyl ether	mg/kg	0	129	0%	--	--	--	--	--
4-Chloro-3-methylphenol	mg/kg	0	129	0%	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/kg	0	129	0%	--	--	--	--	--
4-Chlorothioanisole	mg/kg	0	129	0%	--	--	--	--	--
4-Nitroaniline	mg/kg	0	129	0%	--	--	--	--	--
4-Nitrophenol	mg/kg	0	129	0%	--	--	489	48.9	--
Acetophenone	mg/kg	1	129	0.8%	0.0478	--	1740	174	NO
Aniline	mg/kg	0	129	0%	--	--	85.3	8.53	--
Benzenethiol	mg/kg	0	129	0%	--	--	--	--	--
Benzoic acid	mg/kg	0	129	0%	--	--	100000	10000	--
Benzyl alcohol	mg/kg	0	124	0%	--	--	30600	3060	--
bis(2-Chloroethoxy)methane	mg/kg	0	129	0%	--	--	--	--	--
bis(2-Chloroethyl) ether	mg/kg	0	129	0%	--	--	0.244	0.0244	--
bis(2-Chloroisopropyl) ether	mg/kg	0	129	0%	--	--	3.37	0.337	--
bis(2-Ethylhexyl) phthalate	mg/kg	5	129	3.9%	0.173	--	34.7	3.47	NO
bis(p-Chlorophenyl) sulfone	mg/kg	0	129	0%	--	--	--	--	--
bis(p-Chlorophenyl)disulfide	mg/kg	0	129	0%	--	--	--	--	--
Butylbenzyl phthalate	mg/kg	1	129	0.8%	0.0722	--	240	24	NO
Carbazole	mg/kg	0	129	0%	--	--	24.3	2.43	--
Dibenzofuran	mg/kg	0	129	0%	--	--	156	15.6	--
Dichloromethyl ether	mg/kg	0	129	0%	--	--	0.000242	0.0000242	--
Diethyl phthalate	mg/kg	0	129	0%	--	--	48900	4890	--
Dimethyl phthalate	mg/kg	0	129	0%	--		100000	10000	--
Di-n-butyl phthalate	mg/kg	2	129	1.6%	0.0878	--	6110	611	NO
Di-n-octyl phthalate	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl disulfide	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl sulfide	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl sulfone	mg/kg	0	129	0%	--	--	183	18.3	--
Diphenylamine	mg/kg	0	129	0%	--	--	1530	153	--
Fluoranthene	mg/kg	7	129	5.4%	0.099	--	2290	229	NO
Fluorene	mg/kg	0	129	0%	--	--	671	67.1	--
Hexachlorobenzene	mg/kg	1	129	0.8%	0.078	--	0.304	0.0304	YES
Hexachlorobutadiene	mg/kg	0	129	0%	--	--	6.24	0.624	--
Hexachlorocyclopentadiene	mg/kg	0	129	0%	--	--	366	36.6	--
Hexachloroethane	mg/kg	0	129	0%	--	--	34.7	3.47	--
Hydroxymethyl phthalimide	mg/kg	0	129	0%	--	--	--	--	--
Isophorone	mg/kg	0	129	0%	--		512	51.2	--
m,p-Cresols	mg/kg	0	129	0%	--	--	306	30.6	--

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Naphthalene	mg/kg	0	129	0%	--	--	3.1	0.31	--
Nitrobenzene	mg/kg	0	129	0%	--	--	2.69	0.269	--
N-nitrosodi-n-propylamine	mg/kg	0	129	0%	--	--	0.0695	0.00695	--
o-Cresol	mg/kg	0	129	0%	--	--	3060	306	--
Octachlorostyrene	mg/kg	0	129	0%	--	--	--	--	--
p-Chloroaniline	mg/kg	0	129	0%	--	--	2.43	0.243	--
p-Chlorobenzenethiol	mg/kg	0	129	0%	--	--	--	--	--
Pentachlorobenzene	mg/kg	0	129	0%	--	--	48.9	4.89	--
Pentachlorophenol	mg/kg	0	129	0%	--	--	0.894	0.0894	--
Phenol	mg/kg	0	129	0%	--	--	18300	1830	--
Phthalic acid	mg/kg	1	129	0.8%	0.494	--	100000	10000	NO
Pyridine	mg/kg	0	129	0%	--	--	60.5	6.05	--
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	mg/kg	0	132	0%	--	--	3.69	0.369	--
1,1,1-Trichloroethane	mg/kg	0	132	0%	--	--	1390	139	--
1,1,2,2-Tetrachloroethane	mg/kg	0	131	0%	--	--	0.472	0.0472	--
1,1,2-Trichloroethane	mg/kg	0	132	0%	--	--	1.05	0.105	--
1,1-Dichloroethane	mg/kg	0	132	0%	--	--	4.19	0.419	--
1,1-Dichloroethene	mg/kg	0	132	0%	--	--	285	28.5	--
1,1-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg	0	131	0%	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg	0	131	0%	--	--	0.0213	0.00213	--
1,2,4-Trichlorobenzene	mg/kg	0	131	0%	--	--	22.1	2.21	--
1,2,4-Trimethylbenzene	mg/kg	5	131	3.8%	0.0051	--	144	14.4	NO
1,2-Dichlorobenzene	mg/kg	2	131	1.5%	0.0002	--	373	37.3	NO
1,2-Dichloroethane	mg/kg	0	132	0%	--	--	0.433	0.0433	--
1,2-Dichloroethene	mg/kg	0	132	0%	--	--	--	--	--
1,2-Dichloropropane	mg/kg	0	132	0%	--	--	0.82	0.082	--
1,3,5-Trichlorobenzene	mg/kg	0	131	0%	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	2	131	1.5%	0.0008	--	57.9	5.79	NO
1,3-Dichlorobenzene	mg/kg	1	131	0.8%	0.00016	--	214	21.4	NO
1,3-Dichloropropane	mg/kg	0	132	0%	--	--	15.2	1.52	--
1,4-Dichlorobenzene	mg/kg	0	131	0%	--	--	2.59	0.259	--
2,2,3-Trimethylbutane	mg/kg	0	132	0%	--	--	--	--	--
2,2-Dichloropropane	mg/kg	0	132	0%	--	--	--	--	--
2,2-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
2,3-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
2,4-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
2-Chlorotoluene	mg/kg	0	131	0%	--	--	248	24.8	--
2-Hexanone	mg/kg	0	132	0%	--	--	460	46	--
2-Methylhexane	mg/kg	0	132	0%	--	--	--	--	--
2-Nitropropane	mg/kg	0	132	0%	--	--	0.0109	0.00109	--
3,3-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
3-Ethylpentane	mg/kg	0	132	0%	--	--	--	--	--
3-Methylhexane	mg/kg	0	132	0%	--	--	--	--	--
4-Chlorotoluene	mg/kg	0	131	0%	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	mg/kg	0	132	0%	--	--	5800	580	--
Acetone	mg/kg	36	132	27.3%	0.072	--	60000	6000	NO
Acetonitrile	mg/kg	0	132	0%	--	--	1470	147	--
Benzene	mg/kg	0	132	0%	--	--	0.81	0.081	--
Bromobenzene	mg/kg	0	131	0%	--	--	243	24.3	--
Bromodichloromethane	mg/kg	0	132	0%	--	--	0.648	0.0648	--
Bromoform	mg/kg	0	132	0%	--	--	61.6	6.16	--
Bromomethane	mg/kg	0	132	0%	--	--	8.7	0.87	--
Carbon disulfide	mg/kg	0	132	0%	--	--	721	72.1	--
Carbon tetrachloride	mg/kg	0	132	0%	--	--	0.735	0.0735	--
Chlorobenzene	mg/kg	0	132	0%	--	--	273	27.3	--
Chlorobromomethane	mg/kg	0	132	0%	--	--	--	--	--
Chloroethane	mg/kg	0	132	0%	--	--	221	22.1	--
Chloroform	mg/kg	0	132	0%	--	--	0.306	0.0306	--
Chloromethane	mg/kg	0	132	0%	--	--	1.6	0.16	--
cis-1,2-Dichloroethene	mg/kg	0	132	0%	--	--	148	14.8	--
cis-1,3-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
Cymene (Isopropyltoluene)	mg/kg	0	131	0%	--	--	389	38.9	--
Dibromochloromethane	mg/kg	0	132	0%	--	--	1.12	0.112	--
Dibromochloropropane	mg/kg	0	131	0%	--	--	0.0104	0.00104	--
Dibromomethane	mg/kg	0	132	0%	--	--	43.4	4.34	--
Dichloromethane (Methylene chloride)	mg/kg	4	132	3.0%	0.0097	--	11	1.1	NO
Dimethyldisulfide	mg/kg	0	132	0%	--	--	--	--	--
Ethanol	mg/kg	0	132	0%	--	--	100000	10000	--
Ethylbenzene	mg/kg	2	132	1.5%	0.00077	--	3.79	0.379	NO
Freon-11 (Trichlorofluoromethane)	mg/kg	1	132	0.8%	0.001	--	883	88.3	NO
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	mg/kg	0	132	0%	--	--	5550	555	--
Freon-12 (Dichlorodifluoromethane)	mg/kg	0	132	0%	--	--	218	21.8	--
Heptane	mg/kg	0	132	0%	--	--	220	22	--
Isopropylbenzene	mg/kg	0	132	0%	--	--	371	37.1	--

TABLE 5-4a
COMPARISONS TO RESIDENTIAL SOIL BCLs - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
m,p-Xylene	mg/kg	1	132	0.8%	0.002	--	214	21.4	NO
Methyl ethyl ketone (2-Butanone)	mg/kg	4	132	3.0%	0.012	--	32100	3210	NO
Methyl iodide	mg/kg	0	132	0%	--	--	360	36	--
MTBE (Methyl tert-butyl ether)	mg/kg	0	132	0%	--	--	39.2	3.92	--
n-Butylbenzene	mg/kg	0	131	0%	--	--	237	23.7	--
Nonanal	mg/kg	0	131	0%	--	--	--	--	--
n-Propylbenzene	mg/kg	1	131	0.8%	0.00041	--	237	23.7	NO
o-Xylene	mg/kg	3	132	2.3%	0.0051	--	282	28.2	NO
sec-Butylbenzene	mg/kg	0	131	0%	--	--	223	22.3	--
Styrene	mg/kg	0	132	0%	--	--	1730	173	--
tert-Butylbenzene	mg/kg	0	131	0%	--	--	393	39.3	--
Tetrachloroethene	mg/kg	1	132	0.8%	0.0007	--	0.624	0.0624	NO
Toluene	mg/kg	1	132	0.8%	0.0018	--	521	52.1	NO
trans-1,2-Dichloroethene	mg/kg	0	132	0%	--	--	122	12.2	--
trans-1,3-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
Trichloroethene	mg/kg	0	132	0%	--	--	1.06	0.106	--
Vinyl acetate	mg/kg	0	131	0%	--	--	988	98.8	--
Vinyl chloride	mg/kg	0	132	0%	--	--	0.349	0.0349	--
Xylenes (total)	mg/kg	1	132	0.8%	0.0027	--	214	21.4	NO

mg/kg - milligrams per kilogram

pCi/g - picoCuries per gram

ppt - parts per trillion

-- - Not available or not applicable

Chemical with at least one detection was compared to it's respective one-tenth BCL.

Dioxin and PCB congeners are evaluated as TCDD TEQs. These constituents, as well as lead, are evaluated using a separate process (see text).

Highlight indicates metals exceeding background and other inorganic/organic chemicals exceeding 1/10th residential BCLs.

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Aldehydes									
Acetaldehyde	mg/kg	1	115	0.9%	0.17	--	13.9	1.39	NO
Formaldehyde	mg/kg	64	115	55.7%	2.52	--	10.6	1.06	YES
Asbestos									
Asbestos	Structures	9	53	17.0%	7	--	--	--	--
Dioxins / Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/g	78	123	63.4%	140	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	pg/g	50	123	40.7%	61	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/g	65	123	52.8%	69	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/g	72	123	58.5%	68	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	pg/g	0	123	0%	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/g	62	123	50.4%	40	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	pg/g	13	123	10.6%	4.5	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/g	21	123	17.1%	7.9	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	pg/g	9	123	7.3%	3.9	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	61	123	49.6%	37	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	pg/g	4	123	3.3%	3.2	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/g	37	123	30.1%	10	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	pg/g	52	123	42.3%	20	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	pg/g	84	123	68.3%	32	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin	pg/g	21	123	17.1%	1.3	--	--	--	--
Octachlorodibenzodioxin	pg/g	55	123	44.7%	850	--	--	--	--
Octachlorodibenzofuran	pg/g	85	123	69.1%	700	--	--	--	--
TCDD TEQ	ppt	123	123	--	32.9	--	50	--	--
General Chemistry/Ions									
Ammonia (as N)	mg/kg	33	133	24.8%	30.8	--	--	--	--
Bromide	mg/kg	21	133	15.8%	4.8	--	--	--	--
Chlorate	mg/kg	7	133	5.3%	15.4	--	--	--	--
Chloride	mg/kg	133	133	100%	923	--	--	--	--
Cyanide, Total	mg/kg	30	132	22.7%	0.75	--	1220	122	NO
Fluoride	mg/kg	115	133	86.5%	9.9	--	3670	367	NO
Nitrate	mg/kg	133	133	100%	918	--	100000	10000	NO
Nitrite	mg/kg	12	133	9.0%	1.3	--	7820	782	NO
Orthophosphate as P	mg/kg	38	133	28.6%	26.4	--	--	--	--
Perchlorate	mg/kg	92	129	71.3%	8.9	--	54.8	5.48	YES
Sulfate	mg/kg	130	133	97.7%	5850	--	--	--	--
Sulfide	mg/kg	4	133	3.0%	60.5	--	--	--	--
Total Kjeldahl Nitrogen (TKN)	mg/kg	133	133	100%	1810	--	--	--	--

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Metals									
Aluminum	mg/kg	28	28	100%	18100	YES	77200	7720	YES
Antimony	mg/kg	0	28	0%	--	NO	31.3	3.13	--
Arsenic	mg/kg	11	28	39.3%	10	NO	0.39	0.039	--
Barium	mg/kg	28	28	100%	450	YES	15300	1530	NO
Beryllium	mg/kg	26	28	93%	0.82	YES	155	15.5	NO
Boron	mg/kg	0	28	0%	--	NO	15600	1560	--
Cadmium	mg/kg	2	28	7.1%	0.23	YES	38.9	3.89	NO
Calcium	mg/kg	28	28	100%	57400	NO	--	--	--
Chromium	mg/kg	28	28	100%	27.4	YES	100000	10000	NO
Chromium (VI)	mg/kg	13	28	46.4%	0.49	YES	234	23.4	NO
Cobalt	mg/kg	28	28	100%	20.8	YES	23.4	2.34	YES
Copper	mg/kg	28	28	100%	31.5	YES	2910	291	NO
Iron	mg/kg	28	28	100%	25900	YES	54800	5480	YES
Lead	mg/kg	28	28	100%	37.2	YES	400	--	--
Lithium	mg/kg	28	28	100%	19.3	NO	156	15.6	--
Magnesium	mg/kg	28	28	100%	17400	YES	100000	10000	YES
Manganese	mg/kg	28	28	100%	1110	YES	1820	182	YES
Mercury	mg/kg	20	28	71.4%	0.0262	NO	23.5	2.35	--
Molybdenum	mg/kg	0	28	0%	--	NO	391	39.1	--
Nickel	mg/kg	28	28	100%	28	YES	1540	154	NO
Potassium	mg/kg	28	28	100%	4000	YES	--	--	--
Selenium	mg/kg	0	28	0%	--	NO	391	39.1	--
Silver	mg/kg	6	28	21.4%	0.14	YES	391	39.1	NO
Sodium	mg/kg	28	28	100%	1330	YES	--	--	--
Strontium	mg/kg	28	28	100%	563	YES	46900	4690	NO
Thallium	mg/kg	0	28	0%	--	NO	5.48	0.548	--
Tin	mg/kg	3	28	10.7%	1.6	YES	46900	4690	NO
Titanium	mg/kg	28	28	100%	1510	YES	100000	10000	NO
Tungsten	mg/kg	2	28	7.1%	4.5	YES	587	58.7	NO
Uranium	mg/kg	28	28	100%	1.9	YES	234	23.4	NO
Vanadium	mg/kg	28	28	100%	108	YES	391	39.1	YES
Zinc	mg/kg	28	28	100%	76.7	YES	23500	2350	NO
Organochlorine Pesticides									
2,4-DDD	mg/kg	1	133	0.8%	0.004	--	--	--	--
2,4-DDE	mg/kg	15	133	11.3%	0.029	--	--	--	--
4,4-DDD	mg/kg	1	133	0.8%	0.0023	--	2.44	0.244	NO
4,4-DDE	mg/kg	28	133	21.1%	0.052	--	1.72	0.172	NO

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
4,4-DDT	mg/kg	13	133	9.8%	0.0093	--	1.72	0.172	NO
Aldrin	mg/kg	0	133	0%	--	--	0.0286	0.00286	--
alpha-BHC	mg/kg	0	133	0%	--	--	21.1	2.11	--
alpha-Chlordane	mg/kg	0	133	0%	--	--	--	--	--
beta-BHC	mg/kg	13	133	9.8%	0.035	--	4.22	0.422	NO
Chlordane	mg/kg	0	133	0%	--	--	1.62	0.162	--
delta-BHC	mg/kg	0	133	0%	--	--	--	--	--
Dieldrin	mg/kg	0	133	0%	--	--	0.0304	0.00304	--
Endosulfan I	mg/kg	0	133	0%	--	--	367	36.7	--
Endosulfan II	mg/kg	0	133	0%	--	--	367	36.7	--
Endosulfan sulfate	mg/kg	0	133	0%	--	--	--	--	--
Endrin	mg/kg	0	133	0%	--	--	18.3	1.83	--
Endrin aldehyde	mg/kg	0	133	0%	--	--	--	--	--
Endrin ketone	mg/kg	0	133	0%	--	--	--	--	--
gamma-BHC (Lindane)	mg/kg	0	133	0%	--	--	0.703	0.0703	--
gamma-Chlordane	mg/kg	0	133	0%	--	--	--	--	--
Heptachlor	mg/kg	0	133	0%	--	--	0.108	0.0108	--
Heptachlor epoxide	mg/kg	0	133	0%	--	--	0.0534	0.00534	--
Methoxychlor	mg/kg	2	133	1.5%	0.011	--	306	30.6	NO
Toxaphene	mg/kg	0	133	0%	--	--	0.442	0.0442	--
Polynuclear Aromatic Hydrocarbons									
Acenaphthene	mg/kg	0	129	0%	--	--	509	50.9	--
Acenaphthylene	mg/kg	1	129	0.8%	0.00315	--	147	14.7	NO
Anthracene	mg/kg	1	129	0.8%	0.00375	--	2000	200	NO
Benzo(a)anthracene	mg/kg	19	129	14.7%	0.0135	--	0.621	0.0621	NO
Benzo(a)pyrene	mg/kg	13	129	10.1%	0.0142	--	0.0621	0.00621	YES
Benzo(b)fluoranthene	mg/kg	21	129	16.3%	0.0576	--	0.621	0.0621	NO
Benzo(g,h,i)perylene	mg/kg	12	129	9.3%	0.0212	--	2350	235	NO
Benzo(k)fluoranthene	mg/kg	6	129	4.7%	0.00747	--	6.21	0.621	NO
Chrysene	mg/kg	12	129	9.3%	0.0128	--	62.1	6.21	NO
Dibenzo(a,h)anthracene	mg/kg	1	129	0.8%	0.00279	--	0.0621	0.00621	NO
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9.3%	0.0235	--	0.621	0.0621	NO
Phenanthrene	mg/kg	9	129	7.0%	0.0114	--	24.5	2.45	NO
Pyrene	mg/kg	17	129	13.2%	0.0239	--	1890	189	NO
Polychlorinated Biphenyls									
PCB 105	pg/g	97	123	78.9%	2700	--	--	--	--
PCB 114	pg/g	62	123	50.4%	110	--	--	--	--
PCB 118	pg/g	104	123	84.6%	4700	--	--	--	--

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
PCB 123	pg/g	0	123	0%	--	--	--	--	--
PCB 126	pg/g	43	123	35.0%	40	--	--	--	--
PCB 156	pg/g	79	123	64.2%	740	--	--	--	--
PCB 157	pg/g	61	123	49.6%	170	--	--	--	--
PCB 167	pg/g	70	123	56.9%	260	--	--	--	--
PCB 169	pg/g	3	123	2.4%	5.5	--	--	--	--
PCB 189	pg/g	49	123	39.8%	46	--	--	--	--
PCB 209	pg/g	96	123	78.0%	4900	--	--	--	--
PCB 77	pg/g	0	123	0%	--	--	--	--	--
PCB 81	pg/g	0	123	0%	--	--	--	--	--
Radionuclides									
Radium-226	pCi/g	119	132	90.2%	2.39	NO	0.0071	0.00071	--
Radium-228	pCi/g	126	132	95.5%	3.64	NO	0.013	0.0013	--
Thorium-228	pCi/g	131	132	99.2%	3.71	NO	0.0078	0.00078	--
Thorium-230	pCi/g	118	132	89.4%	2.59	NO	3.2	0.32	--
Thorium-232	pCi/g	132	132	100%	2.8	NO	2.8	0.28	--
Uranium-233/234	pCi/g	125	132	94.7%	3.36	NO	4.2	0.42	--
Uranium-235/236	pCi/g	11	132	8.3%	0.412	NO	0.11	0.011	--
Uranium-238	pCi/g	131	132	99.2%	2.24	NO	0.46	0.046	--
Semi-Volatile Organic Compounds									
1,2,4,5-Tetrachlorobenzene	mg/kg	0	129	0%	--	--	18.3	1.83	--
1,2-Diphenylhydrazine	mg/kg	0	129	0%	--	--	0.608	0.0608	--
1,4-Dioxane	mg/kg	0	129	0%	--	--	4.86	0.486	--
2,2'-Dichlorobenzil	mg/kg	0	129	0%	--	--	23.5	2.35	--
2,4,5-Trichlorophenol	mg/kg	0	129	0%	--	--	6110	611	--
2,4,6-Trichlorophenol	mg/kg	0	129	0%	--	--	44.2	4.42	--
2,4-Dichlorophenol	mg/kg	0	129	0%	--	--	183	18.3	--
2,4-Dimethylphenol	mg/kg	0	129	0%	--	--	1220	122	--
2,4-Dinitrophenol	mg/kg	0	129	0%	--	--	122	12.2	--
2,4-Dinitrotoluene	mg/kg	0	129	0%	--	--	1.57	0.157	--
2,6-Dinitrotoluene	mg/kg	0	129	0%	--	--	61.1	6.11	--
2-Chloronaphthalene	mg/kg	0	129	0%	--	--	82.6	8.26	--
2-Chlorophenol	mg/kg	0	129	0%	--	--	220	22	--
2-Methylnaphthalene	mg/kg	0	129	0%	--	--	--	--	--
2-Nitroaniline	mg/kg	0	129	0%	--	--	183	18.3	--
2-Nitrophenol	mg/kg	0	129	0%	--	--	--	--	--
3,3-Dichlorobenzidine	mg/kg	0	129	0%	--	--	1.08	0.108	--
3-Nitroaniline	mg/kg	0	129	0%	--	--	--	--	--

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
4-Bromophenyl phenyl ether	mg/kg	0	129	0%	--	--	--	--	--
4-Chloro-3-methylphenol	mg/kg	0	129	0%	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/kg	0	129	0%	--	--	--	--	--
4-Chlorothioanisole	mg/kg	0	129	0%	--	--	--	--	--
4-Nitroaniline	mg/kg	0	129	0%	--	--	--	--	--
4-Nitrophenol	mg/kg	0	129	0%	--	--	489	48.9	--
Acetophenone	mg/kg	1	129	0.8%	0.0478	--	1740	174	NO
Aniline	mg/kg	0	129	0%	--	--	85.3	8.53	--
Benzenethiol	mg/kg	0	129	0%	--	--	--	--	--
Benzoic acid	mg/kg	0	129	0%	--	--	100000	10000	--
Benzyl alcohol	mg/kg	0	124	0%	--	--	30600	3060	--
bis(2-Chloroethoxy)methane	mg/kg	0	129	0%	--	--	--	--	--
bis(2-Chloroethyl) ether	mg/kg	0	129	0%	--	--	0.244	0.0244	--
bis(2-Chloroisopropyl) ether	mg/kg	0	129	0%	--	--	3.37	0.337	--
bis(2-Ethylhexyl) phthalate	mg/kg	5	129	3.9%	0.173	--	34.7	3.47	NO
bis(p-Chlorophenyl) sulfone	mg/kg	0	129	0%	--	--	--	--	--
bis(p-Chlorophenyl)disulfide	mg/kg	0	129	0%	--	--	--	--	--
Butylbenzyl phthalate	mg/kg	1	129	0.8%	0.0722	--	240	24	NO
Carbazole	mg/kg	0	129	0%	--	--	24.3	2.43	--
Dibenzofuran	mg/kg	0	129	0%	--	--	156	15.6	--
Dichloromethyl ether	mg/kg	0	129	0%	--	--	0.000242	0.0000242	--
Diethyl phthalate	mg/kg	0	129	0%	--	--	48900	4890	--
Dimethyl phthalate	mg/kg	0	129	0%	--		100000	10000	--
Di-n-butyl phthalate	mg/kg	2	129	1.6%	0.0878	--	6110	611	NO
Di-n-octyl phthalate	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl disulfide	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl sulfide	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl sulfone	mg/kg	0	129	0%	--	--	183	18.3	--
Diphenylamine	mg/kg	0	129	0%	--	--	1530	153	--
Fluoranthene	mg/kg	7	129	5.4%	0.099	--	2290	229	NO
Fluorene	mg/kg	0	129	0%	--	--	671	67.1	--
Hexachlorobenzene	mg/kg	1	129	0.8%	0.078	--	0.304	0.0304	YES
Hexachlorobutadiene	mg/kg	0	129	0%	--	--	6.24	0.624	--
Hexachlorocyclopentadiene	mg/kg	0	129	0%	--	--	366	36.6	--
Hexachloroethane	mg/kg	0	129	0%	--	--	34.7	3.47	--
Hydroxymethyl phthalimide	mg/kg	0	129	0%	--	--	--	--	--
Isophorone	mg/kg	0	129	0%	--		512	51.2	--
m,p-Cresols	mg/kg	0	129	0%	--	--	306	30.6	--

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Naphthalene	mg/kg	0	129	0%	--	--	3.1	0.31	--
Nitrobenzene	mg/kg	0	129	0%	--	--	2.69	0.269	--
N-nitrosodi-n-propylamine	mg/kg	0	129	0%	--	--	0.0695	0.00695	--
o-Cresol	mg/kg	0	129	0%	--	--	3060	306	--
Octachlorostyrene	mg/kg	0	129	0%	--	--	--	--	--
p-Chloroaniline	mg/kg	0	129	0%	--	--	2.43	0.243	--
p-Chlorobenzenethiol	mg/kg	0	129	0%	--	--	--	--	--
Pentachlorobenzene	mg/kg	0	129	0%	--	--	48.9	4.89	--
Pentachlorophenol	mg/kg	0	129	0%	--	--	0.894	0.0894	--
Phenol	mg/kg	0	129	0%	--	--	18300	1830	--
Phthalic acid	mg/kg	1	129	0.8%	0.494	--	100000	10000	NO
Pyridine	mg/kg	0	129	0%	--	--	60.5	6.05	--
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	mg/kg	0	132	0%	--	--	3.69	0.369	--
1,1,1-Trichloroethane	mg/kg	0	132	0%	--	--	1390	139	--
1,1,2,2-Tetrachloroethane	mg/kg	0	131	0%	--	--	0.472	0.0472	--
1,1,2-Trichloroethane	mg/kg	0	132	0%	--	--	1.05	0.105	--
1,1-Dichloroethane	mg/kg	0	132	0%	--	--	4.19	0.419	--
1,1-Dichloroethene	mg/kg	0	132	0%	--	--	285	28.5	--
1,1-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg	0	131	0%	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg	0	131	0%	--	--	0.0213	0.00213	--
1,2,4-Trichlorobenzene	mg/kg	0	131	0%	--	--	22.1	2.21	--
1,2,4-Trimethylbenzene	mg/kg	5	131	3.8%	0.0051	--	144	14.4	NO
1,2-Dichlorobenzene	mg/kg	2	131	1.5%	0.0002	--	373	37.3	NO
1,2-Dichloroethane	mg/kg	0	132	0%	--	--	0.433	0.0433	--
1,2-Dichloroethene	mg/kg	0	132	0%	--	--	--	--	--
1,2-Dichloropropane	mg/kg	0	132	0%	--	--	0.82	0.082	--
1,3,5-Trichlorobenzene	mg/kg	0	131	0%	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	2	131	1.5%	0.0008	--	57.9	5.79	NO
1,3-Dichlorobenzene	mg/kg	1	131	0.8%	0.00016	--	214	21.4	NO
1,3-Dichloropropane	mg/kg	0	132	0%	--	--	15.2	1.52	--
1,4-Dichlorobenzene	mg/kg	0	131	0%	--	--	2.59	0.259	--
2,2,3-Trimethylbutane	mg/kg	0	132	0%	--	--	--	--	--
2,2-Dichloropropane	mg/kg	0	132	0%	--	--	--	--	--
2,2-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
2,3-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
2,4-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
2-Chlorotoluene	mg/kg	0	131	0%	--	--	248	24.8	--
2-Hexanone	mg/kg	0	132	0%	--	--	460	46	--
2-Methylhexane	mg/kg	0	132	0%	--	--	--	--	--
2-Nitropropane	mg/kg	0	132	0%	--	--	0.0109	0.00109	--
3,3-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
3-Ethylpentane	mg/kg	0	132	0%	--	--	--	--	--
3-Methylhexane	mg/kg	0	132	0%	--	--	--	--	--
4-Chlorotoluene	mg/kg	0	131	0%	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	mg/kg	0	132	0%	--	--	5800	580	--
Acetone	mg/kg	36	132	27.3%	0.072	--	60000	6000	NO
Acetonitrile	mg/kg	0	132	0%	--	--	1470	147	--
Benzene	mg/kg	0	132	0%	--	--	0.81	0.081	--
Bromobenzene	mg/kg	0	131	0%	--	--	243	24.3	--
Bromodichloromethane	mg/kg	0	132	0%	--	--	0.648	0.0648	--
Bromoform	mg/kg	0	132	0%	--	--	61.6	6.16	--
Bromomethane	mg/kg	0	132	0%	--	--	8.7	0.87	--
Carbon disulfide	mg/kg	0	132	0%	--	--	721	72.1	--
Carbon tetrachloride	mg/kg	0	132	0%	--	--	0.735	0.0735	--
Chlorobenzene	mg/kg	0	132	0%	--	--	273	27.3	--
Chlorobromomethane	mg/kg	0	132	0%	--	--	--	--	--
Chloroethane	mg/kg	0	132	0%	--	--	221	22.1	--
Chloroform	mg/kg	0	132	0%	--	--	0.306	0.0306	--
Chloromethane	mg/kg	0	132	0%	--	--	1.6	0.16	--
cis-1,2-Dichloroethene	mg/kg	0	132	0%	--	--	148	14.8	--
cis-1,3-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
Cymene (Isopropyltoluene)	mg/kg	0	131	0%	--	--	389	38.9	--
Dibromochloromethane	mg/kg	0	132	0%	--	--	1.12	0.112	--
Dibromochloropropane	mg/kg	0	131	0%	--	--	0.0104	0.00104	--
Dibromomethane	mg/kg	0	132	0%	--	--	43.4	4.34	--
Dichloromethane (Methylene chloride)	mg/kg	4	132	3.0%	0.0097	--	11	1.1	NO
Dimethyldisulfide	mg/kg	0	132	0%	--	--	--	--	--
Ethanol	mg/kg	0	132	0%	--	--	100000	10000	--
Ethylbenzene	mg/kg	2	132	1.5%	0.00077	--	3.79	0.379	NO
Freon-11 (Trichlorofluoromethane)	mg/kg	1	132	0.8%	0.001	--	883	88.3	NO
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	mg/kg	0	132	0%	--	--	5550	555	--
Freon-12 (Dichlorodifluoromethane)	mg/kg	0	132	0%	--	--	218	21.8	--
Heptane	mg/kg	0	132	0%	--	--	220	22	--
Isopropylbenzene	mg/kg	0	132	0%	--	--	371	37.1	--

TABLE 5-4b
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
m,p-Xylene	mg/kg	1	132	0.8%	0.002	--	214	21.4	NO
Methyl ethyl ketone (2-Butanone)	mg/kg	4	132	3.0%	0.012	--	32100	3210	NO
Methyl iodide	mg/kg	0	132	0%	--	--	360	36	--
MTBE (Methyl tert-butyl ether)	mg/kg	0	132	0%	--	--	39.2	3.92	--
n-Butylbenzene	mg/kg	0	131	0%	--	--	237	23.7	--
Nonanal	mg/kg	0	131	0%	--	--	--	--	--
n-Propylbenzene	mg/kg	1	131	0.8%	0.00041	--	237	23.7	NO
o-Xylene	mg/kg	3	132	2.3%	0.0051	--	282	28.2	NO
sec-Butylbenzene	mg/kg	0	131	0%	--	--	223	22.3	--
Styrene	mg/kg	0	132	0%	--	--	1730	173	--
tert-Butylbenzene	mg/kg	0	131	0%	--	--	393	39.3	--
Tetrachloroethene	mg/kg	1	132	0.8%	0.0007	--	0.624	0.0624	NO
Toluene	mg/kg	1	132	0.8%	0.0018	--	521	52.1	NO
trans-1,2-Dichloroethene	mg/kg	0	132	0%	--	--	122	12.2	--
trans-1,3-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
Trichloroethene	mg/kg	0	132	0%	--	--	1.06	0.106	--
Vinyl acetate	mg/kg	0	131	0%	--	--	988	98.8	--
Vinyl chloride	mg/kg	0	132	0%	--	--	0.349	0.0349	--
Xylenes (total)	mg/kg	1	132	0.8%	0.0027	--	214	21.4	NO

mg/kg - milligrams per kilogram

pCi/g - picoCuries per gram

ppt - parts per trillion

-- - Not available or not applicable

Chemical with at least one detection was compared to it's respective one-tenth BCL.

Dioxin and PCB congeners are evaluated as TCDD TEQs. These constituents, as well as lead, are evaluated using a separate process (see text).

Highlight indicates metals exceeding background and other inorganic/organic chemicals exceeding 1/10th residential BCLs.

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Aldehydes									
Acetaldehyde	mg/kg	1	115	0.9%	0.17	--	13.9	1.39	NO
Formaldehyde	mg/kg	64	115	55.7%	2.52	--	10.6	1.06	YES
Asbestos									
Asbestos	Structures	9	53	17.0%	7	--	--	--	--
Dioxins / Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/g	78	123	63.4%	140	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	pg/g	50	123	40.7%	61	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/g	65	123	52.8%	69	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/g	72	123	58.5%	68	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	pg/g	0	123	0%	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/g	62	123	50.4%	40	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	pg/g	13	123	10.6%	4.5	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/g	21	123	17.1%	7.9	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	pg/g	9	123	7.3%	3.9	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	61	123	49.6%	37	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	pg/g	4	123	3.3%	3.2	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/g	37	123	30.1%	10	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	pg/g	52	123	42.3%	20	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	pg/g	84	123	68.3%	32	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin	pg/g	21	123	17.1%	1.3	--	--	--	--
Octachlorodibenzodioxin	pg/g	55	123	44.7%	850	--	--	--	--
Octachlorodibenzofuran	pg/g	85	123	69.1%	700	--	--	--	--
TCDD TEQ	ppt	123	123	--	32.9	--	50	--	--
General Chemistry/Ions									
Ammonia (as N)	mg/kg	33	133	24.8%	30.8	--	--	--	--
Bromide	mg/kg	21	133	15.8%	4.8	--	--	--	--
Chlorate	mg/kg	7	133	5.3%	15.4	--	--	--	--
Chloride	mg/kg	133	133	100%	923	--	--	--	--
Cyanide, Total	mg/kg	30	132	22.7%	0.75	--	1220	122	NO
Fluoride	mg/kg	115	133	86.5%	9.9	--	3670	367	NO
Nitrate	mg/kg	133	133	100%	918	--	100000	10000	NO
Nitrite	mg/kg	12	133	9.0%	1.3	--	7820	782	NO
Orthophosphate as P	mg/kg	38	133	28.6%	26.4	--	--	--	--
Perchlorate	mg/kg	92	129	71.3%	8.9	--	54.8	5.48	YES
Sulfate	mg/kg	130	133	97.7%	5850	--	--	--	--
Sulfide	mg/kg	4	133	3.0%	60.5	--	--	--	--
Total Kjeldahl Nitrogen (TKN)	mg/kg	133	133	100%	1810	--	--	--	--

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Metals									
Aluminum	mg/kg	10	10	100%	18400	YES	77200	7720	YES
Antimony	mg/kg	0	10	0%	--	NO	31.3	3.13	--
Arsenic	mg/kg	5	10	50.0%	5.3	NO	0.39	0.039	--
Barium	mg/kg	10	10	100%	437	YES	15300	1530	NO
Beryllium	mg/kg	9	10	90%	5	NO	155	15.5	--
Boron	mg/kg	0	10	0%	--	NO	15600	1560	--
Cadmium	mg/kg	4	10	40.0%	0.53	YES	38.9	3.89	NO
Calcium	mg/kg	10	10	100%	46800	NO	--	--	--
Chromium	mg/kg	10	10	100%	28.2	YES	100000	10000	NO
Chromium (VI)	mg/kg	6	10	60.0%	0.48	YES	234	23.4	NO
Cobalt	mg/kg	10	10	100%	22.9	YES	23.4	2.34	YES
Copper	mg/kg	10	10	100%	56.1	YES	2910	291	NO
Iron	mg/kg	10	10	100%	28400	YES	54800	5480	YES
Lead	mg/kg	10	10	100%	66.2	YES	400	--	--
Lithium	mg/kg	10	10	100%	19.3	NO	156	15.6	--
Magnesium	mg/kg	10	10	100%	16500	YES	100000	10000	YES
Manganese	mg/kg	10	10	100%	1020	YES	1820	182	YES
Mercury	mg/kg	8	10	80.0%	0.402	NO	23.5	2.35	--
Molybdenum	mg/kg	0	10	0%	--	NO	391	39.1	--
Nickel	mg/kg	10	10	100%	38.7	YES	1540	154	NO
Potassium	mg/kg	10	10	100%	3200	YES	--	--	--
Selenium	mg/kg	0	10	0%	--	NO	391	39.1	--
Silver	mg/kg	3	10	30.0%	10.4	YES	391	39.1	NO
Sodium	mg/kg	10	10	100%	1290	YES	--	--	--
Strontium	mg/kg	10	10	100%	623	YES	46900	4690	NO
Thallium	mg/kg	1	10	10.0%	1.2	NO	5.48	0.548	--
Tin	mg/kg	5	10	50.0%	28.7	YES	46900	4690	NO
Titanium	mg/kg	10	10	100%	1450	YES	100000	10000	NO
Tungsten	mg/kg	1	10	10.0%	2.9	YES	587	58.7	NO
Uranium	mg/kg	10	10	100%	2.1	YES	234	23.4	NO
Vanadium	mg/kg	10	10	100%	103	YES	391	39.1	YES
Zinc	mg/kg	10	10	100%	249	YES	23500	2350	NO
Organochlorine Pesticides									
2,4-DDD	mg/kg	1	133	0.8%	0.004	--	--	--	--
2,4-DDE	mg/kg	15	133	11.3%	0.029	--	--	--	--
4,4-DDD	mg/kg	1	133	0.8%	0.0023	--	2.44	0.244	NO
4,4-DDE	mg/kg	28	133	21.1%	0.052	--	1.72	0.172	NO

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
4,4-DDT	mg/kg	13	133	9.8%	0.0093	--	1.72	0.172	NO
Aldrin	mg/kg	0	133	0%	--	--	0.0286	0.00286	--
alpha-BHC	mg/kg	0	133	0%	--	--	21.1	2.11	--
alpha-Chlordane	mg/kg	0	133	0%	--	--	--	--	--
beta-BHC	mg/kg	13	133	9.8%	0.035	--	4.22	0.422	NO
Chlordane	mg/kg	0	133	0%	--	--	1.62	0.162	--
delta-BHC	mg/kg	0	133	0%	--	--	--	--	--
Dieldrin	mg/kg	0	133	0%	--	--	0.0304	0.00304	--
Endosulfan I	mg/kg	0	133	0%	--	--	367	36.7	--
Endosulfan II	mg/kg	0	133	0%	--	--	367	36.7	--
Endosulfan sulfate	mg/kg	0	133	0%	--	--	--	--	--
Endrin	mg/kg	0	133	0%	--	--	18.3	1.83	--
Endrin aldehyde	mg/kg	0	133	0%	--	--	--	--	--
Endrin ketone	mg/kg	0	133	0%	--	--	--	--	--
gamma-BHC (Lindane)	mg/kg	0	133	0%	--	--	0.703	0.0703	--
gamma-Chlordane	mg/kg	0	133	0%	--	--	--	--	--
Heptachlor	mg/kg	0	133	0%	--	--	0.108	0.0108	--
Heptachlor epoxide	mg/kg	0	133	0%	--	--	0.0534	0.00534	--
Methoxychlor	mg/kg	2	133	1.5%	0.011	--	306	30.6	NO
Toxaphene	mg/kg	0	133	0%	--	--	0.442	0.0442	--
Polynuclear Aromatic Hydrocarbons									
Acenaphthene	mg/kg	0	129	0%	--	--	509	50.9	--
Acenaphthylene	mg/kg	1	129	0.8%	0.00315	--	147	14.7	NO
Anthracene	mg/kg	1	129	0.8%	0.00375	--	2000	200	NO
Benzo(a)anthracene	mg/kg	19	129	14.7%	0.0135	--	0.621	0.0621	NO
Benzo(a)pyrene	mg/kg	13	129	10.1%	0.0142	--	0.0621	0.00621	YES
Benzo(b)fluoranthene	mg/kg	21	129	16.3%	0.0576	--	0.621	0.0621	NO
Benzo(g,h,i)perylene	mg/kg	12	129	9.3%	0.0212	--	2350	235	NO
Benzo(k)fluoranthene	mg/kg	6	129	4.7%	0.00747	--	6.21	0.621	NO
Chrysene	mg/kg	12	129	9.3%	0.0128	--	62.1	6.21	NO
Dibenzo(a,h)anthracene	mg/kg	1	129	0.8%	0.00279	--	0.0621	0.00621	NO
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9.3%	0.0235	--	0.621	0.0621	NO
Phenanthrene	mg/kg	9	129	7.0%	0.0114	--	24.5	2.45	NO
Pyrene	mg/kg	17	129	13.2%	0.0239	--	1890	189	NO
Polychlorinated Biphenyls									
PCB 105	pg/g	97	123	78.9%	2700	--	--	--	--
PCB 114	pg/g	62	123	50.4%	110	--	--	--	--
PCB 118	pg/g	104	123	84.6%	4700	--	--	--	--

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
PCB 123	pg/g	0	123	0%	--	--	--	--	--
PCB 126	pg/g	43	123	35.0%	40	--	--	--	--
PCB 156	pg/g	79	123	64.2%	740	--	--	--	--
PCB 157	pg/g	61	123	49.6%	170	--	--	--	--
PCB 167	pg/g	70	123	56.9%	260	--	--	--	--
PCB 169	pg/g	3	123	2.4%	5.5	--	--	--	--
PCB 189	pg/g	49	123	39.8%	46	--	--	--	--
PCB 209	pg/g	96	123	78.0%	4900	--	--	--	--
PCB 77	pg/g	0	123	0%	--	--	--	--	--
PCB 81	pg/g	0	123	0%	--	--	--	--	--
Radionuclides									
Radium-226	pCi/g	119	132	90.2%	2.39	NO	0.0071	0.00071	--
Radium-228	pCi/g	126	132	95.5%	3.64	NO	0.013	0.0013	--
Thorium-228	pCi/g	131	132	99.2%	3.71	NO	0.0078	0.00078	--
Thorium-230	pCi/g	118	132	89.4%	2.59	NO	3.2	0.32	--
Thorium-232	pCi/g	132	132	100%	2.8	NO	2.8	0.28	--
Uranium-233/234	pCi/g	125	132	94.7%	3.36	NO	4.2	0.42	--
Uranium-235/236	pCi/g	11	132	8.3%	0.412	NO	0.11	0.011	--
Uranium-238	pCi/g	131	132	99.2%	2.24	NO	0.46	0.046	--
Semi-Volatile Organic Compounds									
1,2,4,5-Tetrachlorobenzene	mg/kg	0	129	0%	--	--	18.3	1.83	--
1,2-Diphenylhydrazine	mg/kg	0	129	0%	--	--	0.608	0.0608	--
1,4-Dioxane	mg/kg	0	129	0%	--	--	4.86	0.486	--
2,2'-Dichlorobenzil	mg/kg	0	129	0%	--	--	23.5	2.35	--
2,4,5-Trichlorophenol	mg/kg	0	129	0%	--	--	6110	611	--
2,4,6-Trichlorophenol	mg/kg	0	129	0%	--	--	44.2	4.42	--
2,4-Dichlorophenol	mg/kg	0	129	0%	--	--	183	18.3	--
2,4-Dimethylphenol	mg/kg	0	129	0%	--	--	1220	122	--
2,4-Dinitrophenol	mg/kg	0	129	0%	--	--	122	12.2	--
2,4-Dinitrotoluene	mg/kg	0	129	0%	--	--	1.57	0.157	--
2,6-Dinitrotoluene	mg/kg	0	129	0%	--	--	61.1	6.11	--
2-Chloronaphthalene	mg/kg	0	129	0%	--	--	82.6	8.26	--
2-Chlorophenol	mg/kg	0	129	0%	--	--	220	22	--
2-Methylnaphthalene	mg/kg	0	129	0%	--	--	--	--	--
2-Nitroaniline	mg/kg	0	129	0%	--	--	183	18.3	--
2-Nitrophenol	mg/kg	0	129	0%	--	--	--	--	--
3,3-Dichlorobenzidine	mg/kg	0	129	0%	--	--	1.08	0.108	--
3-Nitroaniline	mg/kg	0	129	0%	--	--	--	--	--

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
4-Bromophenyl phenyl ether	mg/kg	0	129	0%	--	--	--	--	--
4-Chloro-3-methylphenol	mg/kg	0	129	0%	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/kg	0	129	0%	--	--	--	--	--
4-Chlorothioanisole	mg/kg	0	129	0%	--	--	--	--	--
4-Nitroaniline	mg/kg	0	129	0%	--	--	--	--	--
4-Nitrophenol	mg/kg	0	129	0%	--	--	489	48.9	--
Acetophenone	mg/kg	1	129	0.8%	0.0478	--	1740	174	NO
Aniline	mg/kg	0	129	0%	--	--	85.3	8.53	--
Benzenethiol	mg/kg	0	129	0%	--	--	--	--	--
Benzoic acid	mg/kg	0	129	0%	--	--	100000	10000	--
Benzyl alcohol	mg/kg	0	124	0%	--	--	30600	3060	--
bis(2-Chloroethoxy)methane	mg/kg	0	129	0%	--	--	--	--	--
bis(2-Chloroethyl) ether	mg/kg	0	129	0%	--	--	0.244	0.0244	--
bis(2-Chloroisopropyl) ether	mg/kg	0	129	0%	--	--	3.37	0.337	--
bis(2-Ethylhexyl) phthalate	mg/kg	5	129	3.9%	0.173	--	34.7	3.47	NO
bis(p-Chlorophenyl) sulfone	mg/kg	0	129	0%	--	--	--	--	--
bis(p-Chlorophenyl)disulfide	mg/kg	0	129	0%	--	--	--	--	--
Butylbenzyl phthalate	mg/kg	1	129	0.8%	0.0722	--	240	24	NO
Carbazole	mg/kg	0	129	0%	--	--	24.3	2.43	--
Dibenzofuran	mg/kg	0	129	0%	--	--	156	15.6	--
Dichloromethyl ether	mg/kg	0	129	0%	--	--	0.000242	0.0000242	--
Diethyl phthalate	mg/kg	0	129	0%	--	--	48900	4890	--
Dimethyl phthalate	mg/kg	0	129	0%	--		100000	10000	--
Di-n-butyl phthalate	mg/kg	2	129	1.6%	0.0878	--	6110	611	NO
Di-n-octyl phthalate	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl disulfide	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl sulfide	mg/kg	0	129	0%	--	--	--	--	--
Diphenyl sulfone	mg/kg	0	129	0%	--	--	183	18.3	--
Diphenylamine	mg/kg	0	129	0%	--	--	1530	153	--
Fluoranthene	mg/kg	7	129	5.4%	0.099	--	2290	229	NO
Fluorene	mg/kg	0	129	0%	--	--	671	67.1	--
Hexachlorobenzene	mg/kg	1	129	0.8%	0.078	--	0.304	0.0304	YES
Hexachlorobutadiene	mg/kg	0	129	0%	--	--	6.24	0.624	--
Hexachlorocyclopentadiene	mg/kg	0	129	0%	--	--	366	36.6	--
Hexachloroethane	mg/kg	0	129	0%	--	--	34.7	3.47	--
Hydroxymethyl phthalimide	mg/kg	0	129	0%	--	--	--	--	--
Isophorone	mg/kg	0	129	0%	--		512	51.2	--
m,p-Cresols	mg/kg	0	129	0%	--	--	306	30.6	--

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
Naphthalene	mg/kg	0	129	0%	--	--	3.1	0.31	--
Nitrobenzene	mg/kg	0	129	0%	--	--	2.69	0.269	--
N-nitrosodi-n-propylamine	mg/kg	0	129	0%	--	--	0.0695	0.00695	--
o-Cresol	mg/kg	0	129	0%	--	--	3060	306	--
Octachlorostyrene	mg/kg	0	129	0%	--	--	--	--	--
p-Chloroaniline	mg/kg	0	129	0%	--	--	2.43	0.243	--
p-Chlorobenzenethiol	mg/kg	0	129	0%	--	--	--	--	--
Pentachlorobenzene	mg/kg	0	129	0%	--	--	48.9	4.89	--
Pentachlorophenol	mg/kg	0	129	0%	--	--	0.894	0.0894	--
Phenol	mg/kg	0	129	0%	--	--	18300	1830	--
Phthalic acid	mg/kg	1	129	0.8%	0.494	--	100000	10000	NO
Pyridine	mg/kg	0	129	0%	--	--	60.5	6.05	--
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	mg/kg	0	132	0%	--	--	3.69	0.369	--
1,1,1-Trichloroethane	mg/kg	0	132	0%	--	--	1390	139	--
1,1,2,2-Tetrachloroethane	mg/kg	0	131	0%	--	--	0.472	0.0472	--
1,1,2-Trichloroethane	mg/kg	0	132	0%	--	--	1.05	0.105	--
1,1-Dichloroethane	mg/kg	0	132	0%	--	--	4.19	0.419	--
1,1-Dichloroethene	mg/kg	0	132	0%	--	--	285	28.5	--
1,1-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg	0	131	0%	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg	0	131	0%	--	--	0.0213	0.00213	--
1,2,4-Trichlorobenzene	mg/kg	0	131	0%	--	--	22.1	2.21	--
1,2,4-Trimethylbenzene	mg/kg	5	131	3.8%	0.0051	--	144	14.4	NO
1,2-Dichlorobenzene	mg/kg	2	131	1.5%	0.0002	--	373	37.3	NO
1,2-Dichloroethane	mg/kg	0	132	0%	--	--	0.433	0.0433	--
1,2-Dichloroethene	mg/kg	0	132	0%	--	--	--	--	--
1,2-Dichloropropane	mg/kg	0	132	0%	--	--	0.82	0.082	--
1,3,5-Trichlorobenzene	mg/kg	0	131	0%	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	2	131	1.5%	0.0008	--	57.9	5.79	NO
1,3-Dichlorobenzene	mg/kg	1	131	0.8%	0.00016	--	214	21.4	NO
1,3-Dichloropropane	mg/kg	0	132	0%	--	--	15.2	1.52	--
1,4-Dichlorobenzene	mg/kg	0	131	0%	--	--	2.59	0.259	--
2,2,3-Trimethylbutane	mg/kg	0	132	0%	--	--	--	--	--
2,2-Dichloropropane	mg/kg	0	132	0%	--	--	--	--	--
2,2-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
2,3-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
2,4-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
2-Chlorotoluene	mg/kg	0	131	0%	--	--	248	24.8	--
2-Hexanone	mg/kg	0	132	0%	--	--	460	46	--
2-Methylhexane	mg/kg	0	132	0%	--	--	--	--	--
2-Nitropropane	mg/kg	0	132	0%	--	--	0.0109	0.00109	--
3,3-Dimethylpentane	mg/kg	0	132	0%	--	--	--	--	--
3-Ethylpentane	mg/kg	0	132	0%	--	--	--	--	--
3-Methylhexane	mg/kg	0	132	0%	--	--	--	--	--
4-Chlorotoluene	mg/kg	0	131	0%	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	mg/kg	0	132	0%	--	--	5800	580	--
Acetone	mg/kg	36	132	27.3%	0.072	--	60000	6000	NO
Acetonitrile	mg/kg	0	132	0%	--	--	1470	147	--
Benzene	mg/kg	0	132	0%	--	--	0.81	0.081	--
Bromobenzene	mg/kg	0	131	0%	--	--	243	24.3	--
Bromodichloromethane	mg/kg	0	132	0%	--	--	0.648	0.0648	--
Bromoform	mg/kg	0	132	0%	--	--	61.6	6.16	--
Bromomethane	mg/kg	0	132	0%	--	--	8.7	0.87	--
Carbon disulfide	mg/kg	0	132	0%	--	--	721	72.1	--
Carbon tetrachloride	mg/kg	0	132	0%	--	--	0.735	0.0735	--
Chlorobenzene	mg/kg	0	132	0%	--	--	273	27.3	--
Chlorobromomethane	mg/kg	0	132	0%	--	--	--	--	--
Chloroethane	mg/kg	0	132	0%	--	--	221	22.1	--
Chloroform	mg/kg	0	132	0%	--	--	0.306	0.0306	--
Chloromethane	mg/kg	0	132	0%	--	--	1.6	0.16	--
cis-1,2-Dichloroethene	mg/kg	0	132	0%	--	--	148	14.8	--
cis-1,3-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
Cymene (Isopropyltoluene)	mg/kg	0	131	0%	--	--	389	38.9	--
Dibromochloromethane	mg/kg	0	132	0%	--	--	1.12	0.112	--
Dibromochloropropane	mg/kg	0	131	0%	--	--	0.0104	0.00104	--
Dibromomethane	mg/kg	0	132	0%	--	--	43.4	4.34	--
Dichloromethane (Methylene chloride)	mg/kg	4	132	3.0%	0.0097	--	11	1.1	NO
Dimethyldisulfide	mg/kg	0	132	0%	--	--	--	--	--
Ethanol	mg/kg	0	132	0%	--	--	100000	10000	--
Ethylbenzene	mg/kg	2	132	1.5%	0.00077	--	3.79	0.379	NO
Freon-11 (Trichlorofluoromethane)	mg/kg	1	132	0.8%	0.001	--	883	88.3	NO
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	mg/kg	0	132	0%	--	--	5550	555	--
Freon-12 (Dichlorodifluoromethane)	mg/kg	0	132	0%	--	--	218	21.8	--
Heptane	mg/kg	0	132	0%	--	--	220	22	--
Isopropylbenzene	mg/kg	0	132	0%	--	--	371	37.1	--

TABLE 5-4c
COMPARISONS TO RESIDENTIAL SOIL BCLs - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Max. Detect	Greater than Background?	Residential Soil BCL	1/10th Residential Soil BCL	Max. Detect Greater than 1/10th Residential BCL
m,p-Xylene	mg/kg	1	132	0.8%	0.002	--	214	21.4	NO
Methyl ethyl ketone (2-Butanone)	mg/kg	4	132	3.0%	0.012	--	32100	3210	NO
Methyl iodide	mg/kg	0	132	0%	--	--	360	36	--
MTBE (Methyl tert-butyl ether)	mg/kg	0	132	0%	--	--	39.2	3.92	--
n-Butylbenzene	mg/kg	0	131	0%	--	--	237	23.7	--
Nonanal	mg/kg	0	131	0%	--	--	--	--	--
n-Propylbenzene	mg/kg	1	131	0.8%	0.00041	--	237	23.7	NO
o-Xylene	mg/kg	3	132	2.3%	0.0051	--	282	28.2	NO
sec-Butylbenzene	mg/kg	0	131	0%	--	--	223	22.3	--
Styrene	mg/kg	0	132	0%	--	--	1730	173	--
tert-Butylbenzene	mg/kg	0	131	0%	--	--	393	39.3	--
Tetrachloroethene	mg/kg	1	132	0.8%	0.0007	--	0.624	0.0624	NO
Toluene	mg/kg	1	132	0.8%	0.0018	--	521	52.1	NO
trans-1,2-Dichloroethene	mg/kg	0	132	0%	--	--	122	12.2	--
trans-1,3-Dichloropropene	mg/kg	0	132	0%	--	--	--	--	--
Trichloroethene	mg/kg	0	132	0%	--	--	1.06	0.106	--
Vinyl acetate	mg/kg	0	131	0%	--	--	988	98.8	--
Vinyl chloride	mg/kg	0	132	0%	--	--	0.349	0.0349	--
Xylenes (total)	mg/kg	1	132	0.8%	0.0027	--	214	21.4	NO

mg/kg - milligrams per kilogram

pCi/g - picoCuries per gram

ppt - parts per trillion

-- - Not available or not applicable

Chemical with at least one detection was compared to it's respective one-tenth BCL.

Dioxin and PCB congeners are evaluated as TCDD TEQs. These constituents, as well as lead, are evaluated using a separate process (see text).

Highlight indicates metals exceeding background and other inorganic/organic chemicals exceeding 1/10th residential BCLs.

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Aldehydes														
Acetaldehyde	mg/kg	1	115	0.9%	0.151	0.564	0.17	0.17	0.22	0.086	--	No	No	(4)(13)
Formaldehyde	mg/kg	64	115	55.7%	0.101	1.08	0.11	2.52	0.54	0.47	--	No	Yes	(5)(14)
Asbestos														
Asbestos	Structures	9	53	17.0%	N/A	N/A	1	7	N/A	N/A	--	Yes	Yes	(1)
Dioxins / Furans														
1,2,3,4,6,7,8-Heptachlorodibenzofuran	mg/kg	78	123	63.4%	4.6E-08	0.0000024	0.0000026	0.00014	0.00003	0.000034	--	Yes	No	(1)(3)
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	mg/kg	50	123	40.7%	4.4E-08	0.0000024	0.0000025	0.000061	0.0000073	0.000011	--	Yes	No	(1)(3)
1,2,3,4,7,8,9-Heptachlorodibenzofuran	mg/kg	65	123	52.8%	5.6E-08	0.0000025	0.0000027	0.000069	0.000014	0.000016	--	Yes	No	(1)(3)
1,2,3,4,7,8-Hexachlorodibenzofuran	mg/kg	72	123	58.5%	2.9E-08	0.0000023	0.0000026	0.000068	0.000015	0.000017	--	Yes	No	(1)(3)
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	mg/kg	0	123	0%	3E-09	0.000002	--	--	5.5E-07	5.3E-07	--	Yes	No	(1)(3)
1,2,3,6,7,8-Hexachlorodibenzofuran	mg/kg	62	123	50.4%	3.2E-08	0.0000025	0.0000026	0.00004	0.0000099	0.00001	--	Yes	No	(1)(3)
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	mg/kg	13	123	10.6%	1.3E-08	0.0000026	0.0000025	0.0000045	0.0000012	0.0000012	--	Yes	No	(1)(3)
1,2,3,7,8,9-Hexachlorodibenzofuran	mg/kg	21	123	17.1%	3.2E-08	0.0000043	0.0000027	0.0000079	0.000002	0.000002	--	Yes	No	(1)(3)
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	mg/kg	9	123	7.3%	2.7E-08	0.0000025	0.0000028	0.0000039	0.0000011	0.0000011	--	Yes	No	(1)(3)
1,2,3,7,8-Pentachlorodibenzofuran	mg/kg	61	123	49.6%	3.5E-08	0.0000023	0.0000025	0.000037	0.000009	0.0000092	--	Yes	No	(1)(3)
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	mg/kg	4	123	3.3%	1.6E-08	0.0000025	0.0000026	0.0000032	7.3E-07	0.0000008	--	Yes	No	(1)(3)
2,3,4,6,7,8-Hexachlorodibenzofuran	mg/kg	37	123	30.1%	2.1E-08	0.0000024	0.0000026	0.00001	0.0000028	0.0000027	--	Yes	No	(1)(3)
2,3,4,7,8-Pentachlorodibenzofuran	mg/kg	52	123	42.3%	3.7E-08	0.0000018	0.0000028	0.00002	0.000005	0.0000051	--	Yes	No	(1)(3)
2,3,7,8-Tetrachlorodibenzofuran	mg/kg	84	123	68.3%	5.3E-08	5.8E-07	5.1E-07	0.000032	0.0000066	0.0000069	--	Yes	No	(1)(3)
2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	21	123	17.1%	8.5E-09	6.2E-07	5.1E-07	0.0000013	3.2E-07	0.0000003	--	Yes	No	(1)(3)
Octachlorodibenzodioxin	mg/kg	55	123	44.7%	1.6E-07	0.00002	0.000006	0.00085	0.000046	0.00011	--	Yes	No	(1)(3)
Octachlorodibenzofuran	mg/kg	85	123	69.1%	2.9E-07	0.0000032	0.0000052	0.0007	0.00013	0.00016	--	Yes	No	(1)(3)
TCDD TEQ	ppt	123	123	--	--	--	0.09	32.9	6.5	8.3	--	Yes	No	(1)(3)
General Chemistry/Ions														
Ammonia (as N)	mg/kg	33	133	24.8%	0.78	102	0.24	30.8	2	9.2	--	No	Yes	(5)(15)
Bromide	mg/kg	21	133	15.8%	0.25	2.6	0.29	4.8	0.57	0.85	--	No	No	(9)
Chlorate	mg/kg	7	133	5.3%	0.48	5.5	0.95	15.4	0.97	1.8	--	No	No	(9)
Chloride	mg/kg	133	133	100%	--	--	0.77	923	120	180	--	No	No	(9)
Cyanide, Total	mg/kg	30	132	22.7%	0.08	0.57	0.094	0.75	0.3	0.21	--	No	No	(5)(13)
Fluoride	mg/kg	115	133	86.5%	0.1	0.1	0.2	9.9	1.4	1.3	--	No	No	(5)(13)
Nitrate	mg/kg	133	133	100%	--	--	0.3	918	41	110	--	No	No	(5)(13)
Nitrite	mg/kg	12	133	9.0%	0.02	0.21	0.11	1.3	0.052	0.13	--	No	No	(5)(13)
Orthophosphate as P	mg/kg	38	133	28.6%	0.51	5.4	1	26.4	3.1	4.4	--	No	No	(9)
Perchlorate	mg/kg	92	129	71.3%	0.0101	0.011	0.013	8.9	0.49	1.2	--	No	Yes	(5)(14)
Sulfate	mg/kg	130	133	97.7%	5.1	5.2	5.2	5850	340	710	--	No	No	(9)
Sulfide	mg/kg	4	133	3.0%	0.84	2	20.2	60.5	2.6	5.8	--	No	No	(9)
Total Kjeldahl Nitrogen (TKN)	mg/kg	133	133	100%	--	--	19.1	1810	140	210	--	No	No	(9)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Metals														
Aluminum	mg/kg	126	126	100%	--	--	7900	18400	12000	2200	YES	No	Yes	(8)(14)
Antimony	mg/kg	1	126	0.8%	0.126	2.1	0.37	0.37	0.38	0.36	NO	No	No	(4)(6)(13)
Arsenic	mg/kg	125	126	99.2%	0.945	0.945	1.4	8.6	3.5	1.3	NO	Yes	No	(1)(6)
Barium	mg/kg	126	126	100%	--	--	70	548	260	64	YES	No	No	(8)(13)
Beryllium	mg/kg	126	126	100%	--	--	0.43	0.86	0.64	0.085	YES	No	No	(8)(13)
Boron	mg/kg	11	126	8.7%	2.99	54	5.2	68.3	15	14	YES	No	No	(8)(13)
Cadmium	mg/kg	40	126	31.7%	0.04	0.27	0.087	0.35	0.17	0.07	YES	No	No	(8)(13)
Calcium	mg/kg	126	126	100%	--	--	4630	50500	24000	8800	NO	No	No	(6)(12)(15)
Chromium	mg/kg	126	126	100%	--	--	5.5	24	12	3.4	YES	No	No	(8)(13)
Chromium (VI)	mg/kg	51	126	40.5%	0.1	0.43	0.11	1.5	0.19	0.18	YES	Yes	No	(8)(13)
Cobalt	mg/kg	126	126	100%	--	--	4.8	19.7	10	2	YES	No	Yes	(8)(14)
Copper	mg/kg	126	126	100%	--	--	10.7	88.9	20	7.6	YES	No	No	(8)(13)
Iron	mg/kg	126	126	100%	--	--	9850	24400	18000	2600	YES	No	No	(8)(12)
Lead	mg/kg	126	126	100%	--	--	5.9	49.7	13	6.9	YES	Yes	No	(11)
Lithium	mg/kg	126	126	100%	--	--	8.1	50.6	13	4.5	NO	No	No	(6)
Magnesium	mg/kg	126	126	100%	--	--	5530	13800	10000	1400	NO	No	No	(6)(12)
Manganese	mg/kg	126	126	100%	--	--	240	1260	520	150	YES	No	Yes	(8)(14)
Mercury	mg/kg	46	120	38.3%	0.005	0.0361	0.009	0.0876	0.022	0.016	YES	No	No	(8)(13)
Molybdenum	mg/kg	74	126	58.7%	0.376	2.7	0.28	2.7	0.86	0.75	NO	No	No	(6)
Nickel	mg/kg	126	126	100%	--	--	10.8	29.5	17	2.5	NO	No	No	(6)(13)
Potassium	mg/kg	126	126	100%	--	--	887	3760	1800	560	NO	No	No	(6)(12)(15)
Selenium	mg/kg	2	126	1.6%	0.16	2.7	0.34	1.7	0.54	0.67	YES	No	No	(4)(8)(13)
Silver	mg/kg	90	126	71.4%	0.11	0.87	0.075	1.1	0.31	0.26	NO	No	No	(6)(13)
Sodium	mg/kg	126	126	100%	--	--	283	2440	720	330	YES	No	No	(8)(12)(15)
Strontium	mg/kg	126	126	100%	--	--	124	607	300	83	YES	No	No	(8)(13)
Thallium	mg/kg	9	126	7.1%	0.105	1.1	0.19	0.59	0.55	0.25	NO	No	No	(6)
Tin	mg/kg	53	126	42.1%	0.3	1.1	0.33	1.8	0.67	0.28	YES	No	No	(8)(13)
Titanium	mg/kg	126	126	100%	--	--	121	1270	720	160	YES	No	No	(8)(13)
Tungsten	mg/kg	17	126	13.5%	0.185	2.7	0.17	3.6	1.1	0.69	YES	No	No	(8)(13)
Uranium	mg/kg	126	126	100%	--	--	0.7	2.6	1.1	0.32	YES	No	No	(8)(13)
Vanadium	mg/kg	126	126	100%	--	--	27.3	71.4	48	7.7	YES	No	Yes	(8)(14)
Zinc	mg/kg	126	126	100%	--	--	25.1	106	48	14	YES	No	No	(8)(13)
Organochlorine Pesticides														
2,4-DDD	mg/kg	1	133	0.8%	0.00014	0.0032	0.004	0.004	0.00038	0.00048	--	Yes	No	(4)(13)
2,4-DDE	mg/kg	15	133	11.3%	0.00013	0.0021	0.0019	0.029	0.0012	0.0038	--	Yes	No	(1)(5)(13)
4,4-DDD	mg/kg	1	133	0.8%	0.00009	0.00093	0.0023	0.0023	0.00013	0.00022	--	Yes	No	(4)(13)
4,4-DDE	mg/kg	28	133	21.1%	0.00019	0.002	0.0018	0.052	0.0024	0.0071	--	Yes	No	(1)(5)(13)
4,4-DDT	mg/kg	13	133	9.8%	0.0002	0.0021	0.0019	0.0093	0.00067	0.0015	--	Yes	No	(1)(5)(13)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Aldrin	mg/kg	0	133	0%	0.000092	0.00099	--	--	0.00012	0.00011	--	Yes	No	(2)
alpha-BHC	mg/kg	0	133	0%	0.000095	0.0029	--	--	0.00032	0.00033	--	No	No	(2)
alpha-Chlordane	mg/kg	0	133	0%	0.0001	0.0022	--	--	0.00025	0.00025	--	Yes	No	(2)
beta-BHC	mg/kg	13	133	9.8%	0.00013	0.0019	0.0018	0.035	0.0011	0.0039	--	No	No	(5)(13)
Chlordane	mg/kg	0	133	0%	0.0015	0.024	--	--	0.0028	0.0027	--	Yes	No	(2)
delta-BHC	mg/kg	0	133	0%	0.00011	0.0017	--	--	0.0002	0.00019	--	No	No	(2)
Dieldrin	mg/kg	0	133	0%	0.000092	0.00095	--	--	0.00011	0.00011	--	Yes	No	(2)
Endosulfan I	mg/kg	0	133	0%	0.000096	0.0011	--	--	0.00013	0.00013	--	No	No	(2)
Endosulfan II	mg/kg	0	133	0%	0.000094	0.00097	--	--	0.00012	0.00012	--	No	No	(2)
Endosulfan sulfate	mg/kg	0	133	0%	0.00013	0.0027	--	--	0.00031	0.00031	--	No	No	(2)
Endrin	mg/kg	0	133	0%	0.000084	0.00087	--	--	0.00011	0.0001	--	No	No	(2)
Endrin aldehyde	mg/kg	0	133	0%	0.00015	0.0019	--	--	0.00022	0.00022	--	No	No	(2)
Endrin ketone	mg/kg	0	133	0%	0.00013	0.0017	--	--	0.0002	0.00019	--	No	No	(2)
gamma-BHC (Lindane)	mg/kg	0	133	0%	0.0001	0.0013	--	--	0.00015	0.00015	--	No	No	(2)
gamma-Chlordane	mg/kg	0	133	0%	0.000084	0.00087	--	--	0.0001	0.0001	--	Yes	No	(2)
Heptachlor	mg/kg	0	133	0%	0.000096	0.0018	--	--	0.0002	0.0002	--	No	No	(2)
Heptachlor epoxide	mg/kg	0	133	0%	0.00012	0.0014	--	--	0.00016	0.00016	--	No	No	(2)
Methoxychlor	mg/kg	2	133	1.5%	0.00032	0.0033	0.0038	0.011	0.0005	0.001	--	No	No	(4)(13)
Toxaphene	mg/kg	0	133	0%	0.0057	0.061	--	--	0.0072	0.007	--	Yes	No	(2)
Polynuclear Aromatic Hydrocarbons														
Acenaphthene	mg/kg	0	129	0%	0.00167	0.00186	--	--	0.0017	0.00004	--	No	No	(2)
Acenaphthylene	mg/kg	1	129	0.8%	0.00167	0.00186	0.00315	0.00315	0.0018	0.00013	--	No	No	(4)(13)
Anthracene	mg/kg	1	129	0.8%	0.00167	0.00683	0.00375	0.00375	0.0018	0.00048	--	No	No	(4)(13)
Benzo(a)anthracene	mg/kg	19	129	14.7%	0.00168	0.00708	0.00177	0.0135	0.0024	0.002	--	No	Yes	(5)(13)(10)
Benzo(a)pyrene	mg/kg	13	129	10.1%	0.00167	0.00186	0.00183	0.0142	0.0022	0.002	--	Yes	Yes	(5)(14)
Benzo(b)fluoranthene	mg/kg	21	129	16.3%	0.00168	0.00708	0.00182	0.0576	0.0031	0.0058	--	No	Yes	(5)(13)(10)
Benzo(g,h,i)perylene	mg/kg	12	129	9.3%	0.00167	0.00186	0.00207	0.0212	0.0023	0.0022	--	No	No	(5)(13)
Benzo(k)fluoranthene	mg/kg	6	129	4.7%	0.00167	0.00186	0.00218	0.00747	0.0019	0.00085	--	No	Yes	(4)(13)(10)
Chrysene	mg/kg	12	129	9.3%	0.00167	0.016	0.00205	0.0128	0.0039	0.0046	--	No	Yes	(5)(13)(10)
Dibenzo(a,h)anthracene	mg/kg	1	129	0.8%	0.00167	0.00186	0.00279	0.00279	0.0018	0.0001	--	No	Yes	(4)(13)(10)
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9.3%	0.00167	0.00186	0.00183	0.0235	0.0022	0.0022	--	No	Yes	(5)(13)(10)
Phenanthrene	mg/kg	9	129	7.0%	0.00167	0.00186	0.00192	0.0114	0.002	0.0011	--	No	No	(5)(13)
Pyrene	mg/kg	17	129	13.2%	0.00168	0.00683	0.00198	0.0239	0.0025	0.0033	--	No	No	(5)(13)
Polychlorinated Biphenyls														
PCB 105	mg/kg	97	123	78.9%	4.2E-08	0.0000021	0.0000021	0.0027	0.00013	0.00034	--	Yes	No	(1)(3)
PCB 114	mg/kg	62	123	50.4%	4.1E-08	0.0000021	0.0000025	0.00011	0.000008	0.000014	--	Yes	No	(1)(3)
PCB 118	mg/kg	104	123	84.6%	3.8E-08	0.0000074	0.0000025	0.0047	0.00022	0.00053	--	Yes	No	(1)(3)
PCB 123	mg/kg	0	123	0%	4.2E-08	0.00003	--	--	0.000002	0.0000036	--	Yes	No	(1)(3)
PCB 126	mg/kg	43	123	35.0%	5.2E-08	0.0000021	0.0000022	0.00004	0.0000034	0.0000053	--	Yes	No	(1)(3)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 4 of 8)

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
PCB 156	mg/kg	79	123	64.2%	2.7E-08	0.0000021	0.0000023	0.00074	0.000038	0.000088	--	Yes	No	(1)(3)
PCB 157	mg/kg	61	123	49.6%	2.7E-08	0.0000021	0.000002	0.00017	0.0000092	0.000022	--	Yes	No	(1)(3)
PCB 167	mg/kg	70	123	56.9%	3.2E-08	0.0000021	0.0000022	0.00026	0.000013	0.000029	--	Yes	No	(1)(3)
PCB 169	mg/kg	3	123	2.4%	4.3E-08	0.0000021	0.0000027	0.0000055	0.000001	9.9E-07	--	Yes	No	(1)(3)
PCB 189	mg/kg	49	123	39.8%	2.8E-08	0.0000021	0.0000022	0.000046	0.0000039	0.0000061	--	Yes	No	(1)(3)
PCB 209	mg/kg	96	123	78.0%	1.7E-08	0.0000021	0.000021	0.0049	0.00069	0.00094	--	Yes	No	(1)(3)
PCB 77	mg/kg	0	123	0%	4.5E-08	0.000026	--	--	0.0000027	0.000005	--	Yes	No	(1)(3)
PCB 81	mg/kg	0	123	0%	4.2E-08	0.000019	--	--	0.0000019	0.0000029	--	Yes	No	(1)(3)
Radionuclides														
Radium-226	pCi/g	119	132	90.2%	--	--	0.0949	2.39	0.92	0.35	NO	Yes	No	(1)(6)
Radium-228	pCi/g	126	132	95.5%	--	--	0.313	3.64	1.7	0.59	NO	Yes	No	(1)(6)
Thorium-228	pCi/g	131	132	99.2%	--	--	0.663	3.71	1.8	0.43	NO	Yes	No	(1)(6)
Thorium-230	pCi/g	118	132	89.4%	--	--	0.306	2.59	1	0.39	NO	Yes	No	(1)(6)
Thorium-232	pCi/g	132	132	100%	--	--	0.525	2.8	1.5	0.41	NO	Yes	No	(1)(6)
Uranium-233/234	pCi/g	125	132	94.7%	--	--	0.341	3.36	1.1	0.44	NO	Yes	No	(1)(6)
Uranium-235/236	pCi/g	11	132	8.3%	--	--	-0.19	0.412	0.075	0.092	NO	Yes	No	(1)(6)
Uranium-238	pCi/g	131	132	99.2%	--	--	0.371	2.24	0.99	0.31	NO	Yes	No	(1)(6)
Semi-Volatile Organic Compounds														
1,2,4,5-Tetrachlorobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
1,2-Diphenylhydrazine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
1,4-Dioxane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,2'-Dichlorobenzil	mg/kg	0	129	0%	0.0116	0.123	--	--	0.1	0.033	--	No	No	(2)
2,4,5-Trichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4,6-Trichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dimethylphenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dinitrophenol	mg/kg	0	129	0%	0.127	0.141	--	--	0.13	0.0031	--	No	No	(2)
2,4-Dinitrotoluene	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
2,6-Dinitrotoluene	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
2-Chloronaphthalene	mg/kg	0	129	0%	0.0117	0.013	--	--	0.012	0.00029	--	No	No	(2)
2-Chlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2-Methylnaphthalene	mg/kg	0	129	0%	0.0067	0.00744	--	--	0.007	0.00016	--	No	No	(2)
2-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2-Nitrophenol	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
3,3-Dichlorobenzidine	mg/kg	0	129	0%	0.1	0.112	--	--	0.1	0.0025	--	No	No	(2)
3-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
4-Bromophenyl phenyl ether	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
4-Chloro-3-methylphenol	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
4-Chlorophenyl phenyl ether	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
4-Chlorothioanisole	mg/kg	0	129	0%	0.0394	0.123	--	--	0.11	0.024	--	No	No	(2)
4-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
4-Nitrophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Acetophenone	mg/kg	1	129	0.8%	0.0335	0.0372	0.0478	0.0478	0.035	0.0014	--	No	No	(4)(13)
Aniline	mg/kg	0	129	0%	0.117	0.13	--	--	0.12	0.0029	--	No	No	(2)
Benzenethiol	mg/kg	0	129	0%	0.111	0.241	--	--	0.13	0.038	--	No	No	(2)
Benzoic acid	mg/kg	0	129	0%	0.167	0.706	--	--	0.18	0.047	--	No	No	(2)
Benzyl alcohol	mg/kg	0	124	0%	0.1	0.112	--	--	0.1	0.0024	--	No	No	(2)
bis(2-Chloroethoxy)methane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	Yes	No	(2)
bis(2-Chloroethyl) ether	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
bis(2-Chloroisopropyl) ether	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
bis(2-Ethylhexyl) phthalate	mg/kg	5	129	3.9%	0.067	0.18	0.0816	0.173	0.088	0.039	--	No	No	(4)(13)
bis(p-Chlorophenyl) sulfone	mg/kg	0	129	0%	0.00782	0.123	--	--	0.1	0.035	--	No	No	(2)
bis(p-Chlorophenyl)disulfide	mg/kg	0	129	0%	0.0292	0.123	--	--	0.11	0.027	--	No	No	(2)
Butylbenzyl phthalate	mg/kg	1	129	0.8%	0.067	0.0744	0.0722	0.0722	0.07	0.0016	--	No	No	(4)(13)
Carbazole	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Dibenzofuran	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Dichloromethyl ether	mg/kg	0	129	0%	0.111	0.123	--	--	0.12	0.0026	--	No	No	(2)
Diethyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Dimethyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Di-n-butyl phthalate	mg/kg	2	129	1.6%	0.0335	0.0372	0.0448	0.0878	0.035	0.0048	--	No	No	(4)(13)
Di-n-octyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Diphenyl disulfide	mg/kg	0	129	0%	0.0275	0.123	--	--	0.11	0.028	--	No	No	(2)
Diphenyl sulfide	mg/kg	0	129	0%	0.0285	0.123	--	--	0.11	0.028	--	No	No	(2)
Diphenyl sulfone	mg/kg	0	129	0%	0.018	0.123	--	--	0.1	0.031	--	No	No	(2)
Diphenylamine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Fluoranthene	mg/kg	7	129	5.4%	0.01	0.0112	0.0134	0.099	0.012	0.0085	--	No	No	(5)(13)
Fluorene	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Hexachlorobenzene	mg/kg	1	129	0.8%	0.067	0.0744	0.078	0.078	0.07	0.0018	--	Yes	Yes	(4)(14)
Hexachlorobutadiene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hexachlorocyclopentadiene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hexachloroethane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hydroxymethyl phthalimide	mg/kg	0	129	0%	0.0506	0.123	--	--	0.11	0.02	--	No	No	(2)
Isophorone	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
m,p-Cresols	mg/kg	0	129	0%	0.134	0.149	--	--	0.14	0.0033	--	No	No	(2)
Naphthalene	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Nitrobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
N-nitrosodi-n-propylamine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	Yes	No	(2)
o-Cresol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Octachlorostyrene	mg/kg	0	129	0%	0.0194	0.123	--	--	0.1	0.031	--	No	No	(2)
p-Chloroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
p-Chlorobenzenethiol	mg/kg	0	129	0%	0.111	0.241	--	--	0.13	0.038	--	No	No	(2)
Pentachlorobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Pentachlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Phenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Phthalic acid	mg/kg	1	129	0.8%	0.0201	0.123	0.494	0.494	0.11	0.045	--	No	No	(4)(13)
Pyridine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Volatile Organic Compounds														
1,1,1,2-Tetrachloroethane	mg/kg	0	132	0%	0.00018	0.00041	--	--	0.00021	0.000065	--	No	No	(2)
1,1,1-Trichloroethane	mg/kg	0	132	0%	0.00011	0.00025	--	--	0.00013	0.000043	--	No	No	(2)
1,1,2,2-Tetrachloroethane	mg/kg	0	131	0%	0.000079	0.00048	--	--	0.00013	0.00012	--	No	No	(2)
1,1,2-Trichloroethane	mg/kg	0	132	0%	0.000067	0.00039	--	--	0.00011	0.000096	--	No	No	(2)
1,1-Dichloroethane	mg/kg	0	132	0%	0.00007	0.0004	--	--	0.00011	0.000098	--	No	No	(2)
1,1-Dichloroethene	mg/kg	0	132	0%	0.00012	0.00025	--	--	0.00014	0.000038	--	No	No	(2)
1,1-Dichloropropene	mg/kg	0	132	0%	0.000088	0.00024	--	--	0.00011	0.000043	--	No	No	(2)
1,2,3-Trichlorobenzene	mg/kg	0	131	0%	0.00039	0.00049	--	--	0.00041	0.00002	--	No	No	(2)
1,2,3-Trichloropropane	mg/kg	0	131	0%	0.00025	0.00052	--	--	0.00029	0.000076	--	No	No	(2)
1,2,4-Trichlorobenzene	mg/kg	0	131	0%	0.00031	0.00037	--	--	0.00034	0.000013	--	No	No	(2)
1,2,4-Trimethylbenzene	mg/kg	5	131	3.8%	0.00013	0.0057	0.00017	0.0051	0.0024	0.0025	--	No	No	(4)(13)
1,2-Dichlorobenzene	mg/kg	2	131	1.5%	0.00012	0.0052	0.00018	0.0002	0.00023	0.00062	--	No	No	(4)(13)
1,2-Dichloroethane	mg/kg	0	132	0%	0.000066	0.00035	--	--	0.0001	0.000085	--	No	No	(2)
1,2-Dichloroethene	mg/kg	0	132	0%	0.00011	0.00067	--	--	0.00018	0.00017	--	No	No	(2)
1,2-Dichloropropane	mg/kg	0	132	0%	0.00011	0.0004	--	--	0.00015	0.000085	--	No	No	(2)
1,3,5-Trichlorobenzene	mg/kg	0	131	0%	0.00037	0.00055	--	--	0.0004	0.000043	--	No	No	(2)
1,3,5-Trimethylbenzene	mg/kg	2	131	1.5%	0.000098	0.0051	0.00068	0.0008	0.00017	0.00044	--	No	No	(4)(13)
1,3-Dichlorobenzene	mg/kg	1	131	0.8%	0.00013	0.00047	0.00016	0.00016	0.00018	0.0001	--	No	No	(4)(13)
1,3-Dichloropropane	mg/kg	0	132	0%	0.000051	0.00044	--	--	0.000098	0.00012	--	No	No	(2)
1,4-Dichlorobenzene	mg/kg	0	131	0%	0.00014	0.00033	--	--	0.00016	0.000056	--	No	No	(2)
2,2,3-Trimethylbutane	mg/kg	0	132	0%	0.00021	0.00057	--	--	0.00026	0.0001	--	No	No	(2)
2,2-Dichloropropane	mg/kg	0	132	0%	0.00023	0.00033	--	--	0.00025	0.000023	--	No	No	(2)
2,2-Dimethylpentane	mg/kg	0	132	0%	0.00028	0.00057	--	--	0.00032	0.000081	--	No	No	(2)
2,3-Dimethylpentane	mg/kg	0	132	0%	0.00023	0.00047	--	--	0.00026	0.000068	--	No	No	(2)
2,4-Dimethylpentane	mg/kg	0	132	0%	0.00019	0.00052	--	--	0.00024	0.000095	--	No	No	(2)
2-Chlorotoluene	mg/kg	0	131	0%	0.00025	0.00036	--	--	0.00027	0.000028	--	No	No	(2)
2-Hexanone	mg/kg	0	132	0%	0.00024	0.0003	--	--	0.00025	0.000013	--	No	No	(2)
2-Methylhexane	mg/kg	0	132	0%	0.0002	0.00054	--	--	0.00025	0.000098	--	No	No	(2)
2-Nitropropane	mg/kg	0	132	0%	0.00032	0.00068	--	--	0.00059	0.0001	--	No	No	(2)
3,3-Dimethylpentane	mg/kg	0	132	0%	0.0002	0.00051	--	--	0.00025	0.000089	--	No	No	(2)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
3-Ethylpentane	mg/kg	0	132	0%	0.00021	0.00048	--	--	0.00025	0.000076	--	No	No	(2)
3-Methylhexane	mg/kg	0	132	0%	0.00014	0.0005	--	--	0.00019	0.00011	--	No	No	(2)
4-Chlorotoluene	mg/kg	0	131	0%	0.00017	0.00027	--	--	0.00019	0.000024	--	No	No	(2)
4-Methyl-2-pentanone (MIBK)	mg/kg	0	132	0%	0.00029	0.00033	--	--	0.0003	0.000008	--	No	No	(2)
Acetone	mg/kg	36	132	27.3%	0.0017	0.023	0.0023	0.072	0.0071	0.0097	--	No	No	(5)(13)
Acetonitrile	mg/kg	0	132	0%	0.0035	0.0061	--	--	0.0054	0.00072	--	No	No	(2)
Benzene	mg/kg	0	132	0%	0.000088	0.00035	--	--	0.00012	0.000079	--	Yes	No	(2)
Bromobenzene	mg/kg	0	131	0%	0.00012	0.0004	--	--	0.00016	0.000084	--	No	No	(2)
Bromodichloromethane	mg/kg	0	132	0%	0.00021	0.00034	--	--	0.00024	0.000032	--	No	No	(2)
Bromoform	mg/kg	0	132	0%	0.000059	0.00044	--	--	0.00011	0.00012	--	No	No	(2)
Bromomethane	mg/kg	0	132	0%	0.00013	0.00043	--	--	0.00017	0.000087	--	No	No	(2)
Carbon disulfide	mg/kg	0	132	0%	0.00012	0.0003	--	--	0.00015	0.000051	--	No	No	(2)
Carbon tetrachloride	mg/kg	0	132	0%	0.00021	0.00033	--	--	0.00023	0.000032	--	No	No	(2)
Chlorobenzene	mg/kg	0	132	0%	0.00011	0.00032	--	--	0.00014	0.000063	--	No	No	(2)
Chlorobromomethane	mg/kg	0	132	0%	0.00023	0.00047	--	--	0.00026	0.000068	--	No	No	(2)
Chloroethane	mg/kg	0	132	0%	0.00031	0.00052	--	--	0.00046	0.000057	--	No	No	(2)
Chloroform	mg/kg	0	132	0%	0.0001	0.00038	--	--	0.00014	0.000084	--	No	No	(2)
Chloromethane	mg/kg	0	132	0%	0.00027	0.0003	--	--	0.00028	0.000007	--	No	No	(2)
cis-1,2-Dichloroethene	mg/kg	0	132	0%	0.000054	0.00036	--	--	0.000091	0.000092	--	No	No	(2)
cis-1,3-Dichloropropene	mg/kg	0	132	0%	0.0001	0.00025	--	--	0.00012	0.000045	--	No	No	(2)
Cymene (Isopropyltoluene)	mg/kg	0	131	0%	0.00012	0.00028	--	--	0.00015	0.000043	--	No	No	(2)
Dibromochloromethane	mg/kg	0	132	0%	0.00012	0.00031	--	--	0.00014	0.000055	--	No	No	(2)
Dibromochloropropane	mg/kg	0	131	0%	0.00021	0.00064	--	--	0.00027	0.00013	--	No	No	(2)
Dibromomethane	mg/kg	0	132	0%	0.00017	0.00037	--	--	0.0002	0.000058	--	No	No	(2)
Dichloromethane (Methylene chloride)	mg/kg	4	132	3.0%	0.00069	0.025	0.0052	0.0097	0.0062	0.006	--	No	No	(4)(13)
Dimethyldisulfide	mg/kg	0	132	0%	0.00018	0.00051	--	--	0.00022	0.000098	--	No	No	(2)
Ethanol	mg/kg	0	132	0%	0.048	0.066	--	--	0.051	0.0044	--	No	No	(2)
Ethylbenzene	mg/kg	2	132	1.5%	0.000059	0.0057	0.000088	0.00077	0.00029	0.001	--	No	No	(4)(13)
Freon-11 (Trichlorofluoromethane)	mg/kg	1	132	0.8%	0.00022	0.00033	0.001	0.001	0.00024	0.000072	--	No	No	(4)(13)
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	mg/kg	0	132	0%	0.00015	0.00027	--	--	0.00016	0.000033	--	No	No	(2)
Freon-12 (Dichlorodifluoromethane)	mg/kg	0	132	0%	0.00025	0.00033	--	--	0.0003	0.000018	--	No	No	(2)
Heptane	mg/kg	0	132	0%	0.00016	0.0004	--	--	0.0002	0.000068	--	No	No	(2)
Isopropylbenzene	mg/kg	0	132	0%	0.0001	0.0003	--	--	0.00013	0.000059	--	No	No	(2)
m,p-Xylene	mg/kg	1	132	0.8%	0.00017	0.0051	0.002	0.002	0.00026	0.00046	--	No	No	(4)(13)
Methyl ethyl ketone (2-Butanone)	mg/kg	4	132	3.0%	0.00057	0.00099	0.004	0.012	0.0011	0.0012	--	No	No	(4)(13)
Methyl iodide	mg/kg	0	132	0%	0.00012	0.00041	--	--	0.00016	0.000086	--	No	No	(2)
MTBE (Methyl tert-butyl ether)	mg/kg	0	132	0%	0.00009	0.0005	--	--	0.00014	0.00012	--	No	No	(2)
n-Butylbenzene	mg/kg	0	131	0%	0.00018	0.00032	--	--	0.0002	0.000037	--	No	No	(2)
Nonanal	mg/kg	0	131	0%	0.00036	0.00053	--	--	0.00048	0.000042	--	No	No	(2)

TABLE 5-5a
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
n-Propylbenzene	mg/kg	1	131	0.8%	0.00011	0.00029	0.00041	0.00041	0.00014	0.000059	--	No	No	(4)(13)
o-Xylene	mg/kg	3	132	2.3%	0.000077	0.0057	0.00016	0.0051	0.00023	0.00079	--	No	No	(4)(13)
sec-Butylbenzene	mg/kg	0	131	0%	0.00011	0.00035	--	--	0.00014	0.000072	--	No	No	(2)
Styrene	mg/kg	0	132	0%	0.00017	0.00022	--	--	0.00019	0.00001	--	No	No	(2)
tert-Butylbenzene	mg/kg	0	131	0%	0.0001	0.00024	--	--	0.00012	0.000042	--	No	No	(2)
Tetrachloroethene	mg/kg	1	132	0.8%	0.000088	0.0005	0.0007	0.0007	0.00014	0.00013	--	No	No	(4)(13)
Toluene	mg/kg	1	132	0.8%	0.00024	0.0051	0.0018	0.0018	0.00041	0.0006	--	No	No	(4)(13)
trans-1,2-Dichloroethene	mg/kg	0	132	0%	0.000091	0.00036	--	--	0.00012	0.000081	--	No	No	(2)
trans-1,3-Dichloropropene	mg/kg	0	132	0%	0.0001	0.00019	--	--	0.00011	0.000025	--	No	No	(2)
Trichloroethene	mg/kg	0	132	0%	0.0001	0.00028	--	--	0.00013	0.000052	--	No	No	(2)
Vinyl acetate	mg/kg	0	131	0%	0.00024	0.00041	--	--	0.00027	0.000045	--	No	No	(2)
Vinyl chloride	mg/kg	0	132	0%	0.00011	0.00035	--	--	0.00014	0.000069	--	No	No	(2)
Xylenes (total)	mg/kg	1	132	0.8%	0.00023	0.00069	0.0027	0.0027	0.00031	0.00025	--	No	No	(4)(13)

mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram
ppt - parts per trillion
-- - Not available or not applicable.
ND - Not detected.
Highlight indicates selected as COPC.

(1) Persistent, Bioaccumulative, and Toxic (PBT) Program.
(2) Not detected.
(3) Dioxin and PCB congeners are not evaluated separately. Dioxin and PCB congeners are evaluated as TCDD TEQs. The maximum TCDD TEQ was less than the 50 ppt residential BCL.
(4) Chemical detected in less than 5 percent of the samples and is not a PBT or Class A carcinogen.
(5) Chemical detected in greater than 5 percent of samples.
(6) Chemical concentrations are equivalent to background.
(7) Chemical detected in less than 5 percent of the samples, but is a PBT or Class A carcinogen.
(8) Based on statistical tests, Site concentrations are elevated compared to background.
(9) No toxicity criteria or applicable surrogate criteria are available.
(10) At least one carcinogenic polynuclear aromatic hydrocarbon (PAH) is a COPC, therefore all carcinogenic PAHs are COPCs.
(11) Lead was not selected as a COPC because the maximum concentration is below 400 mg/kg.
(12) USEPA (1989) states that “Chemicals that are (1) essential human nutrients, (2) present at low concentrations (i.e., only slightly elevated above naturally occurring levels), and (3) toxic only at very high doses (i.e., much higher than those that could be associated with contact at the site) need not be considered further in the quantitative risk assessment. Examples of such chemicals are iron, magnesium, calcium, potassium, and sodium.”
(13) Maximum detected site concentration below one-tenth residential BCL.
(14) Maximum detected site concentration greater than one-tenth residential BCL.
(15) Chemical has no BCL.

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 8)

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Aldehydes														
Acetaldehyde	mg/kg	1	115	0.9%	0.151	0.564	0.17	0.17	0.22	0.086	--	No	No	(4)(13)
Formaldehyde	mg/kg	64	115	55.7%	0.101	1.08	0.11	2.52	0.54	0.47	--	No	Yes	(5)(14)
Asbestos														
Asbestos	Structures	9	53	17.0%	N/A	N/A	1	7	N/A	N/A	--	Yes	Yes	(1)
Dioxins / Furans														
1,2,3,4,6,7,8-Heptachlorodibenzofuran	mg/kg	78	123	63.4%	4.6E-08	0.0000024	0.0000026	0.00014	0.00003	0.000034	--	Yes	No	(1)(3)
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	mg/kg	50	123	40.7%	4.4E-08	0.0000024	0.0000025	0.000061	0.0000073	0.000011	--	Yes	No	(1)(3)
1,2,3,4,7,8,9-Heptachlorodibenzofuran	mg/kg	65	123	52.8%	5.6E-08	0.0000025	0.0000027	0.000069	0.000014	0.000016	--	Yes	No	(1)(3)
1,2,3,4,7,8-Hexachlorodibenzofuran	mg/kg	72	123	58.5%	2.9E-08	0.0000023	0.0000026	0.000068	0.000015	0.000017	--	Yes	No	(1)(3)
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	mg/kg	0	123	0%	3E-09	0.000002	--	--	5.5E-07	5.3E-07	--	Yes	No	(1)(3)
1,2,3,6,7,8-Hexachlorodibenzofuran	mg/kg	62	123	50.4%	3.2E-08	0.0000025	0.0000026	0.00004	0.0000099	0.00001	--	Yes	No	(1)(3)
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	mg/kg	13	123	10.6%	1.3E-08	0.0000026	0.0000025	0.0000045	0.0000012	0.0000012	--	Yes	No	(1)(3)
1,2,3,7,8,9-Hexachlorodibenzofuran	mg/kg	21	123	17.1%	3.2E-08	0.0000043	0.0000027	0.0000079	0.000002	0.000002	--	Yes	No	(1)(3)
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	mg/kg	9	123	7.3%	2.7E-08	0.0000025	0.0000028	0.0000039	0.0000011	0.0000011	--	Yes	No	(1)(3)
1,2,3,7,8-Pentachlorodibenzofuran	mg/kg	61	123	49.6%	3.5E-08	0.0000023	0.0000025	0.000037	0.000009	0.0000092	--	Yes	No	(1)(3)
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	mg/kg	4	123	3.3%	1.6E-08	0.0000025	0.0000026	0.0000032	7.3E-07	0.0000008	--	Yes	No	(1)(3)
2,3,4,6,7,8-Hexachlorodibenzofuran	mg/kg	37	123	30.1%	2.1E-08	0.0000024	0.0000026	0.00001	0.0000028	0.0000027	--	Yes	No	(1)(3)
2,3,4,7,8-Pentachlorodibenzofuran	mg/kg	52	123	42.3%	3.7E-08	0.0000018	0.0000028	0.00002	0.000005	0.0000051	--	Yes	No	(1)(3)
2,3,7,8-Tetrachlorodibenzofuran	mg/kg	84	123	68.3%	5.3E-08	5.8E-07	5.1E-07	0.000032	0.0000066	0.0000069	--	Yes	No	(1)(3)
2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	21	123	17.1%	8.5E-09	6.2E-07	5.1E-07	0.0000013	3.2E-07	0.0000003	--	Yes	No	(1)(3)
Octachlorodibenzodioxin	mg/kg	55	123	44.7%	1.6E-07	0.00002	0.000006	0.00085	0.000046	0.00011	--	Yes	No	(1)(3)
Octachlorodibenzofuran	mg/kg	85	123	69.1%	2.9E-07	0.0000032	0.0000052	0.0007	0.00013	0.00016	--	Yes	No	(1)(3)
TCDD TEQ	ppt	123	123	--	--	--	0.09	32.9	6.5	8.3	--	Yes	No	(1)(3)
General Chemistry/Ions														
Ammonia (as N)	mg/kg	33	133	24.8%	0.78	102	0.24	30.8	2	9.2	--	No	Yes	(5)(15)
Bromide	mg/kg	21	133	15.8%	0.25	2.6	0.29	4.8	0.57	0.85	--	No	No	(9)
Chlorate	mg/kg	7	133	5.3%	0.48	5.5	0.95	15.4	0.97	1.8	--	No	No	(9)
Chloride	mg/kg	133	133	100%	--	--	0.77	923	120	180	--	No	No	(9)
Cyanide, Total	mg/kg	30	132	22.7%	0.08	0.57	0.094	0.75	0.3	0.21	--	No	No	(5)(13)
Fluoride	mg/kg	115	133	86.5%	0.1	0.1	0.2	9.9	1.4	1.3	--	No	No	(5)(13)
Nitrate	mg/kg	133	133	100%	--	--	0.3	918	41	110	--	No	No	(5)(13)
Nitrite	mg/kg	12	133	9.0%	0.02	0.21	0.11	1.3	0.052	0.13	--	No	No	(5)(13)
Orthophosphate as P	mg/kg	38	133	28.6%	0.51	5.4	1	26.4	3.1	4.4	--	No	No	(9)
Perchlorate	mg/kg	92	129	71.3%	0.0101	0.011	0.013	8.9	0.49	1.2	--	No	Yes	(5)(14)
Sulfate	mg/kg	130	133	97.7%	5.1	5.2	5.2	5850	340	710	--	No	No	(9)
Sulfide	mg/kg	4	133	3.0%	0.84	2	20.2	60.5	2.6	5.8	--	No	No	(9)
Total Kjeldahl Nitrogen (TKN)	mg/kg	133	133	100%	--	--	19.1	1810	140	210	--	No	No	(9)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Metals														
Aluminum	mg/kg	28	28	100%	--	--	10700	18100	15000	2500	YES	No	Yes	(8)(14)
Antimony	mg/kg	0	28	0%	0.225	2.7	--	--	0.53	0.51	NO	No	No	(4)(6)(13)
Arsenic	mg/kg	11	28	39.3%	5.2	5.5	3.2	10	5.2	1.1	NO	Yes	No	(1)(6)
Barium	mg/kg	28	28	100%	--	--	167	450	280	71	YES	No	No	(8)(13)
Beryllium	mg/kg	26	28	93%	0.53	0.53	0.54	0.82	0.66	0.082	YES	No	No	(8)(13)
Boron	mg/kg	0	28	0%	2.99	50.9	--	--	13	12	NO	No	No	(6)(13)
Cadmium	mg/kg	2	28	7.1%	0.21	0.27	0.21	0.23	0.26	0.019	YES	No	No	(8)(13)
Calcium	mg/kg	28	28	100%	--	--	11900	57400	23000	11000	NO	No	No	(6)(12)(15)
Chromium	mg/kg	28	28	100%	--	--	10	27.4	17	4.9	YES	No	No	(8)(13)
Chromium (VI)	mg/kg	13	28	46.4%	0.11	0.43	0.13	0.49	0.29	0.14	YES	Yes	No	(8)(13)
Cobalt	mg/kg	28	28	100%	--	--	9.2	20.8	14	2.9	YES	No	Yes	(8)(14)
Copper	mg/kg	28	28	100%	--	--	16.7	31.5	26	4.3	YES	No	No	(8)(13)
Iron	mg/kg	28	28	100%	--	--	15500	25900	21000	2900	YES	No	No	(8)(12)
Lead	mg/kg	28	28	100%	--	--	8.4	37.2	14	5.8	YES	Yes	No	(11)
Lithium	mg/kg	28	28	100%	--	--	9.1	19.3	12	2.4	NO	No	No	(6)
Magnesium	mg/kg	28	28	100%	--	--	9660	17400	13000	2000	YES	No	No	(8)(12)
Manganese	mg/kg	28	28	100%	--	--	417	1110	720	170	YES	No	Yes	(8)(14)
Mercury	mg/kg	20	28	71.4%	0.0115	0.0339	0.0086	0.0262	0.02	0.0089	NO	No	No	(6)(13)
Molybdenum	mg/kg	0	28	0%	2.1	2.7	--	--	2.6	0.21	NO	No	No	(6)
Nickel	mg/kg	28	28	100%	--	--	15.9	28	22	3.7	YES	No	No	(8)(13)
Potassium	mg/kg	28	28	100%	--	--	1330	4000	2300	630	YES	No	No	(8)(12)(15)
Selenium	mg/kg	0	28	0.0%	0.225	2.7	--	--	0.92	1.1	NO	No	No	(4)(6)(13)
Silver	mg/kg	6	28	21.4%	0.83	1.1	0.12	0.14	0.85	0.39	YES	No	No	(8)(13)
Sodium	mg/kg	28	28	100%	--	--	260	1330	770	290	YES	No	No	(8)(12)(15)
Strontium	mg/kg	28	28	100%	--	--	210	563	350	92	YES	No	No	(8)(13)
Thallium	mg/kg	0	28	0%	0.105	1.1	--	--	0.47	0.36	NO	No	No	(6)
Tin	mg/kg	3	28	10.7%	0.6	1.1	0.87	1.6	0.89	0.23	YES	No	No	(8)(13)
Titanium	mg/kg	28	28	100%	--	--	569	1510	1000	280	YES	No	No	(8)(13)
Tungsten	mg/kg	2	28	7.1%	0.185	2.7	0.19	4.5	1.5	1.2	YES	No	No	(8)(13)
Uranium	mg/kg	28	28	100%	--	--	0.85	1.9	1.2	0.29	YES	No	No	(8)(13)
Vanadium	mg/kg	28	28	100%	--	--	39.5	108	73	17	YES	No	Yes	(8)(14)
Zinc	mg/kg	28	28	100%	--	--	39.9	76.7	53	9.2	YES	No	No	(8)(13)
Organochlorine Pesticides														
2,4-DDD	mg/kg	1	133	0.8%	0.00014	0.0032	0.004	0.004	0.00038	0.00048	--	Yes	No	(4)(13)
2,4-DDE	mg/kg	15	133	11.3%	0.00013	0.0021	0.0019	0.029	0.0012	0.0038	--	Yes	No	(1)(5)(13)
4,4-DDD	mg/kg	1	133	0.8%	0.00009	0.00093	0.0023	0.0023	0.00013	0.00022	--	Yes	No	(4)(13)
4,4-DDE	mg/kg	28	133	21.1%	0.00019	0.002	0.0018	0.052	0.0024	0.0071	--	Yes	No	(1)(5)(13)
4,4-DDT	mg/kg	13	133	9.8%	0.0002	0.0021	0.0019	0.0093	0.00067	0.0015	--	Yes	No	(1)(5)(13)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Aldrin	mg/kg	0	133	0%	0.000092	0.00099	--	--	0.00012	0.00011	--	Yes	No	(2)
alpha-BHC	mg/kg	0	133	0%	0.000095	0.0029	--	--	0.00032	0.00033	--	No	No	(2)
alpha-Chlordane	mg/kg	0	133	0%	0.0001	0.0022	--	--	0.00025	0.00025	--	Yes	No	(2)
beta-BHC	mg/kg	13	133	9.8%	0.00013	0.0019	0.0018	0.035	0.0011	0.0039	--	No	No	(5)(13)
Chlordane	mg/kg	0	133	0%	0.0015	0.024	--	--	0.0028	0.0027	--	Yes	No	(2)
delta-BHC	mg/kg	0	133	0%	0.00011	0.0017	--	--	0.0002	0.00019	--	No	No	(2)
Dieldrin	mg/kg	0	133	0%	0.000092	0.00095	--	--	0.00011	0.00011	--	Yes	No	(2)
Endosulfan I	mg/kg	0	133	0%	0.000096	0.0011	--	--	0.00013	0.00013	--	No	No	(2)
Endosulfan II	mg/kg	0	133	0%	0.000094	0.00097	--	--	0.00012	0.00012	--	No	No	(2)
Endosulfan sulfate	mg/kg	0	133	0%	0.00013	0.0027	--	--	0.00031	0.00031	--	No	No	(2)
Endrin	mg/kg	0	133	0%	0.000084	0.00087	--	--	0.00011	0.0001	--	No	No	(2)
Endrin aldehyde	mg/kg	0	133	0%	0.00015	0.0019	--	--	0.00022	0.00022	--	No	No	(2)
Endrin ketone	mg/kg	0	133	0%	0.00013	0.0017	--	--	0.0002	0.00019	--	No	No	(2)
gamma-BHC (Lindane)	mg/kg	0	133	0%	0.0001	0.0013	--	--	0.00015	0.00015	--	No	No	(2)
gamma-Chlordane	mg/kg	0	133	0%	0.000084	0.00087	--	--	0.0001	0.0001	--	Yes	No	(2)
Heptachlor	mg/kg	0	133	0%	0.000096	0.0018	--	--	0.0002	0.0002	--	No	No	(2)
Heptachlor epoxide	mg/kg	0	133	0%	0.00012	0.0014	--	--	0.00016	0.00016	--	No	No	(2)
Methoxychlor	mg/kg	2	133	1.5%	0.00032	0.0033	0.0038	0.011	0.0005	0.001	--	No	No	(4)(13)
Toxaphene	mg/kg	0	133	0%	0.0057	0.061	--	--	0.0072	0.007	--	Yes	No	(2)
Polynuclear Aromatic Hydrocarbons														
Acenaphthene	mg/kg	0	129	0%	0.00167	0.00186	--	--	0.0017	0.00004	--	No	No	(2)
Acenaphthylene	mg/kg	1	129	0.8%	0.00167	0.00186	0.00315	0.00315	0.0018	0.00013	--	No	No	(4)(13)
Anthracene	mg/kg	1	129	0.8%	0.00167	0.00683	0.00375	0.00375	0.0018	0.00048	--	No	No	(4)(13)
Benzo(a)anthracene	mg/kg	19	129	14.7%	0.00168	0.00708	0.00177	0.0135	0.0024	0.002	--	No	Yes	(5)(13)(10)
Benzo(a)pyrene	mg/kg	13	129	10.1%	0.00167	0.00186	0.00183	0.0142	0.0022	0.002	--	Yes	Yes	(5)(14)
Benzo(b)fluoranthene	mg/kg	21	129	16.3%	0.00168	0.00708	0.00182	0.0576	0.0031	0.0058	--	No	Yes	(5)(13)(10)
Benzo(g,h,i)perylene	mg/kg	12	129	9.3%	0.00167	0.00186	0.00207	0.0212	0.0023	0.0022	--	No	No	(5)(13)
Benzo(k)fluoranthene	mg/kg	6	129	4.7%	0.00167	0.00186	0.00218	0.00747	0.0019	0.00085	--	No	Yes	(4)(13)(10)
Chrysene	mg/kg	12	129	9.3%	0.00167	0.016	0.00205	0.0128	0.0039	0.0046	--	No	Yes	(5)(13)(10)
Dibenzo(a,h)anthracene	mg/kg	1	129	0.8%	0.00167	0.00186	0.00279	0.00279	0.0018	0.0001	--	No	Yes	(4)(13)(10)
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9.3%	0.00167	0.00186	0.00183	0.0235	0.0022	0.0022	--	No	Yes	(5)(13)(10)
Phenanthrene	mg/kg	9	129	7.0%	0.00167	0.00186	0.00192	0.0114	0.002	0.0011	--	No	No	(5)(13)
Pyrene	mg/kg	17	129	13.2%	0.00168	0.00683	0.00198	0.0239	0.0025	0.0033	--	No	No	(5)(13)
Polychlorinated Biphenyls														
PCB 105	mg/kg	97	123	78.9%	4.2E-08	0.0000021	0.0000021	0.0027	0.00013	0.00034	--	Yes	No	(1)(3)
PCB 114	mg/kg	62	123	50.4%	4.1E-08	0.0000021	0.0000025	0.00011	0.000008	0.000014	--	Yes	No	(1)(3)
PCB 118	mg/kg	104	123	84.6%	3.8E-08	0.0000074	0.0000025	0.0047	0.00022	0.00053	--	Yes	No	(1)(3)
PCB 123	mg/kg	0	123	0%	4.2E-08	0.00003	--	--	0.000002	0.0000036	--	Yes	No	(1)(3)
PCB 126	mg/kg	43	123	35.0%	5.2E-08	0.0000021	0.0000022	0.00004	0.0000034	0.0000053	--	Yes	No	(1)(3)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
PCB 156	mg/kg	79	123	64.2%	2.7E-08	0.0000021	0.0000023	0.00074	0.000038	0.000088	--	Yes	No	(1)(3)
PCB 157	mg/kg	61	123	49.6%	2.7E-08	0.0000021	0.000002	0.00017	0.0000092	0.000022	--	Yes	No	(1)(3)
PCB 167	mg/kg	70	123	56.9%	3.2E-08	0.0000021	0.0000022	0.00026	0.000013	0.000029	--	Yes	No	(1)(3)
PCB 169	mg/kg	3	123	2.4%	4.3E-08	0.0000021	0.0000027	0.0000055	0.000001	9.9E-07	--	Yes	No	(1)(3)
PCB 189	mg/kg	49	123	39.8%	2.8E-08	0.0000021	0.0000022	0.000046	0.0000039	0.0000061	--	Yes	No	(1)(3)
PCB 209	mg/kg	96	123	78.0%	1.7E-08	0.0000021	0.000021	0.0049	0.00069	0.00094	--	Yes	No	(1)(3)
PCB 77	mg/kg	0	123	0%	4.5E-08	0.000026	--	--	0.0000027	0.000005	--	Yes	No	(1)(3)
PCB 81	mg/kg	0	123	0%	4.2E-08	0.000019	--	--	0.0000019	0.0000029	--	Yes	No	(1)(3)
Radionuclides														
Radium-226	pCi/g	119	132	90.2%	--	--	0.0949	2.39	0.92	0.35	NO	Yes	No	(1)(6)
Radium-228	pCi/g	126	132	95.5%	--	--	0.313	3.64	1.7	0.59	NO	Yes	No	(1)(6)
Thorium-228	pCi/g	131	132	99.2%	--	--	0.663	3.71	1.8	0.43	NO	Yes	No	(1)(6)
Thorium-230	pCi/g	118	132	89.4%	--	--	0.306	2.59	1	0.39	NO	Yes	No	(1)(6)
Thorium-232	pCi/g	132	132	100%	--	--	0.525	2.8	1.5	0.41	NO	Yes	No	(1)(6)
Uranium-233/234	pCi/g	125	132	94.7%	--	--	0.341	3.36	1.1	0.44	NO	Yes	No	(1)(6)
Uranium-235/236	pCi/g	11	132	8.3%	--	--	-0.19	0.412	0.075	0.092	NO	Yes	No	(1)(6)
Uranium-238	pCi/g	131	132	99.2%	--	--	0.371	2.24	0.99	0.31	NO	Yes	No	(1)(6)
Semi-Volatile Organic Compounds														
1,2,4,5-Tetrachlorobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
1,2-Diphenylhydrazine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
1,4-Dioxane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,2'-Dichlorobenzil	mg/kg	0	129	0%	0.0116	0.123	--	--	0.1	0.033	--	No	No	(2)
2,4,5-Trichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4,6-Trichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dimethylphenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dinitrophenol	mg/kg	0	129	0%	0.127	0.141	--	--	0.13	0.0031	--	No	No	(2)
2,4-Dinitrotoluene	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
2,6-Dinitrotoluene	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
2-Chloronaphthalene	mg/kg	0	129	0%	0.0117	0.013	--	--	0.012	0.00029	--	No	No	(2)
2-Chlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2-Methylnaphthalene	mg/kg	0	129	0%	0.0067	0.00744	--	--	0.007	0.00016	--	No	No	(2)
2-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2-Nitrophenol	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
3,3-Dichlorobenzidine	mg/kg	0	129	0%	0.1	0.112	--	--	0.1	0.0025	--	No	No	(2)
3-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
4-Bromophenyl phenyl ether	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
4-Chloro-3-methylphenol	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
4-Chlorophenyl phenyl ether	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
4-Chlorothioanisole	mg/kg	0	129	0%	0.0394	0.123	--	--	0.11	0.024	--	No	No	(2)
4-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
4-Nitrophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Acetophenone	mg/kg	1	129	0.8%	0.0335	0.0372	0.0478	0.0478	0.035	0.0014	--	No	No	(4)(13)
Aniline	mg/kg	0	129	0%	0.117	0.13	--	--	0.12	0.0029	--	No	No	(2)
Benzenethiol	mg/kg	0	129	0%	0.111	0.241	--	--	0.13	0.038	--	No	No	(2)
Benzoic acid	mg/kg	0	129	0%	0.167	0.706	--	--	0.18	0.047	--	No	No	(2)
Benzyl alcohol	mg/kg	0	124	0%	0.1	0.112	--	--	0.1	0.0024	--	No	No	(2)
bis(2-Chloroethoxy)methane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	Yes	No	(2)
bis(2-Chloroethyl) ether	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
bis(2-Chloroisopropyl) ether	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
bis(2-Ethylhexyl) phthalate	mg/kg	5	129	3.9%	0.067	0.18	0.0816	0.173	0.088	0.039	--	No	No	(4)(13)
bis(p-Chlorophenyl) sulfone	mg/kg	0	129	0%	0.00782	0.123	--	--	0.1	0.035	--	No	No	(2)
bis(p-Chlorophenyl)disulfide	mg/kg	0	129	0%	0.0292	0.123	--	--	0.11	0.027	--	No	No	(2)
Butylbenzyl phthalate	mg/kg	1	129	0.8%	0.067	0.0744	0.0722	0.0722	0.07	0.0016	--	No	No	(4)(13)
Carbazole	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Dibenzofuran	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Dichloromethyl ether	mg/kg	0	129	0%	0.111	0.123	--	--	0.12	0.0026	--	No	No	(2)
Diethyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Dimethyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Di-n-butyl phthalate	mg/kg	2	129	1.6%	0.0335	0.0372	0.0448	0.0878	0.035	0.0048	--	No	No	(4)(13)
Di-n-octyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Diphenyl disulfide	mg/kg	0	129	0%	0.0275	0.123	--	--	0.11	0.028	--	No	No	(2)
Diphenyl sulfide	mg/kg	0	129	0%	0.0285	0.123	--	--	0.11	0.028	--	No	No	(2)
Diphenyl sulfone	mg/kg	0	129	0%	0.018	0.123	--	--	0.1	0.031	--	No	No	(2)
Diphenylamine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Fluoranthene	mg/kg	7	129	5.4%	0.01	0.0112	0.0134	0.099	0.012	0.0085	--	No	No	(5)(13)
Fluorene	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Hexachlorobenzene	mg/kg	1	129	0.8%	0.067	0.0744	0.078	0.078	0.07	0.0018	--	Yes	Yes	(4)(14)
Hexachlorobutadiene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hexachlorocyclopentadiene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hexachloroethane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hydroxymethyl phthalimide	mg/kg	0	129	0%	0.0506	0.123	--	--	0.11	0.02	--	No	No	(2)
Isophorone	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
m,p-Cresols	mg/kg	0	129	0%	0.134	0.149	--	--	0.14	0.0033	--	No	No	(2)
Naphthalene	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Nitrobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
N-nitrosodi-n-propylamine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	Yes	No	(2)
o-Cresol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Octachlorostyrene	mg/kg	0	129	0%	0.0194	0.123	--	--	0.1	0.031	--	No	No	(2)
p-Chloroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
p-Chlorobenzenethiol	mg/kg	0	129	0%	0.111	0.241	--	--	0.13	0.038	--	No	No	(2)
Pentachlorobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Pentachlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Phenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Phthalic acid	mg/kg	1	129	0.8%	0.0201	0.123	0.494	0.494	0.11	0.045	--	No	No	(4)(13)
Pyridine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Volatile Organic Compounds														
1,1,1,2-Tetrachloroethane	mg/kg	0	132	0%	0.00018	0.00041	--	--	0.00021	0.000065	--	No	No	(2)
1,1,1-Trichloroethane	mg/kg	0	132	0%	0.00011	0.00025	--	--	0.00013	0.000043	--	No	No	(2)
1,1,2,2-Tetrachloroethane	mg/kg	0	131	0%	0.000079	0.00048	--	--	0.00013	0.00012	--	No	No	(2)
1,1,2-Trichloroethane	mg/kg	0	132	0%	0.000067	0.00039	--	--	0.00011	0.000096	--	No	No	(2)
1,1-Dichloroethane	mg/kg	0	132	0%	0.00007	0.0004	--	--	0.00011	0.000098	--	No	No	(2)
1,1-Dichloroethene	mg/kg	0	132	0%	0.00012	0.00025	--	--	0.00014	0.000038	--	No	No	(2)
1,1-Dichloropropene	mg/kg	0	132	0%	0.000088	0.00024	--	--	0.00011	0.000043	--	No	No	(2)
1,2,3-Trichlorobenzene	mg/kg	0	131	0%	0.00039	0.00049	--	--	0.00041	0.00002	--	No	No	(2)
1,2,3-Trichloropropane	mg/kg	0	131	0%	0.00025	0.00052	--	--	0.00029	0.000076	--	No	No	(2)
1,2,4-Trichlorobenzene	mg/kg	0	131	0%	0.00031	0.00037	--	--	0.00034	0.000013	--	No	No	(2)
1,2,4-Trimethylbenzene	mg/kg	5	131	3.8%	0.00013	0.0057	0.00017	0.0051	0.0024	0.0025	--	No	No	(4)(13)
1,2-Dichlorobenzene	mg/kg	2	131	1.5%	0.00012	0.0052	0.00018	0.0002	0.00023	0.00062	--	No	No	(4)(13)
1,2-Dichloroethane	mg/kg	0	132	0%	0.000066	0.00035	--	--	0.0001	0.000085	--	No	No	(2)
1,2-Dichloroethene	mg/kg	0	132	0%	0.00011	0.00067	--	--	0.00018	0.00017	--	No	No	(2)
1,2-Dichloropropane	mg/kg	0	132	0%	0.00011	0.0004	--	--	0.00015	0.000085	--	No	No	(2)
1,3,5-Trichlorobenzene	mg/kg	0	131	0%	0.00037	0.00055	--	--	0.0004	0.000043	--	No	No	(2)
1,3,5-Trimethylbenzene	mg/kg	2	131	1.5%	0.000098	0.0051	0.00068	0.0008	0.00017	0.00044	--	No	No	(4)(13)
1,3-Dichlorobenzene	mg/kg	1	131	0.8%	0.00013	0.00047	0.00016	0.00016	0.00018	0.0001	--	No	No	(4)(13)
1,3-Dichloropropane	mg/kg	0	132	0%	0.000051	0.00044	--	--	0.000098	0.00012	--	No	No	(2)
1,4-Dichlorobenzene	mg/kg	0	131	0%	0.00014	0.00033	--	--	0.00016	0.000056	--	No	No	(2)
2,2,3-Trimethylbutane	mg/kg	0	132	0%	0.00021	0.00057	--	--	0.00026	0.0001	--	No	No	(2)
2,2-Dichloropropane	mg/kg	0	132	0%	0.00023	0.00033	--	--	0.00025	0.000023	--	No	No	(2)
2,2-Dimethylpentane	mg/kg	0	132	0%	0.00028	0.00057	--	--	0.00032	0.000081	--	No	No	(2)
2,3-Dimethylpentane	mg/kg	0	132	0%	0.00023	0.00047	--	--	0.00026	0.000068	--	No	No	(2)
2,4-Dimethylpentane	mg/kg	0	132	0%	0.00019	0.00052	--	--	0.00024	0.000095	--	No	No	(2)
2-Chlorotoluene	mg/kg	0	131	0%	0.00025	0.00036	--	--	0.00027	0.000028	--	No	No	(2)
2-Hexanone	mg/kg	0	132	0%	0.00024	0.0003	--	--	0.00025	0.000013	--	No	No	(2)
2-Methylhexane	mg/kg	0	132	0%	0.0002	0.00054	--	--	0.00025	0.000098	--	No	No	(2)
2-Nitropropane	mg/kg	0	132	0%	0.00032	0.00068	--	--	0.00059	0.0001	--	No	No	(2)
3,3-Dimethylpentane	mg/kg	0	132	0%	0.0002	0.00051	--	--	0.00025	0.000089	--	No	No	(2)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
3-Ethylpentane	mg/kg	0	132	0%	0.00021	0.00048	--	--	0.00025	0.000076	--	No	No	(2)
3-Methylhexane	mg/kg	0	132	0%	0.00014	0.0005	--	--	0.00019	0.00011	--	No	No	(2)
4-Chlorotoluene	mg/kg	0	131	0%	0.00017	0.00027	--	--	0.00019	0.000024	--	No	No	(2)
4-Methyl-2-pentanone (MIBK)	mg/kg	0	132	0%	0.00029	0.00033	--	--	0.0003	0.000008	--	No	No	(2)
Acetone	mg/kg	36	132	27.3%	0.0017	0.023	0.0023	0.072	0.0071	0.0097	--	No	No	(5)(13)
Acetonitrile	mg/kg	0	132	0%	0.0035	0.0061	--	--	0.0054	0.00072	--	No	No	(2)
Benzene	mg/kg	0	132	0%	0.000088	0.00035	--	--	0.00012	0.000079	--	Yes	No	(2)
Bromobenzene	mg/kg	0	131	0%	0.00012	0.0004	--	--	0.00016	0.000084	--	No	No	(2)
Bromodichloromethane	mg/kg	0	132	0%	0.00021	0.00034	--	--	0.00024	0.000032	--	No	No	(2)
Bromoform	mg/kg	0	132	0%	0.000059	0.00044	--	--	0.00011	0.00012	--	No	No	(2)
Bromomethane	mg/kg	0	132	0%	0.00013	0.00043	--	--	0.00017	0.000087	--	No	No	(2)
Carbon disulfide	mg/kg	0	132	0%	0.00012	0.0003	--	--	0.00015	0.000051	--	No	No	(2)
Carbon tetrachloride	mg/kg	0	132	0%	0.00021	0.00033	--	--	0.00023	0.000032	--	No	No	(2)
Chlorobenzene	mg/kg	0	132	0%	0.00011	0.00032	--	--	0.00014	0.000063	--	No	No	(2)
Chlorobromomethane	mg/kg	0	132	0%	0.00023	0.00047	--	--	0.00026	0.000068	--	No	No	(2)
Chloroethane	mg/kg	0	132	0%	0.00031	0.00052	--	--	0.00046	0.000057	--	No	No	(2)
Chloroform	mg/kg	0	132	0%	0.0001	0.00038	--	--	0.00014	0.000084	--	No	No	(2)
Chloromethane	mg/kg	0	132	0%	0.00027	0.0003	--	--	0.00028	0.000007	--	No	No	(2)
cis-1,2-Dichloroethene	mg/kg	0	132	0%	0.000054	0.00036	--	--	0.000091	0.000092	--	No	No	(2)
cis-1,3-Dichloropropene	mg/kg	0	132	0%	0.0001	0.00025	--	--	0.00012	0.000045	--	No	No	(2)
Cymene (Isopropyltoluene)	mg/kg	0	131	0%	0.00012	0.00028	--	--	0.00015	0.000043	--	No	No	(2)
Dibromochloromethane	mg/kg	0	132	0%	0.00012	0.00031	--	--	0.00014	0.000055	--	No	No	(2)
Dibromochloropropane	mg/kg	0	131	0%	0.00021	0.00064	--	--	0.00027	0.00013	--	No	No	(2)
Dibromomethane	mg/kg	0	132	0%	0.00017	0.00037	--	--	0.0002	0.000058	--	No	No	(2)
Dichloromethane (Methylene chloride)	mg/kg	4	132	3.0%	0.00069	0.025	0.0052	0.0097	0.0062	0.006	--	No	No	(4)(13)
Dimethyldisulfide	mg/kg	0	132	0%	0.00018	0.00051	--	--	0.00022	0.000098	--	No	No	(2)
Ethanol	mg/kg	0	132	0%	0.048	0.066	--	--	0.051	0.0044	--	No	No	(2)
Ethylbenzene	mg/kg	2	132	1.5%	0.000059	0.0057	0.000088	0.00077	0.00029	0.001	--	No	No	(4)(13)
Freon-11 (Trichlorofluoromethane)	mg/kg	1	132	0.8%	0.00022	0.00033	0.001	0.001	0.00024	0.000072	--	No	No	(4)(13)
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	mg/kg	0	132	0%	0.00015	0.00027	--	--	0.00016	0.000033	--	No	No	(2)
Freon-12 (Dichlorodifluoromethane)	mg/kg	0	132	0%	0.00025	0.00033	--	--	0.0003	0.000018	--	No	No	(2)
Heptane	mg/kg	0	132	0%	0.00016	0.0004	--	--	0.0002	0.000068	--	No	No	(2)
Isopropylbenzene	mg/kg	0	132	0%	0.0001	0.0003	--	--	0.00013	0.000059	--	No	No	(2)
m,p-Xylene	mg/kg	1	132	0.8%	0.00017	0.0051	0.002	0.002	0.00026	0.00046	--	No	No	(4)(13)
Methyl ethyl ketone (2-Butanone)	mg/kg	4	132	3.0%	0.00057	0.00099	0.004	0.012	0.0011	0.0012	--	No	No	(4)(13)
Methyl iodide	mg/kg	0	132	0%	0.00012	0.00041	--	--	0.00016	0.000086	--	No	No	(2)
MTBE (Methyl tert-butyl ether)	mg/kg	0	132	0%	0.00009	0.0005	--	--	0.00014	0.00012	--	No	No	(2)
n-Butylbenzene	mg/kg	0	131	0%	0.00018	0.00032	--	--	0.0002	0.000037	--	No	No	(2)
Nonanal	mg/kg	0	131	0%	0.00036	0.00053	--	--	0.00048	0.000042	--	No	No	(2)

TABLE 5-5b
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
n-Propylbenzene	mg/kg	1	131	0.8%	0.00011	0.00029	0.00041	0.00041	0.00014	0.000059	--	No	No	(4)(13)
o-Xylene	mg/kg	3	132	2.3%	0.000077	0.0057	0.00016	0.0051	0.00023	0.00079	--	No	No	(4)(13)
sec-Butylbenzene	mg/kg	0	131	0%	0.00011	0.00035	--	--	0.00014	0.000072	--	No	No	(2)
Styrene	mg/kg	0	132	0%	0.00017	0.00022	--	--	0.00019	0.00001	--	No	No	(2)
tert-Butylbenzene	mg/kg	0	131	0%	0.0001	0.00024	--	--	0.00012	0.000042	--	No	No	(2)
Tetrachloroethene	mg/kg	1	132	0.8%	0.000088	0.0005	0.0007	0.0007	0.00014	0.00013	--	No	No	(4)(13)
Toluene	mg/kg	1	132	0.8%	0.00024	0.0051	0.0018	0.0018	0.00041	0.0006	--	No	No	(4)(13)
trans-1,2-Dichloroethene	mg/kg	0	132	0%	0.000091	0.00036	--	--	0.00012	0.000081	--	No	No	(2)
trans-1,3-Dichloropropene	mg/kg	0	132	0%	0.0001	0.00019	--	--	0.00011	0.000025	--	No	No	(2)
Trichloroethene	mg/kg	0	132	0%	0.0001	0.00028	--	--	0.00013	0.000052	--	No	No	(2)
Vinyl acetate	mg/kg	0	131	0%	0.00024	0.00041	--	--	0.00027	0.000045	--	No	No	(2)
Vinyl chloride	mg/kg	0	132	0%	0.00011	0.00035	--	--	0.00014	0.000069	--	No	No	(2)
Xylenes (total)	mg/kg	1	132	0.8%	0.00023	0.00069	0.0027	0.0027	0.00031	0.00025	--	No	No	(4)(13)

mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram
ppt - parts per trillion
-- - Not available or not applicable.
ND - Not detected.
Highlight indicates selected as COPC.

(1) Persistent, Bioaccumulative, and Toxic (PBT) Program.
(2) Not detected.
(3) Dioxin and PCB congeners are not evaluated separately. Dioxin and PCB congeners are evaluated as TCDD TEQs. The maximum TCDD TEQ was less than the 50 ppt residential BCL.
(4) Chemical detected in less than 5 percent of the samples and is not a PBT or Class A carcinogen.
(5) Chemical detected in greater than 5 percent of samples.
(6) Chemical concentrations are equivalent to background.
(7) Chemical detected in less than 5 percent of the samples, but is a PBT or Class A carcinogen.
(8) Based on statistical tests, Site concentrations are elevated compared to background.
(9) No toxicity criteria or applicable surrogate criteria are available.
(10) At least one carcinogenic polynuclear aromatic hydrocarbon (PAH) is a COPC, therefore all carcinogenic PAHs are COPCs.
(11) Lead was not selected as a COPC because the maximum concentration is below 400 mg/kg.
(12) USEPA (1989) states that “Chemicals that are (1) essential human nutrients, (2) present at low concentrations (i.e., only slightly elevated above naturally occurring levels), and (3) toxic only at very high doses (i.e., much higher than those that could be associated with contact at the site) need not be considered further in the quantitative risk assessment. Examples of such chemicals are iron, magnesium, calcium, potassium, and sodium.”
(13) Maximum detected site concentration below one-tenth residential BCL.
(14) Maximum detected site concentration greater than one-tenth residential BCL.
(15) Chemical has no BCL.

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Aldehydes														
Acetaldehyde	mg/kg	1	115	0.9%	0.151	0.564	0.17	0.17	0.22	0.086	--	No	No	(4)(13)
Formaldehyde	mg/kg	64	115	55.7%	0.101	1.08	0.11	2.52	0.54	0.47	--	No	Yes	(5)(14)
Asbestos														
Asbestos	Structures	9	53	17.0%	N/A	N/A	1	7	N/A	N/A	--	Yes	Yes	(1)
Dioxins / Furans														
1,2,3,4,6,7,8-Heptachlorodibenzofuran	mg/kg	78	123	63.4%	4.6E-08	0.0000024	0.0000026	0.00014	0.00003	0.000034	--	Yes	No	(1)(3)
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	mg/kg	50	123	40.7%	4.4E-08	0.0000024	0.0000025	0.000061	0.0000073	0.000011	--	Yes	No	(1)(3)
1,2,3,4,7,8,9-Heptachlorodibenzofuran	mg/kg	65	123	52.8%	5.6E-08	0.0000025	0.0000027	0.000069	0.000014	0.000016	--	Yes	No	(1)(3)
1,2,3,4,7,8-Hexachlorodibenzofuran	mg/kg	72	123	58.5%	2.9E-08	0.0000023	0.0000026	0.000068	0.000015	0.000017	--	Yes	No	(1)(3)
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	mg/kg	0	123	0%	3E-09	0.000002	--	--	5.5E-07	5.3E-07	--	Yes	No	(1)(3)
1,2,3,6,7,8-Hexachlorodibenzofuran	mg/kg	62	123	50.4%	3.2E-08	0.0000025	0.0000026	0.00004	0.0000099	0.00001	--	Yes	No	(1)(3)
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	mg/kg	13	123	10.6%	1.3E-08	0.0000026	0.0000025	0.0000045	0.0000012	0.0000012	--	Yes	No	(1)(3)
1,2,3,7,8,9-Hexachlorodibenzofuran	mg/kg	21	123	17.1%	3.2E-08	0.0000043	0.0000027	0.0000079	0.000002	0.000002	--	Yes	No	(1)(3)
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	mg/kg	9	123	7.3%	2.7E-08	0.0000025	0.0000028	0.0000039	0.0000011	0.0000011	--	Yes	No	(1)(3)
1,2,3,7,8-Pentachlorodibenzofuran	mg/kg	61	123	49.6%	3.5E-08	0.0000023	0.0000025	0.000037	0.000009	0.0000092	--	Yes	No	(1)(3)
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	mg/kg	4	123	3.3%	1.6E-08	0.0000025	0.0000026	0.0000032	7.3E-07	0.0000008	--	Yes	No	(1)(3)
2,3,4,6,7,8-Hexachlorodibenzofuran	mg/kg	37	123	30.1%	2.1E-08	0.0000024	0.0000026	0.00001	0.0000028	0.0000027	--	Yes	No	(1)(3)
2,3,4,7,8-Pentachlorodibenzofuran	mg/kg	52	123	42.3%	3.7E-08	0.0000018	0.0000028	0.00002	0.000005	0.0000051	--	Yes	No	(1)(3)
2,3,7,8-Tetrachlorodibenzofuran	mg/kg	84	123	68.3%	5.3E-08	5.8E-07	5.1E-07	0.000032	0.0000066	0.0000069	--	Yes	No	(1)(3)
2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	21	123	17.1%	8.5E-09	6.2E-07	5.1E-07	0.0000013	3.2E-07	0.0000003	--	Yes	No	(1)(3)
Octachlorodibenzodioxin	mg/kg	55	123	44.7%	1.6E-07	0.00002	0.000006	0.00085	0.000046	0.00011	--	Yes	No	(1)(3)
Octachlorodibenzofuran	mg/kg	85	123	69.1%	2.9E-07	0.0000032	0.0000052	0.0007	0.00013	0.00016	--	Yes	No	(1)(3)
TCDD TEQ	ppt	123	123	--	--	--	0.09	32.9	6.5	8.3	--	Yes	No	(1)(3)
General Chemistry/Ions														
Ammonia (as N)	mg/kg	33	133	24.8%	0.78	102	0.24	30.8	2	9.2	--	No	Yes	(5)(15)
Bromide	mg/kg	21	133	15.8%	0.25	2.6	0.29	4.8	0.57	0.85	--	No	No	(9)
Chlorate	mg/kg	7	133	5.3%	0.48	5.5	0.95	15.4	0.97	1.8	--	No	No	(9)
Chloride	mg/kg	133	133	100%	--	--	0.77	923	120	180	--	No	No	(9)
Cyanide, Total	mg/kg	30	132	22.7%	0.08	0.57	0.094	0.75	0.3	0.21	--	No	No	(5)(13)
Fluoride	mg/kg	115	133	86.5%	0.1	0.1	0.2	9.9	1.4	1.3	--	No	No	(5)(13)
Nitrate	mg/kg	133	133	100%	--	--	0.3	918	41	110	--	No	No	(5)(13)
Nitrite	mg/kg	12	133	9.0%	0.02	0.21	0.11	1.3	0.052	0.13	--	No	No	(5)(13)
Orthophosphate as P	mg/kg	38	133	28.6%	0.51	5.4	1	26.4	3.1	4.4	--	No	No	(9)
Perchlorate	mg/kg	92	129	71.3%	0.0101	0.011	0.013	8.9	0.49	1.2	--	No	Yes	(5)(14)
Sulfate	mg/kg	130	133	97.7%	5.1	5.2	5.2	5850	340	710	--	No	No	(9)
Sulfide	mg/kg	4	133	3.0%	0.84	2	20.2	60.5	2.6	5.8	--	No	No	(9)
Total Kjeldahl Nitrogen (TKN)	mg/kg	133	133	100%	--	--	19.1	1810	140	210	--	No	No	(9)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Metals														
Aluminum	mg/kg	10	10	100%	--	--	12600	18400	15000	2000	YES	No	Yes	(8)(14)
Antimony	mg/kg	0	10	0%	0.225	0.91	--	--	0.66	0.3	NO	No	No	(4)(6)(13)
Arsenic	mg/kg	5	10	50.0%	5.1	5.4	3.3	5.3	4.7	0.84	NO	Yes	No	(1)(6)
Barium	mg/kg	10	10	100%	--	--	249	437	330	61	YES	No	No	(8)(13)
Beryllium	mg/kg	9	10	90%	0.52	0.52	0.53	5	1	1.4	NO	No	No	(6)(13)
Boron	mg/kg	0	10	0%	16.7	55.7	--	--	39	19	NO	No	No	(6)(13)
Cadmium	mg/kg	4	10	40.0%	0.04	0.27	0.12	0.53	0.24	0.13	YES	No	No	(8)(13)
Calcium	mg/kg	10	10	100%	--	--	8090	46800	24000	13000	NO	No	No	(6)(12)(15)
Chromium	mg/kg	10	10	100%	--	--	12.4	28.2	21	4.8	YES	No	No	(8)(13)
Chromium (VI)	mg/kg	6	10	60.0%	0.41	0.44	0.18	0.48	0.33	0.12	YES	Yes	No	(8)(13)
Cobalt	mg/kg	10	10	100%	--	--	10.8	22.9	16	3.5	YES	No	Yes	(8)(14)
Copper	mg/kg	10	10	100%	--	--	20.6	56.1	32	11	YES	No	No	(8)(13)
Iron	mg/kg	10	10	100%	--	--	17000	28400	23000	4000	YES	No	No	(8)(12)
Lead	mg/kg	10	10	100%	--	--	9.9	66.2	21	17	YES	Yes	No	(11)
Lithium	mg/kg	10	10	100%	--	--	11.2	19.3	14	2.7	NO	No	No	(6)
Magnesium	mg/kg	10	10	100%	--	--	10200	16500	13000	2300	YES	No	No	(8)(12)
Manganese	mg/kg	10	10	100%	--	--	268	1020	640	220	YES	No	Yes	(8)(14)
Mercury	mg/kg	8	10	80.0%	0.0363	0.0371	0.0068	0.402	0.062	0.12	NO	No	No	(6)(13)
Molybdenum	mg/kg	0	10	0%	0.385	2.7	--	--	2	1.1	NO	No	No	(6)
Nickel	mg/kg	10	10	100%	--	--	18.6	38.7	26	5.8	YES	No	No	(8)(13)
Potassium	mg/kg	10	10	100%	--	--	1970	3200	2600	440	YES	No	No	(8)(12)(15)
Selenium	mg/kg	0	10	0%	0.225	2.8	--	--	1.2	1.3	NO	No	No	(4)(6)(13)
Silver	mg/kg	3	10	30.0%	1	1.1	0.089	10.4	1.8	3.1	YES	No	No	(8)(13)
Sodium	mg/kg	10	10	100%	--	--	535	1290	740	220	YES	No	No	(8)(12)(15)
Strontium	mg/kg	10	10	100%	--	--	231	623	360	130	YES	No	No	(8)(13)
Thallium	mg/kg	1	10	10.0%	0.105	1.1	1.2	1.2	0.49	0.45	NO	No	No	(6)
Tin	mg/kg	5	10	50.0%	0.75	1.1	1.1	28.7	4	8.7	YES	No	No	(8)(13)
Titanium	mg/kg	10	10	100%	--	--	753	1450	1100	240	YES	No	No	(8)(13)
Tungsten	mg/kg	1	10	10.0%	0.4105	2.8	2.9	2.9	2.5	0.72	YES	No	No	(8)(13)
Uranium	mg/kg	10	10	100%	--	--	0.77	2.1	1.4	0.38	YES	No	No	(8)(13)
Vanadium	mg/kg	10	10	100%	--	--	54.5	103	80	17	YES	No	Yes	(8)(14)
Zinc	mg/kg	10	10	100%	--	--	47.1	249	81	60	YES	No	No	(8)(13)
Organochlorine Pesticides														
2,4-DDD	mg/kg	1	133	0.8%	0.00014	0.0032	0.004	0.004	0.00038	0.00048	--	Yes	No	(4)(13)
2,4-DDE	mg/kg	15	133	11.3%	0.00013	0.0021	0.0019	0.029	0.0012	0.0038	--	Yes	No	(1)(5)(13)
4,4-DDD	mg/kg	1	133	0.8%	0.00009	0.00093	0.0023	0.0023	0.00013	0.00022	--	Yes	No	(4)(13)
4,4-DDE	mg/kg	28	133	21.1%	0.00019	0.002	0.0018	0.052	0.0024	0.0071	--	Yes	No	(1)(5)(13)
4,4-DDT	mg/kg	13	133	9.8%	0.0002	0.0021	0.0019	0.0093	0.00067	0.0015	--	Yes	No	(1)(5)(13)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Aldrin	mg/kg	0	133	0%	0.000092	0.00099	--	--	0.00012	0.00011	--	Yes	No	(2)
alpha-BHC	mg/kg	0	133	0%	0.000095	0.0029	--	--	0.00032	0.00033	--	No	No	(2)
alpha-Chlordane	mg/kg	0	133	0%	0.0001	0.0022	--	--	0.00025	0.00025	--	Yes	No	(2)
beta-BHC	mg/kg	13	133	9.8%	0.00013	0.0019	0.0018	0.035	0.0011	0.0039	--	No	No	(5)(13)
Chlordane	mg/kg	0	133	0%	0.0015	0.024	--	--	0.0028	0.0027	--	Yes	No	(2)
delta-BHC	mg/kg	0	133	0%	0.00011	0.0017	--	--	0.0002	0.00019	--	No	No	(2)
Dieldrin	mg/kg	0	133	0%	0.000092	0.00095	--	--	0.00011	0.00011	--	Yes	No	(2)
Endosulfan I	mg/kg	0	133	0%	0.000096	0.0011	--	--	0.00013	0.00013	--	No	No	(2)
Endosulfan II	mg/kg	0	133	0%	0.000094	0.00097	--	--	0.00012	0.00012	--	No	No	(2)
Endosulfan sulfate	mg/kg	0	133	0%	0.00013	0.0027	--	--	0.00031	0.00031	--	No	No	(2)
Endrin	mg/kg	0	133	0%	0.000084	0.00087	--	--	0.00011	0.0001	--	No	No	(2)
Endrin aldehyde	mg/kg	0	133	0%	0.00015	0.0019	--	--	0.00022	0.00022	--	No	No	(2)
Endrin ketone	mg/kg	0	133	0%	0.00013	0.0017	--	--	0.0002	0.00019	--	No	No	(2)
gamma-BHC (Lindane)	mg/kg	0	133	0%	0.0001	0.0013	--	--	0.00015	0.00015	--	No	No	(2)
gamma-Chlordane	mg/kg	0	133	0%	0.000084	0.00087	--	--	0.0001	0.0001	--	Yes	No	(2)
Heptachlor	mg/kg	0	133	0%	0.000096	0.0018	--	--	0.0002	0.0002	--	No	No	(2)
Heptachlor epoxide	mg/kg	0	133	0%	0.00012	0.0014	--	--	0.00016	0.00016	--	No	No	(2)
Methoxychlor	mg/kg	2	133	1.5%	0.00032	0.0033	0.0038	0.011	0.0005	0.001	--	No	No	(4)(13)
Toxaphene	mg/kg	0	133	0%	0.0057	0.061	--	--	0.0072	0.007	--	Yes	No	(2)
Polynuclear Aromatic Hydrocarbons														
Acenaphthene	mg/kg	0	129	0%	0.00167	0.00186	--	--	0.0017	0.00004	--	No	No	(2)
Acenaphthylene	mg/kg	1	129	0.8%	0.00167	0.00186	0.00315	0.00315	0.0018	0.00013	--	No	No	(4)(13)
Anthracene	mg/kg	1	129	0.8%	0.00167	0.00683	0.00375	0.00375	0.0018	0.00048	--	No	No	(4)(13)
Benzo(a)anthracene	mg/kg	19	129	14.7%	0.00168	0.00708	0.00177	0.0135	0.0024	0.002	--	No	Yes	(5)(13)(10)
Benzo(a)pyrene	mg/kg	13	129	10.1%	0.00167	0.00186	0.00183	0.0142	0.0022	0.002	--	Yes	Yes	(5)(14)
Benzo(b)fluoranthene	mg/kg	21	129	16.3%	0.00168	0.00708	0.00182	0.0576	0.0031	0.0058	--	No	Yes	(5)(13)(10)
Benzo(g,h,i)perylene	mg/kg	12	129	9.3%	0.00167	0.00186	0.00207	0.0212	0.0023	0.0022	--	No	No	(5)(13)
Benzo(k)fluoranthene	mg/kg	6	129	4.7%	0.00167	0.00186	0.00218	0.00747	0.0019	0.00085	--	No	Yes	(4)(13)(10)
Chrysene	mg/kg	12	129	9.3%	0.00167	0.016	0.00205	0.0128	0.0039	0.0046	--	No	Yes	(5)(13)(10)
Dibenzo(a,h)anthracene	mg/kg	1	129	0.8%	0.00167	0.00186	0.00279	0.00279	0.0018	0.0001	--	No	Yes	(4)(13)(10)
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9.3%	0.00167	0.00186	0.00183	0.0235	0.0022	0.0022	--	No	Yes	(5)(13)(10)
Phenanthrene	mg/kg	9	129	7.0%	0.00167	0.00186	0.00192	0.0114	0.002	0.0011	--	No	No	(5)(13)
Pyrene	mg/kg	17	129	13.2%	0.00168	0.00683	0.00198	0.0239	0.0025	0.0033	--	No	No	(5)(13)
Polychlorinated Biphenyls														
PCB 105	mg/kg	97	123	78.9%	4.2E-08	0.0000021	0.0000021	0.0027	0.00013	0.00034	--	Yes	No	(1)(3)
PCB 114	mg/kg	62	123	50.4%	4.1E-08	0.0000021	0.0000025	0.00011	0.000008	0.000014	--	Yes	No	(1)(3)
PCB 118	mg/kg	104	123	84.6%	3.8E-08	0.0000074	0.0000025	0.0047	0.00022	0.00053	--	Yes	No	(1)(3)
PCB 123	mg/kg	0	123	0%	4.2E-08	0.00003	--	--	0.000002	0.0000036	--	Yes	No	(1)(3)
PCB 126	mg/kg	43	123	35.0%	5.2E-08	0.0000021	0.0000022	0.00004	0.0000034	0.0000053	--	Yes	No	(1)(3)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
PCB 156	mg/kg	79	123	64.2%	2.7E-08	0.0000021	0.0000023	0.00074	0.000038	0.000088	--	Yes	No	(1)(3)
PCB 157	mg/kg	61	123	49.6%	2.7E-08	0.0000021	0.000002	0.00017	0.0000092	0.000022	--	Yes	No	(1)(3)
PCB 167	mg/kg	70	123	56.9%	3.2E-08	0.0000021	0.0000022	0.00026	0.000013	0.000029	--	Yes	No	(1)(3)
PCB 169	mg/kg	3	123	2.4%	4.3E-08	0.0000021	0.0000027	0.0000055	0.000001	9.9E-07	--	Yes	No	(1)(3)
PCB 189	mg/kg	49	123	39.8%	2.8E-08	0.0000021	0.0000022	0.000046	0.0000039	0.0000061	--	Yes	No	(1)(3)
PCB 209	mg/kg	96	123	78.0%	1.7E-08	0.0000021	0.000021	0.0049	0.00069	0.00094	--	Yes	No	(1)(3)
PCB 77	mg/kg	0	123	0%	4.5E-08	0.000026	--	--	0.0000027	0.000005	--	Yes	No	(1)(3)
PCB 81	mg/kg	0	123	0%	4.2E-08	0.000019	--	--	0.0000019	0.0000029	--	Yes	No	(1)(3)
Radionuclides														
Radium-226	pCi/g	119	132	90.2%	--	--	0.0949	2.39	0.92	0.35	NO	Yes	No	(1)(6)
Radium-228	pCi/g	126	132	95.5%	--	--	0.313	3.64	1.7	0.59	NO	Yes	No	(1)(6)
Thorium-228	pCi/g	131	132	99.2%	--	--	0.663	3.71	1.8	0.43	NO	Yes	No	(1)(6)
Thorium-230	pCi/g	118	132	89.4%	--	--	0.306	2.59	1	0.39	NO	Yes	No	(1)(6)
Thorium-232	pCi/g	132	132	100%	--	--	0.525	2.8	1.5	0.41	NO	Yes	No	(1)(6)
Uranium-233/234	pCi/g	125	132	94.7%	--	--	0.341	3.36	1.1	0.44	NO	Yes	No	(1)(6)
Uranium-235/236	pCi/g	11	132	8.3%	--	--	-0.19	0.412	0.075	0.092	NO	Yes	No	(1)(6)
Uranium-238	pCi/g	131	132	99.2%	--	--	0.371	2.24	0.99	0.31	NO	Yes	No	(1)(6)
Semi-Volatile Organic Compounds														
1,2,4,5-Tetrachlorobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
1,2-Diphenylhydrazine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
1,4-Dioxane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,2'-Dichlorobenzil	mg/kg	0	129	0%	0.0116	0.123	--	--	0.1	0.033	--	No	No	(2)
2,4,5-Trichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4,6-Trichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dichlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dimethylphenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2,4-Dinitrophenol	mg/kg	0	129	0%	0.127	0.141	--	--	0.13	0.0031	--	No	No	(2)
2,4-Dinitrotoluene	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
2,6-Dinitrotoluene	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
2-Chloronaphthalene	mg/kg	0	129	0%	0.0117	0.013	--	--	0.012	0.00029	--	No	No	(2)
2-Chlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2-Methylnaphthalene	mg/kg	0	129	0%	0.0067	0.00744	--	--	0.007	0.00016	--	No	No	(2)
2-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
2-Nitrophenol	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
3,3-Dichlorobenzidine	mg/kg	0	129	0%	0.1	0.112	--	--	0.1	0.0025	--	No	No	(2)
3-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
4-Bromophenyl phenyl ether	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
4-Chloro-3-methylphenol	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)
4-Chlorophenyl phenyl ether	mg/kg	0	129	0%	0.0335	0.0372	--	--	0.035	0.0008	--	No	No	(2)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
4-Chlorothioanisole	mg/kg	0	129	0%	0.0394	0.123	--	--	0.11	0.024	--	No	No	(2)
4-Nitroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
4-Nitrophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Acetophenone	mg/kg	1	129	0.8%	0.0335	0.0372	0.0478	0.0478	0.035	0.0014	--	No	No	(4)(13)
Aniline	mg/kg	0	129	0%	0.117	0.13	--	--	0.12	0.0029	--	No	No	(2)
Benzenethiol	mg/kg	0	129	0%	0.111	0.241	--	--	0.13	0.038	--	No	No	(2)
Benzoic acid	mg/kg	0	129	0%	0.167	0.706	--	--	0.18	0.047	--	No	No	(2)
Benzyl alcohol	mg/kg	0	124	0%	0.1	0.112	--	--	0.1	0.0024	--	No	No	(2)
bis(2-Chloroethoxy)methane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	Yes	No	(2)
bis(2-Chloroethyl) ether	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
bis(2-Chloroisopropyl) ether	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
bis(2-Ethylhexyl) phthalate	mg/kg	5	129	3.9%	0.067	0.18	0.0816	0.173	0.088	0.039	--	No	No	(4)(13)
bis(p-Chlorophenyl) sulfone	mg/kg	0	129	0%	0.00782	0.123	--	--	0.1	0.035	--	No	No	(2)
bis(p-Chlorophenyl)disulfide	mg/kg	0	129	0%	0.0292	0.123	--	--	0.11	0.027	--	No	No	(2)
Butylbenzyl phthalate	mg/kg	1	129	0.8%	0.067	0.0744	0.0722	0.0722	0.07	0.0016	--	No	No	(4)(13)
Carbazole	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Dibenzofuran	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Dichloromethyl ether	mg/kg	0	129	0%	0.111	0.123	--	--	0.12	0.0026	--	No	No	(2)
Diethyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Dimethyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Di-n-butyl phthalate	mg/kg	2	129	1.6%	0.0335	0.0372	0.0448	0.0878	0.035	0.0048	--	No	No	(4)(13)
Di-n-octyl phthalate	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Diphenyl disulfide	mg/kg	0	129	0%	0.0275	0.123	--	--	0.11	0.028	--	No	No	(2)
Diphenyl sulfide	mg/kg	0	129	0%	0.0285	0.123	--	--	0.11	0.028	--	No	No	(2)
Diphenyl sulfone	mg/kg	0	129	0%	0.018	0.123	--	--	0.1	0.031	--	No	No	(2)
Diphenylamine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Fluoranthene	mg/kg	7	129	5.4%	0.01	0.0112	0.0134	0.099	0.012	0.0085	--	No	No	(5)(13)
Fluorene	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Hexachlorobenzene	mg/kg	1	129	0.8%	0.067	0.0744	0.078	0.078	0.07	0.0018	--	Yes	Yes	(4)(14)
Hexachlorobutadiene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hexachlorocyclopentadiene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hexachloroethane	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Hydroxymethyl phthalimide	mg/kg	0	129	0%	0.0506	0.123	--	--	0.11	0.02	--	No	No	(2)
Isophorone	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
m,p-Cresols	mg/kg	0	129	0%	0.134	0.149	--	--	0.14	0.0033	--	No	No	(2)
Naphthalene	mg/kg	0	129	0%	0.01	0.0112	--	--	0.01	0.00025	--	No	No	(2)
Nitrobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
N-nitrosodi-n-propylamine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	Yes	No	(2)
o-Cresol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
Octachlorostyrene	mg/kg	0	129	0%	0.0194	0.123	--	--	0.1	0.031	--	No	No	(2)
p-Chloroaniline	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
p-Chlorobenzenethiol	mg/kg	0	129	0%	0.111	0.241	--	--	0.13	0.038	--	No	No	(2)
Pentachlorobenzene	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Pentachlorophenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Phenol	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Phthalic acid	mg/kg	1	129	0.8%	0.0201	0.123	0.494	0.494	0.11	0.045	--	No	No	(4)(13)
Pyridine	mg/kg	0	129	0%	0.067	0.0744	--	--	0.07	0.0016	--	No	No	(2)
Volatile Organic Compounds														
1,1,1,2-Tetrachloroethane	mg/kg	0	132	0%	0.00018	0.00041	--	--	0.00021	0.000065	--	No	No	(2)
1,1,1-Trichloroethane	mg/kg	0	132	0%	0.00011	0.00025	--	--	0.00013	0.000043	--	No	No	(2)
1,1,2,2-Tetrachloroethane	mg/kg	0	131	0%	0.000079	0.00048	--	--	0.00013	0.00012	--	No	No	(2)
1,1,2-Trichloroethane	mg/kg	0	132	0%	0.000067	0.00039	--	--	0.00011	0.000096	--	No	No	(2)
1,1-Dichloroethane	mg/kg	0	132	0%	0.00007	0.0004	--	--	0.00011	0.000098	--	No	No	(2)
1,1-Dichloroethene	mg/kg	0	132	0%	0.00012	0.00025	--	--	0.00014	0.000038	--	No	No	(2)
1,1-Dichloropropene	mg/kg	0	132	0%	0.000088	0.00024	--	--	0.00011	0.000043	--	No	No	(2)
1,2,3-Trichlorobenzene	mg/kg	0	131	0%	0.00039	0.00049	--	--	0.00041	0.00002	--	No	No	(2)
1,2,3-Trichloropropane	mg/kg	0	131	0%	0.00025	0.00052	--	--	0.00029	0.000076	--	No	No	(2)
1,2,4-Trichlorobenzene	mg/kg	0	131	0%	0.00031	0.00037	--	--	0.00034	0.000013	--	No	No	(2)
1,2,4-Trimethylbenzene	mg/kg	5	131	3.8%	0.00013	0.0057	0.00017	0.0051	0.0024	0.0025	--	No	No	(4)(13)
1,2-Dichlorobenzene	mg/kg	2	131	1.5%	0.00012	0.0052	0.00018	0.0002	0.00023	0.00062	--	No	No	(4)(13)
1,2-Dichloroethane	mg/kg	0	132	0%	0.000066	0.00035	--	--	0.0001	0.000085	--	No	No	(2)
1,2-Dichloroethene	mg/kg	0	132	0%	0.00011	0.00067	--	--	0.00018	0.00017	--	No	No	(2)
1,2-Dichloropropane	mg/kg	0	132	0%	0.00011	0.0004	--	--	0.00015	0.000085	--	No	No	(2)
1,3,5-Trichlorobenzene	mg/kg	0	131	0%	0.00037	0.00055	--	--	0.0004	0.000043	--	No	No	(2)
1,3,5-Trimethylbenzene	mg/kg	2	131	1.5%	0.000098	0.0051	0.00068	0.0008	0.00017	0.00044	--	No	No	(4)(13)
1,3-Dichlorobenzene	mg/kg	1	131	0.8%	0.00013	0.00047	0.00016	0.00016	0.00018	0.0001	--	No	No	(4)(13)
1,3-Dichloropropane	mg/kg	0	132	0%	0.000051	0.00044	--	--	0.000098	0.00012	--	No	No	(2)
1,4-Dichlorobenzene	mg/kg	0	131	0%	0.00014	0.00033	--	--	0.00016	0.000056	--	No	No	(2)
2,2,3-Trimethylbutane	mg/kg	0	132	0%	0.00021	0.00057	--	--	0.00026	0.0001	--	No	No	(2)
2,2-Dichloropropane	mg/kg	0	132	0%	0.00023	0.00033	--	--	0.00025	0.000023	--	No	No	(2)
2,2-Dimethylpentane	mg/kg	0	132	0%	0.00028	0.00057	--	--	0.00032	0.000081	--	No	No	(2)
2,3-Dimethylpentane	mg/kg	0	132	0%	0.00023	0.00047	--	--	0.00026	0.000068	--	No	No	(2)
2,4-Dimethylpentane	mg/kg	0	132	0%	0.00019	0.00052	--	--	0.00024	0.000095	--	No	No	(2)
2-Chlorotoluene	mg/kg	0	131	0%	0.00025	0.00036	--	--	0.00027	0.000028	--	No	No	(2)
2-Hexanone	mg/kg	0	132	0%	0.00024	0.0003	--	--	0.00025	0.000013	--	No	No	(2)
2-Methylhexane	mg/kg	0	132	0%	0.0002	0.00054	--	--	0.00025	0.000098	--	No	No	(2)
2-Nitropropane	mg/kg	0	132	0%	0.00032	0.00068	--	--	0.00059	0.0001	--	No	No	(2)
3,3-Dimethylpentane	mg/kg	0	132	0%	0.0002	0.00051	--	--	0.00025	0.000089	--	No	No	(2)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
3-Ethylpentane	mg/kg	0	132	0%	0.00021	0.00048	--	--	0.00025	0.000076	--	No	No	(2)
3-Methylhexane	mg/kg	0	132	0%	0.00014	0.0005	--	--	0.00019	0.00011	--	No	No	(2)
4-Chlorotoluene	mg/kg	0	131	0%	0.00017	0.00027	--	--	0.00019	0.000024	--	No	No	(2)
4-Methyl-2-pentanone (MIBK)	mg/kg	0	132	0%	0.00029	0.00033	--	--	0.0003	0.000008	--	No	No	(2)
Acetone	mg/kg	36	132	27.3%	0.0017	0.023	0.0023	0.072	0.0071	0.0097	--	No	No	(5)(13)
Acetonitrile	mg/kg	0	132	0%	0.0035	0.0061	--	--	0.0054	0.00072	--	No	No	(2)
Benzene	mg/kg	0	132	0%	0.000088	0.00035	--	--	0.00012	0.000079	--	Yes	No	(2)
Bromobenzene	mg/kg	0	131	0%	0.00012	0.0004	--	--	0.00016	0.000084	--	No	No	(2)
Bromodichloromethane	mg/kg	0	132	0%	0.00021	0.00034	--	--	0.00024	0.000032	--	No	No	(2)
Bromoform	mg/kg	0	132	0%	0.000059	0.00044	--	--	0.00011	0.00012	--	No	No	(2)
Bromomethane	mg/kg	0	132	0%	0.00013	0.00043	--	--	0.00017	0.000087	--	No	No	(2)
Carbon disulfide	mg/kg	0	132	0%	0.00012	0.0003	--	--	0.00015	0.000051	--	No	No	(2)
Carbon tetrachloride	mg/kg	0	132	0%	0.00021	0.00033	--	--	0.00023	0.000032	--	No	No	(2)
Chlorobenzene	mg/kg	0	132	0%	0.00011	0.00032	--	--	0.00014	0.000063	--	No	No	(2)
Chlorobromomethane	mg/kg	0	132	0%	0.00023	0.00047	--	--	0.00026	0.000068	--	No	No	(2)
Chloroethane	mg/kg	0	132	0%	0.00031	0.00052	--	--	0.00046	0.000057	--	No	No	(2)
Chloroform	mg/kg	0	132	0%	0.0001	0.00038	--	--	0.00014	0.000084	--	No	No	(2)
Chloromethane	mg/kg	0	132	0%	0.00027	0.0003	--	--	0.00028	0.000007	--	No	No	(2)
cis-1,2-Dichloroethene	mg/kg	0	132	0%	0.000054	0.00036	--	--	0.000091	0.000092	--	No	No	(2)
cis-1,3-Dichloropropene	mg/kg	0	132	0%	0.0001	0.00025	--	--	0.00012	0.000045	--	No	No	(2)
Cymene (Isopropyltoluene)	mg/kg	0	131	0%	0.00012	0.00028	--	--	0.00015	0.000043	--	No	No	(2)
Dibromochloromethane	mg/kg	0	132	0%	0.00012	0.00031	--	--	0.00014	0.000055	--	No	No	(2)
Dibromochloropropane	mg/kg	0	131	0%	0.00021	0.00064	--	--	0.00027	0.00013	--	No	No	(2)
Dibromomethane	mg/kg	0	132	0%	0.00017	0.00037	--	--	0.0002	0.000058	--	No	No	(2)
Dichloromethane (Methylene chloride)	mg/kg	4	132	3.0%	0.00069	0.025	0.0052	0.0097	0.0062	0.006	--	No	No	(4)(13)
Dimethyldisulfide	mg/kg	0	132	0%	0.00018	0.00051	--	--	0.00022	0.000098	--	No	No	(2)
Ethanol	mg/kg	0	132	0%	0.048	0.066	--	--	0.051	0.0044	--	No	No	(2)
Ethylbenzene	mg/kg	2	132	1.5%	0.000059	0.0057	0.000088	0.00077	0.00029	0.001	--	No	No	(4)(13)
Freon-11 (Trichlorofluoromethane)	mg/kg	1	132	0.8%	0.00022	0.00033	0.001	0.001	0.00024	0.000072	--	No	No	(4)(13)
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	mg/kg	0	132	0%	0.00015	0.00027	--	--	0.00016	0.000033	--	No	No	(2)
Freon-12 (Dichlorodifluoromethane)	mg/kg	0	132	0%	0.00025	0.00033	--	--	0.0003	0.000018	--	No	No	(2)
Heptane	mg/kg	0	132	0%	0.00016	0.0004	--	--	0.0002	0.000068	--	No	No	(2)
Isopropylbenzene	mg/kg	0	132	0%	0.0001	0.0003	--	--	0.00013	0.000059	--	No	No	(2)
m,p-Xylene	mg/kg	1	132	0.8%	0.00017	0.0051	0.002	0.002	0.00026	0.00046	--	No	No	(4)(13)
Methyl ethyl ketone (2-Butanone)	mg/kg	4	132	3.0%	0.00057	0.00099	0.004	0.012	0.0011	0.0012	--	No	No	(4)(13)
Methyl iodide	mg/kg	0	132	0%	0.00012	0.00041	--	--	0.00016	0.000086	--	No	No	(2)
MTBE (Methyl tert-butyl ether)	mg/kg	0	132	0%	0.00009	0.0005	--	--	0.00014	0.00012	--	No	No	(2)
n-Butylbenzene	mg/kg	0	131	0%	0.00018	0.00032	--	--	0.0002	0.000037	--	No	No	(2)
Nonanal	mg/kg	0	131	0%	0.00036	0.00053	--	--	0.00048	0.000042	--	No	No	(2)

TABLE 5-5c
SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation	Greater than Background?	PBT(1) or Class A Carcinogen?	COPC?	Rationale
n-Propylbenzene	mg/kg	1	131	0.8%	0.00011	0.00029	0.00041	0.00041	0.00014	0.000059	--	No	No	(4)(13)
o-Xylene	mg/kg	3	132	2.3%	0.000077	0.0057	0.00016	0.0051	0.00023	0.00079	--	No	No	(4)(13)
sec-Butylbenzene	mg/kg	0	131	0%	0.00011	0.00035	--	--	0.00014	0.000072	--	No	No	(2)
Styrene	mg/kg	0	132	0%	0.00017	0.00022	--	--	0.00019	0.00001	--	No	No	(2)
tert-Butylbenzene	mg/kg	0	131	0%	0.0001	0.00024	--	--	0.00012	0.000042	--	No	No	(2)
Tetrachloroethene	mg/kg	1	132	0.8%	0.000088	0.0005	0.0007	0.0007	0.00014	0.00013	--	No	No	(4)(13)
Toluene	mg/kg	1	132	0.8%	0.00024	0.0051	0.0018	0.0018	0.00041	0.0006	--	No	No	(4)(13)
trans-1,2-Dichloroethene	mg/kg	0	132	0%	0.000091	0.00036	--	--	0.00012	0.000081	--	No	No	(2)
trans-1,3-Dichloropropene	mg/kg	0	132	0%	0.0001	0.00019	--	--	0.00011	0.000025	--	No	No	(2)
Trichloroethene	mg/kg	0	132	0%	0.0001	0.00028	--	--	0.00013	0.000052	--	No	No	(2)
Vinyl acetate	mg/kg	0	131	0%	0.00024	0.00041	--	--	0.00027	0.000045	--	No	No	(2)
Vinyl chloride	mg/kg	0	132	0%	0.00011	0.00035	--	--	0.00014	0.000069	--	No	No	(2)
Xylenes (total)	mg/kg	1	132	0.8%	0.00023	0.00069	0.0027	0.0027	0.00031	0.00025	--	No	No	(4)(13)

mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram
ppt - parts per trillion
-- - Not available or not applicable.
ND - Not detected.
Highlight indicates selected as COPC.

(1) Persistent, Bioaccumulative, and Toxic (PBT) Program.
(2) Not detected.
(3) Dioxin and PCB congeners are not evaluated separately. Dioxin and PCB congeners are evaluated as TCDD TEQs. The maximum TCDD TEQ was less than the 50 ppt residential BCL.
(4) Chemical detected in less than 5 percent of the samples and is not a PBT or Class A carcinogen.
(5) Chemical detected in greater than 5 percent of samples.
(6) Chemical concentrations are equivalent to background.
(7) Chemical detected in less than 5 percent of the samples, but is a PBT or Class A carcinogen.
(8) Based on statistical tests, Site concentrations are elevated compared to background.
(9) No toxicity criteria or applicable surrogate criteria are available.
(10) At least one carcinogenic polynuclear aromatic hydrocarbon (PAH) is a COPC, therefore all carcinogenic PAHs are COPCs.
(11) Lead was not selected as a COPC because the maximum concentration is below 400 mg/kg.
(12) USEPA (1989) states that “Chemicals that are (1) essential human nutrients, (2) present at low concentrations (i.e., only slightly elevated above naturally occurring levels), and (3) toxic only at very high doses (i.e., much higher than those that could be associated with contact at the site) need not be considered further in the quantitative risk assessment. Examples of such chemicals are iron, magnesium, calcium, potassium, and sodium.”
(13) Maximum detected site concentration below one-tenth residential BCL.
(14) Maximum detected site concentration greater than one-tenth residential BCL.
(15) Chemical has no BCL.

TABLE 6-1a
EXPOSURE POINT CONCENTRATIONS IN SOIL - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation
Aldehydes										
Formaldehyde	mg/kg	64	115	56%	0.101	1.08	0.11	2.52	0.40	0.39
Inorganics										
Aluminum	mg/kg	126	126	100%	NA	NA	7900	18400	11640	2154
Ammonia (as N)	mg/kg	33	133	25%	0.78	102	0.24	30.8	1.3	5.1
Cobalt	mg/kg	126	126	100%	NA	NA	4.8	19.7	10.4	2.0
Manganese	mg/kg	126	126	100%	NA	NA	240	1260	519	148
Perchlorate	mg/kg	92	129	71%	0.0101	0.011	0.013	8.9	0.49	1.2
Vanadium	mg/kg	126	126	100%	NA	NA	27.3	71.4	48.5	7.7
Semi-Volatile Organic Compounds										
Hexachlorobenzene	mg/kg	1	129	1%	0.067	0.0744	0.078	0.078	0.035	0.0039
Polynuclear Aromatic Hydrocarbons										
Benzo(a)anthracene	mg/kg	19	129	15%	0.00168	0.00708	0.00177	0.0135	0.0015	0.0020
Benzo(a)pyrene	mg/kg	13	129	10%	0.00167	0.00186	0.00183	0.0142	0.0014	0.0022
Benzo(b)fluoranthene	mg/kg	21	129	16%	0.00168	0.00708	0.00182	0.0576	0.0023	0.0060
Benzo(k)fluoranthene	mg/kg	6	129	5%	0.00167	0.00186	0.00218	0.00747	0.0011	0.0010
Chrysene	mg/kg	12	129	9%	0.00167	0.016	0.00205	0.0128	0.0022	0.0027
Dibenzo(a,h)anthracene	mg/kg	1	129	1%	0.00167	0.00186	0.00279	0.00279	0.00089	0.00017
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9%	0.00167	0.00186	0.00183	0.0235	0.0014	0.0023

(1) The EPC is either the maximum of the 95 UCLs unless it exceeds the maximum detection concentration, then it is the maximum detected concentration.

EPC - Exposure point concentration.

UCL - Upper Confidence Limit

NA - Not applicable. For the sub-areas UCLs for metals were calculated only for all data.

TABLE 6-1a
EXPOSURE POINT CONCENTRATIONS IN SOIL - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	95% UCL_All	95%UCL_Fill	95% UCL_Surface	95%UCL_All - Fill	EPC[1]
				Aldehydes		
Formaldehyde	mg/kg	0.46	0.60	0.52	0.43	0.60
				Inorganics		
Aluminum	mg/kg	11950	12120	12040	11840	12120
Ammonia (as N)	mg/kg	2.6	4.3	4.2	2.8	4.3
Cobalt	mg/kg	10.7	11.0	11.4	10.8	11.4
Manganese	mg/kg	541	617	595	541	617
Perchlorate	mg/kg	0.73	0.89	0.45	0.59	0.89
Vanadium	mg/kg	49.7	50.5	51.7	50.0	51.7
				Semi-Volatile Organic Compounds		
Hexachlorobenzene	mg/kg	0.036	0.034	0.038	0.037	0.038
				Polynuclear Aromatic Hydrocarbons		
Benzo(a)anthracene	mg/kg	0.0019	0.0026	0.0024	0.0019	0.0026
Benzo(a)pyrene	mg/kg	0.0018	0.0027	0.0024	0.0018	0.0027
Benzo(b)fluoranthene	mg/kg	0.0039	0.0064	0.0037	0.0027	0.0064
Benzo(k)fluoranthene	mg/kg	0.0013	0.0016	0.0015	0.0013	0.0016
Chrysene	mg/kg	0.0026	0.0028	0.0030	0.0027	0.0030
Dibenzo(a,h)anthracene	mg/kg	0.00094	0.0010	0.00087	0.00088	0.0010
Indeno(1,2,3-cd)pyrene	mg/kg	0.0019	0.0031	0.0018	0.0015	0.0031

(1) The EPC is either the maximum of the 95 UCLs unless it exceeds the maximum detection concentration, then it is the maximum detected concentration.

EPC - Exposure point concentration.

UCL - Upper Confidence Limit

NA - Not applicable. For the sub-areas UCLs for metals were calculated only for all data.

TABLE 6-1b
EXPOSURE POINT CONCENTRATIONS IN SOIL - SRC-J02/J03
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHER RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation
Aldehydes										
Formaldehyde	mg/kg	64	115	56%	0.101	1.08	0.11	2.52	0.40	0.39
Inorganics										
Aluminum	mg/kg	28	28	100%	NA	NA	10700	18100	14760	2533
Ammonia (as N)	mg/kg	33	133	25%	0.78	102	0.24	30.8	1.3	5.1
Cobalt	mg/kg	28	28	100%	NA	NA	9.2	20.8	13.7	2.9
Manganese	mg/kg	28	28	100%	NA	NA	417	1110	719	167
Perchlorate	mg/kg	92	129	71%	0.0101	0.011	0.013	8.9	0.49	1.2
Vanadium	mg/kg	28	28	100%	NA	NA	39.5	108	72.9	16.7
Semi-Volatile Organic Compounds										
Hexachlorobenzene	mg/kg	1	129	1%	0.067	0.0744	0.078	0.078	0.035	0.0039
Polynuclear Aromatic Hydrocarbons										
Benzo(a)anthracene	mg/kg	19	129	15%	0.00168	0.00708	0.00177	0.0135	0.0015	0.0020
Benzo(a)pyrene	mg/kg	13	129	10%	0.00167	0.00186	0.00183	0.0142	0.0014	0.0022
Benzo(b)fluoranthene	mg/kg	21	129	16%	0.00168	0.00708	0.00182	0.0576	0.0023	0.0060
Benzo(k)fluoranthene	mg/kg	6	129	5%	0.00167	0.00186	0.00218	0.00747	0.0011	0.0010
Chrysene	mg/kg	12	129	9%	0.00167	0.016	0.00205	0.0128	0.0022	0.0027
Dibenzo(a,h)anthracene	mg/kg	1	129	1%	0.00167	0.00186	0.00279	0.00279	0.00089	0.00017
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9%	0.00167	0.00186	0.00183	0.0235	0.0014	0.0023

(1) The EPC is either the maximum of the 95 UCLs unless it exceeds the maximum detection concentration, then it is the maximum detected concentration.

EPC - Exposure point concentration.

UCL - Upper Confidence Limit

NA - Not applicable. For the sub-areas UCLs for metals were calculated only for all data.

TABLE 6-1b
EXPOSURE POINT CONCENTRATIONS IN SOIL - SRC-J02/J03
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHER RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 2)

Chemical	Units	95% UCL_All	95%UCL_Fill	95% UCL_Surface	95%UCL_All - Fill	EPC[1]
		Aldehydes				
Formaldehyde	mg/kg	0.46	0.60	0.52	0.43	0.60
		Inorganics				
Aluminum	mg/kg	15580	16100	15820	15580	16100
Ammonia (as N)	mg/kg	2.6	4.3	4.2	2.8	4.3
Cobalt	mg/kg	14.6	15.1	14.8	14.6	15.1
Manganese	mg/kg	774	809	791	775	809
Perchlorate	mg/kg	0.73	0.89	0.45	0.59	0.89
Vanadium	mg/kg	78.3	82.3	79.9	78.2	82.3
		Semi-Volatile Organic Compounds				
Hexachlorobenzene	mg/kg	0.036	0.034	0.038	0.037	0.038
		Polynuclear Aromatic Hydrocarbons				
Benzo(a)anthracene	mg/kg	0.0019	0.0026	0.0024	0.0019	0.0026
Benzo(a)pyrene	mg/kg	0.0018	0.0027	0.0024	0.0018	0.0027
Benzo(b)fluoranthene	mg/kg	0.0039	0.0064	0.0037	0.0027	0.0064
Benzo(k)fluoranthene	mg/kg	0.0013	0.0016	0.0015	0.0013	0.0016
Chrysene	mg/kg	0.0026	0.0028	0.0030	0.0027	0.0030
Dibenzo(a,h)anthracene	mg/kg	0.00094	0.0010	0.00087	0.00088	0.0010
Indeno(1,2,3-cd)pyrene	mg/kg	0.0019	0.0031	0.0018	0.0015	0.0031

(1) The EPC is either the maximum of the 95 UCLs unless it exceeds the maximum detection concentration, then it is the maximum detected concentration.

EPC - Exposure point concentration.

UCL - Upper Confidence Limit

NA - Not applicable. For the sub-areas UCLs for metals were calculated only for all data.

TABLE 6-1c
EXPOSURE POINT CONCENTRATIONS IN SOIL - SRC-J21
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Chemical	Units	Number of Detects	Total Count	Detect Freq.	Min ND	Max ND	Min Detect	Max Detect	Mean	Standard Deviation
Aldehydes										
Formaldehyde	mg/kg	64	115	56%	0.101	1.08	0.11	2.52	0.40	0.39
Inorganics										
Aluminum	mg/kg	10	10	100%	NA	NA	12600	18400	15370	1972
Ammonia (as N)	mg/kg	33	133	25%	0.78	102	0.24	30.8	1.3	5.1
Cobalt	mg/kg	10	10	100%	NA	NA	10.8	22.9	15.8	3.5
Manganese	mg/kg	10	10	100%	NA	NA	268	1020	640	215
Perchlorate	mg/kg	92	129	71%	0.0101	0.011	0.013	8.9	0.49	1.2
Vanadium	mg/kg	10	10	100%	NA	NA	54.5	103	80.0	17.0
Semi-Volatile Organic Compounds										
Hexachlorobenzene	mg/kg	1	129	1%	0.067	0.0744	0.078	0.078	0.035	0.0039
Polynuclear Aromatic Hydrocarbons										
Benzo(a)anthracene	mg/kg	19	129	15%	0.00168	0.00708	0.00177	0.0135	0.0015	0.0020
Benzo(a)pyrene	mg/kg	13	129	10%	0.00167	0.00186	0.00183	0.0142	0.0014	0.0022
Benzo(b)fluoranthene	mg/kg	21	129	16%	0.00168	0.00708	0.00182	0.0576	0.0023	0.0060
Benzo(k)fluoranthene	mg/kg	6	129	5%	0.00167	0.00186	0.00218	0.00747	0.0011	0.0010
Chrysene	mg/kg	12	129	9%	0.00167	0.016	0.00205	0.0128	0.0022	0.0027
Dibenzo(a,h)anthracene	mg/kg	1	129	1%	0.00167	0.00186	0.00279	0.00279	0.00089	0.00017
Indeno(1,2,3-cd)pyrene	mg/kg	12	129	9%	0.00167	0.00186	0.00183	0.0235	0.0014	0.0023

(1) The EPC is either the maximum of the 95 UCLs unless it exceeds the maximum detection concentration, then it is the maximum detected concentration.

EPC - Exposure point concentration.

UCL - Upper Confidence Limit

NA - Not applicable. For the sub-areas UCLs for metals were calculated only for all data.

TABLE 6-1c
EXPOSURE POINT CONCENTRATIONS IN SOIL - SRC-J21
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	95% UCL_All	95%UCL_Fill	95% UCL_Surface	95%UCL_All - Fill	EPC[1]
				Aldehydes		
Formaldehyde	mg/kg	0.46	0.60	0.52	0.43	0.60
				Inorganics		
Aluminum	mg/kg	16510	17120	16510	16510	17120
Ammonia (as N)	mg/kg	2.6	4.3	4.2	2.8	4.3
Cobalt	mg/kg	17.8	17.4	17.9	17.8	17.9
Manganese	mg/kg	765	891	765	765	891
Perchlorate	mg/kg	0.73	0.89	0.45	0.59	0.89
Vanadium	mg/kg	89.9	99.9	89.9	89.9	99.9
				Semi-Volatile Organic Compounds		
Hexachlorobenzene	mg/kg	0.036	0.034	0.038	0.037	0.038
				Polynuclear Aromatic Hydrocarbons		
Benzo(a)anthracene	mg/kg	0.0019	0.0026	0.0024	0.0019	0.0026
Benzo(a)pyrene	mg/kg	0.0018	0.0027	0.0024	0.0018	0.0027
Benzo(b)fluoranthene	mg/kg	0.0039	0.0064	0.0037	0.0027	0.0064
Benzo(k)fluoranthene	mg/kg	0.0013	0.0016	0.0015	0.0013	0.0016
Chrysene	mg/kg	0.0026	0.0028	0.0030	0.0027	0.0030
Dibenzo(a,h)anthracene	mg/kg	0.00094	0.0010	0.00087	0.00088	0.0010
Indeno(1,2,3-cd)pyrene	mg/kg	0.0019	0.0031	0.0018	0.0015	0.0031

(1) The EPC is either the maximum of the 95 UCLs unless it exceeds the maximum detection concentration, then it is the maximum detected concentration.

EPC - Exposure point concentration.

UCL - Upper Confidence Limit

NA - Not applicable. For the sub-areas UCLs for metals were calculated only for all data.

TABLE 6-2
ASBESTOS RESULTS AND ANALYTICAL SENSITIVITIES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

					Concentration Protocol Structures(1)		Number of Protocol Structures(2)			
					Chrysotile	Amphibole	Chrysotile		Amphibole	
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Analytical Sensitivity (10^6 s/gPM$_{10}$)	(10^6 s/gPM$_{10}$)	(10^6 s/gPM$_{10}$)	Total	Long	Total	Long
SRC1-AG16	0	NORM	10/3/08	2.983	< 8.919 E+6	< 8.919 E+6	0	0	0	0
SRC1-AG17	0	NORM	10/3/08	2.990	1.417 E+7	< 8.939 E+6	1	1	0	0
SRC1-AG18	0	NORM	10/2/08	2.987	< 8.930 E+6	< 8.930 E+6	0	0	0	0
SRC1-AG18	0	FD	10/2/08	2.975	< 8.894 E+6	< 8.894 E+6	0	0	0	0
SRC1-AH15	0	NORM	10/3/08	2.986	< 8.928 E+6	< 8.928 E+6	0	0	0	0
SRC1-AH17	0	NORM	10/3/08	2.979	< 8.908 E+6	< 8.908 E+6	0	0	0	0
SRC1-AH18	0	NORM	10/2/08	2.998	< 8.963 E+6	< 8.963 E+6	0	0	0	0
SRC1-AH19	0	NORM	10/2/08	2.988	< 8.934 E+6	< 8.934 E+6	0	0	0	0
SRC1-AI17	0	NORM	10/2/08	2.978	1.412 E+7	< 8.904 E+6	1	1	0	0
SRC1-AI20	0	NORM	10/2/08	2.975	< 8.894 E+6	< 8.894 E+6	0	0	0	0
SRC1-AJ18	0	NORM	10/2/08	2.969	1.407 E+7	< 8.876 E+6	1	1	1	0
SRC1-AJ19	0	NORM	10/2/08	2.992	< 8.946 E+6	< 8.946 E+6	0	0	0	0
SRC1-AJ20	0	NORM	10/2/08	2.976	< 8.899 E+6	< 8.899 E+6	0	0	0	0
SRC1-AJ21	0	NORM	10/2/08	2.990	< 8.939 E+6	< 8.939 E+6	0	0	0	0
SRC1-AJ22	0	NORM	10/2/08	2.990	< 8.939 E+6	< 8.939 E+6	0	0	0	0
SRC1-AJ23	0	NORM	10/2/08	2.991	< 8.944 E+6	< 8.944 E+6	0	0	0	0
SRC1-AJ24	0	NORM	10/2/08	2.988	< 8.934 E+6	< 8.934 E+6	0	0	0	0
SRC1-AJ25	0	NORM	10/2/08	2.966	< 8.869 E+6	< 8.869 E+6	0	0	0	0
SRC1-AJ26	0	NORM	10/1/08	2.995	< 8.955 E+6	< 8.955 E+6	0	0	0	0
SRC1-AJ27	0	NORM	10/1/08	2.821	< 8.433 E+6	< 8.433 E+6	0	0	0	0
SRC1-AJ28	0	NORM	10/1/08	2.975	< 8.896 E+6	< 8.896 E+6	0	0	0	0
SRC1-AK20	0	NORM	11/26/08	2.803	2.173 E+7	< 8.382 E+6	4	3	0	0
SRC1-AK21	0	NORM	10/2/08	2.978	1.876 E+7	< 8.904 E+6	9	2	0	0
SRC1-AK21	0	FD	10/2/08	2.820	< 8.432 E+6	< 8.432 E+6	0	0	0	0
SRC1-AK23	0	NORM	10/2/08	2.979	< 8.908 E+6	< 8.908 E+6	0	0	0	0
SRC1-AK24	0	NORM	10/2/08	2.991	< 8.944 E+6	< 8.944 E+6	0	0	0	0
SRC1-AK25	0	NORM	10/2/08	2.986	< 8.927 E+6	< 8.927 E+6	0	0	0	0
SRC1-AK26	0	NORM	10/1/08	2.991	< 8.944 E+6	< 8.944 E+6	0	0	0	0
SRC1-AK27	0	NORM	10/1/08	2.985	< 8.926 E+6	< 8.926 E+6	0	0	0	0
SRC1-AL24	0	NORM	10/2/08	2.983	< 8.919 E+6	< 8.919 E+6	0	0	0	0
SRC1-AL26	0	NORM	10/1/08	2.913	< 8.711 E+6	< 8.711 E+6	0	0	0	0
SRC1-AL28	0	NORM	10/1/08	2.969	< 8.876 E+6	< 8.876 E+6	0	0	0	0
SRC1-AM27	0	NORM	10/1/08	2.972	< 8.887 E+6	< 8.887 E+6	0	0	0	0
SRC1-AM28	0	NORM	10/1/08	2.993	< 8.950 E+6	< 8.950 E+6	0	0	0	0
SRC1-AM28	0	FD	10/1/08	2.992	< 8.946 E+6	< 8.946 E+6	0	0	0	0
SRC1-AN28	0	NORM	10/1/08	2.995	< 8.955 E+6	< 8.955 E+6	0	0	0	0
SRC1-J01	0	NORM	11/26/08	2.969	2.078 E+7	< 8.877 E+6	11	7	0	0

TABLE 6-2
ASBESTOS RESULTS AND ANALYTICAL SENSITIVITIES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 2)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Analytical Sensitivity (10^6 s/gPM$_{10}$)	Concentration Protocol Structures[1]		Number of Protocol Structures[2]			
					Chrysotile (10^6 s/gPM$_{10}$)	Amphibole (10^6 s/gPM$_{10}$)	Chrysotile		Amphibole	
							Total	Long	Total	Long
SRC1-J02	0	NORM	11/26/08	2.998	< 8.963 E+6	< 8.963 E+6	0	0	0	0
SRC1-J02	0	FD	11/26/08	2.981	1.413 E+7	< 8.912 E+6	2	1	0	0
SRC1-J03	0	NORM	11/26/08	2.997	1.888 E+7	< 8.961 E+6	3	2	0	0
SRC1-J07	0	NORM	11/26/08	2.981	< 8.912 E+6	< 8.912 E+6	0	0	0	0
SRC1-J09	0	NORM	11/26/08	2.960	< 8.851 E+6	< 8.851 E+6	0	0	0	0
SRC1-J10	0	NORM	11/26/08	2.979	< 8.908 E+6	< 8.908 E+6	5	0	0	0
SRC1-J12	0	NORM	11/26/08	2.961	< 8.854 E+6	< 8.854 E+6	0	0	0	0
SRC1-J13	0	NORM	11/26/08	2.973	< 1.094 E+7	< 1.094 E+7	0	0	0	0
SRC1-J14	0	NORM	11/26/08	2.969	1.407 E+7	< 8.877 E+6	1	1	0	0
SRC1-J15	0	NORM	11/26/08	2.975	< 8.894 E+6	< 8.894 E+6	0	0	0	0
SRC2-AH16E	0	NORM	9/16/09	2.967	< 8.920 E+6	< 8.920 E+6	0	0	0	0
SRC2-AH16N	0	NORM	9/16/09	2.967	< 8.930 E+6	< 8.930 E+6	0	0	0	0
SRC2-AH16R	0	NORM	9/16/09	2.967	< 8.910 E+6	< 8.910 E+6	0	0	0	0
SRC2-AH16S	0	NORM	9/16/09	2.967	< 8.920 E+6	< 8.920 E+6	0	0	0	0
SRC2-AH16S	0	FD	9/16/09	2.967	< 8.870 E+6	< 8.870 E+6	0	0	0	0
SRC2-AH16W	0	NORM	9/16/09	2.967	< 8.940 E+6	< 8.940 E+6	0	0	0	0

(1)Fiber dimensions are presented in the respective analytical reports for each sample.

(2)Only long structures (>10µm) present a potential risk and are used for estimating asbestos risks. Total fiber concentrations are presented for informational purposes only. Protocol structures are structures longer than 10 µm and thinner than 0.4 µm.

Chemical	SRC1-AG16				SRC1-AG17				SRC1-AG18				SRC1-AH15			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	S	1.2 E-6	4.6 E-7	3.9 E-7	S	1.3 E-6	5.4 E-7	4.5 E-7	S	8.3 E-7	3.3 E-7	2.8 E-7	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	--	--	--	--	F	1.0 E-5	4.1 E-6	3.4 E-6	F	7.6 E-6	3.0 E-6	2.5 E-6	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	4.2 E-4	1.7 E-4	1.4 E-4	F	3.0 E-4	1.2 E-4	1.0 E-4	F	1.9 E-4	7.5 E-5	6.2 E-5	F	3.0 E-4	1.2 E-4	1.0 E-4
Acetonitrile	F	5.5 E-5	2.2 E-5	1.8 E-5	F	2.9 E-4	1.1 E-4	9.6 E-5	F	1.8 E-4	7.4 E-5	6.2 E-5	--	--	--	--
Benzene	S	1.9 E-5	7.8 E-6	6.5 E-6	S	2.2 E-5	8.8 E-6	7.4 E-6	S	2.0 E-5	7.9 E-6	6.6 E-6	S	2.2 E-5	8.7 E-6	7.3 E-6
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	S	1.3 E-6	5.2 E-7	4.3 E-7	S	1.5 E-6	5.8 E-7	4.9 E-7	S	1.5 E-6	5.8 E-7	4.9 E-7	S	1.5 E-6	6.2 E-7	5.2 E-7
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	F	3.9 E-5	1.6 E-5	1.3 E-5	F	5.5 E-5	2.2 E-5	1.8 E-5	F	3.5 E-5	1.4 E-5	1.2 E-5	F	2.6 E-5	1.1 E-5	8.8 E-6
Carbon tetrachloride	S	1.0 E-6	4.1 E-7	3.4 E-7	S	3.1 E-6	1.2 E-6	1.0 E-6	S	3.9 E-6	1.6 E-6	1.3 E-6	S	2.9 E-6	1.2 E-6	9.7 E-7
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	7.1 E-6	2.8 E-6	2.4 E-6	S	1.0 E-5	4.0 E-6	3.4 E-6	S	8.6 E-6	3.5 E-6	2.9 E-6	S	8.9 E-6	3.6 E-6	3.0 E-6
Chloromethane	F	1.3 E-5	5.1 E-6	4.3 E-6	F	9.5 E-6	3.8 E-6	3.2 E-6	F	1.0 E-5	4.1 E-6	3.4 E-6	F	1.1 E-5	4.3 E-6	3.6 E-6
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	7.3 E-6	2.9 E-6	2.4 E-6	S	8.5 E-5	3.4 E-5	2.8 E-5	S	8.0 E-6	3.2 E-6	2.7 E-6	S	7.2 E-6	2.9 E-6	2.4 E-6
Ethanol	F	9.4 E-4	3.8 E-4	3.1 E-4	F	3.7 E-4	1.5 E-4	1.2 E-4	F	2.0 E-4	8.1 E-5	6.7 E-5	F	1.4 E-3	5.8 E-4	4.8 E-4
Ethylbenzene	--	--	--	--	F	1.0 E-5	4.0 E-6	3.3 E-6	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 20)

Chemical	SRC1-AG16				SRC1-AG17				SRC1-AG18				SRC1-AH15			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	F	1.1 E-5	4.4 E-6	3.7 E-6	F	1.1 E-5	4.5 E-6	3.8 E-6	--	--	--	--
Heptane	--	--	--	--	F	8.1 E-6	3.2 E-6	2.7 E-6	F	7.9 E-6	3.1 E-6	2.6 E-6	F	1.9 E-5	7.5 E-6	6.3 E-6
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	F	9.7 E-6	3.9 E-6	3.2 E-6
m & p-Xylenes	F	3.2 E-5	1.3 E-5	1.1 E-5	F	3.0 E-5	1.2 E-5	9.9 E-6	F	3.4 E-5	1.4 E-5	1.1 E-5	--	--	--	--
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	S	1.8 E-6	7.3 E-7	6.1 E-7	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	F	1.0 E-5	4.1 E-6	3.4 E-6	F	1.0 E-5	4.1 E-6	3.4 E-6	F	1.1 E-5	4.5 E-6	3.8 E-6	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	F	8.0 E-5	3.2 E-5	2.7 E-5	F	1.5 E-4	6.1 E-5	5.1 E-5	F	5.7 E-5	2.3 E-5	1.9 E-5	F	5.3 E-5	2.1 E-5	1.8 E-5
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-AH16				SRC1-AH17				SRC1-AH18				SRC1-AH19			
Chemical	**Method**	**Residential Indoor Air**	**Commercia Indoor Air**	**Outdoor Air**	**Method**	**Residential Indoor Air**	**Commercia Indoor Air**	**Outdoor Air**	**Method**	**Residential Indoor Air**	**Commercia Indoor Air**	**Outdoor Air**	**Method**	**Residential Indoor Air**	**Commercia Indoor Air**	**Outdoor Air**
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	F	1.5 E-5	6.0 E-6	5.0 E-6	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	S	1.4 E-6	5.4 E-7	4.6 E-7	S	2.0 E-6	8.1 E-7	6.8 E-7	S	1.8 E-6	7.1 E-7	6.0 E-7	S	1.1 E-6	4.3 E-7	3.6 E-7
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	F	8.3 E-6	3.3 E-6	2.8 E-6	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	6.5 E-4	2.6 E-4	2.2 E-4	--	--	--	--	F	4.2 E-4	1.7 E-4	1.4 E-4	F	4.8 E-4	1.9 E-4	1.6 E-4
Acetonitrile	--	--	--	--	--	--	--	--	F	4.1 E-5	1.6 E-5	1.4 E-5	F	5.7 E-4	2.3 E-4	1.9 E-4
Benzene	S	1.6 E-5	6.5 E-6	5.4 E-6	S	1.9 E-5	7.7 E-6	6.4 E-6	S	2.0 E-5	7.9 E-6	6.6 E-6	S	1.8 E-5	7.2 E-6	6.1 E-6
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	S	1.4 E-6	5.5 E-7	4.6 E-7	S	2.3 E-6	9.2 E-7	7.7 E-7	S	1.6 E-6	6.4 E-7	5.3 E-7	S	1.3 E-6	5.2 E-7	4.3 E-7
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--	F	6.8 E-5	2.7 E-5	2.3 E-5	F	8.6 E-6	3.4 E-6	2.9 E-6
Carbon tetrachloride	--	--	--	--	S	4.3 E-6	1.7 E-6	1.4 E-6	S	3.9 E-6	1.5 E-6	1.3 E-6	S	4.0 E-6	1.6 E-6	1.3 E-6
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	9.0 E-6	3.6 E-6	3.0 E-6	S	1.2 E-5	4.8 E-6	4.0 E-6	S	9.0 E-6	3.6 E-6	3.0 E-6	S	7.0 E-6	2.8 E-6	2.3 E-6
Chloromethane	--	--	--	--	--	--	--	--	F	1.6 E-5	6.6 E-6	5.5 E-6	F	1.3 E-5	5.3 E-6	4.4 E-6
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	F	2.8 E-5	1.1 E-5	9.3 E-6
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	6.5 E-6	2.6 E-6	2.2 E-6	S	1.5 E-5	5.8 E-6	4.9 E-6	S	2.2 E-5	9.0 E-6	7.5 E-6	S	9.3 E-6	3.7 E-6	3.1 E-6
Ethanol	--	--	--	--	--	--	--	--	F	8.6 E-5	3.4 E-5	2.9 E-5	F	3.8 E-3	1.5 E-3	1.3 E-3
Ethylbenzene	--	--	--	--	F	1.0 E-5	4.1 E-6	3.4 E-6	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 4 of 20)

	SRC1-AH16				SRC1-AH17				SRC1-AH18				SRC1-AH19			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	F	1.4 E-5	5.6 E-6	4.7 E-6
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	F	1.4 E-5	5.7 E-6	4.8 E-6
Heptane	F	1.9 E-5	7.7 E-6	6.4 E-6	F	1.2 E-5	4.7 E-6	4.0 E-6	--	--	--	--	F	7.9 E-6	3.1 E-6	2.6 E-6
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	F	1.1 E-5	4.2 E-6	3.5 E-6	--	--	--	--	--	--	--	--	--	--	--	--
m & p-Xylenes	--	--	--	--	F	4.5 E-5	1.8 E-5	1.5 E-5	--	--	--	--	F	1.9 E-5	7.6 E-6	6.3 E-6
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	F	1.5 E-5	6.0 E-6	5.0 E-6	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	F	4.2 E-5	1.7 E-5	1.4 E-5	F	8.2 E-5	3.3 E-5	2.7 E-5	F	4.7 E-5	1.9 E-5	1.6 E-5	F	5.5 E-5	2.2 E-5	1.8 E-5
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	S	4.6 E-5	1.8 E-5	1.5 E-5	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.
Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.
See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.
Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 5 of 20)

Chemical	SRC1-AI17				SRC1-AI20				SRC1-AJ20				SRC1-AJ21			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	S	1.2 E-6	4.7 E-7	4.0 E-7
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	S	6.4 E-6	2.5 E-6	2.1 E-6
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	S	2.8 E-6	1.1 E-6	9.5 E-7
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	S	3.5 E-6	1.4 E-6	1.2 E-6
1,2-Dichloroethane	S	7.9 E-7	3.1 E-7	2.6 E-7	S	9.0 E-7	3.6 E-7	3.0 E-7	--	--	--	--	S	1.1 E-6	4.3 E-7	3.6 E-7
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	S	3.1 E-6	1.3 E-6	1.1 E-6
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	S	3.6 E-6	1.4 E-6	1.2 E-6
1,4-Dioxane	F	7.4 E-6	3.0 E-6	2.5 E-6	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	F	2.6 E-5	1.1 E-5	8.8 E-6	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	9.5 E-5	3.8 E-5	3.2 E-5	F	9.3 E-5	3.7 E-5	3.1 E-5	F	9.3 E-5	3.7 E-5	3.1 E-5	F	1.1 E-4	4.5 E-5	3.7 E-5
Acetonitrile	--	--	--	--	F	1.7 E-5	6.9 E-6	5.8 E-6	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	S	1.4 E-5	5.4 E-6	4.5 E-6	--	--	--	--	S	3.7 E-5	1.5 E-5	1.2 E-5
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	S	3.3 E-6	1.3 E-6	1.1 E-6
Bromodichloromethane	--	--	--	--	S	9.2 E-7	3.7 E-7	3.1 E-7	--	--	--	--	S	7.6 E-7	3.0 E-7	2.5 E-7
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	S	3.7 E-6	1.5 E-6	1.2 E-6	S	2.7 E-6	1.1 E-6	8.9 E-7	S	2.4 E-6	9.6 E-7	8.0 E-7	S	3.4 E-6	1.3 E-6	1.1 E-6
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	3.3 E-6	1.3 E-6	1.1 E-6	S	5.8 E-6	2.3 E-6	1.9 E-6	S	3.1 E-6	1.3 E-6	1.1 E-6	S	2.3 E-6	9.2 E-7	7.7 E-7
Chloromethane	--	--	--	--	F	8.6 E-6	3.4 E-6	2.9 E-6	F	5.8 E-6	2.3 E-6	1.9 E-6	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	S	1.1 E-6	4.4 E-7	3.7 E-7
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	4.0 E-6	1.6 E-6	1.3 E-6	S	7.6 E-6	3.0 E-6	2.5 E-6	S	4.7 E-6	1.9 E-6	1.6 E-6	S	2.4 E-6	9.6 E-7	8.0 E-7
Ethanol	--	--	--	--	F	2.7 E-5	1.1 E-5	9.1 E-6	F	3.6 E-5	1.5 E-5	1.2 E-5	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 6 of 20)

Chemical	SRC1-AI17				SRC1-AI20				SRC1-AJ20				SRC1-AJ21			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	F	1.6 E-5	6.6 E-6	5.5 E-6	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	F	1.2 E-5	4.6 E-6	3.9 E-6	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	--	--	--	--	--	--	--	--	F	6.5 E-6	2.6 E-6	2.2 E-6
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	S	5.0 E-6	2.0 E-6	1.7 E-6
Isopropylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m & p-Xylenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	--	S	2.0 E-4	7.8 E-5	6.5 E-5
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	S	3.9 E-6	1.5 E-6	1.3 E-6	S	6.2 E-6	2.5 E-6	2.1 E-6
Toluene	--	--	--	--	F	3.0 E-5	1.2 E-5	1.0 E-5	F	2.7 E-5	1.1 E-5	9.0 E-6	F	1.6 E-5	6.6 E-6	5.5 E-6
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	F	5.6 E-6	2.2 E-6	1.9 E-6
Trichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.
Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.
See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.
Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-AJ22				SRC1-AJ23				SRC1-AJ24				SRC1-AJ25			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	S	1.0 E-6	4.0 E-7	3.3 E-7	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	S	7.6 E-7	3.0 E-7	2.5 E-7	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	S	1.1 E-6	4.4 E-7	3.7 E-7	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	7.8 E-5	3.1 E-5	2.6 E-5	F	4.6 E-5	1.8 E-5	1.5 E-5	F	1.4 E-4	5.5 E-5	4.6 E-5	F	7.7 E-5	3.1 E-5	2.6 E-5
Acetonitrile	--	--	--	--	--	--	--	--	F	1.3 E-5	5.2 E-6	4.3 E-6	F	5.6 E-5	2.3 E-5	1.9 E-5
Benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--	--	--	--	--	F	3.7 E-5	1.5 E-5	1.2 E-5
Carbon tetrachloride	S	1.6 E-6	6.6 E-7	5.5 E-7	--	--	--	--	S	1.3 E-6	5.1 E-7	4.3 E-7	S	1.8 E-6	7.2 E-7	6.0 E-7
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	1.1 E-6	4.5 E-7	3.8 E-7	S	1.5 E-6	5.8 E-7	4.9 E-7	S	1.8 E-6	7.0 E-7	5.9 E-7	S	1.8 E-6	7.4 E-7	6.2 E-7
Chloromethane	--	--	--	--	F	4.6 E-6	1.9 E-6	1.5 E-6	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	1.3 E-6	5.3 E-7	4.4 E-7	S	5.8 E-6	2.3 E-6	1.9 E-6	S	3.6 E-6	1.4 E-6	1.2 E-6	S	1.5 E-6	6.0 E-7	5.0 E-7
Ethanol	--	--	--	--	--	--	--	--	--	--	--	--	F	3.6 E-5	1.4 E-5	1.2 E-5
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 8 of 20)

Chemical	SRC1-AJ22				SRC1-AJ23				SRC1-AJ24				SRC1-AJ25			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	--	--	--	--	F	1.6 E-5	6.5 E-6	5.4 E-6	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m & p-Xylenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	S	2.5 E-6	1.0 E-6	8.3 E-7	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	S	2.4 E-6	9.6 E-7	8.0 E-7	--	--	--	--	--	--	--	--	S	4.6 E-6	1.8 E-6	1.5 E-6
Toluene	F	1.2 E-5	4.8 E-6	4.0 E-6	F	1.3 E-5	5.4 E-6	4.5 E-6	F	1.5 E-5	6.1 E-6	5.1 E-6	F	2.1 E-5	8.5 E-6	7.1 E-6
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--	F	5.6 E-7	2.2 E-7	1.9 E-7	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-AJ27				SRC1-AJ28				SRC1-AK20				SRC1-AK23			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	S	3.1 E-6	1.2 E-6	1.0 E-6	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	S	7.1 E-7	2.9 E-7	2.4 E-7	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	F	2.6 E-5	1.0 E-5	8.7 E-6	--	--	--	--	--	--	--	--	F	1.2 E-5	4.9 E-6	4.1 E-6
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	F	1.0 E-5	4.2 E-6	3.5 E-6	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	9.3 E-5	3.7 E-5	3.1 E-5	F	1.3 E-4	5.4 E-5	4.5 E-5	F	9.8 E-5	3.9 E-5	3.3 E-5	F	1.3 E-4	5.1 E-5	4.2 E-5
Acetonitrile	--	--	--	--	--	--	--	--	F	2.0 E-5	8.0 E-6	6.7 E-6	F	8.9 E-5	3.6 E-5	3.0 E-5
Benzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--	--	--	--	--	F	2.4 E-5	9.6 E-6	8.0 E-6
Carbon tetrachloride	--	--	--	--	--	--	--	--	S	3.1 E-6	1.2 E-6	1.0 E-6	S	2.8 E-6	1.1 E-6	9.5 E-7
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	S	1.5 E-6	6.0 E-7	5.0 E-7	S	3.7 E-6	1.5 E-6	1.2 E-6	S	2.3 E-6	9.3 E-7	7.8 E-7
Chloromethane	--	--	--	--	--	--	--	--	F	7.4 E-6	3.0 E-6	2.5 E-6	F	6.2 E-6	2.5 E-6	2.1 E-6
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	--	--	--	--	S	4.1 E-6	1.6 E-6	1.4 E-6	S	4.0 E-6	1.6 E-6	1.3 E-6	S	3.4 E-6	1.4 E-6	1.2 E-6
Ethanol	F	2.8 E-5	1.1 E-5	9.3 E-6	F	2.8 E-5	1.1 E-5	9.5 E-6	F	1.3 E-4	5.0 E-5	4.2 E-5	F	1.0 E-4	4.1 E-5	3.4 E-5
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 10 of 20)

Chemical	SRC1-AJ27				SRC1-AJ28				SRC1-AK20				SRC1-AK23			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m & p-Xylenes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	S	4.2 E-6	1.7 E-6	1.4 E-6	S	2.8 E-6	1.1 E-6	9.2 E-7
Toluene	F	1.3 E-5	5.4 E-6	4.5 E-6	F	2.3 E-5	9.1 E-6	7.6 E-6	F	2.2 E-5	8.8 E-6	7.3 E-6	F	2.3 E-5	9.2 E-6	7.7 E-6
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	S	1.4 E-5	5.7 E-6	4.8 E-6
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 11 of 20)

	SRC1-AK24				SRC1-AK26				SRC1-AL24				SRC1-AL26			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	F	1.6 E-5	6.5 E-6	5.4 E-6	--	--	--	--	F	3.0 E-5	1.2 E-5	1.0 E-5
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	S	1.2 E-6	4.6 E-7	3.9 E-7	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	S	7.6 E-7	3.0 E-7	2.5 E-7	S	1.5 E-6	6.1 E-7	5.1 E-7	S	2.2 E-6	8.8 E-7	7.3 E-7
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	S	1.2 E-6	4.7 E-7	4.0 E-7	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	F	7.9 E-6	3.1 E-6	2.6 E-6	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	1.1 E-4	4.4 E-5	3.7 E-5	F	4.6 E-4	1.8 E-4	1.5 E-4	F	2.3 E-4	9.2 E-5	7.7 E-5	F	2.3 E-4	9.1 E-5	7.6 E-5
Acetonitrile	--	--	--	--	F	4.2 E-5	1.7 E-5	1.4 E-5	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	S	1.8 E-5	7.3 E-6	6.1 E-6	S	1.4 E-5	5.6 E-6	4.7 E-6	S	9.7 E-6	3.9 E-6	3.2 E-6
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	S	1.4 E-6	5.7 E-7	4.8 E-7	S	1.5 E-6	5.8 E-7	4.9 E-7
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--	--	--	--	--	F	3.0 E-5	1.2 E-5	1.0 E-5
Carbon tetrachloride	S	1.3 E-6	5.1 E-7	4.3 E-7	S	4.2 E-6	1.7 E-6	1.4 E-6	S	6.2 E-6	2.5 E-6	2.1 E-6	S	9.7 E-6	3.9 E-6	3.2 E-6
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	1.2 E-6	4.7 E-7	4.0 E-7	S	5.3 E-6	2.1 E-6	1.8 E-6	S	3.8 E-6	1.5 E-6	1.3 E-6	S	6.1 E-6	2.4 E-6	2.0 E-6
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	1.3 E-6	5.2 E-7	4.3 E-7	S	1.1 E-5	4.5 E-6	3.8 E-6	S	3.0 E-5	1.2 E-5	1.0 E-5	S	1.5 E-5	5.9 E-6	4.9 E-6
Ethanol	--	--	--	--	F	3.3 E-4	1.3 E-4	1.1 E-4	F	1.5 E-4	5.8 E-5	4.9 E-5	--	--	--	--
Ethylbenzene	--	--	--	--	F	1.5 E-5	5.8 E-6	4.9 E-6	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	SRC1-AK24				SRC1-AK26				SRC1-AL24				SRC1-AL26			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	F	1.6 E-5	6.3 E-6	5.3 E-6	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	--	--	--	--	F	2.6 E-5	1.1 E-5	8.8 E-6	--	--	--	--	F	2.1 E-5	8.5 E-6	7.1 E-6
m & p-Xylenes	--	--	--	--	F	5.5 E-5	2.2 E-5	1.8 E-5	F	2.4 E-5	9.7 E-6	8.1 E-6	F	3.1 E-5	1.2 E-5	1.0 E-5
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	S	4.1 E-6	1.7 E-6	1.4 E-6	S	5.3 E-6	2.1 E-6	1.8 E-6	--	--	--	--	S	4.4 E-6	1.7 E-6	1.5 E-6
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	F	1.8 E-5	7.3 E-6	6.1 E-6	F	1.0 E-5	4.1 E-6	3.4 E-6	F	1.1 E-5	4.2 E-6	3.5 E-6
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	S	2.6 E-6	1.0 E-6	8.6 E-7	S	1.2 E-5	4.9 E-6	4.1 E-6	S	4.7 E-6	1.9 E-6	1.6 E-6	S	6.8 E-6	2.7 E-6	2.3 E-6
Toluene	F	1.1 E-5	4.4 E-6	3.7 E-6	F	1.3 E-4	5.3 E-5	4.4 E-5	F	4.9 E-5	1.9 E-5	1.6 E-5	F	4.6 E-5	1.8 E-5	1.5 E-5
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	F	1.8 E-6	7.2 E-7	6.0 E-7
Trichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-AL28				SRC1-AM27				SRC1-AN28				SRC1-AN28R			
Chemical	**Method**	**Residential Indoor Air**	**Commercial Indoor Air**	**Outdoor Air**	**Method**	**Residential Indoor Air**	**Commercial Indoor Air**	**Outdoor Air**	**Method**	**Residential Indoor Air**	**Commercial Indoor Air**	**Outdoor Air**	**Method**	**Residential Indoor Air**	**Commercial Indoor Air**	**Outdoor Air**
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	S	7.4 E-7	3.0 E-7	2.5 E-7	S	1.4 E-6	5.5 E-7	4.6 E-7	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	S	7.6 E-7	3.0 E-7	2.5 E-7	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	4.9 E-4	1.9 E-4	1.6 E-4	F	1.7 E-4	6.7 E-5	5.6 E-5	F	1.3 E-4	5.0 E-5	4.2 E-5	F	3.7 E-4	1.5 E-4	1.2 E-4
Acetonitrile	F	2.3 E-5	9.1 E-6	7.6 E-6	F	1.1 E-5	4.3 E-6	3.6 E-6	F	2.1 E-5	8.4 E-6	7.0 E-6	--	--	--	--
Benzene	S	1.5 E-5	5.9 E-6	4.9 E-6	S	9.2 E-6	3.7 E-6	3.1 E-6	S	1.6 E-5	6.5 E-6	5.4 E-6	S	1.5 E-5	5.8 E-6	4.9 E-6
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	S	8.6 E-7	3.4 E-7	2.9 E-7	S	1.4 E-6	5.7 E-7	4.8 E-7	S	1.1 E-6	4.3 E-7	3.6 E-7	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	F	1.6 E-5	6.3 E-6	5.3 E-6	F	1.0 E-5	4.0 E-6	3.3 E-6	--	--	--	--
Carbon tetrachloride	S	2.5 E-6	1.0 E-6	8.4 E-7	S	2.2 E-6	8.7 E-7	7.3 E-7	S	2.2 E-6	9.0 E-7	7.5 E-7	S	2.1 E-6	8.4 E-7	7.0 E-7
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	3.4 E-6	1.4 E-6	1.1 E-6	S	6.8 E-6	2.7 E-6	2.3 E-6	S	3.5 E-6	1.4 E-6	1.2 E-6	S	3.2 E-6	1.3 E-6	1.1 E-6
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	9.8 E-6	3.9 E-6	3.3 E-6	S	8.7 E-6	3.5 E-6	2.9 E-6	S	4.6 E-6	1.8 E-6	1.5 E-6	S	3.0 E-6	1.2 E-6	1.0 E-6
Ethanol	F	2.0 E-4	8.0 E-5	6.7 E-5	F	7.4 E-5	3.0 E-5	2.5 E-5	F	1.1 E-4	4.3 E-5	3.6 E-5	F	1.4 E-4	5.5 E-5	4.6 E-5
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-AL28				SRC1-AM27				SRC1-AN28				SRC1-AN28R			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	F	1.3 E-5	5.3 E-6	4.4 E-6	--	--	--	--	F	1.2 E-5	4.7 E-6	4.0 E-6	--	--	--	--
m & p-Xylenes	F	2.3 E-5	9.1 E-6	7.6 E-6	F	2.9 E-5	1.2 E-5	9.7 E-6	F	2.4 E-5	9.6 E-6	8.0 E-6	F	2.5 E-5	1.0 E-5	8.5 E-6
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	F	9.0 E-6	3.6 E-6	3.0 E-6	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	S	3.4 E-6	1.4 E-6	1.1 E-6	S	1.1 E-5	4.6 E-6	3.8 E-6	S	1.2 E-5	4.7 E-6	3.9 E-6	S	1.0 E-5	4.1 E-6	3.4 E-6
Toluene	F	4.5 E-5	1.8 E-5	1.5 E-5	F	4.7 E-5	1.9 E-5	1.6 E-5	F	5.4 E-5	2.2 E-5	1.8 E-5	F	4.9 E-5	2.0 E-5	1.6 E-5
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	F	1.0 E-6	4.1 E-7	3.4 E-7	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	S	1.7 E-5	6.9 E-6	5.8 E-6	--	--	--	--	S	5.2 E-5	2.1 E-5	1.7 E-5
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	SRC1-J01				SRC1-J02				SRC1-J07				SRC1-J09			
	Method	Residential Indoor Air	Commercia Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercia Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercia Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercia Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	S	1.7 E-6	6.7 E-7	5.6 E-7
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	F	4.7 E-5	1.9 E-5	1.6 E-5	--	--	--	--
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	S	1.5 E-6	6.0 E-7	5.0 E-7	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	S	9.9 E-7	4.0 E-7	3.3 E-7	S	8.1 E-7	3.2 E-7	2.7 E-7
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	F	1.6 E-5	6.5 E-6	5.4 E-6	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	S	3.6 E-6	1.4 E-6	1.2 E-6	--	--	--	--
1,4-Dioxane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	F	1.7 E-5	6.6 E-6	5.6 E-6	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	--	--	--	--	F	4.6 E-4	1.8 E-4	1.5 E-4	F	5.7 E-4	2.3 E-4	1.9 E-4	F	1.8 E-4	7.1 E-5	5.9 E-5
Acetonitrile	--	--	--	--	--	--	--	--	F	2.5 E-4	1.0 E-4	8.5 E-5	--	--	--	--
Benzene	S	1.0 E-5	4.1 E-6	3.4 E-6	--	--	--	--	S	2.1 E-5	8.6 E-6	7.2 E-6	--	--	--	--
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	S	9.2 E-7	3.7 E-7	3.1 E-7	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--	F	4.7 E-5	1.9 E-5	1.6 E-5	F	7.4 E-6	3.0 E-6	2.5 E-6
Carbon tetrachloride	S	2.2 E-6	9.0 E-7	7.5 E-7	S	2.2 E-6	8.9 E-7	7.4 E-7	S	3.8 E-6	1.5 E-6	1.3 E-6	S	2.4 E-6	9.8 E-7	8.2 E-7
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	S	3.3 E-6	1.3 E-6	1.1 E-6	S	2.5 E-6	1.0 E-6	8.4 E-7	S	5.4 E-6	2.2 E-6	1.8 E-6	S	3.1 E-6	1.2 E-6	1.0 E-6
Chloromethane	--	--	--	--	--	--	--	--	F	1.9 E-5	7.5 E-6	6.3 E-6	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	F	2.9 E-5	1.2 E-5	9.6 E-6	F	1.3 E-5	5.2 E-6	4.3 E-6
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	3.7 E-6	1.5 E-6	1.2 E-6	S	3.2 E-6	1.3 E-6	1.1 E-6	S	1.5 E-5	6.0 E-6	5.0 E-6	S	1.8 E-6	7.4 E-7	6.2 E-7
Ethanol	--	--	--	--	--	--	--	--	F	5.5 E-4	2.2 E-4	1.9 E-4	F	1.9 E-4	7.7 E-5	6.5 E-5
Ethylbenzene	--	--	--	--	--	--	--	--	F	4.5 E-5	1.8 E-5	1.5 E-5	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-J01				SRC1-J02				SRC1-J07				SRC1-J09			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	F	3.4 E-5	1.4 E-5	1.1 E-5	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	F	9.0 E-6	3.6 E-6	3.0 E-6	F	3.5 E-5	1.4 E-5	1.2 E-5	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	S	4.7 E-6	1.9 E-6	1.6 E-6
Isopropylbenzene	--	--	--	--	--	--	--	--	F	8.6 E-5	3.4 E-5	2.9 E-5	F	9.7 E-6	3.9 E-6	3.2 E-6
m & p-Xylenes	--	--	--	--	--	--	--	--	F	1.4 E-4	5.7 E-5	4.7 E-5	--	--	--	--
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	S	6.5 E-6	2.6 E-6	2.2 E-6	S	3.0 E-6	1.2 E-6	1.0 E-6
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	F	9.0 E-6	3.6 E-6	3.0 E-6	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	F	4.6 E-5	1.8 E-5	1.5 E-5	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	F	1.6 E-5	6.3 E-6	5.3 E-6	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	S	4.6 E-6	1.9 E-6	1.5 E-6	S	1.2 E-5	4.9 E-6	4.1 E-6	S	7.3 E-6	2.9 E-6	2.4 E-6
Toluene	--	--	--	--	F	2.0 E-5	8.1 E-6	6.8 E-6	F	2.6 E-4	1.0 E-4	8.7 E-5	F	3.3 E-5	1.3 E-5	1.1 E-5
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	F	3.4 E-6	1.4 E-6	1.2 E-6
Trichloroethene	--	--	--	--	--	--	--	--	S	7.4 E-5	3.0 E-5	2.5 E-5	S	3.4 E-5	1.4 E-5	1.2 E-5
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-J10				SRC1-J11				SRC1-J12				SRC1-J14			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	S	8.3 E-7	3.3 E-7	2.8 E-7	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	S	1.8 E-6	7.3 E-7	6.1 E-7	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	--	--	--	--	S	1.2 E-6	4.9 E-7	4.1 E-7	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	S	5.6 E-6	2.2 E-6	1.9 E-6	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	S	1.0 E-6	4.2 E-7	3.5 E-7	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	--	--	--	--	--	--	--	--	F	9.2 E-6	3.7 E-6	3.1 E-6	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl-1-propanol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	F	8.2 E-5	3.3 E-5	2.7 E-5	F	1.9 E-4	7.5 E-5	6.3 E-5	F	1.2 E-4	4.9 E-5	4.1 E-5	F	1.8 E-4	7.3 E-5	6.1 E-5
Acetonitrile	--	--	--	--	F	2.8 E-5	1.1 E-5	9.2 E-6	--	--	--	--	--	--	--	--
Benzene	S	8.7 E-6	3.5 E-6	2.9 E-6	S	7.0 E-6	2.8 E-6	2.3 E-6	--	--	--	--	--	--	--	--
Benzyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	S	3.1 E-6	1.2 E-6	1.0 E-6	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	F	1.7 E-5	6.7 E-6	5.6 E-6	F	1.8 E-5	7.4 E-6	6.2 E-6	F	2.1 E-5	8.3 E-6	7.0 E-6	--	--	--	--
Carbon tetrachloride	S	2.9 E-6	1.1 E-6	9.6 E-7	S	8.9 E-6	3.6 E-6	3.0 E-6	--	--	--	--	S	1.9 E-6	7.7 E-7	6.4 E-7
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	F	2.7 E-4	1.1 E-4	9.1 E-5	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	S	2.2 E-5	8.7 E-6	7.2 E-6	--	--	--	--	S	1.2 E-6	4.9 E-7	4.1 E-7
Chloromethane	F	4.9 E-6	1.9 E-6	1.6 E-6	F	2.6 E-5	1.0 E-5	8.6 E-6	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichloromethane (Methylene chloride)	S	4.1 E-6	1.6 E-6	1.4 E-6	S	1.2 E-5	4.8 E-6	4.1 E-6	S	4.5 E-6	1.8 E-6	1.5 E-6	S	5.7 E-6	2.3 E-6	1.9 E-6
Ethanol	F	1.9 E-5	7.6 E-6	6.3 E-6	F	5.9 E-5	2.4 E-5	2.0 E-5	F	2.9 E-5	1.2 E-5	9.7 E-6	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	SRC1-J10				SRC1-J11				SRC1-J12				SRC1-J14			
	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
Freon-11 (Trichlorofluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m & p-Xylenes	--	--	--	--	F	2.8 E-5	1.1 E-5	9.2 E-6	--	--	--	--	--	--	--	--
Methyl ethyl ketone (2-Butanone)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl iodide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	S	4.7 E-6	1.9 E-6	1.6 E-6	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	F	8.6 E-6	3.4 E-6	2.9 E-6	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	S	4.9 E-6	2.0 E-6	1.6 E-6	--	--	--	--	--	--	--	--
Toluene	F	2.0 E-5	7.9 E-6	6.6 E-6	F	4.2 E-5	1.7 E-5	1.4 E-5	F	1.2 E-5	5.0 E-6	4.2 E-6	F	3.2 E-5	1.3 E-5	1.1 E-5
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	F	1.1 E-6	4.4 E-7	3.7 E-7	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	S	1.3 E-5	5.2 E-6	4.3 E-6	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	F	4.2 E-7	1.7 E-7	1.4 E-7	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-J15			
Chemical	Method	Residential Indoor Air	Commercial Indoor Air	Outdoor Air
1,1,1,2-Tetrachloroethane	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--
1,1-Dichloroethane	--	--	--	--
1,1-Dichloroethene	--	--	--	--
1,1-Dichloropropene	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--
1,2-Dibromoethane	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--
1,2-Dichloroethane	S	1.2 E-6	4.9 E-7	4.1 E-7
1,2-Dichloropropane	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--
1,3-Dichloropropane	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--
1,4-Dioxane	--	--	--	--
2,2-Dichloropropane	--	--	--	--
2-Hexanone	--	--	--	--
2-Methyl-1-propanol	--	--	--	--
4-Methyl-2-pentanone (MIBK)	--	--	--	--
Acetone	F	1.1 E-4	4.3 E-5	3.6 E-5
Acetonitrile	--	--	--	--
Benzene	S	8.6 E-6	3.4 E-6	2.9 E-6
Benzyl chloride	--	--	--	--
Bromodichloromethane	S	2.5 E-6	1.0 E-6	8.4 E-7
Bromoform	--	--	--	--
Bromomethane	--	--	--	--
Carbon disulfide	F	1.6 E-5	6.6 E-6	5.5 E-6
Carbon tetrachloride	S	3.7 E-6	1.5 E-6	1.3 E-6
Chlorobenzene	--	--	--	--
Chlorobromomethane	--	--	--	--
Chloroethane	--	--	--	--
Chloroform	S	7.0 E-6	2.8 E-6	2.3 E-6
Chloromethane	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--
Cymene (Isopropyltoluene)	--	--	--	--
Dibromochloromethane	--	--	--	--
Dibromochloropropane	--	--	--	--
Dibromomethane	--	--	--	--
Dichloromethane (Methylene chloride)	S	5.9 E-6	2.4 E-6	2.0 E-6
Ethanol	F	7.6 E-5	3.0 E-5	2.5 E-5
Ethylbenzene	--	--	--	--

TABLE 6-3
EXPOSURE POINT CONCENTRATIONS FROM SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	SRC1-J15			
Chemical	**Method**	**Residential Indoor Air**	**Commercial Indoor Air**	**Outdoor Air**
Freon-11 (Trichlorofluoromethane)	--	--	--	--
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--	--	--	--
Freon-12 (Dichlorodifluoromethane)	--	--	--	--
Heptane	--	--	--	--
Hexachlorobutadiene	--	--	--	--
Isopropylbenzene	--	--	--	--
m & p-Xylenes	F	2.2 E-5	8.9 E-6	7.4 E-6
Methyl ethyl ketone (2-Butanone)	--	--	--	--
Methyl iodide	--	--	--	--
MTBE (Methyl tert-butyl ether)	--	--	--	--
Naphthalene	--	--	--	--
n-Butylbenzene	--	--	--	--
n-Propylbenzene	--	--	--	--
o-Xylene	--	--	--	--
sec-Butylbenzene	--	--	--	--
Styrene	--	--	--	--
tert-Butylbenzene	--	--	--	--
Tetrachloroethene	S	1.1 E-5	4.4 E-6	3.7 E-6
Toluene	F	4.3 E-5	1.7 E-5	1.4 E-5
trans-1,2-Dichloroethene	--	--	--	--
trans-1,3-Dichloropropene	F	9.7 E-7	3.9 E-7	3.2 E-7
Trichloroethene	--	--	--	--
Vinyl acetate	--	--	--	--
Vinyl chloride	--	--	--	--

Notes:

All units in mg/m^3.

Method represents the surface flux measurement used in the risk calculations for that particular chemical/location: S = SIM; F = Full Scan.

See Appendix H for all indoor and outdoor air concentration calculations from surface flux measurement data. See Table 6-6 for outdoor air exposure point concentrations for non-volatile COPCs in soil.

Exposure point concentrations for surface flux data are based on a sample by sample basis. Averaging of the data was not conducted. Therefore only those chemicals detected in a particular sample were included in the risk estimates. A "--" is presented for those chemical not detected and not included in the risk estimates for each sample location. The exposure point concentration is the maximum of the full scan or SIM analysis results (when both had detected values, otherwise the detected value from one or the other is used). Thus, summary statistics are not presented in this table (see Table 3-14 for the surface flux data summary).

TABLE 6-4
PARTICULATE EMISSION FACTOR (PEF) FOR ON-SITE RESIDENTIAL SCENARIO
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Parameter	Abbrev.	Units	Value
Wind Erosion and Construction Activities			
Fraction of vegetative cover(1)	V	--	0.5
Mean annual wind speed(2)	U_m	m/s	4.10
Equivalent threshold value of wind speed(1)	U_t	m/s	11.32
Function dependent on U/U_t(1)	F(x)	--	0.19
Air Dispersion Factor for Area Source(4)	**Q/C_{wind}**	**g/m^2-sec per kg/m^3**	**38.20**
Constant A(1)	A	--	13.31
Constant B(1)	B	--	19.84
Constant C(1)	C	--	230.17
Areal Extent of site surface contamination(3)	A_{surf}	acres	70.90
Onsite Residential PEF(5)	**$PEF_{Onsite\ Resident}$**	**m^3/kg**	**8.29E+08**
Total outdoor ambient air dust concentration(6)	**$D_{Onsite\ Resident}$**	**kg/m^3**	**1.21E-09**

(1) Assumed value for the site based upon USEPA (2002b). Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites.
Office of Solid Waste and Emergency Response, Washington, DC. OSWER 9355.4-24. December.

(2) Derived by averaging data from the Las Vegas Airport and Nellis AFB stations.

(3) Site area.

(4) From USEPA 2002b - $Q/C_{sa} = A \times \exp[(\ln(A_{surf}) - B)^2/C]$.

$$\{[2.6 \times (s/12)^{0.8} \times (W/3)^{0.4}/(M/0.2)^{0.3}] \times [(365\text{-}p)/365] \times 281.9 \times \sum VKT_{road}\}.$$

(5) From USEPA 2002b - $PEF_{Onsite\ Resident} = Q/C_{wind} * (3600/(0.036*(1-V)*((U_m/U_t)\char`^3)*F(x)))$

(6) $D_{Onsite\ Resident} = 1/PEF_{Onsite\ Resident}$

TABLE 6-5
PARTICULATE EMISSION FACTOR (PEF) FOR CONSTRUCTION SCENARIO
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 3)

Parameter	Abbrev.	Units	Value
Wind Erosion and Construction Activities			
Fugitive dust from wind erosion[1]	M_{wind}	g	**8.3E+05**
Fraction of vegetative cover[2]	V	--	0.00
Mean annual wind speed[3]	U_m	m/s	4.10
Equivalent threshold value of wind speed[2]	U_t	m/s	11.32
Function dependent on U/U_t[2]	F(x)	--	0.194
Areal Extent of site surface contamination[4]	A_{surf}	m^2	286932.30
Exposure duration[5]	ED	year	1
Fugitive dust from excavation soil dumping[6]	M_{excav}	g	**7.4E+04**
In situ wet soil bulk density[7]	ρ_{soil}	Mg/m^3	1.50
Gravimetric Soil Moisture Content %[8]	M	%	4.31
Areal extent of site excavation[9]	A_{excav}	m^2	57386.46
Average depth of site excavation[2]	d_{excav}	m	1.00
Number of times soil is dumped[2]	N_A	--	2.00
Fugitive dust from dozing[10]	M_{doz}	g	**3.2E+04**
Soil silt content %[7]	s	%	8.27
Gravimetric Soil Moisture Content %[8]	M	%	4.31
Average dozing speed[2]	S_{doz}	km/hr	11.40
Number of times area is dozed	N_{doze}	--	3.00
Length of dozer blade	B_d	m	2.44
Sum dozing kilometers traveled[11]	VKT_{doz}	km	352.79
Fugitive dust from grading[12]	M_{grade}	g	**1.5E+05**
Average grading speed[2]	S_{grade}	km/hr	11.40
Number of times area is graded	N_{grade}	--	3.00
Length of grading blade	B_g	m	2.44
Sum grading kilometers traveled[12]	VKT_{grade}	km	352.79

TABLE 6-5
PARTICULATE EMISSION FACTOR (PEF) FOR CONSTRUCTION SCENARIO
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter	Abbrev.	Units	Value
Fugitive dust from tilling[13]	M_{till}	g	**4.5E+04**
Soil silt content %[7]	s	%	8.27
Areal extent of site tilling[9]	A_{till}	acre	14.18
Number of times soil is tilled[2]	N_A	--	2.00
Total Time Averaged PM_{10} Emission[14]	$\mathbf{J'_T}$	g/m2-sec	**1.26E-07**
Duration of construction[2]	T	sec	3.15E+07
Subchronic Dispersion Factor for Area Source[15]	$\mathbf{Q/C_{sa}}$	g/m^2-sec per kg/m^3	**6.26**
Constant A[2]	A	--	2.45
Constant B[2]	B	--	17.57
Constant C[2]	C	--	189.04
Areal Extent of site surface contamination[4]	A_{surf}	acres	70.90
Dispersion correction factor[16]	$\mathbf{F_D}$	--	**0.186**
Duration of construction (time period during which construction activities occur)	t_c	hr	8760
Subchronic PEF for Construction Activities[17]	$\mathbf{PEF_{sc}}$	$\mathbf{m^3/kg}$	**2.68E+08**
Unpaved Road Traffic			
Length of road segment[18]	L_R	m	535.66
Width of road segment[2]	W_R	m	6.10
Surface area of contaminated road segment[19]	A_R	m^2	3265.39
Road surface silt content %[20]	s	%	8.27
Mean vehicle weight[2]	W	tons	8.00
Percent moisture in dry road surface[20]	M	%	3.76
Number of days/year with at least 0.01 inches of precipitation[3]	p	days	27.00
Number of vehicles for duration of construction	N_V	vehicles	30.00
Length of road traveled per day	L_D	m/day	535.66
Sum of fleet vehicle kilometers traveled during the exposure duration[21]	VKT_{road}	km	2089.08

TABLE 6-5
PARTICULATE EMISSION FACTOR (PEF) FOR CONSTRUCTION SCENARIO
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter	Abbrev.	Units	Value
Subchronic Dispersion Factor for road segment[22]	Q/C_{sr}	g/m^2-sec per kg/m^3	13.33
Constant A[2]	A		12.94
Constant B[2]	B		5.74
Constant C[2]	C		71.77
Subchronic PEF for Unpaved Road Traffic[23]	$\mathbf{PEF_{sc\_road}}$	$\mathbf{m^3/kg}$	**1.14E+07**
Total construction related PEF[24]	$\mathbf{PEF_{sc\_total}}$	$\mathbf{m^3/kg}$	**1.10E+07**
Total outdoor ambient air dust concentration[25]	$\mathbf{D_{construct}}$	$\mathbf{kg/m^3}$	**9.12E-08**

(1) From USEPA. (2002b). Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and Emergency Response, Washington, DC. OSWER 9355.4-24. December. - Mwind = $0.036 \times (1\text{-}V) \times (Um/Ut)^3 \times F(x) \times Asurf \times ED \times 8760$hr/yr.

(2) Assumed value for the site based upon USEPA (2002b).

(3) Derived by averaging data from the Las Vegas Airport and Nellis AFB stations.

(4) Site area.

(5) Construction worker ED

(6) From USEPA 2002b - $M_{excav} = 0.35 \times 0.0016 \times [(U_m/2.2_)^{1.3}/(M/2)^{1.4}] \times \rho_{soil} \times A_{excav} \times d_{excav} \times N_A \times 10^3$g/kg.

(7) This value can change based on site specific characteristics

(8) Based on the average of percent moisture across the site.

(9) Assumed value of one fifth of the site based upon USEPA (2002b).

(10) From USEPA 2002b - $M_{doz} = 0.75 \times [(0.45 \times s^{1.5})/(M)^{1.4}] \times \sum VKT_{doz}/S_{doz} \times 10^3$g/kg.

(11) From USEPA 2002b - $VKT_{doz} = [(A_{surf}^{0.5}/2.44m) \times A_{surf}^{0.5} \times 3]/1{,}000$ m/km.

(12) From USEPA 2002b - $M_{grade} = 0.60 \times (0.0056 \times S^{2.0}) \times \sum VKT_{grade} \times 10^3$g/kg.

(13) From USEPA 2002b - $M_{till} = 1.1 \times s^{0.6} \times A_{till} \times 4{,}047m^2/acre \times 10^{-4}ha/m^2 \times 10^3 g/kg \times N_A$.

(14) From USEPA 2002b - $J'_T = (M_{wind} + M_{excav} + M_{doz} + M_{grade} + M_{till})/(A_{surf} \times T)$.

(15) From USEPA 2002b - $Q/C_{sa} = A \times \exp[(\ln(A_{surf}) - B)^2/C]$.

(16) From USEPA 2002b - $F_D = 0.1852 + (5.3537/t_c)+(-9.6318/t_c^{\ 2})$, $t_c = T/(3{,}600$sec/hour).

(17) From USEPA 2002b - $PEF_{sc} = Q/C_{sa} \times (1/F_D) \times (1/J'_T)$.

(18) Assumed value of the square root of the site area, based upon USEPA (2002b).

(19) From USEPA 2002b - $A_R = L_R \times W_R * 0.092903$ m2/ft2

(20) Average of surface soil percent moisture results.

(21) From USEPA 2002b - $VKT_{road} = 30$ vehicles $\times L_R \times [(52$ wks/yr$)/2] \times (5$ days/week$) / (1000$ m/km$)$.

(22) From USEPA 2002b - $Q/C_{sr} = A \times \exp[(\ln(A_{surf}) - B)^2/C]$.

(23) From USEPA 2002b - $PEF_{sc\_road} = Q/C_{sr} \times (1/F_D) \times T \times A_R / \{[2.6 \times (s/12)^{0.8} \times (W/3)^{0.4}/(M/0.2)^{0.3}] \times [(365\text{-}p)/365] \times 281.9 \times \sum VKTroad\}$.

(24) $PEF_{sc\_total} = \{1/[(1/PEF_{sc})+(1/PEF_{sc\_road})]\}$.

(25) $D_{construct} = 1/PEF_{sc\_total}$.

TABLE 6-6
OUTDOOR AIR EXPOSURE POINT CONCENTRATIONS FROM SOIL
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Soil Concentration (mg/kg)			Construction Worker Outdoor Air				Non-Construction Worker Outdoor Air			
	Site-Wide	SRC-J02/J03	SRC-J21	PEF/VF(1) (kg/m^3)	Air Concentration (mg/m^3)(2) Site-Wide	SRC-J02/J03	SRC-J21	PEF/VF(1) (kg/m^3)	Air Concentration (mg/m^3)(2) Site-Wide	SRC-J02/J03	SRC-J21
Aldehydes											
Formaldehyde	6.1 E-1	6.1 E-1	6.1 E-1	9.1 E-8	5.6 E-8	5.6 E-8	5.6 E-8	1.2 E-9	7.4 E-10	7.4 E-10	7.4 E-10
Inorganics											
Ammonia (as N)	4.3 E+0	4.3 E+0	4.3 E+0	9.1 E-8	3.9 E-7	3.9 E-7	3.9 E-7	1.2 E-9	5.1 E-9	5.1 E-9	5.1 E-9
Perchlorate	8.7 E-1	8.7 E-1	8.7 E-1	9.1 E-8	7.9 E-8	7.9 E-8	7.9 E-8	1.2 E-9	1.1 E-9	1.1 E-9	1.1 E-9
Metals											
Aluminum	1.3 E+4	1.6 E+4	1.7 E+4	9.1 E-8	1.2 E-3	1.4 E-3	1.5 E-3	1.2 E-9	1.6 E-5	1.9 E-5	2.0 E-5
Cobalt	1.3 E+1	1.5 E+1	1.8 E+1	9.1 E-8	1.2 E-6	1.3 E-6	1.6 E-6	1.2 E-9	1.5 E-8	1.8 E-8	2.2 E-8
Manganese	6.7 E+2	7.7 E+2	7.6 E+2	9.1 E-8	6.1 E-5	7.0 E-5	7.0 E-5	1.2 E-9	8.1 E-7	9.3 E-7	9.2 E-7
Vanadium	6.3 E+1	7.8 E+1	9.0 E+1	9.1 E-8	5.7 E-6	7.1 E-6	8.2 E-6	1.2 E-9	7.6 E-8	9.4 E-8	1.1 E-7
Polynuclear Aromatic Hydrocarbons											
Benzo(a)anthracene	2.6 E-3	2.6 E-3	2.6 E-3	9.1 E-8	2.3 E-10	2.3 E-10	2.3 E-10	1.2 E-9	3.1 E-12	3.1 E-12	3.1 E-12
Benzo(a)pyrene	2.7 E-3	2.7 E-3	2.7 E-3	9.1 E-8	2.5 E-10	2.5 E-10	2.5 E-10	1.2 E-9	3.3 E-12	3.3 E-12	3.3 E-12
Benzo(b)fluoranthene	6.6 E-3	6.6 E-3	6.6 E-3	9.1 E-8	6.0 E-10	6.0 E-10	6.0 E-10	1.2 E-9	7.9 E-12	7.9 E-12	7.9 E-12
Benzo(k)fluoranthene	1.6 E-3	1.6 E-3	1.6 E-3	9.1 E-8	1.5 E-10	1.5 E-10	1.5 E-10	1.2 E-9	2.0 E-12	2.0 E-12	2.0 E-12
Chrysene	3.0 E-3	3.0 E-3	3.0 E-3	9.1 E-8	2.7 E-10	2.7 E-10	2.7 E-10	1.2 E-9	3.6 E-12	3.6 E-12	3.6 E-12
Dibenzo(a,h)anthracene	1.0 E-3	1.0 E-3	1.0 E-3	9.1 E-8	9.1 E-11	9.1 E-11	9.1 E-11	1.2 E-9	1.2 E-12	1.2 E-12	1.2 E-12
Indeno(1,2,3-cd)pyrene	3.2 E-3	3.2 E-3	3.2 E-3	9.1 E-8	2.9 E-10	2.9 E-10	2.9 E-10	1.2 E-9	3.8 E-12	3.8 E-12	3.8 E-12
Semi-Volatile Organic Compounds											
Hexachlorobenzene	3.8 E-2	3.8 E-2	3.8 E-2	9.1 E-8	3.4 E-9	3.4 E-9	3.4 E-9	1.2 E-9	4.6 E-11	4.6 E-11	4.6 E-11

Notes:
(1) Construction worker PEF from Table 6-5; non-construction worker PEF from Table 6-4.
(2) Soil concentration × PEF

TABLE 6-7
PLANT UPTAKE FACTORS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Aboveground Plant[1] Uptake Factor mg/kg plant DW/mg/kg soil	Belowground Plant[1] Uptake Factor mg/kg plant DW/mg/kg soil	Reference
Inorganics			
Aluminum	4.0 E-3	6.5 E-4	Baes et al 1984
Ammonia (as N)	NA	NA	Closure Plan
Cobalt	2.0 E-2	7.0 E-3	Baes et al 1984
Manganese	2.5 E-1	5.0 E-2	(2)
Perchlorate	NA	NA	see text
Vanadium	5.5 E-3	3.0 E-3	Baes *et al.* 1984
Aldehydes			
Formaldehyde	2.4 E+1	4.3 E-1	USEPA 2005b
Semi-Volatile Organic Compounds			
Benzo(a)anthracene	2.0 E-2	3.0 E-3	USEPA 2005b
Benzo(a)pyrene	1.1 E-2	2.6 E-3	USEPA 2005b
Benzo(b)fluoranthene	1.0 E-2	2.4 E-3	USEPA 2005b
Benzo(k)fluoranthene	1.0 E-2	2.4 E-3	USEPA 2005b
Chrysene	1.9 E-2	3.3 E-3	USEPA 2005b
Dibenzo(a,h)anthracene	4.9 E-3	2.0 E-2	USEPA 2005b
Hexachlorobenzene	1.9 E-2	2.1 E-1	USEPA 2005b
Indeno(1,2,3-cd)pyrene	3.9 E-3	3.1 E-3	USEPA 2005b

(1) Calculations were performed as identified in the Closure Plan (BRC and ERM 2007) as shown in
USEPA 2005 - Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities.

TABLE 6-8
RESIDENTIAL EXPOSURE FACTORS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Parameter	Abbrev.	Value	Units	Reference
Dermal absorption fraction	ABS	---chemical-specific---		see text
Soil-plant bioconcentration factors	Br	---chemical-specific---		see text
Dermal adherence factor, adult	AF_a	0.07	mg/cm^2	Closure Plan
Dermal adherence factor, child	AF_c	0.2	mg/cm^2	Closure Plan
Averaging time, carcinogenic	AT_c	70	years	Closure Plan
Averaging time, carcinogenic (inhalation)	AT_c	613200	hours	Closure Plan
Averaging time, non-carcinogenic	AT_{nc}	6	years	Closure Plan
Averaging time, non-carcinogenic (inhalation)	AT_{nc}	52560	hours	Closure Plan
Adult body weight	BW_a	70	kg	Closure Plan
Child body weight	BW_c	15	kg	Closure Plan
Exposure frequency	EF_r	350	days/year	Closure Plan
Exposure duration - child	ED_{rc}	6	years	Closure Plan
Exposure duration - child (inhalation)	ED_{rc}	52560	hours	Closure Plan
Exposure duration - adult (for age-weighted)	ED_{ra}	24	years	Closure Plan
Exposure duration - adult (for age-weighted; inhalation)	ED_{ra}	210240	hours	Closure Plan
Exposure duration	EDr	30	years	Closure Plan
Exposure duration (inhalation)	EDr	262800	hours	Closure Plan
Exposure time - outdoors (inhalation only)	ET_o	2.0	hours	Closure Plan
Exposure time - indoors (inhalation only)	ET_i	16.7	hours	Closure Plan
Dilution factor for outdoor-to-indoor air	DF_i	0.4	unitless	Closure Plan
Available skin surface area, adult	SA_a	5,700	cm^2/day	Closure Plan
Available skin surface area, child	SA_c	2,800	cm^2/day	Closure Plan
Fruit/vegetable ingestion rate, aboveground, child	$CR_{ag,c}$	0.0179	kg DW/d	Closure Plan
Fruit/vegetable ingestion rate, belowground, child	$CR_{bg,c}$	0.0033	kg DW/d	Closure Plan
Fruit/vegetable ingestion rate, aboveground, adult	$CR_{ag,a}$	0.0609	kg DW/d	Closure Plan
Fruit/vegetable ingestion rate, belowground, adult	$CR_{bg,a}$	0.0098	kg DW/d	Closure Plan
Contaminated plant fraction from the site	CPF	0.25	--	Closure Plan
Adult soil ingestion rate	$IR_{s,a}$	100	mg/day	Closure Plan
Child soil ingestion rate	$IR_{s,c}$	200	mg/day	Closure Plan
Soil ingestion, noncancer	--	1.28 E-5	day^{-1}	Calculated
Soil ingestion, cancer	--	1.57 E-6	day^{-1}	Calculated
Soil dermal contact, noncancer	--	3.58 E-5	day^{-1}	Calculated
Soil dermal contact, cancer	--	4.94 E-6	day^{-1}	Calculated
Inhalation, soil-dust, outdoor, noncancer	--	7.99 E-2	unitless	Calculated
Inhalation, soil-dust, outdoor, cancer	--	3.42 E-2	unitless	Calculated
Inhalation, soil-volatiles, outdoor, noncancer	--	7.99 E-2	unitless	Calculated
Inhalation, soil-volatiles, outdoor, cancer	--	3.42 E-2	unitless	Calculated
Fruit/Vegetable ingestion, noncancer - aboveground	--	2.86 E-4	day^{-1}	Calculated
Fruit/Vegetable ingestion, noncancer - belowground	--	5.27 E-5	day^{-1}	Calculated
Fruit/Vegetable ingestion, cancer - aboveground	--	9.60 E-5	day^{-1}	Calculated
Fruit/Vegetable ingestion, cancer - belowground	--	1.60 E-5	day^{-1}	Calculated
Inhalation, soil-dust, indoor, noncancer	--	2.67 E-1	unitless	Calculated
Inhalation, soil-dust, indoor, cancer	--	1.14 E-1	unitless	Calculated

TABLE 6-9
WORKERS EXPOSURE FACTORS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Parameter	Abbrev.	Value	Units	Reference
Dermal absorption fraction	ABS	---chemical-specific--		see text
Maintenance worker dermal adherence factor	AF_{mw}	0.2	mg/cm^2	Closure Plan
Commercial worker dermal adherence factor	AF_{cmw}	NA	mg/cm^2	Closure Plan
Construction worker dermal adherence factor	AF_{cw}	0.3	mg/cm^2	Closure Plan
Averaging time, carcinogenic	AT_c	70	years	Closure Plan
Averaging time, carcinogenic (inhalation)	AT_c	613200	hours	Closure Plan
Averaging time, non-carcinogenic, maintenance/commercial worker	AT_{nc}	25	years	Closure Plan
Averaging time, non-carcinogenic, maintenance/commercial worker (inhalation)	AT_{nc}	219000	hours	Closure Plan
Averaging time, non-carcinogenic, construction worker	$AT_{nc,c}$	1	years	Closure Plan
Averaging time, non-carcinogenic, construction worker (inhalation)	$AT_{nc,c}$	8760	hours	Closure Plan
Adult body weight	BW_a	70	kg	Closure Plan
Maintenance worker exposure frequency	EF_{mw}	225	days/year	Closure Plan
Commercial worker exposure frequency	EF_{cmw}	250	days/year	Closure Plan
Construction worker exposure frequency	EF_{cmw}	250	days/year	Closure Plan
Exposure duration, maintenance/commercial worker	ED	25	years	Closure Plan
Exposure duration, maintenance/commercial worker (inhalation)	ED	219000	hours	Closure Plan
Exposure duration, construction worker	ED	1	years	Closure Plan
Exposure duration, construction worker (inhalation)	ED	8760	hours	Closure Plan
Maintenance worker exposed surface area	SA_{mw}	3,300	cm^2/day	Closure Plan
Construction worker exposed surface area	SA_{mw}	3,300	cm^2/day	Closure Plan
Commercial worker exposed surface area	SA_{cmw}	NA	cm^2/day	Closure Plan
Maintenance worker soil ingestion rate	$IR_{s,mw}$	100	mg/day	Closure Plan
Commercial worker soil ingestion rate	$IR_{s,cmw}$	50	mg/day	Closure Plan
Construction worker soil ingestion rate	$IR_{s,cmw}$	330	mg/day	Closure Plan
Commercial worker exposure time, indoors	$ET_{cmw,i}$	8	based on 8 hr/d	Closure Plan
Commercial worker exposure time, outdoors	$ET_{cmw,o}$	0	indoor worker	Closure Plan
Maintenance worker exposure time, indoors	$ET_{mw,i}$	0	outdoor worker	Closure Plan
Maintenance worker exposure time, outdoors	$ET_{mw,o}$	8	based on 8 hr/d	Closure Plan
Soil ingestion, non-cancer, commercial worker	--	4.89 E-7	day^{-1}	Calculated
Soil ingestion, cancer, commercial worker	--	1.75 E-7	day^{-1}	Calculated
Soil ingestion, non-cancer, maintenance worker	--	8.81 E-7	day^{-1}	Calculated
Soil ingestion, cancer, maintenance worker	--	3.15 E-7	day^{-1}	Calculated
Soil dermal contact, non-cancer, maintenance worker	--	5.81 E-6	day^{-1}	Calculated
Soil dermal contact, cancer, maintenance worker	--	2.08 E-6	day^{-1}	Calculated
Inhalation, fugitive-dust, outdoor, non-cancer, maintenance worker	--	2.05 E-1	unitless	Calculated
Inhalation, fugitive-dust, outdoor, cancer, maintenance worker	--	7.34 E-2	unitless	Calculated
Soil ingestion, noncancer, construction worker	--	3.23 E-6	day^{-1}	Calculated
Soil ingestion, cancer, construction worker	--	4.61 E-8	day^{-1}	Calculated
Soil dermal contact, noncancer, construction worker	--	9.69 E-6	day^{-1}	Calculated
Soil dermal contact, cancer, construction worker	--	1.38 E-7	day^{-1}	Calculated
Inhalation, soil-dust, outdoor, noncancer, construction worker	--	2.28 E-1	unitless	Calculated
Inhalation, soil-dust, outdoor, cancer, construction worker	--	3.26 E-3	unitless	Calculated

Note: Exposure parameters for maintenance workers and commerical workers are based on outdoor and indoor commercial/industrial worker exposure factors, respectively, from USEPA, 2002b.

TABLE 6-10
TOXICITY CRITERIA FOR SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Compound	Cancer IUR $1/(\mu g/m^3)$		Non-Cancer RfC (mg/m^3)	
1,1,1,2-Tetrachloroethane	7.4 E-6	I	--	
1,1,1-Trichloroethane	--		5.0 E+0	I
1,1,2,2-Tetrachloroethane	5.8 E-5	I	--	
1,1,2-Trichloroethane	1.6 E-5	I	--	
1,1-Dichloroethane	1.6 E-6	CA	--	
1,1-Dichloroethene	--		2.0 E-1	I
1,1-Dichloropropene	--		2.0 E-2	S
1,2,3-Trichloropropane	--		3.0 E-4	I
1,2,4-Trichlorobenzene	--		4.0 E-3	P
1,2,4-Trimethylbenzene	--		7.0 E-3	P
1,2-Dibromoethane	6.0 E-4	I	9.0 E-3	I
1,2-Dichlorobenzene	--		2.0 E-1	H
1,2-Dichloroethane	2.6 E-5	I	2.4 E+0	A
1,2-Dichloropropane	1.0 E-5	CA	4.0 E-3	I
1,3,5-Trimethylbenzene	--		7.0 E-3	P
1,3-Dichlorobenzene	--		2.0 E-1	S
1,3-Dichloropropane	--		4.0 E-3	S
1,4-Dichlorobenzene	1.1 E-5	CA	8.0 E-1	I
1,4-Dioxane	7.7 E-6	CA	3.6 E+0	A
2,2-Dichloropropane	--		4.0 E-3	S
2-Hexanone	--		3.0 E-2	I
2-Methyl-1-propanol	--		3.0 E+1	S
4-Methyl-2-pentanone (MIBK)	--		3.0 E+0	I
Acetone	--		3.1 E+1	A
Acetonitrile	--		6.0 E-2	I
Benzene	7.8 E-6	I	3.0 E-2	I
Benzyl chloride	--		1.0 E-3	P
Bromodichloromethane	--		1.0 E+0	S
Bromoform	1.1 E-6	I	--	
Bromomethane	--		5.0 E-3	I
Carbon disulfide	--		7.0 E-1	I
Carbon tetrachloride	6.0 E-6	I	1.0 E-1	I
Chlorobenzene	--		5.0 E-2	P
Chlorobromomethane	--		4.0 E-2	S
Chloroethane	--		1.0 E+1	I
Chloroform	2.3 E-5	I	9.8 E-2	A
Chloromethane	1.8 E-6	H	9.0 E-2	I

TABLE 6-10
TOXICITY CRITERIA FOR SURFACE FLUX
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 2)

Compound	Cancer IUR 1/(μg/m^3)		Non-Cancer RfC (mg/m^3)	
cis-1,2-Dichloroethene	--		6.0 E-2	S
cis-1,3-Dichloropropene	4.0 E-6	I	2.0 E-2	I
Cymene (Isopropyltoluene)	--		4.0 E-1	S
Dibromochloromethane	2.7 E-5	CA	--	
Dibromochloropropane	6.0 E-3	P	2.0 E-4	I
Dibromomethane	--		4.0 E-3	S
Dichloromethane (Methylene chloride)	4.7 E-7	I	1.1 E+0	A
Ethanol	--		1.0 E+2	S
Ethylbenzene	2.5 E-6	CA	1.0 E+0	I
Freon-11 (Trichlorofluoromethane)	--		7.0 E-1	H
Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	--		3.0 E+1	H
Freon-12 (Dichlorodifluoromethane)	--		2.0 E-1	H
Heptane	--		7.0 E+0	S
Hexachlorobutadiene	2.2 E-5	I	--	
Isopropylbenzene	--		4.0 E-1	I
m & p-Xylenes	--		1.0 E-1	I
Methyl ethyl ketone (2-Butanone)	--		5.0 E+0	I
Methyl iodide	--		1.7 E-1	S
MTBE (Methyl tert-butyl ether)	2.6 E-7	CA	3.0 E+0	I
Naphthalene	3.4 E-5	CA	3.0 E-3	I
n-Butylbenzene	--		4.0 E-1	S
n-Propylbenzene	--		4.0 E-1	S
o-Xylene	--		1.0 E-1	I
sec-Butylbenzene	--		4.0 E-1	S
Styrene	--		1.0 E+0	I
tert-Butylbenzene	--		4.0 E-1	S
Tetrachloroethene	2.6 E-7	I	4.0 E-2	I
Toluene	--		5.0 E+0	I
trans-1,2-Dichloroethene	--		6.0 E-2	P
trans-1,3-Dichloropropene	4.0 E-6	I	2.0 E-2	I
Trichloroethene	4.1 E-6	I	2.0 E-3	I
Vinyl acetate	--		2.0 E-1	I
Vinyl chloride	4.4 E-6	I	1.0 E-1	I

Key:
A = ATSDR
H = HEAST (USEPA 1997)
I = IRIS (USEPA 2012)
CA = Cal/EPA (from NDEP 2012a)
P = USEPA EPA PPRTV (from NDEP 2012a)
S = NDEP Surrogate (from NDEP 2012a)

TABLE 6-11
NON-CANCER TOXICITY CRITERIA FOR SOIL
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Chemical	Inhalation - Chronic		Inhalation - Subchronic		Oral(1) - Chronic		Oral(1) - Subchronic		Oral BIO	Dermal ABS(2)
	Value (mg/m^3)	Reference	Value (mg/m^3)	Reference	Value (mg/kg/day)	Reference	Value (mg/kg/day)	Reference		
Inorganics										
Ammonia (as N)	1.0 E-1	USEPA 2012	1.0 E-1	Chronic	NA		NA		1.0	NA
Perchlorate	NA		NA		7.0 E-4	USEPA 2012	7.0 E-4	Chronic	1.0	NA
Aluminum	5.0 E-3	PPRTV	5.0 E-3	Chronic	1.0 E+0	PPRTV	1.0 E+0	Chronic	1.0	NA
Cobalt	6.0 E-6	PPRTV	6.0 E-6	Chronic	3.0 E-4	PPRTV	3.0 E-4	Chronic	1.0	NA
Manganese (non-food)	5.0 E-5	USEPA 2012	5.0 E-5	Chronic	4.7 E-2	USEPA 2012	4.7 E-2	Chronic	1.0	NA
Manganese (food)	5.0 E-5	USEPA 2012	5.0 E-5	Chronic	1.4 E-1	USEPA 2012	1.4 E-1	Chronic	1.0	NA
Vanadium	NA		NA		5.0 E-3	USEPA 2012	5.0 E-3	Chronic	1.0	NA
Organic Compounds										
Formaldehyde	9.8 E-3	ATSDR	9.8 E-3	Chronic	2.0 E-1	USEPA 2012	2.0 E-1	Chronic	1.0	0.1
Hexachlorobenzene	NA		NA		8.0 E-4	USEPA 2012	8.0 E-4	Chronic	1.0	0.1
Benzo(a)anthracene	NA		NA		3.0 E-2	pyrene as surrogate	3.0 E-2	Chronic	1.0	0.13
Benzo(a)pyrene	NA		NA		3.0 E-2	pyrene as surrogate	3.0 E-2	Chronic	1.0	0.13
Benzo(b)fluoranthene	NA		NA		3.0 E-2	pyrene as surrogate	3.0 E-2	Chronic	1.0	0.13
Benzo(k)fluoranthene	NA		NA		3.0 E-2	USEPA 2012	3.0 E-2	Chronic	1.0	0.13
Chrysene	NA		NA		3.0 E-2	pyrene as surrogate	3.0 E-2	Chronic	1.0	0.13
Dibenzo(a,h)anthracene	NA		NA		3.0 E-2	pyrene as surrogate	3.0 E-2	Chronic	1.0	0.13
Indeno(1,2,3-cd)pyrene	NA		NA		3.0 E-2	pyrene as surrogate	3.0 E-2	Chronic	1.0	0.13

Notes

Values obtained from NDEP (2012a).

NA = Not applicable. Data is either not applicable for this chemical or not available.

BIO = bioavailability

ABS = dermal absorption efficiency

(1) Vanadium required the adjustment of the oral toxicity criteria for the dermal soil exposure pathway (USEPA 2004e).

(2) Dermal absorption factors obtained from USEPA 2004e.

TABLE 6-12
CANCER TOXICITY CRITERIA FOR SOIL
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Chemical	Inhalation		Oral[1]		Oral BIO	Dermal ABS[2]
	Value $(\mu g/m^3)^{-1}$	Reference	Value $(mg/kg\text{-}day)^{-1}$	Reference		
Inorganics						
Ammonia (as N)	NA		NA		1.0	NA
Perchlorate	NA		NA		1.0	NA
Aluminum	NA		NA		1.0	NA
Cobalt	9.0 E-3	PPRTV	NA		1.0	NA
Manganese	NA		NA		1.0	NA
Vanadium	NA		NA		1.0	NA
Organic Compounds						
Formaldehyde	1.3 E-5	USEPA 2012	NA		1.0	0.1
Hexachlorobenzene	4.6 E-4	USEPA 2012	1.6 E+0	USEPA 2012	1.0	0.1
Benzo(a)anthracene	1.1 E-4	Cal/EPA	7.3 E-1	USEPA 1993	1.0	0.13
Benzo(a)pyrene	1.1 E-3	Cal/EPA	7.3 E+0	USEPA 2012	1.0	0.13
Benzo(b)fluoranthene	1.1 E-4	Cal/EPA	7.3 E-1	USEPA 1993	1.0	0.13
Benzo(k)fluoranthene	1.1 E-4	Cal/EPA	7.3 E-2	USEPA 1993	1.0	0.13
Chrysene	1.1 E-5	Cal/EPA	7.3 E-3	USEPA 1993	1.0	0.13
Dibenzo(a,h)anthracene	1.2 E-3	Cal/EPA	7.3 E+0	USEPA 1993	1.0	0.13
Indeno(1,2,3-cd)pyrene	1.1 E-4	Cal/EPA	7.3 E-1	USEPA 1993	1.0	0.13

Notes
Values obtained from NDEP (2012a).
NA = Not applicable. Data is either not applicable for this chemical (*i.e.* , not carcinogenic) or not available.
BIO = bioavailability - NOTE: The basis for the arsenic oral bioavailability is presented in Closure Plan.
ABS = dermal absorption efficiency
(1) No COPCs required oral toxicity criteria adjustment for the dermal soil exposure pathway (USEPA 2004e).
(2) Dermal absorption factors obtained from USEPA 2004e.

TABLE 6-13
TARGET ORGANS FOR NON-CARCINOGENS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

	Oral/Dermal					
Chemical	**Primary Target Organ**	**Reference**	**Secondary Target Organ**	**Reference**	**Tertiary Target Organ**	**Reference**
Inorganics						
Aluminum	CNS	ORNL 2012	Reproduction	ORNL 2012	NA	
Ammonia	NA		NA		NA	
Cobalt	Thyroid	PPRTV	Blood	ORNL 2012	NA	
Manganese	CNS	USEPA 2012	Reproduction	ORNL 2012	NA	
Perchlorate	Thyroid	USEPA 2012	NA		NA	
Vanadium	Kidney	ORNL 2012	Gastrointestinal	ORNL 2012	Blood	ORNL 2012
Organic Compounds						
Benzo(a)anthracene	Kidney	Pyrene	Liver	Pyrene	Blood	Pyrene
Benzo(a)pyrene	Kidney	Pyrene	Liver	Pyrene	Blood	Pyrene
Benzo(b)fluoranthene	Kidney	Pyrene	Liver	Pyrene	Blood	Pyrene
Benzo(k)fluoranthene	Kidney	Pyrene	Liver	Pyrene	Blood	Pyrene
beta-BHC	NA		NA		NA	
Chrysene	Kidney	Pyrene	Liver	Pyrene	Blood	Pyrene
Dibenzo(a,h)anthracene	Kidney	Pyrene	Liver	Pyrene	Blood	Pyrene
Formaldehyde	Reduced body weight	USEPA 2012	NA		NA	
Hexachlorobenzene	Liver	USEPA 2012	NA		NA	
Pyrene	Kidney	USEPA 2012	Liver	ORNL 2012	Blood	ORNL 2012

Note: Target organs are not identified for the surface flux COPCs.
NA - Not applicable. Data is either not applicable for this chemical (*e.g.* , not carcinogenic) or not available.
CNS - Central Nervous System
IRIS - USEPA's Integrated Risk Information System. (http://cfpub.epa.gov/ncea/iris/index.cfm).
ORNL - Oak Ridge National Laboratory (http://rais.ornl.gov/tools/tox_profiles.html).

TABLE 6-13
TARGET ORGANS FOR NON-CARCINOGENS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 2)

Chemical	Inhalation					
	Primary Target Organ	Reference	Secondary Target Organ	Reference	Tertiary Target Organ	Reference
Inorganics						
Aluminum	Respiratory system	ORNL 2012	NA		NA	
Ammonia	Respiratory system	USEPA 2012	NA		NA	
Cobalt	Respiratory system	ORNL 2012	NA		NA	
Manganese	CNS	ORNL 2012	Respiratory System	ORNL 2012	Reproduction	ORNL 2012
Perchlorate	NA		NA		NA	
Vanadium	NA		NA		NA	
Organic Compounds						
Benzo(a)anthracene	NA		NA		NA	
Benzo(a)pyrene	NA		NA		NA	
Benzo(b)fluoranthene	NA		NA		NA	
Benzo(k)fluoranthene	NA		NA		NA	
beta-BHC	NA		NA		NA	
Chrysene	NA		NA		NA	
Dibenzo(a,h)anthracene	NA		NA		NA	
Formaldehyde	NA		NA		NA	
Hexachlorobenzene	NA		NA		NA	
Pyrene	NA		NA		NA	

Note: Target organs are not identified for the surface flux COPCs.
NA - Not applicable. Data is either not applicable for this chemical (*e.g.* , not carcinogenic) or not available.
CNS - Central Nervous System
IRIS - USEPA's Integrated Risk Information System. (http://cfpub.epa.gov/ncea/iris/index.cfm).
ORNL - Oak Ridge National Laboratory (http://rais.ornl.gov/tools/tox_profiles.html).

TABLE 6-14a
CHEMICAL RISK SUMMARY FOR RESIDENTIAL RECEPTORS - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	Target Organ	Target Organ HIs	ILCR
Future On-Site Resident				
Soil, Dermal, Homegrown Produce and Dust	1.6	--	--	6 E-7
Volatile Inhalation (from Flux)(1)	0.065	--	--	3 E-6
Combined	1.6			3 E-6

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Homegrown Produce HQ	Indoor Dust Inhal HQ	Outdoor Dust Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Homegrown Produce ILCR	Indoor Dust Inhal ILCR	Outdoor Dust Inhal ILCR	Total ILCR
Aldehydes													
Formaldehyde	0.60	3.8 E-5	1.1 E-5	2.1 E-2	2.0 E-8	5.9 E-9	2.1 E-2	NA	NA	NA	1 E-12	3 E-13	1 E-12
Inorganics													
Aluminum	12120	1.5 E-1	NA	1.4 E-2	7.8 E-4	2.3 E-4	1.7 E-1	NA	NA	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	NA	1.4 E-8	4.2 E-9	1.8 E-8	NA	NA	NA	NA	NA	NA
Cobalt	11.4	4.9 E-1	NA	2.3 E-1	6.1 E-4	1.8 E-4	7.2 E-1	NA	NA	NA	1 E-8	4 E-9	2 E-8
Manganese	617	1.7 E-1	NA	3.3 E-1	4.0 E-3	1.2 E-3	5.0 E-1	NA	NA	NA	NA	NA	NA
Perchlorate	0.89	1.6 E-2	NA	NA	NA	NA	1.6 E-2	NA	NA	NA	NA	NA	NA
Vanadium	51.7	1.3 E-1	NA	1.8 E-2	NA	NA	1.5 E-1	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons													
Benzo(a)anthracene	0.0026	1.1 E-6	4.0 E-7	5.1 E-7	NA	NA	2.0 E-6	3 E-9	1 E-9	4 E-9	4 E-14	1 E-14	8 E-9
Benzo(a)pyrene	0.0027	1.1 E-6	4.2 E-7	3.0 E-7	NA	NA	1.9 E-6	3 E-8	1 E-8	2 E-8	4 E-13	1 E-13	6 E-8
Benzo(b)fluoranthene	0.0064	2.7 E-6	1.0 E-6	6.5 E-7	NA	NA	4.4 E-6	7 E-9	3 E-9	5 E-9	1 E-13	3 E-14	2 E-8
Benzo(k)fluoranthene	0.0016	6.8 E-7	2.5 E-7	1.6 E-7	NA	NA	1.1 E-6	2 E-10	8 E-11	1 E-10	2 E-14	7 E-15	4 E-10
Chrysene	0.0030	1.3 E-6	4.7 E-7	5.5 E-7	NA	NA	2.3 E-6	3 E-11	1 E-11	4 E-11	5 E-15	1 E-15	9 E-11
Dibenzo(a,h)anthracene	0.0010	4.3 E-7	1.5 E-7	8.1 E-8	NA	NA	6.6 E-7	1 E-8	5 E-9	6 E-9	2 E-13	5 E-14	2 E-8
Indeno(1,2,3-cd)pyrene	0.0031	1.3 E-6	4.8 E-7	1.3 E-7	NA	NA	1.9 E-6	4 E-9	1 E-9	1 E-9	5 E-14	1 E-14	6 E-9
Semi-Volatile Organic Compounds													
Hexachlorobenzene	0.038	6.0 E-4	1.7 E-4	7.7 E-4	NA	NA	1.5 E-3	9 E-8	3 E-8	3 E-7	2 E-12	7 E-13	4 E-7
Total		0.96	0.00018	0.61	5.4 E-3	1.6 E-3	**1.6**	2 E-7	5 E-8	3 E-7	1 E-8	4 E-9	**6 E-7**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-14b
CHEMICAL RISK SUMMARY FOR RESIDENTIAL RECEPTORS - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	Target Organ	Target Organ HIs	ILCR
Future On-Site Resident				
Soil, Dermal, Homegrown Produce and Dust	2.1	--	--	6 E-7
Volatile Inhalation (from Flux)(1)	0.065	--	--	3 E-6
Combined	2.2			3 E-6

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Homegrown Produce HQ	Indoor Dust Inhal HQ	Outdoor Dust Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Homegrown Produce ILCR	Indoor Dust Inhal ILCR	Outdoor Dust Inhal ILCR	Total ILCR
Aldehydes													
Formaldehyde	0.60	3.8 E-5	1.1 E-5	2.1 E-2	2.0 E-8	5.9 E-9	2.1 E-2	NA	NA	NA	1 E-12	3 E-13	1 E-12
Inorganics													
Aluminum	16100	2.1 E-1	NA	1.9 E-2	1.0 E-3	3.1 E-4	2.3 E-1	NA	NA	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	NA	1.4 E-8	4.2 E-9	1.8 E-8	NA	NA	NA	NA	NA	NA
Cobalt	15.1	6.4 E-1	NA	3.1 E-1	8.1 E-4	2.4 E-4	9.5 E-1	NA	NA	NA	2 E-8	6 E-9	2 E-8
Manganese	809	2.2 E-1	NA	4.3 E-1	5.2 E-3	1.6 E-3	6.6 E-1	NA	NA	NA	NA	NA	NA
Perchlorate	0.89	1.6 E-2	NA	NA	NA	NA	1.6 E-2	NA	NA	NA	NA	NA	NA
Vanadium	82.3	2.1 E-1	NA	2.9 E-2	NA	NA	2.4 E-1	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons													
Benzo(a)anthracene	0.0026	1.1 E-6	4.0 E-7	5.1 E-7	NA	NA	2.0 E-6	3 E-9	1 E-9	4 E-9	4 E-14	1 E-14	8 E-9
Benzo(a)pyrene	0.0027	1.1 E-6	4.2 E-7	3.0 E-7	NA	NA	1.9 E-6	3 E-8	1 E-8	2 E-8	4 E-13	1 E-13	6 E-8
Benzo(b)fluoranthene	0.0064	2.7 E-6	1.0 E-6	6.5 E-7	NA	NA	4.4 E-6	7 E-9	3 E-9	5 E-9	1 E-13	3 E-14	2 E-8
Benzo(k)fluoranthene	0.0016	6.8 E-7	2.5 E-7	1.6 E-7	NA	NA	1.1 E-6	2 E-10	8 E-11	1 E-10	2 E-14	7 E-15	4 E-10
Chrysene	0.0030	1.3 E-6	4.7 E-7	5.5 E-7	NA	NA	2.3 E-6	3 E-11	1 E-11	4 E-11	5 E-15	1 E-15	9 E-11
Dibenzo(a,h)anthracene	0.0010	4.3 E-7	1.5 E-7	8.1 E-8	NA	NA	6.6 E-7	1 E-8	5 E-9	6 E-9	2 E-13	5 E-14	2 E-8
Indeno(1,2,3-cd)pyrene	0.0031	1.3 E-6	4.8 E-7	1.3 E-7	NA	NA	1.9 E-6	4 E-9	1 E-9	1 E-9	5 E-14	1 E-14	6 E-9
Semi-Volatile Organic Compounds													
Hexachlorobenzene	0.038	6.0 E-4	1.7 E-4	7.7 E-4	NA	NA	1.5 E-3	9 E-8	3 E-8	3 E-7	2 E-12	7 E-13	4 E-7
Total		1.30	0.00018	0.80	7.1 E-3	2.1 E-3	**2.1**	2 E-7	5 E-8	3 E-7	2 E-8	6 E-9	**6 E-7**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-14c
CHEMICAL RISK SUMMARY FOR RESIDENTIAL RECEPTORS - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	Target Organ	Target Organ HIs	ILCR
Future On-Site Resident				
Soil, Dermal, Homegrown Produce and Dust	2.4	--	--	6 E-7
Volatile Inhalation (from Flux)(1)	0.065	--	--	3 E-6
Combined	2.5			3 E-6

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Homegrown Produce HQ	Indoor Dust Inhal HQ	Outdoor Dust Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Homegrown Produce ILCR	Indoor Dust Inhal ILCR	Outdoor Dust Inhal ILCR	Total ILCR
Aldehydes													
Formaldehyde	0.60	3.8 E-5	1.1 E-5	2.1 E-2	2.0 E-8	5.9 E-9	2.1 E-2	NA	NA	NA	1 E-12	3 E-13	1 E-12
Inorganics													
Aluminum	17120	2.2 E-1	NA	2.0 E-2	1.1 E-3	3.3 E-4	2.4 E-1	NA	NA	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	NA	1.4 E-8	4.2 E-9	1.8 E-8	NA	NA	NA	NA	NA	NA
Cobalt	17.9	7.6 E-1	NA	3.6 E-1	9.6 E-4	2.9 E-4	1.1 E+0	NA	NA	NA	2 E-8	7 E-9	3 E-8
Manganese	891	2.4 E-1	NA	4.7 E-1	5.7 E-3	1.7 E-3	7.2 E-1	NA	NA	NA	NA	NA	NA
Perchlorate	0.89	1.6 E-2	NA	NA	NA	NA	1.6 E-2	NA	NA	NA	NA	NA	NA
Vanadium	99.9	2.6 E-1	NA	3.5 E-2	NA	NA	2.9 E-1	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons													
Benzo(a)anthracene	0.0026	1.1 E-6	4.0 E-7	5.1 E-7	NA	NA	2.0 E-6	3 E-9	1 E-9	4 E-9	4 E-14	1 E-14	8 E-9
Benzo(a)pyrene	0.0027	1.1 E-6	4.2 E-7	3.0 E-7	NA	NA	1.9 E-6	3 E-8	1 E-8	2 E-8	4 E-13	1 E-13	6 E-8
Benzo(b)fluoranthene	0.0064	2.7 E-6	1.0 E-6	6.5 E-7	NA	NA	4.4 E-6	7 E-9	3 E-9	5 E-9	1 E-13	3 E-14	2 E-8
Benzo(k)fluoranthene	0.0016	6.8 E-7	2.5 E-7	1.6 E-7	NA	NA	1.1 E-6	2 E-10	8 E-11	1 E-10	2 E-14	7 E-15	4 E-10
Chrysene	0.0030	1.3 E-6	4.7 E-7	5.5 E-7	NA	NA	2.3 E-6	3 E-11	1 E-11	4 E-11	5 E-15	1 E-15	9 E-11
Dibenzo(a,h)anthracene	0.0010	4.3 E-7	1.5 E-7	8.1 E-8	NA	NA	6.6 E-7	1 E-8	5 E-9	6 E-9	2 E-13	5 E-14	2 E-8
Indeno(1,2,3-cd)pyrene	0.0031	1.3 E-6	4.8 E-7	1.3 E-7	NA	NA	1.9 E-6	4 E-9	1 E-9	1 E-9	5 E-14	1 E-14	6 E-9
Semi-Volatile Organic Compounds													
Hexachlorobenzene	0.038	6.0 E-4	1.7 E-4	7.7 E-4	NA	NA	1.5 E-3	9 E-8	3 E-8	3 E-7	2 E-12	7 E-13	4 E-7
Total		1.50	0.00018	0.91	7.8 E-3	2.3 E-3	**2.4**	2 E-7	5 E-8	3 E-7	2 E-8	7 E-9	**6 E-7**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-15
BACKGROUND RISK SUMMARY FOR RESIDENTIAL RECEPTORS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	Target Organ	Target Organ HIs	ILCR
Future On-Site Resident				
Soil, Dermal, Homegrown Produce and Dust	1.2	--	--	1 E-8
Volatile Inhalation (from Flux)[(1)]	--	--	--	--
Combined	1.2			1 E-8

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Homegrown Produce HQ	Indoor Dust Inhal HQ	Outdoor Dust Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Homegrown Produce ILCR	Indoor Dust Inhal ILCR	Outdoor Dust Inhal ILCR	Total ILCR
Aldehydes													
Formaldehyde	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	9430	1.2 E-1	NA	1.1 E-2	6.1 E-4	1.8 E-4	1.3 E-1	NA	NA	NA	NA	NA	NA
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	9.2	3.9 E-1	NA	1.9 E-1	4.9 E-4	1.5 E-4	5.8 E-1	NA	NA	NA	1 E-8	3 E-9	1 E-8
Manganese	437	1.2 E-1	NA	2.3 E-1	2.8 E-3	8.4 E-4	3.5 E-1	NA	NA	NA	NA	NA	NA
Perchlorate	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	40.6	1.0 E-1	NA	1.4 E-2	NA	NA	1.2 E-1	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons													
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds													
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--
Total		0.73	NA	0.44	0.0039	0.0012	**1.2**	NA	NA	NA	1 E-8	3 E-9	**1 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that background risk estimates for surface flux data were not conducted.

TABLE 6-16a
CHEMICAL RISK SUMMARY FOR CONSTRUCTION WORKER RECEPTORS - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Construction Worker		
Soil, Dermal and Dust	0.59	4 E-8
Volatile Inhalation (from Flux)(1)	0.0072	2 E-9
Combined	0.60	4 E-8

Chemical	Soil Concentration (mg/kg)	Oral HQ	Dermal HQ	Outdoor Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Outdoor Inhal ILCR	Total ILCR
Aldehydes									
Formaldehyde	0.60	9.6 E-6	2.9 E-6	1.3 E-6	1.4 E-5	NA	NA	2 E-12	2 E-12
Metals									
Aluminum	12120	3.9 E-2	0.0 E+0	5.0 E-2	9.0 E-2	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	9.0 E-7	9.0 E-7	NA	NA	NA	NA
Cobalt	11.4	1.2 E-1	0.0 E+0	4.0 E-2	1.6 E-1	NA	NA	3 E-8	3 E-8
Manganese	617	4.2 E-2	0.0 E+0	2.6 E-1	3.0 E-1	NA	NA	NA	NA
Perchlorate	0.89	4.1 E-3	0.0 E+0	NA	4.1 E-3	NA	NA	NA	NA
Vanadium	51.7	3.3 E-2	0.0 E+0	NA	3.3 E-2	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons									
Benzo(a)anthracene	0.0026	2.8 E-7	1.1 E-7	NA	3.8 E-7	9 E-11	3 E-11	8 E-14	1 E-10
Benzo(a)pyrene	0.0027	2.9 E-7	1.1 E-7	NA	4.0 E-7	9 E-10	4 E-10	9 E-13	1 E-9
Benzo(b)fluoranthene	0.0064	6.9 E-7	2.7 E-7	NA	9.6 E-7	2 E-10	8 E-11	2 E-13	3 E-10
Benzo(k)fluoranthene	0.0016	1.7 E-7	6.7 E-8	NA	2.4 E-7	5 E-12	2 E-12	5 E-14	8 E-12
Chrysene	0.0030	3.2 E-7	1.3 E-7	NA	4.5 E-7	1 E-12	4 E-13	1 E-14	1 E-12
Dibenzo(a,h)anthracene	0.0010	1.1 E-7	4.2 E-8	NA	1.5 E-7	3 E-10	1 E-10	4 E-13	5 E-10
Indeno(1,2,3-cd)pyrene	0.0031	3.3 E-7	1.3 E-7	NA	4.6 E-7	1 E-10	4 E-11	1 E-13	1 E-10
Semi-Volatile Organic Compounds									
Hexachlorobenzene	0.038	1.5 E-4	4.6 E-5	NA	2.0 E-4	3 E-9	8 E-10	5 E-12	4 E-9
Total		0.24	0.000049	0.35	**0.59**	4 E-9	1 E-9	3 E-8	**4 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-16b
CHEMICAL RISK SUMMARY FOR CONSTRUCTION WORKER RECEPTORS - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Construction Worker		
Soil, Dermal and Dust	0.78	5 E-8
Volatile Inhalation (from Flux)(1)	0.0072	2 E-9
Combined	0.79	5 E-8

Chemical	Soil Concentration (mg/kg)	Oral HQ	Dermal HQ	Outdoor Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Outdoor Inhal ILCR	Total ILCR
Aldehydes									
Formaldehyde	0.60	9.6 E-6	2.9 E-6	1.3 E-6	1.4 E-5	NA	NA	2 E-12	2 E-12
Metals									
Aluminum	16100	5.2 E-2	0.0 E+0	6.7 E-2	1.2 E-1	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	9.0 E-7	9.0 E-7	NA	NA	NA	NA
Cobalt	15.1	1.6 E-1	0.0 E+0	5.2 E-2	2.2 E-1	NA	NA	4 E-8	4 E-8
Manganese	809	5.6 E-2	0.0 E+0	3.4 E-1	3.9 E-1	NA	NA	NA	NA
Perchlorate	0.89	4.1 E-3	0.0 E+0	NA	4.1 E-3	NA	NA	NA	NA
Vanadium	82.3	5.3 E-2	0.0 E+0	NA	5.3 E-2	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons									
Benzo(a)anthracene	0.0026	2.8 E-7	1.1 E-7	NA	3.8 E-7	9 E-11	3 E-11	8 E-14	1 E-10
Benzo(a)pyrene	0.0027	2.9 E-7	1.1 E-7	NA	4.0 E-7	9 E-10	4 E-10	9 E-13	1 E-9
Benzo(b)fluoranthene	0.0064	6.9 E-7	2.7 E-7	NA	9.6 E-7	2 E-10	8 E-11	2 E-13	3 E-10
Benzo(k)fluoranthene	0.0016	1.7 E-7	6.7 E-8	NA	2.4 E-7	5 E-12	2 E-12	5 E-14	8 E-12
Chrysene	0.0030	3.2 E-7	1.3 E-7	NA	4.5 E-7	1 E-12	4 E-13	1 E-14	1 E-12
Dibenzo(a,h)anthracene	0.0010	1.1 E-7	4.2 E-8	NA	1.5 E-7	3 E-10	1 E-10	4 E-13	5 E-10
Indeno(1,2,3-cd)pyrene	0.0031	3.3 E-7	1.3 E-7	NA	4.6 E-7	1 E-10	4 E-11	1 E-13	1 E-10
Semi-Volatile Organic Compounds									
Hexachlorobenzene	0.038	1.5 E-4	4.6 E-5	NA	2.0 E-4	3 E-9	8 E-10	5 E-12	4 E-9
Total		0.33	0.000049	0.46	**0.78**	4 E-9	1 E-9	4 E-8	**5 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-16c
CHEMICAL RISK SUMMARY - CONSTRUCTION WORKER RECEPTORS - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Construction Worker		
Soil, Dermal and Dust	0.88	5 E-8
Volatile Inhalation (from Flux)(1)	0.0072	2 E-9
Combined	0.89	6 E-8

Chemical	Soil Concentration (mg/kg)	Oral HQ	Dermal HQ	Outdoor Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Outdoor Inhal ILCR	Total ILCR
Aldehydes									
Formaldehyde	0.60	9.6 E-6	2.9 E-6	1.3 E-6	1.4 E-5	NA	NA	2 E-12	2 E-12
Metals									
Aluminum	17120	5.5 E-2	0.0 E+0	7.1 E-2	1.3 E-1	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	9.0 E-7	9.0 E-7	NA	NA	NA	NA
Cobalt	17.9	1.9 E-1	0.0 E+0	6.2 E-2	2.5 E-1	NA	NA	5 E-8	5 E-8
Manganese	891	6.1 E-2	0.0 E+0	3.7 E-1	4.3 E-1	NA	NA	NA	NA
Perchlorate	0.89	4.1 E-3	0.0 E+0	NA	4.1 E-3	NA	NA	NA	NA
Vanadium	99.9	6.4 E-2	0.0 E+0	NA	6.4 E-2	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons									
Benzo(a)anthracene	0.0026	2.8 E-7	1.1 E-7	NA	3.8 E-7	9 E-11	3 E-11	8 E-14	1 E-10
Benzo(a)pyrene	0.0027	2.9 E-7	1.1 E-7	NA	4.0 E-7	9 E-10	4 E-10	9 E-13	1 E-9
Benzo(b)fluoranthene	0.0064	6.9 E-7	2.7 E-7	NA	9.6 E-7	2 E-10	8 E-11	2 E-13	3 E-10
Benzo(k)fluoranthene	0.0016	1.7 E-7	6.7 E-8	NA	2.4 E-7	5 E-12	2 E-12	5 E-14	8 E-12
Chrysene	0.0030	3.2 E-7	1.3 E-7	NA	4.5 E-7	1 E-12	4 E-13	1 E-14	1 E-12
Dibenzo(a,h)anthracene	0.0010	1.1 E-7	4.2 E-8	NA	1.5 E-7	3 E-10	1 E-10	4 E-13	5 E-10
Indeno(1,2,3-cd)pyrene	0.0031	3.3 E-7	1.3 E-7	NA	4.6 E-7	1 E-10	4 E-11	1 E-13	1 E-10
Semi-Volatile Organic Compounds									
Hexachlorobenzene	0.038	1.5 E-4	4.6 E-5	NA	2.0 E-4	3 E-9	8 E-10	5 E-12	4 E-9
Total		0.38	0.000049	0.50	**0.88**	4 E-9	1 E-9	5 E-8	**5 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-17a
CHEMICAL RISK SUMMARY FOR COMMERCIAL (INDOOR) WORKER RECEPTORS - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Commercial Worker		
Soil and Dust	0.038	2 E-8
Volatile Inhalation (from Flux)(1)	0.0086	3 E-7
Combined	0.047	3 E-7

Chemical	Soil Concentration (mg/kg)	Oral HQ	Indoor Dust Inhal HQ	Total HI	Oral ILCR	Indoor Dust Inhal ILCR	Total ILCR
Aldehydes							
Formaldehyde	0.60	1.5 E-6	6.7 E-9	1.5 E-6	NA	3 E-13	3 E-13
Metals							
Aluminum	12120	5.9 E-3	2.7 E-4	6.2 E-3	NA	NA	NA
Ammonia (as N)	4.3	NA	4.8 E-9	4.8 E-9	NA	NA	NA
Cobalt	11.4	1.9 E-2	2.1 E-4	1.9 E-2	NA	4 E-9	4 E-9
Manganese	617	6.4 E-3	1.4 E-3	7.8 E-3	NA	NA	NA
Perchlorate	0.89	6.2 E-4	NA	6.2 E-4	NA	NA	NA
Vanadium	51.7	5.1 E-3	NA	5.1 E-3	NA	NA	NA
Polynuclear Aromatic Hydrocarbons							
Benzo(a)anthracene	0.0026	4.2 E-8	NA	4.2 E-8	3 E-10	1 E-14	3 E-10
Benzo(a)pyrene	0.0027	4.4 E-8	NA	4.4 E-8	3 E-9	1 E-13	3 E-9
Benzo(b)fluoranthene	0.0064	1.0 E-7	NA	1.0 E-7	8 E-10	3 E-14	8 E-10
Benzo(k)fluoranthene	0.0016	2.6 E-8	NA	2.6 E-8	2 E-11	7 E-15	2 E-11
Chrysene	0.0030	4.9 E-8	NA	4.9 E-8	4 E-12	1 E-15	4 E-12
Dibenzo(a,h)anthracene	0.0010	1.6 E-8	NA	1.6 E-8	1 E-9	5 E-14	1 E-9
Indeno(1,2,3-cd)pyrene	0.0031	5.0 E-8	NA	5.0 E-8	4 E-10	1 E-14	4 E-10
Semi-Volatile Organic Compounds							
Hexachlorobenzene	0.038	2.3 E-5	NA	2.3 E-5	1 E-8	7 E-13	1 E-8
Total		0.037	1.8 E-3	**0.038**	2 E-8	4 E-9	**2 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-17b
CHEMICAL RISK SUMMARY FOR COMMERCIAL (INDOOR) WORKER RECEPTORS - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Receptor	HI	ILCR
Future On-Site Commercial Worker		
Soil and Dust	0.052	2 E-8
Volatile Inhalation (from Flux)(1)	0.0086	3 E-7
Combined	0.061	3 E-7

Chemical	Soil Concentration (mg/kg)	Oral HQ	Indoor Dust Inhal HQ	Total HI	Oral ILCR	Indoor Dust Inhal ILCR	Total ILCR
Aldehydes							
Formaldehyde	0.60	1.5 E-6	6.7 E-9	1.5 E-6	NA	3 E-13	3 E-13
Metals							
Aluminum	16100	7.9 E-3	3.5 E-4	8.2 E-3	NA	NA	NA
Ammonia (as N)	4.3	NA	4.8 E-9	4.8 E-9	NA	NA	NA
Cobalt	15.1	2.5 E-2	2.8 E-4	2.5 E-2	NA	5 E-9	5 E-9
Manganese	809	8.4 E-3	1.8 E-3	1.0 E-2	NA	NA	NA
Perchlorate	0.89	6.2 E-4	NA	6.2 E-4	NA	NA	NA
Vanadium	82.3	8.1 E-3	NA	8.1 E-3	NA	NA	NA
Polynuclear Aromatic Hydrocarbons							
Benzo(a)anthracene	0.0026	4.2 E-8	NA	4.2 E-8	3 E-10	1 E-14	3 E-10
Benzo(a)pyrene	0.0027	4.4 E-8	NA	4.4 E-8	3 E-9	1 E-13	3 E-9
Benzo(b)fluoranthene	0.0064	1.0 E-7	NA	1.0 E-7	8 E-10	3 E-14	8 E-10
Benzo(k)fluoranthene	0.0016	2.6 E-8	NA	2.6 E-8	2 E-11	7 E-15	2 E-11
Chrysene	0.0030	4.9 E-8	NA	4.9 E-8	4 E-12	1 E-15	4 E-12
Dibenzo(a,h)anthracene	0.0010	1.6 E-8	NA	1.6 E-8	1 E-9	5 E-14	1 E-9
Indeno(1,2,3-cd)pyrene	0.0031	5.0 E-8	NA	5.0 E-8	4 E-10	1 E-14	4 E-10
Semi-Volatile Organic Compounds							
Hexachlorobenzene	0.038	2.3 E-5	NA	2.3 E-5	1 E-8	7 E-13	1 E-8
Total		0.050	2.4 E-3	**0.052**	2 E-8	5 E-9	**2 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-17c
CHEMICAL RISK SUMMARY FOR COMMERCIAL (INDOOR) WORKER RECEPTORS - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Receptor	HI	ILCR
Future On-Site Commercial Worker		
Soil and Dust	0.060	2 E-8
Volatile Inhalation (from Flux)(1)	0.0086	3 E-7
Combined	0.069	3 E-7

Chemical	Soil Concentration (mg/kg)	Oral HQ	Indoor Dust Inhal HQ	Total HI	Oral ILCR	Indoor Dust Inhal ILCR	Total ILCR
Aldehydes							
Formaldehyde	0.60	1.5 E-6	6.7 E-9	1.5 E-6	NA	3 E-13	3 E-13
Metals							
Aluminum	17120	8.4 E-3	3.8 E-4	8.8 E-3	NA	NA	NA
Ammonia (as N)	4.3	NA	4.8 E-9	4.8 E-9	NA	NA	NA
Cobalt	17.9	2.9 E-2	3.3 E-4	3.0 E-2	NA	6 E-9	6 E-9
Manganese	891	9.3 E-3	2.0 E-3	1.1 E-2	NA	NA	NA
Perchlorate	0.89	6.2 E-4	NA	6.2 E-4	NA	NA	NA
Vanadium	99.9	9.8 E-3	NA	9.8 E-3	NA	NA	NA
Polynuclear Aromatic Hydrocarbons							
Benzo(a)anthracene	0.0026	4.2 E-8	NA	4.2 E-8	3 E-10	1 E-14	3 E-10
Benzo(a)pyrene	0.0027	4.4 E-8	NA	4.4 E-8	3 E-9	1 E-13	3 E-9
Benzo(b)fluoranthene	0.0064	1.0 E-7	NA	1.0 E-7	8 E-10	3 E-14	8 E-10
Benzo(k)fluoranthene	0.0016	2.6 E-8	NA	2.6 E-8	2 E-11	7 E-15	2 E-11
Chrysene	0.0030	4.9 E-8	NA	4.9 E-8	4 E-12	1 E-15	4 E-12
Dibenzo(a,h)anthracene	0.0010	1.6 E-8	NA	1.6 E-8	1 E-9	5 E-14	1 E-9
Indeno(1,2,3-cd)pyrene	0.0031	5.0 E-8	NA	5.0 E-8	4 E-10	1 E-14	4 E-10
Semi-Volatile Organic Compounds							
Hexachlorobenzene	0.038	2.3 E-5	NA	2.3 E-5	1 E-8	7 E-13	1 E-8
Total		0.057	2.7 E-3	**0.060**	2 E-8	6 E-9	**2 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-18a
CHEMICAL RISK SUMMARY FOR MAINTENANCE (OUTDOOR) WORKER RECEPTORS - SITE-WIDE EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Maintenance Worker		
Soil, Dermal, and Dust	0.070	6 E-8
Volatile Inhalation (from Flux)(1)	0.0065	2 E-7
Combined	0.077	3 E-7

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Outdoor Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Outdoor Inhal ILCR	Total ILCR
Aldehydes									
Formaldehyde	0.60	2.6 E-6	1.7 E-6	1.5 E-8	4.4 E-6	NA	NA	7 E-13	7 E-13
Metals									
Aluminum	12120	1.1 E-2	0.0 E+0	6.0 E-4	1.1 E-2	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	1.1 E-8	1.1 E-8	NA	NA	NA	NA
Cobalt	11.4	3.3 E-2	0.0 E+0	4.7 E-4	3.4 E-2	NA	NA	9 E-9	9 E-9
Manganese	617	1.2 E-2	0.0 E+0	3.1 E-3	1.5 E-2	NA	NA	NA	NA
Perchlorate	0.89	1.1 E-3	0.0 E+0	NA	1.1 E-3	NA	NA	NA	NA
Vanadium	51.7	9.1 E-3	0.0 E+0	NA	9.1 E-3	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons									
Benzo(a)anthracene	0.0026	7.5 E-8	6.5 E-8	NA	1.4 E-7	6 E-10	5 E-10	3 E-14	1 E-9
Benzo(a)pyrene	0.0027	7.9 E-8	6.8 E-8	NA	1.5 E-7	6 E-9	5 E-9	3 E-13	1 E-8
Benzo(b)fluoranthene	0.0064	1.9 E-7	1.6 E-7	NA	3.5 E-7	1 E-9	1 E-9	6 E-14	3 E-9
Benzo(k)fluoranthene	0.0016	4.7 E-8	4.0 E-8	NA	8.8 E-8	4 E-11	3 E-11	2 E-14	7 E-11
Chrysene	0.0030	8.8 E-8	7.6 E-8	NA	1.6 E-7	7 E-12	6 E-12	3 E-15	1 E-11
Dibenzo(a,h)anthracene	0.0010	2.9 E-8	2.5 E-8	NA	5.4 E-8	2 E-9	2 E-9	1 E-13	4 E-9
Indeno(1,2,3-cd)pyrene	0.0031	9.0 E-8	7.8 E-8	NA	1.7 E-7	7 E-10	6 E-10	3 E-14	1 E-9
Semi-Volatile Organic Compounds									
Hexachlorobenzene	0.038	4.1 E-5	2.7 E-5	NA	6.9 E-5	2 E-8	1 E-8	2 E-12	3 E-8
Total		0.066	0.000030	4.1 E-3	**0.070**	3 E-8	2 E-8	9 E-9	**6 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-18b
CHEMICAL RISK SUMMARY FOR MAINTENANCE (OUTDOOR) WORKER RECEPTORS - SRC-J02/J03 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Maintenance Worker		
Soil, Dermal, and Dust	0.095	6 E-8
Volatile Inhalation (from Flux)(1)	0.0065	2 E-7
Combined	0.10	3 E-7

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Outdoor Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Outdoor Inhal ILCR	Total ILCR
Aldehydes									
Formaldehyde	0.60	2.6 E-6	1.7 E-6	1.5 E-8	4.4 E-6	NA	NA	7 E-13	7 E-13
Metals									
Aluminum	16100	1.4 E-2	0.0 E+0	8.0 E-4	1.5 E-2	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	1.1 E-8	1.1 E-8	NA	NA	NA	NA
Cobalt	15.1	4.4 E-2	0.0 E+0	6.2 E-4	4.5 E-2	NA	NA	1 E-8	1 E-8
Manganese	809	1.5 E-2	0.0 E+0	4.0 E-3	1.9 E-2	NA	NA	NA	NA
Perchlorate	0.89	1.1 E-3	0.0 E+0	NA	1.1 E-3	NA	NA	NA	NA
Vanadium	82.3	1.5 E-2	0.0 E+0	NA	1.5 E-2	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons									
Benzo(a)anthracene	0.0026	7.5 E-8	6.5 E-8	NA	1.4 E-7	6 E-10	5 E-10	3 E-14	1 E-9
Benzo(a)pyrene	0.0027	7.9 E-8	6.8 E-8	NA	1.5 E-7	6 E-9	5 E-9	3 E-13	1 E-8
Benzo(b)fluoranthene	0.0064	1.9 E-7	1.6 E-7	NA	3.5 E-7	1 E-9	1 E-9	6 E-14	3 E-9
Benzo(k)fluoranthene	0.0016	4.7 E-8	4.0 E-8	NA	8.8 E-8	4 E-11	3 E-11	2 E-14	7 E-11
Chrysene	0.0030	8.8 E-8	7.6 E-8	NA	1.6 E-7	7 E-12	6 E-12	3 E-15	1 E-11
Dibenzo(a,h)anthracene	0.0010	2.9 E-8	2.5 E-8	NA	5.4 E-8	2 E-9	2 E-9	1 E-13	4 E-9
Indeno(1,2,3-cd)pyrene	0.0031	9.0 E-8	7.8 E-8	NA	1.7 E-7	7 E-10	6 E-10	3 E-14	1 E-9
Semi-Volatile Organic Compounds									
Hexachlorobenzene	0.038	4.1 E-5	2.7 E-5	NA	6.9 E-5	2 E-8	1 E-8	2 E-12	3 E-8
Total		0.089	0.000030	5.4 E-3	**0.095**	3 E-8	2 E-8	1 E-8	**6 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-18c
CHEMICAL RISK SUMMARY FOR MAINTENANCE (OUTDOOR) WORKER RECEPTORS - SRC-J21 EXPOSURE AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Receptor	HI	ILCR
Future On-Site Maintenance Worker		
Soil, Dermal, and Dust	0.11	7 E-8
Volatile Inhalation (from Flux)(1)	0.0065	2 E-7
Combined	0.12	3 E-7

Chemical	Soil Conc. (mg/kg)	Oral HQ	Dermal HQ	Outdoor Inhal HQ	Total HI	Oral ILCR	Dermal ILCR	Outdoor Inhal ILCR	Total ILCR
Aldehydes									
Formaldehyde	0.60	2.6 E-6	1.7 E-6	1.5 E-8	4.4 E-6	NA	NA	7 E-13	7 E-13
Metals									
Aluminum	17120	1.5 E-2	0.0 E+0	8.5 E-4	1.6 E-2	NA	NA	NA	NA
Ammonia (as N)	4.3	NA	NA	1.1 E-8	1.1 E-8	NA	NA	NA	NA
Cobalt	17.9	5.3 E-2	0.0 E+0	7.4 E-4	5.3 E-2	NA	NA	1 E-8	1 E-8
Manganese	891	1.7 E-2	0.0 E+0	4.4 E-3	2.1 E-2	NA	NA	NA	NA
Perchlorate	0.89	1.1 E-3	0.0 E+0	NA	1.1 E-3	NA	NA	NA	NA
Vanadium	99.9	1.8 E-2	0.0 E+0	NA	1.8 E-2	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons									
Benzo(a)anthracene	0.0026	7.5 E-8	6.5 E-8	NA	1.4 E-7	6 E-10	5 E-10	3 E-14	1 E-9
Benzo(a)pyrene	0.0027	7.9 E-8	6.8 E-8	NA	1.5 E-7	6 E-9	5 E-9	3 E-13	1 E-8
Benzo(b)fluoranthene	0.0064	1.9 E-7	1.6 E-7	NA	3.5 E-7	1 E-9	1 E-9	6 E-14	3 E-9
Benzo(k)fluoranthene	0.0016	4.7 E-8	4.0 E-8	NA	8.8 E-8	4 E-11	3 E-11	2 E-14	7 E-11
Chrysene	0.0030	8.8 E-8	7.6 E-8	NA	1.6 E-7	7 E-12	6 E-12	3 E-15	1 E-11
Dibenzo(a,h)anthracene	0.0010	2.9 E-8	2.5 E-8	NA	5.4 E-8	2 E-9	2 E-9	1 E-13	4 E-9
Indeno(1,2,3-cd)pyrene	0.0031	9.0 E-8	7.8 E-8	NA	1.7 E-7	7 E-10	6 E-10	3 E-14	1 E-9
Semi-Volatile Organic Compounds									
Hexachlorobenzene	0.038	4.1 E-5	2.7 E-5	NA	6.9 E-5	2 E-8	1 E-8	2 E-12	3 E-8
Total		0.10	0.000030	0.0060	**0.11**	3 E-8	2 E-8	1 E-8	**7 E-8**

HQ = hazard quotient
HI - hazard index
ILCR = incremental lifetime cancer risk
(1) Note that risk estimates for surface flux data were done on a sample-by-sample basis, therefore, risks are presented as the maximum individual sample location. See Appendix H for sample-specific risk estimates.

TABLE 6-19
ASBESTOS RISK SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 1)

Asbestos Risk Calculations — ***Risk = (C_{soil} *URF*(ET_{out} +(ET_{in} *ATT_{in}))*EF*ED) / (PEF*AT)***

		CHRYSOTILE				AMPHIBOLE			
ESTIMATED RISK	**Units**	**Construction**	**Outdoor Worker**	**Indoor Worker**	**Onsite Resident**	**Construction**	**Outdoor Worker**	**Indoor Worker**	**Onsite Resident**
Estimated Risk (Total Structures)	Unitless	2 E-8	5 E-9	2 E-9	1 E-8	0 E+0	0 E+0	0 E+0	0 E+0
95% UCL (Total Structures)	Unitless	3 E-8	8 E-9	3 E-9	2 E-8	3 E-7	9 E-8	4 E-8	2 E-7
ESTIMATED AIR CONCENTRATIONS									
Estimated Airborne Concentration, C_{air} (best estimate)[A]	f/m^3	9.71E+01	1.28E+00	1.28E+00	1.28E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Estimated Airborne Concentration (upper bound)[B]	f/m^3	1.42E+02	1.88E+00	1.88E+00	1.88E+00	1.53E+01	2.02E-01	2.02E-01	2.02E-01

[A] *Estimated Airborne Concentration = Estimated C_{soil} * 1/PEF*

[B] *Estimated Airborne Concentration = 95% UCL (upper bound) * 1/PEF*

TABLE 7-1
UNCERTAINTY ANALYSIS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Source of Uncertainty	May Underestimate Risk	May Overestimate Risk	May Under or Overestimate Risk
Environmental Sampling and Analysis			
Sampling and laboratory analyses may have been inadequate to fully characterize the concentrations at the site.			Moderate
Systematic or random errors in the chemical analyses may yield erroneous data.			Low
The risk estimates are based on the COPCs only. Other chemicals were not quantified.	Moderate		
Some analytes had SQLs that exceeded risk-based comparison levels. None were detected in any samples.	Low		
Although radon flux sampling was performed, the results were not evaluated in the human health risk assessment based on results of recent radon testing performed in groundwater and indoor air samples.	Low		
Exposure Assumptions			
Fate and transport modeling did not take into account biodegradation or other degradation processes.		Moderate	
Modeling did not take into account interactions that may occur among the different chemicals which may influence their migration.		Moderate	
Only primary receptors of concern were evaluated. Other populations (*e.g.* , recreational users) were not assessed.	Low		
Only primary exposure pathways were evaluated. Other pathways were not assessed.	Low		
Residential receptors were evaluated; however, the planned development of the Site includes parks. Potential residential exposures are considered more conservative, and therefore, protective and representative of any potential recreational receptors.		Moderate	
Some of the exposure point concentrations used in the exposure assessment were based on modeled, rather than measured, levels in various media (*e.g.* , air).			Moderate

TABLE 7-1
UNCERTAINTY ANALYSIS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Source of Uncertainty	May Underestimate Risk	May Overestimate Risk	May Under or Overestimate Risk
Reasonable maximum exposure values were combined to arrive at the ADD and LADD estimates. There is a low probability that all of the various upper bound assumptions used in the exposure assessment would occur in conjunction with the 95 percent UCL chemical concentration.		Moderate	
Exposure point concentrations and the amount of media intake were assumed to be constant over time.		Low	
Toxicological Data			
Sub-chronic RfDs are appropriate to characterize non-cancer effects for short-term expo-sures (*i.e.* , construction workers). However, sub-chronic RfDs were not available and therefore, chronic RfDs were used.		Moderate	
RfDs are derived and extrapolated from laboratory animal studies that expose animals to relatively high intakes. Errors are inherent in the extrapolation of data from animals to humans, from high to low doses, and from one exposure route to another.			Moderate
RfDs used to estimate non-carcinogenic risk are derived from NOAELs which are based on the sensitive endpoints in the sensitive species. As a result, extrapolation of toxicity data from animals to humans is uncertain. There may be differences in metabolism, uptake, or distribution of chemicals in the body between animals and humans. To account for this, NOAELs are divided by uncertainty factors spanning several orders of magnitude to establish the RfD. The combination of these two conservative assumptions may establish RfDs which greatly overprotect human health.		Moderate	

TABLE 7-1
UNCERTAINTY ANALYSIS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Source of Uncertainty	May Underestimate Risk	May Overestimate Risk	May Under or Overestimate Risk
CSFs used for the animal carcinogens are the 95% UCL derived from the linearized multistage model using animal chronic bioassay data, which tends to greatly overestimate carcinogenic risk in humans. The linearized multistage model ignores many known factors that have been documented to protect humans against the carcinogenic actions of chemicals, such as DNA repair and immunosurveillence.		High	
RfDs, CSFs and defensible carcinogenicity data were not available for some COPCs, which were therefore not quantitatively evaluated.	Low		
Aggregation of Exposure Units			
Aggregating the exposure areas or extrapolating from Site analytical results to estimated concentrations for individual 1/8-acre exposure areas.	Low		

TABLE 9-1
DATA QUALITY ASSESSMENT
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Table 9-1a: Sample Size Results for Arsenic (Site-Wide) with Background = 7.2 mg/kg

Number of samples = 164		s = 1.38		
Threshold = 7.2 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (0.72 mg/kg)	β = 15%	32	24	19
	β = 20%	28	20	16
	β = 25%	24	17	13
MDD = 20% (1.4 mg/kg)	β = 15%	9	7	5
	β = 20%	8	6	4
	β = 25%	7	5	4
MDD = 30% (2.2 mg/kg)	β = 15%	5	3	3
	β = 20%	4	3	2
	β = 25%	4	3	2

Table 9-1b: Sample Size Results for Arsenic (SRC-J02/J03) with Background = 27.6 mg/kg

Number of samples = 28		s = 1.15		
Threshold = 7.2 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (0.72 mg/kg)	β = 15%	23	17	13
	β = 20%	20	14	11
	β = 25%	17	12	9
MDD = 20% (1.4 mg/kg)	β = 15%	7	5	4
	β = 20%	6	4	3
	β = 25%	6	4	3
MDD = 30% (2.2 mg/kg)	β = 15%	4	3	2
	β = 20%	4	2	2
	β = 25%	3	2	2

Table 9-1c: Sample Size Results for Manganese (Site-Wide) with BCL = 1,820 mg/kg

Number of samples = 164		s = 173.3		
Threshold = 1,820 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (182 mg/kg)	β = 15%	9	7	5
	β = 20%	8	6	4
	β = 25%	7	5	4
MDD = 20% (364 mg/kg)	β = 15%	3	2	2
	β = 20%	3	2	2
	β = 25%	3	2	1
MDD = 30% (546 mg/kg)	β = 15%	2	2	1
	β = 20%	2	1	1
	β = 25%	2	1	1

Table 9-1d: Sample Size Results for Manganese (SRC-J02/J03) with BCL = 1,820 mg/kg

Number of samples = 28		s = 167.30		
Threshold = 1,820 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (182 mg/kg)	β = 15%	9	6	5
	β = 20%	8	5	4
	β = 25%	7	5	3
MDD = 20% (364 mg/kg)	β = 15%	3	2	2
	β = 20%	3	2	1
	β = 25%	3	2	1
MDD = 30% (546 mg/kg)	β = 15%	2	2	1
	β = 20%	2	1	1
	β = 25%	2	1	1

TABLE 9-1
DATA QUALITY ASSESSMENT
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 3)

Table 9-1e: Sample Size Results for Cobalt (Site-Wide) with BCL = 23 mg/kg

Number of samples = 164		s = 2.8		
Threshold = 23 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (2.3 mg/kg)	β = 15%	14	10	8
	β = 20%	12	9	7
	β = 25%	11	8	6
MDD = 20% (4.6 mg/kg)	β = 15%	5	3	2
	β = 20%	4	3	2
	β = 25%	4	3	2
MDD = 30% (6.9 mg/kg)	β = 15%	3	2	1
	β = 20%	3	2	1
	β = 25%	3	2	1

Table 9-1f: Sample Size Results for Cobalt (SRC-J21) with BCL = 23 mg/kg

Number of samples = 10		s = 3.5		
Threshold = 23 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (2.3 mg/kg)	β = 15%	21	15	12
	β = 20%	18	13	10
	β = 25%	16	11	8
MDD = 20% (4.6 mg/kg)	β = 15%	6	5	3
	β = 20%	6	4	3
	β = 25%	5	4	3
MDD = 30% (6.9 mg/kg)	β = 15%	4	3	2
	β = 20%	3	2	2
	β = 25%	3	2	1

Table 9-1g: Sample Size Results for Vanadium (Site-Wide) with BCL = 390 mg/kg

Number of samples = 164		s = 15.3		
Threshold = 390 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (39 mg/kg)	β = 15%	3	2	1
	β = 20%	3	2	1
	β = 25%	3	2	1
MDD = 20% (78 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1
MDD = 30% (117 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1

Table 9-1h: Sample Size Results for Vanadium (SRC-J02/J03) with BCL = 390 mg/kg

Number of samples = 28		s = 16.6		
Threshold = 390 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (39 mg/kg)	β = 15%	3	2	2
	β = 20%	3	2	1
	β = 25%	3	2	1
MDD = 20% (78 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1
MDD = 30% (117 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1

TABLE 9-1
DATA QUALITY ASSESSMENT
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 3 of 3)

Table 9-1i: Sample Size Results for Formaldehyde (Site-Wide) with BCL = 10.6 mg/kg

Number of samples = 115		s = 0.47		
Threshold = 10.6 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (1.1 mg/kg)	β = 15%	3	2	2
	β = 20%	3	2	1
	β = 25%	3	2	1
MDD = 20% (2.1 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1
MDD = 30% (3.2 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1

Table 9-1j: Sample Size Results for Radium-228 (Site-Wide) with Background = 2.94 pCi/g

Number of samples = 132		s = 0.59		
Threshold = 2.94 pCi/g		α = 5%	α = 10%	α = 15%
MDD = 10% (0.294 pCi/g)	β = 15%	35	26	21
	β = 20%	30	22	17
	β = 25%	27	19	14
MDD = 20% (0.588 pCi/g)	β = 15%	10	7	6
	β = 20%	9	6	5
	β = 25%	8	5	4
MDD = 30% (0.882 pCi/g)	β = 15%	5	4	3
	β = 20%	5	3	2
	β = 25%	4	3	2

Table 9-1k: Sample Size Results for TCDD TEQ (Site-Wide) with BCL = 50 pg/g

Number of samples = 123		s = 8.29		
Threshold = 50 pg/g		α = 5%	α = 10%	α = 15%
MDD = 10% (5 pg/g)	β = 15%	24	18	14
	β = 20%	21	15	12
	β = 25%	19	13	10
MDD = 20% (10 pg/g)	β = 15%	7	5	4
	β = 20%	7	5	3
	β = 25%	6	4	3
MDD = 30% (15 pg/g)	β = 15%	4	3	2
	β = 20%	4	3	2
	β = 25%	3	2	2

Table 9-1l: Sample Size Results for Benzo(a)pyrene (Site-Wide) with BCL = 0.0622 mg/kg

Number of samples = 129		s = 0.0020		
Threshold = 0.0622 mg/kg		α = 5%	α = 10%	α = 15%
MDD = 10% (0.00622 mg/kg)	β = 15%	2	2	1
	β = 20%	2	1	1
	β = 25%	2	1	1
MDD = 20% (0.0124 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1
MDD = 30% (0.0187 mg/kg)	β = 15%	2	1	1
	β = 20%	2	1	1
	β = 25%	2	1	1

α = alpha
β = beta
s = standard deviation of sample data

APPENDIX A

NDEP COMMENTS AND BRC'S RESPONSE TO COMMENTS

APPENDIX A-1

Comment Resolution between BRC and NDEP Dated August 8, 2012 on the Human Health Risk Assessment and Closure Report for the Southern RIBs Sub-Area

1. **Background Data** – NDEP has determined the 95 sample dataset is most appropriate for use in the background comparison.

   Resolution: *BRC will rely upon the 95 sample dataset (McCullough shallow) for background comparisons which is essentially the 101 samples minus the six Environ samples.*

Response: *The background comparisons have been performed using the McCullough shallow background dataset, minus the Environ samples.*

2. **Censoring Blank Contamination** – Based upon the January 4, 2012 teleconference, all parties agreed that the blank contamination guidance applies to data collected after June, 2011 such that the data collected and presented in the Southern RIBs HRA need only discuss how this guidance would affect the chemicals of potential concern selection process. This discussion will be included in the Uncertainty Section of the Southern RIBs HRA.

   Resolution: *A primarily qualitative discussion will be added to the Uncertainty Section of the HHRA. BRC will not revalidate the data but will examine the data with respect to using reported non-detects for blank contamination affected results (following the previous NDEP guidance), versus using the reported concentrations (following the latest NDEP guidance). The purpose of the examination is to evaluate the potential differences in background comparisons, COPC selection, and human health risk assessment results that are based on using non-detects based on the previous NDEP guidance. This will result in a semi-quantitative discussion, which might result in slight over- or under-estimation of concentrations used in statistical analysis for background comparisons and exposure point concentrations for risk assessment. The specific details of the quantitative portion of the discussion were left up to BRC to develop, and for NDEP to review.*

Response: *Language regarding this issue, consistent with that approved for the Galleria North School Site report, has been added to Section 7.1, pages 7-2 and 7-3.*

3. **Pooled Analytical Sensitivity** – For asbestos, the HRA states that samples were obtained from a split of the sample collected in the field. This split was conducted by the field sampling crew prior to sending the samples to the laboratory. Therefore, only the higher of the split sample results are included in the pooled analytical sensitivity or risk calculations for asbestos and does not match what was actually done in the asbestos risk spreadsheet with respect to the calculation of pooled analytical sensitivity. More clarification is needed on 1) how these duplicate values are being used in the context of the risk assessment, and 2) what does "higher" imply with respect to structure counts and analytical sensitivity.

Resolution: *The "A" and "B" split asbestos samples were sent to the lab. The lab uses the B sample as an internal measure of their QC and does not always analyze the B sample. Because this is an internal QC sample, it was decided that BRC does not need to use the results of the B samples in the risk assessment. The text currently as written, leads the reader to believe that the B samples were being used when in fact, they are not. The text will be revised to remove any discussion of these B samples and the spreadsheet will be checked to make sure it is only using the A samples.*

Response: *Reference to "A" and "B" split asbestos samples have been removed from the report.*

4. **Target Organs** – The primary and secondary target organs for cobalt should be included in the summation of the Hazard Index

   Resolution: *BRC will update the HHRA such that cobalt's primary and secondary target organs are included in the Hazard Index.*

Response: *The revised report does not segregate by target organ. However, this issue is discussed in the uncertainty analysis section, and cobalt's primary and secondary target organs are included.*

5. **Naphthalene Flux** – There are inconsistencies noted with the maximum flux rate for naphthalene (sample SRC1-AJ21) is listed in Table 3-11 as 0.226 $\mu g/m^2$-min and Table B-11 as 0.23 $\mu g/m^2$-min, as compared to the laboratory report (file: 208610 CLP Group 1.pdf, electronic page 247) which lists a value of 0.3262 $\mu g/m^2$-min for this sample. The correct flux rate for naphthalene should be correctly identified as well as a thorough QC conducted on all similar data.

   Resolution: *It is believe that the 0.3262 $\mu g/m^2$-min is the correct value; BRC will confirm and update the HHRA accordingly.*

Response: *BRC confirms that 0.3262 $\mu g/m^2$-min is the correct value, and the report has been revised accordingly.*

6. **Rejected Data** – The report still does not provide a complete listing of all 109 rejected data points. The original comment was provided in accordance with the DU guidance (and the need to identify all data points that do not meet lab QC criteria), not the COPC selection process (as indicated in the BRC response). If data were rejected as part of the DV process, the DUE should at a minimum, identify those DV rejected data and note how the absence of these data do or do not create a data gap for sample analytes.

   Resolution: *BRC clarified that the rejected data are included in the DVSRs and various spreadsheets. However, they are not specifically called out in a separate table. To facilitate future reviews, BRC will provide the rejected data in a specific table.*

Response: *A separate workbook has been included in Appendix B that only contains the rejected data (note that these data are included in another workbook, with all other data associated with the Site). Reference to this workbook has been added to the text of the report, in Section 4.5, page 4-6.*

7. **General Errors and Issues** – There are several minor issues that have been detailed in our previous comments (February 1, 2012) but all should be easily addressed by BRC with the most notable being:

- Incorrect BCLs for Cr(VI) and Mn.
- Updating the HHRA with the new BCLs for the BHC isomers.
- Using the BCL of 220 µg/kg for PCB congeners

Resolution: *BRC will update the HHRA with the correct BCL for Cr(VI) and the new BCLs for the BHC isomers. BRC noted that they believe the Mn BCL is incorrect and Kurt indicated that he will look into this and get back to BRC. Finally, the PCBs are addressed by the dioxin TEQs and thus, do not need to be separately screened.*

Response: *The report has been updated with the correct BCL for Cr(VI) and the BHC isomers. NDEP has confirmed that the manganese BCL, as previously identified by BRC, is correct.*

APPENDIX A-2

Comment Resolution between BRC and NDEP on NDEP's Comments Dated July 14, 2011 on the Human Health Risk Assessment and Closure Report for the Southern RIBs Sub-Area (Interim Deliverable), BMI Common Areas (Eastside), Clark County, Nevada, Dated June 2011

General Comments

1. In the future, please include the associated laboratory reports in the same file (i.e., Adobe) as the DVSR. Lab reports for each DVSR were time consuming to find as separate files submitted on multiple CDs. Accordingly, only "spot" cross checks of lab reports, versus DVSRs versus DUE tables were conducted.

Technical Issue to be address by Tech. Meeting

OK.

Technical Meeting Resolution: DVSRs will be included henceforth.

2. There is no discussion or use of the conceptual site model (CSM) in the DUE. As per USEPA (1992) and NDEP (2008) DUE guidance, usability and adequacy of site characterization data is dependent upon components of the CSM such as information regarding historical sources, chemical release and migration mechanisms, receptor location/exposure points, etc. The DUE should utilize the CSM to support completion of site characterization for HRA.

Submittal Scope Confusion

NDEP considers this to be a placeholder comment that does not require revision to the current submittal.

Technical Meeting Resolution: The CSM will be included in the re-submittal.

3. As a component of the DUE review, the NDEP assumed that maximum concentrations will be used as the basis for exposure point concentrations in the risk assessment. The level of review was based on that assumption. Also, please note that uncertainties associated with the DUE will be influenced by whether maximum concentrations or all data within exposure areas are used as the basis for EPCs. Please clarify if this is correct as additional review of the data may be necessary.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: Clarification was provided from both sides and no change necessary.

4. There are several inconsistencies between the hard copy report, electronic tables, and electronic report, and there are internal inconsistencies between the data and these documents. Some of these issues are addressed in the following specific comments. A thorough QA is needed to correct these issues.

Noted- No Action

Further action pending outcome of technical meeting.

Technical Meeting Resolution: Specific items were addressed in later comments.

5. There is no discussion of the three exposure units prior to Chapter 4. It would be helpful to have this lined up somehow, but it is understood that this development will occur in earlier Chapters of the final report. However, Chapter 4 should be developed around the same concept of three exposure units. That is, data usability decisions should be made for each exposure unit separately, unless there is reason to suggest otherwise. If the earlier sections of the planned HRA are intended to address this, please advise. NDEP also notes that three exposure areas were identified in the document; however, the exposure areas are not identified in the Figures.

Submittal Scope Confusion

NDEP considers this to be a placeholder comment that does not require revision to the current submittal.

Technical Meeting Resolution: To be resolved by inclusion of the CSM (see Comment #2). Text should note that the DUE considered the three subareas.

Specific Comments

6. Section 4.2, Page 4-4, 1st paragraph, last sentence. Data validation procedures that relate to the asbestos laboratory reports should be explicitly detailed here or BRC should reference an external source for how these reports are validated.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Reference to NDEP's guidance will be included and that validation was conducted on these samples.

7. Section 4.2, second paragraph. This paragraph begins with a discussion of asbestos, which implies that this is the subject of the paragraph. However, the paragraph then describes SQLs, laboratory control spikes, and surrogates, etc. None of these apply to asbestos analysis. Either the first sentence of this paragraph needs to be revised to indicate this is a general

discussion of QC, or the discussion of QC and sensitivity parameters should be confined to asbestos.

NDEP Comment Inconsistent with prior approved NDEP submittals

ERM should explain at technical meeting how comment is inconsistent with prior approved NDEP submittals.

Technical Meeting Resolution: The text will be revised so that it fits with the appropriate asbestos discussion.

8. Section 4.2, Footnote 1 at end of Section. This footnote does not apply to asbestos, the subject of this sentence.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Text will be revised to be consistent with Section 4.3.

9. Section 4.4, first paragraph, reference to Appendix B. BRC states, "The USEPA and DOE methods that were used in conducting the laboratory analysis of soil and surface flux samples are identified in the dataset file included on the report CD in Appendix B." None of the 12 tables in Appendix B contain USEPA or DOE method information/identifiers (e.g. Method 8260).

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: ERM provided clarification to this statement and no text revision is required.

10. Section 4.4, third paragraph. BRC states, "As seen in the summary of the Site dataset provided in Tables 4 (soil), of the standard analytes, only six constituents had SQLs that exceeded their respective residential soil BCLs." Review of Table 4 identifies five constituents that had a "Count of Detects > BCL." This includes arsenic, radium-228, radium-226, thorium-228, and uranium-238. Please clarify.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: ERM provided clarification to this statement and no text revision is required.

11. Section 4.4; p 4-5. SPLP testing is mentioned, but there was no background on the specific EPA test method used and there was no mention of the leach solution employed.

NDEP Groundwater Related

ERM should revise submittal to address leaching related comments and refer to GW RAS.

Technical Meeting Resolution: Report will be updated to note Method 1311 was used and which solution of the three solutions was used.

12. Section 4.4, last bullet. BRC states, "SPLP SQLs higher than the residential water BCL were noted for 1,2-diphenylhydrazine, 2,2'-dichlorobenzil, …" This is not consistent with Table B-11. Either this text is incorrect or better information needs to be provided as to where this is shown. Also in this bullet, the report states, "Of those detected in soils, the soil concentrations were all below the LBCLDAF1." Please clarify which table this statement refers to. Table 4 does not show 1,2-diphenylhydrazine above the LBCL for any DAF value. Please clarify. Please provide a reference for LBCLs used.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: Table B-12 was the intent of the comment and the text as written is correct and no change is necessary.

13. Page 4-6, last line before bullet – The text states that 47 data points were rejected, which include one cyanide result, four benzyl alcohol results , twenty-one VOC analytes in one sample and all (i.e. 68 for EPA Method 8260B) VOCs in one primary sample and it's field duplicate. These add up to more than 47. Also, it appears that these were the data points rejected in the DVSR, not in the DUE evaluation. For example, in Section 4.5.3.1 it is stated that there were three rejections based on low MS/MSD recovery (but only the cyanide sample is listed in the bullets that follow). We note that no data are flagged as rejected (Category 2). Please clearly list all rejected data points in one place and ensure those data have been removed from the final HRA tables. For example, please confirm that Sample SRC2-J20, listed in Table B-3, was not rejected for perchlorate.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: There are 109 rejected data points so the count in the report will be revised. Data rejected in the data validation process were not included in the report (this is consistent with previous deliverables; namely Mohawk).

14. Section 4.5.2. Treatment of blank contamination. Data should be used as reported and the potential effects of blank contamination should be discussed in the Uncertainty Analysis section. It appears as though PQLs have been used as substituted values instead. NDEP has provided guidance for several years to not use PQLs in analysis of data. In addition, DLs should

not be substituted for sample results that are affected by blank contamination. Please provide further explanation for why this approach was taken.

Also, NDEP notes that there are many results affected by blank contamination, however, no explanation is offered for this. This level of blank contamination should be questioned with the laboratory involved, and some explanation offered accordingly.

BRC and NDEP to establish some modified blank guidance

Ok.

Technical Meeting Resolution: ERM/BRC received the new blank contamination guidance following the submittal of this report. To retroactively use this guidance on this dataset would be a significant process and the report data do conform to the previous guidance. ERM proposes to validate the data using both methods moving forward. The difference would be discussed in the Uncertainty Section with the report relying upon the new method. For this report, no change is necessary as conformance with the previous guidance is acceptable.

15. Section 4.5.3.1, second to last paragraph. BRC states, "Detections associated with "very low" MS/MSD recoveries (i.e., less than 30 percent for metals), are generally rejected as unusable. Because only three of the MS/MSD recoveries was that low, only three sample results were rejected on this basis." Appendix E shows five barium samples with negative MS/MSD recovery and three mercury results with 3.2% recovery, none of which have been rejected. This is inconsistent with the text in this section; these results should either also be rejected or additional justification provided.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Seventeen barium samples were revised from R to J-qualifiers. ERM will further investigate why some samples were not rejected and revise the report accordingly.

16. Section 4.5.5, first paragraph. BRC states, "No sample results were rejected due to surrogate recoveries." Table E-13 contains 17 results that were rejected due to surrogate recoveries (6%). The table or text needs to be corrected.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: A reanalysis was conducted and the "x" flagged data should not have been included in the table; the report will be revised accordingly.

17. Section 4.6.2.3, first paragraph. BRC states, "Samples with lower percent recoveries (i.e., recoveries lower than 50 percent for inorganics and one-half the lower limit or 30 percent, whichever is greater, for organics) were reviewed more closely to assess whether it was appropriate to use them in the HHRA." There is no discussion in this section about why the samples with very low recoveries for barium and mercury were not rejected.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: Detected compounds were not rejected and only the nondetect were rejected. Report is correct as written but clarification will be added.

18. Section 4.6.2.5, page 4-33, paragraph starting "Censored results". It is not clear what is intended in this paragraph. Perhaps the intent is to say that the greater the non-detect value the greater the potential impact on the risk assessment. It seems that the only outcome of this part of the presentation is to limit the further exploration of some non-detects. In the 1st paragraph of this section, it seems that all blank contamination samples have been converted to non-detects. Samples affected by blank contamination should not be used as non-detects in any subsequent analysis. Please clarify.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: The intent was to provide a discussion that the censored data would not impact the HHRA. However, these data need to be discussed with respect to 1/10th of the BCL screening process. The report will be revised to reflect this screening.

19. Section 4.6.2.5, page 4-33, radionuclide (radium-228) table. There is no need to discuss non-detects for radionuclides in this way, as the actual reported results are (should be) used in all data/statistical analyses. Please clarify.

NDEP Comment Inconsistent with prior approved NDEP submittals

ERM should explain at technical meeting how comment is inconsistent with prior approved NDEP submittals.

Technical Meeting Resolution: There is now inconsistent guidance with reporting all radionuclides as detects when there is blank contamination. Guidance on reporting of rad data indicates that all data as reported should be used. However, guidance that has been followed in this report for blank contamination indicates that when blank contamination is large, the results should be replaced with the DL (MDA in this case). NDEP's revised blank contamination guidance resolves this issue, but was not available to BRC prior to this report submittal, and BRC has some concerns about the effect of the new guidance on past data (hence their preference to run both blank contamination approaches (EPA and NDEP guidance) into the future, but not have to revise anything from the past). Using the

EPA guidance could cause some radionuclides to fail background unnecessarily. For this report, no change is necessary. However, BRC will watch for this type of possibility in other reports (there is no need or desire to fail background unnecessarily). <u>However, this is also an issue that needs to be discussed with NDEP.</u>

20. Section 4.6.3, page 4-34. Please explain how this section addresses the split of the site into three exposure units, considering, for example, that for two of the exposure units there is no radionuclides data. More generally, the text has not made it clear by this stage that there are three exposure units. Section 4 should address this division just as the other sections will. The DU and DV should be presented according to the decisions that will be made, which, in this case, is for three exposure units.

NDEP Comment Inconsistent with prior approved NDEP submittals

ERM should explain at technical meeting how comment is inconsistent with prior approved NDEP submittals.

Technical Meeting Resolution: See Comment #2.

21. Section 4.6.5, page 4-35. This is the second place in the text that it has been noted that there are potential issues comparing background and site data when the detection limits are different. However, it does not go on to state how these situations will be judged. There are instances, for example, for which the statistical background comparison tests are not reasonable and should not be performed. Antimony is a case in point. In these cases, the metals should be carried through to the next step of the RA. That is, there is insufficient evidence to suggest that antimony is at background levels. This same approach should be applied to all metals, when non-detects are of concern.

NDEP Comment Inconsistent with prior approved NDEP submittals

ERM should explain at technical meeting how comment is inconsistent with prior approved NDEP submittals.

Technical Meeting Resolution: The statistical comparison does not prove that these metals are at or below background so they should be carried through to the next step of the HHRA. The report will be revised accordingly.

22. Section 4.6.5, page 4-35. Note also that the method by which the non-detects are treated in the data analyses is not described. It is noted in this section and others that difficulties might arise, but the approach taken to non-detects for each different data analysis could be summarized.

Submittal Scope Confusion

ERM should explain at technical meeting how comment is considered to be a scope of submittal issue.

Technical Meeting Resolution: Please see Comment #2.

23. Section 5.0, Page 5-1, last paragraph on page. The first and third sentences need to be reworded.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: The text will be revised.

24. Section 5.0, page 5-1 references discussion in Section 3.3 regarding removal actions, but this section is not included in the DUE. NDEP understands that this issue can be reviewed when the HRA is submitted. This comment is included for BRC's information as it was a constraint on the review completeness.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: See Comment #2, and #4.

25. Section 5.0; 5-1; 3rd paragraph. The following sentence is vague and poorly worded. "Because the two remediation areas were targeted primarily for the purposes metals reduction; for other inorganics, organics, asbestos, and radionuclides, the cumulative site dataset is considered representative for all three exposure areas."

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: The text will be revised.

26. Section 5.1, Background Comparisons. Background comparison calculations were verified for all metals for the three subsets of data for the Southern RIBs sub-area. Results were compared against the electronic Tables 7a through 7c. It should be noted that Tables 7a through 7c in the hard copy are incorrect and should be revised. For barium, background results calculated by the NDEP for the two sample t-test and the Wilcoxon Rank Sum were not consistent with what was reported in the electronic tables 7b (SRCJ0203) and 7c (SRCJ21). The p-values of both Neptune's results and BRC's results are presented below:

Sub-set	Two Sample t-test	WRS test
SRCJ0203 (Neptune)	2.15E-02	4.24E-03
SRCJ0203 (BRC)	4.2E-01	1.5E-02
SRCJ21 (Neptune)	4.77E-02	4.32E-02
SRCJ21 (BRC)	1.7E-02	1.5E-02

In addition to barium, several background comparison test results could not be reproduced for some radionuclides. In particular, t-test results could not be reproduced for Radium-228 and

Thorium-228. All tests for Uranium-235/236 could not be reproduced and indicates that this nuclide actually fails background. Discrepancies are highlighted in yellow:

Neptune BRC
Radionuclide T Test Quantile Slippage WRS T Test Quantile Slippage
WRS
Radium-226 1.0E+00 1.0E+00 1.0E+00 1.0E+00 1.0 E+0 1.0
E+0 1.0 E+0 1.0 E+0
Radium-228 3.5E-02 1.4E-02 6.8E-03 5.9E-02 6.4 E-21.4 E-26.8 E-3
5.9 E-2
Thorium-228 3.4E-02 1.5E-02 3.1E-01 4.4E-02 4.1 E-21.5 E-23.1 E-1
4.4 E-2
Thorium-230 1.0E+00 1.0E+00 1.0E+00 1.0E+00 1.0 E+0 1.0
E+0 1.0 E+0 1.0 E+0
Thorium-232 8.8E-01 1.2E-01 1.0E+00 9.9E-01 8.8 E-11.2 E-11.0
E+0 9.9 E-1
Uranium-233/234 1.0E+00 1.0E+00 1.0E+00 1.0E+00 1.0 E+0
1.0 E+0 1.0 E+0 1.0 E+0
Uranium-235/236 1.4E-02 1.4E-07 3.4E-05 3.7E-01 1.0 E+0
9.6 E-19.7 E-33.8 E-1
Uranium-238 1.0E+00 1.0E+00 1.0E+00 1.0E+00 1.0 E+0 1.0
E+0 1.0 E+0 1.0 E+0

Technical Issue to be address by Tech. Meeting

Ok.

Technical Meeting Resolution: ERM included all background data for this comparison regardless of lithology and depth. However, only the McCullough data set should be used and the report should be revised accordingly. This issue needs to be discussed with NDEP.

27. Section 5.5; p 5-9 and 5-10. There should be some discussion here that the process does not include selection of COPCs for the soil leaching to groundwater pathway.
NDEP Comment Inconsistent with prior approved NDEP submittals

ERM should explain at technical meeting how comment is inconsistent with prior approved NDEP submittals.

Technical Meeting Resolution: The text will be revised to note that Groundwater RAS will address the leaching pathway.

28. Figures 1-10 and Tables 1,3, and 6 are included in of the DUE and should be referenced in the appropriate text section (they are not currently).
Submittal Scope Confusion

ERM should explain at technical meeting how comment is considered to be a scope of submittal issue.

Technical Meeting Resolution: These tables and figures were provided as a courtesy but were not necessarily germane to the text sections of the report. No revision necessary.

29. Figure 5. It is not clear what the red color corresponds to in this figure as it is not included in the legend. Please clarify.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: The figure will be revised to address this.

30. Figures 8 and 11 – Total sample location counts do not match total counts in tables. For example, the figures collectively indicate approximately 61 surface flux locations, however Table 1 lists 34 surface flux samples and Table B-11 lists over 200. The number of samples on the figures should match the number of samples in the tables.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: Figures and text are correct so no changes are necessary.

31. Table 4 (applies to all Tables that cite maximum TCDD TEQ) – In the live spreadsheet file "dataset," there is a value of 40.1 pg/g for SRC1-J13-0. Please confirm that this sample location was excavated. If not, this value is higher than the 32.9 pg/g cited in the Table 4.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: Tables and text are correct as written so no changes necessary.

32. Table 7a –
a. Barium has 136 samples as the total count. However, this contradicts the number in Table 8a (126 samples). Please reconcile and correct statistical analyses if it is affected.
b. For radionuclides, the sample sizes reported in the hard copy are incorrect.
c. Footnote 2 should be removed from this table. It is not applicable for this dataset, since site uranium as a metal is consistent with background.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: **Table will be corrected accordingly.**

33. Tables 4 and 7a radionuclide data presentation. Table 4 presents the radionuclide data appropriately. All of the data are considered detects for the purposes of the risk assessment, or, at least, none of the data are censored. However, in Table 7a, the radionuclides are presented separately for non-detects and detects. This is inappropriate per NDEP guidance. If the non-detects as reported are used in the background comparisons, then these comparisons need to be redone.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: **Tables will be revised accordingly.**

34. Table 7b - Barium has 18 samples in the total count and count. However, this contradicts the number in Table 8b (28 samples). Please reconcile and correct statistical analyses if it is affected.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: **Tables will be revised accordingly.**

35. Tables 4, 8a, 8b, and 8c – For arsenic, the numbers presented in these tables do not add up. For example, the total count in Table 4 is 164, Table 8a is 125, Table 8b is 28, and Table 8c is 10; indicating a total of 163 samples not 164 as stated. Please reconcile and revise table(s) accordingly.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: **Tables are correct and no revision necessary.**

36. Table 29b. The results presented in this table (in the hard copy report, PDF, and electronic tables) do not correspond to "Site-Wide" arsenic data. Rather these results correspond to subarea "SRC J02/J03".

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Text will be revised accordingly.

37. Table 29i. The standard deviation for Site-wide formaldehyde should be 0.47, not 0.5.

Comment Irrelevant

ERM should explain at technical meeting how and why this comment is irrelevant.

Technical Meeting Resolution: Table format will be revised to show the correct significant figures.

38. Table 29k. Please indicate that out of the TCDD TEQ data in the electronic data set that accompanies the report, only TCDD TEQ (WHO 1998) data were used for the DQA.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Text will be revised to note that the WHO 1998 TEFs were used.

39. Appendix B – Leader page references Galleria North School-Site Sub-Area. Please correct to read Southern RIBs Sub-Area.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Text will be revised accordingly.

40. Appendix D – Files provided contained two different reports authored by Dr. Schmidt: February 2009, with 48 samples ("VOC/radon") and August 2010 with 7 samples (VOC). As previously noted, the DUE tables include over 200 samples yet the DUE figures show fewer. Please clarify.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: The report will be revised to include only the February 2009 report.

41. Appendix D – Dr. Schmidt's report did not contain the figures or attachments. Accordingly, sample locations could not be cross checked. For future submittals, please provide the entire characterization report (text, tables, figures, attachments, lab reports) as one file.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: Dr Schmidt's reports should reference figures in the main body of the report. The re-submittal will be revised accordingly.

42. Appendix E – Table E-5 The residential soil BCL is 220 ug/kg, not 220,000 µg/kg as listed.

BRC will modify submittal to address comment

ERM should explain at technical meeting how submittal will be modified to address comment.

Technical Meeting Resolution: The table will be revised accordingly.

43. Appendix F – Based on spot checks of DVSR tables with DUE tables, it appears there are some inconsistencies. For example, Table E-11 of the DUE lists 3 mercury samples as having MS/MSD recoveries below the lower end of the lab criteria (flagged as J-), but the DVSR 53a Table 2-5 lists 5. The DUE text should clarify that inconsistencies between DVSR/lab reports and DUE tables may be due to samples having been excavated.
Technical Issue to be address by Tech. Meeting

Ok.

Technical Meeting Resolution: This is an artifact of the DVSRs not being parsed by subarea. Moving forward, the reviewers will be cognizant of this issue. No changes are necessary.

44. Appendix G. The only background data used for this sub-area are from the McCullough geology. The plots (box plots) in this Appendix do not need to include the Mixed and River data subsets.

NDEP Comment Incorrect

ERM should explain at technical meeting how and why this comment is incorrect.

Technical Meeting Resolution: See Comment #26.

45. Appendix I. COPC intensity plots are missing for the following COPCs as identified in Section 5.5: Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

NDEP Comment Inconsistent with prior approved NDEP submittals

ERM should explain at technical meeting how comment is inconsistent with prior approved NDEP submittals.

Technical Meeting Resolution: No change necessary as the footnote on Figure I-10 adequately addresses this issue.

APPENDIX A-3

Response to NDEP Comments Dated July 14, 2011 on the Human Health Risk Assessment and Closure Report for the Southern RIBs Sub-Area (Interim Deliverable), BMI Common Areas (Eastside), Clark County, Nevada, Dated June 2011

General Response: *At NDEP's request, the Southern RIBs interim deliverable, consisting of Chapters 4 [Data Evaluation] and 5 [Selection of Chemicals of Potential Concern] of the Closure Report, was initially submitted on May 5, 2011. Consistent with previous directives from NDEP for the Parcel 4B and Mohawk reports that site-specific lithologies be compared to specific background lithologies, this May 5 submittal included the comparison to McCullough-only background concentrations. Subsequent to the submittal, Mr. Lovato of NDEP requested that the background comparisons in the Southern RIBs interim deliverable be performed using the entire Qal background dataset (i.e, with all lithologies combined). No other comments were received on the May 5 submittal. The revised interim deliverable, incorporating this request, was submitted on June 9, 2011.*

We note that the premise of the Southern RIBs interim deliverable was to resolve with the NDEP two of the more complex aspects of the Closure Report, namely, data usability evaluations and the selection of COPCs. This premise appears to have been confirmed by the NDEP in its comment cover letter, but the detailed comments that follow the cover letter do not engage the premise. If we have misunderstood the purpose of the interim deliverable, we request that the NDEP clarify for us what the purpose is.

We further note that the Southern RIBs interim deliverable follows precisely the same template as that used for the NDEP-approved Mohawk sub-area Closure Report, and interim deliverables for other sub-areas of the project. As such, much of the language provided in these draft Chapters 4 and 5 has already been approved by the NDEP in these prior submittals. If the NDEP now desires a change to what has been approved in prior submittals, we respectfully offer that this seems counter-productive.

Finally, we draw attention to the fact that the Southern RIBs sub-area boundary has undergone several material changes since the original SAP and subsequent sample collection event, including 1) the Warm Springs Road ROW, which transects the site (thus removing some sample locations/data from the site); and 2) modifications to the northern boundary of the sub-area (primarily moving the boundary south, such that many of the sample locations included in the original Southern RIBs sub-area are now located in other sub-areas). This has complicated the selection of data for what is now considered the Southern RIBs sub-area because some of the data identified in the original SAP and DVSR are now outside the current boundaries of the site. This complication may have led to some minor inconsistencies, as discussed in the responses below. This is especially true for the data usability evaluation, since DVSR 53 was prepared and approved by the NDEP for the 'original' Southern RIBs sub-area boundary, and it is simply not possible to separate out laboratory and data validation reports for what is now the current Southern RIBs sub-area dataset; however, none of the inconsistencies induced by the changes to the sub-area has any material bearing on the data usability evaluation or COPC selection.

General Comments

1. In the future, please include the associated laboratory reports in the same file (i.e., Adobe) as the DVSR. Lab reports for each DVSR were time consuming to find as separate files submitted on multiple CDs. Accordingly, only "spot" cross checks of lab reports, versus DVSRs versus DUE tables were conducted.

Response: *The laboratory reports are in exactly the same format (separate files) as provided by the labs and used by ERM, LDC (the data validation consultant), and by the NDEP's consultant, Neptune, in its review and approval of the DVSRs. Laboratory reports for a particular DVSR were all included on the same DVD as the DVSR report. Due to sheer file size issues, NDEP's directive is not feasible. This is also inconsistent with prior submittals and approvals. It should be noted that this issue will only become more difficult with subsequent reports as they will contain more data than that for the Southern RIBs sub-area and will likely need to span several DVDs.*

2. There is no discussion or use of the conceptual site model (CSM) in the DUE. As per USEPA (1992) and NDEP (2008) DUE guidance, usability and adequacy of site characterization data is dependent upon components of the CSM such as information regarding historical sources, chemical release and migration mechanisms, receptor location/exposure points, etc. The DUE should utilize the CSM to support completion of site characterization for HRA.

Response: *This submittal is an interim deliverable whose scope was agreed to by both the NDEP and BRC. As with all other closure reports prepared by BRC for Eastside, the DUE obviously considers the CSM. This information is not present because of the agreed-upon scope of the interim deliverables, not because of an oversight of BRC. BRC presumes that the base information included in the Closure Plan and all prior Eastside closure reports is assumed by the NDEP unless explicitly noted in this submittal. Otherwise, there would be no reason for such an interim deliverable, and instead BRC should provide the complete Closure Report. If this is the preferred solution by NDEP, then NDEP should advise BRC.*

3. As a component of the DUE review, the NDEP assumed that maximum concentrations will be used as the basis for exposure point concentrations in the risk assessment. The level of review was based on that assumption. Also, please note that uncertainties associated with the DUE will be influenced by whether maximum concentrations or all data within exposure areas are used as the basis for EPCs. Please clarify if this is correct as additional review of the data may be necessary.

Response: *BRC is concerned by this comment as it indicates a change in policy by the NDEP from the method used by all previous Eastside closure reports. Why does the NDEP assume that the maximum concentration is used as the basis for exposure point concentrations when the Closure Plan identifies, and previous and NDEP-approved risk assessments use, the 95% UCL for exposure point concentrations?*

We also note that the DUE looks at all data, not just maximum concentrations.

4. There are several inconsistencies between the hard copy report, electronic tables, and electronic report, and there are internal inconsistencies between the data and these documents. Some of these issues are addressed in the following specific comments. A thorough QA is needed to correct these issues.

Response: *The hard copy is printed directly from the PDF electronic report; therefore, an explanation for any inconsistencies between the two (if they exist) cannot be provided. See responses to specific comments below.*

5. There is no discussion of the three exposure units prior to Chapter 4. It would be helpful to have this lined up somehow, but it is understood that this development will occur in earlier Chapters of the final report. However, Chapter 4 should be developed around the same concept of three exposure units. That is, data usability decisions should be made for each exposure unit separately, unless there is reason to suggest otherwise. If the earlier sections of the planned HRA are intended to address this, please advise. NDEP also notes that three exposure areas were identified in the document; however, the exposure areas are not identified in the Figures.

Response: *We do not follow the logic in the statement 'there is no discussion of the three exposure units prior to Chapter 4': by design and request only Chapters 4 and 5 have been provided in this interim deliverable. This comment appears to misunderstand the premise of the interim deliverable.*

A full discussion on the three exposure units has been included in Chapter 3 (the appropriate location for such a discussion) in the full report. This is the same rubric as that followed for the Mohawk sub-area, approved by the NDEP.

Additionally the request for separate DU decisions for each exposure unit is inconsistent with the process agreed upon by both the NDEP and BRC for the Mohawk Closure Report, which we note has been reviewed and approved by the NDEP.

Specific Comments

6. Section 4.2, Page 4-4, 1st paragraph, last sentence. Data validation procedures that relate to the asbestos laboratory reports should be explicitly detailed here or BRC should reference an external source for how these reports are validated.

Response: *Reference to NDEP's asbestos guidance has been provided.*

7. Section 4.2, second paragraph. This paragraph begins with a discussion of asbestos, which implies that this is the subject of the paragraph. However, the paragraph then describes SQLs, laboratory control spikes, and surrogates, etc. None of these apply to asbestos analysis. Either the first sentence of this paragraph needs to be revised to indicate this is a general

discussion of QC, or the discussion of QC and sensitivity parameters should be confined to asbestos.

Response: *We note that this text was originally approved by NDEP for the Mohawk Closure Report. However, the first sentence in this paragraph has been moved to the third paragraph, which discusses asbestos.*

8. Section 4.2, Footnote 1 at end of Section. This footnote does not apply to asbestos, the subject of this sentence.

Response: *Reference to this footnote has been moved to Section 4.3.*

9. Section 4.4, first paragraph, reference to Appendix B. BRC states, "The USEPA and DOE methods that were used in conducting the laboratory analysis of soil and surface flux samples are identified in the dataset file included on the report CD in Appendix B." None of the 12 tables in Appendix B contain USEPA or DOE method information/identifiers (e.g. Method 8260).

Response: *As noted in the comment, the USEPA and DOE analytical methods are, in fact, included in the dataset file (the electronic database) in Appendix B. Tables B-1 through B-12 are not the dataset file.*

10. Section 4.4, third paragraph. BRC states, "As seen in the summary of the Site dataset provided in Tables 4 (soil), of the standard analytes, only six constituents had SQLs that exceeded their respective residential soil BCLs." Review of Table 4 identifies five constituents that had a "Count of Detects > BCL." This includes arsenic, radium-228, radium-226, thorium-228, and uranium-238. Please clarify.

Response: *In fact, there are 6 constituents with DETECTS greater than BCL. A careful reading of the sentence clearly shows the intention of the report is to state that there were 6 constituents whose SQLs were greater than BCL, not DETECTs, as stated in the NDEP's comment.*

11. Section 4.4; p 4-5. SPLP testing is mentioned, but there was no background on the specific EPA test method used and there was no mention of the leach solution employed.

Response: *This comment indicates that the NDEP intends to make a policy change from all previously approved closure report submittals. NDEP has not required identification of the specific test method or the leach solution as this level of detail has not been requested in any previous, NDEP-approved reports.*

As identified in the SAP for this sub-area, the test method used was USEPA Method 1312. This information will be provided in the full report.

In addition, groundwater impacts for the entire Eastside are the subject of a separate Remedial Alternative Study (RAS) wherein all of these issues (viz., impacts to groundwater) will be addressed.

12. Section 4.4, last bullet. BRC states, "SPLP SQLs higher than the residential water BCL were noted for 1,2-diphenylhydrazine, 2,2'-dichlorobenzil, …" This is not consistent with Table B-11. Either this text is incorrect or better information needs to be provided as to where this is shown. Also in this bullet, the report states, "Of those detected in soils, the soil concentrations were all below the LBCLDAF1." Please clarify which table this statement refers to. Table 4 does not show 1,2-diphenylhydrazine above the LBCL for any DAF value. Please clarify. Please provide a reference for LBCLs used.

Response: *Again as in Comment 10, the NDEP appears to confuse what is shown on the table (DETECTS greater than the MCL) with SQL greater than the BCL.*

Additionally the comment references Table B-11, which addresses Surface Flux. BRC assumes the reviewer is actually referring to Table B-12, which specifically addresses SPLP data. What is stated in the interim deliverable is true and not inconsistent with <u>*Table B-12*</u>*. In addition, the last sentence reads "****Of those detected in soils**** [emphasis added], the soil concentrations were all below the* $LBCL_{DAF1}$*" which is true* <u>*since 1,2-diphenylhydrazine was not detected in soil*</u>*.*

Reference to Table 4 has been provided for the LBCL values.

13. Page 4-6, last line before bullet – The text states that 47 data points were rejected, which include one cyanide result, four benzyl alcohol results , twenty-one VOC analytes in one sample and all (i.e. 68 for EPA Method 8260B) VOCs in one primary sample and it's field duplicate. These add up to more than 47. Also, it appears that these were the data points rejected in the DVSR, not in the DUE evaluation. For example, in Section 4.5.3.1 it is stated that there were three rejections based on low MS/MSD recovery (but only the cyanide sample is listed in the bullets that follow). We note that no data are flagged as rejected (Category 2). Please clearly list all rejected data points in one place and ensure those data have been removed from the final HRA tables. For example, please confirm that Sample SRC2-J20, listed in Table B-3, was not rejected for perchlorate.

Response: *There are, in fact, 109 rejected data points. The count has been revised. The text also reads five benzyl alcohol results. In addition, the VOC analytes were soil analytes. Benzyl alcohol in sample SRC2-J23-0 was rejected based on very low LCS and MS/MSD recoveries. In addition, vinyl acetate was rejected in sample SRC1-AJ28-0 due to very low MS/MSD recoveries. The results for benzyl alcohol, vinyl acetate and cyanide are all listed in Section 4.5.3.1, but the list of rejections in Section 4.5 is incomplete. This section has been revised.*

To be consistent with the approved Mohawk Closure Report, rejected data from data validation were not included (see Mohawk App. F tables F-6, F-7, and F-8). The rejected data were removed from the DUE tables in the NDEP revision.

No rejected data were included in the final HHRA tables. All rejected data are included in the 'All_Soil' tab of the electronic database in Appendix B, but are excluded from the 'HHRA _Soil' tab (the HHRA dataset) of the database.

BRC does not understand how this would affect COPC selection.

14. Section 4.5.2. Treatment of blank contamination. Data should be used as reported and the potential effects of blank contamination should be discussed in the Uncertainty Analysis section. It appears as though PQLs have been used as substituted values instead. NDEP has provided guidance for several years to not use PQLs in analysis of data. In addition, DLs should not be substituted for sample results that are affected by blank contamination. Please provide further explanation for why this approach was taken.

Also, NDEP notes that there are many results affected by blank contamination, however, no explanation is offered for this. This level of blank contamination should be questioned with the laboratory involved, and some explanation offered accordingly.

Response: *BRC used the same methodology for this interim deliverable as that used in other NDEP-approved subareas including Mohawk, Parcel 4A, Parcel 4B, Utility Corridor, and Warm Springs Road ROW. As with the previously approved submittals, the Southern RIBs submittal followed USEPA National Functional Guidelines, NDEP Guidance on Data Validation, and the NDEP-approved SOP-40 when evaluating blank contamination. We also note that all of the DVSRs were approved by the NDEP. PQLs were not used for organics, since BRC followed NDEPs Guidance on Data Validation. PQLs were used in evaluating blank contaminated inorganic data reported below the PQL (laboratory J-flagged data).*

BRC acknowledges that NDEP just released its Blank Contamination Guidance on July 14, 2011, after the interim submittal had been filed. We note that the Blank Contamination Guidance does not appear to follow any USEPA guidance or provide any supporting references for the suggested changes. Following the newly released guidance at this stage of the Eastside project would only create inconsistencies among subarea (and background) datasets. It would also take an extraordinary effort to re-evaluate all the inorganic data included in this report (and subsequent reports). Indeed, we believe following such untested Guidance could jeopardize the NDEP's oft-stated goal of defensibility. Last, it is patently unreasonable and capricious for the NDEP to suggest that data following well-established guidelines is unfit for use.

Regarding the amount of blank contamination seen, the majority of laboratory blank contamination is far below 5% of the BCL. Five percent of the regulatory threshold is indicated as one line of evidence in accepting method blanks as per SW-846 Chapter One. The only laboratory-related blank contaminants in excess of 5% of the BCL are antimony (25 samples qualified), arsenic (15 samples qualified), mercury (16 samples qualified), and thallium (25 samples qualified). The associated blanks which exceed 5% of the BCL and result in censoring (U flag) are all aqueous and all calibration blanks. Calibration blanks are considered acceptable if the reported concentrations are below the PQL. All calibration blank concentrations were detected below the PQL. Arsenic, for example, had reported soil *concentrations for the 15 qualified samples of between 2.4 to 4.9 mg/kg: all below the PQL, thus they were censored at the PQL (5.1 to 5.4 mg/kg). It is likely that the effect of this censoring is minimal, but a discussion of this issue has been added to the data usability evaluation.*

15. Section 4.5.3.1, second to last paragraph. BRC states, "Detections associated with "very low" MS/MSD recoveries (i.e., less than 30 percent for metals), are generally rejected as unusable. Because only three of the MS/MSD recoveries was that low, only three sample results were rejected on this basis." Appendix E shows five barium samples with negative MS/MSD recovery and three mercury results with 3.2% recovery, none of which have been rejected. This is inconsistent with the text in this section; these results should either also be rejected or additional justification provided.

Response: *The sentence has been revised to read "Non-detects associated with "very low" MS/MSD recoveries…". It should have been noted in the DUE that 17 Barium flags were revised from R to J-. While assembling the data usability evaluation, it was noted that since only non-detects are rejected due to very low recoveries, these results should not be R-flagged. Going back to LDC's data validation memo, it indicated J- (detects), R (non-detects). Therefore, an error had occurred when applying the flags in the database. This error was not caught in the DVSR review, but was revised subsequent to DVSR approval. This has been added to the discussion in Section 4.5.3.1. However, this will not impact COPC selection because neither barium nor mercury would be a COPC, even with these recoveries. The concentrations in the affected barium samples range from 224 to 282 mg/kg and for mercury 6.8 to 402 ug/kg. For barium, the results are well within the range of detections (70 to 548 mg/kg). For mercury, the results include both the minimum and maximum detections. It seems inappropriate to disregard these results since BRC is following the appropriate guidance.*

16. Section 4.5.5, first paragraph. BRC states, "No sample results were rejected due to surrogate recoveries." Table E-13 contains 17 results that were rejected due to surrogate recoveries (6%). The table or text needs to be corrected.

Response: *The results shown in Table E-13 were from another analysis of sample SRC1-J11-0 and have a final qualifier of X. The sample was re-analyzed with the re-analysis having acceptable surrogate recoveries. The X-qualified data have been removed from Table E-13 to avoid confusion.*

17. Section 4.6.2.3, first paragraph. BRC states, "Samples with lower percent recoveries (i.e., recoveries lower than 50 percent for inorganics and one-half the lower limit or 30 percent, whichever is greater, for organics) were reviewed more closely to assess whether it was appropriate to use them in the HHRA." There is no discussion in this section about why the samples with very low recoveries for barium and mercury were not rejected.

Response: *If the reviewer continues to the next page in the document, after the first paragraph there are 6 bullets. Bullets 4 and 5 explicitly identify that all barium and mercury associated* *results were detected. Therefore, they did not warrant rejection. See response to comment 15 for further discussion.*

18. Section 4.6.2.5, page 4-33, paragraph starting "Censored results". It is not clear what is intended in this paragraph. Perhaps the intent is to say that the greater the non-detect value the greater the potential impact on the risk assessment. It seems that the only outcome of this part of the presentation is to limit the further exploration of some non-detects. In the 1st paragraph of this section, it seems that all blank contamination samples have been converted to non-detects. Samples affected by blank contamination should not be used as non-detects in any subsequent analysis. Please clarify.

Response: *The intent of the paragraph is to provide a usability discussion of censored data that may most impact the evaluation of human health risks. A careful reading of the first paragraph clearly shows that it does not indicate that all blank contamination results are non-detect qualifications. In fact and to the contrary, the first sentence reads "**certain** detections were flagged during the data review as being non-detections **or estimated** with a high bias due to laboratory or field blank contamination." [emphasis added]. Samples were qualified based on USEPA and NDEP guidance on data validation and the NDEP-approved SOP-40.*

In its comment, the NDEP provides no rationale as why these samples affected by blank contamination should not be used.

We also note this comment is inconsistent with other NDEP approved submittals by BRC.

19. Section 4.6.2.5, page 4-33, radionuclide (radium-228) table. There is no need to discuss non-detects for radionuclides in this way, since the actual reported results are (should be) used in all data/statistical analyses. Please clarify.

Response: *As BRC has explained in prior submittals and RTCs, radionuclides are at times qualified due to blank contamination (per guidance). They are treated as other inorganics, and if qualification is warranted, the result is raised to the MDA. That result is used in the evaluation.*

20. Section 4.6.3, page 4-34. Please explain how this section addresses the split of the site into three exposure units, considering, for example, that for two of the exposure units there is no radionuclides data. More generally, the text has not made it clear by this stage that there are three exposure units. Section 4 should address this division just as the other sections will. The DU and DV should be presented according to the decisions that will be made, which, in this case, is for three exposure units.

Response: *This comment is inconsistent with the approved Mohawk Closure Report. Additionally, this discussion would be more appropriate to Section 3 of the Closure Report, which is not provided in this interim deliverable as agreed by both the NDEP and BRC. Only the metals varied between exposure units. Radionuclides were evaluated at the site as a whole, as indicated in the text.*

21. Section 4.6.5, page 4-35. This is the second place in the text that it has been noted that there are potential issues comparing background and site data when the detection limits are different. However, it does not go on to state how these situations will be judged. There are instances, for example, for which the statistical background comparison tests are not reasonable and should not be performed. Antimony is a case in point. In these cases, the metals should be carried through to the next step of the RA. That is, there is insufficient evidence to suggest that antimony is at background levels. This same approach should be applied to all metals, when non-detects are of concern.

Response: *The 'Basis' column in Tables 7a, 7b and 7c provide a rationale for why the site data for a specific metal or radionuclide is comparable to background or not. As shown in the 'Basis' column of Table 7a, 7b, 7c, statistical tests were performed but not used exclusively to determine whether a substance of low detection frequency (or non-detect in the case of antimony in Tables 7b and 7c) should be deemed a COPC. As discussed in Section 5.1, if the detection frequency is below 40%, the constituents are evaluated based on plots and summary descriptive statistics. Consistent with the NDEP approved Mohawk Closure Report, for example, antimony will be carried through to the next step of the risk assessment (that is, comparisons to one-tenth the BCL). However, it does not seem necessary to include this in Section 4.6.5. A review of SQLs relative to BCLs was already performed earlier in Section 4. None of these metals had SQLs in excess of BCLs, hence the statement at the end of Section 4.6.5: "Note that for constituents with SQLs that meet project limit requirements, comparisons between Site and background may be less important as these left-censored data are likely to indicate conditions that pose an 'acceptable' risk and further evaluation is not necessary."*

22. Section 4.6.5, page 4-35. Note also that the method by which the non-detects are treated in the data analyses is not described. It is noted in this section and others that difficulties might arise, but the approach taken to non-detects for each different data analysis could be summarized.

Response: *As noted previously, both the NDEP and BRC agreed that the scope of this interim deliverable would contain Chapters 4 and 5 only. Consistent with NDEP-approved closure reports, discussions on the treatment of non-detects is provided elsewhere in the report. For example, how non-detects are treated in the risk assessment is discussed in Chapter 6 (consistent with the Mohawk Closure Report). Their treatment for the risk assessment and other data analyses (such as, summary descriptive statistics and plots) follows NDEP guidance.*

23. Section 5.0, Page 5-1, last paragraph on page. The first and third sentences need to be reworded.

Response: *Agreed. These sentences have been revised.*

24. Section 5.0, page 5-1 references discussion in Section 3.3 regarding removal actions, but this section is not included in the DUE. NDEP understands that this issue can be reviewed when

the HRA is submitted. This comment is included for BRC's information as it was a constraint on the review completeness.

Response: *Agreed.*

25. Section 5.0; 5-1; 3rd paragraph. The following sentence is vague and poorly worded. "Because the two remediation areas were targeted primarily for the purposes metals reduction; for other inorganics, organics, asbestos, and radionuclides, the cumulative site dataset is considered representative for all three exposure areas."

Response: *The sentence has been clarified.*

26. Section 5.1, Background Comparisons. Background comparison calculations were verified for all metals for the three subsets of data for the Southern RIBs sub-area. Results were compared against the electronic Tables 7a through 7c. It should be noted that Tables 7a through 7c in the hard copy are incorrect and should be revised. For barium, background results calculated by the NDEP for the two sample t-test and the Wilcoxon Rank Sum were not consistent with what was reported in the electronic tables 7b (SRCJ0203) and 7c (SRCJ21). The p-values of both Neptune's results and BRC's results are presented below:

Sub-set	Two Sample t-test	WRS test
SRCJ0203 (Neptune)	2.15E-02	4.24E-03
SRCJ0203 (BRC)	4.2E-01	1.5E-02
SRCJ21 (Neptune)	4.77E-02	4.32E-02
SRCJ21 (BRC)	1.7E-02	1.5E-02

In addition to barium, several background comparison test results could not be reproduced for some radionuclides. In particular, t-test results could not be reproduced for Radium-228 and Thorium-228. All tests for Uranium-235/236 could not be reproduced and indicates that this nuclide actually fails background. Discrepancies are highlighted in yellow:

	Neptune				BRC			
Radionuclide	T Test	Quantile	Slippage	WRS	T Test	Quantile	Slippage	WRS
Radium-226	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0
Radium-228	3.5E-02	1.4E-02	6.8E-03	5.9E-02	6.4 E-2	1.4 E-2	6.8 E-3	5.9 E-2
Thorium-228	3.4E-02	1.5E-02	3.1E-01	4.4E-02	4.1 E-2	1.5 E-2	3.1 E-1	4.4 E-2
Thorium-230	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0 E+0	1.0 E+0	1.0 E+0	1.0 E+0
Thorium-232	8.8E-01	1.2E-01	1.0E+00	9.9E-01	8.8 E-1	1.2 E-1	1.0 E+0	9.9 E-1

Uranium-233/234 1.0E+00 1.0E+00 1.0E+00 1.0E+00 1.0 E+0
1.0 E+0 1.0 E+0 1.0 E+0
Uranium-235/236 1.4E-02 1.4E-07 3.4E-05 3.7E-01 1.0 E+0
9.6 E-19.7 E-33.8 E-1
Uranium-238 1.0E+00 1.0E+00 1.0E+00 1.0E+00 1.0 E+0 1.0 E+0 1.0 E+0 1.0 E+0

Response: *BRC does not know why these discrepancies exist. BRC uses Neptune's GiSdT software program for the background comparisons and used the same dataset provided to the NDEP for its review. The issue with barium may be related to that identified in comment #32 below. These statistical comparisons have been re-done in the full report.*

27. Section 5.5; p 5-9 and 5-10. There should be some discussion here that the process does not include selection of COPCs for the soil leaching to groundwater pathway.

Response: *Consistent with the BRC Closure Plan and prior submittals approved by the NDEP, COPCs identified in the risk assessment are carried through to the soil-leaching-to-groundwater modeling. There is no separate selection of COPCs for the soil leaching-to-groundwater pathway.*

28. Figures 1-10 and Tables 1,3, and 6 are included in of the DUE and should be referenced in the appropriate text section (they are not currently).

Response: *These figures and tables were provided as a courtesy to the NDEP to aid in its review of the interim deliverable. References to each is, of course, provided in other chapters of the full Closure Report.*

29. Figure 5. It is not clear what the red color corresponds to in this figure as it is not included in the legend. Please clarify.

Response: *The legend has been revised to include identification of this land use.*

30. Figures 8 and 11 – Total sample location counts do not match total counts in tables. For example, the figures collectively indicate approximately 61 surface flux locations, however Table 1 lists 34 surface flux samples and Table B-11 lists over 200. The number of samples on the figures should match the number of samples in the tables.

Response: *It is important to note that Figure 8 identifies the <u>initial</u> sample locations from the SAP, not the <u>final</u> locations. Figure 11 identifies the final sample locations.*

A careful reading of Table B-11 shows that for every page of the table the first, second, and third columns are the same. Each additional column changes from page to page to provide information for numerous constituents (similar to Tables B-2 through B-10).

31. Table 4 (applies to all Tables that cite maximum TCDD TEQ) – In the live spreadsheet file "dataset," there is a value of 40.1 pg/g for SRC1-J13-0. Please confirm that this sample location was excavated. If not, this value is higher than the 32.9 pg/g cited in the Table 4.

Response: *The comment is incorrect. As noted in the 'Soil' worksheet of the spreadsheet file, this location was scraped. The sample SRC1-J13 was superceded by sample SRC2-J13C.*

32. Table 7a –
a. Barium has 136 samples as the total count. However, this contradicts the number in Table 8a (126 samples). Please reconcile and correct statistical analyses if it is affected.
b. For radionuclides, the sample sizes reported in the hard copy are incorrect.
c. Footnote 2 should be removed from this table. It is not applicable for this dataset, since site uranium as a metal is consistent with background.

Response: *Ten barium results appear to have been incorrectly classified as to which exposure unit they are in. This is curious since only barium is affected, and none of the other 31 metals. However, this has been corrected. It should be noted that this ultimately does not affect the risk assessment, as barium would be removed as a COPC based on concentrations all being less then one-tenth its BCL.*

BRC is unclear about the hard copy sample sizes; these appear correct.

Footnote 2 has been removed.

33. Tables 4 and 7a radionuclide data presentation. Table 4 presents the radionuclide data appropriately. All of the data are considered detects for the purposes of the risk assessment, or, at least, none of the data are censored. However, in Table 7a, the radionuclides are presented separately for non-detects and detects. This is inappropriate per NDEP guidance. If the non-detects as reported are used in the background comparisons, then these comparisons need to be redone.

Response: *As noted in the comment, radionuclide data is presented appropriately in Table 4 (now Table 3-4_; therefore, the proper presentation is included in the report. Table 5-1a has been revised accordingly. The background comparisons were conducted correctly.*

34. Table 7b - Barium has 18 samples in the total count and count. However, this contradicts the number in Table 8b (28 samples). Please reconcile and correct statistical analyses if it is affected.

Response: *See response to comment 32 above.*

35. Tables 4, 8a, 8b, and 8c – For arsenic, the numbers presented in these tables do not add up. For example, the total count in Table 4 is 164, Table 8a is 125, Table 8b is 28, and Table 8c

is 10; indicating a total of 163 samples not 164 as stated. Please reconcile and revise table(s) accordingly.

Response: *The reviewer's count in this comment for Table 8a come from the 'Number of Detects' column, NOT the 'Total Count' column. (We note the counts used in the comment for Tables 8b and 8c are from the correct 'Total Count' column). There is one non-detect for arsenic in Table 8a, so if the detects only from Table 8a are added with the total counts from Table 8b and 8c, then of course the same total will not be generated as that on Table 4 for total counts. It is the sample count in the comment that is in error, NOT the tables.*

36. Table 29b. The results presented in this table (in the hard copy report, PDF, and electronic tables) do not correspond to "Site-Wide" arsenic data. Rather these results correspond to subarea "SRC J02/J03".

Response: *The header for Table 29b has been corrected.*

37. Table 29i. The standard deviation for Site-wide formaldehyde should be 0.47, not 0.5.

Response: *The rounding occurs as a presentation setting in Excel, while the actual value in the live spreadsheet is 0.47.*

38. Table 29k. Please indicate that out of the TCDD TEQ data in the electronic data set that accompanies the report, only TCDD TEQ (WHO 1998) data were used for the DQA.

Response: *BRC confirms that the WHO 1998 were used in the DQA. A note to this effect has been added to the report.*

39. Appendix B – Leader page references Galleria North School-Site Sub-Area. Please correct to read Southern RIBs Sub-Area.

Response: *This page has been corrected.*

40. Appendix D – Files provided contained two different reports authored by Dr. Schmidt: February 2009, with 48 samples ("VOC/radon") and August 2010 with 7 samples (VOC). As previously noted, the DUE tables include over 200 samples yet the DUE figures show fewer. Please clarify.

Response: *See response to comment #30.*

41. Appendix D – Dr. Schmidt's report did not contain the figures or attachments. Accordingly, sample locations could not be cross checked. For future submittals, please provide the entire characterization report (text, tables, figures, attachments, lab reports) as one file.

Response: *Dr. Schmidt's report was presented as-is. References to the sample location figure in the main report has been provided, as well as reference to the DVSR (in Appendix D) which contains the chain-of-custodies and laboratory reports.*

42. Appendix E – Table E-5 The residential soil BCL is 220 ug/kg, not 220,000 µg/kg as listed.

Response: *This error has been corrected.*

43. Appendix F – Based on spot checks of DVSR tables with DUE tables, it appears there are some inconsistencies. For example, Table E-11 of the DUE lists 3 mercury samples as having MS/MSD recoveries below the lower end of the lab criteria (flagged as J-), but the DVSR 53a Table 2-5 lists 5. The DUE text should clarify that inconsistencies between DVSR/lab reports and DUE tables may be due to samples having been excavated.

Response: *Due to the change in site boundaries, re-analysis data, and excavated locations, it is not possible to make a direct comparison from the DVSRs to the DUE tables. In addition and consistent with the approved Mohawk Closure Report, BRC has previously submitted DUE tables that did provide excavation data and re-analysis data to the NDEP. In the approved Mohawk Closure Report, the NDEP directed BRC to remove the excavation and re-analysis data from the DUE tables. The excavated data can be found in the Dataset (Appendix B) under the Soil tab, column D (Existing = No). The comment identifies five mercury samples from DVSR53a. Those sample IDs are SRC3-J21C2-0, SRC3-J21NE-0, SRC3-J21NW-0, SRC3-J21SE-0, and SRC3-J21SW-0. As shown in Table 3 of the interim deliverable (and the electronic dataset), SRC3-J21C2-0 and SRC3-J21SE-0 were scraped, therefore they are not included in the HRA dataset and not discussed in the DUE.*

44. Appendix G. The only background data used for this sub-area are from the McCullough geology. The plots (box plots) in this Appendix do not need to include the Mixed and River data subsets.

Response: *This comment is incorrect - as specifically instructed by Mr. Lovato, ALL Qal background data (McCullough, Mixed, and River) were used in the background comparisons. Indeed, this was the purpose of the June re-submittal.*

45. Appendix I. COPC intensity plots are missing for the following COPCs as identified in Section 5.5: Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Response: *As stated in a footnote on this figure, "Benzo(a)pyrene is shown as representative of the PAH COPCs." This is consistent with the approached used for the NDEP-approved report for Parcel 4B.*

REDLINE STRIKEOUT TEXT

EXECUTIVE SUMMARY

Basic Remediation Company LLC (BRC) has prepared this Human Health Risk Assessment (HHRA) and Closure Report for the Southern Rapid Infiltration Basins (RIBs) Sub-Area (Site) of the Basic Management, Inc. (BMI) Common Areas (Eastside) in Clark County, Nevada. This Sub-Area is so named due to the presence of features used by the city of Henderson as RIBs. The purpose of this report is to support a request for a No Further Action Determination (NFAD) by the Nevada Division of Environmental Protection (NDEP) for the Site.

The HHRA evaluates the potential for adverse human health impacts that may occur as a result of potential exposures to residual concentrations of chemicals in soil, groundwater, and air, following remediation of the Site. If the residual risks do not pose an unacceptable risk to human health and the environment, then an NFAD will be requested from the NDEP. Upon issuance of an NFAD by the NDEP, redevelopment of the Site is expected to proceed in a manner consistent with the Environmental Covenant (Instrument 201102030002818 Clark County Recorders Office) that is attached to the property. This report also describes the various remediation actions that were performed and presents the subsequent confirmation data collected from 2008 through 2010 at the Site.

BACKGROUND

An initial confirmation sampling investigation was conducted at the Site in 2008 in accordance with the BRC's *Sampling and Analysis Plan* (SAP, approved by the NDEP on September 11, 2008),[1] with follow-up sampling in 2009 and 2010. The SAP addressed sampling procedures such that remaining contaminants and their potential impacts to future Site uses (as discussed in Section 1.1 of the *BRC Closure Plan* for the BMI Common Areas [BRC, Environmental Resources Management (ERM), and Daniel B. Stephens & Associates, Inc. [DBS&A] 2007[2]]) can be determined. The Site investigation involved collection of soil matrix and surface flux samples from throughout the Site. The sampling plan performed for this purpose, as described in Section 4, of the SAP (BRC 2008) was consistent with the approach presented in Section 2 of the *Statistical Methodology Report* (NewFields 2006). The *Statistical Methodology Report* describes the statistical methods that are used to confirm the final soils closure at each of the Eastside sub-

[1] The SAP for the Southern RIBs Sub-Area assumed Site boundaries that are more extensive than the current site boundaries. Specifically, the Site was revised to exclude 1) the Warm Springs Road Right-of-Way, which was granted an NFAD in November 2010; and 2) along the northernmost boundary and adjacent to the Beta Ditch.

[2] The BRC Closure Plan was finalized and approved by NDEP in 2007. Subsequent to this date revisions were made to Section 9 of the BRC Closure Plan (Risk Assessment Methodology–Human Health). The latest revision to Section 9 is March 2010. No other sections of the BRC Closure Plan have been revised since 2007.

areas of the BMI Common Areas. Several subsequent rounds of soil remediation and confirmation sampling were performed. The final number of samples collected was determined to be adequate for the completion of a statistically robust dataset upon which to perform a HHRA.

CONCEPTUAL SITE MODEL

The conceptual site model for the Site considers current and potential future land-use conditions. Currently, the Site is undeveloped. Current receptors that may be exposed to Site chemicals of potential concern (COPCs) include on-site trespassers, occasional on-site workers, and off-site residents. Future receptors identified as "on-site receptors" are defined as receptors located within the current Site boundaries (Figure 1), while future "off-site receptors" are those located outside the current Site boundaries. Under the prospective redevelopment plan, the Site may be used for a variety of potential purposes, including Urban Core; retail/commercial development; high and medium density residential structures; and associated streets, parking areas, and parks. However, the HHRA assumes unrestricted future land use.

Therefore, future receptors may include on-site residents and visitors, indoor workers, outdoor maintenance workers, construction workers, trespassers, and off-site residents. Due to the requirement for use of default reasonable maximum exposure parameters for future receptors, exposures to future receptors are greater than current exposures. Accordingly, for conservatism only future receptors were assessed in the HHRA. Potential exposures to off-site residents were qualitatively evaluated. The entire Site will be enhanced by restoration and redevelopment once remediation is complete. Therefore, there is no exposure to ecological receptors, because the Site will be prepared for human use in a residential and/or commercial setting. The HHRA conforms to the methodology included in Section 9 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

DATA REVIEW AND USABILITY EVALUATION

A data review and usability evaluation was performed to identify appropriate data for use in the HHRA. The results of the data usability evaluation indicate that the data collected in 2008 through 2010 are adequate in terms of quality ~~and quantity~~ for use in a risk assessment.

HUMAN HEALTH RISK ASSESSMENT

The HHRA was conducted to determine if chemical concentrations in Site soils are either: (1) representative of background conditions; or (2) do not pose an unacceptable risk to human health and the environment under current and potential future use conditions. The HHRA followed the procedures outlined in U.S. Environmental Protection Agency (USEPA) and the

NDEP guidance documents. As noted above, the HHRA also conforms to the methodology presented in Section 9 of the NDEP-approved *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), and includes all COPCs for the Site. The Site was divided into three exposure areas: (1) ~~Site-related chemical (~~SRC~~) -~~-J02/J03, (2) SRC-J21, and (3) the total Site ("Site-Wide"); cancer risks and non-cancer hazards were calculated for each of the exposure areas. This was done to accommodate the different distributions (and related exposure point concentrations) for metals due to multiple remedial actions surrounding original sample locations SRC-J02/J03 and SRC-J21. For all other COPCs, the exposure point concentrations were based on the entire Site-wide data set. Radionuclides were not included as COPCs because radionuclide activities were consistent with background conditions. Results of the HHRA are summarized in Table ES-1.

TABLE ES-1: SUMMARY OF HUMAN HEALTH RISK ASSESSMENT CALCULATIONS

	Exposure Area		
Residential Scenario	**Site-Wide**	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	1.6	2.2	2.5
Target Organ Non-Cancer ~~HI[1]~~HI[2]	0.~~78 (TO)~~67	0.~~90 (TO)~~88	0.~~92 (TO)~~96
Background Non-Cancer HI[3]	1.2	1.2	1.2
Chemical Cancer ~~Risk[2]~~Risk[4]	3×10^{-6}	3×10^{-6}	3×10^{-6}
Asbestos ~~Risk[3]~~Risk[5]	1×10^{-8} to 2×10^{-7}	--	--
Construction Worker Scenario	**Site-Wide**	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	0.~~56~~60	0.~~65~~79	0.~~68~~89
Chemical Cancer ~~Risk[2]~~Risk[4]	4×10^{-8}	5×10^{-8}	6×10^{-8}
Asbestos ~~Risk[3]~~Risk[5]	2×10^{-8} to 3×10^{-7}	--	--
Commercial Worker Scenario	**Site-Wide**	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	0.~~035~~047	0.~~040~~061	0.~~043~~069
Chemical Cancer ~~Risk[2]~~Risk[4]	~~2~~3 $\times 10^{-7}$	~~2~~3 $\times 10^{-7}$	3×10^{-7}
Asbestos ~~Risk[3]~~Risk[5]	2×10^{-9} to 4×10^{-8}	--	--
Maintenance Worker Scenario	**Site-Wide**	**SRC-J02/J03**	**SRC-J21**
Non-Cancer HI[1]	0.~~057~~077	0.~~066~~10	0.~~071~~12
Chemical Cancer ~~Risk[2]~~Risk[4]	~~2~~3 $\times 10^{-7}$	~~2~~3 $\times 10^{-7}$	~~2~~3 $\times 10^{-7}$
Asbestos ~~Risk[3]~~Risk[5]	5×10^{-9} to 9×10^{-8}	--	--

1 – HI = hazard index; the value presented is the total cumulative non-cancer HI~~; unless noted with an '(TO)' which indicates the value is the maximum target organ specific HI.~~.

~~2~~2 – Target organ-specific non-cancer HIs are discussed in the uncertainty section of the report, and also include a bioaccessibility factor of 30 percent for cobalt. They are included to provide informed risk management decisions.

3 – Background risks were calculated for future on-site residents only.

4 – Cancer risk is the maximum theoretical upper-bound incremental lifetime cancer risk (ILCR).

~~3~~5 – Asbestos risks represent the cumulative asbestos risks for chrysotile and amphibole fibers. However, the risk estimates are dominated by amphibole, which fiber type was not detected at the Site in the confirmation samples. Asbestos risks were calculated for the entire Site and not divided by exposure area.

Indoor air exposures were evaluated on a sample-by-sample basis, per NDEP requirements, using surface flux data measurements. Because of this, the minimum and maximum surface flux risks and ~~hazard index~~HI estimates are summed with ~~those for~~the soil risk and HI estimates to provide a range of cumulative risks and ~~hazard indices.~~HIs. The risk estimates shown above incorporate the maximum ~~cumulative~~surface flux risks~~ and hazard indices~~. Primary risk contributors are ~~shown above~~discussed in the main body of the report.

In addition, BRC has performed a more detailed Site-specific evaluation of vapor intrusion potential at a comparison study area within the Eastside property. Given the results of this study, and based on the results of the tiered approach followed from USEPA's (2002d) Vapor Intrusion Guidance, it has been demonstrated that there is no likelihood of adverse vapor intrusion into any indoor spaces that may be constructed in the Southern RIBs Sub-Area.

The NDEP has recently determined that ~~risk assessments~~HHRAs for Eastside property sub-areas do not need to evaluate the pathway of radon migration from groundwater to indoor air for sub-areas with a separation distance of at least 15 feet between any current or future building structure base and the high water table (letter dated November 9, 2010, from Greg Lovato, NDEP, to Mark Paris, BRC). Therefore, given the depth to groundwater at the Site is at least 50 feet below ground surface (bgs), the intrusion of radon into indoor air is not evaluated in this ~~human health risk assessment~~HHRA.

EVALUATION OF UNCERTAINTIES

Risk estimates are values that have uncertainties associated with them. These uncertainties, which arise at every step of a risk assessment, are evaluated in the report to provide an indication of the uncertainty associated with a risk estimate. Uncertainties from different sources are compounded in the HHRA. Because the uncertainties are compounded and because the exposure assumptions and toxicity criteria used are considered conservative, the risk estimates calculated in this HHRA are likely to overestimate rather than underestimate potential risks. A detailed discussion of these uncertainties is provided in the Uncertainty Analysis (Section 7) of the report.

POTENTIAL IMPACTS TO GROUNDWATER

~~Potential impacts to groundwater of residual chemicals in soil were evaluated, as was the potential impact to groundwater from the prospective future land use of the Site. Potential impacts were evaluated using the SESOIL vertical unsaturated zone migration models. Because~~

~~future redevelopment will likely result in increased surface water infiltration due to sources such as buried water lines, sewer lines, irrigation lines, and/or over-watering of parks and lawns, three surface water infiltration scenarios were evaluated: (1) baseline, pre-development conditions; (2) normal post-development conditions; and (3) post-development enhanced recharge due to overwatering of open space.~~

~~The model predicts that inorganic COPCs will exceed their respective comparison levels. However, based upon the differences between the modeled predictions and the lower, actual, observed measurements in groundwater, it is probable that processes not accounted for in the model are reducing/attenuating concentrations as they migrate through the vadose zone. That is, the model is over-predicting the migration potential of COPCs in the vadose zone. Therefore, because of the long elapsed time since any use in the vicinity of the Site and no use on the Site itself, it is unlikely that the concentrations of constituents detected in Site soils represent a risk to groundwater quality.~~

As noted in a letter dated September 17, 2012, from Greg Lovato, NDEP, to Mark Paris, BRC, HHRA reports for the project no longer evaluate the potential leaching impacts to groundwater for any sub-area. This issue will be addressed in the Eastside groundwater remedial alternatives study (GW RAS). As provided for in Section XVII of the Phase III Administrative Order on Consent, No Further Action Determinations issued for sub-areas are subject to continuing Work to address Water Pollution Conditions, Operation and Maintenance, maintenance of existing Institutional Controls, and/or Efficacy Review.

SUMMARY

Based on the results of the various investigations, the HHRA, and the conclusions presented in this report, exposures to residual levels of chemicals in soil at the Southern RIBs Sub-Area should not result in adverse health effects to any of the future receptors evaluated~~, or to groundwater quality beneath the Site.~~. As a result, an NFAD for the Southern RIBs Sub-Area is warranted given the following provisos:

1. The NFAD does not pertain to groundwater. BRC retains the responsibility to address any environmental impacts to groundwater beneath the Site, pursuant to the *Settlement Agreement and Administrative Order on Consent, Phase 3* (NDEP 2006). As such, additional investigation may be necessary on the Site as it relates to BRC's responsibilities for groundwater. BRC must be granted access to the Site for activities such as well or soil boring installations or other investigative or remedial efforts.

2. Except for their physical parameters, the soils beneath 10 feet bgs of the Recorded Environmental Covenant redevelopment grading plan for the Site have not been assayed to date. Accordingly, the NFAD does not pertain to soil below the top 10 feet of the redevelopment grading plan for the Site. The property owner should note that these soils should not be disturbed without additional investigation or evaluation. BRC understands that this provision will be reflected in an Environmental Covenant for the Site.

3. The property owner should ensure that activities at the Site do not exacerbate existing, sub-surface, environmental conditions. The redevelopment grading plan (Figure 2) that has been prepared for redevelopment of the Site has been incorporated as an Environmental Covenant for the Site to control subsurface excavation.

4. Site use is otherwise suitable for purposes of residential, recreational, civic, commercial, or industrial use.

1.0 INTRODUCTION

Basic Remediation Company LLC (BRC) has prepared this Human Health Risk Assessment (HHRA) and Closure Report for the Southern Rapid Infiltration Basins (RIBs) Sub-Area (Site; Figure 1) of the Basic Management, Inc. (BMI) Common Areas (Eastside) in Clark County, Nevada. The purpose of this report is to support a request for a No Further Action Determination (NFAD) by the Nevada Division of Environmental Protection (NDEP) for the Site. As presented in Section XVII.1.a. of the *Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3* (AOC3; NDEP 2006), the NDEP acknowledges that discrete Eastside areas may be issued an NFAD as remedial actions are completed for selected environmental media. Any such NFAD request shall identify the remedial actions and other work completed at the property in question, the results of such remedial actions and other work, the proposed land use(s), and the reasons supporting the eligibility of the property for an NFAD. This report provides this information for the Site.

BRC recognizes that the following conditions will be included in a Recorded Environmental Covenant (Instrument 201102030002818 Clark County Recorders Office) as a condition to receiving an NFAD from the NDEP:

1. The NFAD does not pertain to groundwater. BRC retains the responsibility to address any environmental impacts to groundwater beneath the Site, pursuant to the AOC3. As such, additional investigation may be necessary on the Site as it relates to BRC's responsibilities for groundwater. BRC must be granted access to the Site for activities such as well or soil boring installations or other investigative or remedial efforts.

2. Except for their physical parameters, the soils beneath 10 feet below ground surface (bgs) of the redevelopment grading plan for the Site have not been assayed to date. Accordingly, the NFAD does not pertain to soil below the top 10 feet of the redevelopment grading plan for the Site. The property owner should note that these soils should not be disturbed without additional investigation or evaluation.

3. The property owner should ensure that activities at the Site do not exacerbate existing, sub-surface, environmental conditions. The grading plan (Figure 2), which has been prepared for redevelopment of the Site, has been incorporated as an Environmental Covenant for the Site to control subsurface excavation.

4. Site use is otherwise suitable for purposes of residential, recreational, civic, commercial, or industrial use.

As stated in Section VI of the NDEP's *Record of Decision, Remediation of Soils and Sediments in the Upper and Lower Ponds at the BMI Complex* (ROD; NDEP 2001), cleanup of the Site proceeded under Alternative 4B (soils transferred from the Site to a dedicated Corrective Action Management Unit [CAMU] within the BMI Complex),[3] as identified and described in Section 9 of the Remedial Alternatives Study (RAS) for the Eastside. The *Remedial Alternatives Study for Soils and Sediments in the Upper and Lower Ponds at the BMI Complex* (Environmental Resources Management [ERM] 2000) was submitted to the NDEP in March 2000. The RAS is documented via issuance of the ROD, dated November 2, 2001, by the NDEP.

This report is consistent in format with prior closure reports for other study areas, and incorporates comments received from the NDEP on those reports. This revision of the report, Revision ~~0~~1, incorporates various discussions and comments/resolutions between BRC and the NDEP conducted subsequent to Revision 0 of the report (dated November 2011); resolution of outstanding issues received from the NDEP, dated August 8, 2012; draft comments received from the NDEP, dated July 14, 2011, on the interim deliverable of the report, dated June 2011; and discussions during August 2011 meetings between BRC and the NDEP. The NDEP comments on the previous revision and interim deliverable, BRC's response to these comments, and resolutions agreed upon between the NDEP and BRC are included in Appendix A. Also included in Appendix A is a redline/strikeout version of the text showing the revisions from the November 2011 versions of the report. An electronic version of the entire report, as well as original format files (MS Word and MS Excel) of all text, tables, modeling, and risk calculations are included on the report compact disc (CD) in Appendix B.

1.1 PURPOSE OF THE RISK ASSESSMENT

The purpose of the HHRA is to evaluate the potential for adverse human health impacts that may occur as a result of potential exposures to residual concentrations of chemicals in soil, groundwater, and air following remediation, and to assess whether any additional remedial actions are necessary in order to request an NFAD from the NDEP to allow redevelopment of the Site to proceed. The results of the risk assessment provide risk managers an understanding of the potential human health risks associated with background conditions and additional risks

[3] Under this alternative, the Site could be developed in accordance with the current development plan and the recorded Environmental Covenant for the Site that assures appropriate management of soils beneath 10 feet bgs (post-graded), should they need to be disturbed in the future.

associated with past Site activities.[4] Pending issuance of an NFAD by the NDEP, redevelopment of the Site is expected to proceed in a manner consistent with the Recorded Environmental Covenant attached to the property.

As presented in Section 2.5 of the *Sampling and Analysis Plan for the Southern RIBs Sub-Area, BMI Common Areas (Eastside) Clark County, Nevada* (BRC 2008; hereinafter "SAP"; approved by the NDEP on September 2, 2008) no interim remedial measures (IRMs) were conducted within the Site. However, the sampling conducted in accordance with the SAP identified areas within the Site that warranted remediation, as discussed in Section 3.3. These areas have been addressed. The overall goal of the risk assessment presented in this report, therefore, is to confirm that residual chemical concentrations are either: (1) representative of background conditions; or (2) do not pose an unacceptable risk to human health and the environment under current and potential future land use conditions. Findings of the HHRA are intended to support the Site closure process.

For human health protection, BRC's goal is to remediate Site soils such that they are suitable for residential uses, assuring health-protective conditions at 1/8th-acre exposure areas. The 1/8th-acre area corresponds to the size of a typical residential lot size, as presented in the U.S. Environmental Protection Agency (USEPA) guidance (1989) and is applicable to future Site conditions. It should be noted that sampling has not occurred on every 1/8th-acre exposure area. Rather, the statistical protocol presented in the NDEP-approved *BRC Closure Plan* (BRC, ERM, and Daniel B. Stephens & Associates, Inc. [DBS&A] 2007) and *Statistical Methodology Report* (NewFields 2006) was followed, which allows estimates to be applied to 1/8th-acre exposure areas based on similar populations across the Site. The decision can hence be made simultaneously for many 1/8th-acre exposure areas based on the data and documentation that the exposure areas can be aggregated. This can result in aggregation across the entire Site if concentration distributions appear to be relatively homogeneous and representative of a single

[4] The HHRA presents ~~incremental risks; that is, the~~total Site-related risk~~ in addition to background risk caused by Site contamination~~. Background risk is the risk to which a population is normally exposed, and does not include risks from Site contamination. Total Site-related risk includes both incremental (Site only) and background risks. Because naturally occurring constituents are typically included in a risk assessment (i.e., metals and radionuclides) the ~~incremental~~total Site-related risk will have some element of total risk included. However, because risks are only calculated for a subset of metal and radionuclides, a ~~"total"~~'total' risk is not calculated. In instances where the ~~incremental~~total Site-related risk is calculated to exceed a cancer risk of 10^{-5} (typically when radionuclides are included in the risk assessment calculations~~),~~) or a non-cancer hazard index greater than 1.0, then a background risk, only including those naturally occurring constituents included in the risk assessment, will also be calculated to provide context to the risk assessment results.

population, or within separate sub-areas of the Site if those sub-areas exhibit different distributions. Note that an assumption was made in the SAP for the Southern RIBs Sub-Area (see Section 3.4 of that document) that the concentration distribution across the entire Site is relatively homogeneous. This assumption was evaluated prior to performing the risk assessment, and three exposure areas were subsequently identified (Section 3.5).

Project-specific risk level and remediation goals consistent with USEPA precedents and guidelines for residential uses have been established, as summarized below. It should be noted that: (1) all comparisons to risk or chemical-specific goals are made on an exposure area basis consistent with likely exposure assumptions; and (2) these comparisons are demonstrated through the use of spatial statistical analysis to apply to each 1/8th-acre exposure area.

Human health risks are represented by estimated theoretical upper-bound cancer risks and non-cancer hazards derived in accordance with standard USEPA and NDEP methods. If the carcinogenic risks or non-cancer hazards exceed USEPA acceptable levels or NDEP risk goals, then remedial action alternatives must be considered. The acceptable risk levels defined by USEPA for the protection of human health, as identified in Section 9.1.1 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), are:

- Post-NFAD chemical and radionuclide concentrations in Site soils are targeted to have an associated residual, cumulative theoretical upper-bound incremental lifetime cancer risk (ILCR) level point of departure of 10^{-6}. This is the target risk goal for the project. For cases where the NDEP identifies this goal to be infeasible, it is BRC understands that the NDEP will re-evaluate the goal in accordance with USEPA (1991a) guidance. In no case will the residual, cumulative theoretical upper-bound carcinogenic risk levels exceed those allowed per USEPA guidance.

- Post-NFAD chemical concentrations in Site soils are targeted to have an associated cumulative, non-carcinogenic hazard index (HI) of 1.0 or less. If the screening HI is determined to be greater than 1.0, target organ-specific HIs will be calculated for primary and secondary organs. The final risk goal will be to achieve target organ-specific non-carcinogenic HIs of less than 1.0.

- Where background levels exceed risk level goals or chemical-specific remediation goals, metal concentrations and radionuclide activities in Site soils are targeted to have risks no greater than those associated with background conditions.

In addition to the risk goals discussed above, chemical-specific remediation goals have been established for lead and dioxins/furans. The target goal for lead is 400 milligrams per kilogram (mg/kg) for residential land use, which is a residential soil concentration identified by USEPA (based on the Integrated Exposure Uptake Biokinetic Model [IEUBK] model) as protective of a residential scenario (USEPA 2004a).

For dioxins/furans and polychlorinated biphenyl (PCB) congeners, the USEPA toxicity equivalency (TEQ) procedure, developed to describe the cumulative toxicity of these compounds, is used. This procedure involves assigning individual toxicity equivalency factors (TEFs) to the 2,3,7,8 substituted dioxin/furan and PCB congeners. TEFs are estimates of the toxicity of dioxin-like compounds relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD), which is assigned a TEF of 1.0. Calculating the TEQ of a mixture involves multiplying the concentration of individual congeners by their respective TEF. One-half the detection limit is used for calculating the TEQ for individual congeners that are non-detect in a particular sample. The sum of the TEQ concentrations for the individual congeners is the TCDD TEQ concentration for the mixture. TEFs from USEPA (~~2000a~~2010) are used.[5] Consistent with the Agency for Toxic Substances and Disease Registry (ATSDR) *Update to the ATSDR Policy Guideline for Dioxins and Dioxin-Like Compounds in Residential Soil* (2008a), the target goal for residential land use is the ATSDR screening value and the NDEP residential Basic Comparison Level (BCL; NDEP ~~2011a~~2012a) of 50 parts per trillion (ppt) TCDD TEQ.

1.2 METHODOLOGY AND REGULATORY GUIDANCE

This risk assessment follows procedures outlined in USEPA *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual* (RAGS; USEPA 1989), and conforms to Section 9 (Risk Assessment Methodology–Human Health) of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010) which was approved by the NDEP on July 16, 2007. Various NDEP guidance documents are also relied on for the risk assessment (as referenced throughout this report). In addition, the NDEP's BCLs (NDEP ~~2011a~~2012a) are used for comparison of Site characterization data to provide for an initial screening evaluation, assist in the evaluation of data usability, and aid in determination of extent of contamination. A full list of guidance documents consulted is provided in Section 6 and the References section at the end of this document.

[5] Consistent with the letter dated September 17, 2012, from Greg Lovato, NDEP, to Mark Paris, BRC. BRC will revise the *BRC Closure Plan* accordingly.

This report also relies upon methodology and information provided in the NDEP-approved *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010). The main text of the *BRC Closure Plan* provides discussions of the following elements relative to the BMI Common Areas project as a whole:

- The project history, including cleanup goals and project objective (Closure Plan Sections 1 and 2);
- The list of Site-related chemicals (SRCs; Closure Plan Section 3);
- The conceptual site model (CSM) addressing potential contaminant sources, the nature and extent of chemical of potential concern (COPC) occurrence, and potential exposure pathways (Closure Plan Section 4; a CSM discussion specific to the Site is provided in Section 2.5 of this report);
- Data verification and validation procedures (Closure Plan Section 5);
- The procedures used to evaluate the usability and adequacy of data for use in the risk assessment (Closure Plan Sections 6 and 9 [2010 revision]);
- The data quality objectives (DQOs; Closure Plan Section 7[6]);
- The RAS process for the Site (Closure Plan Section 8);
- Risk assessment procedures that will be used for Site closure (Closure Plan Section 9 for human health [2010 revision] and Section 10 for ecological); and
- Data quality assessment (Closure Plan Section 5).

As discussed in this report, the risk assessment for the Site is conducted primarily using the data collected during implementation of the Site-specific SAP and subsequent confirmation sampling events, which have been designed to produce data representative of the conditions to which current (non-remediation workers) and future users would be exposed.

[6] As noted in the *BRC Closure Plan*, per discussions with the NDEP, the DQO process is addressed, on an Eastside sub-area by sub-area basis (for soils), in the respective sub-area SAPs developed for each sub-area relating to the soils cleanup. Therefore, the DQO process for the Site is presented in the SAP and is not repeated here. This DQO process was incorporated in the data usability/data adequacy evaluation for the Site data used in the risk assessment.

1.3 REPORT ORGANIZATION

The closure report is composed of ~~12~~11 sections, as outlined below:

- This section (Section 1) presents the purpose of the risk assessment and the methods used in this assessment.
- Section 2 presents Site background, the environmental setting for the Site, and a summary of previous investigations. Section 2 also presents the CSM for the risk assessment. This includes identification of potentially exposed populations, and the potential pathways of human exposure.
- Section 3 presents the confirmation data collected in 2009 and 2010, as well as discussions on the various remedial actions conducted at the Site.
- Section 4 presents data evaluation procedures, including statistical analysis of background concentrations, and data usability and quality.
- Section 5 presents the selection of COPCs recommended for further assessment, including comparisons of Site metals and radionuclides to background conditions.
- Section 6 presents the HHRA. This includes relevant statistical analyses, determination of representative exposure point concentrations, applicable fate and transport modeling, exposure assessment, toxicity assessment, and risk characterization.
- In Section 7, the uncertainties associated with the risk assessment are discussed.
- A summary of the risk assessment results is provided in Section 8.
- ~~The results of the analysis of potential impacts to groundwater are presented in Section 9.~~
- The data quality assessment for the risk assessment is presented in Section ~~10~~9.
- A summary of the HHRA and Closure Report is provided in Section ~~11~~10; and
- A list of references is provided in Section ~~12~~11.

Smaller tables with supporting information are inserted in the text at the place of reference. The text is followed by the larger tables, and figures and appendices.

2.0 SITE DESCRIPTION

This section presents a description of the Site, including Site background and history, the environmental setting, and a summary of previous investigations. The area known as the "BMI Common Areas," of which the Southern RIBs Sub-Area is a part, is delineated in Appendix A of the AOC3. The subject Site is near the BMI Industrial Complex, in Clark County, Nevada, approximately 13 miles southeast of Las Vegas; and within the city of Henderson (CoH) (Figure 1) corporate limits, northeast of the City Hall. The total extent of the Site is approximately 71 acres. The Site is a portion of the Eastside sub-area previously defined as the Southern RIBs Sub-Area in the 2008 SAP, which is in turn a sub-area of the Southern RIBs Sub-Area defined in Figure 1-2 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

The 2008 SAP and current Site boundaries are depicted on Figure 3. As seen on that figure, a portion of the Beta Ditch—which was once associated with historical conveyance of operations effluent and cooling water by companies operating at the BMI Complex—is north of the Site. The revised boundaries of the Site have been specifically designed to exclude this feature. The Site boundary was also revised to exclude the Warm Springs Road Right-of-Way, which was granted an NFAD by the NDEP in November 2010. The Site is immediately south of the Upper Ponds portion of Eastside, along the western Eastside boundary (Figure 1). The Site is outside of any known areas used for any waste disposal associated with the BMI Common Areas; however, the eastern half of the Site comprises an area formerly used by the CoH as RIBs associated with municipal wastewater treatment. As noted above, the Site is traversed by the Warm Springs Road Right-of-Way.

2.1 SITE HISTORY

Approximately 400 of the more than 2,200 acres comprising the BMI Common Areas contained a network of ditches, canals, flumes, and lined and unlined ponds that were used for the disposal of aqueous waste from the original magnesium plant and, later, other industrial plants and the adjacent municipality. Effluent wastes discharged to the ponds of the BMI Common Areas from the war-time Basic Magnesium operations can be characterized as salts from the production process (chloride salts of a variety of metals and radionuclides), organic solids, and inorganic solids and dissolved components of various types. Chlorinated organic chemicals were included in the effluent. Notable processes that contributed to the waste stream from the plants that succeeded Basic Magnesium included effluents from the manufacture of the following types of products: chlorine and sodium hydroxide (caustic soda); a variety of chlorate and perchlorate compounds, and halogenated boron compounds; manganese dioxide; titanium and related compounds; and a variety of pesticides. Among these wastes were salts; organic and inorganic chemicals; and metals. A more detailed description of these processes and their effluents is found in Sections 2.2 and 2.3 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

The RIBs and related structures, which represent approximately 45 acres of the Site, were in use from approximately 1992 to 2002 by the CoH for municipal wastewater disposal. The only known historical use of the Site is as a wastewater treatment plant and transfer station. The remaining undeveloped property in the western half of the property (approximately 26 acres) has no known history of use.

2.2 ENVIRONMENTAL SETTING

The BMI Common Areas and Complex are located in Clark County, Nevada, and are situated approximately 2 miles west of the River Mountains and 1 mile north of the McCullough Range. The local surface topography slopes in a westerly to northwesterly direction from the River Mountains and in a northerly to northeasterly direction from the McCullough Range. Near the BMI Common Areas and Complex, the surface topography slopes north toward the Las Vegas Wash. The River Mountains and McCullough Range consist of volcanic rocks: dacite in the River Mountains and andesite in the McCullough Range (Umhoefer et al. 2010).

The Site (Figure 3) comprises approximately 71 acres of land that is undeveloped with the exception of the previously mentioned RIBs and associated structures (approximately 45 acres) in the eastern half of the Site. The land surface gently slopes to the north-northwest, ignoring the former RIBs, which were engineered to be topographically flat. As depicted on Figure 3, the Site has no other features of historical use; this Site has historically been undeveloped except for the RIBs and related structures. The native soils are compacted, poorly sorted, non-plastic, light brown to red silty sand with varying amounts of gravel.

2.2.1 Site Location, Climate and Physical Attributes

The Site is in the northeastern quarter of Section 5, Township 22 South, Range 63 East Mount Diablo Base and Meridian. The Site is in the Las Vegas Valley, a broad alluvial valley that occupies a structural basin in the Basin and Range Physiographic Province. The valley is about 1,550-square miles in size, and the structural and topographical axis is aligned approximately northwest to southeast. The eastern edge of the valley is about 5 miles west of Lake Mead, a major multipurpose artificial reservoir on the Colorado River. The Las Vegas Valley is surrounded mostly by mountains, ranging from 2,000 to 10,000 feet higher than the valley floor. The valley floor ranges in elevation from about 3,000 feet above mean sea level (msl), in the west at the mountain front, to 1,500 feet above msl, in the east at the Wash (Clark County GIS Management Office 2003). The surrounding mountain ranges are:

- Sheep Range to the north;
- Frenchman and Sunrise Mountains to the northeast;
- River Range to the east;
- McCullough Range to the south; and
- Spring Mountains and Sierra Nevada Mountains of California to the west.

The Site is approximately 0.7 mile south of the Las Vegas Wash (Figure 1) within the CoH corporate limits, northeast of the City Hall, and approximately 13 miles southeast of the city of Las Vegas. The Site is located south of the CoH northern RIBs, east of the CoH WRF, and north of the Upper Ponds portion of Eastside.

The Site is situated in a natural desert area, where evaporation/evapotranspiration rates are high, due to high temperatures, high winds, and low humidity. Precipitation in this area averages approximately 0.4 inch per month or 4.8 inches per year (Western Regional Climate Center 2008). As discussed in the *Sources/Sinks and Input Parameters for Groundwater Flow Model Revised Technical Memorandum* (DBS&A 2009), in arid settings, recharge from precipitation is typically a small percentage of annual precipitation. Based on values from Scanlon et al. (2006), recharge as a percentage of annual precipitation for the Site area was estimated to be between 0.1 and 5 percent. Recharge is thus estimated to be between 0.0048 and 0.24 inch per year.

According to the Southern Nevada Water Authority's document entitled *Extent and Potential Use of the Shallow Aquifer and Wash Flow in Las Vegas Valley, Nevada* (1996), annual potential evapotranspiration exceeds 86 inches. Pan evaporation data measured from 1985 through 1988 were as high as 17 inches per month; the months with the highest evaporation (May through September) coincide with those months with the highest intensity of rainfall (Law Engineering 1993). However, evaporation and evapotranspiration are functions of vegetation type and density and other Site-specific conditions (especially anthropogenic conditions). Therefore, Site-specific evaporation/evapotranspiration may vary from these regional conditions. These climatic parameters may be appreciably influenced by future redevelopment (e.g., vegetation removal, pavement extent, and construction).

Wind flow patterns are fairly consistent from one month to another, but vary slightly between measurement stations (McCarran International Airport and a station within the BMI Complex adjacent to the employee parking lot at the Titanium Metals Corporation [TIMET] plant entrance). For the McCarran station, the prevailing wind direction is from the southwest. The TIMET station also showed a predominant wind direction from the southwest, with southeasterly components. Wind velocity at both locations tends to be the highest in the spring and early summer months (April through July).

2.2.2 Geology/Hydrology

As is common throughout the Las Vegas Valley, Site soils are primarily sand and gravel, with occasional cobbles. This is consistent with the depositional environment of an alluvial fan. The Site is located on alluvial fan sediments, with a surface that slopes to the north-northeast at a gradient of approximately 0.02 foot per foot towards the Las Vegas Wash. Regional drainage is generally to the east.

The uppermost strata beneath the Site consist primarily of alluvial sands and gravels derived from the River Mountains and from the volcanic source rocks in the McCullough Range, located southeast and southwest of the Site, respectively. These uppermost alluvial sediments were deposited within the last 2 million years and are of Quaternary Age, and are thus mapped and referred to as the Quaternary alluvium (Qal; Carlsen et al. 1991). The Qal is typically on the order of 50 feet thick at the Site with variations due, in part, to the non-uniform contact between the Qal and the underlying Tertiary Muddy Creek Formation (TMCf).

The TMCf underlies the Qal. The Muddy Creek formation, of which the TMCf is the uppermost part, is a lacustrine deposition from the Tertiary Age, and it underlies much of the Las Vegas Valley. It is more than 2,000 feet thick in places. The lithology of the TMCf underlying the Site is typically fine-grained (sandy silt and clayey silt), although layers with increased sand content are sporadically encountered. These TMCf materials have typically low permeability, with hydraulic conductivities on the order of 10^{-6} to 10^{-8} centimeters per second (Weston 1993). The TMCf in the vicinity of the Site was encountered to the maximum explored depth of 430 feet bgs. Lithologic cross sections are shown on Figures 4 and 5.

Two distinct, laterally continuous water-bearing zones are present within the upper 400 feet of the Site subsurface: (1) an upper, unconfined water-bearing zone primarily within the Qal referred to herein as the alluvial aquifer (Aa); and (2) a deep, confined water-bearing zone that occurs in a sandier depth interval within the silts of the deeper TMCf. Both of these water-bearing zones contain high concentrations of total dissolved solids. Between these two distinct water-bearing zones, a series of saturated sand stringers was sporadically and unpredictably encountered during drilling.

The Aa is an unconfined, shallower, water-bearing zone that occurs across the Site. For the most part, water in the Aa occurs in the Qal. The water surface in the Aa generally follows topography, with the water surface sloping towards the Las Vegas Wash. The depth from the surface to first groundwater at the Site is approximately 50 feet bgs (Figure 3). Wells completed in the Aa are not highly productive, with sustainable flows typically less than 5 gallons per minute.

2.2.3 Surface Water

Surface water flow occurs for brief periods of time during periodic precipitation events. The Las Vegas Wash collects storm water, shallow groundwater, urban runoff, and treated municipal wastewater. It is the receiving water body for all major Las Vegas area discharges. In dry weather, flow in the Wash comprises mainly treated effluent from the Clark County Water Reclamation District and the City of Las Vegas Water Pollution Control Facility. The CoH contributes smaller amounts. Aggregate flow is in excess of 160 million gallons per day (Las Vegas Wash Coordination Committee 2000). Discharge from these sources is sufficient to maintain surface flows in the Wash throughout the year. In winter, low-intensity rains fall over broad areas; in the spring and fall, thunderstorms provide short periods of high-intensity rainfall. The latter creates high run-off conditions. Run-off is also affected by human development, which tends to (1) create conduits for surface water flow and (2) decrease infiltration into native soils by covering them with man-made structures or materials (e.g., pavement).

Under current conditions, it is unlikely that ephemeral surface waters generated within the Site will migrate via overland transport to the Las Vegas Wash from the Site due to (1) the distance to the Wash (greater than 2 miles away); (2) the presence of the southern RIBs; and (3) the intervening presence of the existing ponds and northern RIBs between the Site and the Wash. However, the presence of the nearby drainage ditches (Alpha Ditch to the northwest and Beta Ditch along the northern boundary) suggests the current potential for rainfall to be carried from that portion of the Site to the Wash. After redevelopment, when the ditch has been removed, there will be an even lower likelihood that ephemeral surface waters generated within the Site will migrate via overland transport to the Las Vegas Wash from the Site because of the proposed design of the future storm water facilities and the regional requirement that nuisance flows not be discharged directly into the Las Vegas Wash unless they do so under existing conditions. (Flows from future development do not meet this criterion).

Groundwater seeps currently exist at various locations north of the BMI Common Areas near the Las Vegas Wash. An evaluation of historical aerial photos taken between 1964 and 1970 indicates apparent historical seeps within Eastside and at nearby off-site locations in association with past effluent infiltration at the Eastside ponds and with infiltration of municipal wastewater at the southern RIBs. Evidence of seeps was not observed within the Site in these aerial photographs.

2.3 SUMMARY OF HISTORICAL INVESTIGATIONS

Several historical field investigations were conducted at the Site to characterize the nature and extent of chemical occurrence in Site soils. Based on these sampling events, BRC identified portions of the Site that warranted remediation for protection of human health and the environment,[7] and subsequently performed remediation in those areas. The SAP presents a detailed analysis of data collected during the following historical field investigations conducted at the Southern RIBs Sub-Area. Of those investigations, the following sampling events included sampling within the Site boundaries:

- An investigation conducted during December 2000 (dataset 14) to assess conditions in this area to support potential transfer of the property for educational uses. The soil investigation activities were not performed in accordance with an NDEP-approved work plan, and the soil sampling results were not formally presented to the NDEP prior to this SAP. Data validation results are presented in the Data Validation Summary Report (DVSR) for dataset 14 (MWH 2006a), which was approved by the NDEP on November 8, 2006.

- A soil investigation conducted in May 2001 (dataset 21) in the Southern RIBs proper. These data were not collected under a formal NDEP-approved work plan, and the soil sampling results were not formally presented to the NDEP prior to this SAP. Data validation results

[7] It should be noted that this determination was based on comparison of chemical detections to then-applicable human-health risk-based screening levels.

are presented in the DVSR for dataset 21 (MWH 2006b), which was approved by the NDEP on October 25, 2006.

- Deep soil characterization conducted in May 2004 during monitoring well installation at one location (SB-01-B [MCF-01A]) as part of the hydrologic investigation (dataset 27). Data validation results are presented in the DVSR for dataset 27 (MWH 2006c), which was approved by the NDEP on August 31, 2006.

The Site-related data from the above investigations were also presented in Appendix B of the SAP. During these investigations, soil samples at various depths were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochlorine pesticides, organophosphorus pesticides, PCBs, chlorinated herbicides, dioxins/furans, aldehydes, glycols/alcohols, organic acids, metals, perchlorate, radionuclides, and/or asbestos. The data from these investigations have been validated, as noted above. Data validations are presented in the respective DVSRs for each of the datasets, which have been approved by the NDEP.

Previous investigations focused on the portion of the Southern RIBs Sub-Area (as defined in the Closure Plan) that contained the Upper Ponds and ditches; only nine of these sampling locations were within the Site boundaries. Furthermore, most of the previous samples were collected at least 10 years ago; few of the previous samples have been analyzed for all of the major chemicals or chemical families now mandated; several analyses used different analytical methods than established in the current analytical program for the BMI Common Areas; and spatial coverage of the Site was incomplete. Therefore, because of these various factors, the data collected as part of the SAP in 2008 through 2010 (as discussed in Section 3) are considered more representative of current Site conditions[8] than data collected from previous investigations, and these recent 2008 through 2010 data are therefore relied upon for risk assessment purposes as described in this report.

2.4 HISTORICAL REMEDIAL ACTIVITIES

Prior to 2009, remedial activities (other than characterization) had not been conducted within the Site boundaries. The exception to the foregoing occurred in January 2001, when BRC elected to perform an IRM for a portion of the Beta Ditch running north and immediately adjacent to the

[8] This determination is also based on the data usability evaluation summarized in Section 4.2.

Site. This IRM was conducted in response to the presence of elevated detections of arsenic, lead, vanadium, and hexachlorobenzene within the Beta Ditch. This IRM was not performed in accordance with an NDEP-approved work plan. IRM activities consisted of excavation of the impacted shallow soils within the base and sidewalls of the Beta Ditch, transportation to a secured location within the Upper Ponds, and treatment to prevent generation of wind-blown dusts and runoff. Results of the IRM for the Site were not formally presented in a report to the NDEP. The IRM area is depicted on Figure 3.

2.5 CONCEPTUAL SITE MODEL

The CSM is a tool used in risk assessment to describe relationships between chemicals and potentially exposed human receptor populations, thereby delineating the relationships between the suspected sources of chemicals identified at the Site, the mechanisms by which the chemicals might be released and transported in the environment, and the means by which the receptors could come in contact with the chemicals. The CSM provides a basis for defining DQOs, guiding Site characterization, and developing exposure scenarios. The Site history, land uses, climate, physical attributes, including geology and hydrogeology, and various field investigations are described in Sections 2.1 through 2.4 of this HHRA. The history and environmental conditions of the BMI Common Areas are described in Sections 2 and 4 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised in March 2010), and in the Site-wide CSM (in preparation).

The HHRA evaluates current and potential future land-use conditions. The Site is currently undeveloped, with the exception of the former CoH RIBs and associated features, which are no longer in use; and Warm Springs Right-of-Way, which passes through the Site. The potential on-site and off-site receptors are currently trespassers, occasional on-site workers, and off-site residents. Exposures to current receptors are being managed through Site access control.

Under the prospective redevelopment plan, the Site may be used for a variety of potential purposes, including Urban Core, retail/commercial development, high and medium density residential structures, and associated streets, parking areas and parks. The entire Site will be enhanced by restoration and redevelopment once remediation is complete. Therefore, exposures to ecological receptors will be mitigated or removed. Future receptors identified as "on-site receptors" are defined as receptors located within current Site boundaries (Figure 1), while future "off-site receptors" are those located outside current Site boundaries. Many potential human receptors are possible at the Site in the period during and after redevelopment. The potentially exposed populations and their potential routes of exposure are discussed in Section 2.5.3.

The current development plan for the Site is shown on Figure 6. This is an example and actual features may change in the future. To construct parks, commercial structures, and residences, the land will be cut and/or filled, paved with roads or foundations, and nurtured with imported top soils[9] as needed. Figure 2 shows the redevelopment grading plan for the Site (Environmental Covenant Grading Plan), indicating which areas will be filled and which areas will be cut.

The CSM includes the planned redevelopment of the Site. All potential transfer pathways are included in the CSM. The human health aspects of the CSM for the Site are presented on Figure 7.

Numerous release mechanisms influence chemical behavior in environmental media. Under both current and future land use conditions at the Site, the principal release mechanisms involved are:

- Vertical migration in the vadose zone;
- Storm/surface water runoff into surface water and sediments;
- Fugitive dust generation and transport;
- Vapor emission and transport; and
- Uptake by plants.

Although these release mechanisms are identified here, no quantitative modeling is presented in this section. Instead, those primary release mechanisms identified for particular receptors are presented in this section, and are quantitatively evaluated in Section 6.

2.5.1 Impacted Environmental Media

Environmental media at the Site consist of five categories: surface soil, subsurface soil, groundwater, indoor air, and ambient outdoor air. Samples relative to Site baseline conditions have been collected at the Site for soil. Generally, impacted soil is the source of chemical exposures for other media at the Site.

[9] Imported soil data are not included in risk assessment calculations. However, the chemical data for fill material from a given site may be useful for evaluating sub-areas to receive fill from that site.

Because the background water quality of groundwater beneath the Site and in the surrounding area is generally poor (viz., high salt concentrations) and because BRC will place Environmental Covenants in the form of a deed restriction to prevent future users from utilizing groundwater beneath the Site, the use of private water wells by residents, businesses, or parks for drinking water, irrigation water, or other non-potable uses (e.g., washing cars, filling swimming pools) will not occur in the post-redevelopment phase. Therefore, exposure pathways relating to this type of use are incomplete, as defined by USEPA (1989).

Although direct exposures to groundwater will not occur, indirect exposures are possible. The primary indirect exposure pathway from groundwater is the infiltration of VOCs from soil and groundwater to indoor air. In addition, residual levels of chemicals in soil may leach and impact groundwater quality beneath the Site.

2.5.2 Inter-Media Transfers

Exposure to Site chemicals may be direct, as in the case of impacted surface soil, or indirect following inter-media transfers. Impacted soil is the initial source for inter-media transfers at the Site, which can be primary or secondary. For example, upward migration of VOCs from impacted subsurface soil into ambient air thereby reaching a point of human inhalation represents a secondary inter-media transfer.

These inter-media transfers represent the potential migration pathways that may transport one or more chemicals to an area away from the Site where a human receptor could be exposed. Discussions of each of the identified potential transfer pathways are presented below. Figure 7 presents a conceptualized diagram of the inter-media transfers and fate and transport modeling for the Site.

Five initial transfer pathways for which chemicals can migrate from impacted soil to other media have been identified. The first of these pathways is volatilization from soil and upward migration from soil into ambient air. Ambient air can be both indoor and outdoor air. The pathway of volatilization from both soil and groundwater and upward migration into ambient air was evaluated using the surface flux measurements collected. The secondary transfer pathway is downward migration of chemicals from soil to groundwater. The third transfer pathway is migration of chemicals in surface soil via surface runoff to sediments or surface water bodies. However, as discussed in Section 2.2.3, because of the distance from the Site to the Wash, and the various intervening structures, it is unlikely that surface waters (which are ephemeral) will drain to the Las Vegas Wash from the Site. Therefore, the surface water pathway was not evaluated in this risk assessment. The fourth transfer pathway is on-site fugitive dust generation. Finally, chemicals in soil can be transferred to plants grown on the Site via uptake through the roots. The plant uptake pathway is evaluated for residential receptors.

2.5.3 Potential Human Exposure Scenarios

The following section summarizes land use and the human exposure scenarios that are assessed herein.

2.5.3.1 Current and Future Land Use

Current receptors that may use the Site include trespassers, occasional on-site workers, and off-site residents. Current exposures to native soils at the Site are minimal, but exposures to future receptors will be much greater. For example, future receptors evaluated in the HHRA include on-site residents who are assumed to be exposed to soil at the Site for 350 days per year for 30 years, which is much greater than any current exposure scenario. In addition, as discussed above, exposures to current receptors are limited through Site access control. Therefore, a current land use scenario is not quantitatively evaluated in this risk assessment.

USEPA risk assessment guidance (1989) states that potential future land use should be considered in addition to current land use when evaluating the potential for human exposure at a site. As indicated above, under the prospective redevelopment plan, the Site may be used for a variety of potential purposes, including residential housing, parks, schools, commercial development, and streets. The entire Site will be enhanced by restoration and redevelopment once remediation is complete.

The entire Eastside property will be redeveloped in several phases. Throughout the redevelopment process, the sub-areas of the Site will be redeveloped sequentially. Future receptors identified as “on-site receptors” are defined as receptors located within the current Site boundaries (Figure 1), while future “off-site receptors” are those located outside the current Site boundaries. “On-site receptors” are those future receptors that will be located within the sub-area under evaluation. “Off-site receptors” are those future receptors that will be located outside the sub-area under evaluation that may have complete exposure pathways associated with sources within the sub-area. As noted above, remediation of the Site is to on-site residential standards. Consequently, risks to off-site receptors are addressed qualitatively in this risk assessment.

2.5.3.2 Identification of Potentially Exposed Populations and Pathways

Many potential human receptors are possible at the Site in the period during and after redevelopment. The potentially exposed populations and their potential routes of exposure are presented on Figure 7 and summarized below. For a complete exposure pathway to exist, each of the following elements must be present (USEPA 1989):

- A source and mechanism for chemical release;
- An environmental transport medium (i.e., air, water, soil);
- A point of potential human contact with the medium; and
- A route of exposure (e.g., inhalation, ingestion, dermal contact).

As presented in Section 9 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), the following are the primary exposure pathways for each of the potential receptors following remediation and redevelopment at the Site.

- Adult and child residents
  - Incidental soil ingestion*
  - External exposure from soil†
  - Dermal contact with soil
  - Consumption of homegrown produce*
  - Outdoor inhalation of dust*‡
  - Indoor inhalation of dust*‡
  - Outdoor and indoor inhalation of VOCs from soil and groundwater

- Indoor commercial workers
  - Incidental soil ingestion*
  - External exposure from soil†
  - Indoor inhalation of VOCs from soil and groundwater

- Outdoor maintenance workers
  - Incidental soil ingestion*
  - External exposure from soil†
  - Dermal contact with soil
  - Outdoor inhalation of dust*‡
  - Outdoor inhalation of VOCs from soil and groundwater

- Construction workers
  - Incidental soil ingestion*
  - External exposure from soil†
  - Dermal contact with soil
  - Outdoor inhalation of dust*‡
  - Outdoor inhalation of VOCs from soil and groundwater

*Includes radionuclide exposures
†Only radionuclide exposures
‡Includes asbestos exposures

Although trespassers/recreational users and downwind off-site residents are another potential receptor identified in the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), exposures for these receptors are less than those evaluated above. As noted in Sections 9.1.1 and 9.7.1 of the *BRC Closure Plan*, potential exposures for trespassers/recreational users will only be evaluated in areas of the BMI Common Areas that are designated as recreational end use (specifically the Western Hook-Open Space sub-area shown on Figure 1). Also, as noted in Section 9.5.4 of the *BRC Closure Plan*, off-site dust levels based on USEPA's model are much lower than those generated for on-site, construction-related activities. Therefore, risks evaluated for an on-site construction worker, as performed in this HHRA, are considered protective of off-site residents. Thus, trespassers/recreational users and downwind off-site receptors are not evaluated further in this report.

3.0 CONFIRMATION DATA PROCESS AND SUMMARY

Based on the historical data for the Site, no remediation was proposed prior to implementing the sampling prescribed in the SAP. Decisions for excavation during SAP implementation were based on the initial data (discussed below) in accordance with the Risk Assessment Methodology provided in the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010). The following is the initial scope of work for investigating the Site and meeting the SAP objectives. Much of the discussion below regarding confirmation soil sampling is taken from the NDEP-approved *Statistical Methodology Report* (NewFields 2006).

3.1 INITIAL CONFIRMATION SOIL SAMPLING

As per Section 2 of the *Statistical Methodology Report*, the initial confirmation sampling at the Site was conducted on the basis of combined random and biased (judgmental) sampling, as follows:

- **Stratified Random Locations:** For this purpose, the Site was covered by a 3-acre cell grid network. Within each 3-acre cell, a sampling location was randomly selected. Sampling locations were randomly selected within both full and partial grid cells if they were greater than 50 percent of the total grid cell area (based on the project-wide grid cell network and the Site boundaries; those partial grid cells that contain less than 50 percent of their area within the Site were included in the adjacent sub-area SAPs). The main objective of this stratified random sampling was to provide uniform coverage of the Site.

- **Biased Locations:** Additional sampling locations were selected within or near small-scale contamination points of interests, including but not limited to previous debris locations, ponds, and berms. For this purpose, the randomly selected location within a corresponding 3-acre cell was adjusted to cover a nearby point of interest. In the event that currently unknown impacted areas were identified during remediation, the presence of these areas were drawn to the NDEP's attention, the need for additional biased sampling points to address those areas was evaluated, and the sampling program modified as needed.

A Site reconnaissance was performed in July and August 2008 to check for environmentally significant features such as debris piles or stained soil. Several debris piles were observed within the Site boundaries during the reconnaissance (identified in Table 3 of the SAP; and shown on Figure 8 of this HHRA). Biased sampling locations were selected or random sample locations were shifted slightly to include sampling at each debris piles/soil staining location. A final reconnaissance was performed prior to sampling to check for any additional environmentally significant features since the initial reconnaissance; if found, these additional features would also have been sampled. No such features were found. The sampling program was developed to include sampling at an approximate 200-foot linear spacing along the length of the Beta Ditch (three biased sampling locations, including one associated with a debris pile, and three random sample locations). Figure 8 and accompanying Table 3-1 (see Tables section) show the sampling locations within the Site. Rationale for each of the biased sampling locations is presented below:

- SRC1-J02, SRC1-J07, and SRC1-J10 were included to provide coverage within debris areas observed at the Site;
- SRC1-J01 and SRC1-J03 were included to provide coverage along the Beta Ditch (Note: SRC1-J02, which was selected due to a debris area, also provides coverage along the Beta Ditch); and
- SRC1-J09 and SRC1-J11 through SRC1-15 were included to provide additional coverage within the RIBs (Note: SRC1-J07 and SRC1-J10, which were selected due to debris areas, also provide coverage within the RIBs).

The following discusses the multi-depth soil samples that were collected and analyzed for the SRC list at each selected location. Samples were collected at:

1. Existing surface (0 foot bgs) and 10 feet bgs for sample locations in relatively flat (ungraded) locations;
2. Existing surface (0 foot bgs), post-grading surface (post-redevelopment as shown on Figure 2), and post-grade 10 feet bgs for sample locations with substantial grading (that is, cut depths greater than 2 feet[10]) and the uppermost sampled soil expected to be used as surface fill;
3. Existing surface (0 foot bgs) and 10 feet bgs for sample locations with minimal grading (that is, cut depths less than 2 feet) and the uppermost sampled soil expected to be used as surface fill (at any Eastside location); and

[10] Because sample collection was over a 2- to 3-foot depth interval, locations with an anticipated cut depth less than 3 feet were only sampled at the surface and one post-grade subsurface depth. The sample depth designation (e.g., 10 feet bgs) is based on the center depth of the sample collection interval.

4. Existing surface (0 foot bgs) and 10 feet bgs for sampling locations in an area expected to be covered by fill material.

Additionally, at two sampling locations (SRC1-AH17 and SRC1-J11), soil physical parameter data were collected at 20 feet and every subsequent 10-foot interval until groundwater was reached.

The analytical sample results were then divided into surface (0- to 2-foot depth), subsurface (2- to 10-foot depth), and deep (>10-foot depth) layers,[11] according to the following rules:

- **Rule 1: IF** the sample was collected in a relatively flat (ungraded) part of the Site (i.e., an area not targeted for substantial grading), **THEN** the depth of the collected soil sample is used to designate its soil layer grouping.

- **Rule 2: IF** the sample was collected in a part of the Site targeted for substantial grading, **AND** the sampled soil is located in an area expected to be covered by fill material (e.g., exposed excavated surfaces of ponds), **THEN** the current surface soil sample is classified as a surface (0- to 2-foot depth) sample, and the soil layer grouping of the remaining deeper sampled soil is determined based on the difference between its elevation and the final (post-graded) surface elevation in that part of the Site.

- **Rule 3: IF** the sample is collected in a part of the Site targeted for substantial grading, **AND** the cut depth is expected to be greater than 2 feet, **AND** the sampled soil is expected to be used as surface fill (e.g., soil within a berm), **THEN** the current surface soil sample is classified as a fill material sample, a final (post-graded) surface sample is classified as a surface (0- to 2-foot depth) sample, and the soil layer grouping of the remaining deeper sampled soil is determined based on the difference between its elevation and the final (post-development, graded) surface elevation in that part of the Site.

- **Rule 4: IF** the sample is collected in a part of the Site targeted for substantial grading, **AND** the cut depth is expected to be less than 2 feet, **AND** the sampled soil is expected to be used as surface fill (e.g., soil within a berm), **THEN** the current surface soil sample is classified as both a fill material sample and as a surface (0- to 2-foot depth) sample, and the soil layer

[11] Note these depth ranges reflect samples depths associated with the confirmation sampling events (i.e., current grade), not sample depths associated with the redevelopment grading plan for the Site, which have a maximum sample depth of 10 feet bgs (see discussion above).

grouping of the remaining deeper sampled soil is determined based on the difference between its elevation and the final (post-graded) surface elevation in that part of the Site.

A schematic example of these rules is shown on Figure 9. The Redevelopment Grading Plan for the Site is shown on Figure 2.[12] The sample-specific collection depths are presented in Table 3-1 (Tables section).

As noted above, soil samples were generally collected over a 2- to 3-foot depth interval. This was because of volume of soil required for completion of all analyses. The 10 feet bgs (and deeper) samples were collected in 2- to 3-foot intervals centered on 10 feet (or centered on the deeper sampling depth as indicated in Table 3-1). Confirmation samples, which usually have a shortened analyte list, were collected over a smaller sampling interval. Contamination by the historical manufacturing processes upgradient is usually found predominantly in surface soils. The objective of remedial actions at the Site was to remove surface soils that were impacted by surface releases of off-site chemicals. Therefore, higher concentrations are expected – and have been generally observed – in surface samples. However, to adequately characterize the vertical extent of possible contamination, one or more deeper samples were also collected at each sampling location, as described above.

As discussed in Section 6.1.1, given the potential for change to the prospective grading plan, samples were classified into five different exposure depths. These different soil exposure depth classifications are considered to represent all possible exposure potential for all receptors, and thus a reasonable worst case scenario has been assessed. The five different exposure depth classifications evaluated are the following:

- All data; includes surface, subsurface and fill sample depths/locations, representative of potential exposures to all soil depths to a maximum post-grading depth of 10 feet bgs (representative of Site exposures if fill material remains on Site);

- Data classified as fill material only; that is, sample locations with substantial grading (cut depths greater than 2 feet) and the uppermost sampled soil is expected to be used as surface fill, including off Site;

[12] Note that the grading plan is reflected in an Environmental Covenant for the Site as a condition to receiving an NFAD from NDEP.

- Data classified as fill material and/or surface soil, sample locations with cut depths less than 2 feet, therefore, given the sample depth interval, soil could represent either fill or post-grading surface soil;

- Data classified as surface soil only, includes surface sample locations where no grading will occur, or sample locations where fill material will be placed, with a subsurface sample (those samples collected less than 10 feet bgs) collected at the post-grading surface; and

- All data excluding data classified as fill material, representative of exposure to all post-grading soil to a maximum post-grading depth of 10 feet bgs.

These different soil exposure classifications are considered to represent all possible exposure potential for all receptors, including use of soil as fill material elsewhere in the Eastside property, based on the future grade and use of Site soils. See Section 6.1.1 regarding how these different exposure depths are considered in the HHRA.

Initial sampling for the Site was conducted in October and November 2008. All soil samples were tagged in the database with numeric designations of their corresponding assigned soil layer grouping based on the rules presented above. The number of soil samples collected varies for different analytes and analytical suites. For example, for arsenic, initially 117 soil samples were collected from 45 soil boring locations (including field duplicates). This included 34 random and 11 biased sample locations. At these 45 locations, BRC initially collected 55 surface samples (one at each location, and duplicates at 10 locations) and 62 subsurface soil samples (two subsurface sampling intervals at 16 of the 45 soil boring locations, plus one field duplicate). As presented in Table 3-1 (Tables section), these 117 samples represent 17 fill material (including 1 field duplicate), 55 surface (including 10 field duplicates), and 45 subsurface soil samples.[13] Twenty-five of the surface soil samples (including field duplicates) also represent fill samples (see discussion above regarding fill samples).[14] An additional 24 supplemental samples and 37 confirmation samples (including 6 field duplicates) were subsequently collected (Section 3.3), bringing the total number of arsenic samples for the Site to 178 (117 initial samples and 61

[13] Note that in some cases, a soil sample may be considered both a fill sample and a surface sample (as indicated in Table 3-1). Therefore, the sum of the number of samples indicated for each post-grade sample type does not necessarily equal the total number of samples collected.

[14] As discussed with the NDEP, once a particular sub-area receives an NFAD from the NDEP, the cut material that is slated to be used as fill material elsewhere would not require additional testing. However, the chemical data for this fill material may be useful for evaluating sub-areas to receive fill (for example, if there is deeper contamination).

supplemental and confirmation samples).[15] Of the 178 arsenic samples, 14 were in remediated areas and removed from the risk assessment dataset; thus, there are 164 arsenic samples included in the human health risk assessment dataset. All sampling results, from which the total number of samples can be found for each analyte, are presented electronically on the report CD in Appendix B, and in Tables B-1 through B-12. As discussed below in Section 3.5, two areas, which due to repeated cleanups triggered primarily by metals, have a number of sample results within these locations, were evaluated separately for metals. The numbers of metals samples for these two areas are 28 in exposure area SRC-J02/J03 and 10 in exposure area SRC-J21.

3.2 CHEMICALS SELECTED FOR ANALYSIS

The analyte list for soil samples collected during the initial 2009 investigation comprised the BRC project SRC list, and was consistent with the analytical program presented in Section 3 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010)[16] and Table 3-2 (Tables section), with the following exceptions for this Site:

- Asbestos and dioxins/furans were only analyzed for in surface soil samples.[17]
- USEPA Method 8141A for organophosphorus pesticides was not conducted. There have been only 47 detections of these compounds in over 10,000 soil sample records (<0.5 percent) from throughout the Eastside, and no detections in any soil sample records associated with prior sampling within the Site. The few detections are well below the NDEP BCLs.
- USEPA Method 8151A for chlorinated herbicides was not conducted. There have been no detections of these compounds in over 1,400 soil sample records from throughout the Eastside. Detection limits are below the NDEP BCLs.

[15] Note that in Table 3-4, which summarizes the post-remediation HHRA samples, the number of samples reported in that table for a given analysis does not always equal 164. This is due to 1) exclusion of data that were removed during remediation activities; 2) inclusion in the final dataset of confirmation samples collected to assess the extent of chemical impacts in certain areas following remediation; 3) certain analytes were not included in the subsurface samples, as noted in the following section; and 4) rejected data are excluded.

[16] Specific analytes and analyte-specific reporting limits for each analysis are listed in Table 4 of the QAPP.

[17] Note that all samples collected at the Site were discrete samples, with the exception of asbestos samples, which were composite samples collected as per the NDEP-approved Standard Operating Procedure [SOP]-12 as provided in the *Field Sampling and Standard Operating Procedures* [FSSOP; BRC, ERM and MWH 2009]).

- HPLC Method for organic acids was not conducted. There have been only three detections of these compounds in 567 soil sample records (<0.5 percent) from throughout the Eastside. Moreover, the NDEP has not established BCLs for these compounds.

- USEPA Method 8015B for non-halogenated organics (e.g., methanol and glycols) was not conducted. There have been only five detections of these compounds in 420 soil sample records (1 percent) from throughout the Eastside. The few detections have been well below the NDEP BCLs.

- USEPA Method 8015 for total petroleum hydrocarbons (TPH) was not conducted. There have been only three detections of these compounds in over 299 soil sample records (1 percent) from throughout the Eastside. The few detections have been below 100 mg/kg, which is the typical low-end aesthetic threshold used for these compounds. There are no indications of possible TPH source areas (e.g., abandoned vehicles, dumping of oils/hydraulic fluids, soil staining) at the Site. While TPH was not analyzed for, its components were, via other methods. In addition, TPH cannot be included in a risk assessment while its components can.

- Consistent with the current project analyte list, the following radionuclides were analyzed for: radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238.

The soil analyte list consisted of 280 of the 418 compounds (including water-only parameters) on the project SRC list, as well as physical parameters to support the evaluation of potential impacts to groundwater from migration of chemicals from soil. The analytical and preparatory methods (Table 3-2) used in accordance with the SAP adhered to the most recent version of the BRC QAPP (BRC and ERM 2009a; see Section B4, Table 4 of that document). As noted in Section 3.6, the analyte list for surface flux samples was composed of the list specified in the NDEP-approved Standard Operating Procedure (SOP)-16, as provided in the *Field Sampling and Standard Operating Procedures* (FSSOP; BRC, ERM and MWH 2009). Surface flux samples were analyzed for VOCs by USEPA Method TO-15 full scan, plus selective ion mode (SIM) analyses for a subset of the analytes.

3.3 INTERMEDIATE SAMPLING AND CLEANUP

3.3.1 September 2009 Remedial Action

All initial data were reviewed and a determination made, in consultation with the NDEP, as to whether localized soil removals were warranted. In August 2009, BRC submitted a Confirmation Sampling Plan (CSP) (BRC 2009a) to the NDEP. This CSP was approved by the NDEP on August 31, 2009. The overall goal of the CSP was to present a cleanup strategy for the Site that effectively minimized, to the extent feasible, the human health risks associated with the identified soil in the impacted areas of the Site.

There were four different remediation areas proposed for the Site, three of which were established due to the presence of elevated dioxin detections,[18] and one of which was based on asbestos detections. The extent of the excavations is depicted on Figure 10.

The remediation areas were developed based on a Thiessen map overlaid across the Site. Thiessen maps are constructed from a series of polygons formed around each sampling location. Thiessen polygons are created so that every location within a polygon is closer to the sampling location in that polygon than any other sampling location. These polygons do not take into account the respective concentrations at each sample location. These polygons were used as the basis for the areal extent of remediation for each of the locations with elevated dioxins/furans, arsenic and/or asbestos levels. There were four polygons associated with elevated chemical levels that were excavated at the Site during September 2009 remediation activities. These polygons were centered around the following locations: SRC1-AH16 (Area 1), SRC1-AI19 (Area 2), SRC1-J02/SRC1-J03 (Area 3), and SRC1-AM27/SRC1-J11 (Area 4).

During these remediation activities, surface soils were scraped from approximately 8.1 acres. Following remediation, confirmation surface soil samples were collected at each of the original sample locations associated with the remediation area polygons described above. Confirmation samples collected during this event were assigned sample IDs with a "SRC2" prefix (Appendix B tables). All sample locations are shown on Figure 11. The analyte list was composed of those chemicals that triggered the remediation at each sample location. These included dioxins/furans, metals, and asbestos. In addition, supplemental samples were collected at 16 locations along the northern boundary of the Site (SRC2-J20 through SRC2-J34), based on

[18] One location also exhibited an elevated arsenic detection.

elevated detections in initial samples to the immediate north.[19] For these northern boundary samples, the full analyte list was run.

3.3.2 December 2009 Remedial Action

Following the review of data collected from the September 2009 remedial action, five additional remediation areas were identified for the Site (Figure 10). In November 2009, BRC submitted a *Remedial Action Work Plan* (RAWP; BRC 2009b) to the NDEP. The RAWP proposed additional remediation in Area 3 (two polygons, one of which extended slightly outside the original Area 3 polygon), Area 4, and new areas centered about locations SRC2-J21 and SRC2-J23. The latter two areas were identified based on the presence of elevated metals and dioxin/furan/PCB congeners detections, respectively.

During these remediation activities, surface soils were scraped from approximately 1.2 acres. Following remediation, confirmation surface soil samples were collected from within each remediation area polygon. Confirmation samples collected during this event were assigned sample IDs with a "SRC3" prefix (Appendix B tables), and were analyzed for the SRCs triggering the remediation (metals and dioxins/furans/PCB congeners).

3.3.3 March 2010 Remedial Action

Following the review of data collected from the December 2009 remedial action, BRC determined that additional excavation was warranted for all five of the polygons excavated during the prior remediation event in December 2009. As depicted on Figure 10, these remediation areas in some cases extended slightly beyond the original polygon boundaries. During the March 2010 remediation activities, surface soils were scraped from approximately 0.5 acre. Following remediation, confirmation surface soil samples were collected from within each remediation area polygon. Confirmation samples collected during this event were assigned sample IDs with a "SRC4" prefix (Appendix B tables), and were analyzed for the SRCs triggering the remediation (metals and dioxins/furans/PCB congeners).

[19] Those elevated detections were along the Beta Ditch, and were the basis for revising the sub-area boundary to exclude the immediate Beta Ditch area.

3.3.4 June 2010 Remedial Action

Following the review of data collected from the March 2010 remedial action, BRC determined that additional excavation was warranted for two of the polygons excavated during the prior remediation event in March 2009 (SRC4-J21 and SRC4-J11), for remediation of elevated metals and dioxins/furans/PCBs, respectively. As depicted on Figure 10, these remediation areas extended slightly beyond the previous polygon boundaries.

During the June 2010 remediation activities, surface soils were scraped from approximately 0.2 acre. Following remediation, confirmation surface soil samples were collected from within each remediation area polygon (samples SRC5-J21CE2 [initial and duplicate], SRC5-J11N2 [initial and duplicate] and SRC5-J11W2) (Appendix B tables), and were analyzed for the SRCs triggering the remediation (metals and dioxins/furans/PCB congeners).

3.3.5 September 2010 Remedial Action

Following the review of data collected from the June 2010 remedial action, BRC determined that additional excavation was warranted for the SRC4-J11 area, for remediation of elevated dioxins/furans/PCBs. As depicted on Figure 10, this remediation area was within the previous polygon boundaries. During the September 2010 remediation activities, surface soils were scraped from an approximately 2,500-square-foot area. Following remediation, a confirmation surface soil sample (SRC6-J11N3 – initial and duplicate) was collected from within the remediation area polygon (Appendix B tables), and was analyzed for the SRCs triggering the remediation (dioxins/furans/PCB congeners).

3.4 FINAL CONFIRMATION DATASET

Post-scrape analyses associated with follow-up rounds of remediation focused on the constituents triggering that additional remediation and, therefore, did not include the full suite analyses of the original analytical program. Analytical results from the original SAP dataset were retained for all constituents except those that were re-analyzed after additional scraping. The final confirmation dataset included the following sampling results:

- SAP sampling data, retaining the results that were not superseded by subsequent sampling;
- Data generated after intermediate sampling and remediation (retaining the results that were not superseded by subsequent sampling); and

- Additional samples collected for confirmation after completion of remediation activities.

The soil dataset was subjected to a series of statistical analyses to determine representative exposure concentrations for the sub-area, as described in Sections 4 and 5 of the NDEP-approved *Statistical Methodology Report* (NewFields 2006). Consistent with the project *Statistical Methodology Report*, kriging or geostatistical analysis was not performed on the data because each measurement was assumed to be equally representative for that chemical at any point in each sub-area of the Eastside property. Hence, calculation of the 95 percent upper confidence limit (UCL) by exposure area directly from the data is considered reasonable.

As discussed in Section 4, all data have been validated. Results of all confirmation sampling and analysis are presented in Appendix B, and electronically on the report CD in Appendix B, as is the dataset used in the HHRA for the Site. All confirmation sampling locations for the Site are shown on Figure 11. Table 3-3 provides a matrix of which analytical suite was analyzed for in each of the samples collected from the Site. Geotechnical and Environmental Services (GES) conducted all field work at the Site. The GES field reports, including boring logs, for each investigation are provided electronically in Appendix C (included on the report CD in Appendix B).

3.5 FINAL CONFIRMATION DATA SUMMARY

Using the compound-specific information presented in Table 2 of the QAPP (BRC and ERM 2009a), the comparison levels for each chemical included in the investigation were compiled for comparison to Site data. Specific soil comparison levels used for this effort were as follows:

- NDEP BCLs for residential soil (NDEP ~~2011a~~2012a);
- NDEP BCLs for protection of groundwater (LBCL), assuming dilution attenuation factors (DAF) of 1 and 20 (NDEP ~~2011a~~2012a); and
- The maximum soil background concentration (for metals and radionuclides only), derived from the background soil dataset presented in Section 5.[20]

A DAF of 1 is used when little or no dilution or attenuation of soil leachate concentrations is expected, and a DAF of 20 may be used when significant attenuation of the leachate is expected

[20] This value is used for comparison only; as discussed in Section 5.1, background comparisons were performed for the Site dataset using statistical tests.

due to Site-specific conditions. For the Site, the LBCLs based on a DAF of 1 were used for discussion purposes. Data for the Site, including the number of instances in which chemical concentrations exceed each of the comparison levels, are listed in Table 3-4,[21] and summarized below. It is important to note that these comparisons are used to provide for an initial screening evaluation, to assist in the evaluation of data usability, and to determine the extent of contamination. They are not used for decision-making purposes or as an indication of the risks associated with the Site.

Aluminum

Aluminum was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). All of the detections were lower than the 77,200 mg/kg BCL, but were higher than the 75 mg/kg $LBCL_{DAF1}$. Of these 164 detections, the 25 that were in excess of the maximum soil background concentration (15,~~500~~300 mg/kg) are shown in Table 3-5.

TABLE 3-5: ALUMINUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Aluminum Value (mg/kg)
SRC1-AK21	0	15600
SRC1-AK21	0	15600
SRC3-J02NW	0	15800
SRC4-J02C2	0	15800 J
SRC3-J21NW	0	16000 J
SRC3-J02NW	0	16300
SRC4-J03SE2	0	16500 J
SRC4-J21CW2	0	16500 J
SRC3-J03SW	0	16600 J
SRC4-J21NE2	0	16600 J
SRC3-J02C2	0	16800
SRC3-J02SW	0	16900
SRC4-J02NW2	0	16900 J
SRC4-J03SW2	0	17100 J
SRC1-AK21	18	17300
SRC4-J02NE2	0	17300 J
SRC1-AJ27	0	17500 J
SRC4-J03C2	0	17600 J
SRC4-J21NW2	0	17600 J
SRC4-J03NE2	0	17700 J
SRC4-J02SE2	0	17800 J
SRC1-AK23	14	18100
SRC4-J02SW2	0	18100 J
SRC1-AL24	18	18400
SRC4-J21SE2	0	18400 J

[21] Pre-scrape data for the target constituents are not included in Table 3-4. That is, these have been replaced by post-scrape data; however, pre-scrape data for the non-target constituents are included in Table 3-4. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in the tables in Appendix B, which include all data, regardless of status.

Antimony

Antimony was detected in 1 of the 164 soil samples in which it was analyzed for (1 surface sample; Table B-4). That detection (an estimated value of 0.37 mg/kg [near the reporting limit] in a soil sample collected from 0 foot bgs at SRC1-J11) was lower than the 31.3 mg/kg BCL, but exceeded the 0.3 mg/kg $LBCL_{DAF1}$. However, the detection did not exceed the maximum soil background concentration of 0.~~61~~5 mg/kg.

In addition, in 79 of 163 antimony samples reported as non-detect; the associated reporting limits (0.315 mg/kg to 2.7 mg/kg) are higher than the $LBCL_{DAF1.}$ Of those, 39 antimony non-detect samples had associated reporting limits (0.82 mg/kg to 2.7 mg/kg) higher than the maximum soil background concentration.

Arsenic

Arsenic was detected in 141 of the 164 soil samples in which it was analyzed for (80 surface and 61 subsurface samples; Table B-4). All of the detections were higher than the 0.39 mg/kg BCL and the 1 mg/kg $LBCL_{DAF1}$. ~~However, all~~All but two of the detections (8.6 mg/kg at SRC1-AM27 at 3 ft bgs and 10 mg/kg at SRC3-J03SW at 0 ft bgs) were lower than the maximum soil background concentration (~~27.6~~7.2 mg/kg).

In all 23 arsenic samples reported as non-detect; the associated reporting limits (0.945 mg/kg to 5.5 mg/kg) are higher than the screening levels (BCL and $LBCL_{DAF1}$). However, these reporting limits were sufficiently low to indicate that none of these samples contained arsenic at concentrations above background.

Barium

Barium was detected in all 164 soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 15,300 mg/kg BCL; but all of the barium detections except for one exceeded the 82 mg/kg $LBCL_{DAF1}$. ~~However, none~~All but two of the detections ~~exceeded~~(548 mg/kg at SRC1-J14 at 12 ft bgs and 450 mg/kg at SRC3-J03SW at 0 ft bgs) were lower than the maximum soil background concentration ~~of 836~~(445 mg/kg~~.~~).

Beryllium

Beryllium was detected in 161 of the 164 soil samples in which it was analyzed for (99 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 155 mg/kg BCL. None of the detections were higher than the 3 mg/kg $LBCL_{DAF1}$ or the maximum soil background concentration of 0.89 mg/kg, except for one surface soil sample (SRC4-J21CW2) that had a detection of 5 mg/kg.

Boron

Boron was detected in 11 of the 164 soil samples in which it was analyzed for (4 surface and 7 subsurface samples; Table B-4). None of the detections were higher than the 15,600 mg/kg BCL. However, one of the surface soil samples, SRC1-J11 (68.3 mg/kg), exceeded the 23.4 mg/kg $LBCL_{DAF1}$. This exceedance was also higher than the maximum soil background concentration (~~57 mg/kg~~11.6 mg/kg) as were two other samples (21.4 mg/kg at SRC1-J13 at 0 ft bgs and 22.4 mg/kg at SRC1-J13 at 3 ft bgs).

Most of the analytical reporting limits were sufficiently low such that BCL or $LBCL_{DAF1}$ exceedances would have been observed. However, 20 out of 153 boron non-detections had reporting limits above the $LBCL_{DAF1}$.

Cadmium

Cadmium was detected in 46 of the 164 soil samples in which it was analyzed for (30 surface and 16 subsurface samples; Table B-4). None of the detections were higher than the 38.9 mg/kg BCL; however, one of the surface soil samples, SRC3-J21SW (0.53 mg/kg), was higher than the 0.4 mg/kg $LBCL_{DAF1}$. ~~This detection was also~~There were 24 detections were higher than the 0.1291 mg/kg maximum soil background ~~concentration (0.26 mg/kg).~~ detection. The 24 cadmium exceedances higher than background are shown in Table 3-6.

TABLE 3-6: CADMIUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)
SRC3-J21SW	0	0.53 J+	SRC1-J07	0	0.18
SRC1-J10	0	0.35	SRC1-AJ19	0	0.15 J
SRC1-AG17	0	0.3	SRC1-AJ19	11	0.15 J
SRC4-J21SE2	0	0.28 J+	SRC2-AM27C	0	0.15 J
SRC1-AJ20	0	0.26 J+	SRC1-AH19	0	0.14

TABLE 3-6: CADMIUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Cadmium Value (mg/kg)
SRC1-J11	0	0.24 J	SRC1-AI17	0	0.14
SRC1-J03	5	0.23 J+	SRC5-J21CE2	0	0.14 J+
SRC1-J02	3	0.21 J+	SRC1-AG18	0	0.13
SRC1-AH15	0	0.2	SRC1-AH19	0	0.13
SRC1-AG16	0	0.18	SRC1-AI17	3	0.13
SRC1-AH17	0	0.18 J	SRC1-AI20	0	0.13
SRC1-AJ18	0	0.18	SRC1-AK21	0	0.13

All of the reporting limits for non-detect samples were sufficiently low such that additional BCL or $LBCL_{DAF1}$ exceedances would have been observed.

~~Total~~ Chromium

~~Total~~ Chromium was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 100,000 mg/kg BCL, but all ~~total~~ chromium detections were higher than the 2 mg/kg $LBCL_{DAF1}$. Of these, ~~eight~~33 detections were higher than the ~~23.6~~16.7 mg/kg maximum soil background detection. The ~~eight total~~33 chromium exceedances higher than background are shown in Table 3-~~6~~7.

TABLE 3-~~6: TOTAL~~7: CHROMIUM DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs) ~~(feet bgs)~~	Reported Chromium Value (mg/kg)	Sample ID	Depth (feet bgs) ~~(feet bgs)~~	Reported Chromium Value (mg/kg)
SRC3-J21SW	0	28.2	SRC4-J02NW2	0	19.2
SRC4-J03SE2	0	27.4	SRC1-AJ19	0	19
SRC3-J03SW	0	26.3 J	SRC4-J03SW2	0	19
SRC4-J21NE2	0	26	SRC1-AM28	7	18.9
SRC4-~~J21CW2~~J02NW2	0	~~24~~25.2	SRC4-~~J21NE2~~J21SW2	0	~~26~~18.7
SRC4-J03C2	0	24.1	SRC1-AJ25	0	18.6 J+
SRC1-J11	0	24	SRC3-~~J03SW~~J02C2	0	~~26.3 J~~18.5
SRC4-J21CW2	0	24	SRC1-AL28	4	18.2
SRC4-J03NE2	0	22.7	SRC1-J13	3	18.1
SRC4-~~J03C2~~J21SE2	0	~~24.1~~22.5	SRC4-~~J03SE2~~J02NE2	0	~~27.4~~17.9

SRC1-AM27	3	22.4	SRC1-AI17	0	17.6
SRC4-J21NW2	0	22.4	SRC5-J21CE2	0	17.5 J+
SRC4-J02SW2	0	22.1	SRC1-AG17	0	17.4
SRC4-~~J02NW2~~J02SE2	0	~~25.2~~21.8	SRC3-~~J21SW~~J02SW	0	~~28.2~~16.9
SRC3-J21NW	0	19.6	SRC1-AJ19	11	16.8
SRC1-AJ18	0	19.5	SRC1-AK26	0	16.8 J-
SRC4-J02C2	0	19.5			

Cobalt

Cobalt was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 23.4 mg/kg BCL. There were 109 detections exceeding the 9.9 mg/kg $LBCL_{DAF1}$. Of these, 12 detections were also higher than the maximum soil background concentration (16.3 mg/kg). The 12 cobalt exceedances are shown in Table 3-8.

TABLE 3-8: COBALT DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Cobalt Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Cobalt Value (mg/kg)
SRC4-J21SE2	0	22.9 J+	SRC5-J21CE2	0	17.1 J+
SRC4-J02C2	0	20.8 J+	SRC4-J02NW2	0	17 J+
SRC1-AL28	4	19.7	SRC3-J03NE	0	16.8 J
SRC1-J13	3	19.7	SRC3-J21NW	0	16.8 J
SRC4-J21CW2	0	18.6 J+	SRC4-J02SW2	0	16.7 J+
SRC4-J03SE2	0	17.1 J+	SRC4-J21NE2	0	16.5 J+

Copper

Copper was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 2,910 mg/kg BCL. Four of the detections exceeded the 35.2 mg/kg $LBCL_{DAF1}$; ~~these exceedances~~and 38 detections were also higher than the maximum soil background concentration (~~36.2~~25.9 mg/kg). The ~~four~~38 copper exceedances are shown in Table 3-~~7~~9.

TABLE 3-~~7~~9: COPPER DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)
SRC1-AL28	4	88.9	SRC1-J09	0	28.3
SRC3-J21SW~~SRC1-J07~~	0	~~38~~56.1 J	~~SRC3-J21SW~~SRC4-J02NW2	0	~~56.1~~28.3 J+

TABLE 3-~~7~~9: COPPER DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Copper Value (mg/kg)
SRC4-J21SE2	0	42.1 J+	SRC1-~~AL28~~AM28	~~4~~7	~~88.9~~28.2
SRC1-J07	0	38.1	SRC4-J02C2	0	28.2 J+
SRC4-J21NE2	0	34.8 J+	SRC2-J23	0	28
SRC1-AJ25	0	34.3	SRC4-J02NE2	0	27.9 J+
SRC3-J21NW	0	32.8 J	SRC3-J02C2	0	27.8 J+
SRC1-J13	3	31.5	SRC5-J21CE2	0	27.8 J+
SRC4-J02NW2	0	31.5 J+	SRC1-AJ22	0	27.6
SRC4-J21CW2	0	31.2 J+	SRC1-J09	0	27.6
SRC4-J03SE2	0	30.6 J+	SRC3-J02NW	0	27.6 J+
SRC1-J11	0	30	SRC3-J03NE	0	27.5 J+
SRC4-J03C2	0	29.9 J+	SRC4-J21NW2	0	27.5 J+
SRC2-J24	0	29.8	SRC3-J02SE	0	27.4 J+
SRC3-J03SW	0	29.7 J+	SRC3-J03NW	0	27.4 J+
SRC4-J02SW2	0	29.4 J+	SRC3-J02NW	0	27.2 J+
SRC4-J03NE2	0	29.4 J+	SRC3-J02SW	0	26.4 J+
SRC4-J03SW2	0	29 J+	SRC2-AM27C	0	26.1
SRC4-J02SE2	0	28.4 J+	SRC1-AM28	0	26

Iron

Iron was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 54,800 mg/kg BCL, but all detections were higher than the 7.56 mg/kg $LBCL_{DAF1}$. Of these, ~~22~~45 detections were higher than the ~~21~~19,700 mg/kg maximum soil background concentration. These ~~22~~45 iron exceedances higher than background are shown in Table 3-~~8~~10.

TABLE 3-~~8~~10: IRON DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)
SRC5-J21CE2	0	28400 J	SRC3-J21NE	0	21600 J
~~SRC4-J21NE2~~SRC3-J21SW	0	28100 J~~21900~~	SRC1-~~AJ28~~AJ24	0	~~24000 J~~21500
SRC3-J21NW~~SRC1-AM28~~	~~7~~0	~~22200~~26800 J	SRC1-~~AL28~~J11	~~4~~0	21500~~24400 J~~
~~SRC4-J03SE2~~SRC3-J02C2	0	25900~~22400~~	SRC4-J02NW2~~SRC3-J03NW~~	0	~~24400 J~~21500
~~SRC1-~~	~~10~~0	25000~~22600~~	~~SRC3-~~	0	21300 J~~24500~~

TABLE 3-~~8~~10: IRON DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Iron Value (mg/kg)
~~AJ24~~SRC3-J02NW			~~J02SW~~SRC1-AK27		
SRC3-J02NW	0	24900	SRC1-J12	0	21300 J
~~SRC1-AK25~~SRC3-J03NE	0	24700 J~~22800~~	SRC1-AK20~~SRC3-J03NE~~	~~0~~9	21200~~24700 J~~
~~SRC1-AM28~~SRC3-J02SW	~~7~~0	24500~~23000 J~~	SRC1-AK26~~SRC3-J02NW~~	0	21200 J~~24900~~
SRC1-AL28	4	24400 J	SRC4-J21CW2	0	21200
~~SRC5-J21CE2~~SRC3-J03NW	0	~~23100~~24400 J	SRC1-J10~~SRC3-J02NW~~	0	21100 J~~25000~~
SRC1-AJ28	0	24000 J	SRC2-J02N	0	21000 J
SRC3-~~J03SW~~J02SE	0	~~23300~~23900 J	~~SRC3-J02C2~~SRC4-J02SW2	0	20900~~25900~~
SRC1-AJ19	~~1~~10	23700~~23400~~	~~SRC3-J21NW~~SRC1-J13	~~0~~3	~~26800~~20800 J
SRC1-AJ19	11	23400	SRC2-AM27C	0	20800
~~SRC1-AJ19~~SRC3-J03SW	0	23300 J~~23700~~	SRC1-J09~~SRC3-J21SW~~	0	20700~~28100 J~~
SRC5-J21CE2~~SRC3-J02SE~~	0	~~23900~~23100 J	SRC1-J09~~SRC5-J21CE2~~	0	20600~~28400 J~~
SRC1-AM28	7	23000 J	SRC1-J10	0	20500 J
SRC1-AK25	0	22800	SRC1-AI20	0	20300
SRC1-AJ24	10	22600	SRC1-J14	0	20300 J
SRC4-J03SE2	0	22400	SRC1-J10	11	19900 J
SRC1-AM28	7	22200 J	SRC4-J03SW2	0	19900
SRC4-J21NE2	0	21900	SRC1-AJ22	0	19800
SRC2-J03N	0	21600			

Magnesium

Magnesium was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of the detections were higher than the 100,000 mg/kg BCL, but all detections were higher than the 649 mg/kg $LBCL_{DAF1}$. However, none of the detections were higher than the 17,500 mg/kg maximum soil background detection.

Manganese

Manganese was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). Of these detections, none were higher than the 1,820 mg/kg BCL; however, all detections were higher than the 3.26 mg/kg $LBCL_{DAF1}$. ~~All of the manganese~~ Of these, 10 detections were ~~lower~~also higher than the ~~2,070 mg/kg~~ maximum soil background concentration~~.~~ (863 mg/kg). The 10 manganese exceedances are shown in Table 3-11.

TABLE 3-11: MANGANESE DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND CONCENTRATION

Sample ID	Depth (feet bgs)	Reported Manganese Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Manganese Value (mg/kg)
SRC1-AG17	0	1260	SRC2-J03N	0	956
SRC3-J03SW	0	1110 J	SRC3-J03NE	0	924
SRC4-J03NE2	0	1070 J	SRC3-J21NW	0	869 J
SRC4-J21NE2	0	1020 J	SRC4-J03SE2	0	869 J
SRC1-AH15	0	961 J	SRC1-AJ20	0	865

Mercury

Mercury was detected in 74 of the 158 soil samples in which it was analyzed for (55 surface and 19 subsurface samples; Table B-4). None of the detections were higher than the 12.5 mg/kg BCL. However, one detection (0.402 mg/kg, surface soil sample collected at SRC3-J21SW) was higher than the 0.105 mg/kg $LBCL_{DAF1}$. This detection was also higher than the 0.11 mg/kg maximum soil background concentration. The analytical reporting limits for non-detections were sufficiently low such that additional BCL or $LBCL_{DAF1}$ exceedances would have been observed.

Nickel

Nickel was detected in all 164 of the soil samples in which it was analyzed for (102 surface and 62 subsurface samples; Table B-4). None of these detections exceeded the 1,540 mg/kg BCL, but all were higher than the 7 mg/kg $LBCL_{DAF1}$. All but one of the nickel detections were lower than the 30 mg/kg maximum soil background concentration. That exceedance (38.7 mg/kg) was associated with a soil sample collected from 0 foot bgs at SRC4-J21SE2.

Selenium

Selenium was detected in 2 of the 164 soil samples in which it was analyzed for (2 surface samples; Table B-4). Neither of these detections were higher than the 391 mg/kg BCL; however, both of the detections were higher than the 0.3 mg/kg $LBCL_{DAF1}$. Of these, one selenium result was higher than the 0.6 mg/kg maximum soil background concentration. That exceedance (1.7 mg/kg) was associated with a soil sample collected from 0 foot bgs at SRC2-AM27C.

The reporting limits for the non-detections were adequately low for detections of BCL exceedances; however, 114 out of 162 selenium non-detections had reporting limits above the $LBCL_{DAF1}$ (ranging from 0.32 to 2.8 mg/kg) and 24 had reporting limits above the maximum soil background concentration. It is not known whether selenium is present at concentrations above these comparison levels at these locations.

Silver

Silver was detected in 99 of the 164 soil samples in which it was analyzed for (61 surface and 38 subsurface samples; Table B-4). Of these detections, none were higher than the 391 mg/kg BCL; however, ~~one detection was~~three detections were higher than the ~~2~~0.85 mg/kg $LBCL_{DAF1}$. ~~That exceedance~~These exceedances (10.4 mg/kg~~) was~~ from 0 foot bgs at SRC3-J21SW, 1.1 mg/kg from 0 foot bgs at SRC1-J07, and 0.97 mg/kg from 0 foot bgs at SRC1-AJ25) were also higher than the maximum soil background concentration (0.2609 mg/kg~~), and was associated with a soil sample collected from 0 foot bgs at SRC3-J21SW.~~).

Thallium

Thallium was detected in 10 of the 164 soil samples in which it was analyzed for (6 surface and 4 subsurface samples; Table B-4). None of the detections were higher than the 5.48 mg/kg BCL; however, three samples were detected higher the 0.4 mg/kg $LBCL_{DAF1.}$ None of the detections were higher than the maximum soil background concentration (~~2.0~~1.8 mg/kg).

The reporting limits for the non-detections were adequately low for detections of BCL exceedances; however 81 out of 154 thallium non-detections had reporting limits above the $LBCL_{DAF1,}$ such that exceedances would not necessarily have been observed. However, these reporting limits were sufficiently low to indicate that samples did not contain thallium at concentrations above background.

Other Inorganics

As seen in Table 3-4 and Tables B-3 and B-4 in Appendix B, several inorganic constituents in addition to those listed above were routinely detected in soil samples. None of these additional inorganic constituents were detected at concentrations in excess of either the BCL or the LBCL$_{DAF1}$~~.~~, with the exception of nitrate and perchlorate which had 65 and 82 exceedances of their respective LBCL$_{DAF1}$. The reporting limits for ~~these additional~~the other inorganic constituents were generally sufficiently low such that concentrations in excess of the BCL or LBCL$_{DAF1}$, if present, would have been reported.

Organochlorine Pesticides

Organochlorine pesticides were analyzed for in 133 soil samples[22] (71 surface and 62 subsurface samples; Table B-5). The following constituents were detected in at least one sample:

- 2,4-DDD
- 2,4-DDE
- 4,4-DDD
- 4,4-DDE
- 4,4-DDT
- beta-BHC
- Methoxychlor

2,4-DDE, 4,4-DDE, 4,4-DDT, and beta-BHC were the most commonly detected (in more than 5 percent of the samples in which they were analyzed for). None of the detections were higher than the BCL, and all of the detections were lower than the LBCL$_{DAF1}$, except for beta-BHC. ~~All 13~~Six beta-BHC detections were higher than the 0.~~0001~~00596 mg/kg LBCL$_{DAF1}$. The ~~13~~six LBCL beta-BHC exceedances were associated with the samples listed in Table 3-~~9~~12.

TABLE 3-~~9~~12: BETA-BHC DETECTIONS GREATER THAN LBCL$_{DAF1}$

Sample ID	Depth (feet bgs)	Reported Value (mg/kg)	Sample ID	Depth (feet bgs)	Reported Value (mg/kg)
~~SRC2-J25~~SRC1-AH15	0	0.~~0018~~0066	SRC1-~~AH15~~J01	0	0.~~0066~~ 017 J
SRC1-~~AH19~~AI17	~~0~~3	0.~~0025~~ 0082 J+	SRC1-~~AH17~~AK20	~~3~~0	0.~~0082~~019 J+
~~SRC1-~~	0	0.~~0025~~011	~~SRC2-~~	0	0.~~011~~035

[22] As noted in Footnote ~~20~~21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. Organochlorine pesticide analysis was only performed for initial SAP samples (i.e., was not included in the analyses for confirmation samples); thus the tally of organochlorine pesticide analyses is lower than for some of the other analytical suites, such as metals.

~~J02~~SRC2-J24			~~J24~~SRC1-AJ18		
~~SRC2-J23~~	~~0~~	~~0.0026~~	~~SRC1-J01~~	~~0~~	~~0.017 J~~
~~SRC1-AJ20~~	~~0~~	~~0.003~~	~~SRC1-AK20~~	~~0~~	~~0.019 J+~~
~~SRC1-AH15~~	~~0~~	~~0.0051~~	~~SRC1-AJ18~~	~~0~~	~~0.035~~
~~SRC1-J01~~	~~0~~	~~0.0053 J~~	-	-	-

The standard analytical reporting limits for most organochlorine pesticides were sufficiently low such that concentrations in excess of the comparison levels, if present, would be reported. The exceptions are ~~alpha- and beta-BHC, for which the reporting limits were routinely higher than the LBCL$_{DAF1}$. In addition,~~ dieldrin and gamma-BHC (“Lindane”) ~~reporting limits in two samples were higher than the 0.0005 mg/kg LBCL$_{DAF1}$ and dieldrin~~ which each had reporting limits in three samples ~~were~~ higher than ~~the~~ their respective LBCL$_{DAF1}$ (0.0002 and 0.0005 mg/kg ~~LBCL$_{DAF1}$.~~).

Volatile Organic Compounds

VOCs were analyzed for in 132 soil samples[23] (70 surface and 62 subsurface samples; Table B-10). As seen in Table 3-4 and Table B-10, the following 15 VOCs were detected in at least one sample:

- 1,2,4-Trimethylbenzene
- 1,2-Dichlorobenzene
- 1,3,5- Trimethylbenzene
- 1,3- Dichlorobenzene
- Acetone
- Dichloromethane
- Ethylbenzene
- Freon-11
- m,p-Xylenes
- Methyl ethyl ketone
- n-Propylbenzene
- o-Xylene
- Tetrachloroethene
- Toluene
- Xylenes (total)

Acetone was detected the most frequently, in approximately 27 percent of the samples. None of the detections were above the BCL. None of the VOC detections were above the LBCL$_{DAF1}$, with

[23] As noted in Footnote ~~20~~21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. VOC analysis was only performed for initial SAP samples (i.e., was not included in the analyses for confirmation samples); thus the tally of VOC analyses is lower than for some of the other analytical suites, such as metals.

the exception of dichloromethane. Dichloromethane was detected in the following four soil samples at concentrations higher than the 0.001 mg/kg $LBCL_{DAF1}$:

- SRC1-AJ23 at 0 foot bgs: 0.0052 J mg/kg;
- SRC2-J24 at 0 foot bgs: 0.0057 mg/kg;
- SRC1-AI20 at 10 feet bgs: 0.0077 mg/kg; and
- SRC2-J21 at 0 foot bgs: 0.0097 J mg/kg.

It should be noted that the reporting limits for dichloromethane were often higher than the $LBCL_{DAF1}$; therefore, concentrations in excess of this comparison level, if present, could have potentially gone unreported. For the other VOCs, the standard reporting limits were lower than the BCL and $LBCL_{DAF1}$, and concentrations in excess of these screening levels, if present, would have been reported.

Semi-Volatile Organic Compounds

SVOCs were analyzed for in 129 soil samples[24] (68 surface and 61 subsurface samples; Table B-9). As seen in Table 3-4 and Table B-9, the following SVOCs were detected in one or more samples:

- Acetophenone
- bis(2-ethylhexyl)Phthalate
- Butylbenzyl phthalate
- Di-n-butyl phthalate
- Fluoranthene
- Hexachlorobenzene
- Phthalic acid

Fluoranthene was detected the most often, in 5.4 percent of the samples. All SVOC detections were lower than the BCL and the $LBCL_{DAF1}$. For SVOC non-detects, the standard reporting limits were lower than the BCL, except for dichloromethyl ether and n-nitrosodi-n-propylamine, which routinely had analytical reporting limits higher than the BCL. With the exception of these

[24] As noted in Footnote ~~20~~21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. The tally of SVOC analyses is lower than for some of the other analytical suites, such as metals. SVOC analysis was not performed at four locations (11 feet bgs sample from SRC1-AJ19, and surface samples SRC2-J33 [and its duplicate) and SRC2-J34).

compounds, concentrations in excess of the BCL, if present, would have been reported for SVOCs.

For several other SVOC non-detections, the analytical reporting limits are higher than the $LBCL_{DAF1}$, and it is unknown whether these constituents are present in those samples at concentrations in excess of the $LBCL_{DAF1}$. The constituents with reporting limits routinely higher than the $LBCL_{DAF1}$ are as follows:

- 2,2'-Dichlorobenzil
- 2,4,6-Trichlorophenol
- 2,4-Dichlorophenol
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- 3,3'-Dichlorobenzidine
- bis(2-chloroethyl)ether
- Hexachloroethane
- Isophorone
- Nitrobenzene
- p-Chloroaniline
- Pentachlorophenol

Dioxins and Furans

For dioxins/furans, as discussed in Section 1.1, the USEPA TEQ procedure, developed to describe the cumulative toxicity of these compounds, is used. Dioxins and furans were analyzed for in 123 surface soil samples[25] (Table B-2). All of the individual dioxins and furans congeners analyzed were reported as detections in at least one sample, except for 1,2,3,4,7,8-hexachlorodibenzo-*p*-dioxin, which was not detected in any samples. None of the samples analyzed had calculated TCDD TEQ concentrations in excess of the NDEP BCL of 50 ppt. $LBCL_{DAF1}$ values have not been established for dioxin/furans; thus the potential for impacts to groundwater quality due to their presence could not be assessed by comparisons to the $LBCL_{DAF1}$.

Polychlorinated Biphenyls

PCBs were analyzed for in 123 surface soil samples[26] (individual PCB congeners) (Table B-7). All of the PCB congeners were detected in at least one sample, except for PCB 123, PCB 77, and

[25] This tally includes field duplicates and confirmation samples.
[26] This tally includes field duplicates and confirmation samples.

PCB 81, which were not detected in any samples. BCL values have not been established for individual congeners. PCB congeners are included in the calculation of the TCDD TEQ, and are evaluated in this manner, not on an individual congener basis. $LBCL_{DAF1}$ values have not been established for individual PCB congeners.

Polynuclear Aromatic Hydrocarbons

Polynuclear aromatic hydrocarbons (PAHs) were analyzed for in 129 soil samples[27] (68 surface and 61 subsurface samples~~;;~~; Table B-6); each PAH constituent was detected in at least one soil sample, except for acenaphthene, which was not detected in any samples. The PAH detections did not exceed either the BCL or the $LBCL_{DAF1}$ where established. The standard PAH reporting limits were lower than the BCL and the $LBCL_{DAF1}$; thus concentrations in excess of these comparison levels, if present, would have been reported.

Aldehydes

Aldehydes were analyzed for in 115 soil samples[28] (53 surface and 62 subsurface samples; Table B-9). Acetaldehyde was detected in one sample, and formaldehyde was detected in 64 samples (56 percent). None of the detections exceeded the BCL. The reporting limits were lower than the BCL; thus concentrations in excess of the BCL, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Radionuclides

Radionuclides were analyzed for in 132 soil samples[29] (71 surface and 61 subsurface soil samples; Table B-8). Exceedances of comparison levels for radionuclides are shown in Table 3-4 for the eight radionuclides currently included in the project analyte list (radium-226, radium-228,

[27] As noted in Footnote ~~20~~21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. The tally of PAH analyses is lower than for some of the other analytical suites, such as metals. PAH analysis was not performed at four locations (11 feet bgs sample from SRC1-AJ19, and surface samples SRC2-J33 [and its duplicate) and SRC2-J34).

[28] As noted in Footnote ~~20~~21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. Aldehyde analysis was only performed for initial SAP samples (i.e., was not included in the analyses for confirmation samples); thus the tally of aldehyde analyses is lower than for some of the other analytical suites, such as metals.

[29] As noted in Footnote ~~20~~21, the number of records in the Site dataset for a given analyte may differ from those for other analytes. Radionuclide analyses was only performed for initial SAP samples (i.e., they were not included in the analyses for confirmation samples). In addition, radionuclide analyses were not performed at one location (11 feet bgs samples from SRC1-AJ19. Thus the tally of radionuclide analyses is lower than for some of the other analytical suites, such as metals.

thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238). Of those activities greater than comparison levels, most are lower than the maximum soil background activity, as shown in Table 3-4. Activities higher than comparison levels and background are summarized below for each radionuclide:

- Radium-226 activities were reported in 119 soil samples (63 surface and 56 subsurface soil samples; Table B-8). All detections were higher than the BCL and $LBCL_{DAF1}$ (0.013 and 0.016 picoCuries per gram [pCi/g], respectively). However, only one of those results were higher than the 2.36 pCi/g maximum soil background activity (2.39 pCi/g from SRC1-AK26 at 0 foot bgs);
- Radium-228 activities were reported in 126 soil samples (84 surface and 42 subsurface soil samples; Table B-8). All detections were higher than the BCL and $LBCL_{DAF1}$ (0.013 and 0.016 picoCuries per gram [pCi/g], respectively). However, only five of those results were higher than the 2.94 pCi/g maximum soil background activity. Those results are as follows:
  - SRC2-J33 at 0 foot bgs: 2.98 ~~mg/kg~~pCi/g;
  - SRC1-AL26 at 11 feet bgs: 3.03 ~~mg/kg~~pCi/g;
  - SRC1-AN28 at 0 foot bgs: 3.18 J ~~mg/kg~~pCi/g;
  - SRC1-AL28 at 0 foot bgs: 3.25 ~~mg/kg~~pCi/g; and
  - SRC2-J29 at 0 foot bgs: 3.64 ~~mg/kg~~pCi/g.
- Thorium-228 activities were reported in all but one of the 132 soil samples (86 surface and 45 subsurface soil samples; Table B-8). All detections were higher than the BCL and $LBCL_{DAF1}$ (0.0078 pCi/g and 0.0023 pCi/g, respectively). ~~However, only one of the~~Ten results ~~was~~were higher than the ~~3.37~~2.28 pCi/g maximum soil background activity (~~3.71 pCi/g measured in the surface sample collected from SRC1-AJ18~~Table 3-13).

TABLE 3-13: THORIUM-228 DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND ACTIVITY

Sample ID	Depth (feet bgs)	Reported Thorium-228 Value (pCi/g)	Sample ID	Depth (feet bgs)	Reported Thorium-228 Value (pCi/g)
SRC1-AJ18	0	3.71	SRC1-AJ28	0	2.6 J
SRC1-J13	3	2.83	SRC1-J13	0	2.51
SRC1-J15	0	2.79 J	SRC1-AK20	19	2.43
SRC1-AI17	13	2.74	SRC1-J10	0	2.42 J
SRC1-AH15	0	2.73	SRC1-AI17	0	2.37

- Thorium-232 activities were reported in all of the 132 soil samples (86 surface and 46 subsurface soil samples; Table B-8). None of the detections were higher than the BCL (2.8 pCi/g), while all detections were higher than the $LBCL_{DAF1}$ (0.0029 pCi/g, respectively). Nine results were higher than the 2.23 pCi/g maximum soil background activity (Table 3-14).

TABLE 3-14: THORIUM-232 DETECTIONS GREATER THAN THE MAXIMUM SOIL BACKGROUND ACTIVITY

Sample ID	Depth (feet bgs)	Reported Thorium-232 Value (pCi/g)
SRC2-J23	0	2.8
SRC2-J32	0	2.67
SRC1-J10	0	2.5 J
SRC1-AH17	11	2.49
SRC1-AH19	10	2.49 J
SRC1-AJ26	11	2.44
SRC1-AL26	0	2.41
SRC1-AJ23	4	2.28
SRC1-AJ26	0	2.26

- Uranium-235/236 activities were reported in 11 Site soil samples (6 surface and 5 subsurface soil samples; Table B-8). Nine of the detections were higher than the 0.11 pCi/g BCL. Of these, four of the detections were higher than the 0.241 pCi/g maximum soil background activity. Those four results are as follows:

  - SRC1-AH15 at 10 feet bgs: 0.251 mg/kg;
  - SRC1-J03 at 15 feet bgs: 0.252 mg/kg;
  - SRC1-AJ18 at 0 foot bgs: 0.378 mg/kg; and
  - SRC1-AK20 at 0 foot bgs: 0.412 mg/kg.

As presented in NDEP guidance (NDEP 2009a), as part of the process used to evaluate radionuclide data for the BMI Common Areas, BRC assessed whether radionuclides are in secular equilibrium. As discussed in Section 5.1, secular equilibrium is an indication of background conditions.

The data indicate that radionuclides are in secular equilibrium at the Site. Specifically, the mean radioactivities for the Thorium-232 decay chain (i.e., thorium-232, radium-228, and thorium-228) are comparable (1.5, 1.7, and 1.8 pCi/g, respectively). Similarly, the mean values for the uranium-238 decay chain (uranium-238, uranium-233/234, thorium-230, and radium-226) are also comparable, ranging from 0.92 to 1.0 pCi/g. All of the mean values are lower than their respective maximum soil background activity levels. A quantitative evaluation of secular equilibrium is presented in Section 5.1.

Summary of Soil Exceedances

As summarized above and in the associated data tables (Table 3-4 and Appendix B), some BCL and $LBCL_{DAF1}$ exceedances are currently observed in Site soils. The following constituents were reported at concentrations higher than the BCL and the maximum soil background concentration (where applicable):

- Radionuclides (~~9~~10 samples)

The following constituents were reported at concentrations higher than the $LBCL_{DAF1}$ and the maximum soil background concentration (where applicable):

- Aluminum (25 samples)
- Arsenic (2 samples)
- Barium (2 samples)
- Beryllium (1 sample)
- Boron (1 sample)
- Cadmium (1 sample)
- Chromium (8 samples)
- Cobalt (12 samples)
- Copper (4~~2~~ samples)
- ~~beta-BHC (13 samples)~~
- Iron (~~22~~45 samples)
- Lithium (1 sample)
- Manganese (10 samples)
- Mercury (1 sample)
- Nickel (1 sample)
- Selenium (1 sample)
- Silver (~~1 sample~~3 samples)
- Radionuclides (~~5~~10 samples)
- Dichloromethane (4 samples)
- ~~Dichloromethane (4 samples)~~

The limited number of BCL and $LBCL_{DAF1}$ exceedances indicates that there is a low likelihood of adverse impacts to human health and the environment due to residual chemical concentrations in Site soils. ~~Consistent with the methodology in the NDEP-approved *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised in March 2010), an HHRA was conducted to further evaluate this possibility, as discussed in subsequent sections of this report. In addition, using the~~

~~SESOIL unsaturated zone leaching model, BRC evaluated the potential impacts to groundwater quality due to residual chemical concentrations, as summarized in Section 9.~~

One observation from the data review was the presence of two areas, which due to repeated cleanups triggered primarily by metals, have a number of sample results within these locations. Although not considered 'hot spots;' because of the density of data in these two areas, they were considered separately for subsequent evaluations in the HHRA for metals. That is, three 'exposure areas' are considered:

1. Exposure area SRC-J02/J03, using metals data for just this area, and Site-wide data for all other analytes;

2. Exposure area SRC-J21, using metals data for just this area, and Site-wide data for all other analytes; and

3. "Site-Wide" exposures using all data except exposure areas SRC-J02/J03 and SRC-J21 data for metals, and Site-wide data for all other analytes.

3.6 SURFACE FLUX SAMPLING

Concurrent with the confirmation soil sampling, BRC implemented surface flux sampling across the Site. This sampling conformed to the most recent NDEP-approved version of SOP-16 (BRC, ERM, and MWH 2009). The sampling procedure for the effort included the USEPA surface emission isolation flux chamber (flux chamber) sampling to support an air pathway analysis for the Site.

It should be noted that while radon samples were collected, they are not included in this HHRA for the following reason: BRC recently submitted a technical memorandum to the NDEP (BRC 2010), in which the results of recent radon testing performed in groundwater and indoor air samples were presented. Based on the findings of this memorandum, the NDEP concluded that HHRAs for Eastside property sub-areas do not need to evaluate the pathway of radon migration from groundwater to indoor air for sub-areas with a separation distance of at least 15 feet between any current or future building structure base and the high water table (letter dated November 9, 2010, from Greg Lovato, NDEP, to Mark Paris, BRC). Based on this conclusion and given the depth to groundwater at the Site is at least 50 feet bgs, the intrusion of radon into indoor air is not evaluated in the HHRA. Furthermore, as discussed in Section 5.1, other radionuclides are consistent with background levels, which indicate that radon should also be consistent with background, naturally occurring levels in soil.

The flux chamber sample collection rationale was based on the project goal of obtaining a representative dataset of air emissions per sub-area. Flux chamber samples were collected from 36 locations (Figure 11); 27 random sampling locations and 9 biased locations (and 1 field duplicate; 37 samples total). This density of sample collection is considered adequate for sub-area characterization given the biased nature of the sample locations, the size of the sub-area, and the number of sample locations suggested by the USEPA (1986) in the flux chamber User's Guide for assessing zones of homogeneous sites.

The analyte list for surface flux samples is composed of the list provided in the most recent NDEP-approved version of SOP-16 (BRC, ERM, and MWH 2009). This analyte list is provided in Table 3-~~10~~15, and consists of the USEPA Method TO-15 full scan, plus SIM analyses for a subset of the analytes. The analytical results are summarized in Table B-11 (Appendix B), and the principal investigator Report of Findings (which includes descriptions of sampling procedures) is provided in Appendix D (included on the report CD in Appendix B).[30] It should be noted that, in addition to VOC data for the Site, the flux chamber report also contains data for the remainder of the Southern RIBs sub-area outside the Site boundaries. Data collected from outside the Site boundaries are not included in this HHRA. A data summary for the flux chamber sample results is provided in Table 3-~~11~~16.

As seen in ~~Tables~~ Table 3-~~11~~16 and Table B-11, 44 organic constituents were detected in at least one surface flux sample. The most commonly detected constituents were acetone, carbon tetrachloride, chloroform, dichloromethane, and toluene, which were detected in more than 85 percent of the samples. Nearly all of the detections were qualified with "J" flags, indicating the reported concentrations were estimated. The highest concentrations were of ethanol (6.3 $\mu g/m^2,min^{-1}$ at SRC1-AH-19 and 2.4 $\mu g/m^2,min^{-1}$ at SRC1-AH15) and acetone (1.1 $\mu g/m^2,min^{-1}$ at SRC1-AH16). Both of these constituents are common laboratory contaminants.

As discussed in Section 4, all data have been validated. The HHRA surface flux dataset for the Site is included on the report CD in Appendix B. Surface flux sample locations are shown on Figure 11.

[30] Note that this report was prepared prior to data validation; therefore, data qualifiers may differ from those in the remainder of this report.

3.7 LEACHATE DATA

As specified in the SAP, one sample collected within the Site during the initial sampling event was submitted for synthetic precipitation leaching procedure (SPLP) analysis.[31] This sample was collected from location SRC1-AJ19 at 11 feet bgs. This soil sample was analyzed for aldehydes, general chemistry and ions, metals, organochlorine pesticides, PAHs, radionuclides, and SVOCs. As noted in the SAP, these constituents are considered those of greatest concern for potential migration and impacts to groundwater. Data associated with this SPLP sample are summarized in Appendix B, Table B-12. For reference, Table B-12 includes constituent-specific comparison levels (viz., NDEP's residential water BCLs and USEPA Maximum Contaminant Levels). As summarized in Table B-12, there were few detections in the leachate sample from SRC1-AJ19. All of the detections in this leachate sample were inorganic constituents (i.e., general chemistry and ions, metals and radionuclides); organic compounds were not detected. Of these detections, only arsenic (0.003 milligrams per liter) was higher than the respective comparison level. ~~Potential impacts to groundwater are further evaluated in Section 9.~~

[31] SPLP analysis prepped per USEPA Method 1312 - West solution pH 4.95 with 60/40 weight sulfuric/nitric acid.

4.0 DATA EVALUATION

This section describes the procedures used to evaluate the acceptability of data for use in the risk assessment. Overall quality of sample results is a function of proper sample management. Management of samples began at the time of collection and continued throughout the analytical process. SOPs were followed to ensure that samples were collected and managed properly and consistently and to optimize the likelihood that the resultant data are valid and representative.

The primary objective of the data review and usability evaluation was to identify appropriate data for use in the HHRA. The analytical data were reviewed for applicability and usability following procedures in USEPA's *Guidance for Data Usability in Risk Assessment (Part A)* (1992a) and *Risk Assessment Guidance for Superfund: Volume I* (1989), and the NDEP's *Supplemental Guidance for Assessing Data Usability for Environmental Investigations at the BMI Complex and Common Areas* (2008a). A quality assurance/quality control (QA/QC) review of the analytical results was conducted during the sampling events. According to the USEPA Data Usability Guidance, there are six principal evaluation criteria by which data are judged for usability in risk assessment. The six criteria are:

- Reports to risk assessor (availability of information associated with Site data);
- Documentation;
- Data sources;
- Analytical methods and detection limits;
- Data review; and
- Data quality indicators (DQIs), including precision, accuracy, representativeness, comparability, and completeness (PARCC).

A summary of these six criteria for determining data usability is provided below. In addition to the six principal evaluation criteria, the NDEP's Data Usability Guidance includes a step for data usability analysis, which is discussed after these six USEPA evaluation criteria. Data usability evaluation tables are provided electronically in Appendix E (included on the report CD in Appendix B).

4.1 CRITERION I – REPORTS TO RISK ASSESSOR (AVAILABILITY OF INFORMATION ASSOCIATED WITH SITE DATA)

The usability analysis of the site characterization data requires the availability of sufficient data for review. The required information is available from documentation associated with the Site data and data collection efforts. Data have been validated as described in the following DVSRs, which are provided electronically in Appendix F:

- *Data Validation Summary Report, Southern RIBs Sub-Area Soil Investigations, October-November2008; February 2009; September 2009 (Dataset 53)* (BRC and ERM 2010a), approved by the NDEP on March 11, 2010;

- *Data Validation Summary Report, Southern RIBs Sub-Area 2nd Round Confirmation Soil Investigations –December 2009 (Dataset 53a)* (BRC and ERM 2010b), approved by the NDEP on February 15, 2010;

- *Data Validation Summary Report, Southern RIBs And Western Hook Sub-Area Soil Flux Revised Data –October 2008 (Dataset 53c)* (BRC and ERM 2010c), approved by the NDEP on November 24, 2010; and

- *Data Validation Summary Report, Eastside North Confirmation Soil Investigations – December 2008 through October 2010 (Dataset 72b)* (BRC and ERM 2011), approved by the NDEP on May 9, 2011.

The information sources and the availability of such information for the data usability process are as follows:

- A Site description provided in this report and the NDEP-approved SAPs identifies the location and features of the Site, the characteristics of the vicinity, and contaminant transport mechanisms.

- A Site map with sampling locations is provided on Figure 11.

- Sampling design and procedures are provided in the NDEP-approved SAPs.

- Analytical methods and sample quantitation limits (SQLs) are provided in the dataset file included on the report CD in Appendix B.

- A complete dataset is provided in the dataset file included on the report CD in Appendix B.

- A narrative of qualified data is provided with each analytical data package; the laboratory provided a narrative of QA/QC procedures and results. These narratives are included as part of the DVSRs (BRC and ERM 2010a,b,c; 2011).

- QC results are provided by the laboratory, including blanks, replicates, and spikes. The laboratory QC results are included as part of the DVSRs (BRC and ERM 2010a,b,c; 2011).

- Data flags used by the laboratory are defined adequately.

- Electronic files containing the raw data made available by the laboratory are included as part of the DVSRs (BRC and ERM 2010a,b,c; 2011).

4.2 CRITERION II – DOCUMENTATION REVIEW

The objective of the documentation review is to confirm that the analytical results provided are associated with a specific sampling location and collection procedure, using available documentation. For the purposes of this data usability analysis, the chain-of-custody forms prepared in the field were reviewed and compared to the analytical data results provided by the laboratory to ensure completeness of the dataset as discussed in the DVSRs (BRC and ERM 2010a,b,c; 2011). Based on the documentation review, all samples analyzed by the laboratory were correlated to the correct geographic location at the Site, as shown on Figure 11. The samples were collected in accordance with the SAP, CSP, and RAWP (BRC 2008, 2009a,b), and the SOPs developed for the BMI Common Areas as provided in the FSSOP (BRC, ERM and MWH 2009). Field procedures included documentation of sample times, dates, and locations; other sample-specific information such as sample depth was also recorded. Information from field forms generated during sample collection activities was imported into the project database.

The analytical data were reported in a format that provides adequate information for evaluation, including appropriate QC measures and acceptance criteria. Each laboratory report describes the analytical method used, provides results on a sample-by-sample basis along with sample-specific SQLs, and provides the results of appropriate QC samples such as laboratory control spike samples, sample surrogates and internal standards, and matrix spike samples. All laboratory reports, except for asbestos, were prepared as provided by the documentation required by USEPA's Contract Laboratory Program (USEPA 2003a, 2004b,c), which includes chain-of-custody records, calibration data, QC results for blanks, duplicates, and spike samples from the field and laboratory, and all supporting raw data generated during sample analysis. Reported analytical results were imported into the project database.

Measurement of asbestos was conducted consistent with the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils* (2009b). The recommended method for providing asbestos data that are useful for risk assessment purposes was performed by EMSL Analytical, Inc., in Westmont, New Jersey. Although this laboratory is not currently certified in Nevada, it does have State of California and U.S. accreditation for asbestos analysis. Because many of the QC procedures associated with other analyses do not apply to asbestos analysis (e.g., laboratory blanks, duplicates and spikes), data validation of the asbestos laboratory reports involved a somewhat lesser level of effort than for other analyses (consistent with the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils*).

4.3 CRITERION III – DATA SOURCES

The review of data sources is performed to determine whether the analytical techniques used in the site characterization process (i.e., SAP sampling) are appropriate for risk assessment purposes. The data collection activities specified in the SAP were developed to characterize a broad spectrum of chemicals potentially present on the Site, including asbestos, aldehydes, general chemistry and ions, VOCs, SVOCs, metals, dioxins/furans, PAHs, organochlorine pesticides, radionuclides, and PCBs (SRCs and analyses performed under SAP implementation are listed in Table 3-2, and Table 3-~~10~~15 for surface flux samples).[32] Because of the soil removals that have occurred on the Site, data collected prior to SAP implementation had significant gaps and inconsistencies in analytical methodology, and as discussed in Section 2, those historical data are not evaluated further in the data usability process, or the HHRA. Only post-remediation data collected under the SAP (and subsequent RAWPs) are being used in the HHRA, and these were subjected to the formal data usability evaluation described in this section. Figure 11 demonstrates that samples collected in accordance with the SAP are situated across the entire Site; analyses associated with these samples are summarized in Tables 3-2 (soil) and 3-~~10~~15 (surface flux).

The State of Nevada is in the process of certifying the laboratories used to generate the analytical data. As such, standards of practice in these laboratories follow the quality program prescribed by the Nevada Revised Statutes and are within the guidelines of the analytical methodologies established by the USEPA. Based on the review of the available information, the data sources for chemical and physical parameter measurements are adequate for use in a risk assessment.

---

[32] Although radon samples were collected and analyzed for the Site, radon has been evaluated through a separate process and is not considered further in the data usability process (see Section 3.6).

4.4 CRITERION IV – ANALYTICAL METHODS AND DETECTION LIMITS

In addition to the appropriateness of the analytical techniques evaluated as part of Criterion III, it is necessary to evaluate if the detection limits are low enough to allow adequate characterization of risks. At a minimum, this data usability criterion can be met through the determination that routine USEPA and U.S. Department of Energy (DOE) reference analytical methods were used in analyzing samples collected from the Site. The USEPA and DOE methods that were used in conducting the laboratory analysis of soil and surface flux samples are identified in the dataset file included on the report CD in Appendix B. Each of the identified methods is considered the most appropriate method for the respective constituent class and each was approved by the NDEP as part of the SAP, CSP, and RAWPs (BRC 2008, 2009a,b). As recommended by the NDEP's guidance on *Detection Limits and Data Reporting* (NDEP 2008b) the laboratory reported SQL was used in evaluating detection limits.

Laboratory practical quantitation limits (PQLs) were based on those outlined in the reference method, the SAP (BRC 2008), and the project QAPP. In accordance with respective laboratory SOPs, the analytical processes included performing instrument calibration, laboratory method blanks, and other verification standards used to ensure QC during the analyses of collected samples.

The range of SQLs achieved in field samples was compared to NDEP BCLs (NDEP ~~2011a~~2012a). There are no BCLs comparable to surface flux data. As seen in the summary of the Site dataset provided in Table 3-4 (soil), of the standard analytes, only six constituents had SQLs that exceeded their respective residential soil BCLs. Twenty-one SPLP constituents exceeded their respective residential water BCLs. The SQLs exceedances of NDEP BCLs are discussed below.

- The radium-226, radium-228, and thorium-228 minimum detectable activity (MDA) in all sample analyses were higher than the BCL; the uranium-235/236 MDA in most sample analyses were higher than the BCL. However, all radionuclides were statistically similar to background.
- Organics with SQLs higher than the BCL were n-nitrosodi-n-propylamine in 75 of 129 samples, and dichloromethyl ether in all 129 samples analyzed. Neither of these compounds was detected in any samples. The n-nitrosodi-n-propylamine SQL was only slightly higher than the BCL. The dichloromethyl ether SQL is greater than 200 times the BCL and a

reduction in the SQL is not likely to be achieved by the laboratory. Therefore, the analytical SQLs are considered adequate for risk assessment purposes.

- The following analytes have SPLP SQLs higher than their residential water BCL (see Table B-12): 1,2-diphenylhydrazine, 2,2'-dichlorobenzil, 2,4,6-trichlorophenol, 2,4-dinitrotoluene, 3,3-dichlorobenzidine, aldrin, aniline, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-chloroethyl)ether, bis(2-chloroisopropyl)ether, bis(2-ethylhexyl)phthalate, dibenzo(a,h)anthracene, formaldehyde, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, indeno(1,2,3-cd)pyrene, nitrobenzene, and pentachlorophenol. Of these, only benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, formaldehyde, hexachlorobenzene, and bis(2-ethylhexyl)phthalate were detected in soils. Because the non-detect SPLP data were also not detected in soils, they are not anticipated to be of concern with respect to potential impacts to groundwater. Of those detected in soils, the soil concentrations were all below the $LBCL_{DAF1}$.

As discussed in the *2008 Supplemental Shallow Soil Background Report* (BRC and ERM 2009b), there are differences in SQLs among datasets that may affect data comparability for datasets comprised primarily of non-detect values. For these datasets, left-censored data can result in difficulties in differentiating whether datasets are actually different or merely an artifact of detection limits.

4.5 CRITERION V – DATA REVIEW

The data review portion of the data usability process focuses primarily on the quality of the analytical data received from the laboratory. Soil and surface flux sample data were subject to data validation. DVSRs were prepared as separate deliverables (BRC and ERM 2010a,b,c; 2011; Appendix F). The analytical data were validated according to the internal procedures using the principles of USEPA National Functional Guidelines (USEPA 1999, 2004d, 2005a, 2008) and were designed to ensure completeness and adequacy of the dataset. Additionally, the DVSRs were issued utilizing the NDEP's two *Supplemental Guidance on Data Validation* documents (NDEP 2009c,d). Any analytical errors and/or limitations in the data have been addressed and an explanation for data qualification provided in the respective data tables. The results of ERM's data review for these issues are presented in the DVSRs and are summarized below.

One-hundred and nine (109) data points were rejected~~.~~ (these are identified in a separate workbook in the dataset file included on the report CD in Appendix B). These include the following:

- One cyanide result (SRC1-AJ28-0) due to very low matrix spike recovery.
- Four benzyl alcohol results (SRC2-J20-0, SRC2-J21-0, SRC2-J22-0, SRC2-J28-0) were rejected due to very low LCS recoveries. Sample SRC2-J23-0 was also rejected due to very low matrix spike/matrix spike duplicate (MS/MSD) recoveries.
- One vinyl acetate result (SRC1-AJ28-0) was rejected due to very low MS/MSD recoveries.
- Twenty-one VOC analytes were rejected in sample SRC1-AJ28-0, and all VOC analytes in sample SRC1-J10-0, due to very low internal standard recoveries.

Data qualifications are discussed in the subsections that follow.

4.5.1 Holding Time Exceedances / Sample Condition Qualifications

Holding time refers to the period of time between sample collection and the preparation and/or analysis of the sample. The accuracy of analytical results may depend upon analysis within specified holding times and sample temperature. In general, a longer holding time is assumed to result in a less accurate measurement due to the potential for loss or degradation of the analyte over time. Sample temperature is of greatest concern for VOCs that may volatilize from the sample at higher temperatures. As described in the DVSRs (BRC and ERM 2010a,b,c; 2011) sample results were reviewed for compliance with the method-prescribed preparation and analysis holding times.

USEPA guidance for validation allows professional judgment to be used in evaluating qualification due to holding time exceedances. Sample results that were generated after the required holding time, but less than two times after the holding time, were qualified as estimated (J or UJ flagged). If the samples were prepared after two times the holding time was exceeded, non-detect results were qualified as rejected (R). Qualifications to five samples were made on the basis of exceeded holding times (see Table 2-2 of DVSRs 53 and 72b [BRC and ERM 2010a, 2011]; Appendix F), as follows:

- Hexavalent chromium results for 27 soil samples were qualified due to holding time exceedances. All samples were 1 day beyond the method-prescribed 4-day period. The results were qualified as estimated with a potential low bias (J-/UJ). The samples qualified are listed in Table 4-1.

TABLE 4-1: HEXAVALENT CHROMIUM SAMPLES QUALIFIED DUE TO HOLDING TIME EXCEEDANCES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AH17-11	F8K150163010	SRC4-J03SE2	F0C180550014
SRC1-AH17-0	F8K150163009	SRC4-J02NE2	F0C180550013
SRC1-AJ19-11	F8K150163008	SRC4-J02SE2	F0C180550012
SRC1-AJ19-0	F8K150163007	SRC4-J02C2	F0C180550011
SRC1-J11-10	F8K150163004	SRC4-J02NW2-DUP	F0C180550010
SRC1-J11-0	F8K150163003	SRC4-J02NW2	F0C180550009
SRC1-J12-12	F8K140154019	SRC4-J02SW2	F0C180550008
SRC1-J12-0	F8K140154018	SRC4-J21NE2	F0C180550007
SRC1-AJ27-10	F8K140154017	SRC4-J21SE2	F0C180550006
SRC1-AJ27-0	F8K140154016	SRC4-J21SW2	F0C180550003
SRC1-AJ26-11	F8K140154015	SRC4-J21NW2	F0C180550002
SRC1-AJ26-0	F8K140154014	SRC4-J21CW2	F0C180550001
SRC4-J03SW2	F0C180550017	SRC4-J03NE2	F0C180550015
SRC4-J03C2	F0C180550016		

- Acetaldehyde and formaldehyde results for 12 soil samples were qualified due to holding time exceedances. All samples were 1 day beyond the method-prescribed 3-day period. The results were qualified as estimated with a potential low bias (J-/UJ). The samples qualified are listed in Table 4-2.

TABLE 4-2: ACETALDEHYDE AND FOMALDEHYDE SAMPLES QUALIFIED DUE TO HOLDING TIME EXCEEDANCES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-J12-12	NRK1378-19	SRC1-J10-11	NRK1378-13
SRC1-J12-0	NRK1378-18	SRC1-AJ28-12	NRK1378-12
SRC1-AJ27-10	NRK1378-17	SRC1-J14-12	NRK1378-09
SRC1-AJ27-0	NRK1378-16	SRC1-J14-0	NRK1378-08
SRC1-AJ26-11	NRK1378-15	SRC1-J10-0-FD	NRK1378-07
SRC1-AJ26-0	NRK1378-14	SRC1-J28-0-FD	NRK1378-11

- VOC results associated with several soil samples were associated with analyses performed 4 to 8 days outside the method-prescribed holding time. The results were qualified as estimated with a potential low bias ("J-") for detections or "UJ" for non-detections. The results and samples are listed in Table 4-3.

TABLE 4-3: VOLATILE ORGANIC COMPOUNDS SAMPLES QUALIFIED DUE TO HOLDING TIME EXCEEDANCES

Sample ID	Lab ID	Analyte	No. of Days Holding Time Exceeded
SRC2-J20-0 SRC2-J21-0 SRC2-J22-0 SRC2-J23-0 SRC2-J24-0 SRC2-J25-0 SRC2-J26-0 SRC2-J27-0 SRC2-J28-0 SRC2-J29-0 SRC2-J30-0 SRC2-J31-0 SRC2-J32-0 SRC2-J29-0	F9I150136002 F9I150136003 F9I150136004 F9I150136005 F9I150136006 F9I150136007 F9I150136008 F9I150136009 F9I150136010 F9I150136011 F9I150136012 F9I150136013 F9I150136014 F9I150136011	Acetone Methyl ethyl ketone MTBE	4
SRC2-J33-0 SRC2-J33-0-DUP SRC2-J34-0	F9I180183001 F9I180183002 F9I180183003	1,1-Dichloroethane 1,2-Dichloroethene 1,2-Dichloropropane Bromodichloromethane Dichloromethane Freon-113 Trans-1,2-Dichloroethene Vinyl Acetate	8

- SVOC results for one soil sample (SRC1-J11-0) were qualified due to holding time exceedances. The sample was extracted 4 days beyond the method-prescribed 14-day period. The results were qualified as estimated with a potential low bias (J-/UJ).

- Filtering post-SPLP extraction were not performed immediately for one soil sample (SRC1-AJ19-11) associated with analytes, chloride, fluoride, nitrite, orthophosphate, ammonia (as N), total Kjeldahl nitrogen, total organic carbon, metals, and organochlorine pesticides. The results were qualified as estimated with a potential low bias (J-/UJ).

As noted in the DVSRs (BRC and ERM 2010a,b,c; 2011), all samples were received at the laboratory within the required temperatures range of 4°± 2° Celsius. No sample results were qualified based on sample temperatures. Results for one radionuclide sample (SRC1-AJ19-11) were qualified as estimated (J/UJ) due to inadequate sample preservation.

4.5.2 Blank Contamination

Blanks are artificial samples designed to evaluate the nature and extent of contamination of environmental samples that may be introduced by field or laboratory procedures. Field and laboratory blanks, consisting of contaminant-free water, were prepared and analyzed as part of standard QA/QC procedures to monitor for potential contamination of field equipment, laboratory process reagents, and sample containers. As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), 982 results were qualified as undetected (U) or estimated (J+) due to laboratory or field blank contamination, as discussed below. Of these, the majority, 956 results were qualified as undetected (U). Detections of constituents qualified as non-detections due to comparable detections in laboratory or field blanks are known as "censored" data, and are presented in Tables 2-5 and 2-6 of DVSR 53, Tables 2-3 and 2-4 of DVSR 53a, Table 2-2 of DVSR 53c, and Tables 2-6 and 2-7 of DVSR 72b (Appendix F). In these cases, non-detections are represented in the database as "< [*the PQL*]" in the case of inorganics detected below the PQL, or as "<[*result value*]" for all others.[33]

These censored data are summarized in Appendix E, Table E-14 (included on the report CD in Appendix B) by compound class. As seen in that table, analytes were initially reported as detections in samples, but were later qualified as non-detections based on the presence of comparable concentrations of that analyte in blank samples. As seen in Appendix E, compounds most often censored for soil results included the following:

- Dichloromethane (80 samples)
- Cyanide (57 samples)
- Silver (60 samples)
- Cadmium (98 samples)
- Molybdenum (55 samples)
- 1,2,4-Trimethylbenzene (55 samples)
- Total organic carbon (55 samples)
- Formaldehyde (30 samples)
- Tungsten (34 samples)
- Tin (26 samples)

In addition, benzene (14 of 37 samples), 1,4-dichlorobenzene (23 of 37 samples), tetrachloroethene (17 of 37 samples), and trichloroethene (17 of 37 samples) were frequently censored for flux samples.

[33] Although NDEP has issued recent guidance regarding qualifying data due to blank contamination (NDEP ~~2011b~~2012b); BRC has addressed this issue in the *Technical Memorandum – BRC Comments on NDEP Blank Contamination Guidance* (BRC 2011) and, consistent with this Technical Memorandum, no changes were made to the Site dataset.

Table 4-4 presents the metals most likely to be affected by this issue.

TABLE 4-4: METALS MOST FREQUENTLY CENSORED DURING BLANK SAMPLE EVALUATION

Metal	Number of Detect	Number of Samples	Number of Censored Results	Max Non-Detect (mg/kg)	NDEP Residential BCL (mg/kg)
Cadmium	46	164	98	0.27	38.9
Silver	99	164	60	1.1	391
Tin	61	164	26	1.1	46900
Tungsten	20	164	33	2.8	587
Molybdenum	74	164	55	2.7	391

What this table demonstrates is that while the number of censored results is numerous compared to the number of detections, the censored values are still much lower than residential soil BCLs.

4.5.3 Sample/Duplicate Differences Outside Permissible Range or Greater than Permissible Values

During the data validation process, sample/duplicate results are evaluated to determine whether differences in those results suggest potential issues with data quality. Specifically, the analyst evaluates the following:

- MS/MSD relative percent difference (RPDs), to determine if the RPDs are outside acceptance limits;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPDs, to determine if the RPDs are outside acceptance limits;
- Sample/field duplicate results to determine if differences are greater than the permissible value; and
- Sample/laboratory duplicate results to determine if differences are greater than the permissible value.

4.5.3.1 Qualifications Due to MS/MSD Recoveries Outside Acceptance Criteria

As discussed in the DVSRs (BRC and ERM 2010a,b,c; 2011), 915 inorganic sample results and 1 organic sample result were qualified as estimated (either UJ for non-detections or J for detections; "+" or " – " added to denote potential high or low bias, respectively) based on MS/MSD recoveries; there were three rejections for data associated with MS/MSD recoveries. The qualifications applied on the basis of MS/MSD recoveries were as follows:

- Two cyanide results, SRC1-J13-0 and SRC2-J20-0, were qualified as estimated and one cyanide result, SRC1-AJ28-0, was rejected due to recoveries below the acceptance limits.
- One sulfide result SRC2-J20-0 was qualified due to a recovery below the acceptance limit.
- One perchlorate result, SRC1-AK21-0 was qualified due to a recovery greater than the acceptance criteria and eight perchlorate results were qualified due to a recovery below the acceptance criteria. These samples include the following: SRC1-AL28-0, SRC1-AM28-0, SRC1-AM28-17, SRC1-AM28-7, SRC1-AM28-7-FD, SRC1-J13-0, SRC1-J13-13, and SRC1-J13-3.
- The Total Kjeldahl Nitrogen results for the 17 soil samples identified in Table 4-5 were qualified as estimated due to recoveries greater than the acceptance criteria and three were qualified as estimated due to recoveries below the acceptance criteria.

TABLE 4-5: TOTAL KJELDAHL NITROGEN SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AJ21-0	F8K070216011	SRC1-AJ21-12	F8K070216012
SRC1-AK21-0	F8K070216007	SRC1-AK21-0-FD	F8K070216008
SRC1-AK21-18	F8K070216010	SRC1-AK21-8	F8K070216009
SRC1-AK23-0	F8K070216001	SRC1-AK23-14	F8K070216003
SRC1-AK23-4	F8K070216002	SRC1-AK24-0	F8K070216016
SRC1-AK24-10	F8K070216017	SRC1-AL24-0	F8K070216004
SRC1-AL24-18	F8K070216006	SRC1-AL24-8	F8K070216005
SRC2-J20-0	F9I150136002	SRC2-J21-0	F9I150136003
SRC2-J22-0	F9I150136004	SRC2-J33-0	F9I180183001
SRC2-J33-0-DUP	F9I180183002	SRC2-J34-0	F9I180183003

- The radium-226 results for the 17 soil samples identified in Table 4-6 were qualified as estimated due to a recoveries lower than the acceptance criteria.

TABLE 4-6: RADIUM-226 SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AJ25-0	219546003	SRC1-AJ25-13	219546005
SRC1-AJ25-3	219546004	SRC1-AJ26-0	219546009
SRC1-AJ26-11	219546010	SRC1-AJ27-0	219546011
SRC1-AJ27-10	219546012	SRC1-AJ28-0	219546017
SRC1-AJ28-0-FD	219546018	SRC1-AJ28-12	219546019
SRC1-J10-0	219546006	SRC1-J10-0-FD	219546007

TABLE 4-6: RADIUM-226 SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

SRC1-J10-11	219546008	SRC1-J12-0	219546013
SRC1-J12-12	219546014	SRC1-J14-0	219546015
SRC1-J14-12	219546016		

- Five radium-228 results, SRC1-AH17-0, SRC1-AH17-11, SRC1-AJ19-0, SRC1-J11-0, and SRC1-J11-10, were qualified as estimated due to a recovery below the acceptance criteria.

- The total organic carbon results for the 13 soil samples identified in Table 4-7 were qualified as estimated due to a recovery above the acceptance criteria.

TABLE 4-7: TOTAL ORGANIC CARBON SAMPLES QUALIFIED DUE TO MS/MSD RECOVERIES

Sample ID	Lab ID	Sample ID	Lab ID
SRC1-AG16-0	F8K010144001	SRC1-AG16-11	F8K010144002
SRC1-AG17-0	F8K010144003	SRC1-AG17-11	F8K010144004
SRC1-AG18-0	F8K010144005	SRC1-AG18-11	F8K010144006
SRC1-AH18-0	F8K010144007	SRC1-AH18-11	F8K010144008
SRC1-AH19-0	F8K010144009	SRC1-AH19-0-FD	F8K010144010
SRC1-AH19-10	F8K010144011	SRC1-AI20-0	F8K010144012
SRC1-AI20-10	F8K010144013		

- During data usability process, barium qualifiers for seventeen samples from DVSR 72b were revised from rejected “R”, to estimated “J-“. Typically, only non-detections are rejected due to very low MS/MSD recoveries. The seventeen samples were detected and therefore, should be qualified as estimated. The seventeen samples are SRC4-J02C2, SRC4-J02NE2, SRC4-J02NW2, SRC4-J02NW2-DUP, SRC4-J02SE2, SRC4-J02SW2, SRC4-J03C2, SRC4-J03NE2, SRC4-J03SE2, SRC4-J03SW2, SRC4-J21CE2, SRC4-J21CE2-DUP, SRC4-J21CW2, SRC4-J21NE2, SRC4-J21NW2, SRC4-J21SE2, and SRC4-J21SW2.

- Metals results for soil samples in various laboratory data packages were qualified due to recoveries outside the acceptance criteria, as summarized in Table 4-8.

TABLE 4-8: METALS SAMPLES QUALIFIED DUE TO RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package	Antimony	Arsenic	Barium	Chromium	Cadmium	Cobalt	Copper	Lead	Magnesium	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
F0C180550	-		-		+	+	+				+		+	+	+			+			+		

TABLE 4-8: METALS SAMPLES QUALIFIED DUE TO RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package	Antimony	Arsenic	Barium	Chromium	Cadmium	Cobalt	Copper	Lead	Magnesium	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
F0I240488	-												+							-			
F8K010144	-														+		+						-
F8K040227	-						-		-														
F8K060286	-		+												+					-		-	
F8K070216	-						-		-							-				-			-
F8K080135	-		+	-					-	+										-		-	-
F8K110239	-														+					-			-
F8K130268	-		-	+					+						+					-			
F8K140154	-			+					+						+					-			
F9I150136	-		+														-			-			
F9I180183	-		-														-			-			
F9L090511		+	+		+		+	+			+			+	+	+	-	+					+
F9L080476		+			+					-	+				+			+					+
F0F220529		+		+	+	+	+	+				+	+	+		+	+		+		+	+	+
F0I240488				+																			

\+ = Recovery greater than the acceptance limits
\- = Recovery less than the acceptance limits
Blank entry signifies that the recovery was within the acceptance limits

- One Freon-11 result, SRC1-AH15-10, was qualified as estimated due to a recovery below the acceptance limit.

- One vinyl acetate result, SRC1-AJ28-0, was qualified as rejected due to a zero recovery.

- One benzyl alcohol result, SRC2-J23-0, was qualified as rejected due to a zero recovery.

Appendix E, Table E-11 (included on the report CD in Appendix B) lists the samples and associated analytes exhibiting MS/MSD percent recoveries below the laboratory control limits. In cases in which the recoveries were higher than the acceptance criteria, the results have the potential of being similarly biased high, and using these data in the HHRA could result in risks being calculated that are higher than would be associated with actual Site conditions. Of more concern for the HHRA is underestimation of risk, which could be associated with the use of data that are biased low.

As indicated in that table, reported detections and non-detects for soil data were flagged as estimated ("J-" or "UJ," respectively) due to low MS/MSD recoveries (*i.e.*, from 30 to 74 percent for metals).[34] Non-detects associated with "very low" MS/MSD recoveries (i.e., less than 30 percent for metals), are generally rejected as unusable. Because only three of the MS/MSD recoveries were that low and associated with non-detect results, only three sample results were rejected on this basis.

The data flagged as estimated based on low MS/MSD recoveries were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.3.2 Qualifications Due to LCS/LCSD Recoveries Outside Acceptance Criteria

Organic and inorganic constituent results for 74 soil samples were qualified as estimated (either UJ for non-detections or J for detections; "+" or " – " added to denote potential high or low bias, respectively) based on LCS/LCSD recoveries. Five benzyl alcohol soil results were rejected due to a very low LCS recovery. The qualifications applied on the basis of LCS/LCSD recoveries to soil samples are presented in Table 4-9.

TABLE 4-9: RESULTS QUALIFIED DUE TO LCS/LCSD RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package	Arsenic	Cadmium	Molybdenum	Acetone	Freon-11	Vinyl acetate	Benzyl alcohol
F8K060286	+	+			-		
F0C180550			+				
F8K070216			+		-		
F8K140154				+		-	
F8K040227					-		
237201							**R**

\+ = Recovery greater than the acceptance limits
\- = Recovery less than the acceptance limits

R = Rejected results
Blank entry signifies that the recovery was within the acceptance limits

[34] If additional validation criteria (aside from the MS/MSD recoveries) did not suggest a low bias for a given result, the sample result was flagged with "J" (no bias inferred).

In addition, one benzyl alcohol SPLP result, SRC1-AJ19-11, was qualified as estimated due to a recovery below the acceptance limit.

Surface flux results were qualified as estimated for the results presented in Table 4-10.

TABLE 4-10: SURFACE FLUX SAMPLES QUALIFIED DUE TO LCS/LCSD RECOVERIES OUTSIDE ACCEPTANCE CRITERIA

Sample	Analyte	Bias
SRC1-AG-16 SRC1-AH16 SRC1-AH-18 SRC1-AJ20 SRC1-AJ23 SRC1-AK20 SRC1-AK23	Benzene	+
SRC1-AG-17 SRC1-AH15 SRC1-AH-19 SRC1-AI-17 SRC1-AI20 SRC1-AL28 SRC1-J01 SRC1-J10	Benzene Dichloromethane	+ +
SRC1-AG-18	1,2-Dichloropropane Benzene	+ +
SRC1-AH-17	1,2-Dichloropropane Benzene Dichloromethane	+ + +
SRC1-AJ21 SRC1-AJ22 SRC1-AK24	1,1-Dichloroethane 1,1-Dichloroethene	- -
SRC1-AJ24	1,2-Dichloropropane Benzene Dichloromethane 1,2-Dibromoethane	+ + + +
SRC1-AJ27 SRC1-AJ28 SRC1-J02 SRC1-J12 SRC1-J14	1,1-Dichloroethane 1,1-Dichloroethene Benzene Dichloromethane	- - + +

\+ = Recovery greater than the acceptance limits
\- = Recovery less than the acceptance limits

As noted above, recoveries below the lower laboratory limits are of the most concern in terms of data usability. Appendix E, Table E-11 (included on the report CD in Appendix B) lists the samples and associated analytes exhibiting LCS/LCSD percent recoveries below the lower laboratory control limit. As discussed, five results for benzyl alcohol were rejected as unusable based on very low LCS/LCSD recovery. The data flagged as estimated based on low LCS/LCSD recoveries were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.3.3 Qualifications Due to Sample/Field Duplicate Differences Outside Acceptance Criteria

The following 24 soil field duplicates were collected during the sampling activities:

- SRC1-AJ28-0-FD
- SRC1-AK21-0-FD
- SRC4-J02NW2-DUP
- SRC4-J21CE2-DUP
- SRC1-AM28-7-FD
- SRC1-J01-0-FD
- SRC2-AJ28-0-FD
- SRC1-J09-0-FD
- SRC2-J18S-WALL-FD
- SRC3-J03-SE-0 DUP
- SRC4-J23SE2-DUP
- SRC5-J21CE2-0-DUP
- SRC1-AH15-0-FD
- SRC1-AH19-0-FD
- SRC1-AK20-9-FD
- SRC1-AK26-0-FD
- SRC1-J10-0-FD
- SRC1-J15-0-FD
- SRC2-AI19W-FD
- SRC2-J33-0-DUP
- SRC3-J02NW-0-DUP
- SRC3-J11SE-0 DUP
- SRC5-J11N2-0-DUP
- SRC6-J11N3-0-DUP

In addition, the following surface flux field duplicate was also collected during the sampling activities: SRC1-AN28R.

Field duplicate differences in excess of acceptance limits were noted in 18 field duplicate pairs of soil samples. The differences are presented in Appendix E, Table E-12 (included on the report CD in Appendix B). All associated data were flagged as estimated (J/UJ). No data were rejected on the basis of sample/field duplicate differences.

4.5.3.4 Qualifications Due to Sample/Laboratory Duplicate Differences Outside Acceptance Criteria

Of the samples representing post-remediation conditions (i.e., not including those data points associated with samples from soil intervals subsequently removed from the Site), results for the 47 soil samples identified in Table 4-11 had sample/laboratory duplicate differences greater than permissible values.

TABLE 4-11: RESULTS QUALIFIED DUE TO SAMPLE/LABORATORY DUPLICATE DIFFERENCES OUTSIDE ACCEPTANCE CRITERIA

Field Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD or Difference
SRC5-J21CE2-0	F0F220529001	Cation Exchange Capacity	14.6	meq/100g	RPD=26
SRC5-J21CE2-0-DUP	F0F220529002	Cation Exchange Capacity	7.2	meq/100g	RPD=26
SRC1-AH17-0	219578003	Radium-228	1.74	pCi/g	Diff = 1.45
SRC1-AH17-11	219578004	Radium-228	<0.313	pCi/g	Diff = 1.45
SRC1-AJ19-0	219578001	Radium-228	2.68	pCi/g	Diff = 1.45
SRC1-AK27-0	219349019	Radium-228	1.78	pCi/g	Diff = 1.28
SRC1-AK27-13	219349021	Radium-228	1.14	pCi/g	Diff = 1.28
SRC1-AK27-3	219349020	Radium-228	<0.738	pCi/g	Diff = 1.28
SRC1-AL28-14	219349013	Radium-228	1.89	pCi/g	Diff = 1.28
SRC1-AL28-4	219349012	Radium-228	1.81	pCi/g	Diff = 1.28
SRC1-AN28-0	219349014	Radium-228	3.18	pCi/g	Diff = 1.28
SRC1-AN28-11	219349015	Radium-228	2.59	pCi/g	Diff = 1.28
SRC1-J11-0	219578007	Radium-228	1.9	pCi/g	Diff = 1.45
SRC1-J11-10	219578008	Radium-228	1.04	pCi/g	Diff = 1.45
SRC1-J15-0	219349016	Radium-228	2.48	pCi/g	Diff = 1.28
SRC1-J15-0-FD	219349017	Radium-228	2.2	pCi/g	Diff = 1.28
SRC1-J15-12	219349018	Radium-228	1.18	pCi/g	Diff = 1.28
SRC1-AJ19-11	219578002	Thorium-230	<0.512	pCi/L	Diff = 1.215
SRC1-AG16-0	218570001	Thorium-232	1.08	pCi/g	Diff = 1.14
SRC1-AG16-11	218570002	Thorium-232	2.09	pCi/g	Diff = 1.14
SRC1-AG17-0	218570003	Thorium-232	1.36	pCi/g	Diff = 1.14
SRC1-AG17-11	218570004	Thorium-232	1.45	pCi/g	Diff = 1.14
SRC1-AG18-0	218570005	Thorium-232	1.69	pCi/g	Diff = 1.14
SRC1-AG18-11	218570006	Thorium-232	1.31	pCi/g	Diff = 1.14
SRC1-AH18-0	218570007	Thorium-232	0.525	pCi/g	Diff = 1.14
SRC1-AH18-11	218570008	Thorium-232	0.928	pCi/g	Diff = 1.14
SRC1-AH19-0	218570009	Thorium-232	1.78	pCi/g	Diff = 1.14
SRC1-AH19-0-FD	218570010	Thorium-232	0.994	pCi/g	Diff = 1.14
SRC1-AH19-10	218570011	Thorium-232	2.49	pCi/g	Diff = 1.14
SRC1-AI20-0	218570012	Thorium-232	1.26	pCi/g	Diff = 1.14
SRC1-AI20-10	218570013	Thorium-232	1.23	pCi/g	Diff = 1.14
SRC1-AK27-0	219349019	Uranium-233/234	0.734	pCi/g	Diff = 1.06
SRC1-AK27-3	219349020	Uranium-233/234	2.4	pCi/g	Diff = 1.06
SRC1-AL28-0	219349011	Uranium-233/234	1.2	pCi/g	Diff = 1.06

TABLE 4-11: RESULTS QUALIFIED DUE TO SAMPLE/LABORATORY DUPLICATE DIFFERENCES OUTSIDE ACCEPTANCE CRITERIA

Field Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD or Difference
SRC1-AL28-14	219349013	Uranium-233/234	0.984	pCi/g	Diff = 1.06
SRC1-AL28-4	219349012	Uranium-233/234	2.4	pCi/g	Diff = 1.06
SRC1-AM28-0	219349004	Uranium-233/234	1.1	pCi/g	Diff = 1.06
SRC1-AM28-17	219349007	Uranium-233/234	1.08	pCi/g	Diff = 1.06
SRC1-AM28-7	219349005	Uranium-233/234	1.19	pCi/g	Diff = 1.06
SRC1-AM28-7-FD	219349006	Uranium-233/234	1.22	pCi/g	Diff = 1.06
SRC1-AN28-0	219349014	Uranium-233/234	0.457	pCi/g	Diff = 1.06
SRC1-AN28-11	219349015	Uranium-233/234	1.31	pCi/g	Diff = 1.06
SRC1-J13-0	219349008	Uranium-233/234	1.21	pCi/g	Diff = 1.06
SRC1-J13-3	219349009	Uranium-233/234	1.31	pCi/g	Diff = 1.06
SRC1-J15-0	219349016	Uranium-233/234	1.54	pCi/g	Diff = 1.06
SRC1-J15-0-FD	219349017	Uranium-233/234	0.876	pCi/g	Diff = 1.06
SRC1-J15-12	219349018	Uranium-233/234	3.36	pCi/g	Diff = 1.06

The above data flagged as estimated based on sample/laboratory duplicate differences were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.4 Internal Standards Outside Acceptance Criteria

Internal standards are prepared for certain organic gas chromatograph/mass spectrometry (GC/MS) and inductively coupled plasma/mass spectrometry analyses by adding compounds similar to target compounds of interest to sample aliquots. Internal standards are used in the quantitation of target compounds in the sample or sample extract. The evaluation of internal standards involved comparing the instrument response and retention time from the target compounds in the sample with the response and retention time of specific internal standards added to the sample extract prior to analysis.

As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), select VOC sample results from three samples were rejected based on internal standards. The following results were rejected:

- VOC results for 21 analytes for sample SRC1-AJ28-0 and all VOCs for samples SRC1-J10-0 and SRC1-J10-0-FD.

The following results were qualified as estimated due to internal standard exceedances:

- Metal results for eight soil samples (SRC1-AJ21-0, SRC1-AK23-4, SRC1-AK24-0, SRC1-AL24-18, SRC3-J02SE-0, SRC3-J03NE-0, SRC3-J03NW-0, and SRC3-J03SW-0).

- PCB results for five soil samples (SRC1-AH19-0, SRC1-AK23-0, SRC1-AM27-0, SRC1-J07-0, and SRC1-J12-0).

- VOC results for 21 flux samples (SRC1-AK26, SRC1-AL28, SRC1-AM27, SRC1-AN26, SRC1-AN27, SRC1-AN28, SRC1-AN28R, SRC1-J07, SRC1-J08, SRC1-J10, SRC1-J11, SRC1-J15, KT-002, KT-005, KT-007, SRC1-AG-18, SRC1-AL26, SRC1-AM27, SRC1-J04, SRC1-J10, and SRC1-J11).

- VOC results for 49 soil samples, as presented in Table 4-12.

TABLE 4-12: VOLATILE ORGANIC COMPOUND SOIL SAMPLE RESULTS QUALIFIED DUE TO INTERNAL STANDARDS OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package #	Sample ID	
F8K010144	SRC1-AG-17-0	
F8K040227	SRC1-AI17-3	SRC1-AJ18-0
	SRC1-J01-0	SRC1-AH16-0
	SRC1-J01-0-FD	
F8K060286	SRC1-AJ20-0	SRC1-AJ22-0
	SRC1-AJ22-10	SRC1-J03-0
F8K070216	SRC1-AJ21-12	SRC1-AK21-0-FD
	SRC1-AK21-8	SRC1-AK24-0
	SRC1-AK24-10	
F8K110239	SRC1-AJ24-0	SRC1-AJ24-10
	SRC1-AK25-0	SRC1-AK25-11
	SRC1-AM27-0	SRC1-AM27-13
	SRC1-AM27-3	SRC1-J09-0
	SRC1-J09-0-FD	SRC1-J09-11
F8K140154	SRC1-AJ25-0	SRC1-AJ25-13
	SRC1-AJ25-3	SRC1-AJ26-0
	SRC1-AJ26-11	SRC1-AJ27-0
	SRC1-AJ27-10	SRC1-J14-12
	SRC1-AJ28-0-FD	SRC1-AJ28-12
	SRC1-J10-11	SRC1-J12-0
	SRC1-J12-12	SRC1-J14-0
F9I150136	SRC2-J21-0	SRC2-J23-0
	SRC2-J25-0	SRC2-J26-0

TABLE 4-12: VOLATILE ORGANIC COMPOUND SOIL SAMPLE RESULTS QUALIFIED DUE TO INTERNAL STANDARDS OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package #	Sample ID	
	SRC2-J27-0	SRC2-J28-0
	SRC2-J29-0	SRC2-J30-0
	SRC2-J31-0	SRC2-J32-0

- Dioxins/furans results for 34 soil samples, as presented in Table 4-13.

TABLE 4-13: DIOXIN/FURAN SOIL SAMPLE RESULTS QUALIFIED DUE TO INTERNAL STANDARDS OUTSIDE ACCEPTANCE CRITERIA

Laboratory Data Package #	Sample ID	
F9I120183	SRC2-JS13C	
F9I150136	SRC2-J19SWALL-0	SRC2-J20-0
	SRC2-J26-0	SRC2-J27-0
F9L080461	SRC3-J11C2-0	SRC3-J11SE-0 DUP
F9L090504	SRC3-J02C2-0	SRC3-J02NW-0
	SRC3-J02NW-0 DUP	
F0C180556	SRC4-J02C2	SRC4-J02NE2
	SRC4-J02NW2-DUP	SRC4-J02SE2
	SRC4-J03NE2	SRC4-J03SE2
	SRC4-J11CN2	SRC4-J11CS2
	SRC4-J11E2	SRC4-J11S2
	SRC4-J23NW2	SRC4-J23SE2-DUP
F0I240465	SRC6-J11N3-0	
F8K010144	SRC1-AH19-0	SRC1-AH19-0-FD
	SRC1-AI20-0	
F8K060286	SRC1-AJ20-0	SRC1-J02-0
F8K110239	SRC1-AJ24-0	
F8K070216	SRC1-AK21-0	
F8K130268	SRC1-AL28-0	SRC1-AM28-0
	SRC1-J15-0	
F8K040227	SRC1-J01-0-FD	

4.5.5 Surrogate Percent Recoveries Outside Laboratory Control Limit

As discussed in the DVSRs (BRC and ERM 2010a,b,c; 2011), surrogate spikes were added to each of the samples submitted for organic analysis to monitor potential interferences from the matrix. Results associated with unacceptable surrogate recoveries were qualified as estimated (J+, J- or UJ). Generally, when surrogate recoveries are less than 10 percent, associated non-detect results are qualified as rejected (R) because false negatives are a possibility. No sample results were rejected due to surrogate recoveries. The soil samples listed in Table 4-14 were qualified due to surrogate recovery exceedances.

TABLE 4-14: RESULTS QUALIFIED DUE TO SURROGATE RECOVERIES OUTSIDE LABORATORY CONTROL LIMIT

Sample ID	Lab ID	Analysis	Recovery	Acceptable Range
SRC1-AI17-3	F8K040227006	Organochorine Pesticides	1090%	61-137
SRC1-AK20-0	F8K060286006	Organochorine Pesticides	147%	61-137
SRC1-AM27-0	F8K110239010	Organochorine Pesticides	177%	61-137
SRC1-J13-0	F8K130268001	Organochorine Pesticides	147%	61-137
SRC1-AH16-0	F8K040227015	VOCs	126% 151%	81-124 80-125
SRC1-AJ23-0	F8K080135001	VOCs	79% 78%	81-124 80-125
SRC1-AJ28-0	F8K140154010	VOCs	158%	47-150
SRC1-AJ28-12	F8K140154012	VOCs	127%	80-125
SRC1-AK25-11	F8K110239004	VOCs	125%	81-124
SRC1-J10-0-FD	F8K140154007	VOCs	169% 217%	80-125 81-124
SRC2-J20-0	F9I150136002	VOCs	71%	80-126
SRC2-J21-0	F9I150136003	VOCs	134% 143%	82-121 80-131
SRC1-AL28-0	219349011	SVOCs	36% 31%	40-104 39-110
SRC1-J03-0	219067004	PAHs	49%	50-150

In addition, ~~twp~~two flux samples (SRC1-AK26 and SRC1-J07) were qualified due to surrogate recovery exceedances, all higher than the acceptable range.

Appendix E (included on the report CD in Appendix B) lists the samples and associated analytes exhibiting surrogate percent recoveries below the laboratory control limits. As seen in that appendix, with the exception of the two VOC samples, one SVOC sample and one PAH sample, the recoveries outside the acceptance criteria were higher than the upper laboratory control limit.

These samples were subjected to further review in terms of data usability for the Site, as discussed in Section 4.6.2.3.

4.5.6 Calibrations Outside Laboratory Control Limits

Requirements for instrument calibration ensure that the instrument is capable of producing acceptable quantitative data. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run. Continuing calibrations checks document satisfactory maintenance and adjustment of the instrument on a day-to-day basis. As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), certain data were qualified due to initial or continuing calibration issues. Of specific concern are analytes with a final qualifier indicating a low bias due to calibration. In the following tables the percentage of analyte recovered is based on the percent difference of the actual amount and recovered amount reported from the continuing calibration. As the percentage decreases, the potential for false negatives increases.

Table 4-15 summarizes the SVOC results that were qualified during the evaluation of the continuing calibrations.

TABLE 4-15: SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUND RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-Detect	Percentage of Analyte Recovered as Indicated by Outlier
1,4-Dioxane	87	100%	52-73%
3-Nitroaniline	34	100%	60-76%
4-Nitroaniline	36	100%	53-74%
4-Nitrophenol	14	100%	73%
Acetophenone	24	100%	68-70%
Benzenethiol	5	100%	73%
Benzidine	13	100%	72-74%
Benzoic Acid	1	100%	72%
Benzyl alcohol	12	100%	66-71%
Hydroxymethyl phthalimide	20	100%	48-73%
Phthalic Acid	38	100%	45-74%

Table 4-16 summarizes the organochlorine pesticide results that were qualified due to continuing calibrations.

TABLE 4-16: SUMMARY OF ORGANOCHLORINE PESTICIDE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
2,4-DDE	3	0%	120-122%
4,4-DDD	19	100%	82-84%
4,4'-DDT	20	90%	79-84%
Alpha-Chlordane	17	100%	84%
Endosulfan II	17	100%	83%
Endosulfan sulfate	19	100%	81-84%
Endrin aldehyde	19	100%	79-81%
Endrin ketone	19	100%	76-80%
Gamma-Chlordane	17	100%	82-83%
Methoxychlor	19	100%	78-84%
Toxaphene	3	100%	81-83%

Table 4-17 summarizes the VOC results that were qualified in soil samples due to continuing calibrations.

TABLE 4-17: SUMMARY OF VOLATILE ORGANIC COMPOUND SOIL RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
Acetone	1	0%	129%
2,2,3-Trimethylbutane	26	100%	51-64%
2,2-Dimethylpentane	1	100%	74%
3-Methylhexane	26	100%	53-59%
Freon 12	39	100%	73%
Vinyl acetate	1	100%	65%

In addition, low instrument response was noted for acetonitrile and ethanol as indicated by the relative response factor.

Table 4-18 summarizes the aldehydes results that were qualified due to continuing calibrations.

TABLE 4-18: SUMMARY OF ALDEHYDE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier

TABLE 4-18: SUMMARY OF ALDEHYDE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
Formaldehyde	26	0%	118-141%

Table 4-19 summarizes the dioxin/furans results that were qualified due to continuing calibrations.

TABLE 4-19: SUMMARY OF DIOXIN/FURANS RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
OCDD	1	100%	62%
OCDF	1	0%	62%

Table 4-20 summarizes the VOC (TO-15) results that were qualified in surface flux samples due to continuing calibrations.

TABLE 4-20: SUMMARY OF VOLATILE ORGANIC COMPOUND (TO-15) SURFACE FLUX SAMPLE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
1,2,4-Trimethylbenzene	23	78%	64%
1,3,5-Trimethylbenzene	2	100%	69%
2-Methyl-1-propanol	57	100%	37-62%
2-Hexanone	57	93%	38-51%
4-Methyl-2-pentanone	32	100%	43-59%
Acetonitrile	12	75%	58-67%
Chlorobromomethane	10	100%	65%
Cymene	2	50%	69%
Ethanol	44	45%	54-69%
Freon-11	3	0%	148%
Heptane	8	75%	58%
M,p-Xylene	16	100%	63%
n-Butylbenzene	57	100%	53-69%
n-Propylbenzene	9	100%	67%
o-Xylene	25	88%	69%
tert-Butylbenzene	57	100%	56-68%

TABLE 4-20: SUMMARY OF VOLATILE ORGANIC COMPOUND (TO-15) SURFACE FLUX SAMPLE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
Vinyl acetate	19	53%	49-61%

Table 4-21 summarizes the VOC (TO-15 SIM) results that were qualified in surface flux samples due to continuing calibrations.

TABLE 4-21: SUMMARY OF VOLATILE ORGANIC COMPOUND (TO-15 SIM) SURFACE FLUX SAMPLE RESULTS QUALIFIED DUE TO CALIBRATIONS OUTSIDE LABORATORY CONTROL LIMIT

Analyte	# of Samples Qualified	Percent of Qualified Non-detect	Percentage of Analyte Recovered as Indicated by Outlier
1,1,2,2-Tetrachloroethane	21	95%	132%
1,2,3-Trichloropropane	11	91%	68%
1,2,4-Trichlorobenzene	57	100%	29-43%
1,2-Dichlorobenzene	54	93%	44-60%
1,3-Dichlorobenzene	57	93%	46-68%
1,4-Dichlorobenzene	55	98%	45-67%
Benzene	5	40%	155%
Benzyl chloride	52	96%	59-69%
Dibromochloropropane	56	100%	38-51%
Hexachlorobutadiene	55	96%	24-57%
Naphthalene	57	74%	31-53%

4.5.7 Tentatively Identified Compounds

For the GC/MS methods, a list and estimated concentrations for tentatively identified compounds (TICs) was provided by the laboratory if detected. Most of the reported TICs were identified as "unknown" or "unknown aldol condensate." Others were as follows:

- (1S,2E,4S,5R,7E,11E)-Cembra-2,7,11-trien
- 1,2-Benzisothiazole, 3-(hexahydro-1H-aze
- 1,5-Anhydro-4-O-acetyl-2,3,6-tri-O-methy
- 1-Bromo-11-iodoundecane
- 1-Isopropenyl-4,5-dimethylbicyclo[4.3.0]
- 2-(4a,8-Dimethyl-6-oxo-1,2,3,4,4a,5,6,8a
- 2-[1-(4-Cyano-1,2,3,4-tetrahydronaphthyl
- 1,2,4,5-Tetrazin-3-amine
- 11,12-Dibromo-tetradecan-1-ol acetate
- 11,13-Dimethyl-12-tetradecen-1-ol acetate
- 1H-Indene, 5-butyl-6-hexyloctahydro-
- 2,4-DDE
- 3-dodecyl-2,5-Furandione
- 28-Nor-17.beta.(H)-hopane

- 2-Dodecen-1-yl(-)succinic anhydride
- 2,3,4-trimethyl-2-Pentene
- 4-[3-Ethoxypropylamino]benzo-1,2,3-triaz
- 5-(1-Isopropenyl-4,5-dimethylbicyclo[4.3
- 5-Methyl-2-thiophenecarboxaldehyde thios
- (z)-9-Octadecenamide
- (5.beta.)-Androstane
- 1,2-dichloro-4-isocyanato-Benzene
- Chloroform
- (1-octylnonyl)-Cyclohexane
- octadecamethyl-Cyclononasiloxane
- 1,2,3,3,4-pentamethyl-Cyclopentene
- 1,7,11-trimethyl-4-(1-Cyclotetradecane
- Dodecanamide
- E-8-Methyl-9-tetradecen-1-ol acetate
- Erucylamide
- Heptadecane
- oxybis[dichloro-Methane
- Nonadecanamide
- Octamethylcyclotetrasiloxane
- 2-methyl-, 3-methylbutyl Propanoic acid
- 1,8-dimethyl-8,9-Spiro[4.5]decan-7-one
- Tributyl phosphate
- 2-Pentanol
- (E)-3-Eicosene
- 4H-Imidazol-4-one, 2-amino-1,5-dihydro-
- 5-alpha-Androstane
- 6-Isopropenyl-4,8a-dimethyl-4a,5,6,7,8,8
- Androstane
- Benzene
- 1-chloro-2-isocyanato-Benzene
- (3.beta.,5.alpha.,6-Cholestane-3,6-diol
- dodecamethyl-Cyclohexasiloxane
- decamethyl Cyclopentasiloxane
- 1,2,3,4,5-pentamethyl-Cyclopentene
- (5.alpha.,13.alpha.)-D-Homoandrostane
- Dodecanoic acid
- Eicosane
- 2-(1,1-dimethylethyl)-4-methyl-Furan
- Hexadecanamide
- n-Hexadecane
- Octadecanamide
- 11-[(trimethylsilyl Pregnane-3,20-dione
- trichlorooctadecyl-Silane
- Tetradecanamide
- Triphenylphosphate

Only three of the detected TICs—2,4-DDE, benzene, and chloroform—have associated toxicity criteria. The others do not. Reported TICs such as siloxanes and amides are indicative of column breakdown and saturated fatty acids. With the exception of the 2,4-DDE, benzene, chloroform, 1,1-difluoroethane, and the androstanes, the above-named compounds are indicative of column breakdown and are not likely to be Site-related. 2,4-DDE, benzene, and chloroform were reported as TICs for the SVOC analysis, but are target compounds in other analyses. 1,1-Difluoroethane is an aerosol propellant with low toxicity. The androstanes are steroids, and it is unclear what the source could be; however, it is unlikely to result in adverse health effects to those exposed. With exception of those that are target compounds of other analyses, toxicity criteria have not been established for any of these TICs.

4.5.8 Data Review Summary

For 7,719 of the 40,604 analytical results in the final HHRA dataset, quality criteria were not met and various data qualifiers were added to indicate limitations and/or bias in the data. The definitions for the data qualifiers, or data validation flags, used during validation are those defined in SOP-40 (BRC, ERM and MWH 2009) and the project QAPP (BRC and ERM 2009a).

Sample results are rejected based on findings of significant deficiencies in the ability to properly collect or analyze the sample and meet QC criteria. Only rejected data are considered unusable for decision-making purposes, and rejected analytical results are not used in the HHRA.

As noted above, 109 sample results were rejected in the Site dataset and excluded from the HHRA for the reasons previously noted. Other data points were excluded from the risk assessment not due to data quality issues, but for one of the following reasons: (1) the sample was reanalyzed by the laboratory, or (2) the sample location was removed during a remedial action.

4.6 CRITERION VI – DATA QUALITY INDICATORS

DQIs are used to verify that sampling and analytical systems used in support of project activities are in control and the quality of the data generated for this project is appropriate for making decisions affecting future activities. The DQIs address the field and analytical data quality aspects as they affect uncertainties in the data collected for site characterization and risk assessment. The DQIs include PARCC. The project QAPP provides the definitions and specific criteria for assessing DQIs using field and laboratory QC samples and is the basis for determining the overall quality of the dataset. Data validation activities included the evaluation of PARCC parameters, and all data not meeting the established PARCC criteria were qualified during the validation process using the guidelines presented in the National Functional Guidelines for Laboratory Data Review for Organics, Inorganics, and Dioxin/Furans (USEPA 1999, 2004d, 2005a, 2008).

4.6.1 Evaluation of Data Precision

Precision is a measure of the degree of agreement between replicate measurements of the same source or sample. Precision is expressed by RPD between replicate measurements. Replicate measurements can be made on the same sample or on two samples from the same source. Precision is generally assessed using a subset of the measurements made. The precision of the data was evaluated using several laboratory QA/QC procedures. Based on BRC's review of the results of these procedures, the overall level of precision for the Site data and the background data (BRC and ERM 2009b) does not limit the usability of a particular analyte, sample, method, or dataset as a whole.

4.6.2 Evaluation of Data Accuracy

Accuracy measures the level of bias that an analytical method or measurement exhibits. To measure accuracy, a standard or reference material containing a known concentration is analyzed or measured and the result is compared to the known value. Several QC parameters are used to evaluate the accuracy of reported analytical results, including:

- Holding times and sample temperatures;
- Calibration limits;
- LCS percent recovery;
- MS/MSD percent recovery;
- Spike sample recovery (inorganics);
- Surrogate spike recovery (organics); and
- Blank sample results.

Detailed discussions of specific exceedances to precision and accuracy (with tables) are provided in the DVSRs (BRC and ERM 2010a,b,c; 2011) and data qualified as a result of this evaluation are presented with qualifiers in the data usability tables in Appendix E (included on the report CD in Appendix B). As presented in Section 4.5, 109 sample results were rejected in the Site dataset and excluded from the HHRA. The remaining results were considered sufficiently accurate for risk assessment purposes, as discussed below.

4.6.2.1 Holding Time Exceedances/Sample Condition

There is a potential for analyte loss if the holding time for a sample is exceeded. As discussed in Section 4.5.1, holding times were exceeded in 27 soil samples for hexavalent chromium analysis (less than 17 percent of the samples analyzed for that constituent), in 12 soil samples for aldehydes (less than 10 percent of the samples), in 17 soil samples for VOCs (less than 13 percent of VOC samples), and in one sample for SVOC analysis (less than 1 percent of the samples analyzed). All of the samples were qualified as estimated. Based on the limited holding time issues, there is not likely to be a significant potential for a low bias to the datasets for Site soils. In addition, one soil flux sample for VOC analysis was analyzed past the specified holding time. This is less than 2 percent of flux samples. This is unlikely to be a significant potential for low bias for the flux dataset.

As presented in the DVSRs (BRC and ERM 2010a,b,c; 2011), all Site samples with temperature requirements were received at the laboratory within the required range of 4°± 2° Celsius. One radionuclide sample was qualified due to inadequate sample preservation. This is less than 1 percent of samples for radionuclides and is unlikely to have significant potential for a low bias to Site soils for radionuclides. No other sample results were qualified based on sample temperatures or due to lack of proper preservation.

4.6.2.2 Calibration Violations Indicating a Low Bias

The instrument calibration checks that resulted in a low bias are summarized in the tables presented in Section 4.5.6. Two SVOCs, hydroxymethyl phthalimide, and phthalic acid had recoveries below 50 percent in some samples. Hydroxymethyl phthalimide was non-detect in all samples, and has never been detected at BRC Common Areas. Phthalic acid was detected in one sample; however, it is rarely detected frequently. There were four TO-15 surface flux analytes, 2-methyl-1-propanol, 2-hexanone, 4-methyl-2-pentanone, and vinyl acetate, that had recoveries below 50 percent in some samples. 2-Methyl-1-propanol and 2-hexanone were qualified in all samples due to calibration violations. However, only 2-methyl-1-propanol was non-detect in all samples. 2-Methyl-1-propanol does not have available toxicity criteria; therefore, it is unlikely to be of significant concern at the Site. There were seven TO-15SIM surface flux analytes, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dibromochloropropane, hexachlorobutadiene, and naphthalene that had recoveries below 50 percent in some samples. 1,2,4-Trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dibromochloropropane, hexachlorobutadiene, and naphthalene were qualified in all samples due to calibration violations. However, only 1,2,4-trichlorobenzene and dibromochloropropane were non-detect in all samples. The remainder of the surface flux analytes were detected in at least one surface flux sample. For the other non-detect analytes with SQLs, the maximum SQLs were compared to the residential soil BCL. It is unlikely, even with a potential for a false negative, that the bias could affect the result to such a degree that the analyte is present at the Site in excess of the BCL.

4.6.2.3 MS/MSD or LCS/LCSD Recoveries below Acceptance Criteria

During the data usability review, results associated with MS/MSD and/or LCS/LCSD recoveries that were only slightly lower than the lower acceptance limit (i.e., 50 to 75 percent recoveries for inorganics) were accepted as usable without further evaluation. Samples with lower percent recoveries (i.e., recoveries lower than 50 percent for inorganics and one-half the lower limit or 30 percent, whichever is greater, for organics) were reviewed more closely to assess if it was appropriate to use them in the HHRA. Inorganic results with MS/MSD recoveries less than 50 percent [35] were as follows:

- Total Kjeldahl nitrogen results for three soil samples in TestAmerica data package F9I1501360 (all detections);
- A total cyanide result in one sample in TestAmerica data package F8K140154 (non-detected; the result was rejected for this reason);
- Antimony results for 66 soil samples in TestAmerica data packages F8K070216, F8K080135, F8K110239, F8K130268, F8K140154, F8K060286 (all results were either non-detections or qualified as non-detect due to blank contamination);
- Barium results for 20 soil samples in TestAmerica data packages F0C180550 and F9I180183 (all results were detected);
- Mercury results for three soil samples in TestAmerica data package F9L080476 (all results were detected); and
- Strontium results for 13 soil samples in TestAmerica data package F9I150136 (all results were detected).

Antimony was qualified for a significant number of samples; however, it was only detected in one sample out of 164 total samples. It is only sporadically detected in the BMI Common Areas, therefore, it is unlikely to be present in these samples. Given the limited number of samples for the other inorganics involved, these data points are not likely to have a significant effect on risk assessment.

Organic results less than one-half the lower laboratory limit were as follows:

- A vinyl acetate result for one sample (SRC1-AJ28-0) in TestAmerica data package F8K140154 (the non-detect result was rejected for this reason); and

[35] Only samples associated with MS/MSD results in which both recoveries were below 50 percent are listed.

- A benzyl alcohol result for one sample (SRC2-J23-0) in GEL data package 237201 (the non-detect result was rejected for this reason).

Given the small number of samples involved, these data points are not likely to have a significant effect on risk assessment.

As noted in Section 4.5.3, LCS/LCSD recoveries lower than the lower laboratory control limit were observed for the following analytes:

- Benzyl alcohol results in five soil samples in GEL data package 237201 (all non-detected and were rejected);
- Freon-11 in 17 soil samples in TestAmerica data packages F8K040227, F8K060286, and F8K070216 (all results were non-detected),
- Vinyl acetate in nine soil samples from TestAmerica data package F8K140154 (all results were non-detected),
- 1,1-Dichloroethene, 1,2-dibromoethane, 1,1-dichloroethane, and vinyl chloride in nine surface flux samples (all results were non-detected).

With the exception of the rejected benzyl alcohol results, the recoveries were only slightly lower than the lower laboratory control limit; therefore, no concerns were identified regarding their usability. Benzyl alcohol was not detected in any of the other 124 samples collected. Therefore, there is no concern regarding the usability of the remainder of the benzyl alcohol data.

4.6.2.4 Surrogate Percent Recoveries below Laboratory Control Limit

As noted in Section 4.5.5, surrogate recoveries lower than the lower laboratory control limit were observed in only four samples: two VOC samples (SRC1-AJ23-0 and SRC2-J20-0), one SVOC sample (SRC1-AL28-0) and one PAH sample (SRC1-J03-0). Because the recoveries were only slightly lower than the lower laboratory control limits, no concerns were identified regarding their usability.

4.6.2.5 Blank Contamination

As noted in Section 4.5.2, certain detections were flagged during the data review as being non-detections or estimated with a high bias due to laboratory or field blank contamination. If the associated constituent qualified as being a non-detection was, in fact, present in the samples related to the affected blank sample, revising its status to non-detect could result in risk underestimation. In the dataset for the Site, 956 results were censored due to blank contamination. Affected soil analytes are listed in Table 4-22.

TABLE 4-22: SUMMARY OF SOIL ANALYTES CENSORED DURING BLANK SAMPLE EVALUATION

Analyte	# of Censored Results	Analyte	# of Censored Results
1,2,4-Trimethylbenzene	55	m,p-Xylene	1
1,2-Dichlorobenzene	2	Mercury	23
1,3,5-Trimethylbenzene	1	Molybdenum	55
Acetaldehyde	2	Octachlorodibenzodioxin	1
Acetone	7	Orthophosphate as P	18
Ammonia (as N)	4	o-Xylene	2
Anthracene	1	PCB 105	3
Antimony	21	PCB 118	4
Arsenic	22	Pyrene	1
Benzo(a)anthracene	6	Radium-228	1
Benzo(b)fluoranthene	1	Selenium	24
Benzoic acid	1	Silver	60
Beryllium	3	Sulfate	3
bis(2-Ethylhexyl) phthalate	20	Thallium	24
Boron	20	Thorium-230	9
Bromide	1	Tin	26
Cadmium	98	Toluene	2
Chlorate	4	Total Organic Carbon	55
Chromium (VI)	22	Tungsten	34
Chrysene	18	Uranium-233/234	4
Cyanide, Total	57	Chromium-SPLP	1
Dichloromethane	80	Lithium-SPLP	1
Ethylbenzene	5	Sodium-SPLP	1
Formaldehyde	30	Total Organic Carbon-SPLP	1

In addition, there were several TICs qualified due to blank contamination. See discussion of TICs in Section 4.5.7.

Affected surface flux analytes are listed in Table 4-23.

TABLE 4-23: SUMMARY OF SURFACE FLUX ANALYTES CENSORED DURING BLANK SAMPLE EVALUATION

Analyte	# of Censored Results	Analyte	# of Censored Results
1,1,2,2-Tetrachloroethane	1	Chloroform	3
1,1,2-Trichloroethane	1	Chloromethane	2
1,2,4-Trimethylbenzene	2	Dichloromethane	1
1,2-Dibromoethane	1	Ethylbenzene	2
1,2-Dichlorobenzene	8	F-11 (Trichlorofluoromethane)	1
1,3,5-Trimethylbenzene	2	Hexachlorobutadiene	3
1,3-Dichlorobenzene	10	m & p-Xylene	2
1,4-Dichlorobenzene	23	o-Xylene	2
Benzene	14	Styrene	1
Carbon disulfide	3	Tetrachloroethene	17
Carbon tetrachloride	2	Toluene	2
Chlorobenzene	1	Trichloroethene	17

The constituents for which this potential concern has the most bearing in risk assessment are those in soil samples for which the detections are close to or exceed either (1) background conditions, or (2) relevant human health comparison levels (e,g., NDEP BCLs). As determined during that evaluation, qualification of detections as non-detections based on blank contamination are not likely to have an appreciable effect on the risk estimates, as discussed below.

Censored results that are less than the maximum background concentration and $1/10^{th}$ the residential soil BCL have a negligible impact on risk assessment findings. If a portion of the result reflects an actual Site concentration, then the uncertainty related to the censored result is low. However, data censored at values at or above background or greater than $1/10^{th}$ the residential soil BCLs, may pose a potential underestimation of human health risks. Therefore, censored results at values in excess of $1/10^{th}$ the residential soil BCL (or the maximum background concentration, if higher) were evaluated further. With the exception of certain radionuclides, none of the soil data censored due to blank contamination were in excess of the BCLs (and background). Table 4-24 identifies the analytes that were censored with results greater than the BCLs (and background).

TABLE 4-24: SUMMARY OF CHEMICAL RESULTS CENSORED AT VALUES ABOVE 1/10TH THE RESIDENTIAL BCL

Analyte	1/10th BCL	Number of Samples Censored Above 1/10th BCL	Range of Reported Concentrations
Formaldehyde	1.06	4	0.181 – 0.905
Arsenic	0.039	22	2.4-4.3
Thallium	0.548	4	0.12 – 1.2

The number of samples censored above 1/10th BCL is limited to three analytes, formaldehyde, arsenic, and thallium and few samples for each analyte. Arsenic and thallium were both found to be statistically similar to background as described in Section 5. The remaining analyte, formaldehyde, was selected as a COPC, and the maximum detection exceeded the reported concentration of the censored results. Therefore, the risks due to censored results in soil are unlikely to be underestimated.

Surface flux data are not comparable with BCLs. Tetrachloroethene, trichloroethene, 1,4-dichlorobenzene, and benzene were associated with greater than 15 censored data points; the remaining censored analytes were associated with 15 or fewer surface flux samples. Widespread blank contamination was noted for the full scan soil flux analysis of benzene. Since benzene was also detected in the SIM analysis (and not censored), risk estimates were calculated for benzene based on the SIM analysis results. Therefore, there is likely no effect on the final risk estimates for the Site. Benzene is discussed further in the Uncertainty Analysis (Section 7) of this report.

4.6.2.6 Data Usability Summary

As discussed above, because the qualifications with the potential for low bias were small in number, the data usability evaluation determined it was unlikely that they could lead to significant risk underestimation. Furthermore, the small amount of rejected data points (one ammonia result) does not represent a significant data gap in terms of risk assessment.

4.6.3 Evaluation of Data Representativeness

Representativeness is the degree to which data accurately and precisely represent a characteristic of the population at a sampling point or an environmental condition (USEPA 2002a). There is no standard method or formula for evaluating representativeness, which is a qualitative term. Representativeness is achieved through selection of sampling locations that are appropriate relative to the objective of the specific sampling task, and by collection of an adequate number of samples from the relevant types of locations. The sampling locations at the Site were based on both systematic sampling with random point placement within each grid cell, as well as focused samples collected from specific areas to further investigate potential areas of concern.

The samples were analyzed for a broad spectrum of chemical classes across the Site. Samples were delivered to the laboratory in coolers packed with ice to minimize the loss of analytes. In a few instances, such as samples being analyzed slightly beyond the holding time or delayed preservation of SPLP samples, the representativeness of the associated data is in question; however, there were few instances of this, as noted in Section 4.5.1. As previously noted, no sample results were qualified based on sample temperatures or preservation. Sample specific results are discussed in the DVSRs. A discussion of representativeness for the background dataset is provided in each of the background investigation reports.

4.6.4 Evaluation of Data Completeness

Completeness is commonly expressed as a percentage of measurements that are valid and usable relative to the total number of measurements made. Analytical completeness is a measure of the number of overall accepted analytical results, including estimated values, compared to the total number of analytical results requested on samples submitted for analysis after review of the analytical data. Some of the data were eliminated due to data usability concerns. The percent completeness for the Site is 99.8 percent and includes the surface flux chamber data. The percent completeness for the soil only dataset is 99.8 percent. The percent completeness for the background dataset used in the HHRA is 98.8 percent.

4.6.5 Evaluation of Data Comparability

Comparability is a qualitative characteristic expressing the confidence with which one dataset can be compared with another. The desire for comparability is the basis for specifying the analytical methods; these methods are generally consistent with those used in previous investigations of the Site. The comparability goal is achieved through using standard techniques to collect and analyze representative samples and reporting analytical results in appropriate units. The ranges of detected sample results from the current investigation are generally comparable to recent results at the Eastside, as well as to the Site background datasets (Section 5).

One exception may be uranium-235/236, which has reported activities that are slightly elevated compared to background and other reported isotopes of uranium. This difference may be because the Site dataset's radionuclide analyses were performed at a different laboratory than the background dataset. The laboratory that performed the Site radionuclide analysis has indicated that the activities for uranium-235/236 hover around the noise level of the instrument and secular equilibrium is still achieved. Therefore, activities at the noise level of the instrument may vary between the instruments used at either laboratory.

There are differences in SQLs among datasets that may affect data comparability for datasets comprised primarily of non-detect values. Examples of the differences in SQLs at the Site and in background soil for several analytes with low detection frequency are provided in Table 4-25.

TABLE 4-25: LOW DETECTION ANALYTES EXHIBITING SQL DIFFERENCES BETWEEN BACKGROUND AND SITE SAMPLES

Analyte	Background Min SQL	Background Max SQL	Site Min SQL	Site Max SQL[36]
Antimony	0.1046	0.3298	0.126	2.7
Boron	2.824	6.6	2.99	54
Selenium	0.1579	0.36	0.16	2.7
Thallium	0.2	0.5428	0.105	1.1
Tungsten	0.0175	0.5	0.185	2.7

All results in units of mg/kg.

Cumulative probability plots and side-by-side boxplots for the background and Site datasets are included in Appendix G. For these datasets, left-censored data can result in difficulties in differentiating whether datasets are actually different or merely an artifact of detection limits. Note that for constituents with SQLs that meet project limit requirements, comparisons between Site and background may be less important as these left-censored data are likely to indicate conditions that pose an "acceptable" risk and further evaluation is not necessary.

4.7 DATA ANALYSIS

Data validation and usability evaluations tend to look at the data on a result by result basis. The data analysis step is intended to take a step back and look at the dataset as a whole. The intent of this is to identify any anomalies or unusual data trends that may indicate any potential laboratory issues. This is performed by reviewing summary statistics, cumulative probability plots and side-by-side boxplots, or other visual aids. The soil dataset used for the HHRA is summarized in tabular format in Table 3-4. While it is not feasible to present all the detected analytes in a graphical format, cumulative probability plots and side-by-side boxplots are provided in

[36] The SQLs reported here may differ from the detection limits reported elsewhere (e.g., background comparisons). Detection limits may be raised due to blank contamination.

Appendix G for the analytes included in the background comparisons (that is, metals and radionuclides). No anomalies in the dataset were identified.

As discussed in Section 4.5, the data validation process resulted in numerous sample results being qualified as estimated, with only the above-listed results being rejected. Sample results qualified as estimated are likely to be quantitatively biased to some degree; estimated analytical results are used in the HHRA. Data qualified as anomalous, as defined in the DVSRs, refers to data that were qualified ("U") due to blank contamination, and are used in the HHRA. These data usability decisions follow the guidelines provided in the *Guidance for Data Usability in Risk Assessment (Part A)* (USEPA 1992a).

For the HHRA, all soil data associated with post-remediation conditions that were not rejected during data validation, replaced by reanalysis results, or removed during a soil remedial action were included. Some data were qualified as estimated due to recoveries being outside the acceptance criteria. In cases where the recoveries were higher than the acceptance criteria, the results have the potential of being similarly biased high, and using these data in the risk assessment could result in risks being calculated that are higher than would be associated with actual Site conditions. Of more concern for the HHRA is underestimation of risk, which could be associated with the use of data that are biased low. Results associated with the following QA/QC issues could lead to results that are biased low, and were subjected to further scrutiny during the data usability evaluation:

- Results associated with holding time exceedances;
- Detections qualified during the data review as being non-detections due to laboratory or field blank contamination;
- Results associated with calibration violations indicating a low bias;
- Results associated with MS/MSD or LCS/LCSD recoveries below acceptance criteria; and/or
- Results associated with surrogate percent recoveries below laboratory control limits.

Such data, which are listed above in Section 4.5, were evaluated during the data usability process to determine whether it was appropriate to use them in the risk assessment. The data usability evaluation determined that the estimated results listed in Section 4.5 were appropriate for use in the risk assessment and that the rejected data did not constitute significant data gaps and/or were not otherwise likely to lead to an underestimation of risk, as discussed in Section 4.6.2. This conclusion is true for each of the three exposure areas evaluated in the HHRA.

5.0 SELECTION OF CHEMICALS OF POTENTIAL CONCERN

The broad suite of analytes sampled for was the initial list of potential COPCs at the Site. However, to ensure that a risk assessment focuses on those substances that contribute the greatest to the overall risk (USEPA 1989); the following procedures were used to eliminate analytes as COPCs for quantitative evaluation in the risk assessment:[37]

- Identification of chemicals with detected levels similar to background concentrations (where applicable) (Section 5.1);
- Chemicals that are considered essential nutrients (Section 5.2); and
- Chemicals with maximum concentrations below risk-based comparison levels (i.e., below one-tenth of the residential soil BCLs) (Section 5.3).

Following USEPA guidance (1989), compounds reliably associated with Site activities based on historical information were not eliminated from the risk assessment, even if the results of the procedures given in this section indicate that such elimination is possible. The procedures for evaluating COPCs relative to background conditions and further selection of COPCs based on the other procedures are presented below.

The Site has been subjected to a number of remedial actions (see discussion in Section 3.3). Subsequent to these remedial actions, mitigated areas were resampled (in some cases, resampled several times) to confirm achievement of mitigation objectives. Because the two remediation areas were targeted primarily for metals reduction, for other inorganics, organics, asbestos, and radionuclides, the cumulative Site dataset is considered representative for all three exposure areas. For metals, each of the three exposure areas is evaluated separately. Therefore, for the purposes of this assessment, a total of three exposure areas were identified for evaluation—the two removal areas, and Site-wide. Based on the data sources considered representative of these locations, these three exposure areas are referred to as: SRC-J02/03, SRC-J21, and Site-Wide.

[37] Note that these procedures for selection of COPCs deviate somewhat from those presented in the BRC *Closure Plan*, but are consistent with discussions between BRC and NDEP and their consultants in a December 9, 2010, meeting. BRC will use these procedures for all subsequent risk assessments. BRC will also revise the *Closure Plan* accordingly to make it consistent with these procedures.

5.1 EVALUATION OF CONCENTRATIONS/ACTIVITIES RELATIVE TO BACKGROUND CONDITIONS

Some chemicals at the Site, particularly metals and radionuclides, are known to be naturally occurring constituents of soils and groundwater. A risk assessment should consider the contribution of background concentrations to overall Site risks, as differentiated from those concentrations associated with historical Site operations or regional anthropogenic conditions. Therefore, it is necessary to establish Site-specific background conditions to support the risk assessment.

As indicated in the *Background Soil Compilation Report* (BRC and ERM 2010d), the Site is in an area of McCullough lithology (see Figure 12, Qh_1 label). ~~After lengthy discussions between both NDEP and BRC earlier and throughout this year, BRC agreed, in the interest of advancing the process, because it was consistent with older previous NDEP approved sub-areas of the Eastside property, and further supported by BRC's draft *Evaluations Conducted for Multiple Lines of Evidence for the Selection of Metal COPCs* that final comparison of Site-related soil concentrations to background levels for this sub-area would be conducted using all of the shallow (Qal) soils background datasets as presented in the *Background Soil Compilation Report* (BRC and ERM 2010d; that is, all shallow Qal McCullough, Mixed, and River background data in this report). BRC recognizes that given that samples at the Site were collected down to 21 feet bgs in anticipation of future grading cuts that will be made from this sub-area, the background comparisons could have used the entire (shallow and deep) Qal background datasets. However, in the interest of advancing this report (which has been in process with NDEP for over 9 months), without further delay, it was decided to continue using the shallow Qal background datasets only for this Site. Inclusion of the entire (i.e., shallow and deep) background datasets, while justified (based on the depths of cuts in future mass grading) and correct, would be disruptive. In addition, for this Site, the conclusions of the background comparisons would not change in terms of COPC selection and, therefore, the results of the HHRA. Thus, use of the shallow Qal background data for this Site is considered applicable and appropriate. As BRC conducts HHRAs for other sub-areas, it will utilize and justify the appropriate background datasets for each area, whether it be the use of just the shallow or the entire (shallow and deep) background datasets.~~Based on discussions between BRC and the NDEP, background data recommended for the Site is the shallow Qal McCullough background dataset.[38] Therefore, comparison of Site-related soil concentrations to background levels was conducted using the shallow Qal McCullough background dataset presented in the *Background Soil Compilation Report* (BRC and ERM 2010d). The background dataset used is included in the dataset file on the enclosed report CD in Appendix B.

Background comparisons were performed using the Quantile test, Slippage test, the *t*-test, and the Wilcoxon Rank Sum (WRS) test with Gehan modification. ~~The computer statistical software program,~~The Guided Interactive Statistical Decision Tools (GiSdT®~~;~~ ®) library (Neptune and Company 2009~~),~~) run from within the R statistical computer software program was used to perform all background comparison statistics. A weight-of-evidence approach is utilized to interpret the results of these analyses. If the detection frequency in both Site and background datasets ~~are~~is greater than 40 percent, then the following rationale is used for evaluation: (1) where one or two results fail one or more of the statistical tests, the remaining testing and statistical information (boxplots, summary statistics) are reviewed to support decision-making regarding whether or not the chemical should be considered consistent with background (as described by the rationale in the table below); and (2) where three or more statistical tests fail, the constituent is considered inconsistent with background. If the detection frequency is less than 40 percent in either the background or Site datasets, then the constituent is evaluated based on boxplots and summary statistics.

For samples with primary and field duplicate results, the Site sample and field duplicate[39] are treated as independent samples and both are included in all subsequent data analyses, regardless of whether one or both are non-detect. This is considered appropriate because field duplicate samples represent a discrete and unique measurement of soil chemical conditions proximal to the primary sample (unlike split samples). The field duplicates were compared to the primary sample during the course of data validation. The variances were not out of the line with the variance in results across the Site. Therefore, as distinct soil chemical measurements, they are treated as unique samples in the analyses.

[38] As noted in a letter dated September 17, 2012, from Greg Lovato, NDEP, to Mark Paris, BRC, the 2003 soil background dataset collected by Environ for the City of Henderson is not used for background soil comparison purposes.
[39] Field duplicates are shown in Appendix B and indicated with the "FD" qualifier under the column entitled "Sample Type".

For metals, the shallow Qal McCullough background dataset ~~as a whole~~ was compared to the HHRA dataset for the three areas separately (Site-Wide, SRC-J02/03, and SRC-J21). For radionuclides, the ~~Qal~~ shallow Qal McCullough background dataset as a whole was compared to the HHRA dataset as a whole. The shallow Qal McCullough background dataset is presented in the *Background Soil Compilation Report* (BRC and ERM 2010d), and is included in the dataset file on the enclosed report CD in Appendix B. The results of these background comparison statistics are presented in Tables 5-1a, 5-1b and 5-1c (Tables section) and summarized below in Tables 5-2a, 5-2b, and 5-~~-~~2c.

TABLE 5-2a: BACKGROUND COMPARISON EVALUATION SUMMARY – SITE-WIDE

Chemical	Greater than Background?	Basis
Aluminum	**YES**	Multiple tests
Antimony	NO	Multiple tests
Arsenic	NO	Multiple tests
Barium	**YES**	Multiple tests~~WRS test~~
Beryllium	**YES**	Multiple tests
Boron	**YES**	Multiple tests
Cadmium	**YES**	Multiple tests
Calcium	NO	Multiple tests
Chromium	**YES**	Multiple tests
Chromium (VI)	**YES**	Quantile test
Cobalt	**YES**	Multiple tests
Copper	**YES**	Multiple tests
Iron	**YES**	Multiple tests
Lead	**YES**	Multiple tests
Lithium	NO	Multiple tests
Magnesium	~~**YES**~~NO	Multiple tests
Manganese	**YES**	Multiple tests
Mercury	**YES**	WRS test~~Multiple tests~~
Molybdenum	NO	Multiple tests
Nickel	~~**YES**~~NO	Multiple tests
Potassium	NO	Multiple tests
Selenium	**YES**	Multiple tests
Silver	~~**YES**~~NO	Multiple tests

TABLE 5-2a: BACKGROUND COMPARISON EVALUATION SUMMARY – SITE-WIDE

Chemical	Greater than Background?	Basis
Sodium	~~NO~~**YES**	Multiple tests~~; visual plots~~
Strontium	**YES**	Multiple tests
Thallium	NO	Multiple tests
Tin	**YES**	Multiple tests
Titanium	**YES**	Multiple tests
Tungsten	**YES**	Multiple tests
Uranium	~~NO~~**YES**	Multiple tests~~; visual plots~~
Vanadium	**YES**	Multiple tests
Zinc	**YES**	Multiple tests
Radium-226	NO	Multiple tests
Radium-228	NO	Multiple tests
Thorium-228	NO	Multiple tests; see text
Thorium-230	NO	Multiple tests
Thorium-232	NO	Multiple tests; see text
Uranium-233/234	NO	Multiple tests
Uranium-235/236	NO	Secular equilibrium; all results near noise level of instrument
Uranium-238	NO	Multiple tests

TABLE 5-2b: BACKGROUND COMPARISON EVALUATION SUMMARY – SRC-J02/J03

Chemical	Greater than Background?	Basis
Aluminum	**YES**	Multiple tests
Antimony	NO	ND in Site
Arsenic	NO	Multiple tests
Barium	**YES**	Multiple tests~~WRS test~~
Beryllium	**YES**	WRS test~~Multiple tests~~
Boron	NO	~~Multiple tests;~~ ND in Site~~ data~~
Cadmium	**YES**	Multiple tests
Calcium	NO	Multiple tests
Chromium	**YES**	Multiple tests
Chromium (VI)	**YES**	Multiple tests

TABLE 5-2b: BACKGROUND COMPARISON EVALUATION SUMMARY – SRC-J02/J03

Chemical	Greater than Background?	Basis
Cobalt	**YES**	Multiple tests
Copper	**YES**	Multiple tests
Iron	**YES**	Multiple tests
Lead	**YES**	Multiple tests
Lithium	NO	Multiple tests
Magnesium	**YES**	Multiple tests
Manganese	**YES**	Multiple tests
Mercury	~~YES~~NO	Multiple tests~~WRS test~~
Molybdenum	NO	ND in Site ~~data~~
Nickel	**YES**	Multiple tests
Potassium	**YES**	Multiple tests~~WRS test~~
Selenium	NO	ND in Site ~~data~~
Silver	**YES**	Multiple tests
Sodium	**YES**	Multiple tests~~WRS test~~
Strontium	**YES**	Multiple tests
Thallium	NO	~~Multiple tests;~~ ND in Site ~~data~~
Tin	**YES**	Multiple tests
Titanium	**YES**	Multiple tests
Tungsten	**YES**	Multiple tests
Uranium	**YES**	Multiple tests
Vanadium	**YES**	Multiple tests
Zinc	**YES**	Multiple tests

TABLE 5-2c: BACKGROUND COMPARISON EVALUATION SUMMARY – SRC-J21

Chemical	Greater than Background?	Basis
Aluminum	**YES**	Multiple tests
Antimony	NO	ND in Site ~~data~~
Arsenic	NO	Multiple tests
Barium	**YES**	Multiple tests
Beryllium	~~YES~~NO	~~WRS test~~Multiple tests
Boron	NO	ND in Site ~~data~~

TABLE 5-2c: BACKGROUND COMPARISON EVALUATION SUMMARY – SRC-J21

Chemical	Greater than Background?	Basis
Cadmium	**YES**	Multiple tests
Calcium	NO	Multiple tests
Chromium	**YES**	Multiple tests
Chromium (VI)	**YES**	Multiple tests
Cobalt	**YES**	Multiple tests
Copper	**YES**	Multiple tests
Iron	**YES**	Multiple tests
Lead	**YES**	Multiple tests~~WRS test~~
Lithium	NO	Multiple tests
Magnesium	**YES**	Multiple tests
Manganese	**YES**	Multiple tests
Mercury	~~**YES**~~NO	~~WRS test~~Multiple tests
Molybdenum	NO	~~Multiple tests;~~ ND in Site ~~data~~
Nickel	**YES**	Multiple tests
Potassium	**YES**	Multiple tests
Selenium	NO	~~Multiple tests;~~ ND in Site ~~data~~
Silver	**YES**	~~WRS test~~Multiple tests
Sodium	~~NO~~**YES**	Multiple tests
Strontium	**YES**	~~WRS test~~Multiple tests
Thallium	NO	Multiple tests
Tin	**YES**	Multiple tests
Titanium	**YES**	Multiple tests
Tungsten	**YES**	Multiple tests
Uranium	**YES**	Multiple tests
Vanadium	**YES**	Multiple tests
Zinc	**YES**	Multiple tests

Cumulative probability plots and side-by-side boxplots[40] were also prepared and are included in Appendix G. These plots give a visual indication of the similarities/differences between the Site

[40] Site was segregated by area (and all data).

and background datasets. The results of this comparison indicate that a large number of metals are statistically significant (greater than) background levels for each of the three areas.

Secular Equilibrium for Radionuclides. For radionuclides, secular equilibrium exists when the quantity of a radioactive isotope remains constant because its production rate (due to the decay of a parent isotope) is equal to its decay rate. In theory, if secular equilibrium exists, the parent isotope activity should be equivalent to the activity of all daughter radionuclides. Pure secular equilibrium is not expected in environmental samples because of the effect of natural chemical and physical processes. However, approximate secular equilibrium is expected under background conditions (NDEP 2009e). Both the thorium-232 and uranium-238 chains were determined to be in approximate secular equilibrium following equivalence testing outlined in the NDEP's *Guidance for Evaluating Secular Equilibrium at the BMI Complex and Common Areas February* (NDEP 2009e). The results of the equivalence testing for secular equilibrium are provided in Table 5-3.

TABLE 5-3: SECULAR EQUIVALENCE TESTING RESULTS

Chain	Equivalence Test		Secular Equilibrium?	Mean Proportion			
	Delta	***p*-value**		**Ra-226**	**Th-230**	**U-233/234**	**U-238**
U-238	0.1	<0.0001	Yes	0.2272	0.2561	0.2681	0.2486
				Ra-228	**Th-228**	**Th-232**	
Th-232	0.1	<0.0001	Yes	0.3441	0.3537	0.3022	

~~Therefore, since no~~ Two radionuclides failed ~~any~~a single background ~~tests~~comparison test (thorium-228 and ~~all are~~ thorium-232, slippage test);[41] however, their means were comparable to their respective background activities. As stated in the NDEP (2009a) guidance "If the radionuclide data exhibit secular equilibrium, then either the data are similar to background, or there is more general contamination for all radionuclides in the decay chain." Because radionuclides exhibit secular equilibrium, and there is no evidence of general contamination for all radionuclides, all radionuclides are considered to be similar to background. Radionuclides are therefore not evaluated further in the HHRA.

[41] As noted in Section 4.6, the laboratory that performed the Site radionuclide analysis has indicated that the activities for uranium-235/236 hover around the noise level of the instrument.

5.2 ESSENTIAL NUTRIENTS

An essential nutrient is a chemical required for normal body functioning that either cannot be synthesized by the body at all, or cannot be synthesized in amounts adequate for good health, and thus must be obtained from a dietary source. USEPA (1989) states that "Chemicals that are (1) essential human nutrients, (2) present at low concentrations (i.e., only slightly elevated above naturally occurring levels), and (3) toxic only at very high doses (i.e., much higher than those that could be associated with contact at the Site) need not be considered further in the quantitative risk assessment. Examples of such chemicals are calcium, iron, magnesium, potassium, and sodium." As discussed with and approved by the NDEP,[42] and consistent with guidance and standard practices, no further quantitative evaluations are required for these essential nutrients.

5.3 COMPARISON TO RESIDENTIAL SOILS BCLs

BCLs for residential soils are chemical-specific, risk-based concentrations in soils that are protective of a residential land use scenario (NDEP ~~2011a~~2012a). As discussed with and approved by the NDEP (see footnote ~~36~~37), if the maximum detected concentration for a constituent is less than one-tenth of the residential soil BCL, then no further quantitative evaluation is required for that constituent. For those constituents with 100 percent non-detect values, if the maximum non-detect concentration[43] for a constituent is less than one-tenth of the residential soil BCL, no further evaluation will be conducted. If the maximum non-detect concentration is greater than one-tenth of the residential soil BCL, no further quantitative evaluation will be conducted; however, a discussion is provided in the Uncertainty Analysis (Section 7) for these constituents.

Consistent with the Closure Plan, if the TCDD TEQ concentrations do not exceed the NDEP residential BCL of 50 ppt for any sample within the Site,[44] dioxins/furans are not retained as COPCs. Therefore, because this criterion is met for the Site, dioxins/furans are not considered COPCs, and are not evaluated further in the HHRA. Lead was also not evaluated further in the HHRA since all concentrations were below its target goal of 400 mg/kg for residential land use.

The results of comparisons to one-tenth of the residential soil BCL for Site-Wide, SRC-J02/03, and SRC-J21 are presented in Tables 5-4a, 5-4b, and 5-4c (Tables section). ~~Four~~Three organic

[42] Meeting with NDEP on December 9, 2010.
[43] The non-detect value is equal to the SQL.
[44] See Section 2.5 for a discussion on future land use for the Southern RIBs sub-area.

compounds and seven inorganic/metals were found to exceed their respective one-tenth of the residential soil BCL (two inorganic chemicals do not have BCLs, but do have relevant and available toxicity criteria [ammonia, asbestos]).

5.4 SUMMARY OF SELECTION OF COPCS

The procedures for COPC selection were discussed above. Results of the selection of COPCs, including the rationale for excluding chemicals as COPCs for Site-Wide, SRC-J02/03, and SRC-J21, are presented in Tables 5-5a, 5-5b, and 5-5c (Tables section).~~[45]~~ The resulting COPCs for soil are provided in Table 5-6 below.

TABLE 5-6: RESULTS OF THE SELECTION OF COPCS FOR SOIL

Chemical	COPC		
	Site Wide	SRC-J02/J03	SRC-J11
Inorganics			
Aluminum	Yes	Yes	Yes
Ammonia	Yes	Yes	Yes
Asbestos	Yes	Yes	Yes
Cobalt	Yes	Yes	Yes
Manganese	Yes	Yes	Yes
Perchlorate	Yes	Yes	Yes
Vanadium	Yes	Yes	Yes
~~**Organochlorine Pesticides**~~			
~~Beta-BHC~~	~~Yes~~	~~Yes~~	~~Yes~~
Polynuclear Aromatic Hydrocarbons			
Benzo(a)anthracene	Yes	Yes	Yes
Benzo(a)pyrene	Yes	Yes	Yes
Benzo(b)fluoranthene	Yes	Yes	Yes
Benzo(k)fluoranthene	Yes	Yes	Yes
Chrysene	Yes	Yes	Yes
Dibenzo(a,h)anthracene	Yes	Yes	Yes
Indeno(1,2,3-cd)pyrene	Yes	Yes	Yes
Semi-Volatile Organic Compounds			
Hexachlorobenzene	Yes	Yes	Yes
Volatile Organic Compounds			
Formaldehyde	Yes	Yes	Yes

~~[45] Consistent with the BRC Closure Plan and prior submittals approved by the NDEP, COPCs identified in Table 5-7 are also carried through to the soil leaching-to-groundwater evaluation. There is not a separate selection of COPCs for the soil leaching-to-groundwater pathway.~~

These procedures apply to soil results. Indoor air exposures are evaluated on a sample-by-sample basis, per NDEP requirements, using the surface flux data measurements. Because of this, elimination of COPCs from the surface flux data is not done. Instead, every chemical detected in an individual surface flux location is included in the evaluation for that location. Therefore, the ~~minimum and~~ maximum surface flux risk estimates are summed with the soil risk estimates to provide ~~a range of cumulative risks~~an upper-bound risk for each receptor.

6.0 HUMAN HEALTH RISK ASSESSMENT

This section presents the HHRA of all COPCs identified in Section 5 for all receptors of concern via all complete pathways. The methods used in the risk assessment follow standard USEPA guidance. Specifically, the methods used in the risk assessment followed basic procedures outlined in the USEPA's *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual* (USEPA 1989). Other guidance documents consulted include:

- *Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual. Supplemental Guidance: Standard Default Exposure Factors* (USEPA 1991b).
- *Guidelines for Exposure Assessment* (USEPA 1992b).
- *Soil Screening Guidance: Technical Background Document* (USEPA 1996).
- *Exposure Factors Handbook, Volumes I-III* (USEPA 1997).
- *Soil Screening Guidance for Radionuclides* (USEPA 2000b).
- *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (USEPA 2002b).
- *Technical Support Document for a Protocol to Assess Asbestos-Related Risk. Final Draft* (USEPA 2003b).
- *Child-Specific Exposure Factors Handbook* (USEPA 2006).
- *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)* (USEPA 2004e).
- *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)* (USEPA 2009).

Various NDEP guidance documents are also relied on for the HHRA. These include:

- *Supplemental Guidance for Assessing Data Usability for Environmental Investigations at the BMI Complex and Common Areas in Henderson, Nevada* (NDEP 2008a).
- *Guidance for Evaluating Secular Equilibrium at the BMI Complex and Common Areas* (NDEP ~~2009a~~2009e).

- *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils for the Basic Management Incorporated (BMI) Complex and Common Areas* (NDEP 2009b, 2010).

- *Supplemental Guidance on Data Validation* (NDEP 2009c, d).

- *Guidance for Evaluating Radionuclide Data for the BMI Plant Sites and Common Areas Projects* (NDEP ~~2009e~~2009a).

The risk assessment is a deterministic risk assessment, meaning that single values based on conservative assumptions are used for all modeling, exposure parameters, and toxicity criteria. These conservative estimates compound each other so that the calculated risks likely exceed the true risks at the Site.

The method used in the risk assessment consists of several steps. The first step is the calculation of exposure point concentrations representative of the particular area, for each medium of concern. This step includes fate and transport modeling to predict concentrations that may be present when direct measurements are not available. The second step is the exposure assessment for the various receptors present in the particular areas. The next step is to define the toxicity values for each COPC. The final step is risk characterization where theoretical upper-bound cancer risks and non-cancer HIs are calculated.

6.1 DETERMINATION OF EXPOSURE POINT CONCENTRATIONS

A representative exposure concentration is a COPC-specific and media-specific concentration value. In risk assessment, these exposure concentrations are values incorporated into the exposure assessment equations from which potential baseline human exposures are calculated. As described below, the methods, rationale, and assumptions employed in deriving these concentration values follow USEPA guidance and reflect Site-specific conditions.

Chemical, physical, and biological processes may affect the fate and transport of chemicals in water, soil, and air. Chemical processes include solubilization, hydrolysis, oxidation-reduction, and photolysis. Physical processes include advection and hydrodynamic dispersion, volatilization, dispersion, and sorption/desorption to soil, sediment, and other solid surfaces. Biological processes include biodegradation, bioaccumulation, and bioconcentration. All of these processes are dependent upon the physical and chemical properties of the chemicals, the physical and chemical properties of the soil and water, and other environmental factors such as temperature, humidity, and the conditions of water recharge and movement. The net effect of these environmental factors is a time-dependent reduction of chemical concentrations in water, soil, and air. The determination of exposure point concentrations for media other than soil take into account chemical-specific physical parameters and inter-media transfers as discussed below. All modeling input parameters, calculations and results are presented in Appendix H (included on the report CD in Appendix B).

6.1.1 Soil

Due to the uncertainty associated with determining the true average concentration at a site, where direct measurements of the site average are infeasible and unavailable, the USEPA recommends using the lower of the maximum detected concentration or the 95 percent UCL as the concentration of a chemical to which an individual could be exposed over time (USEPA 1992b). For the 95 percent UCL concentration approach, the 95 percent UCL was computed to represent the area-wide exposure point concentrations. The 95 percent UCL is a statistic that quantifies the uncertainty associated with the sample mean. If randomly drawn subsets of Site data are collected and the UCL is computed for each subset, the UCL equals or exceeds the true mean roughly 95 percent of the time. The purpose for using the 95 percent UCL is to derive a conservative, upper-bound estimate of the mean concentration, which takes into account the different concentrations to which a person may be exposed at the Site. That is, an individual will be exposed to a range of concentrations that exist at an exposure area, from non-detect to the maximum concentration, over an entire exposure period.

The 95 percent UCL statistical calculations were performed using the GiSdT® library (Neptune and Company 2009~~).~~) run from within the R statistical computer software program. Section 5.1 outlines the treatment of sample locations with field duplicates prior to the 95 percent UCL statistical calculations described in this section. For these calculations, chemical non-detect results are assigned a value of one-half the SQL. The formulas for calculating the 95 percent UCL COPC concentration (as the representative exposure concentration) are presented in USEPA (1992c, 2002c) and GiSdT® (Neptune and Company 2009). Three UCL methods are employed in the GiSdT® ~~software~~library. They include the Student's t UCL, the bootstrap percentile UCL and the bootstrap BCa UCL. The maximum UCL of these three methods was used as the exposure point concentration, unless the maximum UCL of the three methods was greater than the maximum detected concentration. In these cases, the maximum detected concentration was selected as the exposure point concentration.

The representativeness of the 95 percent UCLs for each of the three exposure areas,[46] is further supported by the intensity plot figures included in Appendix I. Figures for each of the COPCs are included in Appendix I (in addition to the figures developed for all metals). A figure is also presented for TCDD TEQ. Although not COPCs for the Site, TCDD TEQ is a primary chemical of interest for the project. Based on the results of the background comparison tests, a review of the probability plots, boxplots, and distribution and intensity plot figures, data across the Site are assumed to be uncorrelated, that is, there is no discernible spatial correlation.[47] Although there may be spatial correlation of data across the Site, it has not been observed. Thus, the assumption is made for statistical testing purposes that the data are not spatially correlated. This results in lower p-values and hence a greater number of statistical differences than would be the case if spatial correlation is accounted for. Ignoring correlation therefore causes conservatism, and the need to further evaluate spatial correlation is not warranted. Therefore, consistent with the project *Statistical Methodology Report* (NewFields 2006), each measurement is assumed to be equally representative for that chemical at any point in the Site and calculation of the 95 percent UCL is appropriate.

Representative exposure concentrations for soil are based on the potential exposure depth for each of the receptors. For all receptors, five different exposure depths are considered, based on the sample depth rules schematic presented in Section 3: all data (surface, subsurface, and fill), data classified as fill material only, data classified as fill material and/or surface soil, data classified as surface soil only, and all data excluding data classified as fill material.

These different soil exposure classifications are considered to represent all possible exposure potential for all receptors, based on the future grade and use of Site soils. Ninety-five percent UCLs are calculated for each of these five different exposure depth scenarios. Although specific-receptors would not necessarily be exposed to all depth ranges (for example, residents and construction workers are considered to have potential exposures to 10 feet bgs, while commercial workers only to surface soils), to be conservative, the highest of the five values was used in the risk estimates for each COPC. The 95 percent UCL for each COPC is presented in Tables 6-1a (Site-Wide), 6-1b (SRC-J02/J03), and 6-1c (SRC-J21) (Tables section). For indirect exposures, this concentration was used in fate and transport modeling.

---

[46] Note that sample locations associated with exposure areas SRC-J02/J03 and SRC-J21 are shown on Figure 11 and identified in the Site dataset included on the report CD in Appendix B.

[47] Although the Statistical Methodology Report states that confirmation measurements of each chemical in a given soil layer will be used to compute variograms, as noted in the text above, this was not conducted for the Site, which is a deviation from the *BRC Closure Plan* methodology.

The exposure point concentrations for asbestos (USEPA 2003b, NDEP 2009b) were based on the pooled analytical sensitivity of the dataset.~~[48]~~ The asbestos data and analytical sensitivities are presented in Table 6-2 (Tables section). Therefore, asbestos exposure point concentrations are determined differently than those for the other COPCs. The pooled analytical sensitivity is calculated as follows:

$$\textit{Pooled Analytical Sensitivity} = 1/\left[\sum_i (1/\textit{analytical sensitivity for trial } i)\right]$$

Two estimates of the asbestos concentration were evaluated, best estimate and upper bound as defined in the draft methodology (USEPA 2003b). The best estimate concentration is similar to a central tendency estimate, while the upper bound concentration is comparable to a reasonable maximum exposure estimate. The pooled analytical sensitivity is multiplied by the number of chrysotile or amphibole structures to estimate concentration:

$$\text{Estimated Bulk Concentration } (10^6 \text{ s/gPM10}) = \text{Long fiber count} \times \text{Pooled analytical sensitivity}$$

For the best estimate, the number of fibers measured across all samples is incorporated into the calculation above. The upper bound of the asbestos concentration was also evaluated. It is calculated as the 95 percent UCL of the Poisson distribution mean, where the Poisson mean was estimated as the total number of structures detected across all samples. In Microsoft Excel, the following equation may be employed to calculate this value:

95 percent UCL of Poisson Distribution Mean = CHIINV(1-upper confidence percentile, 2 × (Long fiber count + 1))/2

This value is then multiplied by the pooled analytical sensitivity to estimate the upper bound concentration. The intent of the risk assessment methodology was to predict the risk associated with airborne asbestos. In order to quantify the airborne asbestos concentration, the estimated dust levels or particulate emission factors (PEFs) were used:

$$\text{Estimated Airborne Concentration } (\text{s/cm}^3) = \text{Estimated bulk concentration } (10^6 \text{ s/gPM10}) \times \text{Estimated dust level } (\text{ug/cm}^3)$$

~~[48] Unlike other analytes, although called field duplicate samples, these samples for asbestos are more accurately characterized as field split samples. That is, these samples were obtained from a split of the sample collected in the field. This split was conducted by the field sample crew prior to sending the samples to the laboratory. Therefore, only the higher of the split sample results are included in the pooled analytical sensitivity or risk calculations for asbestos.~~

Further explanation of the asbestos risk calculations and estimates are provided in the NDEP's Technical Guidance for the Calculation of Asbestos-Related Risk in Soils (2009b) and Workbook for the Calculation of Asbestos-Related Risk in Soils (2010).

6.1.2 Indoor Air

USEPA's 2002 Vapor Intrusion Guidance

BRC has reviewed USEPA's 2002 Vapor Intrusion Guidance (2002d), and ~~this~~ believes that the approach ~~was~~ used for the Site~~.~~ conforms to this guidance. The guidance recommends ~~that a tiered approach be followed to address vapor intrusion.~~and BRC has followed a tiered approach to address vapor intrusion for each of the Eastside sub-areas, including the ~~Site.~~

Southern RIBs sub-area. First, in each of the sub-area SAPs, including that for the Site, BRC has identified each of the chemicals (VOCs and volatile SVOCs) to be evaluated further in each sub-area (that is, a Tier 1 assessment~~) was identified.~~).

Second, BRC explicitly compared the existing groundwater data for wells that are located within (or adjacent to) that sub-area ~~was compared~~ with the USEPA 2002 Tier 2 comparison values (provided in lookup tables in the guidance document). Thus, this Tier 2 assessment was done in the NDEP-approved SAPs for each of the sub-areas. The Tier 2 comparison table for the Site is provided in Appendix J (Table J-1). As shown in this table, with the exception of tetrachloroethene,[49] all VOCs and volatile SVOCs pass a Tier 2 assessment.

Third, BRC has conducted a site-specific ~~HHRA~~human health risk assessment for vapor intrusion using surface flux data on a sample-by-sample basis ~~was conducted~~, per NDEP recommendations (that is, a Tier 3 assessment; see below).

As noted in USEPA's 2002 guidance for a Tier 3 site-specific assessment: "If buildings are not available or not appropriate for sampling, for example in cases where future potential impacts need to be evaluated, ~~…~~ other more direct measures of potential impacts, such as emission flux chambers or soil gas surveys, may need to be conducted in areas underlain by subsurface contamination." Thus ~~surface~~ flux measurements are allowed under USEPA's guidance.

[49] Note that elevated concentrations of tetrachloroethene are likely due to the TIMET facility immediately across Boulder Hwy from the Site. TIMET groundwater remediation should result in reduced concentrations.

Fourth, BRC has also evaluated the various factors pertaining to vapor intrusion, including depth to groundwater (now and in the future), the nature of the soil column from ground surface to groundwater, and, water quality (*i.e.*, the constituents likely to be present in groundwater and which might pose any vapor intrusion concerns). BRC has performed a more detailed site-specific evaluation of vapor intrusion potential at a comparison study area within the Eastside property. Based on site-specific conditions, including depth to groundwater, VOC concentrations in groundwater (which are generally less near the Site - for example, chloroform concentration in groundwater of 74 to 420 µg/L near the Site versus 180 to 1,200 µg/L at the comparison study area), and expected similar soil physical property, the comparison study area presents a similar potential for vapor intrusion than the Site (and as shown below, in all cases ILCRs and non-cancer HIs are at or below acceptable levels). See the table below for various parameters.

Parameter	**Comparison Study Area**	**Southern RIBs Sub-Area**	**Units**
Particle Density[1]	1.8	1.50	g/cm^3
Percent Moisture[1]	4.46	4.44	percent
Porosity[1]	33.8	44.8	percent
Permeability[1]	0.0019	0.00096	cm/sec
Bulk Density[1]	2.7	2.7	g/cm^3
Organic Carbon Content[1]	1.1	0.44	percent
USCS Soil Types	SM/GM/GW/ML	SM/GM/GW/ML	--
Depth to Groundwater	49 to 60	50	ft bgs
Chloroform in Groundwater	180 to 1,200	74 to 420	µg/L

[1]Values presented are averages for each area. For example, the range of permeabilities for the Site are 0.00032 to 0.0014 cm/sec, while those for the comparison study area are 0.00029 to 0.0065 cm/sec.

BRC has performed a detailed evaluation of vapor intrusion risk assessments for chloroform at the comparison study area location, showing that risks were acceptable (residential indoor ILCRs ranged from 1×10^{-8} to 9×10^{-7}, and non-cancer HIs were well below 1.0).[50] The comparison study area risk estimate calculations are provided electronically in Appendix J (included on the report CD in Appendix B). Input parameters and results for the indoor air calculations for the comparison study area location are also provided in Appendix J (Tables J-2 through J-6).

[50] For comparison, chloroform residential indoor ILCRs for the Site were 8×10^{-9} to 1×10^{-7} and non-cancer HIs were well below 1.0; and vapor intrusion ILCRs for the Mohawk sub-area were 4×10^{-8} to 9×10^{-7} and non-cancer HIs were well below 1.0.

Finally, BRC is aware of USEPA's recent *Review of the Draft 2002 Subsurface Vapor Intrusion Guidance*. Issues and recommendations identified in this documents as well as the USEPA Office of Inspector General's *Evaluation Report—Lack of Final Guidance on Vapor Intrusion Impedes Efforts to Address Indoor Air Risks* (December 14, 2009), focus primarily on Tier 1 and Tier 2 assessments, and ultimately will not affect how indoor air exposures have been evaluated for the Site.

~~Fourth, the various factors pertaining to vapor intrusion, including depth to groundwater (now and in the future), the nature of the soil column from ground surface to groundwater, and, water quality (i.e., the constituents likely to be present in groundwater and that might pose any vapor intrusion concerns) were evaluated.~~

~~A more detailed Site-specific evaluation of vapor intrusion potential at a comparison study area within the Eastside property was also performed. Depth to groundwater at the Site (50 feet bgs) is similar to that at the comparison study area (55 to 60 feet bgs). VOC concentrations in groundwater are much lower at the Site than in the comparison study area (for example, chloroform concentration in groundwater of 1.2 to 5.7 micrograms per liter (µg/L) at the Site versus 250 to 900 µg/L at the comparison study area). Therefore, the comparison study area presents a greater potential for vapor intrusion than the Site. The detailed evaluation of vapor intrusion risk assessments for chloroform performed at the comparison study area location showed that risks were acceptable: residential indoor cancer risks ranged from~~ ~~1×10^{-8} to 4×10^{-7}~~~~, and non-cancer HIs were well below 1.0.~~

Site-Specific Tier 3 Assessment

Concentrations of volatile constituents (VOCs and certain SVOCs) in soil and groundwater that may infiltrate buildings to be constructed at the Site through cracks in the foundations are estimated using USEPA surface emission isolation flux chamber (flux chamber) measurements collected at the Site in accordance with USEPA (1986) guidance ~~(1986)~~ and the Flux Chamber SOP-16 (BRC, ERM, and MWH 2009). The flux chamber is used to measure the emission rates from surfaces emitting gas species. Use of the flux chamber reduces the need for modeling surface flux rates, which potentially reduces the uncertainty in the air representative exposure concentrations and the risk characterization. Because the flux chamber measurements were conducted outdoors on open soil, an "infiltration factor" is applied to the outdoor surface flux data to generate data supporting the inhalation of indoor air exposure pathway. The infiltration factor is based on the factors found in the American Society for Testing and Materials (ASTM)

Standard Guide for Risk Based Corrective Action (2000). The indoor air concentrations are determined from the surface flux measurements using the following mixing equation:

$$C_a = \frac{J \times \eta}{L \times ER}$$

where:

C_a = indoor air concentration (milligram per cubic meter [mg/m^3])
J = measured flux of chemical (mg/m^2-min)
η = foundation crack fraction (unitless)
L = enclosed space volume/infiltration area ratio (meter [m])
ER = enclosed space air exchange rate (1/min)

Default parameter values from ASTM (2000) for residential buildings were used~~.~~ (as presented in Section 9 of the NDEP-approved *BRC Closure Plan* [BRC, ERM, and DBS&A 2007; Section 9 revised March 2010]). These default parameters are presented in the electronic indoor air calculation files in Appendix ~~H~~J (included on the report CD in Appendix B). As noted in Section 5.4, indoor air exposures are evaluated on a sample by sample basis, per NDEP requirements, using the surface flux data measurements. Every chemical detected in an individual surface flux location is included in the evaluation for that location.

Indoor air concentrations based on the surface flux data measurements are shown in the electronic indoor air calculation files in Appendix H (included on the report CD in Appendix B) and are summarized in Table 6-3 (Tables section). In all cases the maximum of the two flux chamber measurements (TO-15 full scan and TO-15 SIM) is used.

6.1.3 Outdoor Air

Long–term exposure to COPCs bound to dust particles is evaluated using the USEPA's PEF approach (USEPA 2002b). The PEF relates concentrations of a chemical in soil to the concentration of dust particles in the air. The Q/C (Site-Specific Dispersion Factor) values in this equation are for Las Vegas, Nevada (Appendix D of USEPA 2002b). The equation used is:

$$\text{PEF} = Q/C_{\text{wind}} \ \text{x} \ \frac{3{,}600 \text{ sec/hr}}{0.036 \text{ x } (1 - V) \text{ x } (U_m / U_t)^3 \text{ x } F(x)}$$

where:

PEF = Particulate emission factor (m^3/kg)

Q/C_{wind} = Inverse of the ratio of the geometric mean air concentration to the emission flux at the center of a square source (g/m^2 -s per kg/m^3)

V = Fraction of vegetative cover (unitless)

U_m = Mean annual windspeed (m/s)

U_t = Equivalent threshold value of windspeed at 7m (m/s)

F(x) = Function dependent on U_m/U_t derived using USEPA (1985) (unitless)

and

$$Q/C_{wind} = A \times \exp\frac{(\ln A_{site} - B)^2}{C}$$

where

A_{site} = Source Area (acre)

A, B, C = Air Dispersion Constants for LV (unitless)

The dust model and parameters utilized to generate the PEF are presented in Table 6-4 (Tables section).

The USEPA guidance for dust generated by construction activities (USEPA 2002b) was used for assessing short-term construction worker exposures:

$$PEF = \frac{1}{\left(\left(\frac{1}{PEF_{sc}}\right) + \left(\frac{1}{PEF_{sc\_road}}\right)\right)}$$

where:

PEF_{sc} = Subchronic particulate emission factor for construction activities (m^3/kg)

PEF_{sc_road} = Subchronic particulate emission factor for unpaved road traffic (m^3/kg)

Input soil concentrations for the model are the exposure point concentrations as described above. The construction dust model and all relevant equations and parameters utilized to generate the construction worker PEF from this guidance are provided in Table 6-5 (Tables section). Site-specific surface soil moisture data were collected in January, February and August. The average of the surface soil data is 4.31 percent. This is considered an adequate representation of the annual average, therefore, this value is used for the percent moisture in dry road surface parameter instead of the NDEP model default value.

In addition, for receptors with indoor exposures (i.e., residents, indoor commercial workers), a dilution factor is applied to obtain an indoor air concentration of dust particles, based on USEPA (2000b).

The flux chamber measurements as described in Section 6.1.2 above are used for exposures to VOCs and volatile SVOCs in outdoor air if the chemical was present in the TO-15 analyte list. If the VOC or volatile SVOC was measured in soil but not on the TO-15 analyte list, then the exposure point concentration was estimated using USEPA's volatilization factor. Outdoor surface flux data are divided by the dispersion factor for volatiles (Q/C_{vol} for Las Vegas; from USEPA 2002b) for use in the outdoor air exposure pathway. The same dispersion factor is used for all scenarios. The dispersion factor for the construction worker is not adjusted to account for soil intrusion activities. Outdoor air concentrations based on soil data for all receptors are shown in Table 6-6 (Tables section). Outdoor air concentrations based on the surface flux data measurements are shown in the electronic indoor air calculation files in Appendix H (included on the report CD in Appendix B) and are summarized in Table 6-3.

6.1.4 Homegrown Produce

Consistent with the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010) and USEPA guidance, the consumption of homegrown produce is an applicable exposure pathway for residential receptors. Representative exposure concentrations in plants were obtained using the soil 95 percent UCL for each COPC, multiplied by plant uptake factors. As per the Closure Plan, plant uptake factors were obtained from USEPA (2005b) and Baes et al. (1984). Plant uptake factors for inorganics were obtained from empirical data, where available. Plant uptake factors for organics are calculated based on the following equations (from USEPA 2005b):

Aboveground plant uptake factor:

$$\log Br_{above} = 1.588 - 0.578 \log K_{ow}$$

Belowground plant uptake factor:

$$Br_{below} = \frac{RCF}{Kd_s} \times VG$$

where:

Br_{above}	=	aboveground plant uptake factor (mg/kg plant DW/mg/kg soil)
Br_{below}	=	belowground plant uptake factor (mg/kg plant DW/mg/kg soil)
K_{ow}	=	octanol/water partitioning coefficient (unitless)
RCF	=	root concentration factor (mg/g plant DW/mg/mL soil water)
Kd_s	=	Soil-water partition coefficient (mL water/g soil)
VG	=	empirical correction factor for belowground produce (unitless)(0.01 for COPCs with a log Kow greater than 4 and 1.0 for COPCs with a log Kow less than 4)

Plant uptake factors are presented in Table 6-7 (Tables section). See Section 7.2.3 regarding plant uptake of perchlorate.

6.2 EXPOSURE ASSESSMENT

In a risk assessment, the possible exposures of populations are examined to determine if the chemicals at a site could pose a threat to the health of identified receptors. The risks associated with exposure to chemicals depend not only on the concentration of the chemicals in the media, but also on the duration and frequency of exposure to those media. For example, the risks associated with exposure to chemicals for 1 hour a day are less than those associated with exposure to the same chemicals at the same concentrations for 2 hours a day. Potential health impacts from chemicals in a medium can occur via one or more exposure pathways. The exposure assessment step of a risk assessment combines information regarding impacted media at a site with assumptions about the people who could come into contact with these media. The result is an estimation of a person's potential rate of contact with impacted media from the Site. The intake rates are evaluated in the risk characterization step to estimate the risks they could pose.

In this section, assumptions regarding people's activities, such as the frequency with which a person could come into contact with impacted media, are discussed. Finally, the daily doses at the points of potential human contact were estimated using these assumptions, the models described in Section 6.1, and the chemical concentrations reported for soil and flux chamber samples collected from the Site.

6.2.1 Exposure Parameters

In this section, the assumptions regarding the extent of exposure are presented for each of the exposure pathways for each medium of concern at the Site. Tables 6-8 and 6-9 (Tables section) present each of the exposure parameters used in the risk assessment for each receptor and each pathway. Many of the assumptions regarding the extent of exposure were default factors developed by USEPA's Superfund program. Default values were modified to reflect Site-specific conditions, where possible. The exposure parameters used in the risk assessment were those defined in Tables 9-2 through 9-5 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

6.2.2 Quantification of Exposure

In this section, the concentrations of COPCs at the points of potential human exposure are combined with assumptions about the behavior of the populations potentially at risk to estimate the dose of COPCs that may be taken in by the exposed individuals. Later, in the risk characterization step of the assessment, the doses are combined with toxicity parameters for COPCs to estimate whether the calculated intake levels pose a threat to human health.

The method used to estimate the average daily dose (ADD) for non-carcinogens COPCs via each of the complete exposure pathways is based on USEPA (1989, 1992b) guidance. For carcinogens, lifetime ADD (LADD) estimates are based on chronic lifetime exposure, extrapolated over the estimated average lifetime (assumed to be 70 years). This establishes consistency with cancer slope factors (CSFs), which are based on chronic lifetime exposures. For non-carcinogens, ADD estimates are averaged over the estimated exposure period. ADDs and LADDs were calculated for each exposure scenario using the following generic equation:

$$Dose = \frac{C \times IR \times ED \times EF}{BW \times AT \times 365\ d/yr}$$

where:

Dose	=	ADD for non-carcinogens and LADD for carcinogens (in mg/kg-day)
C	=	chemical concentration in the contact medium (e.g., mg/kg soil)
IR	=	intake rate (e.g., mg/day soil ingestion and dermal contact [requires a conversion factor of 10^{-6} kg/mg];
ED	=	exposure duration (years of exposure)
EF	=	exposure frequency (number of days per year)

BW	=	average body weight over the exposure period (kilograms)
BIO	=	relative bioavailability (unitless)
AF	=	absorption fraction (percent)
AT	=	averaging time; same as the ED for non-carcinogens and 70 years (average lifetime) for carcinogens

Risk estimates for inhalation exposures follow USEPA's *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)* (USEPA 2009). That is, the concentration of a chemical in air is used as the exposure metric (e.g., mg/m^3), rather than inhalation intake of a chemical in air based on inhalation rate and body weight (e.g., mg/kg-day). The generic equation for calculating inhalation exposures is:

$$EC = \frac{C_{air} \times ET \times ED \times EF}{AT}$$

where:

EC	=	exposure concentration (in mg/m^3)
C_{air}	=	chemical concentration in air (in mg/m^3)
ET	=	exposure time (hours per day)
ED	=	exposure duration (years of exposure)
EF	=	exposure frequency (number of days per year)
AT	=	averaging time; same as the ED for non-carcinogens and 613,200 hours (i.e., 70 years; average lifetime) for carcinogens

Pathway-specific equations for calculating ADDs and LADDs are provided in Table 9-6 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010).

~~With the exception of cobalt, the relative oral bioavailability (BIO) of all COPCs was assumed to be 100 percent. For cobalt, consistent with scientific literature recommendations on cobalt bioavailability (Golder Associates 2005; Rasmussen 2007; Ontario Ministry of the Environment 2002), a cobalt oral bioavailability of 30 percent was used~~For conservatism, the relative oral bioavailability (BIO) of all COPCs was assumed to be 100 percent (see Section 7.3.3 for further discussion on this issue). ~~. Although these studies are for different sites, all indicate similar cobalt bioavailability. Use of this cobalt bioavailability is further supported by a study by Christensen et al. (1993) that compared the bioavailability of soluble and insoluble cobalt compounds in humans. This study indicates that cobalt, in its inorganic form in soils, is~~

~~significantly less bioavailable than the soluble form of cobalt (cobalt chloride) from which the oral RfD is based. The actual oral bioavailability of cobalt (as well as other metals at the Site, for which an oral bioavailability of 100 percent is used) is likely to be lower than this value.~~

Chemical-specific dermal absorption values from USEPA guidance (USEPA 2004e [Part E RAGS]) were used in the risk assessment. USEPA does not recommend absorption factors for VOCs based on the rationale that VOCs from the soil are volatilized on skin and exposure is accounted for via inhalation routes. In addition, RAGS Part E (USEPA 2004e) states "For inorganics, the speciation of the compound is critical to the dermal absorption and there are too little data to extrapolate a reasonable default value." Therefore, dermal absorption factors are also not used for inorganics. The NDEP and its consultants have concurred with this decision.

Exposure levels of potentially carcinogenic and non-carcinogenic chemicals are calculated separately because different exposure assumptions apply (i.e., ADD for non-carcinogens and LADD for carcinogens). Exposure levels are estimated for each relevant exposure pathway (i.e., soil, air, and water), and for each exposure route (i.e., oral, inhalation, and dermal). Daily doses for the same route of exposure are summed. The total dose of each chemical is the sum of doses across all applicable exposure routes. As noted previously, radionuclides are consistent with background concentrations and are not addressed in this HHRA.

6.2.3 Asbestos

Although final USEPA guidance is unavailable at this time, USEPA recommends that site-specific risk assessments be performed for asbestos (USEPA 2004f). Risks associated with asbestos in soil are evaluated using the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils* (2009b) and *Workbook for the Calculation of Asbestos-Related Risk in Soils* (2010), and the draft methodology proposed by USEPA (2003b). This methodology is an update of the method described in *Methodology for Conducting Risk Assessments at Asbestos Superfund Sites-Part 1: Protocol* and *Part 2: Technical Background Document* (Berman and Crump 1999a,b). Because the risk assessment methodology for asbestos is unlike that for other COPCs, asbestos risks are evaluated separately from other chemical risks.

The intent of the risk assessment methodology is to predict the amount of airborne asbestos, which causes an unacceptable risk to a human receptor. Asbestos concentrations are measured in soil, and are then used to predict airborne asbestos concentrations using a dust emissions model. Asbestos data are collected from the top 2 inches of soil. While asbestos might exist below the top 2 inches of soil due to soil turnover, the concentrations in the surface soil are likely to be greater than concentrations beneath the surface, and the exposure pathway is to near-surface soils. Therefore, the "shallow" surface soils asbestos concentration estimate is used to represent the potential exposure to asbestos.

To interpret measurements of asbestos in soils, it is necessary to establish the relationship between the asbestos concentrations observed in soils and concentrations that will occur in air when such soil is disturbed by natural or anthropogenic forces. This is because asbestos is a hazard when inhaled (see, for example, Berman and Crump 2001; USEPA 2003b). Indeed, the Modified Elutriator Method (Berman and Kolk 2000), which was the method employed to perform the analyses presented in this report, was designed specifically to facilitate prediction of airborne asbestos exposures based on bulk measurements (see, for example, Berman and Chatfield 1990).

Briefly, the Modified Elutriator Method incorporates a procedure for isolating and concentrating asbestos structures as part of the respirable dust fraction of a sample and analytical measurements are reported as the number of asbestos structures per mass of respirable dust in the sample. This turns out to be precisely the dimensions required to combine such measurements with published dust emission and dispersion models to convert them to asbestos emission and dispersion models. These models can be combined with measurements from the Modified Elutriator Method to predict airborne exposures and assess the attendant risks.

6.3 TOXICITY ASSESSMENT

This section describes the toxicity of the COPCs at the Site. Numerical toxicity values were developed for use in the calculation of the hazard quotients (HQs; for non-carcinogens) and risks (for carcinogens).

6.3.1 Toxicity Values

Toxicity values, when available, are published by the USEPA in the on-line Integrated Risk Information System [IRIS]; USEPA ~~2011~~2012). CSFs (in units of milligrams per kilogram per day [mg/kg-d]$^{-1}$) are chemical-specific and experimentally derived potency values that are used to calculate the risk of cancer resulting from exposure to potentially carcinogenic chemicals. Inhalation unit risks (IURs) represent the upper-bound excess lifetime cancer risk from continuous exposure to a chemical at a concentration of 1 microgram per cubic meter (µg/m^3). A higher value implies a more potent carcinogenic potential. Reference dosages (RfDs) are experimentally derived "no-effect" levels used to quantify the extent of toxic effects other than cancer due to exposure to chemicals (in units of mg/kg-d). Similarly, a reference concentration (RfC) is the derived "no-effect" concentration for a lifetime of continuous inhalation exposure (in units of milligrams per cubic meter [mg/m^3]). With RfDs or RfCs, a lower value implies a more potent toxicant. These criteria are generally developed by USEPA risk assessment work groups and listed in the USEPA risk assessment guidance documents and databases. Available toxicity values for all Site COPCs used in the risk assessment were obtained using the following hierarchy for selecting toxicity criteria (based on USEPA 2003c):

1. IRIS;
2. USEPA's Provisional Peer Reviewed Toxicity Values (PPRTVs);
3. National Center for Environmental Assessment (or other current USEPA sources);
4. Health Effects Assessment Summary Tables (HEAST);
5. USEPA Criteria Documents (e.g., drinking water criteria documents, drinking water Health Advisory summaries, ambient water quality criteria documents, and air quality criteria documents);
6. ATSDR toxicological profiles;
7. USEPA's Environmental Criteria and Assessment Office; and
8. Peer-reviewed scientific literature.

In addition, toxicity criteria and toxicological surrogates recommended by the NDEP are used in the risk assessment. Toxicity criteria are consistent with those used in the development of the NDEP's BCLs (NDEP ~~2011a~~2012a), unless newer values are available from USEPA. Toxicity criteria have not been developed by BRC for elements or compounds that do not have criteria published in the above sources.

Although USEPA has developed toxicity criteria for the oral and inhalation routes of exposure, it has not developed toxicity criteria for the dermal route of exposure. USEPA has proposed a method for extrapolating oral toxicity criteria to the dermal route in the ~~recently released~~ *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)* (USEPA 2004e). USEPA states that the adjustment of the oral toxicity factor for dermal exposures is necessary only when the oral-gastrointestinal absorption efficiency of the chemical of interest is less than 50 percent (due to the variability inherent in absorption studies). For COPCs to which dermal exposure might occur at the Site, the oral-gastrointestinal absorption efficiencies are greater than 50 percent, except for ~~total~~ chromium, hexavalent chromium, mercury, nickel, and vanadium. Therefore, the USEPA indicated adjustment of the oral toxicity criteria to generate dermal criteria was performed for these COPCs.

6.3.2 Non-Carcinogenic Health Effects

For non-carcinogenic health effects, USEPA assumes that a dose threshold exists, below which adverse effects are not expected to occur. A chronic RfD or RfC of a chemical is an estimate of a lifetime daily dose to humans that is likely to be without appreciable deleterious non-carcinogenic health effects. To derive an RfD or RfC, a series of professional judgments is made to assess the quality and relevance of the human or animal data and to identify the critical study and the most critical toxic effect. Data typically used in developing the RfD or RfC are the highest no-observable-adverse-effect-levels (NOAELs) for the critical studies and effects of the non-carcinogen. For each factor representing a specific area of uncertainty inherent in the extrapolation from the available data, an uncertainty factor is applied. Uncertainty factors generally consist of multiples of 10, although values less than 10 are sometimes used.

Four major types of uncertainty factors are typically applied to NOAELs in the derivation of RfDs or RfCs. Uncertainty factors of 10 are used to (1) account for the variability between humans, (2) extrapolate from animals to humans, (3) account for a NOAEL based on a subchronic study instead of a chronic study, and (4) extrapolate from a lowest-observed-adverse-effect-level (LOAEL) to a NOAEL, if necessary. In addition, a modifying factor can be used to account for adequacy of the database. Typically, the modifying factor is set equal to one.

To obtain the RfD or RfC, all uncertainty factors associated with the NOAEL are multiplied together, and the NOAEL is divided by the total uncertainty factor. Therefore, each uncertainty factor adds a degree of conservatism (usually one order of magnitude) to the RfD or RfC. An understanding of the uncertainties associated with RfDs or RfCs is important in evaluating the significance of the HIs calculated in the risk characterization portion of the risk assessment. When available sub-chronic RfDs or RfCs were used to evaluate construction worker exposures. The COPCs in this assessment with USEPA-established oral/dermal and inhalation RfDs or RfCs are presented in Tables 6-10 and 6-11 (Tables section), for surface flux and soil COPCs, respectively.

6.3.3 Carcinogenic Health Effects

USEPA develops CSFs and IURs from chronic animal studies or, where possible, epidemiological data. Because animal studies use much higher doses over shorter periods of time than the exposures generally expected for humans, the data from these studies are adjusted, typically using a linearized multi-stage (LMS) mathematical model. To ensure protectiveness, CSFs/IURs are typically derived from the 95th percentile UCL of the slope, and thus the actual risks are unlikely to be higher than those predicted using the CSF/IUR, and may be considerably lower. The COPCs in this assessment with USEPA-established oral/dermal and inhalation CSFs/IURs are presented in Tables 6-10 and 6-12 (Tables section), for surface flux and soil COPCs, respectively.

6.3.4 Asbestos

Asbestos toxicity criteria were obtained from Table 8-1 of Berman and Crump's (2001) document and Tables 8-2 and 8-3 in the USEPA (2003b) guidance. The toxicity criteria vary based on fiber type, endpoint (lung cancer, mesothelioma, or combined) and percent of fibers longer than 10 micrometers (µm) and less than 0.4 µm in width. For this risk assessment the toxicity criteria were based on a combined endpoint of lung cancer and mesothelioma averaged over the smokers and non-smokers of the population, with the assumption that 50 percent of fibers are greater than 10 µm in length. The resulting unit risk factors (structures/cubic centimeter) are presented in Appendix H (included on the report CD in Appendix B). A complete discussion on issues associated with risk estimates for asbestos is presented in the NDEP's *Technical Guidance for the Calculation of Asbestos-Related Risk in Soils* (2009b).

6.4 RISK CHARACTERIZATION

In the last step of a risk assessment, the estimated rate at which a receptor intakes a chemical is compared with information about the toxicity of that COPC to estimate the potential risks posed by exposure to the COPC. This step is known as risk characterization. The methods used for assessing cancer risks and non-cancer adverse health effects are discussed below.

6.4.1 Methods for Assessing Cancer Risks

In the risk characterization, carcinogenic risk is estimated separately as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to chemicals and asbestos. Carcinogenic risks for chemicals were evaluated by multiplying the estimated average exposure rate (i.e., LADD calculated in the exposure assessment) by the chemical's CSF or IUR. The CSF converts estimated daily doses averaged over a lifetime to incremental risk of an individual developing cancer. Because cancer risks are averaged over a person's lifetime, longer-term exposure to a carcinogen results in higher risks than shorter-term exposure to the same carcinogen, if all other exposure assumptions are constant. Theoretical risks associated with low levels of exposure in humans are assumed to be directly related to an observed cancer incidence in animals associated with high levels of exposure while the IUR converts estimated exposure concentrations averaged over a lifetime to incremental risk of an individual developing cancer. According to USEPA (1989), this approach is appropriate for theoretical upper-bound ILCRs of less than 1×10^{-2}. The following equations were used to calculate COPC-specific risks and total risks:

$$Risk = EC \times IUR \quad or \quad LADD \times CSF$$

where:

LADD	=	lifetime average daily dose (mg/kg-d)
EC	=	exposure concentration (mg/m^3)
IUR	=	inhalation unit risk $(mg/m^3)^{-1}$
CSF	=	cancer slope factor $(mg/kg\text{-}d)^{-1}$

and

$$Total\ Carcinogenic\ Risk = \Sigma\, Individual\ Risk$$

It is assumed that cancer risks for different chemicals and from multiple exposure routes are additive, which ~~may introduce~~introduces a protective~~, conservative~~ bias in the result of the cancer risk assessment. Carcinogenic risk estimates were compared to the USEPA acceptable, incremental risk range of 1 in 10,000 (10^{-4}) ~~to~~and 1 in 1 million (10^{-6}) and the NDEP's acceptable, incremental level of 10^{-6}. If the estimated incremental risk falls within or below this risk range, the chemical is considered unlikely to pose an unacceptable carcinogenic risk to individuals under the given exposure conditions. A risk level of 1×10^{-5} (1 E-5) represents an incremental probability of one in 100,000 that an individual could develop cancer from exposure to the potential carcinogen under a defined set of exposure assumptions.

6.4.2 Methods for Assessing Non-Cancer Health Effects

Non-cancer adverse health effects are estimated by comparing the estimated average exposure rate (i.e., ADDs estimated in the exposure assessment) with an exposure level at which no adverse health effects are expected to occur for a long period of exposure (e.g., the RfDs or RfCs). ADDs (or exposure concentrations [ECs]) and RfDs (or RfCs) are compared by dividing the ADD by the RfD (or EC by the RfC) to obtain the ADD:RfD (EC:RfC) ratio, as follows:

$$HQ = \frac{EC}{RfC} \text{ or } \frac{ADD}{RfD}$$

where:

HQ	=	hazard quotient
ADD	=	average daily dose (mg/kg-d)
EC	=	exposure concentration (mg/m^3)
RfD	=	reference dose (mg/kg-d)
RfC	=	reference concentration (mg/m^3)

The ADD-to-RfD (EC-to-RfC) ratio is known as an HQ. If a person's average exposure is less than the RfD or RfC (i.e., if the HQ is less than 1), the chemical is considered unlikely to pose a significant non-carcinogenic health hazard to individuals under the given exposure conditions. Unlike carcinogenic risk estimates, an HQ is not expressed as a probability. Therefore, while both cancer and non-cancer risk characterizations indicate a relative potential for adverse effects to occur from exposure to a chemical, a non-cancer adverse health effect estimate is not directly comparable with a cancer risk estimate.

If more than one pathway is evaluated, the HQs for each pathway are summed to determine whether exposure to a combination of pathways poses a health concern. This sum of the HQs is known as an HI.

$$\textit{Hazard Index} = \Sigma\, \textit{Hazard Quotients}$$

Any HI less than 1.0 indicates the exposure is unlikely to be associated with a potential health concern. If the HI is greater than 1.0, then the HQs are summed by the specific target organs affected by a particular chemical or chemicals. This is also summed across pathways and chemicals. Target organs are identified primarily by the source of the toxicity criteria (e.g., IRIS). Since a chemical may affect more than one organ, in addition to the source of the toxicity criteria Oak Ridge National Laboratory's (ORNL) Risk Assessment Information System's toxicity profiles were also searched for target organ information (ORNL ~~2011). In this HHRA, where available, three target organs are included.~~2012). The target organs for the COPCs are shown in Table 6-13 (Tables section).

6.4.3 Methods for Assessing Asbestos Risks

For assessing asbestos risks, Table 8-2 (Based on Optimum Risk Coefficients) of USEPA (2003b) was used. Table 8-2 presents best estimate risks optimized based upon separation of fiber type, size and endpoint (mesothelioma/lung cancer), thereby reducing apparent variation between the studies utilized. The values in Table 8-2 are used because they are the authors "best" estimates of potency based upon all the available data (whereas the "conservative values" presented in Table 8-3 present only the most conservative, and best "behaved" data). As described in USEPA (2003b), because the asbestos risks to male and female smokers/non-smokers are different, population averaged risks are evaluated based on Eqn. 8-1 of USEPA (2003b):

$$URF = 0.5 \times ((0.786 \times (NSM + NSF)) + ((0.214 \times (SM + SF)) \times CF$$

where:

URF	=	Population Averaged Unit Risk Factor (risk per fibers/cubic centimeter [cm^3])
NSM	=	risk for male non-smokers
NSF	=	risk for male non-smokers
SM	=	risk for male smokers
SF	=	risk for female smokers
CF	=	factor to convert risk from risk per 100,000 to risk per 1,000,000

This equation considers male smokers, male non-~~smokes~~smokers, female smokers, and female non-smokers. In addition, because both chrysotile and amphibole have been detected at the BMI Common Areas, both amphibole and chrysotile fibers are evaluated in the risk assessments, regardless of if either was detected within an exposure area (as calculated using the 95 percent UCL of the mean of the assumed underlying Poisson distribution).

The basic equation for assessing inhalation cancer risk for asbestos is analogous to that recommended by USEPA for other inhalation carcinogens. As shown in Equation 11 of *Risk Assessment Guidance for Superfund, Part F* (USEPA 2009) inhalation cancer risk is the product of an IUR factor and an exposure concentration. The exposure concentration is a function of the asbestos air concentration, the length of time an individual is exposed, and the averaging time for which carcinogenic effects are evaluated for the unit risk factor. This calculation of asbestos-related risk (ARR) is also consistent with application of Berman and Crump (2003) to risk calculations described in Berman (2003a; 2003b; 2005). The risk equation used in performing an asbestos inhalation risk assessment is:

$$ARR = \frac{C_{air} \times URF \times ET \times EF \times ED}{AT}$$

where:

C_{air}	=	air concentration of asbestos (fibers/cm^3)
ET	=	exposure time (hours/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
AT	=	averaging time (hours)
URF	=	unit risk factor (risk per f/cm^3)

Asbestos risk estimates are compared to the USEPA acceptable, incremental risk range for carcinogens of 1 in 10,000 (10^{-4}) and 1 in 1 million (10^{-6}) and the NDEP's acceptable, incremental level of 10^{-6}, although the risk estimates represent the probability of death from mesothelioma or lung cancer rather than the probability of contracting cancer. If the estimated asbestos risk falls within or below this risk range, asbestos is considered unlikely to pose an unacceptable risk to individuals under the given exposure conditions. A risk level of 1×10^{-5} (1 E-5) represents a probability of one in 100,000 that an individual could die from contracting mesothelioma or lung cancer from exposure to asbestos under a defined set of exposure assumptions.

6.4.4 Risk Assessment Results

The calculation of theoretical upper-bound ILCRs and non-cancer health effects are presented by receptor in Tables 6-14a, 6-14b, 6-14c through 6-~~17a~~18a, 6-~~17b~~18b, 6-~~17c~~18c (Tables section) and are discussed in Section 8. These tables present the theoretical upper-bound ILCRs and non-cancer health effects calculations for residential, construction worker, commercial (indoor) worker, and maintenance (outdoor) worker receptors. The risk of death from lung cancer or mesothelioma as a consequence of exposure to asbestos on a Site-wide basis is presented in Table 6-~~18~~19 (Tables section). All calculation spreadsheets are provided in Appendix H (included on the report CD in Appendix B). As discussed in Section 8, based on the results of the HHRA, exposures to residual levels of chemicals in soil at the Southern RIBs Sub-Area should not result in adverse health effects to any of the future receptors evaluated.

7.0 UNCERTAINTY ANALYSIS

Risk estimates are values that have uncertainties associated with them. These uncertainties, which arise at every step of a risk assessment, are evaluated to provide an indication of the uncertainty associated with a risk estimate. Risk assessments are not intended to estimate the true risk to a receptor associated with exposure to chemicals in the environment. In fact, estimating the true risk is impossible because of the variability in the exposed or potentially exposed populations. There are always gaps in knowledge because a true exposure for every individual human being cannot be measured. Therefore, risk assessment is a means of estimating the probability that an adverse health effect (e.g., cancer, impaired reproduction) will occur in a receptor to assist in decision-making regarding the protection of human health. The use of conservative values for a majority of the assumptions in risk assessments helps guard against the underestimation of risks.

Risk estimates are calculated by combining Site data, assumptions about individual receptor's exposures to impacted media, and toxicity data. The uncertainties in this HHRA can be grouped into four main categories that correspond to these steps:

- Uncertainties in environmental sampling and analysis;
- Uncertainties in fate and transport modeling~~ (discussed in Section 9);~~;
- Uncertainties in assumptions concerning exposure scenarios; and
- Uncertainties in toxicity data and dose-response extrapolations.

General uncertainties associated with the HHRA for the Site are summarized in Table 7-1 (Tables section). In this table, "Low," "Moderate," and "High" are qualitative indicators as to whether the source of uncertainty will likely have a small, medium, or large effect on the risk calculations, respectively. In general, the scenarios and parameters evaluated and used in this HHRA are considered conservative based on how the Site will be developed. This is a large source of potential conservative bias in this HHRA. Additional discussion on the uncertainties associated with the HHRA is provided below.

7.1 ENVIRONMENTAL SAMPLING

The HHRA for the Site was based on the sampling results obtained from investigations conducted in 2008 and 2009. Errors in sampling results can arise from the field sampling, laboratory analyses, and data analyses.

The environmental sampling at the Site is one source of uncertainty in the evaluation. However, the number of sampling locations and events is large, widespread and spatially distributed, with consistent analytical results (i.e., no hot spots), and sampling was performed using approved procedures; therefore, the sampling and analytical data are sufficient to characterize the impacts and the associated potential risks.

Because of the surface soil removal undertaken for certain chemicals, the new surface layer of the Site could have different chemical concentrations than those measured prior to soil removal. Because only the trigger analytes were reanalyzed for in the post-scrape samples, the original measured surface soil data at the Site for all other chemicals was retained for further evaluation. However, it is reasonable to assume that the concentrations are now lower for some chemicals (e.g., metals, if due to contamination), because of the removal of some soil.

The laboratory data are another potential source of uncertainty. Maximum SQLs for 1,2-diphenylhydrazine, bis(2-chloroethyl) ether, hexachlorobenzene, and n-nitrosodi-n-propyl-amine exceeded one-tenth their respective residential soil BCL. These chemicals were not evaluated quantitatively in the HHRA as they were not detected in any Site samples. This may result in an underestimation of risk.

The types of analyses were chosen based on historical knowledge of the Site and BMI Common Areas. The data validation and data usability evaluations provided documentation that the HHRA database is adequate to support HHRA conclusions (Section 4 and Appendix E). Based on the data validation and data usability, the risk estimates are likely to be overestimated rather than underestimated.

NDEP has issued recent guidance regarding qualifying data due to blank contamination (NDEP 2012b). As noted in the guidance, NDEP requires that data validated before June 2011 and impacted by blank contamination be discussed in any report that uses such data. In so doing, a semi-quantitative comparison of the potential differences between approaches taken previously and the requirements specified in the guidance will be described and explained. The discussion below provides this semi-quantitative comparison for data impacted by blank contamination for the Site.

All data for the Site were collected and validated prior to June 2011; therefore, data were qualified using existing USEPA and NDEP guidance. The issue of blank contamination is not one that affects the typical primary risk drivers for the project, including those for the Site. The primary risk drivers for the Site are aluminum, cobalt, manganese, and vanadium, all of which have 100 percent detections and no blank contamination issues. The following other metals had samples qualified due to blank contamination: antimony (21 samples), arsenic (22 samples), beryllium (3 samples), boron (20 samples), cadmium (101 samples), hexavalent chromium (22 samples), mercury (23 samples), molybdenum (55 samples), selenium (24 samples), silver (60 samples), thallium (25 samples), tin (33 samples), and tungsten (34 samples). Given the number of samples qualified due to blank contamination for several of these, this may have an impact on the background comparison statistics. However, except for arsenic and thallium, the maximum detected concentrations for these metals are less than one-tenth their respective BCLs (and their maximum non-detect concentrations are also less than one-tenth their BCLs). Arsenic and thallium non-detect concentrations exceed one-tenth their respective BCLs, but are less than their respective maximum background concentrations. Therefore, with the possible exception of arsenic and thallium, this issue has no material effect on the selection of COPCs and the results of the HHRA for the Site.

Uncertainties are also introduced into the risk assessment by assumptions that are made regarding the grading plan. As described in Section 3.1, the grading plan affects the interpretation of the data in terms of assigning samples to the surface or the subsurface. This was done to avoid the situation in which current surface samples might not be included in the evaluation of exposures to future surface soils. The data were subdivided by depth intervals as described in Section 3.1, and the maximum of the UCLs for the subsets of data was used as the exposure point concentration. There is some uncertainty in the choice of subsetting on the concentrations of interest, and there is a potential small overestimation of risk by choosing the maximum of the UCLs as the exposure point concentration. The effects are likely to be small given the data, since there is not much variation in the different UCLs.

7.2 ESTIMATES OF EXPOSURE

The selection of exposure pathways is a process, often based on best professional judgment, which attempts to identify the most probable potentially harmful exposure scenarios. In a risk assessment it is possible that risks are not calculated for all of the exposure pathways that may occur, possibly causing some underestimation of risk.

7.2.1 Aggregation of Exposure Areas

For the residential scenario that is evaluated, default exposure areas are 1/8th-acre in size. However, sampling has not been performed at the frequency of guaranteeing at least one sample per every 1/8th-acre exposure area. Instead, sampling has been performed at the scale of approximately once every 3 acres. This is considered sufficient if the concentration distribution for COPCs appears similar across the Site. To the extent that this assumption is not valid the risk assessment might underestimate risks. However, considering the sampling protocols employed and the physical remediation activities performed, the risk estimates are considered both reasonable from this perspective and unlikely to have resulted in an underestimation of risk at the Site.

7.2.2 Types of Exposures Examined

In an evaluation, risks are sometimes not calculated for all of the exposure pathways that may occur, possibly causing some underestimation of risk. However, in this case, all principal potential exposure pathways were evaluated. In this assessment, risks were estimated for future on-site residents, and indoor and outdoor worker receptors. Risks for the most likely routes of exposure to these receptors were estimated. For example, risks to residents were estimated for soil ingestion, skin contact with soil, inhalation of outdoor air (including dust generation), inhalation of indoor air, and ingestion of homegrown produce. Although it is possible that other exposure routes could exist (e.g., downwind off-site residents), these exposures are expected to be lower than the risks associated with the pathways considered.

7.2.3 Intake Assumptions Used

The risks calculated depend largely on the assumptions used to calculate the rate of COPC intake. For this assessment, standard default values developed by USEPA are used for reasonable maximum exposures frequency and exposure duration for all receptors. These estimates are conservative values, and the possibility that they underestimate the risk is low. The uncertainties associated with particular parameters used in this risk assessment are described below.

The amount of COPCs the human body absorbs may be different from the amount of a COPC contacted, and the percentage absorbed may vary from one person to another. In this HHRA absorption of ingested and inhaled COPCs is conservatively assumed to be 100 percent.

Current USEPA guidance (USEPA 2004e) states that "There are no default dermal absorption values presented for volatile organic compounds nor inorganic classes of compounds. The rationale for this is that in the considered soil exposure scenarios, volatile organic compounds would tend to be volatilized from the soil on skin and should be accounted for via inhalation routes in the combined exposure pathway analysis. For inorganics, the speciation of the compound is critical to the dermal absorption and there are too little data to extrapolate a reasonable default value." While USEPA guidance does not specifically state that this pathway should be dismissed, consistent with the approach utilized in current USEPA guidance, the risk estimates in this HHRA do not include a dermal absorption value for VOCs or inorganics (unless a specific value has been identified). Thus, the risks presented in this assessment could be underestimated as a result.

While there have been numerous studies in recent years detailing the presence of perchlorate in vegetable and fruit produce, the homegrown exposure pathway was not evaluated for perchlorate in the HHRA. BRC has not been able to identify an appropriate soil-to-plant uptake factor for this pathway. The studies predominantly focus on water-to-plant uptake. Dr. W. Andrew Jackson at Texas Tech University has been studying perchlorate plant uptake and does not believe that the soil-to-plant pathway for a garden scenario is realistic for perchlorate (Jackson 2010). Perchlorate is extremely soluble and in surface soil would rapidly be flushed away due to application of irrigation water (Jackson 2010). In addition, laboratory experiments have demonstrated that perchlorate may be reduced to chloride in some plants (ATSDR 2008b). Also, concentrations of perchlorate in soils at this Site are quite low relative to risk levels of concern, so the contribution of perchlorate to risk is quite small. Adding the soil-to-plant component is unlikely to contribute significantly to the risk. Consequently, the effect on the risk assessment of excluding perchlorate from the soil-to-plant pathway is likely to be small.

Soil preparation for a backyard garden is not accounted for in the HHRA and would result in reduced soil concentrations. Las Vegas area soils are "…alkaline, clayish, caliche or hard and salty. [In addition,]…soils are lacking organic matter and nutrients" (Mills, 2000). Therefore, residential gardening cannot occur in Site soils in its existing condition. For non-native vegetation to grow, soil amendments must be added. Recommended soil preparations for the area include thoroughly blending equal amounts of organic matter with the soil as well as the addition of other soil amendments (e.g., fertilizers).

The construction activity dust emissions did not take into account dust control measures that would reduce the amount of dust generated to below those levels used in the HHRA. The Clark County Department of Air Quality and Environmental Management has dust control permitting requirements, and an inhalable particulate matter action level of 50 µg/m^3. The construction activity dust emissions predicted and used in the HHRA exceeded this level. Therefore, ~~mandated~~ dust suppression activities would ~~reduce~~need to be implemented, thus reducing dust levels and exposures~~ assumed in this HHRA, potentially overestimating risk and thereby introducing uncertainty~~.

The dispersion factor for the construction worker is not adjusted to account for soil intrusion activities. Because these activities may cause increased air concentrations than that evaluated, risks to VOCs in soil may be underestimated for this receptor. However, VOCs are primarily associated with groundwater, this potential underestimation is considered low.

7.3 TOXICITY ASSESSMENT

The availability and quality of toxicological data is another source of uncertainty in the risk assessment. Uncertainties associated with animal and human studies may have influenced the toxicity criteria. Carcinogenic criteria are classified according to the amount of evidence available that suggests human carcinogenicity. In the establishment of the non-carcinogenic criteria, conservative safety factors, known as uncertainty and modifying factors, are used.

7.3.1 COPCs Lacking Toxicological Data

Toxicity criteria have not been established for some of the chemicals detected at the Site. These chemicals were not quantitatively evaluated in the HHRA. For example, potassium is a COPC for which no USEPA toxicity criteria have been established. The health effects and levels of concern for potassium in soil are not known. While not including potassium may have resulted in a low degree of underestimation of quantitative Site risk estimates, the available toxicological information suggests that this underestimation will not likely affect the decisions made relative to Site risks.

Because of the inconclusive nature of TICs as potentially SRCs, non-cancer surrogate toxicity criteria were not applied. Non-cancer surrogate toxicity criteria were not applied to the inorganic chemicals because of the complexity of ion and metal toxicity. A quantitative estimation of risk was not conducted for these COPCs. Thus, the risks presented in this assessment could be underestimated as a result.

For the surface flux results, a few organic chemicals detected (e.g., n-heptane, 2-hexanone, cymene) do not have toxicity criteria available. Surrogate toxicity criteria were applied for these chemicals. Thus, the risks presented in this assessment could be under- or over-estimated as a result.

7.3.2 Uncertainties in Animal and Human Studies

Extrapolation of toxicological data from animal tests is one of the largest sources of uncertainty in a risk assessment. There may be important, but unidentified, differences in uptake, metabolism, and distribution of chemicals in the body between the test species and humans. For the most part, these uncertainties are addressed through use of conservative assumptions in establishing values for RfDs, RfCs, CSFs, and IURs, which results in the likelihood that the risk is overstated.

Typically, test animals are administered high doses (e.g., maximum tolerated dose) of a chemical in a standard diet or in air. Humans are generally exposed to much lower doses in the environment, which may affect the toxicity of the chemical. In these studies, test animals, often laboratory rodents, are exposed daily to the chemical agent for various periods of time up to their 2-year lifetimes. Humans have an average 70-year lifetime and may be exposed either intermittently or regularly for an exposure period ranging from months to a full lifetime. Because of these differences, it is not surprising that extrapolation error is a large source of uncertainty in a risk assessment.

7.3.3 Non-Carcinogenic Toxicity Criteria

In the establishment of the non-carcinogenic criteria, conservative safety factors, known as uncertainty factors, are used. Most of the chronic non-carcinogenic toxicity criteria that were located in the IRIS database have uncertainty factors of 1,000. This means that the dose corresponding to a toxicological effect level (e.g., LOAEL) is divided by 1,000 to deem a safe, or "reference," dose. The purpose of the uncertainty factor is to account for the extrapolation of toxicity data from animals to humans and to ensure the protection of sensitive individuals.

For example, there is low confidence in the provisional subchronic and chronic RfDs that have been established by USEPA (2008) for cobalt, including low to medium confidence in both the principal study and database. As noted in USEPA (2008) "A temporal relationship between prolonged oral cobalt exposure and increased severity of thyroid effects in humans (or experimental animals) is not clear, based upon available data." In addition, it is possible that chronic exposures may have not greater effect in humans than sub-chronic exposures; however, an uncertainty factor of 10 was applied to the sub-chronic RfD to derive the chronic RfD used in the HHRA.

For cobalt, scientific literature recommendations on cobalt bioavailability (Golder Associates 2005; Rasmussen 2007; Ontario Ministry of the Environment 2002) indicate a cobalt oral bioavailability of 30 percent. Although these studies are for different sites, all indicate similar cobalt bioavailability. This value is further supported by a bioaccessibility study that was conducted for the Site. The results of this study indicate a site-specific cobalt bioaccessibility of 15 percent. This study also evaluated the bioaccessibility of several other metals, including aluminum (5 percent), manganese (20 percent), and vanadium (5 percent) all of which indicated site-specific bioaccessibilities well below 100 percent, which was used in the HHRA. However, because this study has not been submitted to or approved by the NDEP, these bioaccessibility values have not been included in the HHRA.

The results of the HHRA are based on cumulative risks, and have not been segregated by target organ. The target organ with the highest HI is blood (hematopoetic) effects. This is due primarily to several COPCs (cobalt, vanadium, and PAHs) having an effect on this target organ. Previously, manganese was also included as affecting this particular target organ; however, a strong argument can be made that it should not be. The primary target organ of manganese is the central nervous system (neurological), with reproductive effects a secondary target organ. Blood effects due to manganese occur at much greater dosages than those for either neurological or reproductive effects. Therefore, it is inappropriate to include manganese, using the RfD based on neurological effects, in the blood target organ.

Based on the above discussion, it is considered reasonable and appropriate to evaluate the HHRA using bioaccessibility factors of less than 100 percent (for example, 30 percent for cobalt), and by segregating by target organ, but not including manganese in blood target organ. If both of these are factored into the risk assessment, none of the non-cancer HIs exceed 1.0. For example, using a bioaccessibility of 30 percent for cobalt (instead of the site-specific bioaccessibility of 15 percent, and leaving all other metals at 100 percent), the highest non-cancer HI under this scenario is 0.96 for exposure area SRC-J21.

7.3.4 Sub-Chronic Non-Carcinogenic Toxicity Criteria

Construction worker exposures are evaluated for an exposure duration of 1 year, which is more representative of a sub-chronic exposure rather than a chronic exposure. As such, where available, sub-chronic RfDs were used to characterize non-cancer effects for the construction worker. However, for many COPCs a sub-chronic RfD was not available and the chronic RfD was used. This likely presented an overestimation of non-cancer health risks to the construction worker.

7.3.5 Carcinogenic Toxicity Criteria

Uncertainty due to extrapolation of toxicological data for potential carcinogens tested in animals to human response is commonly the case for potentially carcinogenic chemicals. USEPA frequently uses the LMS model, or other non-threshold low dose extrapolation models, to extrapolate the toxicological data to estimate human response. These low dose extrapolation models assume that there is no threshold for carcinogenic substances; that is, exposure to even one molecule, fiber, or picocuries of a carcinogen is sufficient to cause cancer. This is a highly conservative assumption because the body has several mechanisms to protect against cancer.

The use of the LMS model to extrapolate is a well-recognized source of significant uncertainty in the development of carcinogenic toxicity criteria and, subsequently, theoretical carcinogenic risk estimates. At high levels of exposure, there may indeed be a risk of cancer regardless of whether or not the effect occurs via a threshold mechanism. An animal bioassay cannot determine what happens at low levels of exposure, however, which are generally typical of human exposure levels.

At low levels of exposure, the probability of cancer cannot be measured but must be extrapolated from higher dosages. To do this, test animals are typically exposed to carcinogens at levels that are orders of magnitude greater than those likely to be encountered by humans in the environment. It would be difficult, if not impossible, to perform animal experiments with a large enough number of animals to directly estimate the level of risk at the low exposure levels typically encountered by humans. Thus, to estimate the risk to humans exposed at low levels, dose-response data derived from animals given high dosages are extrapolated downward using mathematical models such as the LMS model, which assumes that there is no threshold of response. The dose-response curve generated by the model is known as the maximum likelihood estimate. The slope of the 95 percent lower confidence interval (i.e., upper-bound limit) curve, which is a function of the variability in the input animal data, is taken as the CSF. CSFs are then used directly in cancer risk assessment.

The U.S. federal government, including USEPA itself, has acknowledged the limitations of the high-to-low dose extrapolation models, particularly the LMS model (USEPA 1991c). In fact, this aspect of cancer risk assessment has been criticized by many scientists (including regulatory scientists) in recent years. USEPA has released revised cancer risk assessment guidelines (USEPA 2005c).

Even for genotoxic (i.e., non-threshold) substances, there are two major sources of bias embedded in the LMS model: (1) its inherent conservatism at low doses and (2) the routine use of the linearized form in which the 95 percent upper confidence interval is used instead of the unbiased maximum likelihood estimate. The inherent conservatism at low doses is due in part to the fact that the LMS model ignores all of the numerous biological factors that argue against a linear dose- response relationship for genotoxic effects (e.g., DNA repair, immunosurveillance, toxicokinetic factors).

Several other factors inherent in the LMS model result in overestimated carcinogenic potency: (1) any exaggerations in the extrapolation that can be produced by some high dose responses (if they occur) are generally neglected; (2) UCLs on the actual response observed in the animal study are used rather than the actual response, resulting in upper-bound low dose extrapolations, which can greatly overestimate risk; and (3) non-genotoxic chemicals (i.e., threshold carcinogens) are modeled in the same manner as highly genotoxic chemicals.

7.3.6 Uncertainties with the Asbestos Risk Assessment

For the risk assessment, asbestos concentrations were presented two ways, as a best estimate and upper bound based upon the UCL of the mean of the Poisson distribution. No detections of amphibole fibers were observed. However, when zero fibers are observed, the UCL of the mean is approximately three fibers, and this value is used as the basis for the reasonable maximum exposure point concentration for the asbestos risk assessment. Considering the remediation activities that have been performed, and the observation of zero amphibole fibers, this approach might result in overestimation of amphibole related risks.

Asbestos risk estimates are highly dependent on the number of samples to increase or decrease the pooled analytical sensitivity. That is, a larger number of non-detect samples with similar individual analytical sensitivity results in a lower pooled analytical sensitivity and subsequently a lower estimated ARR, whereas a smaller number of non-detect samples results in a higher ARR. Uncertainty is, thus, reduced as more samples are collected.

7.4 CUMULATIVE EFFECT OF UNCERTAINTIES

Uncertainties from different sources are compounded in the HHRA. For example, if a person's daily intake rate for a chemical is compared to an RfD to determine potential health risks, the uncertainties in the concentration measurements, exposure assumptions, and toxicities are all expressed in the result. Because the exposure assumptions and toxicity criteria are considered conservative, the risk estimates calculated in this HHRA are likely to overestimate rather than underestimate potential risks.

8.0 SUMMARY OF RESULTS

This HHRA has evaluated potential risks to human health associated with chemicals and asbestos detected in soil at the Southern RIBs Sub-Area located within the BMI Common Areas in Clark County, Nevada. All calculation spreadsheets for the HHRA are presented in Appendix H (included on the report CD in Appendix B) including the calculations of chemical theoretical upper-bound ILCRs and non-cancer health effects and asbestos risk calculations.

The risk estimates are based on reasonable maximum exposure scenarios, which results in estimates of the potential reasonable maximum, or high-end, risks associated with the Site. The calculated chemical theoretical upper-bound ILCRs and HIs are presented in Tables 6-14a, 6-14b, 6-14c through 6-~~17a~~18a, 6-~~17b~~18b, 6-~~17c~~18c for residential~~,~~ (including background), construction worker, commercial (indoor) worker, and maintenance (outdoor) worker receptors, respectively. Asbestos estimated risk of death from lung cancer or mesothelioma on a Site-wide basis are presented in Table 6-~~18~~19.

8.1 RESIDENTS

Exposure Area – Site-Wide

For chemical exposures, the total cumulative non-cancer HI for future residential receptors at the Site is 1.~~4~~6 (including the surface flux air risk estimates[51]), which is above the target HI of 1.0 (Table 6-14a), driven by cobalt and manganese soil exposures. Because the HI exceeds the target HI of 1.0, is driven primarily by metals, and as noted in USEPA guidance (1989), 'If background risk might be a concern, it should be calculated separately from site-related risk.' background risk estimates were also evaluated (Table 6-15). Background risk estimates are only evaluated for those metals selected as COPCs (aluminum, cobalt, manganese, and vanadium) and evaluated in the HHRA. In addition, representative exposure concentrations for background are the 95 percent UCL concentrations based on the background dataset used in Section 5. The background non-cancer HI for future residential receptors at the Site is 1.2 (Table 6-15).

Although the total cumulative HI exceeds 1.0, the potential for adverse health effects was ~~further~~not quantitatively evaluated by considering the target organs upon which each chemical

[51] The minimum and maximum surface flux risk estimates are summed with the soil risk estimates to provide a range of cumulative risks. The minimum and maximum surface flux risk estimates are provided in Appendix H (included on the report CD in Appendix B) and the receptor-specific chemical risk summary tables. The risks shown are cumulative risks using the maximum surface flux risk estimate.

could have an adverse effect. However, target organ-specific HIs ~~are also shown in Table 6-14a. The target organ-specific HIs have been summed for all relevant COPCs (Note: target organs for each COPC are identified in the calculation spreadsheets included in Appendix H [included on the report CD~~were evaluated in ~~Appendix B] and in Table 6-13).~~the uncertainty analysis (Section 7.3.3). The maximum target organ-specific HI is 0.~~78 (Table 6-14a).~~67. None of the target organ non-cancer HIs are above 1.0.

The maximum theoretical upper-bound ILCR for future residential receptors at the Site is 3×10^{-6} (including the surface flux air risk estimates, Table 6-14a). The range of ILCRs is ~~8~~6 $\times 10^{-7}$ to 3×10^{-6}. The ILCR is near the low end of the risk goal of 1×10^{-6} and is driven by the indoor air ILCR for flux sample SRC1-AJ21 due to naphthalene.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to future residential receptors were below 1×10^{-6}. For residential receptors, the best estimate and upper bound concentrations for chrysotile fibers are 1×10^{-8} and 2×10^{-8}; and zero and 2×10^{-7} for amphibole fibers (Table 6-~~18~~19). These estimated risks are below the low end of the risk goal of 1×10^{-6}. The upper bound estimated risk of death from lung cancer or mesothelioma is estimated based on the 95 percent UCL of the count of the number of fibers detected, assuming a Poisson distribution for the count. Note that when the observed count is zero, the 95 percent UCL is approximately three fibers. Therefore, the high-end risk estimate for deaths from lung cancer or mesothelioma is a conservative value since it is based on a 95 percent UCL of the Poisson distribution of three long amphibole structures although no long amphibole structures have been detected at the Site.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for future residential receptors at SRC-J02/J03 is ~~1.6~~2.2 (including the surface flux air risk estimates), which is above the target HI of 1.0 (Table 6-14b), driven by cobalt and manganese soil exposures. Because the HI exceeds the target HI of 1.0, is driven primarily by metals, background risk estimates were also evaluated (Table 6-15). Background risk estimates are only evaluated for those metals selected as COPCs (aluminum, cobalt, manganese, and vanadium) and evaluated in the HHRA. In addition, representative exposure concentrations for background are the 95 percent UCL concentrations based on the background dataset used in Section 5. The background non-cancer HI for future residential receptors at SRC-J02/J03 is 1.2 (Table 6-15).

Although the total cumulative HI exceeds 1.0, the potential for adverse health effects was ~~further~~not quantitatively evaluated by considering the target organs upon which each chemical could have an adverse effect. However, target organ-specific HIs ~~are also shown in Table 6-14b. The target organ-specific HIs have been summed for all relevant COPCs (Note: target organs for each COPC are identified in the calculation spreadsheets included~~were evaluated in ~~Appendix H [included on the report CD in Appendix B] and in Table 6-13).~~the uncertainty analysis (Section 7.3.3). The maximum target organ-specific HI is 0.~~90 (Table 6-14b).~~88. None of the target organ non-cancer HIs are above 1.0.

The maximum theoretical upper-bound ILCR for future residential receptors at SRC-J02/J03 is 3×10^{-6} (including the surface flux air risk estimates) (Table 6-14b). The range of ILCRs is ~~8~~6 $\times 10^{-7}$ to 3×10^{-6}. The ILCR is near the low end of the risk goal of 1×10^{-6} and is driven by the indoor air ILCR for flux sample SRC1-AJ21 due to naphthalene.

Exposure Area – SRC-J21

For chemical exposures, the total cumulative non-cancer HI for future residential receptors at SRC-J21 is ~~1.7~~2.5 (including the surface flux air risk estimates), which is above the target HI of 1.0 (Table 6-14c), driven by cobalt and manganese soil exposures. ~~Because the total cumulative HI exceeds 1.0, the potential for adverse health effects was further evaluated by considering the target organs upon which each chemical could have an adverse effect. Target organ-specific HIs are also shown in Table 6-14c. The target organ-specific HIs have been summed for all relevant COPCs (Note: target organs for each COPC are identified in the calculation spreadsheets included in Appendix H [included on the report CD in Appendix B] and in Table 6-13). The maximum target organ-specific HI is 0.92 (Table 6-14c). None of the target organ non-cancer HIs are above 1.0.~~ Because the HI exceeds the target HI of 1.0, is driven primarily by metals, background risk estimates were also evaluated (Table 6-15). Background risk estimates are only evaluated for those metals selected as COPCs (aluminum, cobalt, manganese, and vanadium) and evaluated in the HHRA. In addition, representative exposure concentrations for background are the 95 percent UCL concentrations based on the background dataset used in Section 5. The background non-cancer HI for future residential receptors at SRC-J21 is 1.2 (Table 6-15).

Although the total cumulative HI exceeds 1.0, the potential for adverse health effects was not quantitatively evaluated by considering the target organs upon which each chemical could have an adverse effect. However, target organ-specific HIs were evaluated in the uncertainty analysis

(Section 7.3.3). The maximum target organ-specific HI is 0.96. None of the target organ non-cancer HIs are above 1.0.

The maximum theoretical upper-bound ILCR for future residential receptors at SRC-~~-~~J21 is 3×10^{-6} (including the surface flux air risk estimates) (Table 6-14c). The range of ILCRs is ~~8~~6 $\times 10^{-7}$ to 3×10^{-6}. The ILCR is near the low end of the risk goal of 1×10^{-6} and is driven by the indoor air ILCR for flux sample SRC1-AJ21 due to naphthalene.

8.2 CONSTRUCTION WORKERS

Exposure Area – Site-Wide

For chemical exposures, the total cumulative non-cancer HI for construction worker receptors at the Site is 0.~~56~~60 (including the surface flux air risk estimates) (Table 6-~~15a~~16a), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for construction worker receptors at the Site is 4×10^{-8} (including the surface flux air risk estimates) (Table 6-~~15a~~16a) and is driven by cobalt dust exposures. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to construction workers were below 1×10^{-6}. For construction worker receptors, the best estimate and upper bound concentrations for chrysotile fibers are both 2×10^{-8}; and zero and 3×10^{-7} for amphibole fibers (Table 6-~~18~~19). These estimated risks are below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for construction worker receptors at SRC-J02/J03 is 0.~~65~~79 (including the surface flux air risk estimates) (Table 6-~~15b~~16b), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for construction worker receptors at SRC-J02/J03 is 5×10^{-8} (including the surface flux air risk estimates) (Table 6-~~15b~~16b) and is driven by cobalt dust exposures. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J21

For chemical exposures, the total cumulative non-cancer HI for construction worker receptors at SRC-J21 is 0.~~68~~89 (including the surface flux air risk estimates) (Table 6-~~15c~~16c), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for construction worker receptors at SRC-J21 is 6×10^{-8} (including the surface flux air risk estimates) (Table 6-~~15c~~16c) and is driven by cobalt dust exposures. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

8.3 COMMERCIAL (INDOOR) WORKERS

Exposure Area – Site-Wide

For chemical exposures, the total cumulative non-cancer HI for commercial (indoor) worker receptors at the Site is 0.~~035~~047 (including the surface flux air risk estimates) (Table 6-~~16a~~17a), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for commercial (indoor) worker receptors at the Site is ~~2~~3 $\times 10^{-7}$ (including the surface flux air risk estimates) (Table 6-~~16a~~17a) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1×10^{-6}.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to commercial (indoor) workers were below 1×10^{-6}. For commercial (indoor) worker receptors, the best estimate and upper bound concentrations for chrysotile fibers are 2×10^{-9} and 3×10^{-9}; and zero and 4×10^{-8} for amphibole fibers (Table 6-~~18~~19). These estimated risks are below the low end of the risk goal of 1×10^{-6}.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for commercial (indoor) worker receptors at SRC-J02/J03 is 0.~~040~~061 (including the surface flux air risk estimates) (Table 6-~~16b~~17b), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for commercial (indoor) worker receptors at SRC-J02/J03 is ~~2~~3 × 10^{-7} (including the surface flux air risk estimates) (Table 6-~~16b~~17b) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1 × 10^{-6}.

Exposure Area – SRC-J21

For chemical exposures, the total cumulative non-cancer HI for commercial (indoor) worker receptors at SRC-J21 is 0.~~043~~069 (including the surface flux air risk estimates) (Table 6-~~16c~~17c), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for commercial (indoor) worker receptors at SRC-J21 is 3 × 10^{-7} (including the surface flux air risk estimates) (Table 6-~~16c~~17c) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1 × 10^{-6}.

8.4 MAINTENANCE (OUTDOOR) WORKERS

Exposure Area – Site-Wide

For chemical exposures, the total cumulative non-cancer HI for maintenance (outdoor) worker receptors at the Site is 0.~~057~~077 (including the surface flux air risk estimates) (Table 6-~~17a~~18a), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for maintenance (outdoor) worker receptors at the Site is ~~2~~3 × 10^{-7} (including the surface flux air risk estimates) (Table 6-~~17a~~18a) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1 × 10^{-6}.

The estimated risks for death from lung cancer or mesothelioma for asbestos exposures to maintenance (outdoor) workers were below 1 × 10^{-6}. For maintenance (outdoor) worker receptors, the best estimate and upper bound concentrations for chrysotile fibers range from 5 × 10^{-9} to 7 × 10^{-9} and zero and 9 × 10^{-8} for amphibole fibers (Table 6-~~18~~19). These estimated risks are below the low end of the risk goal of 1 × 10^{-6}.

Exposure Area – SRC-J02/J03

For chemical exposures, the total cumulative non-cancer HI for maintenance (outdoor) worker receptors at SRC-J02/J03 is 0.~~066~~10 (including the surface flux air risk estimates) (Table 6-~~17b~~18b), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for maintenance (outdoor) worker receptors at SRC-J02/J03 is ~~2~~3 × 10^{-7} (including the surface flux air risk estimates) (Table 6-~~17b~~18b) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1 × 10^{-6}.

Exposure Area – SRC-J21

For chemical exposures, the total cumulative non-cancer HI for maintenance (outdoor) worker receptors at SRC-J02/J03 is 0.~~071~~12 (including the surface flux air risk estimates) (Table 6-~~17c~~18c), driven by cobalt and manganese soil exposures. The HI does not exceed the target HI of 1.0. Accordingly, the evaluation of background or target-organ HI values is moot.

The maximum theoretical upper-bound ILCR for maintenance (outdoor) worker receptors at SRC-J02/J03 is ~~2~~3 × 10^{-7} (including the surface flux air risk estimates) (Table 6-~~17c~~18c) and is driven by the surface flux air risk estimates. The ILCRs are all below the low end of the risk goal of 1 × 10^{-6}.

~~9.0 POTENTIAL IMPACTS TO GROUNDWATER~~

~~This section presents the evaluation of the potential impacts to groundwater of residual chemicals in soil and considering the future land use of the Site. In general, this evaluation is conducted using two basic analytical tools: (1) screening of COPCs, resulting in selection of indicator COPCs for modeling, and (2) use of both the VLEACH and SESOIL (as appropriate) vertical unsaturated zone migration models and Site-specific analytical results of soil samples collected from the Site. The SESOIL modeling was conducted for all non-volatile COPCs identified in the HHRA and selected for modeling.[52] The SESOIL modeling was selected because it can provide a consistent framework for evaluating potential groundwater impacts for the non-volatile COPCs. However, SESOIL does not simulate downward vapor-phase diffusion. Therefore, in cases where VOCs are potential COPCs selected fro modeling, VLEACH was used for the volatile COPCs identified in the HHRA in the soil matrix and selected for modeling. The evaluation was conducted using the SESOIL and VLEACH models as distributed by Waterloo Hydrogeologic, Inc. in the model software package WHI UnSat Suite Plus 2.2.03.~~

~~9.1 PRELIMINARY IMPACTS TO GROUNDWATER SCREENING~~

~~A tiered process is carried out for the evaluation of potential impacts to groundwater. Consistent with Section 9.6.1 of the *BRC Closure Plan* (BRC, ERM, and DBS&A 2007; Section 9 revised March 2010), several criteria are utilized to evaluate whether chemicals may present a potential threat to groundwater quality prior to inclusion in quantitative unsaturated zone modeling.~~

~~9.1.1 Comparison to Leaching-Based Basic Comparison Levels~~

~~Only those chemicals selected as COPCs in the HHRA (Section 5) are considered further for evaluation as a potential threat to groundwater quality. The COPCs considered in the evaluation are listed in Table J-1. Initial quantitative evaluation of the potential for residual COPC process is utilized for discussion and comparative purposes only.~~

~~LBCLs have been developed by the NDEP (2011a), and are based on a simple, conservative soil/water partitioning and groundwater dilution model provided in the USEPA's *Soil Screening Guidance* (1996). This process is described in detail in Section 9.6.1 of the *BRC Closure Plan*~~

~~[52] Although the *BRC Closure Plan* identifies the use of SESOIL for inorganic compounds, PESTAN for pesticides, and VLEACH for other organic compounds; subsequent information indicates that PESTAN is inappropriate for this type of modeling. Therefore, because SESOIL is an appropriate model for inorganics, pesticides, and other organic compounds, for consistency, SESOIL was used for all non-VOCs at the Site.~~

~~(BRC, ERM, and DBS&A 2007; Section 9 revised March 2010). In calculating the LBCL, a DAF is applied. A DAF of 1 is used when little or no dilution or attenuation of soil leachate concentrations is expected, and a DAF of 20 may be used when significant attenuation of the leachate is expected due to Site-specific conditions.~~

~~For the Site, the LBCLs based on a DAF of 1 were used for comparison purposes (LBCL$_{DAF1}$). Those chemicals with maximum detected concentrations less than the LBCL$_{DAF1}$ for that COPC are considered unlikely to pose a significant threat to groundwater quality, and are eliminated from further consideration. This comparison is presented in Table J-1. Of the 16 chemicals selected as COPCs in Section 5, 10 do not have detected concentrations greater than their respective LBCL$_{DAF1}$. Therefore, these 10 chemicals are considered unlikely to present a significant threat to future groundwater quality and are eliminated from further evaluation. Three COPCs have one or more concentrations greater than their respective LBCLs, and three do not have LBCLs. These COPCs are considered further.~~

~~The results of this evaluation are presented in Table J-1. As a result of the evaluation, the following chemicals were selected for quantitative unsaturated zone modeling: formaldehyde, ammonia, perchlorate, aluminum, manganese, beta-BHC.~~

~~9.2 SESOIL MODEL~~

~~SESOIL is designed for long-term environmental hydrologic, sediment, and pollutant fate simulations. The model is structured around three cycles: (1) the hydrologic cycle, which takes into account rainfall, infiltration, soil moisture, surface runoff, exfiltration, evapotranspiration, groundwater discharge, and capillary rise; (2) the sediment cycle, which is currently not available in the model; and (3) the pollutant cycle, which takes into account advection, diffusion, volatilization, adsorption/desorption, chemical degradation/decay, biological transformation and uptake, hydrolysis, photolysis, oxidation, and cation exchange. A complete description of the model equations and assumptions is provided in *SESOIL: A Seasonal Soil Compartment Model* (Bonazountas and Wagner 1984). Extensive modifications to the original version of SESOIL are described in Hetrick et al. (1989). The most current version of SESOIL incorporates these modifications.~~

~~Because the SESOIL model ignores a number of possible attenuating factors, it is likely that it over-predicts the actual chemical migration rate in the vadose zone. However, because of its simplicity, this approach provides a simple method to estimate the likely maximum rate at which chemicals would be transported in the vadose zone down to groundwater. All input parameters~~

~~used in the model simulations are presented in Appendix J (included on the report CD in Appendix B).~~

~~Inputs for SESOIL are broken out into the following elements:~~

- ~~Climate Data (Table J-2): consists of nine monthly climatological inputs. Data for this file are accessed from the climatic dataset incorporated into WHI UnSat Suite Plus. This dataset contains monthly averages for over 200 first order weather stations throughout the U.S.~~
- ~~Soil Data (Table J-3): consists of several parameters that describe the soil properties for the Site.~~
- ~~Chemical Data (Table J-4): consists of several parameters used to describe the properties of the COPC.~~
- ~~Application Data (Table J-5): consists of a number of inputs that describe soil layer specific data and the chemical application load.~~
- ~~Initial Concentrations (Table J-6): consists of the COPC concentrations used at time zero.~~

~~Data for Las Vegas, the closest first order weather station to the Site with similar meteorological conditions, are considered representative of the Site and input into this file. Input parameters for this data file include temperature, cloud cover, relative humidity, precipitation, and albedo, which relates to the fraction of light or electromagnetic radiation reflected by a surface. Evapotranspiration is calculated by the model based on temperature, cloud cover, relative humidity, and albedo (precipitation is not included as part of this calculation). Greater evapotranspiration inhibits infiltration, leading to slower downward migration of the chemicals. The climate dataset used is shown in Table J-2, in Appendix J.~~

~~The soil model input data consists of several parameters that describe soil properties. Average values of measured Site-specific data of soil porosity, density and organic carbon content were used in the model (Table J-3, in Appendix J). For parameters without measured Site data (cation exchange coefficient, Freundlich exponent), default inputs consistent with a sand soil type were used, with the exception of soil disconnectedness index. The default sand soil disconnectedness index of 3.7 was modified to 5.54, such that the overall recharge rate to groundwater predicted by the model would be consistent with the default, pre-development recharge rate predicted in the groundwater flow model developed for the Eastside property (DBS&A 2009). A recharge rate of 0.08 inch per year (for undeveloped areas) was estimated as part of that model.~~

~~The chemical model input data consists of several parameters used to describe the properties of the chemical of concern. USEPA Soil Screening Guidance (2002b) default chemical properties were used where available. The NDEP's BCL guidance (NDEP 2011a) was a secondary source for these parameters. Chemical parameters used in the evaluation are presented in Table J-4, in Appendix J.~~

~~The application model input data consist of a number of inputs that describe infiltration layer-specific data and the chemical application load. The model was run without application load. For purposes of this evaluation, the soil column was divided into four infiltration layers (Table J-5, in Appendix J). The designation of each layer and the width of each infiltration layer were:~~

~~Designation~~	~~Thickness (feet)~~	~~Boundary Depths (feet)~~
~~Infiltration Layer One~~	~~10~~	~~0 – 10~~
~~Infiltration Layer Two~~	~~10~~	~~10 – 20~~
~~Infiltration Layer Three~~	~~10~~	~~20 – 30~~
~~Infiltration Layer Four~~	~~20~~	~~30 – 50~~

~~For the purposes of inputting the initial soil chemical concentrations, the first three layers were divided into 10 individual 1-foot-thick sublayers, and the remaining layer was divided into 10 individual 2-foot-thick sublayers. The initial soil chemical concentration in each sublayer for the simulation was the maximum detected concentration in each soil depth horizon corresponding to each sublayer (Table J-6, in Appendix J).~~

~~The depth to groundwater has been observed at approximately 50 feet bgs in recent (July-August 2009) sampling (Figure 3). Therefore, groundwater was conservatively assumed to be at a depth of 50 feet bgs. The SESOIL model is one-dimensional, that is, it is limited to calculations and predictions within the soil column defined by the input parameters.~~

~~9.3 VLEACH MODEL~~

~~VLEACH is a USEPA one-dimensional finite-difference vadose zone leaching model that describes the movement of an organic contaminant within and between three phases: (1) as a solute dissolved in water, (2) as a gas in the vapor phase, and (3) as an adsorbed compound in the solid phase. Similar to SESOIL, the VLEACH model ignores a number of possible attenuating~~

~~factors. The VLEACH model is based on several assumptions that typically result in conservative evaluations of migration potential. These assumptions include:~~

- ~~The model simulates one-directional flow only.~~
- ~~Liquid phase dispersion is neglected. Hence, the migration of the chemical will be simulated as a plug. This assumption causes higher dissolved concentrations and lower travel time predictions than would occur in reality.~~
- ~~Instantaneous equilibrium between phases is assumed within each cell. After the mass is exchanged between the cells, the total mass in each cell is recalculated and re-equilibrated between the different phases and applied to the full depth of each cell. Thus assuming that some portion of the mass transferred into the top of one cell instantaneously reaches the bottom of the cell.~~

~~Therefore, it likely over predicts the actual chemical migration rate in the vadose zone. VLEACH requires the following soil input parameters: bulk density; effective porosity, moisture content and organic carbon content. All soil and chemical input parameters used in the SESOIL model were used in the VLEACH model. For soil moisture, which is an input for VLEACH, but is calculated by SESOIL, the soil moisture calculated by SESOIL for each of the recharge scenarios was utilized in VLEACH to maintain consistency between the models. Additional model input parameters specific to the VLEACH model are presented in Table J-7, in Appendix J.~~

~~9.4 POTENTIAL IMPACTS TO CHEMICAL MIGRATION MECHANISMS FOLLOWING REDEVELOPMENT~~

~~Migration of chemicals in soil to groundwater may be affected following redevelopment. Future redevelopment will likely result in increased surface water infiltration due to sources such as buried water lines, sewer lines, irrigation lines and/or over-watering of parks and lawns. These sources have the potential to enhance the migration to groundwater of the post-remediation levels of chemicals remaining in soils. Subsequently, three surface water infiltration scenarios were evaluated.~~

~~The first scenario evaluates recharge relative to baseline, pre-development conditions. This scenario assesses the potential for surface precipitation on unimproved ground surface (titled a "baseline" scenario) to influence migration of chemicals to groundwater. This is consistent with~~

~~recharge rate predicted in the groundwater flow model developed for the Eastside property (DBS&A 2009). A recharge rate of 0.08 inch per year (for undeveloped areas) was estimated as part of that model.~~

~~The second scenario evaluates recharge relative to normal post-development conditions. This scenario assesses the potential for surface water recharge in improved areas associated with commercial and residential construction, to influence migration of chemicals to groundwater. This is consistent with recharge rate predicted in the groundwater flow model developed for the Eastside property (DBS&A 2009). A recharge rate of 0.57 inch per year (for undeveloped areas) was estimated as part of that model (titled the "normal" scenario).~~

~~Last, a scenario of post-development enhanced recharge was also evaluated as part of the groundwater flow model developed for the Eastside property (DBS&A 2009), and incorporated into the vadose zone modeling. This scenario evaluates surface water recharge associated with overwatering of open space. A recharge rate of 8.672 inches per year was estimated as part of that model (titled the "enhanced" scenario).~~

~~Therefore, additional modeling runs were conducted using the SESOIL and VLEACH models to account for the potential increased recharge to groundwater for each of the two post-development scenarios. For SESOIL, the only modification was to increase the monthly rainfall to 1.94 centimeters per month (cm/month) for the normal post-development scenario and 6.197 cm/month for the enhanced recharge scenario. While the input of additional applied precipitation is more than the amount of post-development modeled water infiltration (DBS&A 2009), this is necessary to offset the effect of model estimated evapotranspiration (because the model only applies infiltration as a surface rather than as a sub-surface source). The values of 1.94 and 6.197 cm/month are values selected by iterative model runs conducted to identify a precipitation rate that approximates and results in the desired recharge(s) to groundwater. The modified rainfall totals used for this modeling run are provided in Table J-2, in Appendix J.~~

~~9.5 MODEL UNCERTAINTY~~

~~Use of Site-specific values, where available, is recommended. A number of limitations exist for the models, including:~~

- ~~Data gaps/ uncertainties in site-specific properties;~~
- ~~Omission of certain chemical and physical processes; and~~

- ~~Lack of an appropriate model validation opportunity.~~

~~Data gaps, uncertain and/or variable input values that may exist for the Site include:~~

- ~~Site-specific meteorological data (uncertain/variable);~~
- ~~Soil input parameter measurements for the different soil layers incorporated in the model (e.g., intrinsic permeability, organic carbon content [uncertain/variable]); and~~
- ~~Site-specific chemical data (e.g., degradation rates [gap]).~~

~~Any interactions that may occur among the different chemicals present in the soil that may influence the migration and/or fate of the various chemicals are not taken into account in the model (e.g., chemical mobility may decrease or increase in the presence of other solvent-related chemical components). Reasonable effort has been made to obtain results that provide reasonable estimates of actual Site conditions. Uncertain input values were selected based on available scientific and regulatory information to err on the conservative side.~~

~~9.6 RESULTS~~

~~SESOIL and VLEACH results are provided in Tables J-8 through J-10 in Appendix J, and are summarized in Table 9-1 (Tables section). The results include maximum depth of infiltration, the maximum pore water concentrations in the vadose zone at the groundwater interface, and the maximum measured groundwater concentration (observed during the latest groundwater monitoring event; July-August 2009). The SESOIL and VLEACH outputs provided electronically in Appendix J (included on the report CD in Appendix B) contain the results of the evaluation for each of the COPCs and scenarios.~~

~~The modeled metals (aluminum and manganese) and organics (beta-BHC, formaldehyde) are not predicted to reach groundwater during the evaluation period (100 years).~~

~~For the inorganics selected for modeling, ammonia (43,890, 93,020, and 81,336 µg/L, respectively) and perchlorate (479,970, 229,500, and 71,930 µg/L, respectively) are all predicted to reach groundwater at concentrations that exceed their respective residential water BCLs (200 and 18 µg/L, respectively) under all three scenarios.~~

~~This is consistent with the physical chemical parameters selected for the inorganics (non-metals). Because for ammonia and perchlorate the adsorption to soils is very variable and uncertain, the modeling assumed very low Kd values for these constituents to maximize the downward~~

~~migration to groundwater. With such low adsorption coefficients the model also predicted such rapid mass migration to groundwater that all would hit groundwater within 3 to 25 years and exceed their BCLs immediately thereafter. However, while these chemicals are detected in shallow groundwater at the Site, the concentrations are from approximately three times (perchlorate) to more than three (ammonia) orders of magnitude less than predicted. Further, neither ammonia nor perchlorate was detected in SPLP data collected in the soil source material.~~

~~The time since discontinued use of the ponds and ditches exceeds the timeframes for COPCs to reach groundwater at the concentrations predicted to exceed BCLs. Based upon the differences in the modeling predicted results and the observed measurements in groundwater, it is considered probable that processes not accounted for in the model are reducing/attenuating concentrations of COPCs as they migrate through the vadose zone towards groundwater. Based on the elapsed time since any Site vicinity use, the lack of observations of the evaluated chemicals in groundwater at the Site or concurrence between measured and predicted concentrations, and the reasonably mobile nature of the COPCs evaluated, these cumulative lines of evidence suggest that (1) the modeling environment utilized in this evaluation is likely to be overly conservative and (2) there is insufficient evidence to suggest that the concentrations of constituents detected in Site soils represent a risk to groundwater quality.~~

~~It should also be noted that potential groundwater impacts for the entire Eastside property are the subject of a separate comprehensive RAS wherein all potential impacts to groundwater will be addressed.~~

~~10.0~~9.0 DATA QUALITY ASSESSMENT

Sample size calculations were conducted for 11 analytes (arsenic, ~~total~~ chromium, hexavalent chromium, cobalt, formaldehyde, radium-226, TCDD TEQ, and vanadium) for the Site. Rationale for the inclusion of these constituents in the sample size calculations is provided below:

- Arsenic (Site-Wide and SRC-J02/J03) – a metal of primary concern for the overall project, often exceeding comparison levels;
- Manganese (Site-Wide and SRC-J02/J03) – a risk driver COPC in the HHRA;
- Cobalt (Site-Wide and SRC-J21) – a risk driver COPC in the HHRA;
- Vanadium (Site-Wide and SRC-J02/J03) – a metal COPC with the most results in excess of background concentrations;
- Formaldehyde – the organic COPC with the highest number of detected results;
- Radium-228 – a radionuclide with the most results in excess of background concentrations;
- Benzo(a)pyrene – the PAH COPC that exceeded its residential soil BCL; and
- TCDD TEQ – a chemical of primary concern for the overall project (note that the TCDD TEQs are based on the use of World Health Organization [WHO] 1998 TEFs).

The formula used here for calculation of sample size is based on a non-parametric test (the Wilcoxon signed rank test), and on simulation studies performed by Pacific Northwest National Laboratories (PNNL 2009) that formed the basis for an approximate formula that is based on the normal distribution. Essentially, the formula is the one that would be used if a normal-based test were being performed, but an adjustment is made (multiply by 1.16) to account for the intent to perform a non-parametric test. The formula is as follows:

$$n = 1.16\left[\frac{s^2}{\Delta^2}(z_{1-\alpha} + z_{1-\beta(\mu)})^2 + 0.5z_{1-\alpha}^2\right]$$

where,

n	=	number of samples
s	=	estimated standard deviation of concentrations/fibers
Δ	=	width of the gray region (the difference between the threshold value stated in the null hypothesis and the point at which β is specified)
α	=	significance level or Type I error tolerance
β (μ)	=	Type II error tolerance; and
z	=	quantile from the standard normal distribution

For each chemical, inputs for the calculations include an estimate of the variance from the measured data, a desired significance level, and desired power of the test that must be specified at a concentration of interest (which determines the tolerable difference from the threshold value). For arsenic and radium-228, the Site mean concentration exceed their respective BCLs based on the target cancer risk level of 10^{-6}. It is not appropriate to apply this calculation where the threshold value is less than the mean concentration. Therefore, the maximum soil background concentrations were used for their threshold values. The calculations provided here cover a range of Type I and Type II error tolerances, and the point at which the Type II error is specified. Results are presented in Table ~~10~~9-1 (Tables section). In Table ~~10~~9-1, various combinations of input values are used, including: values of α of 5, 10, and 15 percent; values of β of 15, 20, and 25 percent; and a gray region of width 10, 20, and 30 percent of the threshold level. It is clear from Table ~~10~~9-1 that the number of samples collected is adequate for the Site. That is, all calculated adequate sample numbers are less than those actually collected at the Site for use in the HHRA.

The number of samples for cobalt in SRC-J21 (10 samples) meet the minimum calculated adequate sample number as shown in Table ~~10~~9-1. In addition, because of the limited aerial extent of this separate exposure area, there are greater numbers of samples per acre than for the Site-wide values. There are approximately 13 cobalt samples per acre. Thus the number of samples for cobalt within this area is considered adequate. Note also that there are 53 samples for amphibole asbestos. Amphibole was not detected in any of these samples, however, because of the number of samples collected, the ARRS are all less than 1×10^{-6}. Consequently, sufficient samples have been collected to address ARRs.

~~11.0~~10.0 SUMMARY

BRC has prepared this HHRA and Closure Report for the Site. The purpose of this report is to request an NFAD by the NDEP. The NDEP acknowledges that discrete portions of the Eastside may be issued an NFAD as remedial actions are completed for selected environmental media (NDEP 2006). The portion of the Eastside for which the NFAD is being requested based on this HHRA and Closure Report is shown in red on Figure 1. The legal description of the Site is provided in Appendix K.

The HHRA evaluated the potential for adverse human health impacts that may occur as a result of potential exposures to residual concentrations of chemicals in soil, groundwater, and air following remediation, and assessed whether any additional remedial actions are necessary in order to obtain an NFAD from the NDEP to allow redevelopment of the Site to proceed. The results of the risk assessment provide risk managers with an understanding of the potential human health risks associated with background conditions and additional risks associated with past Site activities.

Although the total cumulative non-cancer HI for future residential receptors at the Site exceeds the non-cancer target HI of 1.0, the background non-cancer HI for future residential receptors is also above 1.0. Five separate removal actions were conducted at the Site, in 2009 and 2010. These removal actions were primarily driven by elevated metals. All removal actions have fully addressed the identifiable contamination at the Site. Aluminum, cobalt, manganese, and vanadium were selected as COPCs because they failed background statistical comparisons as well as being greater than one-tenth their respective residential BCLs. However, a review of the statistical plots presented in Appendix G as well as the intensity plots in Appendix I demonstrate that concentrations of these metals (as well as others metals such as barium, chromium, iron, lead, sodium, titanium, and zinc) show a consistent trend of concentrations greater than background. Therefore, given the successful removal actions conducted at the Site, further removal actions at the Site will not affect the risk estimates in this HHRA. In addition, as discussed in Section 7.3.3, if bioaccessibility and target organs were to be considered in the HHRA, non-cancer HIs for the Site would be below 1.0. Therefore, BRC requests that these issues be considered in any risk management decisions for the Site.

For human health protection, BRC's goal is to remediate the Site soils such that they are suitable for unrestricted residential uses. Human health risks are represented by estimated theoretical upper-bound cancer risks and non-cancer hazards derived in accordance with standard USEPA and NDEP methods. If the carcinogenic risks or non-cancer hazards exceed USEPA acceptable levels or NDEP risk goals, then remedial action alternatives must be considered. Findings of the HHRA are intended to support the Site closure process. The major findings of this report are the following:

- Data collected for use in the HHRA are adequate and usable for their intended purpose;
- All relevant and reasonable exposure scenarios and pathway have been evaluated; and
- Residential, construction worker, commercial (indoor) worker, and maintenance (outdoor) worker cancer and non-cancer risk estimates are within or below the risk goals for the project~~; and~~, and/or concentrations of metals are consistent with naturally-occurring levels.
- ~~Residual levels of chemicals in soil should not pose an unacceptable risk to groundwater quality beneath the Site.~~

Following the Tiered approach from the USEPA 2002 Vapor Intrusion Guidance, BRC believes that it has demonstrated that there is no likelihood of adverse vapor intrusion into any indoor spaces that may be constructed in the Southern RIBs sub-area. Therefore, based on the results of the HHRA, and the conclusions in this report, exposures to residual levels of chemicals in soil at the Southern RIBs sub-area should not result in adverse health effects to all future receptors~~, or to groundwater quality beneath the Site.~~. Therefore, BRC concludes that an NFAD for the Southern RIBs sub-area is warranted and requests that the NDEP issue the NFAD (see Appendix K for the legal description of the Site).

APPENDIX B

SOUTHERN RIBs SUB-AREA
INVESTIGATION DATA TABLES
(Note that all report files, including the database,
are on the report CD included in this appendix)

LIST OF TABLES (APPENDIX B)

TABLE B-1
ASBESTOS RESULTS AND ANALYTICAL SENSITIVITIES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Analytical Sensitivity (10^6 s/gPM$_{10}$)	Concentration Protocol Structures(1) Chrysotile (10^6 s/gPM$_{10}$)	Concentration Protocol Structures(1) Amphibole (10^6 s/gPM$_{10}$)	Number of Protocol Structures(2) Chrysotile Total	Chrysotile Long	Amphibole Total	Amphibole Long
SRC1-AG16	0	NORM	10/3/08	2.983	< 8.919 E+6	< 8.919 E+6	0	0	0	0
SRC1-AG17	0	NORM	10/3/08	2.990	1.417 E+7	< 8.939 E+6	1	1	0	0
SRC1-AG18	0	NORM	10/2/08	2.987	< 8.930 E+6	< 8.930 E+6	0	0	0	0
SRC1-AG18	0	FD	10/2/08	2.975	< 8.894 E+6	< 8.894 E+6	0	0	0	0
SRC1-AH15	0	NORM	10/3/08	2.986	< 8.928 E+6	< 8.928 E+6	0	0	0	0
SRC1-AH16	0	NORM	10/3/08	2.997	< 8.961 E+6	< 8.961 E+6	0	0	0	0
SRC1-AH16	0	FD	10/3/08	2.966	< 8.869 E+6	1.406 E+7	0	0	3	1
SRC1-AH17	0	NORM	10/3/08	2.979	< 8.908 E+6	< 8.908 E+6	0	0	0	0
SRC1-AH18	0	NORM	10/2/08	2.998	< 8.963 E+6	< 8.963 E+6	0	0	0	0
SRC1-AH19	0	NORM	10/2/08	2.988	< 8.934 E+6	< 8.934 E+6	0	0	0	0
SRC1-AI17	0	NORM	10/2/08	2.978	1.412 E+7	< 8.904 E+6	1	1	0	0
SRC1-AI20	0	NORM	10/2/08	2.975	< 8.894 E+6	< 8.894 E+6	0	0	0	0
SRC1-AJ18	0	NORM	10/2/08	2.969	1.407 E+7	< 8.876 E+6	1	1	1	0
SRC1-AJ19	0	NORM	10/2/08	2.992	< 8.946 E+6	< 8.946 E+6	0	0	0	0
SRC1-AJ20	0	NORM	10/2/08	2.976	< 8.899 E+6	< 8.899 E+6	0	0	0	0
SRC1-AJ21	0	NORM	10/2/08	2.990	< 8.939 E+6	< 8.939 E+6	0	0	0	0
SRC1-AJ22	0	NORM	10/2/08	2.990	< 8.939 E+6	< 8.939 E+6	0	0	0	0
SRC1-AJ23	0	NORM	10/2/08	2.991	< 8.944 E+6	< 8.944 E+6	0	0	0	0
SRC1-AJ24	0	NORM	10/2/08	2.988	< 8.934 E+6	< 8.934 E+6	0	0	0	0
SRC1-AJ25	0	NORM	10/2/08	2.966	< 8.869 E+6	< 8.869 E+6	0	0	0	0
SRC1-AJ26	0	NORM	10/1/08	2.995	< 8.955 E+6	< 8.955 E+6	0	0	0	0
SRC1-AJ27	0	NORM	10/1/08	2.821	< 8.433 E+6	< 8.433 E+6	0	0	0	0
SRC1-AJ28	0	NORM	10/1/08	2.975	< 8.896 E+6	< 8.896 E+6	0	0	0	0
SRC1-AK20	0	NORM	11/26/08	2.803	2.173 E+7	< 8.382 E+6	4	3	0	0
SRC1-AK21	0	NORM	10/2/08	2.978	1.876 E+7	< 8.904 E+6	9	2	0	0
SRC1-AK21	0	FD	10/2/08	2.820	< 8.432 E+6	< 8.432 E+6	0	0	0	0
SRC1-AK23	0	NORM	10/2/08	2.979	< 8.908 E+6	< 8.908 E+6	0	0	0	0
SRC1-AK24	0	NORM	10/2/08	2.991	< 8.944 E+6	< 8.944 E+6	0	0	0	0
SRC1-AK25	0	NORM	10/2/08	2.986	< 8.927 E+6	< 8.927 E+6	0	0	0	0
SRC1-AK26	0	NORM	10/1/08	2.991	< 8.944 E+6	< 8.944 E+6	0	0	0	0
SRC1-AK27	0	NORM	10/1/08	2.985	< 8.926 E+6	< 8.926 E+6	0	0	0	0
SRC1-AL24	0	NORM	10/2/08	2.983	< 8.919 E+6	< 8.919 E+6	0	0	0	0
SRC1-AL26	0	NORM	10/1/08	2.913	< 8.711 E+6	< 8.711 E+6	0	0	0	0
SRC1-AL28	0	NORM	10/1/08	2.969	< 8.876 E+6	< 8.876 E+6	0	0	0	0
SRC1-AM27	0	NORM	10/1/08	2.972	< 8.887 E+6	< 8.887 E+6	0	0	0	0
SRC1-AM28	0	NORM	10/1/08	2.993	< 8.950 E+6	< 8.950 E+6	0	0	0	0
SRC1-AM28	0	FD	10/1/08	2.992	< 8.946 E+6	< 8.946 E+6	0	0	0	0
SRC1-AN28	0	NORM	10/1/08	2.995	< 8.955 E+6	< 8.955 E+6	0	0	0	0
SRC1-J01	0	NORM	11/26/08	2.969	2.078 E+7	< 8.877 E+6	11	7	0	0
SRC1-J02	0	NORM	11/26/08	2.998	< 8.963 E+6	< 8.963 E+6	0	0	0	0
SRC1-J02	0	FD	11/26/08	2.981	1.413 E+7	< 8.912 E+6	2	1	0	0
SRC1-J03	0	NORM	11/26/08	2.997	1.888 E+7	< 8.961 E+6	3	2	0	0
SRC1-J07	0	NORM	11/26/08	2.981	< 8.912 E+6	< 8.912 E+6	0	0	0	0
SRC1-J09	0	NORM	11/26/08	2.960	< 8.851 E+6	< 8.851 E+6	0	0	0	0

TABLE B-1
ASBESTOS RESULTS AND ANALYTICAL SENSITIVITIES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 2)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Analytical Sensitivity (10^6 s/gPM$_{10}$)	Concentration Protocol Structures[(1)]				Number of Protocol Structures[(2)]			
					Chrysotile (10^6 s/gPM$_{10}$)		Amphibole (10^6 s/gPM$_{10}$)		Chrysotile		Amphibole	
									Total	Long	Total	Long
SRC1-J10	0	NORM	11/26/08	2.979	<	8.908 E+6	<	8.908 E+6	5	0	0	0
SRC1-J12	0	NORM	11/26/08	2.961	<	8.854 E+6	<	8.854 E+6	0	0	0	0
SRC1-J13	0	NORM	11/26/08	2.973	<	1.094 E+7	<	1.094 E+7	0	0	0	0
SRC1-J14	0	NORM	11/26/08	2.969		1.407 E+7	<	8.877 E+6	1	1	0	0
SRC1-J15	0	NORM	11/26/08	2.975	<	8.894 E+6	<	8.894 E+6	0	0	0	0
SRC2-AH16E	0	NORM	9/16/09	2.967	<	8.920 E+6	<	8.920 E+6	0	0	0	0
SRC2-AH16N	0	NORM	9/16/09	2.967	<	8.930 E+6	<	8.930 E+6	0	0	0	0
SRC2-AH16R	0	NORM	9/16/09	2.967	<	8.910 E+6	<	8.910 E+6	0	0	0	0
SRC2-AH16S	0	NORM	9/16/09	2.967	<	8.920 E+6	<	8.920 E+6	0	0	0	0
SRC2-AH16S	0	FD	9/16/09	2.967	<	8.870 E+6	<	8.870 E+6	0	0	0	0
SRC2-AH16W	0	NORM	9/16/09	2.967	<	8.940 E+6	<	8.940 E+6	0	0	0	0

[(1)] Fiber dimensions are presented in the respective analytical reports for each sample.

[(2)] Only long structures (>10µm) present a potential risk and are used for estimating asbestos risks. Total fiber concentrations are presented for informational purposes only. Protocol structures are structures longer than 10 µm and thinner than 0.4 µm.

= Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Dioxins/Furans								
				1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDD	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HCDF	1,2,3,7,8,9-HxCDD
SRC1-AG16	0	N	10/31/2008	32	3.6 J	14	17	< 0.6 U	9.4	< 1.1 U	< 1.2 U	< 0.95 U
SRC1-AG17	0	N	10/31/2008	93	15	36	49	< 1.1 U	28	2.9 J	3 J	3.1 J
SRC1-AG18	0	N	10/31/2008	< 0.74 U	< 0.19 U	< 0.36 U	< 0.53 U	< 0.066 U	< 0.26 U	< 0.051 U	< 0.13 U	< 0.052 U
SRC1-AH15	0	N	11/3/2008	< 0.24 U	< 0.45 U	< 0.29 U	< 0.24 U	< 0.35 U	< 0.21 U	< 0.31 U	< 0.24 U	< 0.31 U
SRC1-AH15	0	FD	11/3/2008	< 0.77 U	< 0.26 U	< 0.39 U	< 0.43 U	< 0.29 U	< 0.31 U	< 0.26 U	< 0.26 U	< 0.26 U
SRC1-AH16	0	N	11/3/2008	< 0.64 U	< 0.29 U	< 0.29 U	< 0.36 U	< 0.27 U	< 0.17 U	< 0.24 U	< 0.2 U	< 0.24 U
SRC1-AH17	0	N	11/14/2008	< 0.67 U	< 1.1 U	< 0.78 U	< 0.74 U	< 1.1 U	< 0.64 U	< 0.97 U	< 0.74 U	< 0.97 U
SRC1-AH18	0	N	10/31/2008	< 0.43 U	< 0.13 U	< 0.1 U	< 0.21 U	< 0.053 U	< 0.1 U	< 0.1 U	< 0.12 U	< 0.12 U
SRC1-AH19	0	N	10/31/2008	< 0.061 U	< 0.15 U	< 0.077 U	< 0.057 U	< 0.088 U	< 0.046 U	< 0.068 U	< 0.062 U	< 0.07 U
SRC1-AH19	0	FD	10/31/2008	< 0.14 U	< 0.084 U	< 0.071 U	< 0.061 U	< 0.088 U	< 0.054 U	< 0.068 U	< 0.066 U	< 0.07 U
SRC1-AI17	0	N	11/3/2008	38	2.5 J	17	18	< 0.6 U	11	< 1 U	< 1.9 U	< 1 U
SRC1-AI20	0	N	10/31/2008	< 1.5 U	< 0.18 U	< 0.81 U	< 1.1 U	< 0.084 U	< 0.69 U	< 0.066 U	< 0.34 U	< 0.22 U
SRC1-AJ18	0	N	11/3/2008	4.8 J	< 0.57 U	< 2.1 U	3.1 J	< 0.32 U	< 1.8 U	< 0.29 U	< 0.33 U	< 0.29 U
SRC1-AJ19	0	N	11/14/2008	< 0.81 U	< 0.95 U	< 0.95 U	< 0.64 U	< 0.99 U	< 0.56 U	< 0.87 U	< 0.64 U	< 0.88 U
SRC1-AJ20	0	N	11/5/2008	23	< 2.4 U	12	14	< 0.35 U	8.7	< 0.78 U	< 1.3 U	< 0.86 U
SRC1-AJ21	0	N	11/6/2008	< 0.16 U	< 0.075 U	< 0.11 U	< 0.061 U	< 0.075 U	< 0.037 U	< 0.059 U	< 0.05 U	< 0.061 U
SRC1-AJ22	0	N	11/5/2008	67	12	26	34	< 0.91 U	19	< 2.1 U	< 2.5 U	< 2.4 U
SRC1-AJ23	0	N	11/7/2008	15	< 1.4 U	4.3 J	5.2	< 0.67 U	3.5 J	< 0.6 U	< 0.67 U	< 0.6 U
SRC1-AJ24	0	N	11/10/2008	< 0.21 U	< 0.29 U	< 0.24 U	< 0.26 U	< 0.39 U	< 0.25 U	< 0.38 U	< 0.29 U	< 0.36 U
SRC1-AJ25	0	N	11/13/2008	18 J	5 J	5.7	7.8	< 0.43 U	4.6 J	< 0.77 U	< 0.9 U	< 0.62 U
SRC1-AJ26	0	N	11/13/2008	< 0.46 U	< 0.74 U	< 0.52 U	< 0.46 U	< 0.97 U	< 0.45 U	< 0.94 U	< 0.5 U	< 0.88 U
SRC1-AJ27	0	N	11/13/2008	< 0.81 U	< 0.61 U	< 0.35 U	< 0.34 U	< 0.47 U	< 0.25 U	< 0.46 U	< 0.29 U	< 0.42 U
SRC1-AJ28	0	N	11/13/2008	< 0.63 UJ	< 0.89 UJ	< 0.73 U	< 0.5 U	< 0.68 U	< 0.49 U	< 0.67 U	< 0.55 U	< 0.62 U
SRC1-AJ28	0	FD	11/13/2008	14 J	44 J	3.3 J	4.4 J	< 0.48 U	2.7 J	< 1.8 U	< 0.61 U	< 1.3 U
SRC1-AK20	0	N	11/5/2008	< 2.1 U	< 0.33 U	< 1.1 U	< 1.3 U	< 0.066 U	< 0.63 U	< 0.14 U	< 0.061 U	< 0.061 U
SRC1-AK21	0	N	11/6/2008	4.4 J	< 0.71 UJ	< 2.3 UJ	2.7 J	< 0.14 U	< 1.9 UJ	< 0.28 U	< 0.92 UJ	< 0.42 U
SRC1-AK21	0	FD	11/6/2008	< 0.31 UJ	< 0.14 U	< 0.054 U	< 0.1 UJ	< 0.093 U	< 0.069 U	< 0.072 U	< 0.088 U	< 0.09 U
SRC1-AK23	0	N	11/6/2008	6.8	< 0.74 U	3.8 J	5.7	< 0.8 U	3.4 J	< 0.79 U	< 0.87 U	< 0.74 U
SRC1-AK24	0	N	11/6/2008	< 0.065 U	< 0.09 U	< 0.083 U	< 0.063 U	< 0.14 U	< 0.052 U	< 0.11 U	< 0.069 U	< 0.11 U
SRC1-AK25	0	N	11/10/2008	< 0.97 U	< 0.54 U	< 0.49 U	< 0.5 U	< 0.88 U	< 0.49 U	< 0.87 U	< 0.55 U	< 1.2 U
SRC1-AK26	0	N	11/7/2008	< 2.4 U	< 1.1 U	< 0.93 U	< 1.3 U	< 0.55 U	< 0.77 U	< 0.48 U	< 0.43 U	< 0.48 U
SRC1-AK27	0	N	11/12/2008	< 1.2 U	< 1.3 U	< 0.54 U	< 0.64 U	< 0.87 U	< 0.62 U	< 0.86 U	< 0.71 U	< 0.79 U
SRC1-AL24	0	N	11/6/2008	< 0.94 U	< 0.39 U	< 0.31 U	< 0.57 U	< 0.077 U	< 0.29 U	< 0.11 U	< 0.21 U	< 0.21 U
SRC1-AL26	0	N	11/7/2008	< 0.75 U	< 0.55 U	< 0.6 U	< 0.5 U	< 0.72 U	< 0.45 U	< 0.64 U	< 0.51 U	< 0.64 U
SRC1-AL28	0	N	11/12/2008	38 J	15	24	32	< 1.1 U	18	2.7	3	< 1.3 U
SRC1-AM27	0	N	11/10/2008	9700 J	1100	5100 J	4800 J	170	2900 J	340	580	340
SRC1-AM28	0	N	11/12/2008	80	23	48	60	< 2.3 U	36	4.5	6.5	2.8

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Dioxins/Furans								
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDD	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HCDF	1,2,3,7,8,9-HxCDD
SRC1-AN28	0	N	11/12/2008	15	12	10	15	< 0.71 U	8.5	< 1.4 U	< 1.7 U	< 0.75 U
SRC1-J01	0	N	11/3/2008	28 J	< 2.2 U	11 J	15 J	< 0.45 U	7.8 J	< 0.58 U	< 1.2 U	< 0.73 U
SRC1-J01	0	FD	11/3/2008	7.3 J	< 0.71 U	3.8 J	4.4 J	< 0.36 U	< 2.5 UJ	< 0.33 U	< 0.43 U	< 0.33 U
SRC1-J02	0	N	11/5/2008	56 J	5.5 J	29 J	31 J	< 0.97 UJ	19 J	< 2.1 UJ	3 J	< 1.9 UJ
SRC1-J03	0	N	11/5/2008	270	23	130	140	3.3 J	78	6.9	12	7.7
SRC1-J07	0	N	11/7/2008	16 J	4 J	6	7.1	< 0.42 U	4.1 J	< 0.84 U	< 0.87 U	< 1.4 U
SRC1-J09	0	N	11/10/2008	69 J	19 J	22 J	29 J	< 0.99 U	18	2.6 J	3.1 J	< 1.9 U
SRC1-J09	0	FD	11/10/2008	54	11 J	16 J	23 J	< 0.86 U	15	< 1.9 U	< 2.3 U	< 1.7 U
SRC1-J10	0	N	11/13/2008	23 J	3.7 J	9.8 J	14 J	< 0.76 U	8.7 J	< 0.82 U	< 1.5 U	< 0.95 U
SRC1-J10	0	FD	11/13/2008	2.9 J	< 0.85 U	< 0.92 UJ	< 1.2 UJ	< 0.96 U	< 0.81 UJ	< 0.94 U	< 0.92 U	< 0.87 U
SRC1-J11	0	N	11/14/2008	380	170	140	150	6.5	87	15	15	10
SRC1-J12	0	N	11/13/2008	< 0.37 U	< 0.5 U	< 0.42 U	< 0.34 U	< 0.49 U	< 0.33 U	< 0.48 U	< 0.38 U	< 0.45 U
SRC1-J13	0	N	11/12/2008	190	28	74	83	4.4	52	8.3	10	4.5
SRC1-J14	0	N	11/13/2008	9 J	13	< 2 U	3.4 J	< 1.4 U	< 2 U	< 1.3 U	< 0.82 U	< 0.97 U
SRC1-J15	0	N	11/12/2008	13 J	3.3	5.8 J	7.1 J	< 0.68 U	4.2	< 0.67 U	< 0.84 U	< 0.62 U
SRC1-J15	0	FD	11/12/2008	< 0.24 UJ	< 0.36 U	< 0.27 UJ	< 0.19 UJ	< 0.32 U	< 0.19 U	< 0.32 U	< 0.21 U	< 0.29 U
SRC2-AI19N	0	N	9/16/2009	120	11	53	49	< 2 U	38	3.5 J	7.4	< 2.3 U
SRC2-AI19SE	0	N	9/16/2009	27	3.5 J	8.5	9.6	< 0.48 U	8.4	< 0.76 U	< 1.3 U	< 0.84 U
SRC2-AI19SW	0	N	9/16/2009	< 0.19 U	< 0.16 U	< 0.19 U	< 0.22 U	< 0.076 U	< 0.11 U	< 0.064 U	< 0.39 U	< 0.064 U
SRC2-AI19W	0	N	9/16/2009	3.2 J	< 0.38 U	< 1.2 U	< 2.2 U	< 0.095 U	< 1.3 U	< 0.15 U	< 0.89 U	< 0.2 U
SRC2-AI19W	0	FD	9/16/2009	8.2	< 0.66 U	3.3 J	4.4 J	< 0.066 U	2.6 J	< 0.46 U	< 1.6 U	< 0.35 U
SRC2-AL28C	0	N	9/11/2009	39	12	17	22	< 0.79 U	12	< 1.5 U	< 2.5 U	< 1.5 U
SRC2-AM27C	0	N	9/11/2009	45	5.3	21	25	< 0.64 U	15	< 1.4 U	2.7 J	< 1.2 U
SRC2-AM27C	0	N	9/23/2010	74	10	35	31	< 1.2 U	19	< 2.2 U	3.7 J	< 2 U
SRC2-AM27S-	0	N	9/11/2009	25	3.9 J	9.4	11	< 0.39 U	6.4	< 0.82 U	< 1.2 U	< 0.7 U
SRC2-J02E	0	N	9/17/2009	62	6.2	29	40	< 1.2 U	25	< 2 U	4.1 J	< 1.6 U
SRC2-J02N	0	N	9/17/2009	84	8.5 J	46	39	< 1.5 U	24	< 2.3 U	< 4.3 U	< 2.5 U
SRC2-J02S	0	N	9/17/2009	15	< 1.8 U	7.1	9.3	< 0.31 U	6.4	< 0.71 U	< 1 U	< 0.69 U
SRC2-J02W	0	N	9/17/2009	13	< 1.4 U	6.9	6.6	< 0.26 U	4.7 J	< 0.43 U	< 0.77 U	< 0.42 U
SRC2-J03E	0	N	9/17/2009	< 1.9 U	< 0.4 U	< 0.72 U	< 1.2 U	< 0.038 U	< 0.59 U	< 0.031 U	< 0.093 U	< 0.067 U
SRC2-J03N	0	N	9/17/2009	16	< 2.4 U	7.7	8.7	< 0.2 U	5	< 0.49 U	< 0.83 U	< 0.5 U
SRC2-J03S	0	N	9/17/2009	380	51	200	210	6.8	140	12	24	11
SRC2-J03W	0	N	9/17/2009	24	2.6 J	13	13	< 0.41 U	8.6	< 0.75 U	< 1.6 U	< 0.86 U
SRC2-J11C	0	N	9/11/2009	560	70	230	270	7.7	160	15	29	15
SRC2-J13C	0	N	9/11/2009	70	18	27	33	< 1.1 U	19	< 2.3 U	3.2 J	< 2.1 U
SRC2-J16S-W	0	N	9/11/2009	42	5.1	15	20	< 0.58 U	12	< 1.2 U	< 1.5 U	< 1.1 U
SRC2-J17S-W	0	N	9/11/2009	67	18	25	35	< 1.1 U	20	2.5 J	3.6 J	< 2.1 U

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Dioxins/Furans								
				1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDD	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HCDF	1,2,3,7,8,9-HxCDD
SRC2-J18S-W	0	N	9/11/2009	2.8 J	< 1.1 U	< 1.2 U	< 1.8 U	< 0.003 U	< 0.91 U	< 0.25 U	< 0.69 U	< 0.17 U
SRC2-J18S-W	0	FD	9/11/2009	3.2 J	< 1.1 U	< 1.3 U	< 1.9 U	< 0.077 U	< 1 U	< 0.19 U	< 0.75 U	< 0.16 U
SRC2-J19S-W	0	N	9/14/2009	< 0.5 U	< 0.062 U	< 0.16 U	< 0.46 U	< 0.031 U	< 0.13 U	< 0.053 U	< 0.3 U	< 0.031 U
SRC2-J20	0	N	9/14/2009	33 J	9 J	17 J	22	< 0.74 UJ	12	< 1.4 UJ	4.6 J	< 1.6 UJ
SRC2-J21	0	N	9/14/2009	44	47	18	26	< 0.97 U	14	4.3 J	< 2 U	3.8 J
SRC2-J22	0	N	9/14/2009	13	< 1.7 U	8	11	< 0.33 U	6.6	< 0.63 U	< 2.3 U	< 0.67 U
SRC2-J23	0	N	9/14/2009	170	20	93	120	3.5 J	65	6.5	13	6.6
SRC2-J24	0	N	9/14/2009	3 J	< 1.3 U	< 1.4 U	2.6 J	< 0.075 U	< 1.5 U	< 0.21 U	< 0.73 U	< 0.22 U
SRC2-J25	0	N	9/14/2009	85	13	32	41	< 1.2 U	24	2.7 J	6.6	2.8 J
SRC2-J26	0	N	9/14/2009	24 J	< 2.2 UJ	15 J	21 J	< 0.53 U	11 J	< 0.98 U	4.4 J	< 0.9 U
SRC2-J27	0	N	9/14/2009	< 0.24 UJ	< 0.098 UJ	< 0.083 UJ	< 0.52 U	< 0.062 U	< 0.24 U	< 0.051 U	< 0.093 U	< 0.053 U
SRC2-J28	0	N	9/14/2009	< 0.48 U	< 0.075 U	< 0.25 U	< 0.57 U	< 0.047 U	< 0.28 U	< 0.038 U	< 0.39 U	< 0.05 U
SRC2-J29	0	N	9/14/2009	< 0.77 U	< 0.14 U	< 0.4 U	< 0.93 U	< 0.036 U	< 0.39 U	< 0.059 U	< 0.11 U	< 0.058 U
SRC2-J30	0	N	9/14/2009	13	< 1.8 U	6.8	11	< 0.21 U	6.2	< 0.68 U	< 0.9 U	< 0.52 U
SRC2-J31	0	N	9/14/2009	5.1	< 0.86 U	< 2.4 U	3.6 J	< 0.049 U	< 2 U	< 0.26 U	< 0.94 U	< 0.29 U
SRC2-J32	0	N	9/14/2009	< 0.28 U	< 0.044 U	< 0.13 U	< 0.37 U	< 0.029 U	< 0.15 U	< 0.023 U	< 0.29 U	< 0.027 U
SRC2-J33	0	N	9/17/2009	44 J	4.8 J	23 J	28 J	< 0.78 U	17 J	< 1.8 UJ	3.2 J	< 1.2 UJ
SRC2-J33	0	FD	9/17/2009	57 J	5.8 J	26 J	32 J	< 0.89 U	20 J	< 2 UJ	3 J	< 1.8 UJ
SRC2-J34	0	N	9/17/2009	10	< 1.1 U	5	5.8	< 0.22 U	3.4 J	< 0.34 U	< 0.64 U	< 0.37 U
SRC3-J02C2	0	N	12/8/2009	< 2.3 U	< 0.43 U	< 1.3 U	< 0.94 U	< 0.072 U	< 0.47 U	< 0.14 U	< 1.3 U	< 0.21 U
SRC3-J02NE	0	N	12/8/2009	730	66	330	330	7.8	210	15	16	17
SRC3-J02NW	0	N	12/8/2009	8.2	< 1.5 U	5 J	4.2 J	< 0.03 U	3.5 J	< 0.38 U	< 0.42 U	< 0.4 U
SRC3-J02NW	0	FD	12/8/2009	4.9 J	< 0.67 UJ	2.7 J	< 2.3 U	< 0.02 U	< 1.4 U	< 0.3 U	< 0.91 U	< 0.087 U
SRC3-J02SE	0	N	12/8/2009	< 2.4 U	< 0.13 U	< 1.3 U	< 1.2 U	< 0.016 U	< 0.86 U	< 0.034 U	< 0.2 U	< 0.064 U
SRC3-J02SW	0	N	12/8/2009	18	3.3 J	10	9.7	< 0.33 U	7.5	< 0.7 U	< 1.6 U	< 0.4 U
SRC3-J03C2	0	N	12/8/2009	85	6.8	43	34	< 1.1 U	22	< 1.7 U	4.2 J	< 1.8 U
SRC3-J03NE	0	N	12/8/2009	2.6 J	< 0.2 U	< 0.89 U	< 1.4 U	< 0.015 U	< 0.65 U	< 0.013 U	< 0.55 U	< 0.13 U
SRC3-J03NW	0	N	12/8/2009	< 0.58 U	< 1.2 U	< 0.69 U	< 0.6 U	< 0.44 U	< 0.56 U	< 0.4 U	< 0.67 U	< 0.38 U
SRC3-J03SE	0	N	12/8/2009	390	38 J	180 J	260 J	5.8	150 J	13 J	13	13 J
SRC3-J03SE	0	FD	12/8/2009	250	22 J	100 J	130 J	< 2.4 U	71 J	6.2 J	11	5.9 J
SRC3-J03SW	0	N	12/8/2009	5 J	< 0.48 U	< 2.5 U	4 J	< 0.022 U	< 2.2 U	< 0.22 U	< 1.1 U	< 0.24 U
SRC3-J11C2	0	N	12/7/2009	76	27	41	36	< 1.2 U	30	3.7 J	5.6	3.4 J
SRC3-J11NE	0	N	12/7/2009	390	42	190	160	5.3	130	12	15	7.8
SRC3-J11NW	0	N	12/7/2009	2600 J	250	1200	1000	44	810	76	140	55
SRC3-J11SE	0	N	12/7/2009	33	7.2 J	16	15	< 0.53 U	12	< 1.2 U	< 1 U	< 1 U
SRC3-J11SE	0	FD	12/7/2009	43	14 J	19	19	< 0.46 U	14	< 1.7 U	< 2 U	< 1.6 U
SRC3-J11SW	0	N	12/7/2009	7.3	< 1.8 U	3.6 J	3.3 J	< 0.16 U	2.9 J	< 0.43 U	< 0.24 U	< 0.31 U

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 4 of 8)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Dioxins/Furans								
				1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDD	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HCDF	1,2,3,7,8,9-HxCDD
SRC3-J23C2	0	N	12/7/2009	20	2.8 J	8.7	9.1	< 0.26 U	8.1	< 0.6 U	< 0.82 U	< 0.76 U
SRC3-J23NE	0	N	12/7/2009	41	6.3	16	18	< 0.56 U	15	< 1.3 U	< 2.1 U	< 1.4 U
SRC3-J23NW	0	N	12/7/2009	71	8.1	22	23	< 1.2 U	22	< 1.8 U	< 2.5 U	< 2.1 U
SRC3-J23SE	0	N	12/7/2009	240	32	110	80	3.2 J	75	6.6	11	< 0.85 U
SRC3-J23SW	0	N	12/7/2009	69	61	25	25	< 0.75 U	20	3.4 J	< 1.8 U	< 1.7 U
SRC4-J02C2	0	N	3/17/2010	< 0.92 U	< 1.7 U	< 1 U	< 0.42 U	< 0.55 U	< 0.36 U	< 0.5 U	< 0.38 U	< 0.42 U
SRC4-J02NE2	0	N	3/17/2010	< 1.9 U	< 2.2 U	< 1.5 U	< 1.4 U	< 0.64 U	< 1.1 U	< 0.59 U	< 0.56 U	< 0.49 U
SRC4-J02NW2	0	N	3/17/2010	< 0.71 U	< 1.3 U	< 0.81 U	< 0.31 U	< 0.48 U	< 0.27 U	< 0.44 U	< 0.28 U	< 0.37 U
SRC4-J02NW2	0	FD	3/17/2010	< 0.78 U	< 1.2 U	< 0.88 U	< 0.35 U	< 0.6 U	< 0.31 U	< 0.55 U	< 0.32 U	< 0.46 U
SRC4-J02SE2	0	N	3/17/2010	< 1.2 UJ	< 1.8 UJ	< 1.3 UJ	< 0.58 U	< 0.88 U	< 0.51 U	< 0.81 U	< 0.52 U	< 0.67 U
SRC4-J02SW2	0	N	3/17/2010	< 0.046 U	< 0.68 U	< 0.056 U	< 0.029 U	< 0.058 U	< 0.032 U	< 0.09 U	< 0.032 U	< 0.18 U
SRC4-J03C2	0	N	3/17/2010	6.2	< 1.5 U	< 1.8 U	2.9 J	< 0.43 U	< 2.1 U	< 0.39 U	< 0.39 U	< 0.33 U
SRC4-J03NE2	0	N	3/17/2010	45 J	4.3 J	23 J	22	< 0.68 U	14	< 1.3 U	< 2.3 U	< 1.3 U
SRC4-J03SE2	0	N	3/17/2010	6.4 J	3.1 J	< 2.2 UJ	3.5 J	< 1.1 U	< 2.5 UJ	< 1 U	< 1 UJ	< 0.86 U
SRC4-J03SW2	0	N	3/17/2010	< 0.53 U	< 0.93 U	< 0.6 U	< 0.33 U	< 0.47 U	< 0.3 U	< 0.43 U	< 0.3 U	< 0.36 U
SRC4-J11CN2	0	N	3/17/2010	46	6.4	23	21	< 0.61 U	12	< 1.2 U	< 2.4 U	< 1.3 U
SRC4-J11CS2	0	N	3/17/2010	< 0.25 U	< 0.11 U	< 0.17 U	< 0.075 U	< 0.034 U	< 0.07 U	< 0.044 U	< 0.033 U	< 0.13 U
SRC4-J11E2	0	N	3/17/2010	< 0.31 UJ	< 0.051 UJ	< 0.15 UJ	< 0.16 U	< 0.027 U	< 0.1 U	< 0.069 U	< 0.043 U	< 0.097 U
SRC4-J11N2	0	N	3/17/2010	2900 J	300	1400	1300	42	800	80	160	79
SRC4-J11S2	0	N	3/17/2010	7.2 J	< 2.4 UJ	3.1 J	3.3 J	< 0.068 U	< 2.1 U	< 0.35 U	< 0.39 U	< 0.35 U
SRC4-J11W2	0	N	3/17/2010	740	330	360	350	11	200	23	38	19
SRC4-J23C2	0	N	3/17/2010	140	22	64	64	< 2 U	40	3.6 J	7.3	3.5 J
SRC4-J23NE2	0	N	3/17/2010	50	4.9 J	21	24	< 0.67 U	16	< 1.3 U	2.9 J	< 1.5 U
SRC4-J23NW2	0	N	3/17/2010	130	19	69	63	< 1.8 U	39	3.6 J	6.8	3.9 J
SRC4-J23SE2	0	N	3/17/2010	140	23	68	68	< 2 U	40	3.8 J	7.9	3.7 J
SRC4-J23SE2	0	FD	3/17/2010	100	20	51	53	< 1.5 U	30	3.2 J	5.8	3.1 J
SRC4-J23SW2	0	N	3/17/2010	84	20	36	40	< 1.3 U	23	< 2.6 U	3.4 J	< 2.5 U
SRC5-J11N2	0	N	6/21/2010	7600 J	610 J	3200 J	3000 J	110 J	1900 J	170	350 J	150
SRC5-J11N2	0	FD	6/21/2010	2600 J	280 J	1100 J	1100 J	45	640 J	66	130 J	60
SRC5-J11W2	0	N	6/21/2010	33	6.8	13	12	< 0.73 U	7.8	< 1.1 U	< 1.3 U	< 1.2 U
SRC6-J11N3	0	N	9/21/2010	33 J	3.4 J	17 J	13 J	< 0.44 U	8.1	< 1 U	< 1.8 U	< 0.94 U
SRC6-J11N3	0	FD	9/21/2010	< 0.68 UJ	< 0.21 U	< 0.44 UJ	< 0.38 UJ	< 0.048 U	< 0.17 U	< 0.09 U	< 0.054 U	< 0.15 U

All units in pg/g.

-- = no sample data.

= Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Dioxins/Furans								
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	1,2,3,7,8-PeCDF	1,2,3,7,8-PeCDD	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	2,3,7,8-TCDD	OCDF	OCDD	TCDD TEQ
SRC1-AG16	0	N	10/31/2008	9.9	< 0.83 U	2.6 J	5.6	6	< 0.42 U	9 J	120	7.5
SRC1-AG17	0	N	10/31/2008	33	< 2.5 U	8.9	19	19	1.2	51	650	26.4
SRC1-AG18	0	N	10/31/2008	< 0.31 U	< 0.12 U	< 0.27 U	< 0.11 U	< 0.34 U	< 0.075 U	< 0.95 U	< 3.7 U	0.34
SRC1-AH15	0	N	11/3/2008	< 0.35 U	< 0.47 U	< 0.23 U	< 0.36 U	< 0.17 U	< 0.25 U	< 1.3 U	< 0.9 U	0.66
SRC1-AH15	0	FD	11/3/2008	< 0.29 U	< 0.39 U	< 0.25 U	< 0.3 U	< 0.21 U	< 0.22 U	< 0.84 U	< 1.7 U	0.61
SRC1-AH16	0	N	11/3/2008	< 0.3 U	< 0.35 U	< 0.19 U	< 0.31 U	< 0.34 U	< 0.21 U	< 0.88 U	< 2.7 U	0.58
SRC1-AH17	0	N	11/14/2008	< 0.81 U	< 1.2 U	< 0.72 U	< 0.84 U	< 0.49 U	< 0.64 U	< 1.9 U	< 1.8 U	1.5
SRC1-AH18	0	N	10/31/2008	< 0.13 U	< 0.13 U	< 0.039 U	< 0.073 U	< 0.086 U	< 0.1 U	< 1.1 U	< 1.3 U	0.31
SRC1-AH19	0	N	10/31/2008	< 0.072 U	< 0.13 U	< 0.052 U	< 0.073 U	< 0.081 U	< 0.11 U	< 0.55 UJ	< 0.2 UJ	0.29
SRC1-AH19	0	FD	10/31/2008	< 0.082 U	< 0.14 U	< 0.056 U	< 0.083 U	< 0.069 U	< 0.1 U	< 1.5 UJ	< 0.31 UJ	0.29
SRC1-AI17	0	N	11/3/2008	10	< 0.72 U	3.4 J	5.4	13	0.51 J	< 3.1 U	410	8.6
SRC1-AI20	0	N	10/31/2008	< 0.92 U	< 0.21 U	< 0.22 U	< 0.39 U	< 0.33 UJ	< 0.14 UJ	< 0.57 UJ	5.2 J	0.55
SRC1-AJ18	0	N	11/3/2008	< 1.8 U	< 0.45 U	< 0.45 U	< 0.96 U	2	< 0.26 U	< 3.1 U	35	1.4
SRC1-AJ19	0	N	11/14/2008	< 0.68 U	< 1.1 U	< 0.62 U	< 0.71 U	< 0.46 U	< 0.6 U	< 2.5 U	< 1.5 U	1.4
SRC1-AJ20	0	N	11/5/2008	8.9	< 0.49 U	2.7 J	4.7 J	7.9	< 0.26 U	< 4.6 UJ	110 J	6.4
SRC1-AJ21	0	N	11/6/2008	< 0.076 U	< 0.19 U	< 0.042 U	< 0.059 U	< 0.084 U	< 0.054 U	< 0.14 U	< 0.64 U	0.29
SRC1-AJ22	0	N	11/5/2008	17	< 1.3 U	6.3	9.5	14	0.57 J	71	290	14.8
SRC1-AJ23	0	N	11/7/2008	3 J	< 0.72 U	< 0.81 U	< 1.6 U	2	< 0.43 U	< 4.5 UJ	59 J-	2.5
SRC1-AJ24	0	N	11/10/2008	< 0.38 U	< 0.8 U	< 0.26 U	< 0.39 U	< 0.32 U	< 0.42 U	< 0.82 UJ	< 0.6 UJ	0.93
SRC1-AJ25	0	N	11/13/2008	3.8 J	< 2.7 U	< 1.3 U	< 2.2 U	2.9	< 0.42 U	29	66	4.4
SRC1-AJ26	0	N	11/13/2008	< 0.75 U	< 1.4 U	< 0.47 U	< 0.76 U	< 0.45 U	< 0.74 U	< 1.7 U	< 1.2 U	1.6
SRC1-AJ27	0	N	11/13/2008	< 0.4 U	< 0.71 U	< 0.26 U	< 0.4 U	< 0.34 U	< 0.37 U	< 3.4 U	< 1.7 U	0.89
SRC1-AJ28	0	N	11/13/2008	< 0.77 U	< 1.6 U	< 0.51 U	< 0.79 U	< 0.46 UJ	< 0.69 U	< 5.2 UJ	< 1.8 UJ	1.6
SRC1-AJ28	0	FD	11/13/2008	< 2.2 U	< 0.77 U	< 2.1 U	< 1.3 U	1.6 J	< 0.3 U	410 J	56 J	2.8
SRC1-AK20	0	N	11/5/2008	< 0.66 U	< 0.12 U	< 0.13 U	< 0.29 U	0.7 J	< 0.072 U	< 3.7 U	16	0.5
SRC1-AK21	0	N	11/6/2008	< 1.8 U	< 0.22 UJ	< 0.91 UJ	< 0.94 U	3.5 J	< 0.24 U	< 1.8 UJ	31 J	1.5
SRC1-AK21	0	FD	11/6/2008	< 0.13 U	< 0.13 U	< 0.045 U	< 0.073 U	< 0.13 UJ	< 0.067 U	< 1 U	< 0.85 UJ	0.29
SRC1-AK23	0	N	11/6/2008	3.7 J	< 1.2 U	< 0.97 U	< 2 U	2.9	< 0.67 U	< 2.2 U	35	3
SRC1-AK24	0	N	11/6/2008	< 0.11 U	< 0.22 U	< 0.058 U	< 0.11 U	< 0.078 U	< 0.11 U	< 0.37 U	< 0.39 U	0.35
SRC1-AK25	0	N	11/10/2008	< 1.1 U	< 2 U	< 0.51 U	< 1.1 U	< 0.57 U	< 0.81 U	< 1.9 U	< 4.6 U	2
SRC1-AK26	0	N	11/7/2008	< 0.4 U	< 0.67 U	< 0.42 U	< 0.42 U	0.51 J	< 0.29 U	15	9.6 J	0.99
SRC1-AK27	0	N	11/12/2008	< 1 U	< 2.2 U	< 0.65 U	< 1.1 U	< 0.32 U	< 0.71 U	11	< 3.9 U	2.1
SRC1-AL24	0	N	11/6/2008	< 0.27 U	< 0.1 U	< 0.12 U	< 0.14 U	< 0.36 U	< 0.057 U	< 2.6 U	< 4.8 U	0.35
SRC1-AL26	0	N	11/7/2008	< 0.38 U	< 0.55 U	< 0.49 U	< 0.41 U	< 0.31 U	< 0.35 U	< 1.1 U	< 1.2 U	0.88
SRC1-AL28	0	N	11/12/2008	17	< 3.1 UJ	3.9	8.2	10	0.62 J	95 J	250 J	13.7
SRC1-AM27	0	N	11/10/2008	2500 J	250	650	1400	1900 J	75	1300	86000 J	2207
SRC1-AM28	0	N	11/12/2008	37	3.2	8.4	18	27	0.67 J	120 J	580 J	28.4

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Dioxins/Furans								
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	1,2,3,7,8-PeCDF	1,2,3,7,8-PeCDD	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	2,3,7,8-TCDD	OCDF	OCDD	TCDD TEQ
SRC1-AN28	0	N	11/12/2008	7.5	< 0.8 U	< 1.8 U	4.3	6.5	< 0.48 U	70	87	8.5
SRC1-J01	0	N	11/3/2008	6.4	< 0.43 U	< 1.8 U	3.2 J	4.5 J	< 0.26 U	< 4.2 U	89 J	5
SRC1-J01	0	FD	11/3/2008	< 2.3 U	< 0.47 U	< 0.67 U	< 0.94 U	1.4 J	< 0.25 U	< 3.3 UJ	28 J	1.6
SRC1-J02	0	N	11/5/2008	19	< 1.5 UJ	4.9 J	8.8	14	0.58 J	< 4.9 UJ	< 200 UJ	13.3
SRC1-J03	0	N	11/5/2008	79	6.3	25	42	100	3	26	1300	68.3
SRC1-J07	0	N	11/7/2008	3.9 J	< 0.9 U	< 1.2 U	< 2.1 U	3.6	< 0.3 U	20	69	3.4
SRC1-J09	0	N	11/10/2008	14	< 1.1 U	5.1	6.3	10 J	< 0.46 U	120 J	260 J	12.2
SRC1-J09	0	FD	11/10/2008	9.9	< 1.5 U	3.8 J	5.2	5.8 J	< 0.53 U	50 J	90 J	9.5
SRC1-J10	0	N	11/13/2008	8.5 J	< 1.8 U	< 1.9 U	4.8 J	5.3 J	< 0.98 U	12	74 J	6.7
SRC1-J10	0	FD	11/13/2008	< 0.85 UJ	< 1.7 U	< 0.84 U	< 0.86 U	< 0.6 UJ	< 0.82 U	< 2.7 U	8.8 J	1.9
SRC1-J11	0	N	11/14/2008	73	7.1	21	40	61	2.3	1700	2200	69.7
SRC1-J12	0	N	11/13/2008	< 0.46 U	< 1.1 U	< 0.34 U	< 0.47 U	< 0.34 U	< 0.52 U	< 2.5 U	< 0.71 U	1.2
SRC1-J13	0	N	11/12/2008	37	3.5	12	19	26	1.3	120	790	35.6
SRC1-J14	0	N	11/13/2008	< 1.7 U	< 0.89 U	< 1.6 U	< 1 U	1.2	< 0.4 U	120	32	2.1
SRC1-J15	0	N	11/12/2008	3.6	< 2 U	< 1.1 U	< 1.7 U	2.7 J	< 0.7 U	< 20 UJ	62 J	3.8
SRC1-J15	0	FD	11/12/2008	< 0.31 U	< 0.64 U	< 0.2 U	< 0.32 U	< 0.21 UJ	< 0.34 U	< 0.93 UJ	< 0.63 UJ	0.78
SRC2-AI19N	0	N	9/16/2009	36	3.1 J	8.7	20	32	1.3	15	350	28.1
SRC2-AI19SE	0	N	9/16/2009	8	< 0.24 U	< 2.3 U	4.3 J	7.2	< 0.3 U	10	170	5.6
SRC2-AI19SW	0	N	9/16/2009	< 0.22 U	< 0.12 U	< 0.18 U	< 0.24 U	< 0.46 U	< 0.038 U	< 0.17 U	< 0.29 U	0.21
SRC2-AI19W	0	N	9/16/2009	< 1.1 U	< 0.096 U	< 0.96 U	< 0.36 U	1.8 J	< 0.03 U	< 0.62 U	14 J	0.66
SRC2-AI19W	0	FD	9/16/2009	3.2 J	< 0.16 U	< 1.9 U	< 1.8 U	3.5 J	< 0.12 U	< 0.89 U	27 J	1.9
SRC2-AL28C	0	N	9/11/2009	13	< 0.7 U	3.4 J	7	9.7	0.52 J	72	160	10.3
SRC2-AM27C	0	N	9/11/2009	14	< 1.2 U	4.3 J	7.9	14	< 0.48 U	16	270	11
SRC2-AM27C	0	N	9/23/2010	17	< 1.3 U	4.8 J	9.2	14	0.6 J	36	370	13.9
SRC2-AM27S-'	0	N	9/11/2009	6.1	< 0.5 U	< 1.8 U	3.6 J	4.6	< 0.32 U	16	120	4.8
SRC2-J02E	0	N	9/17/2009	38	< 2 U	6.2	16	48	0.76 J	10	350	21.9
SRC2-J02N	0	N	9/17/2009	20	< 1.8 U	5.9 J	12	15	< 0.62 U	10 J	310	16.1
SRC2-J02S	0	N	9/17/2009	6.9	< 0.23 U	< 1.6 U	3.9 J	5.9	< 0.17 U	< 3.2 U	46	4.2
SRC2-J02W	0	N	9/17/2009	5	< 0.17 U	< 1 U	2.8 J	4	< 0.18 U	< 2.4 U	36	3.1
SRC2-J03E	0	N	9/17/2009	< 0.62 U	< 0.075 U	< 0.14 U	< 0.18 U	0.62 J	< 0.039 U	< 1.2 U	9.2 J	0.29
SRC2-J03N	0	N	9/17/2009	4.8 J	< 0.19 U	< 1.1 U	2.9 J	5.2	< 0.12 U	6 J	80	3.5
SRC2-J03S	0	N	9/17/2009	130	11	32	73	130	4.3	170	1900	109
SRC2-J03W	0	N	9/17/2009	8.9	< 0.3 U	< 1.5 U	4.6 J	7.5	< 0.29 U	< 3.4 U	98	5.6
SRC2-J11C	0	N	9/11/2009	130	11	37	77	92	3.7	210	4300 J	116
SRC2-J13C	0	N	9/11/2009	17	< 1.3 U	4.5 J	10	12	0.6 J	130 J	350 J	14.4
SRC2-J16S-W	0	N	9/11/2009	11	< 0.76 U	3.1 J	6.3	7	< 0.27 U	17	160	8.2
SRC2-J17S-W	0	N	9/11/2009	19	< 1.5 U	6.6	10	13	0.72 J	110	250	15.2

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 7 of 8)

				Dioxins/Furans								
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	1,2,3,7,8-PeCDF	1,2,3,7,8-PeCDD	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	2,3,7,8-TCDD	OCDF	OCDD	TCDD TEQ
SRC2-J18S-W	0	N	9/11/2009	< 1.1 U	< 0.093 U	< 0.63 U	< 0.65 U	0.79 J	< 0.034 U	11	11	0.54
SRC2-J18S-W	0	FD	9/11/2009	< 1.2 U	< 0.056 U	< 0.66 U	< 0.68 U	1	< 0.051 U	8 J	12	0.57
SRC2-J19S-W	0	N	9/14/2009	< 0.2 U	< 0.06 U	< 0.097 U	< 0.16 U	< 0.56 U	< 0.019 U	< 0.22 UJ	< 1.5 UJ	0.16
SRC2-J20	0	N	9/14/2009	14	< 0.62 U	3.4 J	7.6	12	0.55 J	32 J	140 J	10.4
SRC2-J21	0	N	9/14/2009	15	< 1 U	4.3 J	7.9	13	0.8 J	490	160	14.7
SRC2-J22	0	N	9/14/2009	8.1	< 0.21 U	< 1.8 U	4.4 J	7.6	< 0.29 U	< 4.2 U	55	5.2
SRC2-J23	0	N	9/14/2009	66	5.4	15	36	51	1.9	43	510	52.4
SRC2-J24	0	N	9/14/2009	< 2 U	< 0.1 U	< 0.44 U	< 1.2 U	1.8	< 0.039 U	6.4 J	7.5 J	0.94
SRC2-J25	0	N	9/14/2009	20	< 1.1 U	6	11	19	0.78 J	78	260	17.4
SRC2-J26	0	N	9/14/2009	12	< 0.69 U	3.3 J	7	9.4	< 0.2 U	< 1.7 UJ	140 J	8.4
SRC2-J27	0	N	9/14/2009	< 0.53 U	< 0.056 U	< 0.13 U	< 0.14 U	0.76 J	< 0.026 U	< 0.27 UJ	< 1 UJ	0.21
SRC2-J28	0	N	9/14/2009	< 0.47 U	< 0.049 U	< 0.14 U	< 0.063 U	< 0.52 U	< 0.024 U	< 0.19 U	< 1.4 U	0.16
SRC2-J29	0	N	9/14/2009	< 0.91 U	< 0.058 U	< 0.18 U	< 0.081 U	< 0.58 U	< 0.031 U	< 0.27 U	< 2.1 U	0.2
SRC2-J30	0	N	9/14/2009	7.3	< 0.17 U	< 1.7 U	3.7 J	5.7	< 0.12 U	< 3.6 UJ	46 J	4.5
SRC2-J31	0	N	9/14/2009	2.5 J	< 0.11 U	< 0.55 U	< 1.3 U	2.8	< 0.031 U	< 2.5 U	24	1.3
SRC2-J32	0	N	9/14/2009	< 0.3 U	< 0.053 U	< 0.13 U	< 0.19 U	0.68 J	< 0.028 U	< 0.16 U	< 0.5 U	0.2
SRC2-J33	0	N	9/17/2009	18 J	< 1.6 UJ	4.2 J	11 J	20 J	0.7 J	8.3 J	250 J	14.1
SRC2-J33	0	FD	9/17/2009	18 J	< 1.5 UJ	4.7 J	10 J	18 J	0.56 J	11 J	240 J	14.2
SRC2-J34	0	N	9/17/2009	2.8 J	< 0.1 U	< 0.8 U	< 1.5 U	3.1	< 0.12 U	< 1.6 U	73	2
SRC3-J02C2	0	N	12/8/2009	< 0.91 UJ	< 0.023 UJ	< 0.53 U	< 0.32 UJ	0.7 J	< 0.065 UJ	< 0.67 U	9.2 J	0.39
SRC3-J02NE	0	N	12/8/2009	190	14	54	93	230	4.1	210	5300 J	156
SRC3-J02NW	0	N	12/8/2009	< 2.3 UJ	< 0.031 UJ	< 0.79 U	< 0.67 UJ	1.8	< 0.015 U	7.7 J	35 J	1.4
SRC3-J02NW	0	FD	12/8/2009	< 1.6 U	< 0.11 U	< 0.86 U	< 0.65 U	1.1	< 0.1 U	< 2.5 U	20	0.72
SRC3-J02SE	0	N	12/8/2009	< 0.6 U	< 0.092 U	< 0.32 U	< 0.24 U	0.64 J	< 0.084 U	< 0.46 U	50	0.37
SRC3-J02SW	0	N	12/8/2009	6	< 0.21 U	< 1.9 U	3.4 J	4.8	< 0.22 U	7.5 J	74	4.2
SRC3-J03C2	0	N	12/8/2009	19	< 1.9 U	6	11	16	0.64 J	8.4 J	370	15.8
SRC3-J03NE	0	N	12/8/2009	< 0.63 U	< 0.026 U	< 0.056 U	< 0.22 U	0.7 J	< 0.036 U	< 0.28 U	8.9 J	0.32
SRC3-J03NW	0	N	12/8/2009	< 0.31 U	< 0.37 U	< 0.59 U	< 0.32 U	< 0.21 U	< 0.25 U	17	< 2 U	0.58
SRC3-J03SE	0	N	12/8/2009	150 J	13 J	36 J	78	140 J	4.4 J	42 J	1800	119
SRC3-J03SE	0	FD	12/8/2009	69 J	5 J	20 J	39	72 J	2.4 J	30 J	1300	59
SRC3-J03SW	0	N	12/8/2009	< 2.3 U	< 0.089 U	< 1.6 U	< 1.4 U	1.8	< 0.016 U	< 0.5 U	17	1.2
SRC3-J11C2	0	N	12/7/2009	28	2.6 J	8.1	16	19	0.78 J	130 J	420 J	21.8
SRC3-J11NE	0	N	12/7/2009	130	11	33	73	93	3.6	81	2900	95.3
SRC3-J11NW	0	N	12/7/2009	720	64	180	410	420	20	280	22000 J	555
SRC3-J11SE	0	N	12/7/2009	12	< 0.41 U	2.8 J	6.5	8	< 0.3 U	38 J	170	7.3
SRC3-J11SE	0	FD	12/7/2009	13 J	< 0.78 UJ	4 J	7.6 J	8.9 J	< 0.23 UJ	89 J	230	9.2
SRC3-J11SW	0	N	12/7/2009	2.6 J	< 0.039 U	< 0.81 U	< 0.83 U	1.9	< 0.0085 U	8.5 J	40	1.3

TABLE B-2
SOIL DIOXINS/FURANS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Dioxins/Furans								
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	1,2,3,7,8-PeCDF	1,2,3,7,8-PeCDD	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	2,3,7,8-TCDD	OCDF	OCDD	TCDD TEQ
SRC3-J23C2	0	N	12/7/2009	7.5	< 0.016 U	< 1.6 U	4 J	4.5	< 0.2 U	7.7 J	59	4.3
SRC3-J23NE	0	N	12/7/2009	13	< 0.92 U	5 J	7.6	8.5	< 0.29 U	21	120	9.3
SRC3-J23NW	0	N	12/7/2009	16	< 1.5 U	5.8	9.3	9.6	< 0.48 U	22	250	12.1
SRC3-J23SE	0	N	12/7/2009	60	5.2	20	34	29	1.8	120	750	46.4
SRC3-J23SW	0	N	12/7/2009	14	< 1.5 U	5.6	7.9	7.9	< 0.4 U	850	190	12.7
SRC4-J02C2	0	N	3/17/2010	< 0.4 U	< 0.59 U	< 0.4 U	< 0.43 U	< 0.16 U	< 0.2 U	< 1.8 UJ	< 1.7 UJ	0.67
SRC4-J02NE2	0	N	3/17/2010	< 0.71 U	< 0.89 U	< 0.59 U	< 0.76 U	< 0.53 U	< 0.15 U	< 1.9 UJ	10 J	0.99
SRC4-J02NW2	0	N	3/17/2010	< 0.38 U	< 0.81 U	< 0.3 U	< 0.4 U	< 0.16 U	< 0.19 U	< 1.3 U	< 1.4 U	0.74
SRC4-J02NW2	0	FD	3/17/2010	< 0.38 U	< 0.71 U	< 0.34 U	< 0.41 U	< 0.25 U	< 0.23 U	< 1.9 UJ	< 2.1 UJ	0.74
SRC4-J02SE2	0	N	3/17/2010	< 0.53 U	< 0.75 U	< 0.56 U	< 0.57 U	< 0.16 U	< 0.21 U	< 2.6 UJ	< 2.3 UJ	0.85
SRC4-J02SW2	0	N	3/17/2010	< 0.039 U	< 0.046 U	< 0.027 U	< 0.04 U	< 0.053 U	< 0.031 U	< 2.6 U	< 0.32 U	0.11
SRC4-J03C2	0	N	3/17/2010	< 0.87 U	< 0.68 U	< 1.1 U	< 0.63 U	1.2	< 0.24 U	< 0.96 U	20	1.3
SRC4-J03NE2	0	N	3/17/2010	12	< 0.49 U	3.4 J	6.9	13	< 0.37 U	10 J	270 J	9.6
SRC4-J03SE2	0	N	3/17/2010	< 1.8 U	< 1.3 U	< 0.8 UJ	< 0.77 U	1.6	< 0.19 U	< 2.2 UJ	27 J	1.9
SRC4-J03SW2	0	N	3/17/2010	< 0.4 U	< 0.69 U	< 0.32 U	< 0.42 U	< 0.43 U	< 0.23 U	< 0.92 U	< 1.2 U	0.7
SRC4-J11CN2	0	N	3/17/2010	9.3	< 0.9 U	3.1 J	5.3	7.1	< 0.32 U	28 J	380 J	8
SRC4-J11CS2	0	N	3/17/2010	< 0.035 U	< 0.065 U	< 0.028 U	< 0.037 U	< 0.068 U	< 0.033 U	< 0.29 UJ	< 1.6 UJ	0.1
SRC4-J11E2	0	N	3/17/2010	< 0.048 U	< 0.037 U	< 0.021 U	< 0.05 U	< 0.18 U	< 0.029 U	< 0.2 UJ	< 1.3 UJ	0.09
SRC4-J11N2	0	N	3/17/2010	640	57	190	360	440 J	19	730	25000 J	576
SRC4-J11S2	0	N	3/17/2010	< 1.4 U	< 0.062 U	< 0.51 U	< 0.24 U	1.1	< 0.038 U	19 J	42 J	0.89
SRC4-J11W2	0	N	3/17/2010	160	14	48	93	120	4.7	4300 J	6200 J	153
SRC4-J23C2	0	N	3/17/2010	30	2.6 J	9.5	16	21	0.81 J	150	700	27.9
SRC4-J23NE2	0	N	3/17/2010	14	< 1.1 U	3.7 J	6.6	11	< 0.33 U	9.3 J	230	10.6
SRC4-J23NW2	0	N	3/17/2010	30	< 2.5 U	8.3	15	20	0.98 J	93 J	510 J	25.6
SRC4-J23SE2	0	N	3/17/2010	32	< 2.5 U	10	16	22	0.96 J	120	630	27.4
SRC4-J23SE2	0	FD	3/17/2010	25	< 1.9 U	7.3	11	16	0.68 J	130 J	510 J	20.9
SRC4-J23SW2	0	N	3/17/2010	18	< 1.1 U	5.9	9	12	0.54 J	160	280	15.8
SRC5-J11N2	0	N	6/21/2010	1600 J	140	460 J	970 J	1100 J	50 J	860	43000 J	1407
SRC5-J11N2	0	FD	6/21/2010	610 J	52	160 J	370 J	350 J	15 J	650	18000 J	505
SRC5-J11W2	0	N	6/21/2010	6.9	< 0.59 U	< 2 U	4.1 J	4.2	< 0.096 U	42	150	5.4
SRC6-J11N3	0	N	9/21/2010	6.4	< 0.63 U	< 2.4 U	3.6 J	4.7 J	< 0.15 U	< 4.2 UJ	160 J	5.2
SRC6-J11N3	0	FD	9/21/2010	< 0.16 U	< 0.068 U	< 0.075 U	< 0.1 U	< 0.23 UJ	< 0.04 U	< 0.67 U	< 3.2 UJ	0.15

All units in pg/g.

-- = no sample data.

= Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-3
SOIL GENERAL CHEMISTRY/IONS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				General Chemistry/Ions												
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Ammonia	Bromide	Chlorate	Chloride	Cyanide (Total)	Fluoride	Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)
SRC1-AG16	0	N	10/31/2008	< 0.81 U	0.8 J	< 0.55 U	20.2	< 0.52 U	< 0.1 U	7.1	< 0.021 U	< 0.52 U	0.642	120	< 1.8 U	252
SRC1-AG16	11	N	10/31/2008	< 0.83 U	0.85 J	< 0.56 U	298	< 0.53 U	1.1	1.8	< 0.021 U	< 0.53 U	0.519	213	< 1.9 U	45.7 J
SRC1-AG17	0	N	10/31/2008	< 0.78 U	1 J	< 0.53 U	10.4	< 0.5 U	0.75 J	2.7	0.4	3.7 J	0.208	20.7	< 1.8 U	276
SRC1-AG17	11	N	10/31/2008	< 0.81 U	< 0.26 U	4.2 J	71.6	< 0.52 U	0.99 J	5.7	< 0.021 U	< 0.52 U	0.549	145	< 1.8 U	38.1 J
SRC1-AG18	0	N	10/31/2008	< 0.8 U	< 0.26 U	< 0.54 U	7.8	< 0.081 U	0.55 J	1.4	< 0.02 U	< 0.51 U	1.84	335	< 1.8 U	62.8
SRC1-AG18	11	N	10/31/2008	< 0.81 U	1.5 J	< 0.55 U	269	< 0.52 U	1.3	1.5	< 0.021 U	1.1 J	< 0.0106 U	132	< 1.8 U	49.1 J
SRC1-AH15	0	N	11/3/2008	< 0.79 U	< 0.25 U	< 0.54 U	27.5 J	< 0.08 U	< 0.1 U	5.8 J	< 0.02 U	< 5.1 U	0.226 J	48.8 J	< 1.8 U	32.7 J
SRC1-AH15	0	FD	11/3/2008	< 0.81 U	< 0.26 U	< 0.55 U	8.5 J	0.12 J	< 0.1 U	2.4 J	< 0.021 U	< 0.52 U	0.169 J	24.1 J	< 1.8 U	42.4 J
SRC1-AH15	10	N	11/3/2008	< 0.86 U	< 0.27 U	< 5.5 U	169	< 0.087 U	1.6	4.3	< 0.022 U	< 0.55 U	4.28	215	< 1.9 U	30.4 J
SRC1-AH16	0	N	11/3/2008	< 0.8 U	< 0.26 U	< 0.54 U	1.3 J	< 0.081 U	0.82 J	0.53	< 0.021 U	< 0.51 U	0.126	< 5.1 U	< 1.8 U	50.2 J
SRC1-AH16	11	N	11/3/2008	< 0.83 U	< 0.27 U	< 0.56 U	67.1	< 0.084 U	0.94 J	0.79	< 0.021 U	< 0.53 U	0.209	204	< 1.9 U	30.5 J
SRC1-AH17	0	N	11/14/2008	< 0.81 U	< 0.26 U	< 0.55 U	1.6 J	< 0.082 U	1.3	0.55	< 0.021 U	< 0.52 U	0.119	8.5	< 1.8 U	115
SRC1-AH17	11	N	11/14/2008	< 0.82 U	3.7	< 0.56 U	812	< 0.083 U	1.1	0.63	< 0.21 U	< 0.53 U	0.0622	380	< 1.9 U	47.5 J
SRC1-AH18	0	N	10/31/2008	< 0.8 U	< 0.26 U	0.95 J	1.2 J	< 0.51 U	1.5	0.52	< 0.021 U	< 0.51 U	0.0659	6.5	< 1.8 U	80.8
SRC1-AH18	11	N	10/31/2008	< 0.81 U	< 0.26 U	< 0.55 U	3.3	< 0.52 U	1.1	0.45	< 0.021 U	< 0.52 U	0.0261 J	418	< 1.8 U	26.3 J
SRC1-AH19	0	N	10/31/2008	< 0.8 U	< 0.26 U	< 0.54 U	5.8 J	< 0.51 U	1.5	1.6 J	< 0.02 U	< 0.51 U	0.0741	65.8	< 1.8 U	86.7
SRC1-AH19	0	FD	10/31/2008	< 0.8 U	< 0.26 U	< 0.54 U	2.9 J	0.34 J	1.8	0.72 J	< 0.02 U	< 0.51 U	0.0558	41.4	< 1.8 U	76.5
SRC1-AH19	10	N	10/31/2008	< 0.84 U	< 0.27 U	< 0.57 U	548	0.28 J	1 J	0.5	< 0.022 U	< 0.54 U	< 0.0105 U	172	< 1.9 U	61.1
SRC1-AI17	0	N	11/3/2008	< 0.8 U	< 0.26 U	< 0.54 U	38.3	0.15 J	< 0.1 U	8.3	< 0.02 U	< 0.51 U	8.9	200	< 1.8 U	72.8
SRC1-AI17	3	N	11/3/2008	< 0.82 U	< 0.26 U	< 0.56 U	35.3	0.19 J	1.1	8.3	< 0.021 U	1.4 J	1.73	178	< 1.9 U	86.8
SRC1-AI17	13	N	11/3/2008	< 0.83 U	4.8	< 0.56 U	405	0.099 J	1 J	6.3	< 0.021 U	< 0.53 U	0.553	154	< 1.9 U	46.2 J
SRC1-AI20	0	N	10/31/2008	< 0.8 U	< 0.26 U	< 0.54 U	1.1 J	0.22 J	0.92 J	0.55	< 0.021 U	< 0.52 U	0.399	< 5.2 U	< 1.8 U	65.3
SRC1-AI20	10	N	10/31/2008	< 0.81 U	3.3	< 0.55 U	260	0.31 J	1.2	1	< 0.021 U	< 0.52 U	< 0.0106 U	87.4	< 1.8 U	21.8 J
SRC1-AJ18	0	N	11/3/2008	< 0.8 U	< 0.26 U	< 0.54 U	8.2	0.13 J	0.63 J	6.5	< 0.02 U	2 J	0.126	14.1	< 1.8 U	84.4
SRC1-AJ18	3	N	11/3/2008	< 0.8 U	< 0.26 U	< 0.54 U	11	< 0.081 U	1.6	1.5	< 0.021 U	< 0.51 U	1.69	129	< 1.8 U	75.8
SRC1-AJ18	13	N	11/3/2008	< 0.83 U	< 0.27 U	5.5	193	< 0.084 U	1.4	3.1	< 0.021 U	< 0.53 U	2.4	89.8	< 1.9 U	66.7
SRC1-AJ19	0	N	11/14/2008	< 0.79 U	< 0.25 U	< 0.54 U	2.7	< 0.08 U	1.6	1.2	< 0.02 U	1 J	0.0848	61.5	< 1.8 U	91.5
SRC1-AJ19	11	N	11/14/2008	< 0.81 U	1.4 J	< 0.55 U	334	< 0.082 U	0.74 J	1.4	< 0.021 U	< 0.52 U	--	203	< 1.8 U	38.6 J
SRC1-AJ20	0	N	11/5/2008	< 0.8 U	< 0.26 U	< 0.54 U	3.2	0.18 J	1.1	4.4	< 0.021 U	< 0.51 U	0.078	23.3	< 1.8 U	114
SRC1-AJ20	11	N	11/5/2008	< 0.82 U	2.4 J	< 5.3 U	395	< 0.083 U	0.77 J	2.9	< 0.021 U	< 0.53 U	0.0457	148	< 1.9 U	31.1 J
SRC1-AJ20	21	N	11/5/2008	< 0.82 U	< 0.26 U	< 5.3 U	90.9	< 0.083 U	1.1	2.2	< 0.021 U	< 0.53 U	3.03	86.8	< 1.9 U	22.9 J
SRC1-AJ21	0	N	11/6/2008	< 5.2 U	< 0.26 U	< 0.55 U	36.8	< 0.52 U	< 0.1 U	165	< 0.021 U	11.6	< 0.0108 U	129	< 1.8 U	241 J+
SRC1-AJ21	12	N	11/6/2008	< 0.82 U	< 0.26 U	< 0.56 U	18.7	< 0.53 U	2.6	0.75	< 0.021 U	< 0.53 U	< 0.0107 U	50.5	< 1.9 U	28.1 J+
SRC1-AJ22	0	N	11/5/2008	0.86 J	< 0.26 U	< 0.55 U	36.6	0.14 J	< 0.1 U	107	< 0.021 U	12	< 0.0106 U	99.6	< 1.8 U	492
SRC1-AJ22	10	N	11/5/2008	< 0.82 U	< 0.26 U	< 0.56 U	21.1	< 0.083 U	2.5	0.59	< 0.021 U	< 0.53 U	< 0.011 U	58.9	< 1.9 U	47.9 J

TABLE B-3
SOIL GENERAL CHEMISTRY/IONS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry/Ions												
				Ammonia	Bromide	Chlorate	Chloride	Cyanide (Total)	Fluoride	Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)
SRC1-AJ23	0	N	11/7/2008	< 0.82 U	< 0.26 U	< 0.55 U	40	< 0.52 U	2.6	10.1	< 0.021 U	< 0.52 U	0.248	340	< 1.9 U	94.4
SRC1-AJ23	4	N	11/7/2008	< 0.84 U	< 0.27 U	< 0.57 U	92.8	< 0.54 U	3.1	20.2	< 0.022 U	< 0.54 U	0.529	82.7	< 1.9 U	127
SRC1-AJ23	14	N	11/7/2008	< 0.84 U	3.5	< 0.57 U	655	< 0.54 U	1.4	8.3	< 0.022 U	< 0.54 U	0.0365 J	216	< 1.9 U	62
SRC1-AJ24	0	N	11/10/2008	< 0.79 U	< 0.25 U	< 0.54 U	3.7	< 0.51 U	< 0.1 U	4.6	< 0.02 U	6.3	0.0301 J	11.6	< 1.8 U	71.2
SRC1-AJ24	10	N	11/10/2008	< 0.82 U	< 0.26 U	< 0.56 U	11.7	< 0.53 U	1.1	1.4	< 0.021 U	< 0.53 U	< 0.0106 U	39.1	< 1.9 U	42.6 J
SRC1-AJ25	0	N	11/13/2008	2.1 J	< 2.6 U	< 0.55 U	24.5	< 0.52 U	0.61 J	108	< 0.021 U	17.7	0.0242 J	178	< 1.8 U	1810
SRC1-AJ25	3	N	11/13/2008	< 0.83 U	< 0.27 U	< 0.56 U	8.7	< 0.53 U	1.6	2.4	< 0.021 U	< 5.3 U	< 0.0105 U	28.1	< 1.9 U	45.3 J
SRC1-AJ25	13	N	11/13/2008	< 0.82 U	< 0.26 U	< 0.55 U	12.8	< 0.52 U	2	1.3	< 0.021 U	< 0.52 U	< 0.0109 U	47.3	< 1.9 U	35.7 J
SRC1-AJ26	0	N	11/13/2008	< 0.83 U	< 0.27 U	< 0.56 U	10.9	< 0.084 U	1.4	5.6	0.12 J	< 0.53 U	0.0301 J	64.8	< 1.9 U	106
SRC1-AJ26	11	N	11/13/2008	< 0.81 U	< 0.26 U	< 0.55 U	53	< 0.082 U	0.67 J	3.5	0.34	< 0.52 U	0.111	111	< 1.8 U	44.6 J
SRC1-AJ27	0	N	11/13/2008	< 0.83 U	< 0.26 U	< 0.56 U	116	< 0.084 U	2.4	7.3	< 0.021 U	< 0.53 U	0.399	188	< 1.9 U	125
SRC1-AJ27	10	N	11/13/2008	< 0.81 U	< 0.26 U	< 0.55 U	209	0.17 J	1.1	15.6	< 0.021 U	< 0.52 U	0.377	304	< 1.8 U	48.4 J
SRC1-AJ28	0	N	11/13/2008	< 0.83 U	< 0.27 U	< 0.56 U	3.3 J	R	1.1	3.9 J	< 0.021 U	< 0.53 UJ	< 0.0105 U	101 J	< 1.9 U	104 J
SRC1-AJ28	0	FD	11/13/2008	< 0.79 U	< 0.25 U	< 0.53 U	10.2 J	0.75 J	1.2	8.2 J	0.2	6.5 J	0.0218 J	496 J	< 1.8 U	222 J
SRC1-AJ28	12	N	11/13/2008	< 0.82 U	< 0.26 U	< 0.56 U	18.2	< 0.084 U	3	4.6	< 0.021 U	< 0.53 U	< 0.0106 U	112	< 1.9 U	79.3
SRC1-AK20	0	N	11/5/2008	< 0.8 U	< 0.26 U	< 0.54 U	3.9	0.17 J	< 0.1 U	1.2	< 0.02 U	< 0.51 U	0.088	18.8	< 1.8 U	49.2 J
SRC1-AK20	0	FD	11/5/2008	< 0.81 U	2.1 J	< 0.55 U	324	0.1 J	0.9 J	3.7	< 0.021 U	< 0.52 U	0.183 J	142 J	< 1.8 U	85.7
SRC1-AK20	9	N	11/5/2008	< 0.82 U	2.7	< 0.56 U	358	0.1 J	0.94 J	4.1	< 0.021 U	< 0.53 U	0.0223 J	240 J	< 1.9 U	54.1
SRC1-AK20	19	N	11/5/2008	< 0.83 U	< 0.27 U	3.6 J	176	< 0.084 U	3.1	3.6	< 0.021 U	< 0.53 U	2.89	128	< 1.9 U	33.9 J
SRC1-AK21	0	N	11/6/2008	< 0.82 U	< 0.26 U	< 0.55 U	31.1 J	< 0.52 U	< 0.1 UJ	11.9 J	< 0.021 U	< 0.52 U	0.294 J	99.3	< 1.9 U	82 J+
SRC1-AK21	0	FD	11/6/2008	< 0.81 U	< 0.26 U	< 0.55 U	69.8 J	< 0.52 U	1.2 J	25.1 J	< 0.021 U	< 0.52 U	0.658 J	154	< 1.9 U	84.8 J+
SRC1-AK21	8	N	11/6/2008	< 0.82 U	< 0.26 U	< 0.56 U	21.9	< 0.53 U	4.1	2.5	< 0.021 U	< 0.53 U	< 0.0107 U	208	< 1.9 U	69.5 J+
SRC1-AK21	18	N	11/6/2008	< 0.84 U	< 0.27 U	< 0.57 U	36.9	< 0.085 U	4.4	8.5	< 0.021 U	< 0.54 U	0.0258 J	82.9	< 1.9 U	80.2 J+
SRC1-AK23	0	N	11/6/2008	< 0.81 U	< 0.26 U	< 0.55 U	187	< 0.52 U	< 0.1 U	19	< 0.021 U	< 0.52 U	1.82	79.8	< 1.8 U	121 J+
SRC1-AK23	4	N	11/6/2008	< 0.82 U	< 0.26 U	< 0.56 U	151	< 0.53 U	1.5	5.8	< 0.021 U	10.6	0.416	138	< 1.9 U	55.2 J+
SRC1-AK23	14	N	11/6/2008	< 0.83 U	< 0.27 U	< 0.56 U	28	< 0.084 U	1.6	7	< 0.021 U	< 0.53 U	< 0.0108 U	63.6	< 1.9 U	37.5 J+
SRC1-AK24	0	N	11/6/2008	< 5.1 U	< 0.26 U	< 0.54 U	22.9	< 0.51 U	< 0.1 U	10.5	0.31	16.6	0.0334 J	130	< 1.8 U	143 J+
SRC1-AK24	10	N	11/6/2008	< 0.83 U	< 0.27 U	< 0.56 U	29.9	< 0.084 U	3.9	1.3	< 0.021 U	< 0.53 U	< 0.0107 U	77.6	< 1.9 U	46.5 J+
SRC1-AK24	13	N	11/12/2008	< 0.83 U	< 0.27 U	< 0.56 U	22.9	< 0.53 U	2.4	1.6	< 0.021 U	< 0.53 U	--	67.2	< 1.9 U	49.7 J
SRC1-AK25	0	N	11/10/2008	< 102 U	< 0.26 U	< 0.54 U	78.9	< 0.51 U	1.6	205	< 0.02 U	17.4	< 0.0106 U	194	< 1.8 U	360
SRC1-AK25	11	N	11/10/2008	< 5.3 U	< 0.27 U	< 0.56 U	31.7	< 0.53 U	2.8	43.2	0.18 J	3.1 J	< 0.0108 U	90.4	< 1.9 U	77.9
SRC1-AK26	0	N	11/7/2008	3.4 J	< 0.26 U	< 0.54 U	30.4	< 0.52 U	0.87 J	37	0.2 J	7.5	< 0.0105 U	124	< 1.8 U	356 J
SRC1-AK26	0	FD	11/7/2008	1.5 J	< 0.26 U	< 0.54 U	34.4	< 0.51 U	< 0.1 U	51.7	< 0.021 U	7.5	< 0.0104 U	113	< 1.8 U	763 J
SRC1-AK26	10	N	11/7/2008	< 0.81 U	< 0.26 U	< 0.55 U	12.9	< 0.52 U	1.2	0.65	< 0.021 U	< 0.52 U	< 0.0107 U	48.1	< 1.8 U	19.1 J
SRC1-AK27	0	N	11/12/2008	< 0.82 U	< 0.26 U	< 0.56 U	29.5	< 0.53 U	1.2	30.6	< 0.021 U	1.9 J	0.0265 J	86.2	< 1.9 U	270

TABLE B-3
SOIL GENERAL CHEMISTRY/IONS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry/Ions												
				Ammonia	Bromide	Chlorate	Chloride	Cyanide (Total)	Fluoride	Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)
SRC1-AK27	3	N	11/12/2008	< 0.83 U	< 0.27 U	< 0.56 U	21.1	< 0.53 U	3.2	10.6	< 0.021 U	1.3 J	< 0.0108 U	55	< 1.9 U	30.2 J
SRC1-AK27	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	< 0.0107 U	--	--	--
SRC1-AL24	0	N	11/6/2008	< 0.82 U	2.3 J	< 0.55 U	88.1	< 0.083 U	2.3	14.9	< 0.021 U	< 0.52 U	0.506	901	< 1.9 U	83.2 J+
SRC1-AL24	8	N	11/6/2008	< 0.83 U	< 0.27 U	< 0.56 U	15.5	< 0.084 U	2.8	5.5	< 0.021 U	< 0.53 U	0.176	17.1	< 1.9 U	50.8 J+
SRC1-AL24	18	N	11/6/2008	< 0.84 U	< 0.27 U	< 0.57 U	133	< 0.54 U	2.5	3.4	< 0.022 U	< 0.54 U	0.183	141	< 1.9 U	37.9 J+
SRC1-AL26	0	N	11/7/2008	< 0.83 U	< 0.27 U	< 0.56 U	21.7	< 0.53 U	0.79 J	53.5	< 0.021 U	< 5.3 U	0.0658	70.6	< 1.9 U	191
SRC1-AL26	11	N	11/7/2008	< 0.83 U	< 0.27 U	< 0.56 U	17.3	< 0.53 U	1.8	4.4	< 0.021 U	< 0.53 U	< 0.0107 U	56.3	< 1.9 U	66.5
SRC1-AL28	0	N	11/12/2008	1.3 J	0.72 J	< 0.55 U	502	< 0.52 U	0.21 J	918	< 0.021 U	11.1	0.0836 J-	1260	< 1.9 U	233
SRC1-AL28	4	N	11/12/2008	0.91 J	< 0.26 U	< 0.55 U	152	< 0.52 U	1.6	273	< 0.021 U	7.7	0.041 J	698	< 1.8 U	145
SRC1-AL28	14	N	11/12/2008	1.6 J	< 0.26 U	< 0.55 U	16.4	< 0.52 U	2.1	28.6	< 0.021 U	1.9 J	< 0.0107 U	57.7	< 1.9 U	36.3 J
SRC1-AM27	0	N	11/10/2008	< 0.84 U	< 0.27 U	< 0.57 U	439	< 0.085 U	3.4	196	< 0.022 U	1.6 J	1.43	530	< 1.9 U	163
SRC1-AM27	3	N	11/10/2008	< 0.81 U	< 0.26 U	< 0.55 U	7.2	< 0.52 U	0.87 J	3.3	< 0.021 U	< 0.52 U	2.88	50.3	< 1.8 U	57.6
SRC1-AM27	13	N	11/10/2008	< 0.82 U	< 0.26 U	< 0.56 U	12.5	< 0.53 U	2.2	6.5	< 0.021 U	< 0.53 U	0.0844	58.9	< 1.9 U	99.5
SRC1-AM28	0	N	11/12/2008	< 0.81 U	< 0.26 U	< 0.55 U	330	< 0.52 U	< 0.1 U	330	< 0.021 U	17.5	0.633 J-	1390	< 1.8 U	377
SRC1-AM28	7	N	11/12/2008	< 0.81 U	< 0.26 U	< 0.55 U	19.7 J	< 0.52 U	1.4	146	< 0.021 U	4.1 J	0.0577 J-	259 J	< 1.9 U	250 J
SRC1-AM28	7	FD	11/12/2008	1.7 J	< 0.26 U	< 0.54 U	42 J	< 0.51 U	1.8	170	< 0.021 U	4.9 J	0.0227 J-	603 J	< 1.8 U	91.9 J
SRC1-AM28	17	N	11/12/2008	2.1 J	< 0.26 U	< 0.55 U	12.3	< 0.52 U	0.74 J	35.5	< 0.021 U	6	< 0.0106 UJ	66	< 1.9 U	44.6 J
SRC1-AN28	0	N	11/12/2008	< 0.8 U	< 0.26 U	< 0.54 U	109	< 0.51 U	< 0.1 U	43.6	< 0.02 U	1.1 J	0.0367 J	2260	< 1.8 U	301
SRC1-AN28	11	N	11/12/2008	< 0.81 U	< 0.26 U	< 0.55 U	18.3	< 0.52 U	1.2	7.2	< 0.021 U	< 0.52 U	< 0.0106 U	300	< 1.8 U	51.2 J
SRC1-J01	0	N	11/3/2008	< 0.8 U	< 0.26 U	< 0.54 U	0.77 J	< 0.081 U	0.54 J	0.37	0.11 J	6	0.188 J	5.2	< 1.8 U	64.9
SRC1-J01	0	FD	11/3/2008	< 0.8 U	< 0.26 U	< 0.54 U	1.3 J	< 0.082 U	0.59 J	0.48	< 0.021 U	3.2 J	0.0763 J	< 5.2 U	< 1.8 U	60.2
SRC1-J01	11	N	11/3/2008	< 0.83 U	< 0.27 U	1.8 J	255	< 0.084 U	0.79 J	2	< 0.021 U	< 0.53 U	2.5	61	< 1.9 U	28.6 J
SRC1-J02	0	N	11/5/2008	< 0.79 U	< 0.25 U	< 0.54 U	5.7	0.17 J	< 0.1 U	3.1	< 0.02 U	< 0.51 U	0.298	16.1	< 1.8 U	71.2
SRC1-J02	3	N	11/5/2008	< 0.8 U	< 0.26 U	< 0.54 U	20.1	0.17 J	3.5	3.1	< 0.021 U	< 0.52 U	1.4	98.3	< 1.8 U	72.5
SRC1-J02	13	N	11/5/2008	< 0.83 U	1.9 J	15.4	923	0.11 J	1.2	12.4	< 0.21 U	< 0.53 U	4.86	110	< 1.9 U	30.1 J
SRC1-J03	0	N	11/5/2008	1.7 J	< 0.26 U	< 0.54 U	12	< 0.081 U	< 0.1 U	13.3	< 0.02 U	< 0.51 U	0.339	326	< 1.8 U	123
SRC1-J03	5	N	11/5/2008	1.4 J	3.9	< 5.4 U	921	0.13 J	2.3	13.8	< 0.21 U	< 0.54 U	2.9	267	< 1.9 U	56.9
SRC1-J03	15	N	11/5/2008	< 0.83 U	2.3 J	9.2	542	0.094 J	2.4	7.1	< 0.021 U	< 0.53 U	3.82	72.1	< 1.9 U	33 J
SRC1-J07	0	N	11/7/2008	30.8 J	< 0.26 U	< 0.54 U	94.8	0.74	1.6	255	1.3	26.4	< 0.0103 U	635	< 1.8 U	1050
SRC1-J07	10	N	11/7/2008	< 0.82 U	< 0.26 U	< 0.56 U	21.3	< 0.53 U	2	10.3	< 0.021 U	< 5.3 U	< 0.0107 U	59.2	< 1.9 U	36 J
SRC1-J09	0	N	11/10/2008	7.7 J	< 0.26 U	< 0.54 U	83.6 J	< 0.51 U	2	327 J	< 0.02 U	12.2	< 0.0103 U	262 J	< 1.8 U	923 J
SRC1-J09	0	FD	11/10/2008	< 0.81 UJ	< 0.26 U	< 0.55 U	12.7 J	< 0.52 U	1	37.8 J	< 0.021 U	9	< 0.0103 U	60.6 J	< 1.9 U	218 J
SRC1-J09	11	N	11/10/2008	< 0.84 U	< 0.27 U	< 0.57 U	22.5	< 0.086 U	1.8	0.87	< 0.022 U	7.8	< 0.0105 U	71.5	< 1.9 U	56.2
SRC1-J10	0	N	11/13/2008	< 0.82 U	< 0.26 U	< 0.56 U	2.2	< 0.53 U	1.2	1.8	< 0.021 U	7.8 J	< 0.0106 U	45 J	< 1.9 U	146 J
SRC1-J10	0	FD	11/13/2008	< 0.83 U	< 0.27 U	< 0.56 U	0.81 J	< 0.084 U	1.5	1.1	< 0.021 U	< 0.53 UJ	< 0.0107 U	18.3 J	< 1.9 U	56.7 J

TABLE B-3
SOIL GENERAL CHEMISTRY/IONS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry/Ions												
				Ammonia	Bromide	Chlorate	Chloride	Cyanide (Total)	Fluoride	Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)
SRC1-J10	11	N	11/13/2008	< 0.82 U	< 0.26 U	< 0.56 U	189	< 0.083 U	5.5	15.2	< 0.021 U	< 0.53 U	0.0454	170	< 1.9 U	52.6 J
SRC1-J11	0	N	11/14/2008	1.2 J	< 0.26 U	< 0.55 U	35.6	< 0.082 U	0.69 J	8.9	< 0.021 U	< 0.52 U	0.187	84.3	< 1.8 U	196
SRC1-J11	10	N	11/14/2008	< 0.82 U	< 0.26 U	< 0.55 U	14.3	< 0.083 U	2.1	0.43	< 0.021 U	< 0.52 U	< 0.0107 U	54	< 1.9 U	45.2 J
SRC1-J12	0	N	11/13/2008	< 0.81 U	< 0.26 U	< 0.55 U	50.6	0.11 J	0.68 J	25	< 0.021 U	< 0.52 U	0.257	107	< 1.8 U	49.8 J
SRC1-J12	12	N	11/13/2008	< 0.82 U	3	< 0.56 U	494	0.21 J	3.5	61.7	< 0.021 U	< 0.53 U	0.0877	1850	< 1.9 U	44.8 J
SRC1-J13	0	N	11/12/2008	1.5 J	< 0.26 U	< 0.54 U	383	< 0.51 UJ	1.3	474	< 0.021 U	7.5	0.081 J-	1750	< 1.8 U	197
SRC1-J13	3	N	11/12/2008	0.91 J	< 0.27 U	< 0.56 U	41.7	< 0.53 U	4.4	95.1	< 0.021 U	4.3 J	0.287 J-	843	< 1.9 U	166
SRC1-J13	13	N	11/12/2008	< 0.81 U	1.1 J	< 0.55 U	251	< 0.52 U	3.7	47.6	< 0.021 U	< 0.52 U	0.405 J-	81.1	< 1.9 U	43.2 J
SRC1-J14	0	N	11/13/2008	< 0.79 U	< 0.26 U	< 0.54 U	63.9	< 0.51 U	0.93 J	6.8	< 0.02 U	1.2 J	0.149	2880	< 1.8 U	185
SRC1-J14	12	N	11/13/2008	< 0.84 U	< 0.27 U	< 0.57 U	550	< 0.085 U	1.2	25.5	< 0.022 U	< 0.54 U	0.0719	153	< 1.9 U	37.1 J
SRC1-J15	0	N	11/12/2008	1.3 J	< 0.25 U	< 0.54 U	89.7	< 0.51 U	1.5	17.5	0.21	< 0.51 U	0.0257 J	694	< 1.8 U	79.3
SRC1-J15	0	FD	11/12/2008	< 0.82 U	0.58 J	< 0.56 U	143	< 0.53 U	1.2	26.3	< 0.021 U	< 0.53 U	0.674 J	636	< 1.9 U	86.3
SRC1-J15	12	N	11/12/2008	< 0.89 U	< 0.28 U	< 0.6 U	11.3	< 0.57 U	2.1	0.3	< 0.023 U	< 0.57 U	< 0.0109 U	173	< 2 U	42.1 J
SRC2-J20	0	N	9/14/2009	1.3	< 0.26 U	< 0.48 U	70	0.13 J-	< 0.1 U	41.3	< 0.033 U	< 5 U	0.0579	941	< 0.84 UJ	236 J-
SRC2-J21	0	N	9/14/2009	1.1	< 0.26 U	< 0.48 U	14.5	0.21 J	9.9	24.1	< 0.033 U	< 5.1 U	< 0.0101 U	351	< 0.84 U	531 J-
SRC2-J22	0	N	9/14/2009	0.29 J	< 0.26 U	< 0.48 U	302	0.17 J	0.2 J	189	< 0.034 U	< 5.1 U	0.466	3020	< 0.84 U	89.4 J-
SRC2-J23	0	N	9/14/2009	0.37 J	< 0.26 U	< 0.48 U	207	0.13 J	0.29 J	54.8	< 0.033 U	< 0.51 U	0.0582	1550	20.2	210
SRC2-J24	0	N	9/14/2009	0.34 J	< 0.26 U	< 0.48 U	75.5	< 0.11 U	< 0.1 U	23.3	< 0.033 U	< 5.1 U	0.0129 J	1680	< 0.84 U	140
SRC2-J25	0	N	9/14/2009	0.24 J	< 0.27 U	< 0.48 U	189	0.16 J	1	78.9	< 0.034 U	< 5.1 U	0.127	5850	< 0.85 U	178
SRC2-J26	0	N	9/14/2009	0.47 J	< 0.26 U	< 0.48 U	57.5	< 0.11 U	1	14.8	< 0.034 U	< 5.1 U	< 0.0102 U	193	< 0.84 U	149
SRC2-J27	0	N	9/14/2009	0.39 J	< 0.26 U	< 0.48 U	84.9	< 0.11 U	1.5	8.7	< 0.034 U	< 5.1 U	0.0224 J	1210	< 0.84 U	162
SRC2-J28	0	N	9/14/2009	0.43 J	< 0.26 U	< 0.48 U	233	< 0.11 U	0.93 J	36.2	< 0.034 U	< 5.1 U	0.0291 J	474	< 0.84 U	161
SRC2-J29	0	N	9/14/2009	0.33 J	< 0.27 U	< 0.48 U	26.7	< 0.11 U	0.71 J	3.9	< 0.034 U	< 5.1 U	0.135	29.6	< 0.85 U	106
SRC2-J30	0	N	9/14/2009	0.51	0.29 J	< 0.48 U	360	< 0.11 U	0.34 J	62.7	< 0.034 U	< 5.1 U	0.183	391	20.3	135
SRC2-J31	0	N	9/14/2009	0.83	< 0.26 U	< 0.48 U	48.2	< 0.11 U	0.23 J	34.3	< 0.033 U	5.4	0.0249 J	54.3	20.2	236
SRC2-J32	0	N	9/14/2009	0.49 J	< 0.26 U	< 0.48 U	77.6	< 0.11 U	0.36 J	69.2	< 0.033 U	< 5 U	0.0283 J	101	60.5	154
SRC2-J33	0	N	9/17/2009	1.5	< 0.28 U	< 0.51 U	9.8 J	0.19 J	1.4	3.7	0.16 J	< 5.4 U	--	23.5	< 0.9 U	152 J
SRC2-J33	0	FD	9/17/2009	1.4	< 0.26 U	< 0.48 U	12.6 J	< 0.11 U	1.5	4.3	0.15 J	< 5.1 U	--	26.7	< 0.84 U	95.3 J
SRC2-J34	0	N	9/17/2009	1.2	< 0.26 U	< 0.48 U	32.2	< 0.11 U	0.77 J	5.4	< 0.033 U	< 5.1 U	--	72.9	< 0.84 U	78.5 J+

All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 20)

				Metals							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium
SRC1-AG16	0	N	10/31/2008	10100	< 1 UJ	3.4	229 J	0.56	< 6.6 U	0.18	22000
SRC1-AG16	11	N	10/31/2008	8400	< 0.126 UJ	3.8	233 J	0.64	8.8 J	0.12	29800
SRC1-AG17	0	N	10/31/2008	9220	< 1 UJ	3	249 J	0.62	< 6.6 U	0.3	17400
SRC1-AG17	11	N	10/31/2008	8460	< 1 UJ	3.7	268 J	0.6	< 6.6 U	0.11	26000
SRC1-AG18	0	N	10/31/2008	10000	< 0.126 UJ	2.9	218 J	0.56	< 6.6 U	0.13	20200
SRC1-AG18	11	N	10/31/2008	9560	< 0.126 UJ	3.7	306 J	0.6	< 6.6 U	< 0.1 U	25600
SRC1-AH15	0	N	11/3/2008	9120 J	< 1 UJ	2.6	206	0.62	< 6.6 U	0.11	13700 J
SRC1-AH15	0	FD	11/3/2008	9120 J	< 1 UJ	3.9	238	0.56	< 6.6 U	0.2	24400 J
SRC1-AH15	10	N	11/3/2008	8020 J	< 0.126 UJ	4	192	0.6	< 6.6 U	< 0.11 U	30700
SRC1-AH16	0	N	11/3/2008	8260 J	< 0.126 UJ	1.8 J	191	0.53	< 6.6 U	< 0.1 U	14100
SRC1-AH16	11	N	11/3/2008	7910 J	< 0.126 UJ	3.6	181	0.57	< 6.6 U	< 0.11 U	21800
SRC1-AH17	0	N	11/14/2008	10000	< 0.315 U	2.8 J	182	0.67	6.7 J	0.18 J	31700
SRC1-AH17	11	N	11/14/2008	12000	< 0.315 U	4.8 J	247	0.84	8.8 J	0.12 J	26800
SRC1-AH18	0	N	10/31/2008	10100	< 0.126 UJ	2.5	233 J	0.59	< 6.6 U	0.12	22200
SRC1-AH18	11	N	10/31/2008	10700	< 0.126 UJ	3.4	241 J	0.64	9 J	0.11	34100
SRC1-AH19	0	N	10/31/2008	9250	< 0.126 UJ	2.2	241 J	0.55	< 6.6 U	0.13	14400
SRC1-AH19	0	FD	10/31/2008	10300	< 0.126 UJ	2.7	235 J	0.57	< 6.6 U	0.14	14400
SRC1-AH19	10	N	10/31/2008	11000	< 0.126 UJ	4.4	243 J	0.75	7.4 J	0.11	24200
SRC1-AI17	0	N	11/3/2008	10700 J	< 1 UJ	4.3	251	0.72	< 6.6 U	0.14	17900
SRC1-AI17	3	N	11/3/2008	9990 J	< 1.1 UJ	4.2	259	0.66	< 6.6 U	0.13	17400
SRC1-AI17	13	N	11/3/2008	9250 J	< 0.126 UJ	4.3	264	0.64	< 6.6 U	< 0.11 U	21900
SRC1-AI20	0	N	10/31/2008	10600	< 1 UJ	2.4	251 J	0.63	< 6.6 U	0.13	16500
SRC1-AI20	10	N	10/31/2008	10500	< 0.126 UJ	4.1	249 J	0.61	< 6.6 U	0.11	31600
SRC1-AJ18	0	N	11/3/2008	12100 J	< 1 UJ	6.1	291	0.73	< 6.6 U	0.18	25900
SRC1-AJ18	3	N	11/3/2008	9420 J	< 0.126 UJ	2.9	214	0.58	< 6.6 U	< 0.1 U	30700
SRC1-AJ18	13	N	11/3/2008	8330 J	< 0.126 UJ	2.6	182	0.52	< 6.6 U	< 0.11 U	13800
SRC1-AJ19	0	N	11/14/2008	13200	< 0.315 U	2.5 J	262	0.81	9.9 J	0.15 J	17800
SRC1-AJ19	11	N	11/14/2008	12200	< 0.315 U	2.9 J	314	0.84	9.1 J	0.15 J	13800
SRC1-AJ20	0	N	11/5/2008	11800	< 2.1 UJ	6 J+	358 J+	0.74	< 13.2 U	0.26 J+	26100
SRC1-AJ20	11	N	11/5/2008	10600	< 0.252 UJ	3 J+	209 J+	0.72	< 13.2 U	< 0.21 U	12400
SRC1-AJ20	21	N	11/5/2008	9320	< 0.252 UJ	3.7 J+	185 J+	0.65	< 13.2 U	< 0.21 U	10900
SRC1-AJ21	0	N	11/6/2008	11000	< 0.126 UJ	2.4	218 J	0.53 J	< 6.6 UJ	< 0.1 U	11300 J
SRC1-AJ21	12	N	11/6/2008	12100	< 0.126 UJ	3.1	269 J	0.6	< 6.6 U	< 0.11 U	41500 J
SRC1-AJ22	0	N	11/5/2008	12100	< 0.252 UJ	2.8 J+	271 J+	0.72	< 13.2 U	< 0.21 U	21700
SRC1-AJ22	10	N	11/5/2008	11900	< 0.252 UJ	4.9 J+	276 J+	0.66	< 13.2 U	< 0.21 U	30700
SRC1-AJ23	0	N	11/7/2008	14800	< 1.1 UJ	3.5	211 J+	0.61	< 6.6 U	0.11	18900 J
SRC1-AJ23	4	N	11/7/2008	14600	< 0.126 UJ	3.1	186 J+	0.58	< 6.6 U	0.089 J	36100 J

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium
SRC1-AJ23	14	N	11/7/2008	15200	< 0.126 UJ	3.5	187 J+	0.56	< 6.6 U	0.1 J	45800 J
SRC1-AJ24	0	N	11/10/2008	12000	< 0.252 UJ	3.2 J	205	0.72	< 13.2 U	< 0.2 U	20200
SRC1-AJ24	10	N	11/10/2008	13200	< 0.252 UJ	3.8 J	260	0.63	< 13.2 U	< 0.21 U	26100
SRC1-AJ25	0	N	11/13/2008	12700 J	< 0.315 UJ	2.3 J	256	0.65	< 16.5 U	< 0.26 U	19600
SRC1-AJ25	3	N	11/13/2008	11600 J	< 0.315 UJ	3.5 J	344	0.65	< 16.5 U	< 0.27 U	18000
SRC1-AJ25	13	N	11/13/2008	12500 J	< 0.315 UJ	4.1 J	248	0.69	< 16.5 U	< 0.26 U	38900
SRC1-AJ26	0	N	11/13/2008	12900 J	< 0.315 UJ	3.3 J	195	0.66	< 16.5 U	< 0.1 U	38100
SRC1-AJ26	11	N	11/13/2008	11500 J	< 0.315 UJ	3.1 J	275	0.61	< 16.5 U	< 0.1 U	11100
SRC1-AJ27	0	N	11/13/2008	17500 J	< 0.315 UJ	2.4 J	213	0.81	< 16.5 U	< 0.1 U	32800
SRC1-AJ27	10	N	11/13/2008	10200 J	< 0.315 UJ	2.8 J	245	0.56	< 16.5 U	< 0.1 U	40100
SRC1-AJ28	0	N	11/13/2008	11500 J	< 0.315 UJ	2 J	241	0.73	< 16.5 U	< 0.27 U	24500
SRC1-AJ28	0	FD	11/13/2008	13600 J	< 0.315 UJ	1.7 J	290	0.76	< 16.5 U	< 0.25 U	22300
SRC1-AJ28	12	N	11/13/2008	11200 J	< 0.315 UJ	3 J	361	0.61	< 16.5 U	< 0.1 U	19300
SRC1-AK20	0	N	11/5/2008	9740	< 0.252 UJ	3.3 J+	221 J+	0.68	< 13.2 U	< 0.2 U	16900
SRC1-AK20	0	FD	11/5/2008	10700	< 0.252 UJ	3.2 J+	226 J+	0.68	< 13.2 U	< 0.21 U	26100
SRC1-AK20	9	N	11/5/2008	13200	< 0.252 UJ	3.3 J+	310 J+	0.83	< 13.2 U	< 0.21 U	23700
SRC1-AK20	19	N	11/5/2008	10800	< 0.252 UJ	4.2 J+	311 J+	0.66	< 13.2 U	< 0.21 U	35900
SRC1-AK21	0	N	11/6/2008	15600	< 0.126 UJ	2.6	274 J	0.59	< 6.6 U	0.12	19800 J
SRC1-AK21	0	FD	11/6/2008	15600	< 1.1 UJ	2 J	233 J	0.57	< 6.6 U	0.13	16700 J
SRC1-AK21	8	N	11/6/2008	14800	< 0.126 UJ	2.6	220 J	0.56	< 6.6 U	< 0.11 U	19700 J
SRC1-AK21	18	N	11/6/2008	17300	< 0.126 UJ	3.9	167 J	0.56	< 6.6 U	< 0.11 U	28500 J
SRC1-AK23	0	N	11/6/2008	15000	< 1 UJ	2.9	287 J	0.54	< 6.6 U	< 0.1 U	35500 J
SRC1-AK23	4	N	11/6/2008	14800	< 0.126 UJ	3.5	399 J	0.59 J	< 6.6 UJ	< 0.11 U	30700 J
SRC1-AK23	14	N	11/6/2008	18100	< 0.126 UJ	3.6	285 J	0.58	< 6.6 U	< 0.11 U	39700 J
SRC1-AK24	0	N	11/6/2008	14800	< 0.126 UJ	3.1	222 J	0.6 J	< 6.6 UJ	0.1	21700 J
SRC1-AK24	10	N	11/6/2008	14500	< 0.126 UJ	4.3	70 J	0.57	< 6.6 U	< 0.11 U	24200 J
SRC1-AK24	13	N	11/12/2008	11300 J	< 0.315 UJ	4.8 J	323 J-	0.62	< 16.5 U	< 0.1 U	41300
SRC1-AK25	0	N	11/10/2008	12000	< 0.252 UJ	2.4 J	221	0.62	< 13.2 U	< 0.21 U	17900
SRC1-AK25	11	N	11/10/2008	10500	< 0.252 UJ	6.6	212	0.55	< 13.2 U	< 0.21 U	22600
SRC1-AK26	0	N	11/7/2008	14200	< 1 UJ	2.6	263 J+	0.66	< 6.6 U	0.11	15500 J
SRC1-AK26	0	FD	11/7/2008	12800	< 1 UJ	2.3	229 J+	0.55	< 6.6 U	0.1 J	13600 J
SRC1-AK26	10	N	11/7/2008	10700	< 0.126 UJ	3	210 J+	0.46	< 6.6 U	0.12	50500 J
SRC1-AK27	0	N	11/12/2008	13000	< 0.315 UJ	2 J	321 J-	0.74	< 16.5 U	< 0.1 U	20200
SRC1-AK27	3	N	11/12/2008	12300	< 0.315 UJ	3.2 J	313 J-	0.66	< 16.5 U	< 0.27 U	20900
SRC1-AL24	0	N	11/6/2008	9930	< 0.126 UJ	6.6	239 J	0.53	< 6.6 U	< 0.11 U	32100 J
SRC1-AL24	8	N	11/6/2008	13000	< 0.126 UJ	3.6	221 J	0.54	< 6.6 U	< 0.11 U	18200 J
SRC1-AL24	18	N	11/6/2008	18400	< 0.126 UJ	4.7	254 J	0.73 J	< 6.6 UJ	< 0.11 U	20300 J

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium
SRC1-AL26	0	N	11/7/2008	9370	< 0.126 UJ	2.8	194 J+	0.51	< 6.6 U	0.11	36600 J
SRC1-AL26	11	N	11/7/2008	11900	< 0.126 UJ	4.1	244 J+	0.55	< 6.6 U	0.11	22500 J
SRC1-AL28	0	N	11/12/2008	11800	< 0.315 UJ	2.9 J	280 J-	0.66	< 16.5 U	< 0.26 U	20600
SRC1-AL28	4	N	11/12/2008	10800	< 0.315 UJ	2.4 J	275 J-	0.51 J	< 16.5 U	< 0.26 U	4630
SRC1-AL28	14	N	11/12/2008	10100	< 0.315 UJ	3.4 J	372 J-	0.62	< 16.5 U	< 0.26 U	28200
SRC1-AM27	0	N	11/10/2008	12200	< 2.2 UJ	10.6	461	0.78	< 13.2 U	0.3	30000
SRC1-AM27	3	N	11/10/2008	11700	< 2.1 UJ	8.6	325	0.69	< 13.2 U	< 0.21 U	39600
SRC1-AM27	13	N	11/10/2008	11600	< 0.252 UJ	4.1 J	255	0.59	< 13.2 U	< 0.21 U	26200
SRC1-AM28	0	N	11/12/2008	11300	< 0.315 UJ	1.5 J	245 J-	0.66	< 16.5 U	< 0.26 U	19900
SRC1-AM28	7	N	11/12/2008	12600	< 0.315 UJ	< 0.945 U	360 J-	0.72	< 16.5 U	< 0.26 U	8110 J
SRC1-AM28	7	FD	11/12/2008	11000	< 0.315 UJ	2.3 J	319 J-	0.69	< 16.5 U	< 0.26 U	17000 J
SRC1-AM28	17	N	11/12/2008	10000	< 0.315 UJ	2.7 J	374 J-	0.51 J	< 16.5 U	< 0.1 U	9360
SRC1-AN28	0	N	11/12/2008	7920	< 0.315 UJ	6.2	418 J-	0.43 J	< 16.5 U	< 0.1 U	23600
SRC1-AN28	11	N	11/12/2008	9110	< 0.315 UJ	4.6 J	210 J-	0.61	< 16.5 U	< 0.1 U	29500
SRC1-J01	0	N	11/3/2008	8870 J	< 1 UJ	2.7	161	0.59	< 6.6 U	0.11	19300
SRC1-J01	0	FD	11/3/2008	9720 J	< 1 UJ	2.4	261	0.56	< 6.6 U	< 0.1 U	20900
SRC1-J01	11	N	11/3/2008	7900 J	< 0.126 UJ	2.4	142	0.53	< 6.6 U	< 0.11 U	17700
SRC1-J02	0	N	11/5/2008	11900	< 2 UJ	38.7 J+	483 J+	0.83	< 13.2 U	0.34 J+	29500
SRC1-J02	3	N	11/5/2008	12000	< 0.252 UJ	3.3 J+	323 J+	0.73	< 13.2 U	0.21 J+	18200
SRC1-J02	13	N	11/5/2008	12000	< 0.252 UJ	4.3 J+	264 J+	0.79	< 13.2 U	< 0.21 U	25100
SRC1-J03	0	N	11/5/2008	10500	< 2.1 UJ	5.4	308 J-	0.61	< 3.3 U	< 0.21 UJ	15800
SRC1-J03	5	N	11/5/2008	11200	< 0.252 UJ	4.4 J+	274 J+	0.73	< 13.2 U	0.23 J+	57400
SRC1-J03	15	N	11/5/2008	11800	< 0.252 UJ	5 J+	287 J+	0.82	< 13.2 U	< 0.21 U	23400
SRC1-J07	0	N	11/7/2008	13500	< 1 UJ	2.1	241 J+	0.63	< 6.6 U	0.18	10900 J
SRC1-J07	10	N	11/7/2008	13900	< 1.1 UJ	3.7	284 J+	0.63	< 6.6 U	0.087 J	20600 J
SRC1-J09	0	N	11/10/2008	11300	< 0.252 UJ	2.1 J	239	0.6	< 13.2 U	< 0.21 U	10200
SRC1-J09	0	FD	11/10/2008	11000	< 0.252 UJ	2 J	254	0.68	< 13.2 U	< 0.21 U	11900
SRC1-J09	11	N	11/10/2008	10400	< 0.252 UJ	4.3 J	337	0.61	< 13.2 U	< 0.22 U	24400
SRC1-J10	0	N	11/13/2008	12700 J	< 0.315 UJ	2.2 J	264	0.7	< 16.5 U	0.35	22000
SRC1-J10	0	FD	11/13/2008	13300 J	< 0.315 UJ	2.9 J	250	0.7	< 16.5 U	< 0.27 U	20400
SRC1-J10	11	N	11/13/2008	13900 J	< 0.315 UJ	2.7 J	200	0.71	< 16.5 U	< 0.26 U	14300
SRC1-J11	0	N	11/14/2008	10600	0.37 J	6.4	322	0.74	68.3	0.24 J	32900
SRC1-J11	10	N	11/14/2008	8120	< 0.315 U	4.6 J	246	0.67	5.2 J	0.12 J	28300
SRC1-J12	0	N	11/13/2008	13300 J	< 0.315 UJ	2.1 J	247	0.73	< 16.5 U	< 0.26 U	23600
SRC1-J12	12	N	11/13/2008	11300 J	< 0.315 UJ	4.2 J	294	0.6	< 16.5 U	< 0.26 U	42600
SRC1-J13	0	N	11/12/2008	13300	< 0.315 UJ	2.7 J	254 J-	0.74	21.4 J	< 0.26 U	22400
SRC1-J13	3	N	11/12/2008	12000	< 0.315 UJ	3 J	316 J-	0.67	22.4 J	< 0.27 U	31400

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium
SRC1-J13	13	N	11/12/2008	10400	< 0.315 UJ	5.2 J	168 J-	0.56	< 16.5 U	< 0.1 U	36700
SRC1-J14	0	N	11/13/2008	11600 J	< 0.315 UJ	1.8 J	203	0.62	< 16.5 U	< 0.1 U	15500
SRC1-J14	12	N	11/13/2008	11800 J	< 0.315 UJ	4.7 J	548	0.73	< 16.5 U	< 0.1 U	47600
SRC1-J15	0	N	11/12/2008	10700	< 0.315 UJ	1.6 J	248 J-	0.61	< 16.5 U	< 0.1 U	23600
SRC1-J15	0	FD	11/12/2008	10200	< 0.315 UJ	1.4 J	374 J-	0.63	< 16.5 U	< 0.1 U	19400
SRC1-J15	12	N	11/12/2008	8530	< 0.315 UJ	3.8 J	347 J-	0.53 J	< 16.5 U	< 0.1 U	20100
SRC2-AM27C	0	N	9/23/2010	11700	< 0.83 UJ	3.9 J	238	0.68	< 16.9 U	0.15 J	23900 J
SRC2-J02E	0	N	9/17/2009	10300 J	< 2.5 UJ	25.2	857 J-	0.99	< 2.99 U	0.37	36300 J
SRC2-J02N	0	N	9/17/2009	10800 J	< 0.225 UJ	3.2 J	264 J-	0.63	< 2.99 U	< 0.25 U	13000 J
SRC2-J02S	0	N	9/17/2009	10700 J	< 0.225 UJ	5 J	255 J-	0.66	< 2.99 U	< 0.25 U	20600 J
SRC2-J02W	0	N	9/17/2009	11500 J	< 0.225 UJ	4.6 J	237 J-	0.71	< 2.99 U	< 0.25 U	53400 J
SRC2-J03E	0	N	9/17/2009	12900 J	< 0.225 UJ	3.7 J	224 J-	0.76	< 50.9 U	< 0.26 U	17700 J
SRC2-J03N	0	N	9/17/2009	12400	< 0.225 UJ	5.2	367 J-	0.77	< 50.7 U	< 0.25 U	17500
SRC2-J03S	0	N	9/17/2009	9720 J	4.1 J-	43.3	1560 J-	1.2	< 50.6 U	0.44	55300 J
SRC2-J03W	0	N	9/17/2009	11400 J	< 0.225 UJ	5.9	282 J-	0.7	< 2.99 U	< 0.25 U	18900 J
SRC2-J20	0	N	9/14/2009	10100	< 0.225 UJ	4.4 J	287 J+	0.76	< 50.5 UJ	< 0.25 U	23200 J
SRC2-J21	0	N	9/14/2009	10800	< 0.225 UJ	5.2	542 J+	0.76	144	0.6	13700 J
SRC2-J22	0	N	9/14/2009	12900	< 0.225 UJ	4.6 J	366 J+	0.74	< 50.9 UJ	< 0.25 U	22600 J
SRC2-J23	0	N	9/14/2009	11500	< 0.225 UJ	4.5 J	373 J+	0.68	< 50.5 UJ	< 0.25 U	17700 J
SRC2-J24	0	N	9/14/2009	12800	< 0.225 UJ	4 J	391 J+	0.72	< 50.7 UJ	< 0.25 U	19900 J
SRC2-J25	0	N	9/14/2009	10500	< 0.225 UJ	5 J	247 J+	0.77	< 51 UJ	< 0.26 U	30600 J
SRC2-J26	0	N	9/14/2009	13200	< 0.225 UJ	4.5 J	322 J+	0.7	< 50.8 UJ	< 0.25 U	19900 J
SRC2-J27	0	N	9/14/2009	13800	< 0.225 UJ	5.9	260 J+	0.68	< 50.9 UJ	< 0.25 U	31100 J
SRC2-J28	0	N	9/14/2009	13600	< 0.225 UJ	4.4 J	334 J+	0.84	< 50.8 UJ	< 0.25 U	19800 J
SRC2-J29	0	N	9/14/2009	13000	< 0.225 UJ	4.4 J	266 J+	0.86	< 2.99 U	< 0.26 U	20300 J
SRC2-J30	0	N	9/14/2009	12500	< 0.225 UJ	4.3 J	361 J+	0.71	< 50.8 UJ	< 0.25 U	21400 J
SRC2-J31	0	N	9/14/2009	9850	< 0.225 UJ	3.4 J	232 J+	0.65	< 2.99 U	< 0.25 U	14300 J
SRC2-J32	0	N	9/14/2009	11900	< 0.225 UJ	3.3 J	269 J+	0.77	< 50.4 UJ	< 0.25 U	12200 J
SRC2-J33	0	N	9/17/2009	13200	< 0.225 U	6.7	304	0.62	< 54 UJ	< 0.04 U	27100
SRC2-J33	0	FD	9/17/2009	12300	< 0.225 U	5.8	269	0.68	< 50.8 UJ	< 0.04 U	21100
SRC2-J34	0	N	9/17/2009	11000	< 0.225 U	3.5 J	305	0.52	< 2.99 U	< 0.04 U	17500
SRC3-J02C2	0	N	12/8/2009	16800	< 0.225 U	< 5.4 UJ	316 J+	0.62	< 2.99 U	< 0.27 UJ	12400 J+
SRC3-J02NE	0	N	12/8/2009	14000	4.2	34.3 J+	1370 J+	< 2.7 U	< 14.95 U	0.53 J+	33400 J+
SRC3-J02NW	0	N	12/8/2009	16300	< 0.225 U	< 5.3 UJ	393 J+	< 0.53 U	< 2.99 U	< 0.27 UJ	22000 J+
SRC3-J02NW	0	FD	12/8/2009	15800	< 0.225 U	< 5.4 UJ	380 J+	0.54	< 2.99 U	< 0.27 UJ	21600 J+
SRC3-J02SE	0	N	12/8/2009	15000 J	< 0.225 U	< 5.4 UJ	345 J+	0.62	< 2.99 U	< 0.27 UJ	33600 J+
SRC3-J02SW	0	N	12/8/2009	16900	< 0.225 U	< 5.5 UJ	306 J+	0.56	< 2.99 U	< 0.27 UJ	15000 J+

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium
SRC3-J03C2	0	N	12/8/2009	14700	< 2.7 U	10.3 J+	460 J+	0.61	< 2.99 U	< 0.27 UJ	23500 J+
SRC3-J03NE	0	N	12/8/2009	15000 J	< 0.225 U	< 5.3 UJ	390 J+	< 0.53 U	< 2.99 U	< 0.27 UJ	11900 J+
SRC3-J03NW	0	N	12/8/2009	14600 J	< 0.225 U	< 5.3 UJ	302 J+	0.58	< 2.99 U	< 0.27 UJ	14000 J+
SRC3-J03SE	0	N	12/8/2009	13600	4	32.2 J+	1320 J	< 2.7 U	< 14.95 U	0.3 J+	35500 J+
SRC3-J03SE	0	FD	12/8/2009	10100	< 2.7 U	19.8 J+	735 J	0.75	< 2.99 U	< 0.27 UJ	33100 J+
SRC3-J03SW	0	N	12/8/2009	16600 J	< 2.7 U	10 J+	450 J+	0.62	< 2.99 U	< 0.27 UJ	22700 J+
SRC3-J21C2	0	N	12/7/2009	13800 J	< 2.6 U	4.9 J+	856	< 0.52 U	183	0.88 J+	7210 J+
SRC3-J21NE	0	N	12/7/2009	12600 J	< 0.225 U	3.3 J+	349	< 0.52 U	< 52.3 UJ	< 0.04 U	12500 J+
SRC3-J21NW	0	N	12/7/2009	16000 J	< 0.225 U	5.3 J+	395	0.53	< 51.8 UJ	< 0.26 UJ	25100 J+
SRC3-J21SE	0	N	12/7/2009	12700 J	< 2.6 U	5.1 J+	420	< 0.53 U	74.5 J+	0.36 J+	40700 J+
SRC3-J21SW	0	N	12/7/2009	14600 J	< 0.225 U	3.9 J+	437	0.57	< 53.6 UJ	0.53 J+	14200 J+
SRC4-J02C2	0	N	3/17/2010	15800 J	< 0.82 UJ	< 5.3 U	167 J-	0.58	< 16.7 U	< 0.27 UJ	17400 J
SRC4-J02NE2	0	N	3/17/2010	17300 J	< 0.82 UJ	< 5.3 U	221 J-	0.68	< 16.7 U	< 0.27 UJ	15300 J
SRC4-J02NW2	0	N	3/17/2010	16900 J	< 0.82 UJ	< 5.2 U	228 J-	0.65	< 16.7 U	< 0.26 UJ	22800 J
SRC4-J02NW2	0	FD	3/17/2010	14900 J	< 0.82 UJ	< 5.2 U	200 J-	0.56	< 16.7 U	< 0.26 UJ	17900 J
SRC4-J02SE2	0	N	3/17/2010	17800 J	< 0.82 UJ	< 5.3 U	215 J-	0.63	< 16.7 U	< 0.27 UJ	19200 J
SRC4-J02SW2	0	N	3/17/2010	18100 J	< 0.82 UJ	< 5.4 U	236 J-	0.66	< 16.7 U	< 0.27 UJ	24200 J
SRC4-J03C2	0	N	3/17/2010	17600 J	< 0.82 UJ	< 5.2 U	204 J-	0.71	< 16.7 U	< 0.26 UJ	31800 J
SRC4-J03NE2	0	N	3/17/2010	17700 J	< 0.82 UJ	< 5.3 U	309 J-	0.67	< 16.7 U	< 0.26 UJ	26700 J
SRC4-J03SE2	0	N	3/17/2010	16500 J	< 0.82 UJ	< 5.3 U	214 J-	0.75	< 16.7 U	< 0.27 UJ	22500 J
SRC4-J03SW2	0	N	3/17/2010	17100 J	< 0.82 UJ	< 5.4 U	195 J-	0.74	< 16.7 U	< 0.27 UJ	21500 J
SRC4-J21CE2	0	N	3/17/2010	15500 J	< 0.82 UJ	< 5.4 U	314 J-	< 0.54 U	92.9	0.49 J+	23900 J
SRC4-J21CE2	0	FD	3/17/2010	16900 J	< 0.82 UJ	< 5.3 U	298 J-	0.55	78.7	0.46 J+	21200 J
SRC4-J21CW2	0	N	3/17/2010	16500 J	< 0.82 UJ	< 5.1 U	369 J-	5	< 16.7 U	< 0.26 UJ	13300 J
SRC4-J21NE2	0	N	3/17/2010	16600 J	< 0.82 UJ	< 5.2 U	295 J-	0.59	< 16.7 U	< 0.26 UJ	26600 J
SRC4-J21NW2	0	N	3/17/2010	17600 J	< 0.82 UJ	< 5.3 U	339 J-	0.6	< 16.7 U	< 0.26 UJ	38100 J
SRC4-J21SE2	0	N	3/17/2010	18400 J	< 0.82 UJ	< 5.4 U	249 J-	0.55	< 54.1 U	0.28 J+	46800 J
SRC4-J21SW2	0	N	3/17/2010	13800 J	< 0.82 UJ	< 5.4 U	293 J-	0.55	< 16.7 U	< 0.27 UJ	8090 J
SRC5-J21CE2	0	N	6/21/2010	12800 J	< 0.89 U	3.9 J+	257 J	0.7	< 54.4 U	0.14 J+	34000
SRC5-J21CE2	0	FD	6/21/2010	14800 J	< 0.91 U	3.7 J+	297 J	0.77	< 55.7 UJ	0.12 J+	20900

All units in mg/kg.
-- = no sample data.
(shaded) = Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 6 of 20)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Chromium	Chromium (VI)	Cobalt	Copper	Iron	Lead	Lithium	Magnesium
SRC1-AG16	0	N	10/31/2008	14.2	< 0.1 U	11	20.1	18900	12.4	10.1	10700
SRC1-AG16	11	N	10/31/2008	10.9	< 0.11 U	11.4	19.1	14100	9	13.8	9280
SRC1-AG17	0	N	10/31/2008	17.4	0.28 J	13.2	22.7	17000	26.4	9.4	9970
SRC1-AG17	11	N	10/31/2008	10.2	< 0.1 U	11.4	16.3	14900	8.7	12.4	8640
SRC1-AG18	0	N	10/31/2008	13.5	< 0.1 U	11.1	17.7	18600	11	8.7	10500
SRC1-AG18	11	N	10/31/2008	8.8	< 0.1 U	8.5	18.9	14100	7.5	11.1	8200
SRC1-AH15	0	N	11/3/2008	8.9 J	< 0.1 U	8.5	16.9 J-	15900 J	11.9 J	8.6	8790 J
SRC1-AH15	0	FD	11/3/2008	16.3 J	< 0.1 U	10.6	23.6 J-	17500 J	35.7 J	9.3	10700 J
SRC1-AH15	10	N	11/3/2008	7.1	< 0.11 U	8.7	18.2 J-	14900 J	8.4	16.3	9090 J
SRC1-AH16	0	N	11/3/2008	6.1	0.12 J	8.4	17.2 J-	13500 J	8.5	8.2	9810 J
SRC1-AH16	11	N	11/3/2008	6.9	0.28 J	7.1	13.3 J-	11700 J	7.9	13.3	8340 J
SRC1-AH17	0	N	11/14/2008	14.7	0.21 J-	10.5	19.8	19000	10.1	10.6	10200
SRC1-AH17	11	N	11/14/2008	16.4	0.16 J-	10.4	21.9	19200	9.9	17.9	12800
SRC1-AH18	0	N	10/31/2008	14.4	< 0.1 U	10.2	17.8	19600	10.8	10.3	9780
SRC1-AH18	11	N	10/31/2008	12.9	0.13 J	10.2	18.3	17900	10.3	13.3	10900
SRC1-AH19	0	N	10/31/2008	10.8	< 0.1 U	10.5	18.7	18500	12	8.1	8150
SRC1-AH19	0	FD	10/31/2008	12.2	< 0.1 U	11.7	17.5	19300	11.4	10.2	9400
SRC1-AH19	10	N	10/31/2008	13.4	< 0.11 U	10.3	19.5	17700	9.3	17.6	11400
SRC1-AI17	0	N	11/3/2008	17.6	1.1	9.1	18 J-	17300 J	18.3	11.6	11900 J
SRC1-AI17	3	N	11/3/2008	14.8	1.5	9.9	18.1 J-	17300 J	21.2	10.9	8610 J
SRC1-AI17	13	N	11/3/2008	8.9	0.21 J	8.7	16.5 J-	15100 J	9.8	15.2	10000 J
SRC1-AI20	0	N	10/31/2008	16.1	< 0.1 U	11.9	19.4	20300	11.5	9.2	9390
SRC1-AI20	10	N	10/31/2008	14.3	0.24 J	9.8	17.8	18100	9	14.1	10600
SRC1-AJ18	0	N	11/3/2008	19.5	0.25 J	10	19.8 J-	17700 J	15	14.1	13200 J
SRC1-AJ18	3	N	11/3/2008	7.2	0.84	7.6	13.4 J-	13000 J	9.3	8.7	7850 J
SRC1-AJ18	13	N	11/3/2008	6.9	0.15 J	8.8	16.3 J-	15100 J	8.4	12.6	8050 J
SRC1-AJ19	0	N	11/14/2008	19	0.32 J-	11.9	22.3	23700	12	13.8	9930
SRC1-AJ19	11	N	11/14/2008	16.8	0.16 J-	12.5	22.7	23400	11.3	17	10600
SRC1-AJ20	0	N	11/5/2008	16.7	0.13 J	10.1	21.2	18700	26.9	13.1	11300
SRC1-AJ20	11	N	11/5/2008	9.2	< 0.11 U	8.9	17.4	15900	8.9	14.1	9430
SRC1-AJ20	21	N	11/5/2008	9.6	< 0.11 U	10.3	18	18300	10.6	10.9	9080
SRC1-AJ21	0	N	11/6/2008	8.6 J	< 0.1 U	8.7 J	17 J	16600 J	7.7	11.8 J	8760 J
SRC1-AJ21	12	N	11/6/2008	12.2	< 0.11 U	9	16.9 J-	17200 J	8.6	9.9	9240 J
SRC1-AJ22	0	N	11/5/2008	14.7	< 0.1 U	11.2	27.6	19800	11.6	14.5	11500
SRC1-AJ22	10	N	11/5/2008	10.4	< 0.11 U	9.4	17.7	17300	9.7	18.1	12000
SRC1-AJ23	0	N	11/7/2008	11.9 J-	< 0.1 U	9	14.8	17900 J	9.5	11.7	9610 J
SRC1-AJ23	4	N	11/7/2008	11.6 J-	0.24 J	9	15.5	14900 J	9.1	11.2	9970 J

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 7 of 20)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals: Chromium	Chromium (VI)	Cobalt	Copper	Iron	Lead	Lithium	Magnesium
SRC1-AJ23	14	N	11/7/2008	11.2 J-	< 0.11 U	8.2	14.8	15600 J	7.1	16.7	10300 J
SRC1-AJ24	0	N	11/10/2008	16	0.17 J	11.2	21.4	21500	10.4	14.8	11500
SRC1-AJ24	10	N	11/10/2008	11.2	0.13 J	10.7	18.1	22600	10.4	19	11700
SRC1-AJ25	0	N	11/13/2008	18.6 J+	0.14 J	8.9	34.3	19700 J	11.8	12.5	11600 J+
SRC1-AJ25	3	N	11/13/2008	10.6 J+	< 0.11 U	11.3	18.6	19100 J	10	11.1	9220 J+
SRC1-AJ25	13	N	11/13/2008	12 J+	< 0.1 U	10.5	19.3	18700 J	8.9	12.7	10400 J+
SRC1-AJ26	0	N	11/13/2008	14.1 J+	< 0.11 UJ	10	16.9	17800 J	9.8	12.3	11700 J+
SRC1-AJ26	11	N	11/13/2008	13.9 J+	0.11 J-	9.7	17.5	18600 J	10.1	15.4	9490 J+
SRC1-AJ27	0	N	11/13/2008	11.6 J+	0.11 J-	10.9	20.6	18700 J	8.5	11.3	10500 J+
SRC1-AJ27	10	N	11/13/2008	10.3 J+	0.11 J-	9.8	16.3	16500 J	8.2	14.1	9300 J+
SRC1-AJ28	0	N	11/13/2008	12.9 J+	< 0.11 U	10.9	18	19500 J	11.4	9.6	9560 J+
SRC1-AJ28	0	FD	11/13/2008	14.9 J+	< 0.1 U	13	21.1	24000 J	13.1	10.9	11800 J+
SRC1-AJ28	12	N	11/13/2008	12.6 J+	< 0.11 U	10.7	16.9	18900 J	10.5	13.8	9270 J+
SRC1-AK20	0	N	11/5/2008	12.3	0.32 J	9.9	20.5	16200	12.5	9.4	9840
SRC1-AK20	0	FD	11/5/2008	9.7	0.22 J	10.3	19.8	18100	9	14.8	11300
SRC1-AK20	9	N	11/5/2008	13.2	0.28 J	11.4	23.1	21200	12.6	18	13100
SRC1-AK20	19	N	11/5/2008	10.8	< 0.11 U	9	17.7	17300	9.1	14.8	10700
SRC1-AK21	0	N	11/6/2008	12.9	0.23 J	9.4	16.7 J-	18200 J	9.9	9	8900 J
SRC1-AK21	0	FD	11/6/2008	11.2	< 0.1 U	10	18.7 J-	18200 J	8.7	8.5	9520 J
SRC1-AK21	8	N	11/6/2008	12.2	< 0.11 U	8.9	16.8 J-	17500 J	8.2	12.1	9250 J
SRC1-AK21	18	N	11/6/2008	11.2	< 0.11 U	8.9	16.3 J-	16900 J	7.8	15.9	10200 J
SRC1-AK23	0	N	11/6/2008	14	0.12 J	8.8	15 J-	17300 J	9.2	9.6	8410 J
SRC1-AK23	4	N	11/6/2008	11.2 J	< 0.11 U	8.4 J	15.4 J	16900 J	8.2	12.4 J	9780 J
SRC1-AK23	14	N	11/6/2008	13.8	< 0.11 U	8.3	15 J-	17100 J	8.4	14	9610 J
SRC1-AK24	0	N	11/6/2008	10.4 J	0.17 J	9.4 J	17.9 J	17000 J	10.2	11.1 J	9830 J
SRC1-AK24	10	N	11/6/2008	12.1	< 0.11 U	9.9	18.4 J-	18600 J	7.9	12.3	9640 J
SRC1-AK24	13	N	11/12/2008	16.5 J+	< 0.11 U	8.7	15.5	17000 J	8.8	23.3	11100 J+
SRC1-AK25	0	N	11/10/2008	12.5	0.23 J	12	20.5	22800	10.5	14	9990
SRC1-AK25	11	N	11/10/2008	9.5	< 0.11 U	10.6	17	17000	11.4	15.4	9550
SRC1-AK26	0	N	11/7/2008	16.8 J-	< 0.1 U	10.5	22.7	21200 J	11.6	10.9	9650 J
SRC1-AK26	0	FD	11/7/2008	12.3 J-	< 0.1 U	9.9	18	18700 J	10.1	10.3	9460 J
SRC1-AK26	10	N	11/7/2008	8.8 J-	< 0.1 U	7.5	12.1	13100 J	7.1	11.6	8330 J
SRC1-AK27	0	N	11/12/2008	15.5	< 0.11 U	11	22.8	21300 J	11	12.6	11600
SRC1-AK27	3	N	11/12/2008	13.9	< 0.11 U	10.1	18.4	18100 J	10.1	17.2	10700
SRC1-AL24	0	N	11/6/2008	9.1	0.23 J	5.7	13 J-	11100 J	5.9	13.3	5530 J
SRC1-AL24	8	N	11/6/2008	11.6	0.17 J	9.2	15.7 J-	16800 J	8.5	11.2	9030 J
SRC1-AL24	18	N	11/6/2008	11.2 J	0.29 J	10.5 J	18.3 J	19400 J	9.2	13.9 J	10800 J

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Metals							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Chromium	Chromium (VI)	Cobalt	Copper	Iron	Lead	Lithium	Magnesium
SRC1-AL26	0	N	11/7/2008	9.2 J-	< 0.11 U	7.8	14.4	14900 J	8.6	9.8	7290 J
SRC1-AL26	11	N	11/7/2008	14.2 J-	< 0.11 U	10.2	15.8	16500 J	9.1	12.4	8450 J
SRC1-AL28	0	N	11/12/2008	12.5	< 0.1 U	11.5	22	17200 J	18.2	14.1	11400
SRC1-AL28	4	N	11/12/2008	18.2	< 0.1 U	19.7	88.9	24400 J	49.2	13.9	8240
SRC1-AL28	14	N	11/12/2008	8.9	< 0.1 U	9.6	22.7	14600 J	9.6	13.9	9280
SRC1-AM27	0	N	11/10/2008	36.2	20	14.6	35.3	22000	53.5	15.8	11800
SRC1-AM27	3	N	11/10/2008	22.4	0.13 J	11	22.5	19700	38.4	12.1	11100
SRC1-AM27	13	N	11/10/2008	11.7	< 0.11 U	10.4	15.8	19500	9.9	18.2	11400
SRC1-AM28	0	N	11/12/2008	15.8	< 0.1 U	14.2	26	18200 J	15.6	17	13400
SRC1-AM28	7	N	11/12/2008	18.9	0.24 J	12.2	28.2	22200 J	12.8	13.6	9750
SRC1-AM28	7	FD	11/12/2008	12.5	< 0.1 U	13.2	25.1	23000 J	12.6	12.4	9740
SRC1-AM28	17	N	11/12/2008	8.5	< 0.1 U	8.5	17.3	14200 J	10	12.6	7960
SRC1-AN28	0	N	11/12/2008	8.8	< 0.1 U	4.8	10.7	9850 J	11.4	20.7	6040
SRC1-AN28	11	N	11/12/2008	12.1	< 0.1 U	8.1	16.3	14200 J	10.3	19.4	8840
SRC1-J01	0	N	11/3/2008	7.8	0.2 J	9.2	16 J-	14900 J	9.2	10.6	9890 J
SRC1-J01	0	FD	11/3/2008	5.5	0.26 J	11.7	17.5 J-	15600 J	11.5	8.7	9820 J
SRC1-J01	11	N	11/3/2008	8.2	0.21 J	9	16.2 J-	14000 J	7.2	14.2	9310 J
SRC1-J02	0	N	11/5/2008	22.6	0.68	12.7	24.9	20000	42	11.3	12000
SRC1-J02	3	N	11/5/2008	11.3	0.22 J	10.5	19.7	18400	11.2	12.5	10400
SRC1-J02	13	N	11/5/2008	11.9	0.34 J	10.4	20.6	18500	10.4	19.3	12900
SRC1-J03	0	N	11/5/2008	16.5	< 0.1 U	11.3	20.5	21700	20.7 J-	10.2	10200
SRC1-J03	5	N	11/5/2008	11.3	< 0.11 U	9.2	16.7	15500	8.7	17.7	13700
SRC1-J03	15	N	11/5/2008	12.3	0.23 J	11.9	19.9	19600	11.6	17.6	11800
SRC1-J07	0	N	11/7/2008	15.1 J-	< 0.1 U	8.2	38.1	17700 J	12.7	9.7	9050 J
SRC1-J07	10	N	11/7/2008	12.9 J-	0.13 J	8.7	16.2	16400 J	8.7	12.6	9330 J
SRC1-J09	0	N	11/10/2008	14.9	0.28 J	10.1	27.6	20700	13.4	10.9	10200
SRC1-J09	0	FD	11/10/2008	12.5	0.23 J	12.2	28.3	20600	13.2	9.9	9660
SRC1-J09	11	N	11/10/2008	12.4	0.24 J	11	20.6	19400	12.2	14.7	9520
SRC1-J10	0	N	11/13/2008	16.6 J+	< 0.11 U	11.9	22.3	21100 J	20.5	11.9	11800 J+
SRC1-J10	0	FD	11/13/2008	16.3 J+	< 0.11 U	11.3	19.2	20500 J	21	12.1	11600 J+
SRC1-J10	11	N	11/13/2008	11.2 J+	< 0.11 U	11.1	18.2	19900 J	10.1	12.7	11400 J+
SRC1-J11	0	N	11/14/2008	24	0.59 J-	14.8	30	21500	49.7	50.6	10100
SRC1-J11	10	N	11/14/2008	11.9	0.16 J-	9.2	17.4	16600	10.3	16.7	7360
SRC1-J12	0	N	11/13/2008	14.1 J+	0.22 J-	12.1	21.2	21300 J	11.4	12.1	11100 J+
SRC1-J12	12	N	11/13/2008	14.1 J+	0.27 J-	10.3	17.9	18900 J	9.9	13.9	9410 J+
SRC1-J13	0	N	11/12/2008	14	< 0.1 U	11.3	21.2	19300 J	12.7	16.2	11500
SRC1-J13	3	N	11/12/2008	18.1	< 0.11 U	19.7	31.5	20800 J	21.3	19.8	11100

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Metals							
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Chromium	Chromium (VI)	Cobalt	Copper	Iron	Lead	Lithium	Magnesium
SRC1-J13	13	N	11/12/2008	11.7	< 0.1 U	8.5	14.5	14900 J	9.4	17.2	9240
SRC1-J14	0	N	11/13/2008	14.1 J+	< 0.1 U	10.6	18.2	20300 J	10.2	11.2	11400 J+
SRC1-J14	12	N	11/13/2008	15.5 J+	< 0.11 U	9.5	18.4	18000 J	9.3	17	11400 J+
SRC1-J15	0	N	11/12/2008	10	0.14 J	10.4	17.1	16600 J	9.4	10.2	10300
SRC1-J15	0	FD	11/12/2008	10.2	0.15 J	11.9	17.2	18900 J	10.5	9.3	9860
SRC1-J15	12	N	11/12/2008	10.8	0.15 J	9.3	18.3	14000 J	13.7	14.6	9690
SRC2-AM27C	0	N	9/23/2010	15.2 J+	0.15 J	11.5	26.1	20800	15.5	13.5	11400 J
SRC2-J02E	0	N	9/17/2009	32.4	2.5	11.4 J	29.4	19800 J	92.2	9.9	11600 J
SRC2-J02N	0	N	9/17/2009	12	< 0.41 U	11.4 J	21.5	21000 J	14.2	9.1	9740 J
SRC2-J02S	0	N	9/17/2009	15.9	< 0.4 U	9.6 J	20.8	19300 J	18.2	9.8	9840 J
SRC2-J02W	0	N	9/17/2009	13.2	< 0.41 U	9.5 J	18.9	18400 J	11.3	10.3	9660 J
SRC2-J03E	0	N	9/17/2009	13.6	< 0.41 U	10.3 J	20.4	19600 J	12.1	13.1	11300 J
SRC2-J03N	0	N	9/17/2009	16.2	< 0.41 U	14.4	25.2	21600	23.9	11.1	11800
SRC2-J03S	0	N	9/17/2009	60.2	4.2	10.7 J	34.9	18400 J	191	9.7	10800 J
SRC2-J03W	0	N	9/17/2009	16.2	< 0.41 U	9.3 J	20.6	19300 J	17.2	9.5	10800 J
SRC2-J20	0	N	9/14/2009	7.4	< 0.4 U	10.3 J	20	15400 J	16.1	14.5	10600
SRC2-J21	0	N	9/14/2009	18.3	< 0.41 U	84.7 J	146	17600 J	44.3	75.5	9710
SRC2-J22	0	N	9/14/2009	10	< 0.41 U	10.8 J	25	17400 J	19	13.9	11500
SRC2-J23	0	N	9/14/2009	8.6	< 0.4 U	15 J	28	14900 J	21.7	13.7	10200
SRC2-J24	0	N	9/14/2009	9	< 0.1 U	14.2 J	29.8	18500 J	15.1	16	11200
SRC2-J25	0	N	9/14/2009	7	< 0.1 U	11.7 J	23.5	15800 J	16.2	20.9	12500
SRC2-J26	0	N	9/14/2009	10.5	< 0.41 U	10.3 J	21.1	16800 J	15	11.5	11300
SRC2-J27	0	N	9/14/2009	7.7	< 0.41 U	10.2 J	25.4	17300 J	10.4	13.5	13800
SRC2-J28	0	N	9/14/2009	8.1	< 0.41 U	11.8 J	22.3	17800 J	12.7	12.5	11500
SRC2-J29	0	N	9/14/2009	7.9	< 0.41 U	10.9 J	22.5	17500 J	12	13.2	11100
SRC2-J30	0	N	9/14/2009	9.8	< 0.1 U	10.4 J	21.3	15500 J	14.6	11.7	10800
SRC2-J31	0	N	9/14/2009	7.9	< 0.1 U	9.7 J	20.2	14900 J	12.1	9.4	9480
SRC2-J32	0	N	9/14/2009	7.7	< 0.1 U	9.9 J	21.7	17100 J	11.1	13.2	9720
SRC2-J33	0	N	9/17/2009	14.2	< 0.43 U	10.6	23.5	19400	23.1	10.8	11300
SRC2-J33	0	FD	9/17/2009	13.8	< 0.1 U	11.1	24.1	19000	19.3	10.7	11400
SRC2-J34	0	N	9/17/2009	9.6	0.42	10.7	21.5	19200	15.4	8.1	10300
SRC3-J02C2	0	N	12/8/2009	18.5	< 0.43 U	13.7	27.8 J+	25900	14.5 J+	11.8	12900
SRC3-J02NE	0	N	12/8/2009	53.5	2.7	17.5	41.4 J+	25000	161 J+	10.8	14700
SRC3-J02NW	0	N	12/8/2009	15.2	< 0.43 U	14.1	27.6 J+	25000	13.9 J+	12.5	14900
SRC3-J02NW	0	FD	12/8/2009	15.6	< 0.11 U	13.9	27.2 J+	24900	15.9 J+	12.3	14500
SRC3-J02SE	0	N	12/8/2009	12.5 J	< 0.11 U	13.9 J	27.4 J+	23900 J	13.6 J+	11.2 J	15200 J
SRC3-J02SW	0	N	12/8/2009	16.9	< 0.11 U	13.6	26.4 J+	24500	14.5 J+	12.8	13400

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Chromium	Chromium (VI)	Cobalt	Copper	Iron	Lead	Lithium	Magnesium
SRC3-J03C2	0	N	12/8/2009	26.6	< 0.43 U	13.5	29.5 J+	26300	39.3 J+	9.8	14700
SRC3-J03NE	0	N	12/8/2009	13.9 J	< 0.43 U	16.8 J	27.5 J+	24700 J	15.4 J+	10.3 J	13500 J
SRC3-J03NW	0	N	12/8/2009	10 J	< 0.43 U	14.7 J	27.4 J+	24400 J	12.9 J+	10.2 J	13600 J
SRC3-J03SE	0	N	12/8/2009	46.5	2.2	14.8	39.1 J+	24300	132 J+	11.9	15100
SRC3-J03SE	0	FD	12/8/2009	31.3	2.9	10.4	26.9 J+	17300	85.8 J+	8.3	10600
SRC3-J03SW	0	N	12/8/2009	26.3 J	0.49	14.1 J	29.7 J+	23300 J	37.2 J+	9.8 J	17400 J
SRC3-J21C2	0	N	12/7/2009	41.3	0.64	104 J	266 J	27500 J	83.6	93.6 J	10800 J
SRC3-J21NE	0	N	12/7/2009	12.4	< 0.42 U	11.7 J	20.6 J	21600 J	13.2	13.2 J	10900 J
SRC3-J21NW	0	N	12/7/2009	19.6	< 0.41 U	16.8 J	32.8 J	26800 J	31.4	14.4 J	15900 J
SRC3-J21SE	0	N	12/7/2009	20.3	< 0.42 U	41 J	66.3 J	22700 J	34.7	35.6 J	13300 J
SRC3-J21SW	0	N	12/7/2009	28.2	< 0.43 U	14.7 J	56.1 J	28100 J	66.2	11.2 J	11900 J
SRC4-J02C2	0	N	3/17/2010	19.5	< 0.11 UJ	20.8 J+	28.2 J+	16800	8.9 J	11.4	13000 J
SRC4-J02NE2	0	N	3/17/2010	17.9	0.13 J-	14.6 J+	27.9 J+	19700	10.1 J	12.1	13200 J
SRC4-J02NW2	0	N	3/17/2010	25.2	0.24 J-	17 J+	31.5 J+	21500	10.4 J	10.7	14000 J
SRC4-J02NW2	0	FD	3/17/2010	19.2	0.18 J-	14.9 J+	28.3 J+	19000	9.6 J	10.6	12900 J
SRC4-J02SE2	0	N	3/17/2010	21.8	0.4 J-	15.7 J+	28.4 J+	17500	8.4 J	11.9	14700 J
SRC4-J02SW2	0	N	3/17/2010	22.1	0.19 J-	16.7 J+	29.4 J+	20900	10.3 J	12.1	14200 J
SRC4-J03C2	0	N	3/17/2010	24.1	0.28 J-	14.6 J+	29.9 J+	18200	9 J	13.2	16800 J
SRC4-J03NE2	0	N	3/17/2010	22.7	0.45 J-	15.8 J+	29.4 J+	18200	18.8 J	10.9	14700 J
SRC4-J03SE2	0	N	3/17/2010	27.4	0.18 J-	17.1 J+	30.6 J+	22400	12.8 J	12.7	15600 J
SRC4-J03SW2	0	N	3/17/2010	19	0.13 J-	13.6 J+	29 J+	19900	10.2 J	12.8	13600 J
SRC4-J21CE2	0	N	3/17/2010	26.4	0.35 J-	72.2 J+	96.4 J+	22600	25.9 J	48.8	14600 J
SRC4-J21CE2	0	FD	3/17/2010	27.7	0.24 J-	66.7 J+	91.4 J+	20500	22.2 J	43.5	14900 J
SRC4-J21CW2	0	N	3/17/2010	24	0.18 J-	18.6 J+	31.2 J+	21200	11.7 J	16	12700 J
SRC4-J21NE2	0	N	3/17/2010	26	0.34 J-	16.5 J+	34.8 J+	21900	25.4 J	12.1	15500 J
SRC4-J21NW2	0	N	3/17/2010	22.4	0.24 J-	13.5 J+	27.5 J+	19600	9.9 J	18	15900 J
SRC4-J21SE2	0	N	3/17/2010	22.5	0.19 J-	22.9 J+	42.1 J+	18100	16.7 J	19.3	16500 J
SRC4-J21SW2	0	N	3/17/2010	18.7	0.19 J-	10.8 J+	24.2 J+	17000	12.1 J	12.9	10200 J
SRC5-J21CE2	0	N	6/21/2010	16.3 J+	< 0.44 U	15.5 J+	23.3 J+	23100 J	12.4 J	12.1	12200
SRC5-J21CE2	0	FD	6/21/2010	17.5 J+	0.48	17.1 J+	27.8 J+	28400 J	13.5 J	14.5	12700

All units in mg/kg.
-- = no sample data.
= Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 11 of 20)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals: Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium
SRC1-AG16	0	N	10/31/2008	488	< 0.0345 U	0.89 J	19.2	2950	< 0.33 U	< 0.41 UJ	521
SRC1-AG16	11	N	10/31/2008	490	< 0.0115 U	0.58 J	16.8	1530	< 0.34 U	< 0.43 UJ	814
SRC1-AG17	0	N	10/31/2008	1260	0.0374	2.7	18.8	2040	< 0.32 U	< 0.4 UJ	318
SRC1-AG17	11	N	10/31/2008	473	< 0.0115 U	0.58 J	15.8	1280	< 0.33 U	< 0.42 UJ	597
SRC1-AG18	0	N	10/31/2008	621	< 0.0115 U	0.64 J	17	2040	< 0.33 U	< 0.41 UJ	456
SRC1-AG18	11	N	10/31/2008	368	< 0.0346 U	0.28 J	14.2	1330	< 0.33 U	< 0.42 UJ	2100
SRC1-AH15	0	N	11/3/2008	510 J	0.0119 J	0.53 J	15.6	2140 J	< 0.33 U	0.13 J	474
SRC1-AH15	0	FD	11/3/2008	961 J	0.0151 J	2 J	18	1990 J	< 0.33 U	0.2 J	524
SRC1-AH15	10	N	11/3/2008	407	< 0.0115 U	< 0.376 U	17.1	1290 J	< 0.35 U	0.11 J	551
SRC1-AH16	0	N	11/3/2008	454	< 0.0115 U	< 0.376 U	16	1960 J	< 0.33 U	0.088 J	283
SRC1-AH16	11	N	11/3/2008	341	< 0.0115 U	< 0.376 U	13.7	1170 J	< 0.34 U	0.095 J	576
SRC1-AH17	0	N	11/14/2008	517	--	0.66 J	19.2	3760	< 0.4 U	0.17 J	375
SRC1-AH17	11	N	11/14/2008	461	--	0.5 J	20.6	1630	< 0.4 U	0.21 J	992
SRC1-AH18	0	N	10/31/2008	531	< 0.0342 U	0.49 J	17.6	2520	< 0.33 U	< 0.41 UJ	374
SRC1-AH18	11	N	10/31/2008	418	< 0.0347 U	0.62 J	17.2	1640	< 0.33 U	< 0.42 UJ	961
SRC1-AH19	0	N	10/31/2008	503	< 0.0341 U	0.38 J	15.9	1490	< 0.33 U	< 0.41 UJ	751
SRC1-AH19	0	FD	10/31/2008	570	< 0.034 U	0.41 J	16.1	1670	< 0.33 U	< 0.41 UJ	599
SRC1-AH19	10	N	10/31/2008	447	< 0.0115 U	0.44 J	16.9	1440	< 0.35 U	< 0.43 UJ	866
SRC1-AI17	0	N	11/3/2008	576	0.0317 J	0.81 J	17.4	2560 J	< 0.33 U	0.14 J	614
SRC1-AI17	3	N	11/3/2008	752	0.0313 J	0.7 J	16.9	2400 J	< 0.34 U	0.17 J	901
SRC1-AI17	13	N	11/3/2008	399	< 0.0115 U	< 0.376 U	15.4	1250 J	< 0.34 U	0.13 J	790
SRC1-AI20	0	N	10/31/2008	590	< 0.0343 U	0.48 J	17.3	2020	< 0.33 U	< 0.41 UJ	558
SRC1-AI20	10	N	10/31/2008	436	< 0.0348 U	0.7 J	17	1350	< 0.33 U	< 0.41 UJ	885
SRC1-AJ18	0	N	11/3/2008	646	< 0.0115 U	0.65 J	19.2	2980 J	< 0.33 U	0.18 J	384
SRC1-AJ18	3	N	11/3/2008	377	0.0161 J	< 0.376 U	13.7	1400 J	< 0.33 U	0.092 J	1340
SRC1-AJ18	13	N	11/3/2008	367	< 0.0115 U	< 0.376 U	15.5	1060 J	< 0.34 U	0.098 J	683
SRC1-AJ19	0	N	11/14/2008	595	--	0.66 J	21	2520	< 0.4 U	0.21 J	983
SRC1-AJ19	11	N	11/14/2008	586	--	0.51 J	20.7	1400	< 0.4 U	0.25 J	1040
SRC1-AJ20	0	N	11/5/2008	865	< 0.0115 U	< 2.1 U	17.6	2250	< 0.32 U	< 0.82 UJ	608
SRC1-AJ20	11	N	11/5/2008	372	< 0.0115 U	< 0.376 U	15.4	1570	< 0.32 U	< 0.84 UJ	868
SRC1-AJ20	21	N	11/5/2008	483	< 0.0115 U	< 0.376 U	15.7	999	< 0.32 U	< 0.84 UJ	845
SRC1-AJ21	0	N	11/6/2008	419 J	0.0164 J	0.29 J+	12.4 J	924 J	< 0.16 U	0.1 J	630 J
SRC1-AJ21	12	N	11/6/2008	424 J	< 0.0115 U	0.35 J+	14.6	1960 J	< 0.16 U	0.19 J	514 J-
SRC1-AJ22	0	N	11/5/2008	472	< 0.0115 U	< 2.1 U	20.6	2500	< 0.32 U	< 0.83 UJ	624
SRC1-AJ22	10	N	11/5/2008	408	0.0281 J	< 0.376 U	16.3	1400	< 0.32 U	< 0.84 UJ	952
SRC1-AJ23	0	N	11/7/2008	496 J	< 0.0115 U	0.4 J	14.1	1920 J	< 0.16 U	0.12 J	545
SRC1-AJ23	4	N	11/7/2008	443 J	< 0.0359 UJ	0.39 J	14.8	1400 J	< 0.16 U	0.11 J	453

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium
SRC1-AJ23	14	N	11/7/2008	362 J	0.0659 J+	0.42 J	14.4	1190 J	< 0.16 U	0.13 J	825
SRC1-AJ24	0	N	11/10/2008	647	< 0.0115 U	0.41 J	18.8	2440	< 0.32 U	< 0.81 UJ	537
SRC1-AJ24	10	N	11/10/2008	465	< 0.0115 U	< 0.376 U	16.7	1570	< 0.32 U	< 0.85 UJ	995
SRC1-AJ25	0	N	11/13/2008	374	< 0.0115 U	0.71 J	16.5	2420	< 0.4 U	0.97 J+	515
SRC1-AJ25	3	N	11/13/2008	601	< 0.0115 U	< 0.47 U	18	2000	< 0.4 U	0.14 J+	604
SRC1-AJ25	13	N	11/13/2008	473	< 0.0115 U	< 0.47 U	17.6	1320	< 0.4 U	0.18 J+	964
SRC1-AJ26	0	N	11/13/2008	497	< 0.0115 U	< 0.47 U	16.2	1790	< 0.4 U	0.15 J+	522
SRC1-AJ26	11	N	11/13/2008	466	< 0.0115 U	< 0.47 U	15	1320	< 0.4 U	0.13 J+	735
SRC1-AJ27	0	N	11/13/2008	390	0.0191 J	< 0.47 U	21.7	1410	< 0.4 U	0.12 J+	2440
SRC1-AJ27	10	N	11/13/2008	466	< 0.0115 U	< 0.47 U	14.8	1090	< 0.4 U	0.1 J+	958
SRC1-AJ28	0	N	11/13/2008	604	0.0255 J	< 0.47 U	16.6	1580	< 0.4 U	0.14 J+	479
SRC1-AJ28	0	FD	11/13/2008	753	< 0.0115 U	< 0.47 U	19.8	1890	< 0.4 U	0.19 J+	511
SRC1-AJ28	12	N	11/13/2008	566	< 0.0115 U	0.54 J	16.7	1130	< 0.4 U	0.11 J+	633
SRC1-AK20	0	N	11/5/2008	597	0.0356	< 2 U	17.3	1950	< 0.32 U	< 0.82 UJ	320
SRC1-AK20	0	FD	11/5/2008	417	< 0.0115 U	< 2.1 U	18.8	1250	< 0.32 U	< 0.84 UJ	973
SRC1-AK20	9	N	11/5/2008	531	< 0.0115 U	< 2.1 U	19.5	1470	< 0.32 U	< 0.84 UJ	1230
SRC1-AK20	19	N	11/5/2008	383	0.0233 J	< 0.376 U	17.8	1210	< 0.32 U	< 0.86 UJ	1010
SRC1-AK21	0	N	11/6/2008	524 J	< 0.0115 U	0.39 J+	16	2220 J	< 0.16 U	0.14 J	659 J-
SRC1-AK21	0	FD	11/6/2008	521 J	0.0246 J	0.4 J+	15.2	1840 J	< 0.16 U	0.13 J	519 J-
SRC1-AK21	8	N	11/6/2008	445 J	0.0197 J	0.48 J+	15.3	1490 J	< 0.16 U	0.14 J	752 J-
SRC1-AK21	18	N	11/6/2008	421 J	< 0.0115 U	0.37 J+	14.4	1280 J	< 0.16 U	0.13 J	699 J-
SRC1-AK23	0	N	11/6/2008	474 J	0.0228 J	0.38 J+	14.3	2080 J	< 0.16 U	0.13 J	392 J-
SRC1-AK23	4	N	11/6/2008	372 J	< 0.0115 U	0.34 J+	14.3 J	1200 J	< 0.16 U	0.14 J	588 J
SRC1-AK23	14	N	11/6/2008	365 J	< 0.0115 U	0.34 J+	14.3	1080 J	< 0.16 U	0.14 J	700 J-
SRC1-AK24	0	N	11/6/2008	486 J	0.0455	0.4 J+	15.3 J	1990 J	< 0.16 U	0.13 J	752 J
SRC1-AK24	10	N	11/6/2008	441 J	0.036	0.62 J+	15.9	1300 J	< 0.16 U	0.15 J	775 J-
SRC1-AK24	13	N	11/12/2008	370	< 0.0115 U	< 0.47 U	16.7	1280	< 0.4 U	0.19 J+	926
SRC1-AK25	0	N	11/10/2008	559	< 0.0341 U	0.44 J	18	2150	< 0.32 U	< 0.82 UJ	551
SRC1-AK25	11	N	11/10/2008	605	< 0.0115 U	0.51 J	16.6	2110	< 0.32 U	< 0.86 UJ	575
SRC1-AK26	0	N	11/7/2008	458 J	0.0876 J+	0.51 J	18	2680 J	< 0.16 U	0.38 J	395
SRC1-AK26	0	FD	11/7/2008	542 J	0.0668 J+	0.47 J	15.5	2210 J	< 0.16 U	0.19 J	420
SRC1-AK26	10	N	11/7/2008	401 J	0.0534 J+	0.38 J	12.1	887 J	< 0.16 U	0.075 J	457
SRC1-AK27	0	N	11/12/2008	385	0.0286 J	< 0.47 U	17.8	2330	< 0.4 U	0.36 J+	625
SRC1-AK27	3	N	11/12/2008	498	< 0.0115 U	0.55 J	16.3	1890	< 0.4 U	0.17 J+	719
SRC1-AL24	0	N	11/6/2008	240 J	0.0271 J	0.49 J+	11.7	1520 J	< 0.16 U	0.2 J	449 J-
SRC1-AL24	8	N	11/6/2008	441 J	< 0.0115 U	0.36 J+	14.5	1450 J	< 0.16 U	0.14 J	684 J-
SRC1-AL24	18	N	11/6/2008	469 J	< 0.0115 U	0.34 J+	17.6 J	1220 J	< 0.16 U	0.13 J	894 J

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium
SRC1-AL26	0	N	11/7/2008	459 J	< 0.0115 U	0.52 J	12.2	1040 J	< 0.16 U	0.093 J	485
SRC1-AL26	11	N	11/7/2008	495 J	0.0495 J+	1.2	15.6	1140 J	< 0.16 U	0.11 J	582
SRC1-AL28	0	N	11/12/2008	624	0.034 J	0.56 J	17.7	2380	< 0.4 U	0.33 J+	980
SRC1-AL28	4	N	11/12/2008	304	0.0304 J	0.53 J	18.1	1430	< 0.4 U	0.62 J+	456
SRC1-AL28	14	N	11/12/2008	539	< 0.0115 U	< 0.47 U	16.4	1780	< 0.4 U	< 0.11 U	650
SRC1-AM27	0	N	11/10/2008	1180	0.0881	1.9 J	23.6	3080	< 0.32 U	< 0.86 UJ	782
SRC1-AM27	3	N	11/10/2008	814	< 0.0346 U	1.1 J	18.6	1730	< 0.32 U	< 0.83 UJ	454
SRC1-AM27	13	N	11/10/2008	532	0.0377	< 0.376 U	16	1240	< 0.32 U	< 0.85 UJ	654
SRC1-AM28	0	N	11/12/2008	520	0.0415	0.67 J	25.2	2010	< 0.4 U	0.47 J+	1070
SRC1-AM28	7	N	11/12/2008	292	0.0647 J	< 0.47 U	19.3	2150	< 0.4 U	0.24 J+	517
SRC1-AM28	7	FD	11/12/2008	388	0.0237 J	0.94 J	18.8	1520	< 0.4 U	0.16 J+	398
SRC1-AM28	17	N	11/12/2008	269	< 0.0115 U	< 0.47 U	12.9	1390	< 0.4 U	< 0.11 U	743
SRC1-AN28	0	N	11/12/2008	288	< 0.0115 U	0.52 J	10.8	2690	< 0.4 U	< 0.11 U	904
SRC1-AN28	11	N	11/12/2008	367	0.0229 J	< 0.47 U	16.2	1150	< 0.4 U	< 0.11 U	500
SRC1-J01	0	N	11/3/2008	507	< 0.0115 U	0.45 J	16.5	1430 J	< 0.33 U	0.11 J	334
SRC1-J01	0	FD	11/3/2008	765	< 0.0115 U	0.53 J	15.5	1750 J	< 0.33 U	0.11 J	529
SRC1-J01	11	N	11/3/2008	354	< 0.0115 U	< 0.376 U	15.6	1060 J	< 0.34 U	0.093 J	694
SRC1-J02	0	N	11/5/2008	1460	< 0.0115 U	< 2 U	21	2500	< 0.32 U	< 0.81 UJ	430
SRC1-J02	3	N	11/5/2008	516	< 0.0115 U	< 2.1 U	17	2140	< 0.32 U	< 0.83 UJ	982
SRC1-J02	13	N	11/5/2008	502	0.0159 J	< 2.1 U	18.8	1430	< 0.32 U	< 0.85 UJ	1010
SRC1-J03	0	N	11/5/2008	795 J	0.0256 J	0.93 J	19.2	2200	< 0.32 U	< 0.82 U	516
SRC1-J03	5	N	11/5/2008	417	< 0.0115 U	< 2.1 U	18	1890	< 0.32 U	< 0.86 UJ	994
SRC1-J03	15	N	11/5/2008	553	0.0262 J	< 2.1 U	19.2	1330	< 0.32 U	< 0.86 UJ	868
SRC1-J07	0	N	11/7/2008	347 J	0.063 J+	0.7 J	16.5	2140 J	0.34 J	1.1	432
SRC1-J07	10	N	11/7/2008	408 J	0.0391 J+	0.5 J	14.1	1580 J	< 0.16 U	0.14 J	633
SRC1-J09	0	N	11/10/2008	333 J	0.0524	0.42 J	18	2380	< 0.32 U	< 0.82 UJ	662
SRC1-J09	0	FD	11/10/2008	757 J	< 0.0349 U	0.53 J	20.1	2330	< 0.32 U	< 0.84 UJ	490
SRC1-J09	11	N	11/10/2008	736	< 0.0361 U	0.81 J	17.5	1780	< 0.32 U	< 0.87 UJ	675
SRC1-J10	0	N	11/13/2008	708	< 0.0115 U	1.7 J	19.2	2650	< 0.4 U	0.2 J+	511
SRC1-J10	0	FD	11/13/2008	650	< 0.0115 U	0.55 J	19.3	2730	< 0.4 U	0.18 J+	423
SRC1-J10	11	N	11/13/2008	564	< 0.0115 U	0.88 J	16.6	1590	< 0.4 U	0.16 J+	892
SRC1-J11	0	N	11/14/2008	759	--	1.4 J	23.2	1760	< 0.4 U	0.4 J	1240
SRC1-J11	10	N	11/14/2008	563	--	0.49 J	16.4	973	< 0.4 U	0.1 J	426
SRC1-J12	0	N	11/13/2008	643	< 0.0115 U	< 0.47 U	19.7	1960	< 0.4 U	0.14 J+	595
SRC1-J12	12	N	11/13/2008	529	< 0.0115 U	0.64 J	17.1	1350	< 0.4 U	0.14 J+	1160
SRC1-J13	0	N	11/12/2008	718	< 0.0115 U	0.61 J	16.5	2610	< 0.4 U	0.36 J+	642
SRC1-J13	3	N	11/12/2008	579	0.0494	0.74 J	29.5	2040	< 0.4 U	0.57 J+	749

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium
SRC1-J13	13	N	11/12/2008	390	< 0.0115 U	< 0.47 U	14.8	1350	< 0.4 U	0.15 J+	917
SRC1-J14	0	N	11/13/2008	555	< 0.0115 U	< 0.47 U	17.5	1670	< 0.4 U	0.13 J+	327
SRC1-J14	12	N	11/13/2008	516	< 0.0115 U	0.55 J	15.1	1150	< 0.4 U	0.11 J+	860
SRC1-J15	0	N	11/12/2008	542	< 0.0115 U	< 0.47 U	15.4	1820	< 0.4 U	0.11 J+	646
SRC1-J15	0	FD	11/12/2008	691	< 0.0115 U	< 0.47 U	18.2	1410	< 0.4 U	0.12 J+	723
SRC1-J15	12	N	11/12/2008	414	0.0144 J	0.56 J	14.9	973	< 0.4 U	< 0.11 U	748
SRC2-AM27C	0	N	9/23/2010	587	0.0337 J	0.53 J	19.1	2480 J+	1.7 J	0.32 J	483
SRC2-J02E	0	N	9/17/2009	2920 J	< 0.0337 U	< 2.5 U	19	1690 J	< 2.5 U	0.36 J	331
SRC2-J02N	0	N	9/17/2009	681 J	< 0.0338 U	< 2.5 U	17.2	1760 J	< 2.5 U	0.12 J	416
SRC2-J02S	0	N	9/17/2009	691 J	< 0.0337 U	< 2.5 U	15.9	1750 J	< 0.225 U	0.14 J	457
SRC2-J02W	0	N	9/17/2009	518 J	< 0.0339 U	< 2.5 U	15.9	2230 J	< 2.5 U	0.14 J	315
SRC2-J03E	0	N	9/17/2009	488 J	< 0.0339 U	< 2.6 U	17.3	2110 J	< 0.225 U	0.12 J	609
SRC2-J03N	0	N	9/17/2009	956	< 0.0338 U	< 2.5 U	20	2010	< 2.5 U	0.14 J	427
SRC2-J03S	0	N	9/17/2009	5490 J	< 0.0337 U	4.5	18.2	1790 J	< 0.225 U	0.7 J	543
SRC2-J03W	0	N	9/17/2009	629 J	< 0.0338 U	< 2.5 U	17	2400 J	< 2.5 U	0.14 J	493
SRC2-J20	0	N	9/14/2009	550 J	0.0126 J	< 2.5 U	16.7	2160	< 2.5 U	0.21 J	722
SRC2-J21	0	N	9/14/2009	520 J	0.28	< 2.5 U	125	2040	< 2.5 U	1.2	1180
SRC2-J22	0	N	9/14/2009	624 J	0.0163 J	< 2.5 U	18.1	2850	< 2.5 U	0.22 J	1010
SRC2-J23	0	N	9/14/2009	518 J	0.0502	< 2.5 U	19.7	2120	< 2.5 U	0.39 J	1340
SRC2-J24	0	N	9/14/2009	586 J	0.0247 J	< 2.5 U	20.4	2230	< 2.5 U	0.33 J	689
SRC2-J25	0	N	9/14/2009	630 J	0.0298 J	< 2.6 U	19	1640	< 2.6 U	0.33 J	571
SRC2-J26	0	N	9/14/2009	536 J	< 0.005 U	< 2.5 U	16.4	3200	< 2.5 U	0.17 J	747
SRC2-J27	0	N	9/14/2009	447 J	0.009 J	< 2.5 U	16.9	1780	< 2.5 U	0.17 J	2160
SRC2-J28	0	N	9/14/2009	583 J	0.0198 J	< 2.5 U	17.3	2780	< 2.5 U	0.17 J	884
SRC2-J29	0	N	9/14/2009	498 J	0.0106 J	< 2.6 U	17.1	2450	< 2.6 U	0.15 J	786
SRC2-J30	0	N	9/14/2009	546 J	< 0.005 U	< 2.5 U	16.6	2800	< 0.225 U	0.18 J	1020
SRC2-J31	0	N	9/14/2009	387 J	0.011 J	< 2.5 U	17.3	2090	< 2.5 U	0.2 J	608
SRC2-J32	0	N	9/14/2009	504 J	< 0.005 U	< 2.5 U	15.8	2540	< 2.5 U	0.21 J	605
SRC2-J33	0	N	9/17/2009	848	< 0.036 U	< 2.7 U	17.4	2320	< 2.7 U	0.16 J	659
SRC2-J33	0	FD	9/17/2009	802	< 0.005 U	< 2.5 U	17.8	2160	< 0.225 U	0.14 J	674
SRC2-J34	0	N	9/17/2009	665	< 0.0338 U	< 2.5 U	16.5	1980	< 0.225 U	0.11 J	473
SRC3-J02C2	0	N	12/8/2009	713	0.0262 J	< 2.7 UJ	22.4	2870	< 0.225 U	< 1.1 UJ	260 J+
SRC3-J02NE	0	N	12/8/2009	3640	0.0568	4.7 J+	25.5	1810	< 0.225 U	< 1.1 UJ	510 J+
SRC3-J02NW	0	N	12/8/2009	683	0.0228 J	< 2.7 UJ	23.2	1970	< 2.7 UJ	< 1.1 UJ	1260 J+
SRC3-J02NW	0	FD	12/8/2009	678	0.0251 J	< 2.7 UJ	23.1	1940	< 2.7 UJ	< 1.1 UJ	1260 J+
SRC3-J02SE	0	N	12/8/2009	703 J	0.0139 J	< 2.7 UJ	21 J	1850	< 0.225 U	< 1.1 UJ	865 J
SRC3-J02SW	0	N	12/8/2009	650	0.016 J	< 2.7 UJ	21.9	2490	< 0.225 U	< 1.1 UJ	650 J+

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium
SRC3-J03C2	0	N	12/8/2009	968	0.0152 J	< 2.7 UJ	21.9	2010	< 2.7 UJ	< 1.1 UJ	566 J+
SRC3-J03NE	0	N	12/8/2009	924	0.0121 J	< 2.7 UJ	22.9 J	1640	< 0.225 U	< 1.1 UJ	612 J
SRC3-J03NW	0	N	12/8/2009	693 J	0.0093 J	< 2.7 UJ	21.8 J	1540	< 0.225 U	< 1.1 UJ	799 J
SRC3-J03SE	0	N	12/8/2009	2350	0.0199 J	3.2 J+	23.8	2130	< 0.225 U	< 1.1 UJ	577 J+
SRC3-J03SE	0	FD	12/8/2009	1890	0.0548	3 J+	18.6	1820	< 2.7 UJ	< 1.1 UJ	435 J+
SRC3-J03SW	0	N	12/8/2009	1110 J	0.0183 J	< 2.7 UJ	23 J	2100	< 2.7 UJ	< 1.1 UJ	887 J
SRC3-J21C2	0	N	12/7/2009	424 J	0.315 J-	2.8 J+	211 J	1650	< 2.6 U	2.5 J+	2120
SRC3-J21NE	0	N	12/7/2009	548 J	0.0068 J-	< 2.6 UJ	19.7 J	1970	< 2.6 U	< 1 UJ	535
SRC3-J21NW	0	N	12/7/2009	869 J	0.0185 J-	< 2.6 UJ	26.6 J	2380	< 0.225 U	< 1 UJ	543
SRC3-J21SE	0	N	12/7/2009	751 J	0.0914 J-	< 2.6 UJ	58.6 J	1840	< 2.6 U	1.1 J+	1090
SRC3-J21SW	0	N	12/7/2009	760 J	0.402 J-	< 2.7 UJ	24.5 J	2270	< 2.7 U	10.4 J+	740
SRC4-J02C2	0	N	3/17/2010	824 J	0.0137 J	< 2.7 UJ	22.6	3000 J	< 0.225 U	< 1.1 UJ	686
SRC4-J02NE2	0	N	3/17/2010	706 J	0.0135 J	< 2.7 UJ	23.5	3030 J	< 0.225 U	< 1.1 UJ	1080
SRC4-J02NW2	0	N	3/17/2010	815 J	0.0116 J	< 2.6 UJ	27.4	2740 J	< 0.225 U	< 1 UJ	873
SRC4-J02NW2	0	FD	3/17/2010	779 J	0.0095 J	< 2.6 UJ	23.3	2360 J	< 0.225 U	< 1 UJ	836
SRC4-J02SE2	0	N	3/17/2010	759 J	0.015 J	< 2.7 UJ	26.6	3090 J	< 0.225 U	< 1.1 UJ	794
SRC4-J02SW2	0	N	3/17/2010	826 J	0.0125 J	< 2.7 UJ	27.8	2770 J	< 0.225 U	< 1.1 UJ	1330
SRC4-J03C2	0	N	3/17/2010	681 J	0.0217 J	< 2.6 UJ	26.4	4000 J	< 0.225 U	< 1 UJ	903
SRC4-J03NE2	0	N	3/17/2010	1070 J	0.0086 J	< 2.6 UJ	24.9	2970 J	< 0.225 U	< 1.1 UJ	783
SRC4-J03SE2	0	N	3/17/2010	869 J	0.0166 J	< 2.7 UJ	28	2750 J	< 0.225 U	< 1.1 UJ	567
SRC4-J03SW2	0	N	3/17/2010	691 J	0.0181 J	< 2.7 UJ	21.2	3110 J	< 2.7 UJ	< 1.1 UJ	406
SRC4-J21CE2	0	N	3/17/2010	763 J	0.161	< 2.7 UJ	116	2600 J	< 0.225 U	< 1.1 UJ	1430
SRC4-J21CE2	0	FD	3/17/2010	824 J	0.25	< 2.7 UJ	114	2820 J	< 2.7 UJ	< 1.1 UJ	1510
SRC4-J21CW2	0	N	3/17/2010	498 J	0.0222 J	< 2.6 UJ	25.5	3050 J	< 0.225 U	< 1 UJ	742
SRC4-J21NE2	0	N	3/17/2010	1020 J	0.0292 J	< 2.6 UJ	28.1	3200 J	< 0.225 U	< 1 UJ	754
SRC4-J21NW2	0	N	3/17/2010	682 J	0.0072 J	< 2.6 UJ	22.8	2260 J	< 0.225 U	< 1.1 UJ	890
SRC4-J21SE2	0	N	3/17/2010	676 J	0.04	< 2.7 UJ	38.7	3040 J	< 0.225 U	< 1.1 UJ	1290
SRC4-J21SW2	0	N	3/17/2010	268 J	0.0162 J	< 0.385 U	18.6	3110 J	< 0.225 U	< 1.1 UJ	568
SRC5-J21CE2	0	N	6/21/2010	452 J	< 0.0363 U	< 0.42 U	29.7 J+	2400 J	< 2.7 UJ	0.089 J	677 J+
SRC5-J21CE2	0	FD	6/21/2010	628 J	< 0.0371 U	< 0.43 U	22.5 J+	2550 J	< 2.8 UJ	0.12 J	649 J+

All units in mg/kg.

-- = no sample data.

[shaded box] = Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 16 of 20)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
SRC1-AG16	0	N	10/31/2008	206 J+	< 0.3 U	0.61	876	0.64 J	1	48.7	48.6 J-
SRC1-AG16	11	N	10/31/2008	244 J+	< 0.3 U	0.58	784	< 0.5 U	1.7	41	36.2 J-
SRC1-AG17	0	N	10/31/2008	230 J+	< 0.4 U	1.4	788	3.6	1.2	53	55.7 J-
SRC1-AG17	11	N	10/31/2008	300 J+	< 0.3 U	0.43	621	< 0.5 U	1.5	39.4	35 J-
SRC1-AG18	0	N	10/31/2008	240 J+	< 0.3 U	0.54	868	< 0.5 U	0.92	52.4	43.4 J-
SRC1-AG18	11	N	10/31/2008	326 J+	< 0.3 U	0.43	588	< 0.5 U	1.7	39.2	34.4 J-
SRC1-AH15	0	N	11/3/2008	242 J	< 0.3 U	0.46 J	638 J	0.57 J	0.8	41.7	40.2
SRC1-AH15	0	FD	11/3/2008	213 J	< 0.3 U	0.93 J	845 J	2.1 J	1	53.6	52.7
SRC1-AH15	10	N	11/3/2008	279 J	< 0.3 U	0.46	584 J	< 0.5 U	1.3	38.7	38.5
SRC1-AH16	0	N	11/3/2008	250 J	< 0.3 U	0.36 J	499 J	0.52 J	0.81	36.1	36.7
SRC1-AH16	11	N	11/3/2008	291 J	< 0.3 U	0.33 J	414 J	< 0.5 U	1.2	30.6	30.5
SRC1-AH17	0	N	11/14/2008	236	0.42 J	0.66 J	883	0.54 J	0.89	50.9	46.6
SRC1-AH17	11	N	11/14/2008	322	0.33 J	0.71 J	902	0.17 J	2	51.4	45.6
SRC1-AH18	0	N	10/31/2008	223 J+	< 0.3 U	0.54	871	< 0.5 U	0.93	52.6	41.8 J-
SRC1-AH18	11	N	10/31/2008	362 J+	< 0.3 U	0.57	850	< 0.5 U	1.3	47.8	39.5 J-
SRC1-AH19	0	N	10/31/2008	321 J+	< 0.3 U	0.46	764	< 0.5 U	1.1	52.6	41.8 J-
SRC1-AH19	0	FD	10/31/2008	197 J+	< 0.3 U	0.55	895	< 0.5 U	1	55.7	42.9 J-
SRC1-AH19	10	N	10/31/2008	326 J+	< 0.3 U	0.57	907	< 0.5 U	1.8	49.1	40.1 J-
SRC1-AI17	0	N	11/3/2008	235 J	0.32 J	0.55	702 J	1.3	0.83	42.4	48.2
SRC1-AI17	3	N	11/3/2008	250 J	0.32 J	0.58	716 J	1.5	0.9	46.7	46.2
SRC1-AI17	13	N	11/3/2008	486 J	< 0.3 U	0.41 J	629 J	< 0.5 U	1.8	41.1	35
SRC1-AI20	0	N	10/31/2008	230 J+	< 0.3 U	0.53	892	< 0.5 U	0.88	60.3	44.2 J-
SRC1-AI20	10	N	10/31/2008	384 J+	< 0.3 U	0.54	852	< 0.5 U	2.1	51.1	40.3 J-
SRC1-AJ18	0	N	11/3/2008	287 J	0.38 J	0.63	699 J	1.5	0.79	40.3	52.1
SRC1-AJ18	3	N	11/3/2008	356 J	< 0.3 U	< 0.3 U	415 J	< 0.5 U	0.75	33.2	31.3
SRC1-AJ18	13	N	11/3/2008	334 J	< 0.3 U	0.38 J	534 J	< 0.5 U	1.1	40.3	35.8
SRC1-AJ19	0	N	11/14/2008	332	0.28 J	0.72 J	1050	0.25 J	1.1	59.2	56.3
SRC1-AJ19	11	N	11/14/2008	332	0.59 J	0.9 J	1270	0.33 J	1.5	71.4	50.4
SRC1-AJ20	0	N	11/5/2008	379	< 0.6 U	< 0.6 U	744	2.1 J-	1.1	53.5 J-	106
SRC1-AJ20	11	N	11/5/2008	353	< 0.6 U	< 0.6 U	573	< 1 UJ	1.2	42.7 J-	42.7
SRC1-AJ20	21	N	11/5/2008	276	< 0.6 U	< 0.6 U	600	< 1 UJ	1.4	51 J-	45.2
SRC1-AJ21	0	N	11/6/2008	235 J	< 0.3 U	< 0.3 U	585 J	< 0.5 UJ	0.85	46.4 J	40.1 J
SRC1-AJ21	12	N	11/6/2008	443 J	< 0.3 U	< 0.42 U	664 J	< 0.5 UJ	1	47.4	41.1 J-
SRC1-AJ22	0	N	11/5/2008	351	< 0.6 U	< 0.83 U	762	< 1 UJ	1.5	53.4 J-	68.7
SRC1-AJ22	10	N	11/5/2008	503	< 0.6 U	< 0.6 U	656	< 1 UJ	1.6	47.5 J-	44.5
SRC1-AJ23	0	N	11/7/2008	246 J	< 0.3 U	0.41 J	698 J	< 0.5 UJ	0.82	45.5 J-	43 J-
SRC1-AJ23	4	N	11/7/2008	234 J	< 0.3 U	< 0.3 U	603 J	< 0.5 UJ	0.98	38.4 J-	35.3 J-

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
SRC1-AJ23	14	N	11/7/2008	348 J	< 0.3 U	< 0.3 U	637 J	< 0.5 UJ	1.7	43.7 J-	34.2 J-
SRC1-AJ24	0	N	11/10/2008	311	< 0.6 U	< 0.6 U	719	< 1 UJ	0.95	57.7	52.4 J-
SRC1-AJ24	10	N	11/10/2008	377	< 0.6 U	< 0.6 U	953	< 1 UJ	1.4	63.9	51.8 J-
SRC1-AJ25	0	N	11/13/2008	313 J	< 0.75 U	1.5 J+	916	< 1.25 UJ	1.3	52.6	89.5
SRC1-AJ25	3	N	11/13/2008	323 J	< 0.75 U	< 0.75 U	850	< 1.25 UJ	1.3	50.9	49.6
SRC1-AJ25	13	N	11/13/2008	496 J	< 0.75 U	< 0.75 U	937	< 1.25 UJ	1.3	51.9	44.7
SRC1-AJ26	0	N	11/13/2008	272 J	< 0.75 U	< 0.75 U	745	< 1.25 UJ	0.84	47	43.5
SRC1-AJ26	11	N	11/13/2008	273 J	< 0.75 U	< 0.75 U	805	< 1.25 UJ	1.2	53.3	42
SRC1-AJ27	0	N	11/13/2008	458 J	< 0.75 U	< 0.75 U	889	< 1.25 UJ	0.94	52.4	40.8
SRC1-AJ27	10	N	11/13/2008	348 J	< 0.75 U	< 0.75 U	707	< 1.25 UJ	1.3	43.8	44.1
SRC1-AJ28	0	N	11/13/2008	290 J	< 0.75 U	< 0.75 U	934	< 1.25 UJ	0.8	55.3	46.1
SRC1-AJ28	0	FD	11/13/2008	274 J	< 0.75 U	< 0.75 U	926	< 1.25 UJ	0.88	60.9	54.4
SRC1-AJ28	12	N	11/13/2008	575 J	< 0.75 U	< 0.75 U	560	< 1.25 UJ	1	48.5	43.4
SRC1-AK20	0	N	11/5/2008	234	< 0.6 U	< 0.6 U	618	< 1 UJ	0.78	41.9 J-	42.6
SRC1-AK20	0	FD	11/5/2008	404	< 0.6 U	< 0.6 U	772	< 1 UJ	1.3	47.7 J-	41.7
SRC1-AK20	9	N	11/5/2008	510	< 0.6 U	< 0.6 U	817	< 1 UJ	1.3	54.9 J-	51.5
SRC1-AK20	19	N	11/5/2008	607	< 0.6 U	< 0.6 U	724	< 1 UJ	1.5	47.9 J-	40.4
SRC1-AK21	0	N	11/6/2008	310 J	< 0.3 U	0.42 J+	826 J	< 0.5 UJ	0.76	50.8	40.8 J-
SRC1-AK21	0	FD	11/6/2008	254 J	< 0.3 U	< 0.42 U	768 J	< 0.5 UJ	0.7	47.2	41.9 J-
SRC1-AK21	8	N	11/6/2008	316 J	< 0.3 U	< 0.42 U	826 J	< 0.5 UJ	0.87	49.4	38.6 J-
SRC1-AK21	18	N	11/6/2008	262 J	< 0.3 U	< 0.43 U	735 J	< 0.5 UJ	1.3	47.7	37.7 J-
SRC1-AK23	0	N	11/6/2008	465 J	< 0.3 U	< 0.42 U	741 J	< 0.5 UJ	0.9	47.4	36.7 J-
SRC1-AK23	4	N	11/6/2008	484 J	< 0.3 U	< 0.42 U	830 J	< 0.5 UJ	0.92	44.7 J	39 J
SRC1-AK23	14	N	11/6/2008	349 J	< 0.3 U	< 0.43 U	927 J	< 0.5 UJ	1.3	50.2	37.2 J-
SRC1-AK24	0	N	11/6/2008	265 J	< 0.3 U	< 0.41 U	696 J	< 0.5 UJ	1.1	44.3 J	44.1 J
SRC1-AK24	10	N	11/6/2008	124 J	< 0.3 U	< 0.43 U	810 J	< 0.5 UJ	1	49.6	42.2 J-
SRC1-AK24	13	N	11/12/2008	354 J	< 0.75 U	< 0.75 U	752	< 1.25 UJ	1.4	49.3	40.3
SRC1-AK25	0	N	11/10/2008	271	< 0.6 U	< 0.6 U	859	< 1 UJ	1.3	62.8	42.3 J-
SRC1-AK25	11	N	11/10/2008	337	< 0.6 U	< 0.6 U	574	< 1 UJ	1.2	52	31.7 J-
SRC1-AK26	0	N	11/7/2008	222 J	< 0.3 U	0.76	824 J	< 0.5 UJ	1	54.6 J-	56.5 J-
SRC1-AK26	0	FD	11/7/2008	224 J	< 0.3 U	0.4 J	590 J	< 0.5 UJ	0.89	46.1 J-	50.2 J-
SRC1-AK26	10	N	11/7/2008	285 J	< 0.3 U	< 0.3 U	431 J	< 0.5 UJ	0.95	36.6 J-	31.5 J-
SRC1-AK27	0	N	11/12/2008	346 J	< 0.75 U	< 0.75 U	759 J	< 1.25 U	0.95	52.3	58.8
SRC1-AK27	3	N	11/12/2008	401 J	< 0.75 U	< 0.75 U	734 J	< 1.25 U	1	51.6	44.7
SRC1-AL24	0	N	11/6/2008	213 J	< 0.3 U	< 0.3 U	703 J	< 0.5 UJ	0.93	34.6	25.1 J-
SRC1-AL24	8	N	11/6/2008	300 J	< 0.3 U	< 0.42 U	680 J	< 0.5 UJ	0.73	49.5	39 J-
SRC1-AL24	18	N	11/6/2008	287 J	< 0.3 U	0.45 J+	807 J	< 0.5 UJ	1.3	52.9 J	41.6 J

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
SRC1-AL26	0	N	11/7/2008	301 J	< 0.3 U	< 0.3 U	495 J	< 0.5 UJ	0.81	38.3 J-	36 J-
SRC1-AL26	11	N	11/7/2008	301 J	< 0.3 U	0.33 J	565 J	< 0.5 UJ	1.1	44.9 J-	38.1 J-
SRC1-AL28	0	N	11/12/2008	313 J	< 0.75 U	1.2	664 J	< 1.25 U	1.1	46.4	58.3
SRC1-AL28	4	N	11/12/2008	239 J	< 0.75 U	< 1 U	978 J	< 1.25 U	1.5	54.6	54.5
SRC1-AL28	14	N	11/12/2008	254 J	< 0.75 U	< 0.75 U	464 J	< 1.25 U	1	36.5	40.6
SRC1-AM27	0	N	11/10/2008	384	< 0.6 U	1.9	1010	< 1 UJ	1.4	69.7	88.5 J-
SRC1-AM27	3	N	11/10/2008	299	< 0.6 U	< 0.6 U	791	1.8 J-	0.96	60.5	47.2 J-
SRC1-AM27	13	N	11/10/2008	332	< 0.6 U	< 0.6 U	624	< 1 UJ	1.5	56.3	47.6 J-
SRC1-AM28	0	N	11/12/2008	281 J	< 0.75 U	1.1	121 J	< 1.25 U	1.2	41.9	79.5
SRC1-AM28	7	N	11/12/2008	216 J	< 0.75 U	< 1.1 U	716 J	< 1.25 U	1.5	63.8	56.9
SRC1-AM28	7	FD	11/12/2008	183 J	< 0.75 U	< 0.75 U	770 J	< 1.25 U	1.2	54	56
SRC1-AM28	17	N	11/12/2008	275 J	< 0.75 U	< 0.75 U	485 J	< 1.25 U	0.91	35.7	39.3
SRC1-AN28	0	N	11/12/2008	293 J	< 0.75 U	< 0.75 U	466 J	< 1.25 U	0.82	27.3	33.8
SRC1-AN28	11	N	11/12/2008	258 J	< 0.75 U	< 0.75 U	443 J	< 1.25 U	1.1	38.1	38.1
SRC1-J01	0	N	11/3/2008	182 J	< 0.3 U	0.41 J	600 J	< 0.5 U	0.81	36.3	40.7
SRC1-J01	0	FD	11/3/2008	286 J	< 0.3 U	0.42	558 J	0.62 J	0.82	39.5	40.7
SRC1-J01	11	N	11/3/2008	228 J	< 0.3 U	0.36 J	494 J	< 0.5 U	1.3	36.3	36.3
SRC1-J02	0	N	11/5/2008	332	1.1	< 0.81 U	855	5.2 J-	0.93	60.8 J-	66.6
SRC1-J02	3	N	11/5/2008	414	< 0.6 U	< 0.6 U	706	< 1 UJ	0.85	49.9 J-	45.9
SRC1-J02	13	N	11/5/2008	359	< 0.6 U	< 0.6 U	720	< 1 UJ	1.9	48.9 J-	45.9
SRC1-J03	0	N	11/5/2008	308	< 0.6 U	< 0.15 U	735	1.7 J-	0.81	56.5 J-	56.9
SRC1-J03	5	N	11/5/2008	497	< 0.6 U	< 0.6 U	569	< 1 UJ	1.4	39.5 J-	41.5
SRC1-J03	15	N	11/5/2008	338	< 0.6 U	1.1 J+	702	< 1 UJ	1.5	53.4 J-	48.3
SRC1-J07	0	N	11/7/2008	212 J	< 0.3 U	1.8	751 J	< 0.5 UJ	1.2	45 J-	87.4 J-
SRC1-J07	10	N	11/7/2008	486 J	< 0.3 U	0.34 J	587 J	< 0.5 UJ	1.2	44.9 J-	38.2 J-
SRC1-J09	0	N	11/10/2008	255	< 0.6 U	1.1	754	< 1 UJ	1.3	57.5	95.1 J-
SRC1-J09	0	FD	11/10/2008	263	< 0.6 U	1.2	815	< 1 UJ	1.1	55.5	56.9 J-
SRC1-J09	11	N	11/10/2008	380	< 0.6 U	< 0.6 U	718	< 1 UJ	1.5	58	44.1 J-
SRC1-J10	0	N	11/13/2008	236 J	< 0.75 U	< 0.75 U	957	< 1.25 UJ	0.8	57	51.3
SRC1-J10	0	FD	11/13/2008	241 J	< 0.75 U	< 0.75 U	787	< 1.25 UJ	0.79	54.9	48.5
SRC1-J10	11	N	11/13/2008	263 J	< 0.75 U	< 0.75 U	873	< 1.25 UJ	0.96	49.6	48.1
SRC1-J11	0	N	11/14/2008	348	0.33 J	1.7	842	1.6 J	1.1	61.4	74.4
SRC1-J11	10	N	11/14/2008	259	0.19 J	0.47 J	602	0.35 J	1.4	51.4	44.7
SRC1-J12	0	N	11/13/2008	327 J	< 0.75 U	< 0.75 U	848	< 1.25 UJ	0.82	58.8	53
SRC1-J12	12	N	11/13/2008	423 J	< 0.75 U	< 0.75 U	804	< 1.25 UJ	1.4	49.9	48.8
SRC1-J13	0	N	11/12/2008	218 J	< 0.75 U	1.1	789 J	< 1.25 U	0.96	48.1	51.5
SRC1-J13	3	N	11/12/2008	256 J	< 0.75 U	1.7	1010 J	< 1.25 U	1.3	58.5	74

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
SRC1-J13	13	N	11/12/2008	333 J	< 0.75 U	< 0.75 U	668 J	< 1.25 U	2.6	45.4	40.3
SRC1-J14	0	N	11/13/2008	205 J	< 0.75 U	< 0.75 U	805	< 1.25 UJ	0.71	51.4	50
SRC1-J14	12	N	11/13/2008	436 J	< 0.75 U	< 0.75 U	517	< 1.25 UJ	1.3	49.6	56.3
SRC1-J15	0	N	11/12/2008	277 J	< 0.75 U	< 0.75 U	729 J	< 1.25 U	0.83	43.9	44.5
SRC1-J15	0	FD	11/12/2008	229 J	< 0.75 U	< 0.75 U	734 J	< 1.25 U	0.76	47.2	43.7
SRC1-J15	12	N	11/12/2008	251 J	< 0.75 U	< 0.75 U	565 J	< 1.25 U	1.2	34.9	43
SRC2-AM27C	0	N	9/23/2010	263	< 0.51 U	0.77 J	673	< 1.3 UJ	1.2	49.1	71.5
SRC2-J02E	0	N	9/17/2009	228 J	3.6	1.1	818	< 12.6 UJ	1.1	86.9	101
SRC2-J02N	0	N	9/17/2009	210 J	< 1 U	< 0.75 U	825	0.19 J	0.88	67.4	52.5
SRC2-J02S	0	N	9/17/2009	211 J	< 1 U	< 0.75 U	786	< 2.5 UJ	0.92	66.3	54.4
SRC2-J02W	0	N	9/17/2009	299 J	< 1 U	< 0.75 U	750	< 0.185 UJ	1	56.8	47.9
SRC2-J03E	0	N	9/17/2009	254 J	< 1 U	< 0.75 U	622	< 2.6 UJ	1	56.7	50.8
SRC2-J03N	0	N	9/17/2009	248 J	< 1 U	< 0.75 U	754	< 2.5 UJ	1	68	59.3
SRC2-J03S	0	N	9/17/2009	331 J	5.9	3.8	1120	18.7 J-	1.4	115	142
SRC2-J03W	0	N	9/17/2009	246 J	< 1 U	< 0.75 U	834	< 2.5 UJ	0.89	61.3	51.1
SRC2-J20	0	N	9/14/2009	278 J	< 1 U	0.76 J	553	< 2.5 UJ	0.77	44.9	53.4
SRC2-J21	0	N	9/14/2009	249 J	< 1 U	7.1	623	< 2.5 UJ	2.8	44.6	261
SRC2-J22	0	N	9/14/2009	354 J	< 1 U	0.83 J	714	< 2.5 UJ	0.86	47.9	56.7
SRC2-J23	0	N	9/14/2009	259 J	< 1 U	1.2	648	< 2.5 UJ	0.97	42.6	66.5
SRC2-J24	0	N	9/14/2009	261 J	< 1 U	0.87 J	717	< 2.5 UJ	1.1	48.6	63.3
SRC2-J25	0	N	9/14/2009	319 J	< 1 U	0.82 J	577	< 2.6 UJ	0.93	41.3	70.3
SRC2-J26	0	N	9/14/2009	311 J	< 1 U	< 0.75 U	699	< 2.5 UJ	0.94	46.3	50.5
SRC2-J27	0	N	9/14/2009	360 J	< 1 U	< 0.75 U	688	< 2.5 UJ	1.3	48.4	54.5
SRC2-J28	0	N	9/14/2009	315 J	< 1 U	< 0.75 U	663	< 2.5 UJ	0.82	47.9	52.2
SRC2-J29	0	N	9/14/2009	256 J	< 1 U	< 0.75 U	593	< 2.6 UJ	0.9	45.5	51.3
SRC2-J30	0	N	9/14/2009	350 J	< 1 U	< 0.75 U	689	< 2.5 UJ	0.84	45.8	48.1
SRC2-J31	0	N	9/14/2009	209 J	< 1 U	< 0.75 U	611	< 2.5 UJ	0.78	43.1	46.3
SRC2-J32	0	N	9/14/2009	242 J	< 1 U	< 0.75 U	706	< 0.185 UJ	0.84	45.6	50.4
SRC2-J33	0	N	9/17/2009	305	< 1.1 U	< 0.75 U	842	< 2.7 U	1	63.7	93.8
SRC2-J33	0	FD	9/17/2009	267	< 1 U	< 0.75 U	868	< 2.5 U	1	60.6	74.4
SRC2-J34	0	N	9/17/2009	330	< 0.105 U	< 0.75 U	796	< 2.5 U	0.92	61.7	46
SRC3-J02C2	0	N	12/8/2009	265 J-	< 0.105 U	< 0.75 U	968	< 2.7 U	0.91	72.5	66.6 J+
SRC3-J02NE	0	N	12/8/2009	351 J-	3	2.7 J+	1350	25.8	1.5	120	149 J+
SRC3-J02NW	0	N	12/8/2009	440 J-	< 0.105 U	< 0.75 U	976	< 0.185 U	1	69.1	64.5 J+
SRC3-J02NW	0	FD	12/8/2009	411 J-	< 0.105 U	< 0.75 U	983	< 2.7 U	1	68.1	66.9 J+
SRC3-J02SE	0	N	12/8/2009	285 J-	< 0.105 U	< 0.75 U	971	< 0.185 U	1.1	70.7 J	61.2 J+
SRC3-J02SW	0	N	12/8/2009	285 J-	< 0.105 U	< 0.75 U	886	< 2.7 U	1	67.5	64.2 J+

TABLE B-4
SOIL METALS DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Metals							
				Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc
SRC3-J03C2	0	N	12/8/2009	313 J-	< 1.1 U	1.2 J+	1120	4.1	1	88.8	71.9 J+
SRC3-J03NE	0	N	12/8/2009	302 J-	< 0.105 U	< 0.75 U	947	< 0.185 U	0.98	72.5 J	62 J+
SRC3-J03NW	0	N	12/8/2009	275 J-	< 0.105 U	< 0.75 U	839	< 0.185 U	0.95	67.8 J	61.6 J+
SRC3-J03SE	0	N	12/8/2009	371 J-	2.3	2.5 J+	1270	18.7	1.4	113	125 J+
SRC3-J03SE	0	FD	12/8/2009	238 J-	1.5	2.3 J+	898	11.9	0.93	80.2	80.2 J+
SRC3-J03SW	0	N	12/8/2009	292 J-	< 1.1 U	0.87 J+	846	4.5	0.87	70.9 J	76.7 J+
SRC3-J21C2	0	N	12/7/2009	314 J	< 0.105 U	16.1 J+	1320 J	< 2.6 UJ	5.6	77.9	347 J+
SRC3-J21NE	0	N	12/7/2009	231 J	< 0.105 U	< 0.75 U	753 J	< 2.6 UJ	0.77	61.5	61.9 J+
SRC3-J21NW	0	N	12/7/2009	390 J	< 0.105 U	1.3 J+	1130 J	< 2.6 UJ	1.1	82.5	88.8 J+
SRC3-J21SE	0	N	12/7/2009	579 J	< 1.1 UJ	4.3 J+	913 J	< 2.6 UJ	1.6	68.8	132 J+
SRC3-J21SW	0	N	12/7/2009	297 J	< 0.105 U	28.7 J+	1110 J	2.9	1.6	82	249 J+
SRC4-J02C2	0	N	3/17/2010	322 J	< 0.29 U	< 1.1 UJ	1090 J	< 0.4105 U	1.3 J+	79.4	42.8
SRC4-J02NE2	0	N	3/17/2010	362 J	< 0.29 U	< 1.1 UJ	1220 J	< 0.4105 U	1.3 J+	82.9	46.8
SRC4-J02NW2	0	N	3/17/2010	492 J	< 0.29 U	< 1 UJ	1510 J	< 0.4105 U	1.6 J+	102	47.2
SRC4-J02NW2	0	FD	3/17/2010	414 J	< 0.29 U	< 1 UJ	1300 J	< 2.6 U	1.5 J+	92.1	45.3
SRC4-J02SE2	0	N	3/17/2010	451 J	< 0.29 U	< 1.1 UJ	1180 J	< 0.4105 U	1.5 J+	89	39.9
SRC4-J02SW2	0	N	3/17/2010	428 J	< 0.29 U	< 1.1 UJ	1480 J	< 0.4105 U	1.6 J+	94.3	48.6
SRC4-J03C2	0	N	3/17/2010	410 J	< 0.29 U	1.6 J+	1410 J	< 2.6 U	1.3 J+	85.3	44
SRC4-J03NE2	0	N	3/17/2010	563 J	< 0.29 U	< 1.1 UJ	1370 J	< 2.6 U	1.5 J+	91.2	50.1
SRC4-J03SE2	0	N	3/17/2010	354 J	< 0.29 U	< 1.1 UJ	1460 J	< 2.7 U	1.3 J+	108	50.7
SRC4-J03SW2	0	N	3/17/2010	327 J	< 0.29 U	< 1.1 UJ	1320 J	< 2.7 U	1.3 J+	88.2	49.9
SRC4-J21CE2	0	N	3/17/2010	525 J	< 0.29 U	4.6 J+	1280 J	< 2.7 U	2.7 J+	95.1	141
SRC4-J21CE2	0	FD	3/17/2010	352 J	< 0.29 U	4.5 J+	1400 J	< 0.4105 U	2.8 J+	100	120
SRC4-J21CW2	0	N	3/17/2010	366 J	1.2 J+	1.1 J+	1340 J	< 2.6 U	1.7 J+	103	54
SRC4-J21NE2	0	N	3/17/2010	349 J	< 0.29 U	1.3 J+	1450 J	< 2.6 U	1.4 J+	101	60.1
SRC4-J21NW2	0	N	3/17/2010	548 J	< 0.29 U	< 1.1 UJ	1270 J	< 2.6 U	2.1 J+	93.1	47.1
SRC4-J21SE2	0	N	3/17/2010	623 J	< 0.29 U	2 J+	1350 J	< 2.7 U	1.7 J+	89.6	66
SRC4-J21SW2	0	N	3/17/2010	251 J	< 0.29 U	< 1.1 UJ	930 J	< 0.4105 U	1.3 J+	64.8	51.4
SRC5-J21CE2	0	N	6/21/2010	270 J	< 1.1 U	< 1.1 U	799 J	< 2.7 U	1.3 J+	54.5 J	58.7 J+
SRC5-J21CE2	0	FD	6/21/2010	260 J	< 1.1 U	< 1.1 U	1070 J	< 2.8 U	1.1 J+	68.2 J	69.5 J+

All units in mg/kg.
-- = no sample data.
[shaded box] = Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				2,4-DDD	2,4-DDE	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane
SRC1-AG16	0	N	10/31/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AG16	11	N	10/31/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AG17	0	N	10/31/2008	< 0.00031 U	< 0.0002 U	< 0.00009 U	0.0045	0.0019 J	< 0.000096 U	< 0.00028 U	< 0.00021 U
SRC1-AG17	11	N	10/31/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AG18	0	N	10/31/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00022 U
SRC1-AG18	11	N	10/31/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AH15	0	N	11/3/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	0.0031 J	0.0023 J	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AH15	0	FD	11/3/2008	< 0.00032 U	0.0021	< 0.000093 U	0.01 J	0.0093 J	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AH15	10	N	11/3/2008	< 0.00034 U	< 0.00022 U	< 0.000098 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.00031 U	< 0.00023 U
SRC1-AH16	0	N	11/3/2008	< 0.00031 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AH16	11	N	11/3/2008	< 0.00032 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AH17	0	N	11/14/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AH17	11	N	11/14/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AH18	0	N	10/31/2008	< 0.00031 U	< 0.00021 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AH18	11	N	10/31/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AH19	0	N	10/31/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AH19	0	FD	10/31/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AH19	10	N	10/31/2008	< 0.00033 U	< 0.00022 U	< 0.000097 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.00031 U	< 0.00023 U
SRC1-AI17	0	N	11/3/2008	< 0.00031 U	< 0.0002 U	< 0.000091 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AI17	3	N	11/3/2008	< 0.00032 U	0.0061 J	< 0.000094 UJ	0.0051 J+	< 0.00021 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AI17	13	N	11/3/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AI20	0	N	10/31/2008	< 0.00031 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AI20	10	N	10/31/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AJ18	0	N	11/3/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	0.0046	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AJ18	3	N	11/3/2008	< 0.00031 U	< 0.00021 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AJ18	13	N	11/3/2008	< 0.00032 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ19	0	N	11/14/2008	< 0.00031 U	< 0.0002 U	< 0.00009 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AJ19	11	N	11/14/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AJ20	0	N	11/5/2008	< 0.00031 U	< 0.00021 U	< 0.000091 U	0.0028	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00022 U
SRC1-AJ20	11	N	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ20	21	N	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ21	0	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AJ21	12	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ22	0	N	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AJ22	10	N	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 12)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				2,4-DDD	2,4-DDE	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane
SRC1-AJ23	0	N	11/7/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.0003 U	< 0.00022 U
SRC1-AJ23	4	N	11/7/2008	< 0.00033 U	< 0.00022 U	< 0.000096 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00023 U
SRC1-AJ23	14	N	11/7/2008	< 0.00033 U	< 0.00022 U	< 0.000096 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00023 U
SRC1-AJ24	0	N	11/10/2008	< 0.00031 U	< 0.0002 U	< 0.000091 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000097 U	< 0.00029 U	< 0.00021 UJ
SRC1-AJ24	10	N	11/10/2008	< 0.00032 U	< 0.00021 U	< 0.000094 UJ	< 0.0002 U	< 0.00021 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.00031 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AJ25	3	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ25	13	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ26	0	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ26	11	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AJ27	0	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AJ27	10	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AJ28	0	N	11/13/2008	< 0.00065 U	< 0.00042 U	< 0.00019 U	< 0.00041 U	< 0.00043 U	< 0.0002 U	< 0.0006 U	< 0.00045 U
SRC1-AJ28	0	FD	11/13/2008	< 0.00031 U	< 0.0002 U	< 0.00009 U	< 0.00019 U	< 0.0002 U	< 0.000096 U	< 0.00029 U	< 0.00021 U
SRC1-AJ28	12	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK20	0	N	11/5/2008	< 0.00031 U	0.0019 J	< 0.000091 U	0.0043 J+	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AK20	0	FD	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AK20	9	N	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK20	19	N	11/5/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK21	0	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.0003 U	< 0.00022 U
SRC1-AK21	0	FD	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AK21	8	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK21	18	N	11/6/2008	< 0.00033 U	< 0.00021 U	< 0.000096 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00023 U
SRC1-AK23	0	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AK23	4	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK23	14	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK24	0	N	11/6/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AK24	10	N	11/6/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK24	13	N	11/12/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AK25	0	N	11/10/2008	< 0.00031 U	< 0.0002 U	< 0.000091 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000097 U	< 0.00029 U	< 0.00022 UJ
SRC1-AK25	11	N	11/10/2008	< 0.00033 U	< 0.00021 U	< 0.000095 UJ	< 0.00021 U	< 0.00022 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 UJ
SRC1-AK26	0	N	11/7/2008	< 0.00031 U	< 0.00021 U	< 0.000092 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000098 U	< 0.00029 U	< 0.00022 UJ
SRC1-AK26	0	FD	11/7/2008	< 0.00031 U	< 0.00021 U	< 0.000092 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000098 U	< 0.00029 U	< 0.00022 UJ
SRC1-AK26	10	N	11/7/2008	< 0.00032 U	< 0.00021 U	< 0.000093 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000099 U	< 0.00029 U	< 0.00022 UJ
SRC1-AK27	0	N	11/12/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				2,4-DDD	2,4-DDE	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane
SRC1-AK27	3	N	11/12/2008	< 0.00032 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AL24	0	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AL24	8	N	11/6/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AL24	18	N	11/6/2008	< 0.00033 U	< 0.00022 U	< 0.000096 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.00031 U	< 0.00023 U
SRC1-AL26	0	N	11/7/2008	< 0.00033 U	< 0.00021 U	< 0.000095 UJ	< 0.0002 U	< 0.00022 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 UJ
SRC1-AL26	11	N	11/7/2008	< 0.00032 U	< 0.00021 U	< 0.000094 UJ	< 0.0002 U	< 0.00021 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 UJ
SRC1-AL28	0	N	11/12/2008	< 0.0032 U	< 0.0021 U	< 0.00093 U	< 0.002 U	< 0.0021 U	< 0.00099 U	< 0.0029 U	< 0.0022 U
SRC1-AL28	4	N	11/12/2008	0.004	0.029	0.0023	0.046 J	0.0044 J	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-AL28	14	N	11/12/2008	< 0.00032 U	0.014 J+	< 0.000093 U	0.017	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AM27	0	N	11/10/2008	< 0.00033 U	0.0044 J+	< 0.000096 UJ	0.0082 J+	0.0021 J	< 0.0001 U	< 0.0003 U	< 0.00023 UJ
SRC1-AM27	3	N	11/10/2008	< 0.00032 U	< 0.00021 U	< 0.000092 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000099 U	< 0.00029 U	< 0.00022 UJ
SRC1-AM27	13	N	11/10/2008	< 0.00032 U	< 0.00021 U	< 0.000094 UJ	< 0.0002 U	< 0.00021 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 UJ
SRC1-AM28	0	N	11/12/2008	< 0.00064 U	0.0045 J+	< 0.00019 U	0.0055	< 0.00042 U	< 0.0002 U	< 0.00059 U	< 0.00044 U
SRC1-AM28	7	N	11/12/2008	< 0.0032 U	< 0.0021 U	< 0.00093 U	< 0.002 U	< 0.0021 U	< 0.00099 U	< 0.0029 U	< 0.0022 U
SRC1-AM28	7	FD	11/12/2008	< 0.00031 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-AM28	17	N	11/12/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-AN28	0	N	11/12/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	0.0055	0.0043	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-AN28	11	N	11/12/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-J01	0	N	11/3/2008	< 0.00031 U	< 0.00021 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00022 U
SRC1-J01	0	FD	11/3/2008	< 0.00031 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-J01	11	N	11/3/2008	< 0.00032 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J02	0	N	11/5/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	0.003	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-J02	3	N	11/5/2008	< 0.00031 U	< 0.00021 U	< 0.000092 U	< 0.0002 U	< 0.00021 U	< 0.000098 U	< 0.00029 U	< 0.00022 U
SRC1-J02	13	N	11/5/2008	< 0.00032 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J03	0	N	11/5/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	0.0021	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00022 U
SRC1-J03	5	N	11/5/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00023 U
SRC1-J03	15	N	11/5/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J07	0	N	11/7/2008	< 0.00062 U	< 0.00041 U	< 0.00018 UJ	< 0.00039 U	< 0.00041 UJ	< 0.00019 U	< 0.00058 U	< 0.00043 UJ
SRC1-J07	10	N	11/7/2008	< 0.00032 U	< 0.00021 U	< 0.000094 UJ	< 0.0002 U	< 0.00021 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 UJ
SRC1-J09	0	N	11/10/2008	< 0.00031 U	< 0.0002 U	< 0.000091 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000097 U	< 0.00029 U	< 0.00022 UJ
SRC1-J09	0	FD	11/10/2008	< 0.00032 U	< 0.00021 U	< 0.000093 UJ	< 0.0002 U	< 0.00021 UJ	< 0.000099 U	< 0.00029 U	< 0.00022 UJ
SRC1-J09	11	N	11/10/2008	< 0.00033 U	< 0.00022 U	< 0.000096 UJ	< 0.00021 U	< 0.00022 UJ	< 0.0001 U	< 0.00031 U	< 0.00023 UJ
SRC1-J10	0	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 UJ	< 0.00021 UJ	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J10	0	FD	11/13/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	0.0044 J	0.0039 J	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J10	11	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				2,4-DDD	2,4-DDE	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane
SRC1-J11	0	N	11/14/2008	< 0.00032 U	< 0.00021 U	< 0.000092 U	0.0021	0.0028	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-J11	10	N	11/14/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.0003 U	< 0.00022 U
SRC1-J12	0	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-J12	12	N	11/13/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J13	0	N	11/12/2008	< 0.00063 U	0.018 J+	< 0.00018 U	0.015 J+	0.0052 J+	< 0.0002 U	< 0.00058 U	< 0.00043 U
SRC1-J13	3	N	11/12/2008	< 0.00033 U	< 0.00021 U	< 0.000095 U	< 0.0002 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J13	13	N	11/12/2008	< 0.00032 U	< 0.00021 U	< 0.000093 U	< 0.0002 U	< 0.00021 U	< 0.000099 U	< 0.00029 U	< 0.00022 U
SRC1-J14	0	N	11/13/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	< 0.0002 U	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-J14	12	N	11/13/2008	< 0.00033 U	< 0.00022 U	< 0.000096 U	< 0.00021 U	< 0.00022 U	< 0.0001 U	< 0.0003 U	< 0.00023 U
SRC1-J15	0	N	11/12/2008	< 0.00031 U	< 0.0002 U	< 0.000091 U	0.0032	< 0.00021 U	< 0.000097 U	< 0.00029 U	< 0.00021 U
SRC1-J15	0	FD	11/12/2008	< 0.00032 U	< 0.00021 U	< 0.000094 U	< 0.0002 U	< 0.00021 U	< 0.0001 U	< 0.0003 U	< 0.00022 U
SRC1-J15	12	N	11/12/2008	< 0.00035 U	< 0.00023 U	< 0.0001 U	< 0.00022 U	< 0.00023 U	< 0.00011 U	< 0.00032 U	< 0.00024 U
SRC2-J20	0	N	9/14/2009	< 0.00014 U	0.0033	< 0.00011 U	0.011	< 0.00025 U	< 0.000092 U	< 0.000095 U	< 0.0001 U
SRC2-J21	0	N	9/14/2009	< 0.00071 U	0.02	< 0.00056 U	0.052	< 0.0012 U	< 0.00046 U	< 0.00048 U	< 0.00053 U
SRC2-J22	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	0.0046	< 0.00025 U	< 0.000093 U	< 0.000096 U	< 0.00011 U
SRC2-J23	0	N	9/14/2009	< 0.00014 U	0.011	< 0.00011 U	0.031	0.0086	< 0.000092 U	< 0.000095 U	< 0.00011 U
SRC2-J24	0	N	9/14/2009	< 0.00014 U	0.0059	< 0.00011 U	0.017	< 0.00025 U	< 0.000092 U	< 0.000095 U	< 0.00011 U
SRC2-J25	0	N	9/14/2009	< 0.00014 U	0.003	< 0.00011 U	0.012	0.0031	< 0.000093 U	< 0.000096 U	< 0.00011 U
SRC2-J26	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	< 0.00043 U	< 0.00025 U	< 0.000092 U	< 0.000095 U	< 0.00011 U
SRC2-J27	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	< 0.00043 U	< 0.00025 U	< 0.000093 U	< 0.000096 U	< 0.00011 U
SRC2-J28	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	< 0.00043 U	< 0.00025 U	< 0.000092 U	< 0.000096 U	< 0.00011 U
SRC2-J29	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	< 0.00043 U	< 0.00025 U	< 0.000093 U	< 0.000096 U	< 0.00011 U
SRC2-J30	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	0.002	< 0.00025 U	< 0.000092 U	< 0.000096 U	< 0.00011 U
SRC2-J31	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	< 0.00043 U	< 0.00025 U	< 0.000092 U	< 0.000095 U	< 0.00011 U
SRC2-J32	0	N	9/14/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	< 0.00043 U	< 0.00025 U	< 0.000092 U	< 0.000095 U	< 0.0001 U
SRC2-J33	0	N	9/17/2009	< 0.00015 U	0.0025	< 0.00012 U	0.0068	0.0046	< 0.000098 U	< 0.0001 U	< 0.00011 U
SRC2-J33	0	FD	9/17/2009	< 0.00014 U	0.0037	< 0.00011 U	0.0082	0.0058	< 0.000092 U	< 0.000095 U	< 0.00011 U
SRC2-J34	0	N	9/17/2009	< 0.00014 U	< 0.00013 U	< 0.00011 U	0.0018	< 0.00025 U	< 0.000092 U	< 0.000095 U	< 0.00011 U

All units in mg/kg.

-- = no sample data.

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin
SRC1-AG16	0	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AG16	11	N	10/31/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000089 U
SRC1-AG17	0	N	10/31/2008	< 0.00019 U	< 0.0023 U	< 0.00017 U	< 0.000092 U	< 0.00011 U	< 0.000094 U	< 0.00026 U	< 0.000084 U
SRC1-AG17	11	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AG18	0	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AG18	11	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AH15	0	N	11/3/2008	0.0051	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AH15	0	FD	11/3/2008	0.0066	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AH15	10	N	11/3/2008	< 0.0002 U	< 0.0026 U	< 0.00018 U	< 0.0001 U	< 0.00012 U	< 0.0001 U	< 0.00029 U	< 0.000091 U
SRC1-AH16	0	N	11/3/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000085 U
SRC1-AH16	11	N	11/3/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AH17	0	N	11/14/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AH17	11	N	11/14/2008	< 0.0002 U	< 0.0024 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-AH18	0	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AH18	11	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AH19	0	N	10/31/2008	0.0025	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AH19	0	FD	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AH19	10	N	10/31/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000099 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.00009 U
SRC1-AI17	0	N	11/3/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 UJ	< 0.000085 U
SRC1-AI17	3	N	11/3/2008	0.0082 J+	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 UJ	< 0.000088 U
SRC1-AI17	13	N	11/3/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000089 U
SRC1-AI20	0	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AI20	10	N	10/31/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AJ18	0	N	11/3/2008	0.035	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AJ18	3	N	11/3/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000085 U
SRC1-AJ18	13	N	11/3/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AJ19	0	N	11/14/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000092 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000084 U
SRC1-AJ19	11	N	11/14/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AJ20	0	N	11/5/2008	0.003	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AJ20	11	N	11/5/2008	< 0.0002 U	< 0.0024 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-AJ20	21	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U
SRC1-AJ21	0	N	11/6/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AJ21	12	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U
SRC1-AJ22	0	N	11/5/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AJ22	10	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin
SRC1-AJ23	0	N	11/7/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AJ23	4	N	11/7/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000098 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.000089 U
SRC1-AJ23	14	N	11/7/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000098 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.00009 U
SRC1-AJ24	0	N	11/10/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 UJ	< 0.00027 UJ	< 0.000084 U
SRC1-AJ24	10	N	11/10/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 UJ	< 0.00028 UJ	< 0.000088 U
SRC1-AJ25	0	N	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AJ25	3	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AJ25	13	N	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AJ26	0	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AJ26	11	N	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-AJ27	0	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AJ27	10	N	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AJ28	0	N	11/13/2008	< 0.00039 U	< 0.0049 U	< 0.00035 U	< 0.00019 U	< 0.00022 U	< 0.0002 U	< 0.00056 U	< 0.00018 U
SRC1-AJ28	0	FD	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000092 U	< 0.00011 U	< 0.000094 U	< 0.00027 U	< 0.000084 U
SRC1-AJ28	12	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U
SRC1-AK20	0	N	11/5/2008	0.019 J+	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AK20	0	FD	11/5/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AK20	9	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-AK20	19	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000089 U
SRC1-AK21	0	N	11/6/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AK21	0	FD	11/6/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AK21	8	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-AK21	18	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000098 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.000089 U
SRC1-AK23	0	N	11/6/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-AK23	4	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-AK23	14	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AK24	0	N	11/6/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AK24	10	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000089 U
SRC1-AK24	13	N	11/12/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000089 U
SRC1-AK25	0	N	11/10/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 UJ	< 0.00027 UJ	< 0.000085 U
SRC1-AK25	11	N	11/10/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 UJ	< 0.00028 UJ	< 0.000089 U
SRC1-AK26	0	N	11/7/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 UJ	< 0.00027 UJ	< 0.000086 U
SRC1-AK26	0	FD	11/7/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 UJ	< 0.00027 UJ	< 0.000085 U
SRC1-AK26	10	N	11/7/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 UJ	< 0.00027 UJ	< 0.000086 U
SRC1-AK27	0	N	11/12/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin
SRC1-AK27	3	N	11/12/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AL24	0	N	11/6/2008	< 0.0002 U	< 0.0024 U	< 0.00018 U	< 0.000095 U	< 0.00011 U	< 0.000098 U	< 0.00027 U	< 0.000087 U
SRC1-AL24	8	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-AL24	18	N	11/6/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000099 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.00009 U
SRC1-AL26	0	N	11/7/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 UJ	< 0.00028 UJ	< 0.000089 U
SRC1-AL26	11	N	11/7/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 UJ	< 0.00028 UJ	< 0.000088 U
SRC1-AL28	0	N	11/12/2008	< 0.0019 U	< 0.024 U	< 0.0017 U	< 0.00095 U	< 0.0011 U	< 0.00097 U	< 0.0027 U	< 0.00087 U
SRC1-AL28	4	N	11/12/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-AL28	14	N	11/12/2008	< 0.0002 U	< 0.0024 U	< 0.00018 U	< 0.000095 U	< 0.00011 U	< 0.000098 U	< 0.00027 U	< 0.000087 U
SRC1-AM27	0	N	11/10/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000098 U	< 0.00011 U	< 0.0001 UJ	< 0.00028 UJ	< 0.00009 U
SRC1-AM27	3	N	11/10/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 UJ	< 0.00027 UJ	< 0.000086 U
SRC1-AM27	13	N	11/10/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 UJ	< 0.00028 UJ	< 0.000088 U
SRC1-AM28	0	N	11/12/2008	< 0.00039 U	< 0.0049 U	< 0.00035 U	< 0.00019 U	< 0.00022 U	< 0.00019 U	< 0.00055 U	< 0.00017 U
SRC1-AM28	7	N	11/12/2008	< 0.0019 U	< 0.024 U	< 0.0017 U	< 0.00095 U	< 0.0011 U	< 0.00097 U	< 0.0027 U	< 0.00087 U
SRC1-AM28	7	FD	11/12/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000085 U
SRC1-AM28	17	N	11/12/2008	< 0.0002 U	< 0.0024 U	< 0.00018 U	< 0.000095 U	< 0.00011 U	< 0.000098 U	< 0.00027 U	< 0.000087 U
SRC1-AN28	0	N	11/12/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-AN28	11	N	11/12/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-J01	0	N	11/3/2008	0.017 J	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-J01	0	FD	11/3/2008	0.0053 J	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-J01	11	N	11/3/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-J02	0	N	11/5/2008	0.0025	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000084 U
SRC1-J02	3	N	11/5/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000094 U	< 0.00011 U	< 0.000096 U	< 0.00027 U	< 0.000086 U
SRC1-J02	13	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-J03	0	N	11/5/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-J03	5	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000098 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.000089 U
SRC1-J03	15	N	11/5/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000089 U
SRC1-J07	0	N	11/7/2008	< 0.00038 U	< 0.0048 U	< 0.00034 U	< 0.00019 U	< 0.00021 U	< 0.00019 UJ	< 0.00054 UJ	< 0.00017 U
SRC1-J07	10	N	11/7/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 UJ	< 0.00028 UJ	< 0.000088 U
SRC1-J09	0	N	11/10/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 UJ	< 0.00027 UJ	< 0.000085 U
SRC1-J09	0	FD	11/10/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 UJ	< 0.00027 UJ	< 0.000087 U
SRC1-J09	11	N	11/10/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000099 U	< 0.00011 U	< 0.0001 UJ	< 0.00028 UJ	< 0.00009 U
SRC1-J10	0	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-J10	0	FD	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-J10	11	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin
SRC1-J11	0	N	11/14/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000086 U
SRC1-J11	10	N	11/14/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-J12	0	N	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-J12	12	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000088 U
SRC1-J13	0	N	11/12/2008	< 0.00038 U	< 0.0048 U	< 0.00034 U	< 0.00019 U	< 0.00022 U	< 0.00019 U	< 0.00054 U	< 0.00017 U
SRC1-J13	3	N	11/12/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000097 U	< 0.00011 U	< 0.000099 U	< 0.00028 U	< 0.000088 U
SRC1-J13	13	N	11/12/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000095 U	< 0.00011 U	< 0.000097 U	< 0.00027 U	< 0.000087 U
SRC1-J14	0	N	11/13/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000085 U
SRC1-J14	12	N	11/13/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000098 U	< 0.00011 U	< 0.0001 U	< 0.00028 U	< 0.00009 U
SRC1-J15	0	N	11/12/2008	< 0.00019 U	< 0.0024 U	< 0.00017 U	< 0.000093 U	< 0.00011 U	< 0.000095 U	< 0.00027 U	< 0.000084 U
SRC1-J15	0	FD	11/12/2008	< 0.0002 U	< 0.0025 U	< 0.00018 U	< 0.000096 U	< 0.00011 U	< 0.000098 U	< 0.00028 U	< 0.000087 U
SRC1-J15	12	N	11/12/2008	< 0.00021 U	< 0.0026 U	< 0.00019 U	< 0.0001 U	< 0.00012 U	< 0.00011 U	< 0.0003 U	< 0.000094 U
SRC2-J20	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000097 U	< 0.000096 U	< 0.00012 U	< 0.00013 U	< 0.00011 U
SRC2-J21	0	N	9/14/2009	< 0.00064 U	< 0.0074 U	< 0.00054 U	< 0.00049 U	< 0.00048 U	< 0.00058 U	< 0.00067 U	< 0.00054 U
SRC2-J22	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J23	0	N	9/14/2009	0.0026	< 0.0015 U	< 0.00011 U	< 0.000097 U	< 0.000096 U	< 0.00012 U	< 0.00013 U	< 0.00011 U
SRC2-J24	0	N	9/14/2009	0.011	< 0.0015 U	< 0.00011 U	< 0.000097 U	< 0.000096 U	< 0.00012 U	< 0.00013 U	< 0.00011 U
SRC2-J25	0	N	9/14/2009	0.0018	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J26	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J27	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J28	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J29	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J30	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000097 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J31	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000097 U	< 0.000096 U	< 0.00012 U	< 0.00013 U	< 0.00011 U
SRC2-J32	0	N	9/14/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000097 U	< 0.000096 U	< 0.00011 U	< 0.00013 U	< 0.00011 U
SRC2-J33	0	N	9/17/2009	< 0.00014 U	< 0.0016 U	< 0.00012 U	< 0.0001 U	< 0.0001 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J33	0	FD	9/17/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000098 U	< 0.000096 U	< 0.00012 U	< 0.00014 U	< 0.00011 U
SRC2-J34	0	N	9/17/2009	< 0.00013 U	< 0.0015 U	< 0.00011 U	< 0.000097 U	< 0.000096 U	< 0.00012 U	< 0.00013 U	< 0.00011 U

All units in mg/kg.

-- = no sample data.

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				Endrin aldehyde	Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
SRC1-AG16	0	N	10/31/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AG16	11	N	10/31/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AG17	0	N	10/31/2008	< 0.00018 U	< 0.00016 U	< 0.00012 U	< 0.000084 U	< 0.00017 U	< 0.00013 U	< 0.00032 U	< 0.0058 U
SRC1-AG17	11	N	10/31/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AG18	0	N	10/31/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AG18	11	N	10/31/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AH15	0	N	11/3/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AH15	0	FD	11/3/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AH15	10	N	11/3/2008	< 0.0002 U	< 0.00018 U	< 0.00014 U	< 0.000091 U	< 0.00019 U	< 0.00014 U	< 0.00035 U	< 0.0064 U
SRC1-AH16	0	N	11/3/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.006 U
SRC1-AH16	11	N	11/3/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0062 U
SRC1-AH17	0	N	11/14/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AH17	11	N	11/14/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AH18	0	N	10/31/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.006 U
SRC1-AH18	11	N	10/31/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AH19	0	N	10/31/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AH19	0	FD	10/31/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AH19	10	N	10/31/2008	< 0.00019 U	< 0.00018 U	< 0.00013 U	< 0.00009 U	< 0.00019 U	< 0.00014 U	< 0.00034 U	< 0.0063 U
SRC1-AI17	0	N	11/3/2008	< 0.00018 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 UJ	< 0.0059 UJ
SRC1-AI17	3	N	11/3/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.0061 UJ
SRC1-AI17	13	N	11/3/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AI20	0	N	10/31/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.006 U
SRC1-AI20	10	N	10/31/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ18	0	N	11/3/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AJ18	3	N	11/3/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.006 U
SRC1-AJ18	13	N	11/3/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AJ19	0	N	11/14/2008	< 0.00018 U	< 0.00017 U	< 0.00012 U	< 0.000084 U	< 0.00017 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AJ19	11	N	11/14/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ20	0	N	11/5/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.006 U
SRC1-AJ20	11	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 UJ
SRC1-AJ20	21	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AJ21	0	N	11/6/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ21	12	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AJ22	0	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ22	10	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 10 of 12)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				Endrin aldehyde	Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
SRC1-AJ23	0	N	11/7/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AJ23	4	N	11/7/2008	< 0.00019 U	< 0.00018 U	< 0.00013 U	< 0.000089 U	< 0.00019 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AJ23	14	N	11/7/2008	< 0.00019 U	< 0.00018 U	< 0.00013 U	< 0.00009 U	< 0.00019 U	< 0.00014 U	< 0.00034 U	< 0.0063 U
SRC1-AJ24	0	N	11/10/2008	< 0.00018 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000084 UJ	< 0.00017 U	< 0.00013 U	< 0.00032 UJ	< 0.0059 U
SRC1-AJ24	10	N	11/10/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000088 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.0061 U
SRC1-AJ25	0	N	11/13/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ25	3	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AJ25	13	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AJ26	0	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0062 U
SRC1-AJ26	11	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ27	0	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AJ27	10	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AJ28	0	N	11/13/2008	< 0.00038 U	< 0.00035 U	< 0.00026 U	< 0.00018 U	< 0.00036 U	< 0.00028 U	< 0.00067 U	< 0.012 U
SRC1-AJ28	0	FD	11/13/2008	< 0.00018 U	< 0.00017 U	< 0.00012 U	< 0.000084 U	< 0.00017 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AJ28	12	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK20	0	N	11/5/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AK20	0	FD	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK20	9	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK20	19	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AK21	0	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK21	0	FD	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK21	8	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK21	18	N	11/6/2008	< 0.00019 U	< 0.00018 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AK23	0	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-AK23	4	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AK23	14	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0062 U
SRC1-AK24	0	N	11/6/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AK24	10	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AK24	13	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AK25	0	N	11/10/2008	< 0.00018 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000085 UJ	< 0.00018 U	< 0.00013 U	< 0.00032 UJ	< 0.0059 U
SRC1-AK25	11	N	11/10/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000089 UJ	< 0.00018 U	< 0.00014 U	< 0.00034 UJ	< 0.0062 U
SRC1-AK26	0	N	11/7/2008	< 0.00018 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000086 UJ	< 0.00018 U	< 0.00014 U	< 0.00032 UJ	< 0.006 U
SRC1-AK26	0	FD	11/7/2008	< 0.00018 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000085 UJ	< 0.00018 U	< 0.00013 U	< 0.00032 UJ	< 0.006 U
SRC1-AK26	10	N	11/7/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000086 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.006 U
SRC1-AK27	0	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides							
				Endrin aldehyde	Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
SRC1-AK27	3	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-AL24	0	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AL24	8	N	11/6/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0062 U
SRC1-AL24	18	N	11/6/2008	< 0.00019 U	< 0.00018 U	< 0.00013 U	< 0.00009 U	< 0.00019 U	< 0.00014 U	< 0.00034 U	< 0.0063 U
SRC1-AL26	0	N	11/7/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000089 UJ	< 0.00018 U	< 0.00014 U	< 0.00034 UJ	< 0.0062 U
SRC1-AL26	11	N	11/7/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000088 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.0062 U
SRC1-AL28	0	N	11/12/2008	< 0.0019 U	< 0.0017 U	< 0.0013 U	< 0.00087 U	< 0.0018 U	< 0.0014 U	< 0.0033 U	< 0.061 U
SRC1-AL28	4	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AL28	14	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AM27	0	N	11/10/2008	< 0.00019 UJ	< 0.00018 UJ	< 0.00013 U	< 0.00009 UJ	< 0.00019 U	< 0.00014 U	< 0.00034 UJ	< 0.0063 U
SRC1-AM27	3	N	11/10/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000086 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.006 U
SRC1-AM27	13	N	11/10/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000088 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.0061 U
SRC1-AM28	0	N	11/12/2008	< 0.00037 U	< 0.00034 U	< 0.00026 U	< 0.00017 U	< 0.00036 U	< 0.00027 U	< 0.00066 U	< 0.012 U
SRC1-AM28	7	N	11/12/2008	< 0.0019 U	< 0.0017 U	< 0.0013 U	< 0.00087 U	< 0.0018 U	< 0.0014 U	< 0.0033 U	< 0.061 U
SRC1-AM28	7	FD	11/12/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	0.011	< 0.006 U
SRC1-AM28	17	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-AN28	0	N	11/12/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-AN28	11	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-J01	0	N	11/3/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-J01	0	FD	11/3/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-J01	11	N	11/3/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-J02	0	N	11/5/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000084 U	< 0.00017 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-J02	3	N	11/5/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-J02	13	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0062 U
SRC1-J03	0	N	11/5/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-J03	5	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-J03	15	N	11/5/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000089 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-J07	0	N	11/7/2008	< 0.00037 UJ	< 0.00033 UJ	< 0.00025 U	< 0.00017 UJ	< 0.00035 U	< 0.00027 U	< 0.00064 UJ	< 0.012 U
SRC1-J07	10	N	11/7/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000088 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.0061 U
SRC1-J09	0	N	11/10/2008	< 0.00018 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000085 UJ	< 0.00018 U	< 0.00013 U	< 0.00032 UJ	< 0.0059 U
SRC1-J09	0	FD	11/10/2008	< 0.00019 UJ	< 0.00017 UJ	< 0.00013 U	< 0.000087 UJ	< 0.00018 U	< 0.00014 U	< 0.00033 UJ	< 0.0061 U
SRC1-J09	11	N	11/10/2008	< 0.00019 UJ	< 0.00018 UJ	< 0.00013 U	< 0.00009 UJ	< 0.00019 U	< 0.00014 U	< 0.00034 UJ	< 0.0063 U
SRC1-J10	0	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-J10	0	FD	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-J10	11	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U

TABLE B-5
SOIL ORGANOCHLORINE PESTICIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 12 of 12)

				Organochlorine Pesticides							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Endrin aldehyde	Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
SRC1-J11	0	N	11/14/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000086 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-J11	10	N	11/14/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-J12	0	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.006 U
SRC1-J12	12	N	11/13/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-J13	0	N	11/12/2008	< 0.00037 U	< 0.00034 U	< 0.00025 U	< 0.00017 U	< 0.00035 U	< 0.00027 U	< 0.00065 U	< 0.012 U
SRC1-J13	3	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000088 U	< 0.00018 U	< 0.00014 U	< 0.00034 U	< 0.0062 U
SRC1-J13	13	N	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-J14	0	N	11/13/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000085 U	< 0.00018 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-J14	12	N	11/13/2008	< 0.00019 U	< 0.00018 U	< 0.00013 U	< 0.00009 U	< 0.00019 U	< 0.00014 U	0.0038	< 0.0063 U
SRC1-J15	0	N	11/12/2008	< 0.00018 U	< 0.00017 U	< 0.00013 U	< 0.000084 U	< 0.00017 U	< 0.00013 U	< 0.00032 U	< 0.0059 U
SRC1-J15	0	FD	11/12/2008	< 0.00019 U	< 0.00017 U	< 0.00013 U	< 0.000087 U	< 0.00018 U	< 0.00014 U	< 0.00033 U	< 0.0061 U
SRC1-J15	12	N	11/12/2008	< 0.0002 U	< 0.00019 U	< 0.00014 U	< 0.000094 U	< 0.0002 U	< 0.00015 U	< 0.00036 U	< 0.0066 U
SRC2-J20	0	N	9/14/2009	< 0.00015 U	< 0.00013 U	< 0.0001 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J21	0	N	9/14/2009	< 0.00077 U	< 0.00067 U	< 0.00053 U	< 0.00044 U	< 0.00048 U	< 0.00058 U	< 0.0017 U	< 0.028 U
SRC2-J22	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000089 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J23	0	N	9/14/2009	< 0.00015 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J24	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J25	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000089 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J26	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J27	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000089 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J28	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J29	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000089 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J30	0	N	9/14/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000097 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J31	0	N	9/14/2009	< 0.00015 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J32	0	N	9/14/2009	< 0.00015 U	< 0.00013 U	< 0.0001 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J33	0	N	9/17/2009	< 0.00017 U	< 0.00014 U	< 0.00011 U	< 0.000094 U	< 0.0001 U	< 0.00012 U	< 0.00036 U	< 0.0061 U
SRC2-J33	0	FD	9/17/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U
SRC2-J34	0	N	9/17/2009	< 0.00016 U	< 0.00013 U	< 0.00011 U	< 0.000088 U	< 0.000096 U	< 0.00012 U	< 0.00034 U	< 0.0057 U

All units in mg/kg.
-- = no sample data.

TABLE B-6
SOIL POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polynuclear Aromatic Hydrocarbons (PAHs)												
				Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
SRC1-AG16	0	N	10/31/2008	< 0.00174 U	< 0.00174 U	< 0.00174 U	0.00187 J	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U
SRC1-AG16	11	N	10/31/2008	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U
SRC1-AG17	0	N	10/31/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.00796	0.00799	0.013	0.00693	0.00583 J	0.00761	< 0.0017 U	0.00628 J	0.0037 J	0.0105
SRC1-AG17	11	N	10/31/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AG18	0	N	10/31/2008	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U
SRC1-AG18	11	N	10/31/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AH15	0	N	11/3/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AH15	0	FD	11/3/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	0.00182 J	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-AH15	10	N	11/3/2008	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U
SRC1-AH16	0	N	11/3/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-AH16	11	N	11/3/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AH17	0	N	11/14/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	0.00235 J	< 0.00171 U	0.00266 J	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	0.00223 J
SRC1-AH17	11	N	11/14/2008	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U
SRC1-AH18	0	N	10/31/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AH18	11	N	10/31/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-AH19	0	N	10/31/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AH19	0	FD	10/31/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-AH19	10	N	10/31/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-AI17	0	N	11/3/2008	< 0.00172 U	< 0.00172 U	< 0.00172 U	0.0069 J	0.00288 J	0.00404 J	0.00259 J	0.00238 J	0.00337 J	0.00279 J	0.00203 J	0.00495 J	0.00728
SRC1-AI17	3	N	11/3/2008	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	0.00183 J	0.00813	0.00207 J	< 0.00181 U	0.00511 J	< 0.00181 U	0.00223 J	< 0.00181 U	0.00497 J
SRC1-AI17	13	N	11/3/2008	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U
SRC1-AI20	0	N	10/31/2008	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC1-AI20	10	N	10/31/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AJ18	0	N	11/3/2008	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC1-AJ18	3	N	11/3/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-AJ18	13	N	11/3/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00708 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	0.00192 J	0.00334 J
SRC1-AJ19	0	N	11/14/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-AJ20	0	N	11/5/2008	< 0.00171 U	0.00315 J	< 0.00683 U	0.0115	0.0128	0.0576	0.0212	< 0.00171 U	< 0.00683 U	< 0.00171 U	0.0235	< 0.00171 U	< 0.00683 U
SRC1-AJ20	11	N	11/5/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AJ20	21	N	11/5/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AJ21	0	N	11/6/2008	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U
SRC1-AJ21	12	N	11/6/2008	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U
SRC1-AJ22	0	N	11/5/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00203 U	< 0.00177 U	< 0.00708 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AJ22	10	N	11/5/2008	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U	< 0.00182 U
SRC1-AJ23	0	N	11/7/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.0147 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U

TABLE B-6
SOIL POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 4)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polynuclear Aromatic Hydrocarbons (PAHs)												
				Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
SRC1-AJ23	4	N	11/7/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	0.00193 J	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.016 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AJ23	14	N	11/7/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.0149 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AJ24	0	N	11/10/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.014 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AJ24	10	N	11/10/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.0146 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AJ25	0	N	11/13/2008	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U
SRC1-AJ25	3	N	11/13/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-AJ25	13	N	11/13/2008	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U
SRC1-AJ26	0	N	11/13/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AJ26	11	N	11/13/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AJ27	0	N	11/13/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.00202 J	< 0.0017 U	0.00197 J	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AJ27	10	N	11/13/2008	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U
SRC1-AJ28	0	N	11/13/2008	< 0.00174 U	< 0.00174 U	< 0.00174 U	0.00369 J	0.00389 J	0.00654 J	0.00576 J	0.00218 J	0.00235 J	< 0.00174 U	0.00355 J	< 0.00174 U	0.00349 J
SRC1-AJ28	0	FD	11/13/2008	< 0.00172 U	< 0.00172 U	< 0.00172 U	0.0119 J	0.0142 J	0.0197 J	0.0077	0.00688	0.0113 J	< 0.00172 U	0.0063 J	0.00762	0.0239 J
SRC1-AJ28	12	N	11/13/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AK20	0	N	11/5/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AK20	0	FD	11/5/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-AK20	9	N	11/5/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AK20	19	N	11/5/2008	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U
SRC1-AK21	0	N	11/6/2008	< 0.00174 U	< 0.00174 U	0.00375 J	< 0.00174 U	0.0078	0.00974 J	0.011 J	0.00607 J	0.0102	< 0.00174 U	0.00653 J	0.0114	0.0224 J
SRC1-AK21	0	FD	11/6/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	0.00196 J	0.00248 J	< 0.00175 U	< 0.00175 U	< 0.00175 U	0.00183 J	< 0.00175 U	0.002 J
SRC1-AK21	8	N	11/6/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AK21	18	N	11/6/2008	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U
SRC1-AK23	0	N	11/6/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AK23	4	N	11/6/2008	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U
SRC1-AK23	14	N	11/6/2008	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U
SRC1-AK24	0	N	11/6/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AK24	10	N	11/6/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AK25	0	N	11/10/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.0144 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AK25	11	N	11/10/2008	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0149 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U
SRC1-AK26	0	N	11/7/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.0152 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-AK26	0	FD	11/7/2008	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.0148 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U
SRC1-AK26	10	N	11/7/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.0147 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-AK27	0	N	11/12/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AK27	3	N	11/12/2008	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U
SRC1-AK27	13	N	11/12/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U

TABLE B-6
SOIL POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 3 of 4)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polynuclear Aromatic Hydrocarbons (PAHs)												
				Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
SRC1-AL24	0	N	11/6/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AL24	8	N	11/6/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AL24	18	N	11/6/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AL26	0	N	11/7/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.0151 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AL26	11	N	11/7/2008	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.0153 U	< 0.00179 U	< 0.00179 U	< 0.00179 U	< 0.00179 U
SRC1-AL28	0	N	11/12/2008	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC1-AL28	4	N	11/12/2008	< 0.00183 U	< 0.00183 U	< 0.00183 U	0.00614 J	0.0077	0.017	0.00727 J	< 0.00183 U	0.0052 J	< 0.00183 U	0.00695 J	0.00203 J	0.00707 J
SRC1-AL28	14	N	11/12/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-AM27	0	N	11/10/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AM27	3	N	11/10/2008	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U
SRC1-AM27	13	N	11/10/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AM28	0	N	11/12/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.00184 J	< 0.0017 U	0.00209 J	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-AM28	7	N	11/12/2008	< 0.00173 U	< 0.00173 U	< 0.00173 U	0.00177 J	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U
SRC1-AM28	7	FD	11/12/2008	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U	< 0.00186 U
SRC1-AM28	17	N	11/12/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-AN28	0	N	11/12/2008	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U
SRC1-AN28	11	N	11/12/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-J01	0	N	11/3/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00683 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-J01	0	FD	11/3/2008	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00674 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC1-J01	11	N	11/3/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-J02	0	N	11/5/2008	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00689 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U
SRC1-J02	3	N	11/5/2008	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00694 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U	< 0.00174 U
SRC1-J02	13	N	11/5/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-J03	0	N	11/5/2008	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ	< 0.00174 UJ
SRC1-J03	5	N	11/5/2008	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U	< 0.00181 U
SRC1-J03	15	N	11/5/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-J07	0	N	11/7/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.0149 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-J07	10	N	11/7/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.0144 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-J09	0	N	11/10/2008	< 0.00172 U	< 0.00172 U	< 0.00172 U	0.00204 J	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.0157 U	< 0.00172 U	< 0.00172 U	< 0.00172 U	< 0.00172 U
SRC1-J09	0	FD	11/10/2008	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0154 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC1-J09	11	N	11/10/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.0154 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-J10	0	N	11/13/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-J10	0	FD	11/13/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U	< 0.00178 U
SRC1-J10	11	N	11/13/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-J11	0	N	11/14/2008	< 0.00172 U	< 0.00172 U	< 0.00172 U	0.0135	0.0134	0.0244	0.00758	0.00747	0.0128	< 0.00172 U	0.00733	0.00421 J	0.0208

TABLE B-6
SOIL POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Polynuclear Aromatic Hydrocarbons (PAHs)												
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
SRC1-J11	10	N	11/14/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U	< 0.00177 U
SRC1-J12	0	N	11/13/2008	< 0.00167 U	< 0.00167 U	< 0.00167 U	0.00231 J	< 0.00167 U	0.00191 J	< 0.00167 U	< 0.00167 U	< 0.00167 U	< 0.00167 U	< 0.00167 U	< 0.00167 U	0.00202 J
SRC1-J12	12	N	11/13/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-J13	0	N	11/12/2008	< 0.00169 U	< 0.00169 U	< 0.00169 U	0.00258 J	< 0.00169 U	0.00277 J	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	0.00224 J
SRC1-J13	3	N	11/12/2008	< 0.00178 U	< 0.00178 U	< 0.00178 U	0.00315 J	0.00187 J	0.0048 J	< 0.00178 U	< 0.00178 U	0.0023 J	< 0.00178 U	< 0.00178 U	0.00565 J	0.00345 J
SRC1-J13	13	N	11/12/2008	< 0.00177 U	< 0.00177 U	< 0.00177 U	0.00416 J	0.00236 J	0.00319 J	< 0.00177 U	< 0.00177 U	0.00282 J	< 0.00177 U	< 0.00177 U	0.0037 J	0.005 J
SRC1-J14	0	N	11/13/2008	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC1-J14	12	N	11/13/2008	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U	< 0.00175 U
SRC1-J15	0	N	11/12/2008	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U	< 0.00176 U
SRC1-J15	0	FD	11/12/2008	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U	< 0.00173 U
SRC1-J15	12	N	11/12/2008	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U
SRC2-J20	0	N	9/14/2009	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U	< 0.00168 U
SRC2-J21	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	0.00272 J	0.00256 J	0.00805	0.00518 J	< 0.00169 U	0.00205 J	< 0.00169 U	0.00267 J	< 0.00169 U	0.00218 J
SRC2-J22	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC2-J23	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	0.00188 J	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC2-J24	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC2-J25	0	N	9/14/2009	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	0.00546 J	0.00967	0.00737	< 0.00171 U	0.00221 J	< 0.00171 U	0.00712	< 0.00171 U	0.00198 J
SRC2-J26	0	N	9/14/2009	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC2-J27	0	N	9/14/2009	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U	< 0.00171 U
SRC2-J28	0	N	9/14/2009	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC2-J29	0	N	9/14/2009	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
SRC2-J30	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC2-J31	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U
SRC2-J32	0	N	9/14/2009	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U

All units in mg/kg.
-- = no sample data.

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 8)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs)									
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCB 105	PCB 114	PCB 118
SRC1-AG16	0	N	10/31/2008	--	--	--	--	--	--	--	74	2.5	140
SRC1-AG17	0	N	10/31/2008	--	--	--	--	--	--	--	440	25	800
SRC1-AG18	0	N	10/31/2008	--	--	--	--	--	--	--	3.5	< 2 U	6.9
SRC1-AH15	0	N	11/3/2008	--	--	--	--	--	--	--	< 2 U	< 2 U	< 2 UJ
SRC1-AH15	0	FD	11/3/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	< 5.8 UJ
SRC1-AH16	0	N	11/3/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	< 4.7 U
SRC1-AH17	0	N	11/14/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AH18	0	N	10/31/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	3.3
SRC1-AH19	0	N	10/31/2008	--	--	--	--	--	--	--	< 2 U	< 2 U	< 2 U
SRC1-AH19	0	FD	10/31/2008	--	--	--	--	--	--	--	< 2 U	< 2 U	< 2 U
SRC1-AI17	0	N	11/3/2008	--	--	--	--	--	--	--	230	12	450
SRC1-AI20	0	N	10/31/2008	--	--	--	--	--	--	--	4.5	< 2.1 U	9.6
SRC1-AJ18	0	N	11/3/2008	--	--	--	--	--	--	--	24	< 2 U	52
SRC1-AJ19	0	N	11/14/2008	--	--	--	--	--	--	--	< 2 U	< 2 U	3.3
SRC1-AJ20	0	N	11/5/2008	--	--	--	--	--	--	--	120	6.4	180
SRC1-AJ21	0	N	11/6/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	< 3.4 U
SRC1-AJ22	0	N	11/5/2008	--	--	--	--	--	--	--	470	44	1100
SRC1-AJ23	0	N	11/7/2008	--	--	--	--	--	--	--	20	< 2.1 U	39
SRC1-AJ24	0	N	11/10/2008	--	--	--	--	--	--	--	2.1	< 2 U	< 2 U
SRC1-AJ25	0	N	11/13/2008	--	--	--	--	--	--	--	66	8.2	150
SRC1-AJ26	0	N	11/13/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AJ27	0	N	11/13/2008	--	--	--	--	--	--	--	< 2.1 U	< 2.1 U	2.5
SRC1-AJ28	0	N	11/13/2008	--	--	--	--	--	--	--	< 2.1 UJ	< 2.1 UJ	< 2.1 UJ
SRC1-AJ28	0	FD	11/13/2008	--	--	--	--	--	--	--	90 J	6.2 J	160 J
SRC1-AK20	0	N	11/5/2008	--	--	--	--	--	--	--	37	< 2 U	89
SRC1-AK21	0	N	11/6/2008	--	--	--	--	--	--	--	27 J	2.9	55 J
SRC1-AK21	0	FD	11/6/2008	--	--	--	--	--	--	--	3.4 J	< 2.1 U	< 7.4 UJ
SRC1-AK23	0	N	11/6/2008	--	--	--	--	--	--	--	22 J	4.4 J	50 J
SRC1-AK24	0	N	11/6/2008	--	--	--	--	--	--	--	< 2 U	< 2 U	< 2 U
SRC1-AK25	0	N	11/10/2008	--	--	--	--	--	--	--	4.6	< 2 U	9.6
SRC1-AK26	0	N	11/7/2008	--	--	--	--	--	--	--	12	< 2.1 U	23
SRC1-AK27	0	N	11/12/2008	--	--	--	--	--	--	--	5.5	< 2.1 U	11
SRC1-AL24	0	N	11/6/2008	--	--	--	--	--	--	--	4.8	< 2.1 U	12
SRC1-AL26	0	N	11/7/2008	--	--	--	--	--	--	--	3.8	< 2.1 U	5
SRC1-AL28	0	N	11/12/2008	--	--	--	--	--	--	--	200	25	400
SRC1-AM27	0	N	11/10/2008	--	--	--	--	--	--	--	18000	1000	31000 J
SRC1-AM28	0	N	11/12/2008	--	--	--	--	--	--	--	590	52	1200

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Polychlorinated Biphenyls (PCBs)									
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCB 105	PCB 114	PCB 118
SRC1-AN28	0	N	11/12/2008	--	--	--	--	--	--	--	2700 J	68	2600 J
SRC1-J01	0	N	11/3/2008	--	--	--	--	--	--	--	47 J	< 2.1 U	99 J
SRC1-J01	0	FD	11/3/2008	--	--	--	--	--	--	--	< 2.1 UJ	< 2.1 U	27 J
SRC1-J02	0	N	11/5/2008	--	--	--	--	--	--	--	140	6.9	290
SRC1-J03	0	N	11/5/2008	--	--	--	--	--	--	--	890	95	1900
SRC1-J07	0	N	11/7/2008	--	--	--	--	--	--	--	53	7.9	120
SRC1-J09	0	N	11/10/2008	--	--	--	--	--	--	--	260	25 J	470
SRC1-J09	0	FD	11/10/2008	--	--	--	--	--	--	--	210	7.5 J	320
SRC1-J10	0	N	11/13/2008	--	--	--	--	--	--	--	35 J	3.5	61 J
SRC1-J10	0	FD	11/13/2008	--	--	--	--	--	--	--	< 2.1 UJ	< 2.1 U	4.4 J
SRC1-J11	0	N	11/14/2008	--	--	--	--	--	--	--	800	37	1700
SRC1-J12	0	N	11/13/2008	--	--	--	--	--	--	--	< 2.1 UJ	< 2.1 UJ	< 2.1 UJ
SRC1-J13	0	N	11/12/2008	--	--	--	--	--	--	--	250	16	520
SRC1-J14	0	N	11/13/2008	--	--	--	--	--	--	--	46	9.5	96
SRC1-J15	0	N	11/12/2008	--	--	--	--	--	--	--	92 J	5	140
SRC1-J15	0	FD	11/12/2008	--	--	--	--	--	--	--	< 2.1 UJ	< 2.1 U	< 2.1 U
SRC2-AI19N	0	N	9/16/2009	--	--	--	--	--	--	--	190	12	400
SRC2-AI19SE	0	N	9/16/2009	--	--	--	--	--	--	--	62	4.2	120
SRC2-AI19SW	0	N	9/16/2009	--	--	--	--	--	--	--	5.1	< 0.086 U	13
SRC2-AI19W	0	N	9/16/2009	--	--	--	--	--	--	--	12 J	< 0.11 U	25 J
SRC2-AI19W	0	FD	9/16/2009	--	--	--	--	--	--	--	33 J	< 0.13 U	69 J
SRC2-AL28C	0	N	9/11/2009	--	--	--	--	--	--	--	430	25	760
SRC2-AM27C	0	N	9/11/2009	--	--	--	--	--	--	--	110	9	240
SRC2-AM27C	0	N	9/23/2010	--	--	--	--	--	--	--	190	21	440
SRC2-AM27S-\	0	N	9/11/2009	--	--	--	--	--	--	--	41	5.3	81
SRC2-J02E	0	N	9/17/2009	--	--	--	--	--	--	--	310	16	640
SRC2-J02N	0	N	9/17/2009	--	--	--	--	--	--	--	72	4.7	160
SRC2-J02S	0	N	9/17/2009	--	--	--	--	--	--	--	46	3.5	99
SRC2-J02W	0	N	9/17/2009	--	--	--	--	--	--	--	26	2.8	58
SRC2-J03E	0	N	9/17/2009	--	--	--	--	--	--	--	10	2.7	20
SRC2-J03N	0	N	9/17/2009	--	--	--	--	--	--	--	60	6.7	130
SRC2-J03S	0	N	9/17/2009	--	--	--	--	--	--	--	2200 J	130	4100 J
SRC2-J03W	0	N	9/17/2009	--	--	--	--	--	--	--	59	3	130
SRC2-J11C	0	N	9/11/2009	--	--	--	--	--	--	--	540	40	1100
SRC2-J13C	0	N	9/11/2009	--	--	--	--	--	--	--	260	40	490
SRC2-J16S-W	0	N	9/11/2009	--	--	--	--	--	--	--	58	5.9	98
SRC2-J17S-W	0	N	9/11/2009	--	--	--	--	--	--	--	210	17	340

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs)									
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCB 105	PCB 114	PCB 118
SRC2-J18S-W	0	N	9/11/2009	--	--	--	--	--	--	--	37	< 0.16 U	58
SRC2-J18S-W	0	FD	9/11/2009	--	--	--	--	--	--	--	57	< 0.094 U	78
SRC2-J19S-W	0	N	9/14/2009	--	--	--	--	--	--	--	< 0.058 U	< 0.054 U	2.5
SRC2-J20	0	N	9/14/2009	--	--	--	--	--	--	--	140	15	250
SRC2-J21	0	N	9/14/2009	--	--	--	--	--	--	--	2300 J	110	4700 J
SRC2-J22	0	N	9/14/2009	--	--	--	--	--	--	--	90	10	170
SRC2-J23	0	N	9/14/2009	--	--	--	--	--	--	--	260	20	490
SRC2-J24	0	N	9/14/2009	--	--	--	--	--	--	--	79	3.2	140
SRC2-J25	0	N	9/14/2009	--	--	--	--	--	--	--	130	11	230
SRC2-J26	0	N	9/14/2009	--	--	--	--	--	--	--	83	5.7	160
SRC2-J27	0	N	9/14/2009	--	--	--	--	--	--	--	2.3	< 0.073 U	4.5
SRC2-J28	0	N	9/14/2009	--	--	--	--	--	--	--	2.6	< 0.058 U	4.2
SRC2-J29	0	N	9/14/2009	--	--	--	--	--	--	--	4.8	< 0.085 U	9.2
SRC2-J30	0	N	9/14/2009	--	--	--	--	--	--	--	56	6.6	110
SRC2-J31	0	N	9/14/2009	--	--	--	--	--	--	--	26	2.5	48
SRC2-J32	0	N	9/14/2009	--	--	--	--	--	--	--	2.3	< 0.064 U	3.9
SRC2-J33	0	N	9/17/2009	--	--	--	--	--	--	--	180	17	340
SRC2-J33	0	FD	9/17/2009	--	--	--	--	--	--	--	160	13	290
SRC2-J34	0	N	9/17/2009	--	--	--	--	--	--	--	76	7.1	160
SRC3-J02C2	0	N	12/8/2009	--	--	--	--	--	--	--	2.9	< 0.13 U	5.6
SRC3-J02NE	0	N	12/8/2009	--	--	--	--	--	--	--	2200	120	4100
SRC3-J02NW	0	N	12/8/2009	--	--	--	--	--	--	--	11 J	< 0.11 U	23
SRC3-J02NW	0	FD	12/8/2009	--	--	--	--	--	--	--	8.6 J	< 0.097 U	18
SRC3-J02SE	0	N	12/8/2009	--	--	--	--	--	--	--	4.1	< 0.057 U	7.6
SRC3-J02SW	0	N	12/8/2009	--	--	--	--	--	--	--	42	7.5	87
SRC3-J03C2	0	N	12/8/2009	--	--	--	--	--	--	--	270	14	550
SRC3-J03NE	0	N	12/8/2009	--	--	--	--	--	--	--	2.2	< 0.056 U	4.4
SRC3-J03NW	0	N	12/8/2009	--	--	--	--	--	--	--	< 0.042 U	< 0.041 U	< 0.038 U
SRC3-J03SE	0	N	12/8/2009	--	--	--	--	--	--	--	2100 J	130 J	3500 J
SRC3-J03SE	0	FD	12/8/2009	--	--	--	--	--	--	--	1000 J	69 J	1800 J
SRC3-J03SW	0	N	12/8/2009	--	--	--	--	--	--	--	26	< 0.11 U	62
SRC3-J11C2	0	N	12/7/2009	--	--	--	--	--	--	--	170	10	310
SRC3-J11NE	0	N	12/7/2009	--	--	--	--	--	--	--	960	51	1900 J
SRC3-J11NW	0	N	12/7/2009	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0028 U	< 0.0028 U	2000	170	4000
SRC3-J11SE	0	N	12/7/2009	--	--	--	--	--	--	--	100	5.7	200
SRC3-J11SE	0	FD	12/7/2009	--	--	--	--	--	--	--	130	6.9	240
SRC3-J11SW	0	N	12/7/2009	--	--	--	--	--	--	--	24	< 0.3 U	46

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs) Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCB 105	PCB 114	PCB 118
SRC3-J23C2	0	N	12/7/2009	--	--	--	--	--	--	--	52	3.1	94
SRC3-J23NE	0	N	12/7/2009	--	--	--	--	--	--	--	100	12	160
SRC3-J23NW	0	N	12/7/2009	--	--	--	--	--	--	--	87	5.9	150
SRC3-J23SE	0	N	12/7/2009	--	--	--	--	--	--	--	190	6.9	330
SRC3-J23SW	0	N	12/7/2009	--	--	--	--	--	--	--	390	21	670
SRC4-J02C2	0	N	3/17/2010	--	--	--	--	--	--	--	< 0.36 U	< 0.32 U	4
SRC4-J02NE2	0	N	3/17/2010	--	--	--	--	--	--	--	8.1	< 0.24 U	17
SRC4-J02NW2	0	N	3/17/2010	--	--	--	--	--	--	--	< 0.49 U	< 0.44 U	3.2 J
SRC4-J02NW2	0	FD	3/17/2010	--	--	--	--	--	--	--	2.8	< 0.37 U	6.5 J
SRC4-J02SE2	0	N	3/17/2010	--	--	--	--	--	--	--	< 0.3 U	< 0.27 U	< 0.29 U
SRC4-J02SW2	0	N	3/17/2010	--	--	--	--	--	--	--	< 0.46 U	< 0.4 U	< 0.43 U
SRC4-J03C2	0	N	3/17/2010	--	--	--	--	--	--	--	40	< 0.18 U	95
SRC4-J03NE2	0	N	3/17/2010	--	--	--	--	--	--	--	220	18	480
SRC4-J03SE2	0	N	3/17/2010	--	--	--	--	--	--	--	23	< 0.17 U	47
SRC4-J03SW2	0	N	3/17/2010	--	--	--	--	--	--	--	5.1	< 0.17 U	12
SRC4-J11CN2	0	N	3/17/2010	--	--	--	--	--	--	--	56	4.6	110
SRC4-J11CS2	0	N	3/17/2010	--	--	--	--	--	--	--	< 0.18 U	< 0.16 U	< 0.16 U
SRC4-J11E2	0	N	3/17/2010	--	--	--	--	--	--	--	< 0.15 U	< 0.13 U	< 0.14 U
SRC4-J11N2	0	N	3/17/2010	< 0.0034 U	< 0.0034 U	< 0.0034 U	< 0.0034 U	< 0.0034 U	< 0.0027 U	< 0.0027 U	3400 J	210	7400 J
SRC4-J11S2	0	N	3/17/2010	--	--	--	--	--	--	--	17	< 0.2 U	35
SRC4-J11W2	0	N	3/17/2010	--	--	--	--	--	--	--	1600 J	86	3400 J
SRC4-J23C2	0	N	3/17/2010	--	--	--	--	--	--	--	410	26	800
SRC4-J23NE2	0	N	3/17/2010	--	--	--	--	--	--	--	120	16	250
SRC4-J23NW2	0	N	3/17/2010	--	--	--	--	--	--	--	360	22	650
SRC4-J23SE2	0	N	3/17/2010	--	--	--	--	--	--	--	610	29	1100 J
SRC4-J23SE2	0	FD	3/17/2010	--	--	--	--	--	--	--	630	31	1200 J
SRC4-J23SW2	0	N	3/17/2010	--	--	--	--	--	--	--	430	21	760
SRC5-J11N2	0	N	6/21/2010	< 0.089 U	< 0.12 U	< 0.089 U	< 0.089 U	< 0.089 U	0.74 J	< 0.089 U	9600 J	720 J	23000 J
SRC5-J11N2	0	FD	6/21/2010	< 0.043 U	< 0.057 U	< 0.043 U	< 0.043 U	< 0.043 U	0.32 J	< 0.043 U	3500 J	230 J	7900 J
SRC5-J11W2	0	N	6/21/2010	< 0.0085 U	< 0.011 U	< 0.0085 U	< 0.0085 U	< 0.0085 U	< 0.0085 U	< 0.0085 U	130	12	270
SRC6-J11N3	0	N	9/21/2010	--	--	--	--	--	--	--	40 J	2.6	98 J
SRC6-J11N3	0	FD	9/21/2010	--	--	--	--	--	--	--	< 0.12 UJ	< 0.12 U	3 J

Aroclor units in mg/kg; PCB congener units in pg/g.

-- = no sample data.

= Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 5 of 8)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs)									
				PCB 123	PCB 126	PCB 156	PCB 157	PCB 167	PCB 169	PCB 189	PCB 209	PCB 77	PCB 81
SRC1-AG16	0	N	10/31/2008	< 2.1 U	6.4	23	6	8.8	< 2.1 U	4.7	890	< 2.1 U	< 2.1 U
SRC1-AG17	0	N	10/31/2008	< 2 U	40	140	31	51	5.5	27	4900	< 2 U	< 2 U
SRC1-AG18	0	N	10/31/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	43	< 2 U	< 2 U
SRC1-AH15	0	N	11/3/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
SRC1-AH15	0	FD	11/3/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AH16	0	N	11/3/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	23	< 2.1 U	< 2.1 U
SRC1-AH17	0	N	11/14/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AH18	0	N	10/31/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AH19	0	N	10/31/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 UJ	< 2 UJ
SRC1-AH19	0	FD	10/31/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
SRC1-AI17	0	N	11/3/2008	< 2 U	3.3	43	11	20	< 2 U	4.9	3200 J	< 2 U	< 2 U
SRC1-AI20	0	N	10/31/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	68	< 2.1 U	< 2.1 U
SRC1-AJ18	0	N	11/3/2008	< 2 U	< 2 U	5.3	< 2 U	< 2 U	< 2 U	< 2 U	320	< 2 U	< 2 U
SRC1-AJ19	0	N	11/14/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
SRC1-AJ20	0	N	11/5/2008	< 2.1 U	4.2	29	7.7	11	< 2.1 U	4.2	1000	< 2.1 U	< 2.1 U
SRC1-AJ21	0	N	11/6/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AJ22	0	N	11/5/2008	< 2.1 U	12	180	38	40	< 2.1 U	< 2.1 U	1900	< 2.1 U	< 2.1 U
SRC1-AJ23	0	N	11/7/2008	< 2.1 U	< 2.1 U	7.3	< 2.1 U	2.6	< 2.1 U	< 2.1 U	400	< 2.1 U	< 2.1 U
SRC1-AJ24	0	N	11/10/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	23	< 2 U	< 2 U
SRC1-AJ25	0	N	11/13/2008	< 2.1 U	2.7	20	3.6	6.3	< 2.1 U	3.2	770	< 2.1 U	< 2.1 U
SRC1-AJ26	0	N	11/13/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AJ27	0	N	11/13/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AJ28	0	N	11/13/2008	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 UJ	< 2.1 UJ	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 U
SRC1-AJ28	0	FD	11/13/2008	< 2 U	< 2 U	30 J	7.5 J	12 J	< 2 U	3.9	230 J	< 2 U	< 2 U
SRC1-AK20	0	N	11/5/2008	< 2 U	< 2 U	8.4	< 2 U	2.5	< 2 U	< 2 U	130	< 2 U	< 2 U
SRC1-AK21	0	N	11/6/2008	< 2.1 U	< 2.1 U	6.8 J	< 2.1 U	2.2	< 2.1 U	< 2.1 U	370 J	< 2.1 U	< 2.1 U
SRC1-AK21	0	FD	11/6/2008	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 U
SRC1-AK23	0	N	11/6/2008	< 2.1 U	< 2.1 U	5.2	< 2.1 U	3 J	< 2.1 UJ	< 2.1 U	180	< 2.1 UJ	< 2.1 UJ
SRC1-AK24	0	N	11/6/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
SRC1-AK25	0	N	11/10/2008	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	32	< 2 U	< 2 U
SRC1-AK26	0	N	11/7/2008	< 2.1 U	< 2.1 U	3.2	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	60	< 2.1 U	< 2.1 U
SRC1-AK27	0	N	11/12/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	27	< 2.1 U	< 2.1 U
SRC1-AL24	0	N	11/6/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	63	< 2.1 U	< 2.1 U
SRC1-AL26	0	N	11/7/2008	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-AL28	0	N	11/12/2008	< 2.1 U	5.2	56	12	20	< 2.1 U	5.8	1100	< 2.1 U	< 2.1 U
SRC1-AM27	0	N	11/10/2008	< 2.2 U	300	5000	1100	1600	75	820	170000 J	< 2.2 U	< 2.2 U
SRC1-AM28	0	N	11/12/2008	< 2.1 U	15	200	44	84	2.7	21	4800 J	< 2.1 U	< 2.1 U

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 6 of 8)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs)									
				PCB 123	PCB 126	PCB 156	PCB 157	PCB 167	PCB 169	PCB 189	PCB 209	PCB 77	PCB 81
SRC1-AN28	0	N	11/12/2008	< 2 U	24	460	140	140	< 2 U	22	640	< 2 U	< 2 U
SRC1-J01	0	N	11/3/2008	< 2.1 U	< 2.1 U	11 J	2.4	3.1	< 2.1 U	< 2.1 U	570 J	< 2.1 U	< 2.1 U
SRC1-J01	0	FD	11/3/2008	< 2.1 U	< 2.1 U	3 J	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	170 J	< 2.1 U	< 2.1 U
SRC1-J02	0	N	11/5/2008	< 2 U	3.5	31	7	13	< 2 U	5.6	1200	< 2 U	< 2 U
SRC1-J03	0	N	11/5/2008	< 2 U	20	220	50	72	< 2 U	44	7500	< 2 U	< 2 U
SRC1-J07	0	N	11/7/2008	< 2 U	3.6	18 J	4	6.8	< 2 U	2.6	870	< 2 U	< 2 U
SRC1-J09	0	N	11/10/2008	< 2 U	9.6 J	76	< 2 U	27	< 2 U	< 2 U	1700 J	< 2 U	< 2 U
SRC1-J09	0	FD	11/10/2008	< 2.1 U	6.1 J	69	16	21	< 2.1 U	8.2	1000 J	< 2.1 U	< 2.1 U
SRC1-J10	0	N	11/13/2008	< 2.1 U	< 2.1 U	12 J	3.3	4.3 J	< 2.1 U	3.5	680 J	< 2.1 U	< 2.1 U
SRC1-J10	0	FD	11/13/2008	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 U	38 J	< 2.1 U	< 2.1 U
SRC1-J11	0	N	11/14/2008	< 2.1 U	13	220	50	64	3.2	40	10000	< 2.1 U	< 2.1 U
SRC1-J12	0	N	11/13/2008	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
SRC1-J13	0	N	11/12/2008	< 2.1 U	7.5	76	18	26	< 2.1 U	13	3400 J	< 2.1 U	< 2.1 U
SRC1-J14	0	N	11/13/2008	< 2 U	< 2 U	17	3.9	5.8	< 2 U	2.5	250	< 2 U	< 2 U
SRC1-J15	0	N	11/12/2008	< 2 U	2.5	25 J	6.9 J	7.8 J	< 2 U	2.2	460 J	< 2 U	< 2 U
SRC1-J15	0	FD	11/12/2008	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 UJ	< 2.1 UJ	< 2.1 U	< 2.1 U	< 2.1 UJ	< 2.1 U	< 2.1 U
SRC2-AI19N	0	N	9/16/2009	< 0.19 U	6.1	50	12	20	< 0.23 U	10	2100 J	< 0.17 U	< 0.15 U
SRC2-AI19SE	0	N	9/16/2009	< 0.12 U	5.3	19	4.9	11	< 0.13 U	3.4	730	< 0.11 U	< 0.098 U
SRC2-AI19SW	0	N	9/16/2009	< 0.092 U	< 0.11 U	< 0.068 U	< 0.07 U	< 0.082 U	< 0.12 U	< 0.1 U	< 0.069 U	< 0.062 U	< 0.059 U
SRC2-AI19W	0	N	9/16/2009	< 0.11 U	< 0.14 U	2.8 J	< 0.067 U	< 0.078 U	< 0.098 U	< 0.14 U	98 J	< 0.079 U	< 0.071 U
SRC2-AI19W	0	FD	9/16/2009	< 0.14 U	< 0.16 U	7.8 J	2	3.9	< 0.13 U	< 0.1 U	240 J	< 0.094 U	< 0.085 U
SRC2-AL28C	0	N	9/11/2009	< 0.37 U	11	140	35	46	< 1.3 U	12	1500	< 0.28 U	< 0.26 U
SRC2-AM27C	0	N	9/11/2009	< 1 U	2.4	32	7.6	11	< 0.8 U	5.2	1900	< 0.4 U	< 0.34 U
SRC2-AM27C	0	N	9/23/2010	< 0.41 U	5.6	63	15	25	< 0.35 U	7.2	2800 J	< 0.3 U	< 0.28 U
SRC2-AM27S-'	0	N	9/11/2009	< 0.38 U	2.2	14	3.7	6.1	< 0.56 U	2.5	840	< 0.29 U	< 0.23 U
SRC2-J02E	0	N	9/17/2009	< 10 U	5.2	79	19	32	< 0.18 U	7.4	2200 J	< 21 U	< 9.7 U
SRC2-J02N	0	N	9/17/2009	< 5.8 U	2.6	25	6.3	12	< 0.2 U	7.7	2000 J	< 6.5 U	< 4.7 U
SRC2-J02S	0	N	9/17/2009	< 0.094 U	< 0.1 U	11	2.8	5.2	< 0.12 U	< 0.12 U	430	< 5.1 U	< 2.3 U
SRC2-J02W	0	N	9/17/2009	< 0.12 U	< 0.14 U	7.5	2.1	3.9	< 0.15 U	< 0.36 U	440	< 3.1 U	< 0.09 U
SRC2-J03E	0	N	9/17/2009	< 0.063 U	< 0.066 U	2.6	< 0.046 U	< 0.058 U	< 0.067 U	< 0.04 U	80	< 0.051 U	< 0.045 U
SRC2-J03N	0	N	9/17/2009	< 2.6 U	< 0.1 U	15	3.6	4.9	< 0.11 U	< 0.066 U	710	< 5 U	< 4.1 U
SRC2-J03S	0	N	9/17/2009	< 100 U	35	520	130	200	6.3	49	13000 J	< 160 U	< 95 U
SRC2-J03W	0	N	9/17/2009	< 2.4 U	< 0.14 U	16	4	6.9	< 0.13 U	2.3	580	< 5.3 U	< 2.2 U
SRC2-J11C	0	N	9/11/2009	< 4.4 U	13	180	43	64	< 4 U	32	14000 J	< 2.1 U	< 1.9 U
SRC2-J13C	0	N	9/11/2009	< 0.49 U	9	96	23	30	< 0.7 U	9.6	1200	< 0.56 U	< 0.52 U
SRC2-J16S-W	0	N	9/11/2009	< 0.35 U	3.3	22	5.2	9.5	< 0.38 U	4.3	780	< 0.28 U	< 0.25 U
SRC2-J17S-W	0	N	9/11/2009	< 0.24 U	7.2	82	19	35	< 0.71 U	10	1800	< 0.46 U	< 1.1 U

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs)									
				PCB 123	PCB 126	PCB 156	PCB 157	PCB 167	PCB 169	PCB 189	PCB 209	PCB 77	PCB 81
SRC2-J18S-W	0	N	9/11/2009	< 0.15 U	< 0.21 U	11	3.5	3.8	< 0.08 U	< 0.086 U	150	< 0.068 U	< 0.057 U
SRC2-J18S-W	0	FD	9/11/2009	< 0.091 U	< 0.12 U	17	5.1	5.3	< 0.1 U	< 0.094 U	220	< 0.065 U	< 0.056 U
SRC2-J19S-W	0	N	9/14/2009	< 0.059 U	< 0.062 U	< 0.036 U	< 0.038 U	< 0.046 U	< 0.055 U	< 0.038 U	26	< 0.045 U	< 0.042 U
SRC2-J20	0	N	9/14/2009	< 0.17 U	6	51	13	23	< 0.19 U	6.8	1200	< 0.13 U	< 0.12 U
SRC2-J21	0	N	9/14/2009	< 0.21 U	24	740	170	260	< 0.35 U	46	1300	< 0.23 U	< 0.21 U
SRC2-J22	0	N	9/14/2009	< 0.087 U	2.9	26	6.3	12	< 0.15 U	3.8	830	< 0.11 U	< 0.1 U
SRC2-J23	0	N	9/14/2009	< 0.11 U	11	92	24	47	3.4	23	4500 J	< 0.12 U	< 0.11 U
SRC2-J24	0	N	9/14/2009	< 0.12 U	< 0.13 U	21	5.4	7.8	< 0.088 U	< 0.097 U	170	< 0.095 U	< 0.09 U
SRC2-J25	0	N	9/14/2009	< 0.13 U	4.8	41	10	18	< 0.15 U	5.7	1000	< 0.097 U	< 0.09 U
SRC2-J26	0	N	9/14/2009	< 0.19 U	< 0.19 U	21	5.3	8.3	< 0.2 U	3.4	1500	< 0.12 U	< 0.11 U
SRC2-J27	0	N	9/14/2009	< 0.081 U	< 0.086 U	< 0.045 U	< 0.047 U	< 0.06 U	< 0.07 U	< 0.081 U	48	< 0.084 U	< 0.079 U
SRC2-J28	0	N	9/14/2009	< 0.063 U	< 0.064 U	< 0.046 U	< 0.047 U	< 0.058 U	< 0.069 U	< 0.054 U	21	< 0.057 U	< 0.052 U
SRC2-J29	0	N	9/14/2009	< 0.093 U	< 0.098 U	< 0.043 U	< 0.044 U	< 0.055 U	< 0.062 U	< 0.077 U	43	< 0.093 U	< 0.086 U
SRC2-J30	0	N	9/14/2009	< 0.1 U	3.3	18	4.2	9.4	< 0.11 U	2.9	570	< 0.091 U	< 0.081 U
SRC2-J31	0	N	9/14/2009	< 0.066 U	< 0.068 U	7.6	< 0.053 U	3.3	< 0.078 U	< 0.046 U	180	< 0.073 U	< 0.068 U
SRC2-J32	0	N	9/14/2009	< 0.07 U	< 0.073 U	< 0.048 U	< 0.049 U	< 0.063 U	< 0.073 U	< 0.029 U	< 0.032 U	< 0.054 U	< 0.052 U
SRC2-J33	0	N	9/17/2009	< 6.2 U	5.6	49	12	24	< 0.18 U	6.8	2100 J	< 24 U	< 13 U
SRC2-J33	0	FD	9/17/2009	< 8.5 U	4.1	40	10	20	< 0.13 U	5.6	1800	< 19 U	< 9.5 U
SRC2-J34	0	N	9/17/2009	< 3.5 U	< 0.12 U	18	4.2	6.1	< 0.11 U	< 0.049 U	550	< 4.6 U	< 4.4 U
SRC3-J02C2	0	N	12/8/2009	< 0.13 U	< 0.16 U	< 0.096 U	< 0.095 U	< 0.12 U	< 0.15 U	< 0.12 U	33	< 0.091 U	< 0.08 U
SRC3-J02NE	0	N	12/8/2009	< 110 U	28	510	120	180	6	53	23000 J	< 140 U	< 110 U
SRC3-J02NW	0	N	12/8/2009	< 0.12 U	< 0.14 U	3.1	< 0.072 U	< 0.088 U	< 0.12 U	< 0.11 U	200 J	< 0.13 U	< 0.11 U
SRC3-J02NW	0	FD	12/8/2009	< 0.1 U	< 0.13 U	2.3	< 0.042 U	< 0.05 U	< 0.067 U	< 0.068 U	110 J	< 0.073 U	< 0.064 U
SRC3-J02SE	0	N	12/8/2009	< 0.061 U	< 0.073 U	< 0.039 U	< 0.038 U	< 0.047 U	< 0.06 U	< 0.028 U	63	< 0.074 U	< 0.061 U
SRC3-J02SW	0	N	12/8/2009	< 2.4 U	< 0.36 U	11	2.3	4.5	< 0.19 U	< 0.19 U	500	< 5.1 U	< 5.7 U
SRC3-J03C2	0	N	12/8/2009	< 19 U	4.3	75	18	27	< 0.4 U	6.8	1700 J	< 26 U	< 19 U
SRC3-J03NE	0	N	12/8/2009	< 0.058 U	< 0.071 U	< 0.034 U	< 0.033 U	< 0.039 U	< 0.055 U	< 0.031 U	45	< 0.062 U	< 0.055 U
SRC3-J03NW	0	N	12/8/2009	< 0.042 U	< 0.052 U	< 0.027 U	< 0.027 U	< 0.032 U	< 0.043 U	< 0.037 U	< 0.017 U	< 0.065 U	< 0.055 U
SRC3-J03SE	0	N	12/8/2009	< 100 U	34 J	470 J	140 J	210	5.8 J	54 J	13000 J	< 170 U	< 140 U
SRC3-J03SE	0	FD	12/8/2009	< 58 U	18 J	280 J	73 J	130	2.7 J	28 J	7400 J	< 99 U	< 87 U
SRC3-J03SW	0	N	12/8/2009	< 2.9 U	< 0.13 U	6.5	< 0.072 U	3.4	< 0.11 U	< 0.073 U	200	< 3 U	< 2.7 U
SRC3-J11C2	0	N	12/7/2009	< 14 U	5.2	65	18	29	< 0.75 U	12	3700 J	< 26 U	< 12 U
SRC3-J11NE	0	N	12/7/2009	< 72 U	19	290	71	100	5.6	43	17000	< 80 U	< 78 U
SRC3-J11NW	0	N	12/7/2009	< 33 U	58	710	170	310	< 22 U	200	67000 J	< 29 U	< 25 U
SRC3-J11SE	0	N	12/7/2009	< 7 U	< 0.24 U	36	8.7	16	< 0.31 U	4.1	1200 J	< 9.8 U	< 5.5 U
SRC3-J11SE	0	FD	12/7/2009	< 9.5 U	2.8	42	10	17	< 0.42 U	4.9	1400 J	< 14 U	< 7.6 U
SRC3-J11SW	0	N	12/7/2009	< 0.33 U	< 0.38 U	8.1	< 0.094 U	2.8	< 0.15 U	< 0.079 U	250	< 2.5 U	< 0.14 U

TABLE B-7
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 8 of 8)

				Polychlorinated Biphenyls (PCBs)									
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	PCB 123	PCB 126	PCB 156	PCB 157	PCB 167	PCB 169	PCB 189	PCB 209	PCB 77	PCB 81
SRC3-J23C2	0	N	12/7/2009	< 4.5 U	< 0.35 U	19	4.9	7.2	< 0.2 U	2.8	530	< 7.6 U	< 3.3 U
SRC3-J23NE	0	N	12/7/2009	< 8.5 U	4.2	36	8.6	18	< 0.26 U	5.6	1000 J	< 10 U	< 8.7 U
SRC3-J23NW	0	N	12/7/2009	< 5.7 U	3.2	28	7.4	15	< 0.31 U	4.6	970	< 12 U	< 6.5 U
SRC3-J23SE	0	N	12/7/2009	< 15 U	7.3	74	21	40	< 1 U	19	3100 J	< 18 U	< 7.3 U
SRC3-J23SW	0	N	12/7/2009	< 30 U	6.2	150	36	50	< 0.5 U	9.7	930	< 26 U	< 14 U
SRC4-J02C2	0	N	3/17/2010	< 0.36 U	< 0.4 U	< 0.28 U	< 0.26 U	< 0.3 U	< 0.34 U	< 0.35 U	< 0.36 U	< 0.46 U	< 0.41 U
SRC4-J02NE2	0	N	3/17/2010	< 0.27 U	< 0.28 U	< 0.21 U	< 0.2 U	< 0.23 U	< 0.27 U	< 0.18 U	60	< 0.21 U	< 0.21 U
SRC4-J02NW2	0	N	3/17/2010	< 0.49 U	< 0.54 U	< 0.34 U	< 0.32 U	< 0.37 U	< 0.42 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.34 U
SRC4-J02NW2	0	FD	3/17/2010	< 0.42 U	< 0.47 U	< 0.33 U	< 0.31 U	< 0.35 U	< 0.42 U	< 0.35 U	< 0.29 U	< 0.41 U	< 0.37 U
SRC4-J02SE2	0	N	3/17/2010	< 0.31 U	< 0.33 U	< 0.16 U	< 0.14 U	< 0.17 U	< 0.2 U	< 0.2 U	< 0.12 U	< 0.26 U	< 0.25 U
SRC4-J02SW2	0	N	3/17/2010	< 0.46 U	< 0.5 U	< 0.39 U	< 0.36 U	< 0.41 U	< 0.48 U	< 0.38 U	< 0.35 U	< 0.43 U	< 0.41 U
SRC4-J03C2	0	N	3/17/2010	< 0.2 U	< 0.21 U	7.3	< 0.16 U	2.7	< 0.22 U	< 0.19 U	130	< 2.6 U	< 0.21 U
SRC4-J03NE2	0	N	3/17/2010	< 0.31 U	3.6	54	12	13	< 0.24 U	4.6	1400 J	< 0.3 U	< 0.28 U
SRC4-J03SE2	0	N	3/17/2010	< 0.19 U	< 0.21 U	6.1	< 0.13 U	< 0.15 U	< 0.18 U	< 0.19 U	170	< 0.24 U	< 0.22 U
SRC4-J03SW2	0	N	3/17/2010	< 0.19 U	< 0.2 U	< 0.14 U	< 0.13 U	< 0.16 U	< 0.17 U	< 0.21 U	< 0.069 U	< 0.18 U	< 0.17 U
SRC4-J11CN2	0	N	3/17/2010	< 0.26 U	< 0.29 U	27	5.4	8.1	< 0.3 U	5.3	1200 J	< 0.23 U	< 0.21 U
SRC4-J11CS2	0	N	3/17/2010	< 0.17 U	< 0.2 U	< 0.17 U	< 0.16 U	< 0.18 U	< 0.22 U	< 0.15 U	< 0.098 U	< 0.19 U	< 0.17 U
SRC4-J11E2	0	N	3/17/2010	< 0.14 U	< 0.17 U	< 0.13 U	< 0.12 U	< 0.14 U	< 0.17 U	< 0.19 U	< 0.091 U	< 0.2 U	< 0.18 U
SRC4-J11N2	0	N	3/17/2010	< 0.7 U	83	1000	240	350	28	180	72000 J	< 0.86 U	< 0.8 U
SRC4-J11S2	0	N	3/17/2010	< 0.22 U	< 0.27 U	6.4	< 0.2 U	< 0.21 U	< 0.3 U	< 0.34 U	180	< 0.23 U	< 0.21 U
SRC4-J11W2	0	N	3/17/2010	< 0.56 U	30	540	110	130	7.3	55	21000 J	< 0.79 U	< 0.64 U
SRC4-J23C2	0	N	3/17/2010	< 0.81 U	12	160	37	42	2.7	16	2600 J	< 0.75 U	< 0.68 U
SRC4-J23NE2	0	N	3/17/2010	< 0.54 U	6.7	44	10	11	< 0.55 U	6.2	1300 J	< 0.67 U	< 0.62 U
SRC4-J23NW2	0	N	3/17/2010	< 0.77 U	9.9	120	28	37	< 0.9 U	14	2000 J	< 0.86 U	< 0.77 U
SRC4-J23SE2	0	N	3/17/2010	< 0.61 U	12	180	40	45	< 0.35 U	15	2100 J	< 0.49 U	< 0.45 U
SRC4-J23SE2	0	FD	3/17/2010	< 0.76 U	13	190	43	39	< 0.6 U	14	1600 J	< 0.51 U	< 0.46 U
SRC4-J23SW2	0	N	3/17/2010	< 0.75 U	11	180	44	37	< 0.58 U	13	1200 J	< 0.5 U	< 0.46 U
SRC5-J11N2	0	N	6/21/2010	< 140 U	230 J	3400 J	850 J	1300 J	90 J	550 J	170000 J	< 96 U	< 84 U
SRC5-J11N2	0	FD	6/21/2010	< 51 U	75 J	1200 J	350 J	400 J	< 35 UJ	180 J	83000 J	< 33 U	< 29 U
SRC5-J11W2	0	N	6/21/2010	< 0.75 U	3	42	9.2	14	< 1.6 U	3.3	980	< 0.36 U	< 0.35 U
SRC6-J11N3	0	N	9/21/2010	< 0.26 U	< 0.24 U	12 J	2.6	2.8	< 0.27 U	< 0.24 U	940 J	< 0.2 U	< 0.19 U
SRC6-J11N3	0	FD	9/21/2010	< 0.13 U	< 0.11 U	< 0.092 UJ	< 0.089 U	< 0.11 U	< 0.083 U	< 0.098 U	22 J	< 0.095 U	< 0.094 U

Aroclor units in mg/kg; PCB congener units in pg/g.

-- = no sample data.

= Data not included in risk assessment. Sample location excavated and data replaced with post-excavation data.

TABLE B-8
SOIL RADIONUCLIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Radionuclides							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Radium-226	Radium-228	Thorium-228	Thorium-230	Thorium-232	Uranium-233/234	Uranium-235/236	Uranium-238
SRC1-AG16	0	N	10/31/2008	0.951	1.79	1.12	0.929	1.08 J	0.572	0.0416 U	0.808
SRC1-AG16	11	N	10/31/2008	0.768	1.66	2	1.16	2.09 J	1.28	0.118 U	1.09
SRC1-AG17	0	N	10/31/2008	0.943	1.63	1.47	1.06	1.36 J	1.35	0.0331 U	1.13
SRC1-AG17	11	N	10/31/2008	0.889	1.68	1.57	0.532	1.45 J	0.952	0.0458 U	1.02
SRC1-AG18	0	N	10/31/2008	0.687	1.34	1.83	1.08	1.69 J	1.22	0.0334 U	1.01
SRC1-AG18	11	N	10/31/2008	1.01	1.17	2.02	1.04	1.31 J	0.845	0.104 U	1.12
SRC1-AH15	0	N	11/3/2008	0.828	1.91	2.12	1 U	1.75	1.13	0.116 U	0.847
SRC1-AH15	0	FD	11/3/2008	1.51	1.55	2.73	1.37	1.76	0.745	-0.0259 U	0.791
SRC1-AH15	10	N	11/3/2008	0.736	1.03	1.2	1.23	1.43	1.65	0.251	1.36
SRC1-AH16	0	N	11/3/2008	0.817	1.59	1.82	1.16	1.3	1.05	-0.0135 U	0.571
SRC1-AH16	11	N	11/3/2008	0.862	1.18	2.09	1.34	1.87	1.02	-0.0186 U	0.866
SRC1-AH17	0	N	11/14/2008	0.473 U	1.74 J	1.8	1.35	1.38	0.803	0.0217 U	0.743
SRC1-AH17	11	N	11/14/2008	1.18	0.313 UJ	2.13	1.51	2.49	1.15	0.0449 U	0.863
SRC1-AH18	0	N	10/31/2008	1.38	1.41	1.74	0.927	0.525 J	0.901	0 U	1.05
SRC1-AH18	11	N	10/31/2008	0.901	1.2	1.26	0.788	0.928 J	0.93	0.0969 U	0.673
SRC1-AH19	0	N	10/31/2008	0.899	1.49	2.18	0.922	1.78 J	0.903	0.117 U	1.11
SRC1-AH19	0	FD	10/31/2008	0.605	0.895	1.62	0.482	0.994 J	1.3	0.164 U	0.892
SRC1-AH19	10	N	10/31/2008	0.722	1.61	2.23	2.59	2.49 J	1.23	0.255 U	1.31
SRC1-AI17	0	N	11/3/2008	1.18	1.17	2.37	1 U	1.35	0.737	0.224 U	0.76
SRC1-AI17	3	N	11/3/2008	0.31 U	1.46	1.47	1.17	1.66	0.341 U	0.058 U	1.11
SRC1-AI17	13	N	11/3/2008	1.29	1.27	2.74	1 U	1.41	1.23	0.0626 U	1.56
SRC1-AI20	0	N	10/31/2008	0.662 U	2.72	1.73	0.319 U	1.26 J	0.728	0.0958 U	1.02
SRC1-AI20	10	N	10/31/2008	1.59	1.53	1.9	1.26	1.23 J	1.89	0.0668 U	1.35
SRC1-AJ18	0	N	11/3/2008	1.13	1.3	3.71	1.72	1.88	0.461	0.378	0.944
SRC1-AJ18	3	N	11/3/2008	1	1.6	1.22	1.3	1.36	1.17	0.118 U	0.371
SRC1-AJ18	13	N	11/3/2008	0.657 U	1.66	1.78	1 U	1.21	0.969	0.203 U	0.658
SRC1-AJ19	0	N	11/14/2008	0.645 U	2.68 J	1.42	1 U	1.38	0.696	0.0386 U	1.05
SRC1-AJ20	0	N	11/5/2008	1.01	1.63	1.48	1 U	1.56	1 U	-0.0233 U	0.855
SRC1-AJ20	11	N	11/5/2008	1.12	1.78	1.51	1.52	1.18	1.25	0.237 U	1.19
SRC1-AJ20	21	N	11/5/2008	0.834	1.76	1.98	1 U	1.02	1.67	-0.0136 U	0.939
SRC1-AJ21	0	N	11/6/2008	1.26	2.24	1.96	0.668	1.14	0.931	0.184	0.788
SRC1-AJ21	12	N	11/6/2008	1.39	1.42	1.36	1.13	0.93	1.03	0.0428 U	1.03
SRC1-AJ22	0	N	11/5/2008	1.17	1.15	1.86	1.56	2.05	1.27	0.0171 U	0.915
SRC1-AJ22	10	N	11/5/2008	1.46	0.505 U	1.99	1.62	1.86	1.6	0.164	0.798
SRC1-AJ23	0	N	11/7/2008	0.973	1.73	1.65	1.32	1.28	0.88	0.0806 U	0.599

TABLE B-8
SOIL RADIONUCLIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Radionuclides							
				Radium-226	Radium-228	Thorium-228	Thorium-230	Thorium-232	Uranium-233/234	Uranium-235/236	Uranium-238
SRC1-AJ23	4	N	11/7/2008	0.669	2.31	2.24	1.84	2.28	0.944	0.0675 U	1.18
SRC1-AJ23	14	N	11/7/2008	0.742 U	1.79	1.56	0.878	0.993	0.52	0.064 U	0.984
SRC1-AJ24	0	N	11/10/2008	0.966	2.57	1.47	0.929	1.08	0.802	0.061 U	1.05
SRC1-AJ24	10	N	11/10/2008	0.676	2.04	1.92	0.81	1.29	0.744	0.033 U	1.12
SRC1-AJ25	0	N	11/13/2008	1.09 J-	0.378 U	1.97	1.27	1.37	1.46	0.13 U	1.3
SRC1-AJ25	3	N	11/13/2008	0.973 J-	1.78	1.98	0.941	1.11	1.96	0.0601 U	1.59
SRC1-AJ25	13	N	11/13/2008	1.4 J-	1.89	1.69	1.55	1.35	1.15	0.0173 U	1.65
SRC1-AJ26	0	N	11/13/2008	0.61 J-	1.44	2.2	0.789	2.26	1.06	0.109 U	1.22
SRC1-AJ26	11	N	11/13/2008	0.573 J-	1.19	0.943	0.911	2.44	1.31	0.0931 U	0.83
SRC1-AJ27	0	N	11/13/2008	0.946 J-	2.04	1.47	0.952	0.883	0.793	0.147 U	0.804
SRC1-AJ27	10	N	11/13/2008	0.438 J-	1.88	1.83	0.951	1.85	0.911	-0.0133 U	1.39
SRC1-AJ28	0	N	11/13/2008	0.902 J-	2.35	1.38 J	0.345 U	1.48	1.09	0.0716 U	1.05
SRC1-AJ28	0	FD	11/13/2008	0.474 J-	1.89	2.6 J	0.494	1.79	0.815	0.14	0.721
SRC1-AJ28	12	N	11/13/2008	1.32 J-	2.37	1.06	1.3	1.35	0.99	0.0155 U	0.931
SRC1-AK20	0	N	11/5/2008	1.01	1.26	1.93	1.49	1.31	1.36	0.412	1.33
SRC1-AK20	0	FD	11/5/2008	1.33	1.3	1.22	1.06	1.17	1.06	0.127 U	0.955
SRC1-AK20	9	N	11/5/2008	1.07	1.09	1.72	1.42	1.42	1.54	0 U	1.17
SRC1-AK20	19	N	11/5/2008	1.05	2.23	2.43	1 U	1.42	1.33	0.165 U	0.911
SRC1-AK21	0	N	11/6/2008	1.43	2.29	1.61	0.848	1.75	0.629	-0.0355 U	0.737
SRC1-AK21	0	FD	11/6/2008	0.572	1.53	1.8	0.898	1.37	1.03	0.0871 U	0.972
SRC1-AK21	8	N	11/6/2008	1.21	1.22	1.36	0.998	0.975	1.06	0.178	0.925
SRC1-AK21	18	N	11/6/2008	0.513	1.98	1.49	1.19	1.34	1.5	0.133 U	1.34
SRC1-AK23	0	N	11/6/2008	1.03	1.26	1.93	0.613	1.05	1.06	0.0514 U	0.892
SRC1-AK23	4	N	11/6/2008	1.19	1.56	1.76	0.926	1.63	1.01	0.108 U	0.576
SRC1-AK23	14	N	11/6/2008	0.866	1.97	1.58	0.839	1.44	1	0.0386 U	0.898
SRC1-AK24	0	N	11/6/2008	1.52	2.03	1.76	1.27	1.2	1.03	0.0334 U	0.939
SRC1-AK24	10	N	11/6/2008	0.952	1.67	1.59	0.79	1.44	1.01	0.00134 U	1.01
SRC1-AK25	0	N	11/10/2008	0.87	2.05	1.28	1.08	1.7	1.12	0.111 U	1.37
SRC1-AK25	11	N	11/10/2008	0.373	2.35	1.23	1.22	1.14	1.07	0.15	1.2
SRC1-AK26	0	N	11/7/2008	0.519 J	2.24	1.8	0.755	1.32	0.583	-0.0247 U	0.832
SRC1-AK26	0	FD	11/7/2008	2.39 J	1.71	1.35	1.28	1.01	1.05	0.0469 U	1.13
SRC1-AK26	10	N	11/7/2008	0.701 U	1.42	1.28	0.982	0.891	1.18	0.0445 U	1.02
SRC1-AK27	0	N	11/12/2008	0.0949 U	1.78 J	1.09	0.577	2	0.734 J	-0.0285 U	0.89
SRC1-AK27	3	N	11/12/2008	1.02	0.738 UJ	1.47	1.85	1.49	2.4 J	-0.0801 U	1.8
SRC1-AK27	13	N	11/12/2008	0.879	1.14 J	1.37	0.797	1.22	0.828	-0.0384 U	0.854

TABLE B-8
SOIL RADIONUCLIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Radionuclides							
				Radium-226	Radium-228	Thorium-228	Thorium-230	Thorium-232	Uranium-233/234	Uranium-235/236	Uranium-238
SRC1-AL24	0	N	11/6/2008	1.23	1.31	1.54	1.08	1.31	1.05	0 U	0.563
SRC1-AL24	8	N	11/6/2008	0.154 U	1.34	1.42	0.975	1.27	0.648	-0.0124 U	1.25
SRC1-AL24	18	N	11/6/2008	1.02	1.09	1.75	0.942	1.44	1.23	-0.19 U	0.698
SRC1-AL26	0	N	11/7/2008	0.592 U	2.28	1.74	1.45	2.41	0.871	0.0176 U	1.01
SRC1-AL26	11	N	11/7/2008	1.46	3.03	1.7	0.997	1.98	1.04	-0.0383 U	1.28
SRC1-AL28	0	N	11/12/2008	0.858	3.25	1.74	1.04	1.07	1.2 J	0.0733 U	1.28
SRC1-AL28	4	N	11/12/2008	1.14	1.81 J	2.11	0.97	1.37	2.4 J	0.115 U	2.24
SRC1-AL28	14	N	11/12/2008	0.935	1.89 J	2.21	1.42	1.71	0.984 J	0.0987 U	1.14
SRC1-AM27	0	N	11/10/2008	1.13	2.13	1.28	0.746	1.09	1.11	0.0267 U	0.723
SRC1-AM27	3	N	11/10/2008	0.94	2.33	1.62	1.05	1.37	0.587	-0.0153 U	0.832
SRC1-AM27	13	N	11/10/2008	1.06	2.08	1.37	1.01	1.45	0.888	-0.0595 U	1.11
SRC1-AM28	0	N	11/12/2008	0.919	1.59	1.59	0.679	0.954	1.1 J	0.0773 U	1.41
SRC1-AM28	7	N	11/12/2008	0.993	1.46	1.72	0.704	1.24	1.19 J	0.196 U	0.952
SRC1-AM28	7	FD	11/12/2008	0.854	1.65	2.09	0.529	1.57	1.22 J	0.0733 U	0.446
SRC1-AM28	17	N	11/12/2008	0.753	1.56	1.9	1.13	1.42	1.08 J	0.0316 U	1.14
SRC1-AN28	0	N	11/12/2008	0.58	3.18 J	1.99	1.07	1.58	0.457 J	0 U	0.784
SRC1-AN28	11	N	11/12/2008	1.07	2.59 J	1.74	2.49	1.58	1.31 J	-0.0254 U	1.16
SRC1-J01	0	N	11/3/2008	0.547 U	1.32	2.23	2.17	1.71	0.84	0.0568 U	0.54
SRC1-J01	0	FD	11/3/2008	1.32	1.55	2.04	1.26	1.22	0.816	0.0494 U	0.973
SRC1-J01	11	N	11/3/2008	0.987	1.27	1.74	1 U	1.36	0.9	0.255 U	1.03
SRC1-J02	0	N	11/5/2008	1.08	0.953	1.86	1.51	1.35	1.24	0.242 U	0.73
SRC1-J02	3	N	11/5/2008	1.53	1.29	1.87	1.39	0.962	1 U	-0.0138 U	0.5
SRC1-J02	13	N	11/5/2008	0.962	1.2	1.73	1.12	1.7	1.18	0 U	0.842
SRC1-J03	0	N	11/5/2008	1.11	1.35	1.73	1.26	1.24	1 U	0.243 U	0.758
SRC1-J03	5	N	11/5/2008	1.18	1.51	1.63	1.07	1.86	1.15	0.224 U	1.08
SRC1-J03	15	N	11/5/2008	1.83	0.747 U	1.31	1.01	2.01	1 U	0.252	1.04
SRC1-J07	0	N	11/7/2008	0.261 U	2.8	1.75	0.836	1.84	1.42	0.0484 U	1.12
SRC1-J07	10	N	11/7/2008	0.783	1.3	1.66	0.945	1.25	1.45	0.114 U	0.853
SRC1-J09	0	N	11/10/2008	0.93	2.23	2.04	0.675	0.962	1.05 J	0.093 U	1.09
SRC1-J09	0	FD	11/10/2008	0.778	2.3	1.71	1.11	1.75	2.09 J	0.0864	0.676
SRC1-J09	11	N	11/10/2008	0.714	2.32	1.96	1.13	1.49	1.17	0.103 U	0.939
SRC1-J10	0	N	11/13/2008	0.821 J-	2.04 J	0.928 J	0.737	0.789 J	0.998	0.191 U	0.732
SRC1-J10	0	FD	11/13/2008	0.969 J-	1 UJ	2.42 J	0.869	2.5 J	0.725	0.0888 U	0.857
SRC1-J10	11	N	11/13/2008	0.486 J-	1.34	2.25	0.762	1.57	1.51	0.113 U	1.2
SRC1-J11	0	N	11/14/2008	1.16	1.9 J	2.15	1.32	1.41	0.971	0 U	1.04

TABLE B-8
SOIL RADIONUCLIDES DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Radionuclides							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Radium-226	Radium-228	Thorium-228	Thorium-230	Thorium-232	Uranium-233/234	Uranium-235/236	Uranium-238
SRC1-J11	10	N	11/14/2008	0.623	1.04 J	1.15	1.09	1.23	1.33	0.0949	1.17
SRC1-J12	0	N	11/13/2008	1.1 J-	1.11	1.83	0.502	1.97	1.28	0.0399 U	1.15
SRC1-J12	12	N	11/13/2008	1.14 J-	1.63	1.32	0.637	1.68	0.888	0 U	1.08
SRC1-J13	0	N	11/12/2008	0.635	0.877	2.51	1.03	1.26	1.21 J	0.145 U	1.15
SRC1-J13	3	N	11/12/2008	1.45	1.54	2.83	1.33	1.86	1.31 J	0.069 U	0.735
SRC1-J13	13	N	11/12/2008	0.916	0.988	1.86	1.35	1.7	1.73	0.05 U	1.41
SRC1-J14	0	N	11/13/2008	0.464 J-	2.77	1.94	0.458	1.46	1.1	0.16 U	0.389
SRC1-J14	12	N	11/13/2008	0.514 J-	1.74	1.92	0.825	2.23	0.486	0.129 U	0.957
SRC1-J15	0	N	11/12/2008	0.817	2.48 J	2.79 J	0.807	1.76	1.54 J	0.0391 U	0.929
SRC1-J15	0	FD	11/12/2008	1.02	2.2 J	1.48 J	0.723	1.5	0.876 J	0.104 U	0.8
SRC1-J15	12	N	11/12/2008	1.66	1.18 J	1.64	1.87	1.29	3.36 J	0.0785 U	2.21
SRC2-J20	0	N	9/14/2009	0.945	2.2	1.16	0.792	1.75	0.611	-0.0604 U	0.75
SRC2-J21	0	N	9/14/2009	1.45	1.3	1.89	1.6	1.8	2.9	-0.0506 U	1.88
SRC2-J22	0	N	9/14/2009	0.695	2.48	1.97	0.643	1.49	0.842	0.0689 U	0.534
SRC2-J23	0	N	9/14/2009	0.745	1.28	1.94	0.642	2.8	0.534 U	-0.0678 U	0.762
SRC2-J24	0	N	9/14/2009	0.476	2.81	1.01	0.924	1.19	0.954	0.0964 U	1.21
SRC2-J25	0	N	9/14/2009	0.585	1.37	1.43	0.565	1.91	0.663	0.0732 U	0.411 U
SRC2-J26	0	N	9/14/2009	0.46	1.47	1.62	0.552 U	1.19	1.31	0.156 U	0.791
SRC2-J27	0	N	9/14/2009	0.622	1.78	0.663 U	0.379 U	1.55	0.606	0 U	0.878
SRC2-J28	0	N	9/14/2009	1.14	2.07	1.24	0.423	1.44	0.811	-0.0204 U	0.898
SRC2-J29	0	N	9/14/2009	0.193 U	3.64	1.52	0.772	1.26	0.341 U	0.246 U	0.866
SRC2-J30	0	N	9/14/2009	1.03	2.15	1.44	1.17	2.16	1.49	0.0897 U	1.09
SRC2-J31	0	N	9/14/2009	0.669	1.38	2.07	0.853	1.77	0.873	-0.044 U	0.614
SRC2-J32	0	N	9/14/2009	0.868	1.62	2.2	1.06	2.67	0.946	0.2 U	1.29
SRC2-J33	0	N	9/17/2009	0.773	2.98	1.66	0.831	1.8	0.86	0.0733 U	0.568
SRC2-J33	0	FD	9/17/2009	0.858	2.26	1.86	1.09	1.01	0.975	-0.0453 U	0.917
SRC2-J34	0	N	9/17/2009	0.489	2.58	1.31	0.306 U	1.5	0.919	0 U	1.03

All units in pCi/g.
-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 28)

				Aldehydes		Semi-Volatile Organic Compounds (SVOCs)							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Acetaldehyde	Formaldehyde	1,2,4,5-Tetrachloro-benzene	1,2-Diphenylhydrazine	1,4-Dioxane	2,2'-Dichlorobenzil	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
SRC1-AG16	0	N	10/31/2008	< 0.303 U	< 1.01 U	< 0.0694 U	< 0.0694 U	< 0.0694 UJ	< 0.115 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U
SRC1-AG16	11	N	10/31/2008	< 0.318 U	1.06 J	< 0.072 U	< 0.072 U	< 0.072 UJ	< 0.119 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U
SRC1-AG17	0	N	10/31/2008	< 0.303 U	< 0.202 U	< 0.0681 U	< 0.0681 U	< 0.0681 UJ	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC1-AG17	11	N	10/31/2008	< 0.314 U	< 1.05 U	< 0.0709 U	< 0.0709 U	< 0.0709 UJ	< 0.117 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.0709 U
SRC1-AG18	0	N	10/31/2008	< 0.305 U	< 1.02 U	< 0.0686 U	< 0.0686 U	< 0.0686 UJ	< 0.113 U	< 0.0686 U	< 0.0686 U	< 0.0686 U	< 0.0686 U
SRC1-AG18	11	N	10/31/2008	< 0.315 U	< 0.21 U	< 0.0705 U	< 0.0705 U	< 0.0705 UJ	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U
SRC1-AH15	0	N	11/3/2008	< 0.157 U	0.179 J	< 0.0681 U	< 0.0681 U	< 0.0681 UJ	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC1-AH15	0	FD	11/3/2008	< 0.173 U	< 0.115 U	< 0.0685 U	< 0.0685 U	< 0.0685 UJ	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U
SRC1-AH15	10	N	11/3/2008	< 0.183 U	0.123 J	< 0.0724 U	< 0.0724 U	< 0.0724 UJ	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.0724 U
SRC1-AH16	0	N	11/3/2008	< 0.51 U	< 0.102 U	< 0.0683 U	< 0.0683 U	< 0.0683 UJ	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U
SRC1-AH16	11	N	11/3/2008	< 0.564 U	< 0.113 U	< 0.071 U	< 0.071 U	< 0.071 UJ	< 0.117 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U
SRC1-AH17	0	N	11/14/2008	< 0.154 U	0.168 J+	< 0.0683 U	< 0.0683 U	< 0.0683 UJ	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U
SRC1-AH17	11	N	11/14/2008	< 0.158 U	0.168 J+	< 0.0714 U	< 0.0714 U	< 0.0714 UJ	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U
SRC1-AH18	0	N	10/31/2008	< 0.417 U	1.39 J	< 0.0679 U	< 0.0679 U	< 0.0679 UJ	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U
SRC1-AH18	11	N	10/31/2008	< 0.312 U	< 1.04 U	< 0.0699 U	< 0.0699 U	< 0.0699 UJ	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U
SRC1-AH19	0	N	10/31/2008	< 0.308 U	< 1.03 U	< 0.068 U	< 0.068 U	< 0.068 UJ	< 0.112 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U
SRC1-AH19	0	FD	10/31/2008	< 0.309 U	< 1.03 U	< 0.0683 U	< 0.0683 U	< 0.0683 UJ	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U
SRC1-AH19	10	N	10/31/2008	< 0.313 U	< 1.04 U	< 0.0699 U	< 0.0699 U	< 0.0699 UJ	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U
SRC1-AI17	0	N	11/3/2008	< 0.31 U	< 1.03 U	< 0.069 U	< 0.069 U	< 0.069 UJ	< 0.114 U	< 0.069 U	< 0.069 U	< 0.069 U	< 0.069 U
SRC1-AI17	3	N	11/3/2008	< 0.314 U	< 1.05 U	< 0.0723 U	< 0.0723 U	< 0.0723 UJ	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U
SRC1-AI17	13	N	11/3/2008	< 0.32 U	< 1.07 U	< 0.0717 U	< 0.0717 U	< 0.0717 UJ	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.0717 U
SRC1-AI20	0	N	10/31/2008	< 0.303 U	< 1.01 U	< 0.0676 U	< 0.0676 U	< 0.0676 UJ	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U
SRC1-AI20	10	N	10/31/2008	< 0.311 U	< 1.04 U	< 0.071 U	< 0.071 U	< 0.071 UJ	< 0.117 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U
SRC1-AJ18	0	N	11/3/2008	< 0.305 U	< 1.02 U	< 0.0677 U	< 0.0677 U	< 0.0677 UJ	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U
SRC1-AJ18	3	N	11/3/2008	< 0.312 U	< 1.04 U	< 0.0702 U	< 0.0702 U	< 0.0702 UJ	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-AJ18	13	N	11/3/2008	< 0.314 U	< 1.05 U	< 0.0708 U	< 0.0708 U	< 0.0708 UJ	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U
SRC1-AJ19	0	N	11/14/2008	< 0.156 U	0.315 J+	< 0.0685 U	< 0.0685 U	< 0.0685 UJ	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U
SRC1-AJ19	11	N	11/14/2008	< 0.156 U	0.234 J+	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.151 U	< 0.101 U	< 0.0683 U	< 0.0683 U	< 0.0683 UJ	< 0.0116 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U
SRC1-AJ20	11	N	11/5/2008	< 0.159 U	< 0.106 U	< 0.0711 U	< 0.0711 U	< 0.0711 UJ	< 0.0121 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U
SRC1-AJ20	21	N	11/5/2008	< 0.159 U	< 0.106 U	< 0.0713 U	< 0.0713 U	< 0.0713 UJ	< 0.0121 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0713 U
SRC1-AJ21	0	N	11/6/2008	< 0.324 U	< 1.08 U	< 0.0717 U	< 0.0717 U	< 0.0717 UJ	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.0717 U
SRC1-AJ21	12	N	11/6/2008	< 0.316 U	< 1.05 U	< 0.0723 U	< 0.0723 U	< 0.0723 UJ	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U
SRC1-AJ22	0	N	11/5/2008	< 0.153 U	0.162 J	< 0.0708 U	< 0.0708 U	< 0.0708 UJ	< 0.012 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U
SRC1-AJ22	10	N	11/5/2008	< 0.155 U	< 0.103 U	< 0.0729 U	< 0.0729 U	< 0.0729 UJ	< 0.0124 U	< 0.0729 U	< 0.0729 U	< 0.0729 U	< 0.0729 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Aldehydes		Semi-Volatile Organic Compounds (SVOCs)							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Acetaldehyde	Formaldehyde	1,2,4,5-Tetrachloro-benzene	1,2-Diphenylhydrazine	1,4-Dioxane	2,2'-Dichlorobenzil	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
SRC1-AJ23	0	N	11/7/2008	< 0.155 U	0.122 J	< 0.0706 U	< 0.0706 U	< 0.0706 UJ	< 0.117 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.0706 U
SRC1-AJ23	4	N	11/7/2008	< 0.158 U	< 0.105 U	< 0.0714 U	< 0.0714 U	< 0.0714 UJ	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U
SRC1-AJ23	14	N	11/7/2008	< 0.167 U	< 0.111 U	< 0.0712 U	< 0.0712 U	< 0.0712 UJ	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.0712 U
SRC1-AJ24	0	N	11/10/2008	< 0.157 U	0.308 J	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC1-AJ24	10	N	11/10/2008	< 0.165 U	< 0.11 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U
SRC1-AJ25	0	N	11/13/2008	0.17 J	0.362 J	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.0691 U
SRC1-AJ25	3	N	11/13/2008	< 0.159 U	0.118 J	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-AJ25	13	N	11/13/2008	< 0.16 U	0.111 J	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.12 U	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.0726 U
SRC1-AJ26	0	N	11/13/2008	< 0.153 UJ	< 0.102 UJ	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U
SRC1-AJ26	11	N	11/13/2008	< 0.158 UJ	0.242 J	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U
SRC1-AJ27	0	N	11/13/2008	< 0.162 UJ	< 0.108 UJ	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U
SRC1-AJ27	10	N	11/13/2008	< 0.157 UJ	0.116 J	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.0697 U
SRC1-AJ28	0	N	11/13/2008	< 0.157 UJ	0.349 J	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.0697 U
SRC1-AJ28	0	FD	11/13/2008	--	--	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.113 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.0688 U
SRC1-AJ28	12	N	11/13/2008	--	--	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.0703 U
SRC1-AK20	0	N	11/5/2008	< 0.152 U	0.459 J	< 0.068 U	< 0.068 U	< 0.068 UJ	< 0.0116 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U
SRC1-AK20	0	FD	11/5/2008	< 0.156 U	0.376 J	< 0.0702 U	< 0.0702 U	< 0.0702 UJ	< 0.0119 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-AK20	9	N	11/5/2008	< 0.155 U	0.398 J	< 0.071 U	< 0.071 U	< 0.071 UJ	< 0.0121 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U
SRC1-AK20	19	N	11/5/2008	< 0.159 U	0.18 J	< 0.0719 U	< 0.0719 U	< 0.0719 UJ	< 0.0122 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0719 U
SRC1-AK21	0	N	11/6/2008	< 0.305 U	< 1.02 U	< 0.0696 U	< 0.0696 U	< 0.0696 UJ	< 0.115 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0696 U
SRC1-AK21	0	FD	11/6/2008	< 0.316 U	< 1.05 U	< 0.0699 U	< 0.0699 U	< 0.0699 UJ	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U
SRC1-AK21	8	N	11/6/2008	< 0.312 U	< 1.04 U	< 0.0711 U	< 0.0711 U	< 0.0711 UJ	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U
SRC1-AK21	18	N	11/6/2008	< 0.323 U	1.08 J	< 0.0719 U	< 0.0719 U	< 0.0719 UJ	< 0.119 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0719 U
SRC1-AK23	0	N	11/6/2008	< 0.306 U	1.02 J	< 0.0707 U	< 0.0707 U	< 0.0707 UJ	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U
SRC1-AK23	4	N	11/6/2008	< 0.322 U	< 1.07 U	< 0.0724 U	< 0.0724 U	< 0.0724 UJ	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.0724 U
SRC1-AK23	14	N	11/6/2008	< 0.323 U	< 1.08 U	< 0.072 U	< 0.072 U	< 0.072 UJ	< 0.119 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U
SRC1-AK24	0	N	11/6/2008	< 0.313 U	1.3	< 0.0682 U	< 0.0682 U	< 0.0682 UJ	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U
SRC1-AK24	10	N	11/6/2008	< 0.312 U	1.04 J	< 0.0712 U	< 0.0712 U	< 0.0712 UJ	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.0712 U
SRC1-AK24	13	N	11/12/2008	< 0.157 U	< 0.105 U	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.154 U	< 0.103 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U
SRC1-AK25	11	N	11/10/2008	< 0.158 U	< 0.106 U	< 0.0721 U	< 0.0721 U	< 0.0721 U	< 0.119 U	< 0.0721 U	< 0.0721 U	< 0.0721 U	< 0.0721 U
SRC1-AK26	0	N	11/7/2008	< 0.152 U	0.404 J	< 0.07 U	< 0.07 U	< 0.07 UJ	< 0.116 U	< 0.07 U	< 0.07 U	< 0.07 U	< 0.07 U
SRC1-AK26	0	FD	11/7/2008	< 0.153 U	0.396 J	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.0691 U
SRC1-AK26	10	N	11/7/2008	< 0.158 U	0.146 J	< 0.0707 U	< 0.0707 U	< 0.0707 UJ	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U
SRC1-AK27	0	N	11/12/2008	< 0.154 U	0.262 J+	< 0.0682 U	< 0.0682 U	< 0.0682 UJ	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Aldehydes		Semi-Volatile Organic Compounds (SVOCs)							
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Acetaldehyde	Formaldehyde	1,2,4,5-Tetrachloro-benzene	1,2-Diphenylhydrazine	1,4-Dioxane	2,2'-Dichlorobenzil	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
SRC1-AK27	3	N	11/12/2008	< 0.157 U	< 0.105 U	< 0.0715 U	< 0.0715 U	< 0.0715 UJ	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.0715 U
SRC1-AK27	13	N	11/12/2008	--	--	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U
SRC1-AL24	0	N	11/6/2008	< 0.305 U	< 1.02 U	< 0.0711 U	< 0.0711 U	< 0.0711 UJ	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U
SRC1-AL24	8	N	11/6/2008	< 0.314 U	< 1.05 U	< 0.0714 U	< 0.0714 U	< 0.0714 UJ	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U
SRC1-AL24	18	N	11/6/2008	< 0.317 U	< 0.212 U	< 0.0714 U	< 0.0714 U	< 0.0714 UJ	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U
SRC1-AL26	0	N	11/7/2008	< 0.164 U	0.118 J	< 0.0705 U	< 0.0705 U	< 0.0705 UJ	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U
SRC1-AL26	11	N	11/7/2008	--	--	< 0.0716 U	< 0.0716 U	< 0.0716 U	< 0.118 U	< 0.0716 U	< 0.0716 U	< 0.0716 U	< 0.0716 U
SRC1-AL28	0	N	11/12/2008	< 0.153 U	0.338 J+	< 0.0677 U	< 0.0677 U	< 0.0677 UJ	< 0.112 U	< 0.0677 UJ	< 0.0677 UJ	< 0.0677 UJ	< 0.0677 UJ
SRC1-AL28	4	N	11/12/2008	< 0.161 U	2.15	< 0.0731 U	< 0.0731 U	< 0.0731 UJ	< 0.121 U	< 0.0731 U	< 0.0731 U	< 0.0731 U	< 0.0731 U
SRC1-AL28	14	N	11/12/2008	< 0.157 U	0.169 J+	< 0.0714 U	< 0.0714 U	< 0.0714 UJ	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U
SRC1-AM27	0	N	11/10/2008	< 0.157 U	2.52	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U
SRC1-AM27	3	N	11/10/2008	< 0.156 U	< 0.521 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.0693 U
SRC1-AM27	13	N	11/10/2008	< 0.163 U	< 0.543 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.0703 U
SRC1-AM28	0	N	11/12/2008	< 0.156 U	0.369 J+	< 0.0681 U	< 0.0681 U	< 0.0681 UJ	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC1-AM28	7	N	11/12/2008	< 0.16 U	0.691	< 0.0693 U	< 0.0693 U	< 0.0693 UJ	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.0693 U
SRC1-AM28	7	FD	11/12/2008	< 0.158 U	0.359 J+	< 0.0744 U	< 0.0744 U	< 0.0744 UJ	< 0.123 U	< 0.0744 U	< 0.0744 U	< 0.0744 U	< 0.0744 U
SRC1-AM28	17	N	11/12/2008	< 0.157 U	0.271 J+	< 0.0702 U	< 0.0702 U	< 0.0702 UJ	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-AN28	0	N	11/12/2008	< 0.154 U	0.95	< 0.0695 U	< 0.0695 U	< 0.0695 UJ	< 0.115 U	< 0.0695 U	< 0.0695 U	< 0.0695 U	< 0.0695 U
SRC1-AN28	11	N	11/12/2008	< 0.157 U	0.227 J+	< 0.0706 U	< 0.0706 U	< 0.0706 UJ	< 0.116 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.0706 U
SRC1-J01	0	N	11/3/2008	< 0.302 U	< 1.01 U	< 0.0683 U	< 0.0683 U	< 0.0683 UJ	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U
SRC1-J01	0	FD	11/3/2008	< 0.304 U	< 1.01 U	< 0.0674 U	< 0.0674 U	< 0.0674 UJ	< 0.111 U	< 0.0674 U	< 0.0674 U	< 0.0674 U	< 0.0674 U
SRC1-J01	11	N	11/3/2008	< 0.317 U	< 1.06 U	< 0.0713 U	< 0.0713 U	< 0.0713 UJ	< 0.118 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0713 U
SRC1-J02	0	N	11/5/2008	< 0.303 U	1.01 J	< 0.0689 U	< 0.0689 U	< 0.0689 UJ	< 0.0117 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0689 U
SRC1-J02	3	N	11/5/2008	< 0.31 U	< 0.207 U	< 0.0694 U	< 0.0694 U	< 0.0694 UJ	< 0.0118 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U
SRC1-J02	13	N	11/5/2008	< 0.318 U	< 1.06 U	< 0.0704 U	< 0.0704 U	< 0.0704 UJ	< 0.012 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U
SRC1-J03	0	N	11/5/2008	< 0.153 U	0.12 J	< 0.0696 U	< 0.0696 U	< 0.0696 UJ	< 0.0118 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0696 U
SRC1-J03	5	N	11/5/2008	< 0.159 U	0.927	< 0.0723 U	< 0.0723 U	< 0.0723 UJ	< 0.0123 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U
SRC1-J03	15	N	11/5/2008	< 0.159 U	0.495 J	< 0.0705 U	< 0.0705 U	< 0.0705 UJ	< 0.012 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U
SRC1-J07	0	N	11/7/2008	< 0.155 U	0.649	< 0.0685 U	< 0.0685 U	< 0.0685 UJ	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U
SRC1-J07	10	N	11/7/2008	< 0.164 U	0.11 J	< 0.071 U	< 0.071 U	< 0.071 UJ	< 0.117 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U
SRC1-J09	0	N	11/10/2008	< 0.154 U	0.786	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.114 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0689 U
SRC1-J09	0	FD	11/10/2008	< 0.153 U	0.418 J	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.112 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U
SRC1-J09	11	N	11/10/2008	< 0.164 U	< 0.109 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U
SRC1-J10	0	N	11/13/2008	< 0.156 UJ	0.19 J	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-J10	0	FD	11/13/2008	< 0.161 UJ	0.158 J	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Aldehydes		Semi-Volatile Organic Compounds (SVOCs)							
				Acetaldehyde	Formaldehyde	1,2,4,5-Tetrachloro-benzene	1,2-Diphenylhydrazine	1,4-Dioxane	2,2'-Dichlorobenzil	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
SRC1-J10	11	N	11/13/2008	< 0.158 UJ	0.438 J	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U
SRC1-J11	0	N	11/14/2008	< 0.153 U	0.155 J	< 0.0688 U	< 0.0688 U	< 0.0688 UJ	< 0.114 U	< 0.0691 UJ	< 0.0691 UJ	< 0.0691 UJ	< 0.0691 UJ
SRC1-J11	10	N	11/14/2008	< 0.158 U	0.319 J+	< 0.0709 U	< 0.0709 U	< 0.0709 UJ	< 0.117 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.0709 U
SRC1-J12	0	N	11/13/2008	< 0.159 UJ	0.114 J	< 0.067 U	< 0.067 U	< 0.067 U	< 0.111 U	< 0.067 U	< 0.067 U	< 0.067 U	< 0.067 U
SRC1-J12	12	N	11/13/2008	< 0.154 UJ	0.294 J	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-J13	0	N	11/12/2008	< 0.16 U	0.121 J+	< 0.0676 U	< 0.0676 U	< 0.0676 UJ	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U
SRC1-J13	3	N	11/12/2008	< 0.161 U	0.379 J	< 0.0715 U	< 0.0715 U	< 0.0715 UJ	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.0715 U
SRC1-J13	13	N	11/12/2008	< 0.159 U	0.143 J+	< 0.0707 U	< 0.0707 U	< 0.0707 UJ	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U
SRC1-J14	0	N	11/13/2008	< 0.156 UJ	0.187 J	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U
SRC1-J14	12	N	11/13/2008	< 0.162 UJ	0.143 J	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.116 U	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.0701 U
SRC1-J15	0	N	11/12/2008	< 0.156 U	0.169 J+	< 0.0702 U	< 0.0702 U	< 0.0702 UJ	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U
SRC1-J15	0	FD	11/12/2008	< 0.159 U	0.139 J+	< 0.0694 U	< 0.0694 U	< 0.0694 UJ	< 0.114 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U
SRC1-J15	12	N	11/12/2008	< 0.163 U	0.315 J+	< 0.072 U	< 0.072 U	< 0.072 UJ	< 0.119 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U
SRC2-J20	0	N	9/14/2009	--	--	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.111 U	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.0671 U
SRC2-J21	0	N	9/14/2009	--	--	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U
SRC2-J22	0	N	9/14/2009	--	--	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.0678 U
SRC2-J23	0	N	9/14/2009	--	--	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.111 U	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.0675 U
SRC2-J24	0	N	9/14/2009	--	--	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U
SRC2-J25	0	N	9/14/2009	--	--	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC2-J26	0	N	9/14/2009	--	--	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U
SRC2-J27	0	N	9/14/2009	--	--	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC2-J28	0	N	9/14/2009	< 0.155 UJ	0.492 J	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.0678 U
SRC2-J29	0	N	9/14/2009	--	--	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U
SRC2-J30	0	N	9/14/2009	--	--	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U
SRC2-J31	0	N	9/14/2009	--	--	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U
SRC2-J32	0	N	9/14/2009	--	--	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U

All units in mg/kg.

-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 5 of 28)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3,3-Dichlorobenzidine	3-Nitroaniline
SRC1-AG16	0	N	10/31/2008	< 0.132 U	< 0.0347 U	< 0.0347 U	< 0.0122 U	< 0.0694 U	< 0.00694 U	< 0.0694 U	< 0.0347 U	< 0.104 U	< 0.0694 U
SRC1-AG16	11	N	10/31/2008	< 0.137 U	< 0.036 U	< 0.036 U	< 0.0126 U	< 0.072 U	< 0.0072 U	< 0.072 U	< 0.036 U	< 0.108 U	< 0.072 U
SRC1-AG17	0	N	10/31/2008	< 0.129 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.0341 U	< 0.102 U	< 0.0681 U
SRC1-AG17	11	N	10/31/2008	< 0.135 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0709 U	< 0.00709 U	< 0.0709 U	< 0.0354 U	< 0.106 U	< 0.0709 U
SRC1-AG18	0	N	10/31/2008	< 0.13 U	< 0.0343 U	< 0.0343 U	< 0.012 U	< 0.0686 U	< 0.00686 U	< 0.0686 U	< 0.0343 U	< 0.103 U	< 0.0686 U
SRC1-AG18	11	N	10/31/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0705 U	< 0.00705 U	< 0.0705 U	< 0.0352 U	< 0.106 U	< 0.0705 U
SRC1-AH15	0	N	11/3/2008	< 0.129 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.0341 U	< 0.102 U	< 0.0681 U
SRC1-AH15	0	FD	11/3/2008	< 0.13 U	< 0.0342 U	< 0.0342 U	< 0.012 U	< 0.0685 U	< 0.00685 U	< 0.0685 U	< 0.0342 U	< 0.103 U	< 0.0685 U
SRC1-AH15	10	N	11/3/2008	< 0.138 U	< 0.0362 U	< 0.0362 U	< 0.0127 U	< 0.0724 U	< 0.00724 U	< 0.0724 U	< 0.0362 U	< 0.109 U	< 0.0724 U
SRC1-AH16	0	N	11/3/2008	< 0.13 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0683 U	< 0.00683 U	< 0.0683 U	< 0.0341 U	< 0.102 U	< 0.0683 U
SRC1-AH16	11	N	11/3/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.071 U	< 0.0071 U	< 0.071 U	< 0.0355 U	< 0.107 U	< 0.071 U
SRC1-AH17	0	N	11/14/2008	< 0.13 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0683 U	< 0.00683 U	< 0.0683 U	< 0.0341 U	< 0.102 U	< 0.0683 UJ
SRC1-AH17	11	N	11/14/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0714 U	< 0.00714 U	< 0.0714 U	< 0.0357 U	< 0.107 U	< 0.0714 UJ
SRC1-AH18	0	N	10/31/2008	< 0.129 U	< 0.0339 U	< 0.0339 U	< 0.0119 U	< 0.0679 U	< 0.00679 U	< 0.0679 U	< 0.0339 U	< 0.102 U	< 0.0679 U
SRC1-AH18	11	N	10/31/2008	< 0.133 U	< 0.0349 U	< 0.0349 U	< 0.0122 U	< 0.0699 U	< 0.00699 U	< 0.0699 U	< 0.0349 U	< 0.105 U	< 0.0699 U
SRC1-AH19	0	N	10/31/2008	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.068 U	< 0.0068 U	< 0.068 U	< 0.034 U	< 0.102 U	< 0.068 U
SRC1-AH19	0	FD	10/31/2008	< 0.13 U	< 0.0342 U	< 0.0342 U	< 0.012 U	< 0.0683 U	< 0.00683 U	< 0.0683 U	< 0.0342 U	< 0.102 U	< 0.0683 U
SRC1-AH19	10	N	10/31/2008	< 0.133 U	< 0.035 U	< 0.035 U	< 0.0122 U	< 0.0699 U	< 0.00699 U	< 0.0699 U	< 0.035 U	< 0.105 U	< 0.0699 U
SRC1-AI17	0	N	11/3/2008	< 0.131 U	< 0.0345 U	< 0.0345 U	< 0.0121 U	< 0.069 U	< 0.0069 U	< 0.069 U	< 0.0345 U	< 0.103 U	< 0.069 U
SRC1-AI17	3	N	11/3/2008	< 0.137 U	< 0.0362 U	< 0.0362 U	< 0.0127 U	< 0.0723 U	< 0.00723 U	< 0.0723 U	< 0.0362 U	< 0.109 U	< 0.0723 U
SRC1-AI17	13	N	11/3/2008	< 0.136 U	< 0.0358 U	< 0.0358 U	< 0.0125 U	< 0.0717 U	< 0.00717 U	< 0.0717 U	< 0.0358 U	< 0.108 U	< 0.0717 U
SRC1-AI20	0	N	10/31/2008	< 0.128 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0676 U	< 0.00676 U	< 0.0676 U	< 0.0338 U	< 0.101 U	< 0.0676 U
SRC1-AI20	10	N	10/31/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.071 U	< 0.0071 U	< 0.071 U	< 0.0355 U	< 0.107 U	< 0.071 U
SRC1-AJ18	0	N	11/3/2008	< 0.129 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0677 U	< 0.00677 U	< 0.0677 U	< 0.0338 U	< 0.101 U	< 0.0677 U
SRC1-AJ18	3	N	11/3/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 U
SRC1-AJ18	13	N	11/3/2008	< 0.134 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0708 U	< 0.00708 U	< 0.0708 U	< 0.0354 U	< 0.106 U	< 0.0708 U
SRC1-AJ19	0	N	11/14/2008	< 0.13 U	< 0.0342 U	< 0.0342 U	< 0.012 U	< 0.0685 U	< 0.00685 U	< 0.0685 U	< 0.0342 U	< 0.103 U	< 0.0685 UJ
SRC1-AJ19	11	N	11/14/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.13 U	< 0.0342 U	< 0.0342 U	< 0.012 U	< 0.0683 U	< 0.00683 U	< 0.0683 U	< 0.0342 U	< 0.103 U	< 0.0683 UJ
SRC1-AJ20	11	N	11/5/2008	< 0.135 U	< 0.0356 U	< 0.0356 U	< 0.0124 U	< 0.0711 U	< 0.00711 U	< 0.0711 U	< 0.0356 U	< 0.107 U	< 0.0711 UJ
SRC1-AJ20	21	N	11/5/2008	< 0.135 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0713 U	< 0.00713 U	< 0.0713 U	< 0.0357 U	< 0.107 U	< 0.0713 UJ
SRC1-AJ21	0	N	11/6/2008	< 0.136 U	< 0.0359 U	< 0.0359 U	< 0.0126 U	< 0.0717 U	< 0.00717 U	< 0.0717 U	< 0.0359 U	< 0.108 U	< 0.0717 UJ
SRC1-AJ21	12	N	11/6/2008	< 0.137 U	< 0.0361 U	< 0.0361 U	< 0.0127 U	< 0.0723 U	< 0.00723 U	< 0.0723 U	< 0.0361 U	< 0.108 U	< 0.0723 UJ
SRC1-AJ22	0	N	11/5/2008	< 0.134 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0708 U	< 0.00708 U	< 0.0708 U	< 0.0354 U	< 0.106 U	< 0.0708 UJ
SRC1-AJ22	10	N	11/5/2008	< 0.138 U	< 0.0364 U	< 0.0364 U	< 0.0128 U	< 0.0729 U	< 0.00729 U	< 0.0729 U	< 0.0364 U	< 0.109 U	< 0.0729 UJ

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3,3-Dichlorobenzidine	3-Nitroaniline
SRC1-AJ23	0	N	11/7/2008	< 0.134 U	< 0.0353 U	< 0.0353 U	< 0.0124 U	< 0.0706 U	< 0.00706 U	< 0.0706 U	< 0.0353 U	< 0.106 U	< 0.0706 U
SRC1-AJ23	4	N	11/7/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0714 U	< 0.00714 U	< 0.0714 U	< 0.0357 U	< 0.107 U	< 0.0714 U
SRC1-AJ23	14	N	11/7/2008	< 0.135 U	< 0.0356 U	< 0.0356 U	< 0.0125 U	< 0.0712 U	< 0.00712 U	< 0.0712 U	< 0.0356 U	< 0.107 U	< 0.0712 U
SRC1-AJ24	0	N	11/10/2008	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.034 U	< 0.102 U	< 0.0681 U
SRC1-AJ24	10	N	11/10/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0704 U	< 0.00704 U	< 0.0704 U	< 0.0352 U	< 0.106 U	< 0.0704 U
SRC1-AJ25	0	N	11/13/2008	< 0.131 U	< 0.0346 U	< 0.0346 U	< 0.0121 U	< 0.0691 U	< 0.00691 U	< 0.0691 U	< 0.0346 U	< 0.104 U	< 0.0691 U
SRC1-AJ25	3	N	11/13/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 U
SRC1-AJ25	13	N	11/13/2008	< 0.138 U	< 0.0363 U	< 0.0363 U	< 0.0127 U	< 0.0726 U	< 0.00726 U	< 0.0726 U	< 0.0363 U	< 0.109 U	< 0.0726 U
SRC1-AJ26	0	N	11/13/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0704 U	< 0.00704 U	< 0.0704 U	< 0.0352 U	< 0.106 U	< 0.0704 U
SRC1-AJ26	11	N	11/13/2008	< 0.135 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0708 U	< 0.00708 U	< 0.0708 U	< 0.0354 U	< 0.106 U	< 0.0708 U
SRC1-AJ27	0	N	11/13/2008	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.068 U	< 0.0068 U	< 0.068 U	< 0.034 U	< 0.102 U	< 0.068 U
SRC1-AJ27	10	N	11/13/2008	< 0.132 U	< 0.0349 U	< 0.0349 U	< 0.0122 U	< 0.0697 U	< 0.00697 U	< 0.0697 U	< 0.0349 U	< 0.105 U	< 0.0697 U
SRC1-AJ28	0	N	11/13/2008	< 0.132 U	< 0.0348 U	< 0.0348 U	< 0.0122 U	< 0.0697 U	< 0.00697 U	< 0.0697 U	< 0.0348 U	< 0.105 U	< 0.0697 U
SRC1-AJ28	0	FD	11/13/2008	< 0.131 U	< 0.0344 U	< 0.0344 U	< 0.012 U	< 0.0688 U	< 0.00688 U	< 0.0688 U	< 0.0344 U	< 0.103 U	< 0.0688 U
SRC1-AJ28	12	N	11/13/2008	< 0.134 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0703 U	< 0.00703 U	< 0.0703 U	< 0.0351 U	< 0.105 U	< 0.0703 U
SRC1-AK20	0	N	11/5/2008	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.068 U	< 0.0068 U	< 0.068 U	< 0.034 U	< 0.102 U	< 0.068 UJ
SRC1-AK20	0	FD	11/5/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 UJ
SRC1-AK20	9	N	11/5/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.071 U	< 0.0071 U	< 0.071 U	< 0.0355 U	< 0.106 U	< 0.071 UJ
SRC1-AK20	19	N	11/5/2008	< 0.137 U	< 0.036 U	< 0.036 U	< 0.0126 U	< 0.0719 U	< 0.00719 U	< 0.0719 U	< 0.036 U	< 0.108 U	< 0.0719 UJ
SRC1-AK21	0	N	11/6/2008	< 0.132 U	< 0.0348 U	< 0.0348 U	< 0.0122 U	< 0.0696 U	< 0.00696 U	< 0.0696 U	< 0.0348 U	< 0.104 U	< 0.0696 UJ
SRC1-AK21	0	FD	11/6/2008	< 0.133 U	< 0.035 U	< 0.035 U	< 0.0122 U	< 0.0699 U	< 0.00699 U	< 0.0699 U	< 0.035 U	< 0.105 U	< 0.0699 UJ
SRC1-AK21	8	N	11/6/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.0711 U	< 0.00711 U	< 0.0711 U	< 0.0355 U	< 0.107 U	< 0.0711 UJ
SRC1-AK21	18	N	11/6/2008	< 0.137 U	< 0.036 U	< 0.036 U	< 0.0126 U	< 0.0719 U	< 0.00719 U	< 0.0719 U	< 0.036 U	< 0.108 U	< 0.0719 UJ
SRC1-AK23	0	N	11/6/2008	< 0.134 U	< 0.0353 U	< 0.0353 U	< 0.0124 U	< 0.0707 U	< 0.00707 U	< 0.0707 U	< 0.0353 U	< 0.106 U	< 0.0707 UJ
SRC1-AK23	4	N	11/6/2008	< 0.138 U	< 0.0362 U	< 0.0362 U	< 0.0127 U	< 0.0724 U	< 0.00724 U	< 0.0724 U	< 0.0362 U	< 0.109 U	< 0.0724 UJ
SRC1-AK23	14	N	11/6/2008	< 0.137 U	< 0.036 U	< 0.036 U	< 0.0126 U	< 0.072 U	< 0.0072 U	< 0.072 U	< 0.036 U	< 0.108 U	< 0.072 UJ
SRC1-AK24	0	N	11/6/2008	< 0.13 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0682 U	< 0.00682 U	< 0.0682 U	< 0.0341 U	< 0.102 U	< 0.0682 UJ
SRC1-AK24	10	N	11/6/2008	< 0.135 U	< 0.0356 U	< 0.0356 U	< 0.0125 U	< 0.0712 U	< 0.00712 U	< 0.0712 U	< 0.0356 U	< 0.107 U	< 0.0712 UJ
SRC1-AK24	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.134 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0707 U	< 0.00707 U	< 0.0707 U	< 0.0354 U	< 0.106 U	< 0.0707 U
SRC1-AK25	11	N	11/10/2008	< 0.137 U	< 0.036 U	< 0.036 U	< 0.0126 U	< 0.0721 U	< 0.00721 U	< 0.0721 U	< 0.036 U	< 0.108 U	< 0.0721 U
SRC1-AK26	0	N	11/7/2008	< 0.133 U	< 0.035 U	< 0.035 U	< 0.0123 U	< 0.07 U	< 0.007 U	< 0.07 U	< 0.035 U	< 0.105 U	< 0.07 U
SRC1-AK26	0	FD	11/7/2008	< 0.131 U	< 0.0346 U	< 0.0346 U	< 0.0121 U	< 0.0691 U	< 0.00691 U	< 0.0691 U	< 0.0346 U	< 0.104 U	< 0.0691 U
SRC1-AK26	10	N	11/7/2008	< 0.134 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0707 U	< 0.00707 U	< 0.0707 U	< 0.0354 U	< 0.106 U	< 0.0707 U
SRC1-AK27	0	N	11/12/2008	< 0.13 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0682 U	< 0.00682 U	< 0.0682 U	< 0.0341 U	< 0.102 U	< 0.0682 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3,3-Dichlorobenzidine	3-Nitroaniline
SRC1-AK27	3	N	11/12/2008	< 0.136 U	< 0.0358 U	< 0.0358 U	< 0.0125 U	< 0.0715 U	< 0.00715 U	< 0.0715 U	< 0.0358 U	< 0.107 U	< 0.0715 U
SRC1-AK27	13	N	11/12/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0714 U	< 0.00714 U	< 0.0714 U	< 0.0357 U	< 0.107 U	< 0.0714 U
SRC1-AL24	0	N	11/6/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.0711 U	< 0.00711 U	< 0.0711 U	< 0.0355 U	< 0.107 U	< 0.0711 UJ
SRC1-AL24	8	N	11/6/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0714 U	< 0.00714 U	< 0.0714 U	< 0.0357 U	< 0.107 U	< 0.0714 UJ
SRC1-AL24	18	N	11/6/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0714 U	< 0.00714 U	< 0.0714 U	< 0.0357 U	< 0.107 U	< 0.0714 UJ
SRC1-AL26	0	N	11/7/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0705 U	< 0.00705 U	< 0.0705 U	< 0.0352 U	< 0.106 U	< 0.0705 U
SRC1-AL26	11	N	11/7/2008	< 0.136 U	< 0.0358 U	< 0.0358 U	< 0.0125 U	< 0.0716 U	< 0.00716 U	< 0.0716 U	< 0.0358 U	< 0.107 U	< 0.0716 U
SRC1-AL28	0	N	11/12/2008	< 0.129 UJ	< 0.0339 U	< 0.0339 U	< 0.0119 U	< 0.0677 UJ	< 0.00677 U	< 0.0677 U	< 0.0339 UJ	< 0.102 U	< 0.0677 U
SRC1-AL28	4	N	11/12/2008	< 0.139 U	< 0.0366 U	< 0.0366 U	< 0.0128 U	< 0.0731 U	< 0.00731 U	< 0.0731 U	< 0.0366 U	< 0.11 U	< 0.0731 U
SRC1-AL28	14	N	11/12/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0714 U	< 0.00714 U	< 0.0714 U	< 0.0357 U	< 0.107 U	< 0.0714 U
SRC1-AM27	0	N	11/10/2008	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.0679 U	< 0.00679 U	< 0.0679 U	< 0.034 U	< 0.102 U	< 0.0679 U
SRC1-AM27	3	N	11/10/2008	< 0.132 U	< 0.0347 U	< 0.0347 U	< 0.0121 U	< 0.0693 U	< 0.00693 U	< 0.0693 U	< 0.0347 U	< 0.104 U	< 0.0693 U
SRC1-AM27	13	N	11/10/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0703 U	< 0.00703 U	< 0.0703 U	< 0.0352 U	< 0.105 U	< 0.0703 U
SRC1-AM28	0	N	11/12/2008	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.034 U	< 0.102 U	< 0.0681 U
SRC1-AM28	7	N	11/12/2008	< 0.132 U	< 0.0346 U	< 0.0346 U	< 0.0121 U	< 0.0693 U	< 0.00693 U	< 0.0693 U	< 0.0346 U	< 0.104 U	< 0.0693 U
SRC1-AM28	7	FD	11/12/2008	< 0.141 U	< 0.0372 U	< 0.0372 U	< 0.013 U	< 0.0744 U	< 0.00744 U	< 0.0744 U	< 0.0372 U	< 0.112 U	< 0.0744 U
SRC1-AM28	17	N	11/12/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 U
SRC1-AN28	0	N	11/12/2008	< 0.132 U	< 0.0347 U	< 0.0347 U	< 0.0122 U	< 0.0695 U	< 0.00695 U	< 0.0695 U	< 0.0347 U	< 0.104 U	< 0.0695 U
SRC1-AN28	11	N	11/12/2008	< 0.134 U	< 0.0353 U	< 0.0353 U	< 0.0124 U	< 0.0706 U	< 0.00706 U	< 0.0706 U	< 0.0353 U	< 0.106 U	< 0.0706 U
SRC1-J01	0	N	11/3/2008	< 0.13 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0683 U	< 0.00683 U	< 0.0683 U	< 0.0341 U	< 0.102 U	< 0.0683 U
SRC1-J01	0	FD	11/3/2008	< 0.128 U	< 0.0337 U	< 0.0337 U	< 0.0118 U	< 0.0674 U	< 0.00674 U	< 0.0674 U	< 0.0337 U	< 0.101 U	< 0.0674 U
SRC1-J01	11	N	11/3/2008	< 0.135 U	< 0.0356 U	< 0.0356 U	< 0.0125 U	< 0.0713 U	< 0.00713 U	< 0.0713 U	< 0.0356 U	< 0.107 U	< 0.0713 U
SRC1-J02	0	N	11/5/2008	< 0.131 U	< 0.0344 U	< 0.0344 U	< 0.0121 U	< 0.0689 U	< 0.00689 U	< 0.0689 U	< 0.0344 U	< 0.103 U	< 0.0689 UJ
SRC1-J02	3	N	11/5/2008	< 0.132 U	< 0.0347 U	< 0.0347 U	< 0.0122 U	< 0.0694 U	< 0.00694 U	< 0.0694 U	< 0.0347 U	< 0.104 U	< 0.0694 UJ
SRC1-J02	13	N	11/5/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0704 U	< 0.00704 U	< 0.0704 U	< 0.0352 U	< 0.106 U	< 0.0704 UJ
SRC1-J03	0	N	11/5/2008	< 0.132 U	< 0.0348 U	< 0.0348 U	< 0.0122 U	< 0.0696 U	< 0.00696 U	< 0.0696 U	< 0.0348 U	< 0.104 U	< 0.0696 UJ
SRC1-J03	5	N	11/5/2008	< 0.137 U	< 0.0362 U	< 0.0362 U	< 0.0127 U	< 0.0723 U	< 0.00723 U	< 0.0723 U	< 0.0362 U	< 0.108 U	< 0.0723 UJ
SRC1-J03	15	N	11/5/2008	< 0.134 U	< 0.0352 U	< 0.0352 U	< 0.0123 U	< 0.0705 U	< 0.00705 U	< 0.0705 U	< 0.0352 U	< 0.106 U	< 0.0705 UJ
SRC1-J07	0	N	11/7/2008	< 0.13 U	< 0.0343 U	< 0.0343 U	< 0.012 U	< 0.0685 U	< 0.00685 U	< 0.0685 U	< 0.0343 U	< 0.103 U	< 0.0685 U
SRC1-J07	10	N	11/7/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.071 U	< 0.0071 U	< 0.071 U	< 0.0355 U	< 0.106 U	< 0.071 U
SRC1-J09	0	N	11/10/2008	< 0.131 U	< 0.0344 U	< 0.0344 U	< 0.0121 U	< 0.0689 U	< 0.00689 U	< 0.0689 U	< 0.0344 U	< 0.103 U	< 0.0689 U
SRC1-J09	0	FD	11/10/2008	< 0.13 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0682 U	< 0.00682 U	< 0.0682 U	< 0.0341 U	< 0.102 U	< 0.0682 U
SRC1-J09	11	N	11/10/2008	< 0.134 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0708 U	< 0.00708 U	< 0.0708 U	< 0.0354 U	< 0.106 U	< 0.0708 U
SRC1-J10	0	N	11/13/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 U
SRC1-J10	0	FD	11/13/2008	< 0.135 U	< 0.0355 U	< 0.0355 U	< 0.0124 U	< 0.0711 U	< 0.00711 U	< 0.0711 U	< 0.0355 U	< 0.107 U	< 0.0711 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3,3-Dichlorobenzidine	3-Nitroaniline
SRC1-J10	11	N	11/13/2008	< 0.135 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0708 U	< 0.00708 U	< 0.0708 U	< 0.0354 U	< 0.106 U	< 0.0708 U
SRC1-J11	0	N	11/14/2008	< 0.131 UJ	< 0.0344 U	< 0.0344 U	< 0.012 U	< 0.0691 UJ	< 0.00688 U	< 0.0688 U	< 0.0345 UJ	< 0.103 U	< 0.0688 UJ
SRC1-J11	10	N	11/14/2008	< 0.135 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0709 U	< 0.00709 U	< 0.0709 U	< 0.0354 U	< 0.106 U	< 0.0709 UJ
SRC1-J12	0	N	11/13/2008	< 0.127 U	< 0.0335 U	< 0.0335 U	< 0.0117 U	< 0.067 U	< 0.0067 U	< 0.067 U	< 0.0335 U	< 0.1 U	< 0.067 U
SRC1-J12	12	N	11/13/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 U
SRC1-J13	0	N	11/12/2008	< 0.128 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0676 U	< 0.00676 U	< 0.0676 U	< 0.0338 U	< 0.101 U	< 0.0676 U
SRC1-J13	3	N	11/12/2008	< 0.136 U	< 0.0357 U	< 0.0357 U	< 0.0125 U	< 0.0715 U	< 0.00715 U	< 0.0715 U	< 0.0357 U	< 0.107 U	< 0.0715 U
SRC1-J13	13	N	11/12/2008	< 0.134 U	< 0.0354 U	< 0.0354 U	< 0.0124 U	< 0.0707 U	< 0.00707 U	< 0.0707 U	< 0.0354 U	< 0.106 U	< 0.0707 U
SRC1-J14	0	N	11/13/2008	< 0.13 U	< 0.0342 U	< 0.0342 U	< 0.012 U	< 0.0683 U	< 0.00683 U	< 0.0683 U	< 0.0342 U	< 0.102 U	< 0.0683 U
SRC1-J14	12	N	11/13/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0701 U	< 0.00701 U	< 0.0701 U	< 0.0351 U	< 0.105 U	< 0.0701 U
SRC1-J15	0	N	11/12/2008	< 0.133 U	< 0.0351 U	< 0.0351 U	< 0.0123 U	< 0.0702 U	< 0.00702 U	< 0.0702 U	< 0.0351 U	< 0.105 U	< 0.0702 U
SRC1-J15	0	FD	11/12/2008	< 0.132 U	< 0.0347 U	< 0.0347 U	< 0.0121 U	< 0.0694 U	< 0.00694 U	< 0.0694 U	< 0.0347 U	< 0.104 U	< 0.0694 U
SRC1-J15	12	N	11/12/2008	< 0.137 U	< 0.036 U	< 0.036 U	< 0.0126 U	< 0.072 U	< 0.0072 U	< 0.072 U	< 0.036 U	< 0.108 U	< 0.072 U
SRC2-J20	0	N	9/14/2009	< 0.128 U	< 0.0336 U	< 0.0336 U	< 0.0117 U	< 0.0671 U	< 0.00671 U	< 0.0671 U	< 0.0336 U	< 0.101 U	< 0.0671 U
SRC2-J21	0	N	9/14/2009	< 0.128 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0676 U	< 0.00676 U	< 0.0676 U	< 0.0338 U	< 0.101 U	< 0.0676 U
SRC2-J22	0	N	9/14/2009	< 0.129 U	< 0.0339 U	< 0.0339 U	< 0.0119 U	< 0.0678 U	< 0.00678 U	< 0.0678 U	< 0.0339 U	< 0.102 U	< 0.0678 U
SRC2-J23	0	N	9/14/2009	< 0.128 U	< 0.0337 U	< 0.0337 U	< 0.0118 U	< 0.0675 U	< 0.00675 U	< 0.0675 U	< 0.0337 U	< 0.101 U	< 0.0675 U
SRC2-J24	0	N	9/14/2009	< 0.129 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0676 U	< 0.00676 U	< 0.0676 U	< 0.0338 U	< 0.101 U	< 0.0676 U
SRC2-J25	0	N	9/14/2009	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.034 U	< 0.102 U	< 0.0681 U
SRC2-J26	0	N	9/14/2009	< 0.129 U	< 0.034 U	< 0.034 U	< 0.0119 U	< 0.0679 U	< 0.00679 U	< 0.0679 U	< 0.034 U	< 0.102 U	< 0.0679 U
SRC2-J27	0	N	9/14/2009	< 0.129 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.0341 U	< 0.102 U	< 0.0681 U
SRC2-J28	0	N	9/14/2009	< 0.129 U	< 0.0339 U	< 0.0339 U	< 0.0119 U	< 0.0678 U	< 0.00678 U	< 0.0678 U	< 0.0339 U	< 0.102 U	< 0.0678 U
SRC2-J29	0	N	9/14/2009	< 0.129 U	< 0.0341 U	< 0.0341 U	< 0.0119 U	< 0.0681 U	< 0.00681 U	< 0.0681 U	< 0.0341 U	< 0.102 U	< 0.0681 U
SRC2-J30	0	N	9/14/2009	< 0.129 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0676 U	< 0.00676 U	< 0.0676 U	< 0.0338 U	< 0.101 U	< 0.0676 U
SRC2-J31	0	N	9/14/2009	< 0.128 U	< 0.0338 U	< 0.0338 U	< 0.0118 U	< 0.0676 U	< 0.00676 U	< 0.0676 U	< 0.0338 U	< 0.101 U	< 0.0676 U
SRC2-J32	0	N	9/14/2009	< 0.129 U	< 0.0339 U	< 0.0339 U	< 0.0119 U	< 0.0677 U	< 0.00677 U	< 0.0677 U	< 0.0339 U	< 0.102 U	< 0.0677 U

All units in mg/kg.
-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chlorophenyl phenyl ether	4-Chlorothioanisole	4-Nitroaniline	4-Nitrophenol	Acetophenone	Aniline	Benzenethiol	Benzoic acid
SRC1-AG16	0	N	10/31/2008	< 0.0347 U	< 0.0347 U	< 0.0347 U	< 0.115 U	< 0.0694 UJ	< 0.0694 U	< 0.0347 U	< 0.122 U	< 0.115 U	< 0.174 U
SRC1-AG16	11	N	10/31/2008	< 0.036 U	< 0.036 U	< 0.036 U	< 0.119 U	< 0.072 UJ	< 0.072 U	< 0.036 U	< 0.126 U	< 0.119 U	< 0.18 U
SRC1-AG17	0	N	10/31/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.112 U	< 0.0681 UJ	< 0.0681 U	< 0.0341 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AG17	11	N	10/31/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0709 UJ	< 0.0709 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-AG18	0	N	10/31/2008	< 0.0343 U	< 0.0343 U	< 0.0343 U	< 0.113 U	< 0.0686 UJ	< 0.0686 U	< 0.0343 U	< 0.12 U	< 0.113 U	< 0.172 U
SRC1-AG18	11	N	10/31/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.116 U	< 0.0705 UJ	< 0.0705 U	< 0.0352 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AH15	0	N	11/3/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AH15	0	FD	11/3/2008	< 0.0342 U	< 0.0342 U	< 0.0342 U	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0342 U	< 0.12 U	< 0.113 U	< 0.171 U
SRC1-AH15	10	N	11/3/2008	< 0.0362 U	< 0.0362 U	< 0.0362 U	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0362 U	< 0.127 U	< 0.119 U	< 0.181 U
SRC1-AH16	0	N	11/3/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0341 U	< 0.119 U	< 0.113 U	< 0.171 U
SRC1-AH16	11	N	11/3/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.117 U	< 0.071 U	< 0.071 U	< 0.0355 U	< 0.124 U	< 0.117 U	< 0.178 U
SRC1-AH17	0	N	11/14/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.113 U	< 0.0683 UJ	< 0.0683 U	< 0.0341 U	< 0.119 U	< 0.113 U	< 0.171 U
SRC1-AH17	11	N	11/14/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0714 UJ	< 0.0714 U	< 0.0357 U	< 0.125 U	< 0.118 U	< 0.179 U
SRC1-AH18	0	N	10/31/2008	< 0.0339 U	< 0.0339 U	< 0.0339 U	< 0.112 U	< 0.0679 UJ	< 0.0679 U	< 0.0339 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AH18	11	N	10/31/2008	< 0.0349 U	< 0.0349 U	< 0.0349 U	< 0.115 U	< 0.0699 UJ	< 0.0699 U	< 0.0349 U	< 0.122 U	< 0.115 U	< 0.175 U
SRC1-AH19	0	N	10/31/2008	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.068 UJ	< 0.068 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AH19	0	FD	10/31/2008	< 0.0342 U	< 0.0342 U	< 0.0342 U	< 0.113 U	< 0.0683 UJ	< 0.0683 U	< 0.0342 U	< 0.12 U	< 0.113 U	< 0.171 U
SRC1-AH19	10	N	10/31/2008	< 0.035 U	< 0.035 U	< 0.035 U	< 0.115 U	< 0.0699 UJ	< 0.0699 U	< 0.035 U	< 0.122 U	< 0.115 U	< 0.175 U
SRC1-AI17	0	N	11/3/2008	< 0.0345 U	< 0.0345 U	< 0.0345 U	< 0.114 U	< 0.069 U	< 0.069 U	< 0.0345 U	< 0.121 U	< 0.114 U	< 0.172 U
SRC1-AI17	3	N	11/3/2008	< 0.0362 U	< 0.0362 U	< 0.0362 U	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0362 U	< 0.127 U	< 0.119 U	< 0.181 U
SRC1-AI17	13	N	11/3/2008	< 0.0358 U	< 0.0358 U	< 0.0358 U	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0358 U	< 0.125 U	< 0.118 U	< 0.179 U
SRC1-AI20	0	N	10/31/2008	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0676 UJ	< 0.0676 U	< 0.0338 U	< 0.118 U	< 0.112 U	< 0.169 U
SRC1-AI20	10	N	10/31/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.117 U	< 0.071 UJ	< 0.071 U	< 0.0355 U	< 0.124 U	< 0.117 U	< 0.178 U
SRC1-AJ18	0	N	11/3/2008	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0338 U	< 0.118 U	< 0.112 U	< 0.169 U
SRC1-AJ18	3	N	11/3/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.175 U
SRC1-AJ18	13	N	11/3/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-AJ19	0	N	11/14/2008	< 0.0342 U	< 0.0342 U	< 0.0342 U	< 0.113 U	< 0.0685 UJ	< 0.0685 U	< 0.0342 U	< 0.12 U	< 0.113 U	< 0.171 U
SRC1-AJ19	11	N	11/14/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.0342 U	< 0.0342 U	< 0.0342 U	< 0.0396 U	< 0.0683 U	< 0.0683 U	< 0.0342 UJ	< 0.12 U	< 0.226 U	< 0.171 U
SRC1-AJ20	11	N	11/5/2008	< 0.0356 U	< 0.0356 U	< 0.0356 U	< 0.0412 U	< 0.0711 U	< 0.0711 U	< 0.0356 UJ	< 0.124 U	< 0.235 U	< 0.178 U
SRC1-AJ20	21	N	11/5/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.0414 U	< 0.0713 U	< 0.0713 U	< 0.0357 UJ	< 0.125 U	< 0.235 U	< 0.178 U
SRC1-AJ21	0	N	11/6/2008	< 0.0359 U	< 0.0359 U	< 0.0359 U	< 0.118 U	< 0.0717 UJ	< 0.0717 UJ	< 0.0359 U	< 0.126 U	< 0.118 U	< 0.179 U
SRC1-AJ21	12	N	11/6/2008	< 0.0361 U	< 0.0361 U	< 0.0361 U	< 0.119 U	< 0.0723 UJ	< 0.0723 UJ	< 0.0361 U	< 0.127 U	< 0.119 U	< 0.181 U
SRC1-AJ22	0	N	11/5/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.041 U	< 0.0708 U	< 0.0708 U	< 0.0354 UJ	< 0.124 U	< 0.234 U	< 0.177 U
SRC1-AJ22	10	N	11/5/2008	< 0.0364 U	< 0.0364 U	< 0.0364 U	< 0.0423 U	< 0.0729 U	< 0.0729 U	< 0.0364 UJ	< 0.128 U	< 0.241 U	< 0.182 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chlorophenyl phenyl ether	4-Chlorothioanisole	4-Nitroaniline	4-Nitrophenol	Acetophenone	Aniline	Benzenethiol	Benzoic acid
SRC1-AJ23	0	N	11/7/2008	< 0.0353 U	< 0.0353 U	< 0.0353 U	< 0.117 U	< 0.0706 U	< 0.0706 U	< 0.0353 UJ	< 0.124 U	< 0.117 U	< 0.706 U
SRC1-AJ23	4	N	11/7/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 UJ	< 0.125 U	< 0.118 U	< 0.178 U
SRC1-AJ23	14	N	11/7/2008	< 0.0356 U	< 0.0356 U	< 0.0356 U	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0356 UJ	< 0.125 U	< 0.117 U	< 0.178 U
SRC1-AJ24	0	N	11/10/2008	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AJ24	10	N	11/10/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0352 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AJ25	0	N	11/13/2008	< 0.0346 U	< 0.0346 U	< 0.0346 U	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0346 U	< 0.121 U	< 0.114 U	< 0.173 U
SRC1-AJ25	3	N	11/13/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.175 U
SRC1-AJ25	13	N	11/13/2008	< 0.0363 U	< 0.0363 U	< 0.0363 U	< 0.12 U	< 0.0726 U	< 0.0726 U	< 0.0363 U	< 0.127 U	< 0.12 U	< 0.181 U
SRC1-AJ26	0	N	11/13/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0352 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AJ26	11	N	11/13/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-AJ27	0	N	11/13/2008	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.068 U	< 0.068 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AJ27	10	N	11/13/2008	< 0.0349 U	< 0.0349 U	< 0.0349 U	< 0.115 U	< 0.0697 U	< 0.0697 U	< 0.0349 U	< 0.122 U	< 0.115 U	< 0.174 U
SRC1-AJ28	0	N	11/13/2008	< 0.0348 U	< 0.0348 U	< 0.0348 U	< 0.115 U	< 0.0697 U	< 0.0697 U	0.0478 J	< 0.122 U	< 0.115 U	< 0.174 U
SRC1-AJ28	0	FD	11/13/2008	< 0.0344 U	< 0.0344 U	< 0.0344 U	< 0.113 U	< 0.0688 U	< 0.0688 U	< 0.0344 U	< 0.12 U	< 0.113 U	< 0.172 U
SRC1-AJ28	12	N	11/13/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AK20	0	N	11/5/2008	< 0.034 U	< 0.034 U	< 0.034 U	< 0.0394 U	< 0.068 U	< 0.068 U	< 0.034 UJ	< 0.119 U	< 0.224 U	< 0.17 U
SRC1-AK20	0	FD	11/5/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.0407 U	< 0.0702 U	< 0.0702 U	< 0.0351 UJ	< 0.123 U	< 0.232 U	< 0.175 U
SRC1-AK20	9	N	11/5/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.0412 U	< 0.071 U	< 0.071 U	< 0.0355 UJ	< 0.124 U	< 0.234 U	< 0.177 U
SRC1-AK20	19	N	11/5/2008	< 0.036 U	< 0.036 U	< 0.036 U	< 0.0417 U	< 0.0719 U	< 0.0719 U	< 0.036 UJ	< 0.126 U	< 0.237 U	< 0.18 U
SRC1-AK21	0	N	11/6/2008	< 0.0348 U	< 0.0348 U	< 0.0348 U	< 0.115 U	< 0.0696 UJ	< 0.0696 UJ	< 0.0348 U	< 0.122 U	< 0.115 U	< 0.174 U
SRC1-AK21	0	FD	11/6/2008	< 0.035 U	< 0.035 U	< 0.035 U	< 0.115 U	< 0.0699 UJ	< 0.0699 UJ	< 0.035 U	< 0.122 U	< 0.115 U	< 0.175 U
SRC1-AK21	8	N	11/6/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.117 U	< 0.0711 UJ	< 0.0711 UJ	< 0.0355 U	< 0.124 U	< 0.117 U	< 0.178 U
SRC1-AK21	18	N	11/6/2008	< 0.036 U	< 0.036 U	< 0.036 U	< 0.119 U	< 0.0719 UJ	< 0.0719 UJ	< 0.036 U	< 0.126 U	< 0.119 U	< 0.18 U
SRC1-AK23	0	N	11/6/2008	< 0.0353 U	< 0.0353 U	< 0.0353 U	< 0.117 U	< 0.0707 UJ	< 0.0707 UJ	< 0.0353 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-AK23	4	N	11/6/2008	< 0.0362 U	< 0.0362 U	< 0.0362 U	< 0.119 U	< 0.0724 UJ	< 0.0724 UJ	< 0.0362 U	< 0.127 U	< 0.119 U	< 0.181 U
SRC1-AK23	14	N	11/6/2008	< 0.036 U	< 0.036 U	< 0.036 U	< 0.119 U	< 0.072 UJ	< 0.072 UJ	< 0.036 U	< 0.126 U	< 0.119 U	< 0.18 U
SRC1-AK24	0	N	11/6/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.113 U	< 0.0682 UJ	< 0.0682 UJ	< 0.0341 U	< 0.119 U	< 0.113 U	< 0.17 U
SRC1-AK24	10	N	11/6/2008	< 0.0356 U	< 0.0356 U	< 0.0356 U	< 0.117 U	< 0.0712 UJ	< 0.0712 UJ	< 0.0356 U	< 0.125 U	< 0.117 U	< 0.178 U
SRC1-AK24	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-AK25	11	N	11/10/2008	< 0.036 U	< 0.036 U	< 0.036 U	< 0.119 U	< 0.0721 U	< 0.0721 U	< 0.036 U	< 0.126 U	< 0.119 U	< 0.18 U
SRC1-AK26	0	N	11/7/2008	< 0.035 U	< 0.035 U	< 0.035 U	< 0.116 U	< 0.07 U	< 0.07 U	< 0.035 UJ	< 0.123 U	< 0.116 U	< 0.175 U
SRC1-AK26	0	FD	11/7/2008	< 0.0346 U	< 0.0346 U	< 0.0346 U	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0346 U	< 0.121 U	< 0.114 U	< 0.173 U
SRC1-AK26	10	N	11/7/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0354 UJ	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-AK27	0	N	11/12/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0341 U	< 0.119 U	< 0.113 U	< 0.17 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chlorophenyl phenyl ether	4-Chlorothioanisole	4-Nitroaniline	4-Nitrophenol	Acetophenone	Aniline	Benzenethiol	Benzoic acid
SRC1-AK27	3	N	11/12/2008	< 0.0358 U	< 0.0358 U	< 0.0358 U	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0358 U	< 0.125 U	< 0.118 U	< 0.179 U
SRC1-AK27	13	N	11/12/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.125 U	< 0.118 U	< 0.178 U
SRC1-AL24	0	N	11/6/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.117 U	< 0.0711 UJ	< 0.0711 UJ	< 0.0355 U	< 0.124 U	< 0.117 U	< 0.178 U
SRC1-AL24	8	N	11/6/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0714 UJ	< 0.0714 UJ	< 0.0357 U	< 0.125 U	< 0.118 U	< 0.178 U
SRC1-AL24	18	N	11/6/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0714 UJ	< 0.0714 UJ	< 0.0357 U	< 0.125 U	< 0.118 U	< 0.178 U
SRC1-AL26	0	N	11/7/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0352 UJ	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AL26	11	N	11/7/2008	< 0.0358 U	< 0.0358 U	< 0.0358 U	< 0.118 U	< 0.0716 U	< 0.0716 U	< 0.0358 U	< 0.125 U	< 0.118 U	< 0.179 U
SRC1-AL28	0	N	11/12/2008	< 0.0339 U	< 0.0339 UJ	< 0.0339 U	< 0.112 U	< 0.0677 UJ	< 0.0677 UJ	< 0.0339 U	< 0.119 U	< 0.112 UJ	< 0.169 UJ
SRC1-AL28	4	N	11/12/2008	< 0.0366 U	< 0.0366 U	< 0.0366 U	< 0.121 U	< 0.0731 UJ	< 0.0731 U	< 0.0366 U	< 0.128 U	< 0.121 U	< 0.183 U
SRC1-AL28	14	N	11/12/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.125 U	< 0.118 U	< 0.178 U
SRC1-AM27	0	N	11/10/2008	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AM27	3	N	11/10/2008	< 0.0347 U	< 0.0347 U	< 0.0347 U	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0347 U	< 0.121 U	< 0.114 U	< 0.173 U
SRC1-AM27	13	N	11/10/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0352 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AM28	0	N	11/12/2008	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-AM28	7	N	11/12/2008	< 0.0346 U	< 0.0346 U	< 0.0346 U	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0346 U	< 0.121 U	< 0.114 U	< 0.173 U
SRC1-AM28	7	FD	11/12/2008	< 0.0372 U	< 0.0372 U	< 0.0372 U	< 0.123 U	< 0.0744 U	< 0.0744 U	< 0.0372 U	< 0.13 U	< 0.123 U	< 0.186 U
SRC1-AM28	17	N	11/12/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-AN28	0	N	11/12/2008	< 0.0347 U	< 0.0347 U	< 0.0347 U	< 0.115 U	< 0.0695 U	< 0.0695 U	< 0.0347 U	< 0.122 U	< 0.115 U	< 0.174 U
SRC1-AN28	11	N	11/12/2008	< 0.0353 U	< 0.0353 U	< 0.0353 U	< 0.116 U	< 0.0706 U	< 0.0706 U	< 0.0353 U	< 0.124 U	< 0.116 U	< 0.176 U
SRC1-J01	0	N	11/3/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0341 U	< 0.119 U	< 0.113 U	< 0.171 U
SRC1-J01	0	FD	11/3/2008	< 0.0337 U	< 0.0337 U	< 0.0337 U	< 0.111 U	< 0.0674 U	< 0.0674 U	< 0.0337 U	< 0.118 U	< 0.111 U	< 0.169 U
SRC1-J01	11	N	11/3/2008	< 0.0356 U	< 0.0356 U	< 0.0356 U	< 0.118 U	< 0.0713 U	< 0.0713 U	< 0.0356 U	< 0.125 U	< 0.118 U	< 0.178 U
SRC1-J02	0	N	11/5/2008	< 0.0344 U	< 0.0344 U	< 0.0344 U	< 0.04 U	< 0.0689 U	< 0.0689 U	< 0.0344 UJ	< 0.121 U	< 0.227 U	< 0.172 U
SRC1-J02	3	N	11/5/2008	< 0.0347 U	< 0.0347 U	< 0.0347 U	< 0.0403 U	< 0.0694 U	< 0.0694 U	< 0.0347 UJ	< 0.122 U	< 0.229 U	< 0.174 U
SRC1-J02	13	N	11/5/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.0408 U	< 0.0704 U	< 0.0704 U	< 0.0352 UJ	< 0.123 U	< 0.232 U	< 0.176 U
SRC1-J03	0	N	11/5/2008	< 0.0348 U	< 0.0348 U	< 0.0348 U	< 0.0404 U	< 0.0696 U	< 0.0696 U	< 0.0348 UJ	< 0.122 U	< 0.23 U	< 0.174 U
SRC1-J03	5	N	11/5/2008	< 0.0362 U	< 0.0362 U	< 0.0362 U	< 0.0419 U	< 0.0723 U	< 0.0723 U	< 0.0362 UJ	< 0.127 U	< 0.239 U	< 0.181 U
SRC1-J03	15	N	11/5/2008	< 0.0352 U	< 0.0352 U	< 0.0352 U	< 0.0409 U	< 0.0705 U	< 0.0705 U	< 0.0352 UJ	< 0.123 U	< 0.232 U	< 0.176 U
SRC1-J07	0	N	11/7/2008	< 0.0343 U	< 0.0343 U	< 0.0343 U	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0343 UJ	< 0.12 U	< 0.113 U	< 0.171 U
SRC1-J07	10	N	11/7/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.117 U	< 0.071 U	< 0.071 U	< 0.0355 UJ	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-J09	0	N	11/10/2008	< 0.0344 U	< 0.0344 U	< 0.0344 U	< 0.114 U	< 0.0689 U	< 0.0689 U	< 0.0344 U	< 0.121 U	< 0.114 U	< 0.172 U
SRC1-J09	0	FD	11/10/2008	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.112 U	< 0.0682 U	< 0.0682 U	< 0.0341 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC1-J09	11	N	11/10/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-J10	0	N	11/13/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.175 U
SRC1-J10	0	FD	11/13/2008	< 0.0355 U	< 0.0355 U	< 0.0355 U	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0355 U	< 0.124 U	< 0.117 U	< 0.178 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chlorophenyl phenyl ether	4-Chlorothioanisole	4-Nitroaniline	4-Nitrophenol	Acetophenone	Aniline	Benzenethiol	Benzoic acid
SRC1-J10	11	N	11/13/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-J11	0	N	11/14/2008	< 0.0344 U	< 0.0345 UJ	< 0.0344 U	< 0.114 U	< 0.0688 UJ	< 0.0691 UJ	< 0.0344 U	< 0.12 U	< 0.114 UJ	< 0.173 UJ
SRC1-J11	10	N	11/14/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0709 UJ	< 0.0709 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-J12	0	N	11/13/2008	< 0.0335 U	< 0.0335 U	< 0.0335 U	< 0.111 U	< 0.067 U	< 0.067 U	< 0.0335 U	< 0.117 U	< 0.111 U	< 0.167 U
SRC1-J12	12	N	11/13/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.175 U
SRC1-J13	0	N	11/12/2008	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.118 U	< 0.112 U	< 0.169 U
SRC1-J13	3	N	11/12/2008	< 0.0357 U	< 0.0357 U	< 0.0357 U	< 0.118 U	< 0.0715 UJ	< 0.0715 U	< 0.0357 U	< 0.125 U	< 0.118 U	< 0.179 U
SRC1-J13	13	N	11/12/2008	< 0.0354 U	< 0.0354 U	< 0.0354 U	< 0.117 U	< 0.0707 UJ	< 0.0707 U	< 0.0354 U	< 0.124 U	< 0.117 U	< 0.177 U
SRC1-J14	0	N	11/13/2008	< 0.0342 U	< 0.0342 U	< 0.0342 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0342 U	< 0.12 U	< 0.113 U	< 0.171 U
SRC1-J14	12	N	11/13/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0701 U	< 0.0701 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.175 U
SRC1-J15	0	N	11/12/2008	< 0.0351 U	< 0.0351 U	< 0.0351 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.123 U	< 0.116 U	< 0.176 U
SRC1-J15	0	FD	11/12/2008	< 0.0347 U	< 0.0347 U	< 0.0347 U	< 0.114 U	< 0.0694 U	< 0.0694 U	< 0.0347 U	< 0.121 U	< 0.114 U	< 0.173 U
SRC1-J15	12	N	11/12/2008	< 0.036 U	< 0.036 U	< 0.036 U	< 0.119 U	< 0.072 U	< 0.072 U	< 0.036 U	< 0.126 U	< 0.119 U	< 0.18 U
SRC2-J20	0	N	9/14/2009	< 0.0336 U	< 0.0336 U	< 0.0336 U	< 0.111 U	< 0.0671 U	< 0.0671 U	< 0.0336 U	< 0.117 U	< 0.111 UJ	< 0.168 U
SRC2-J21	0	N	9/14/2009	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.118 U	< 0.112 UJ	< 0.169 U
SRC2-J22	0	N	9/14/2009	< 0.0339 U	< 0.0339 U	< 0.0339 U	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0339 U	< 0.119 U	< 0.112 UJ	< 0.169 U
SRC2-J23	0	N	9/14/2009	< 0.0337 U	< 0.0337 U	< 0.0337 U	< 0.111 U	< 0.0675 U	< 0.0675 U	< 0.0337 U	< 0.118 U	< 0.111 UJ	< 0.169 U
SRC2-J24	0	N	9/14/2009	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.118 U	< 0.112 U	< 0.169 U
SRC2-J25	0	N	9/14/2009	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC2-J26	0	N	9/14/2009	< 0.034 U	< 0.034 U	< 0.034 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.034 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC2-J27	0	N	9/14/2009	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC2-J28	0	N	9/14/2009	< 0.0339 U	< 0.0339 U	< 0.0339 U	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0339 U	< 0.119 U	< 0.112 UJ	< 0.17 U
SRC2-J29	0	N	9/14/2009	< 0.0341 U	< 0.0341 U	< 0.0341 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.119 U	< 0.112 U	< 0.17 U
SRC2-J30	0	N	9/14/2009	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.118 U	< 0.112 U	< 0.169 U
SRC2-J31	0	N	9/14/2009	< 0.0338 U	< 0.0338 U	< 0.0338 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.118 U	< 0.112 U	< 0.169 U
SRC2-J32	0	N	9/14/2009	< 0.0339 U	< 0.0339 U	< 0.0339 U	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0339 U	< 0.119 U	< 0.112 U	< 0.169 U

All units in mg/kg.
-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Benzyl alcohol	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	bis(p-Chlorophenyl) sulfone	bis(p-Chlorophenyl) disulfide	Butylbenzyl phthalate	Carbazole	Dibenzofuran
SRC1-AG16	0	N	10/31/2008	< 0.104 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.115 U	< 0.115 U	< 0.0694 U	< 0.0104 U	< 0.0694 U
SRC1-AG16	11	N	10/31/2008	< 0.108 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.119 U	< 0.072 U	< 0.0108 U	< 0.072 U
SRC1-AG17	0	N	10/31/2008	< 0.102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	0.173	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC1-AG17	11	N	10/31/2008	< 0.106 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.117 U	< 0.0709 U	< 0.0106 U	< 0.0709 U
SRC1-AG18	0	N	10/31/2008	< 0.103 U	< 0.0686 U	< 0.0686 U	< 0.0686 U	< 0.0686 U	< 0.113 U	< 0.113 U	< 0.0686 U	< 0.0103 U	< 0.0686 U
SRC1-AG18	11	N	10/31/2008	< 0.106 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.116 U	< 0.116 U	< 0.0705 U	< 0.0106 U	< 0.0705 U
SRC1-AH15	0	N	11/3/2008	< 0.102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC1-AH15	0	FD	11/3/2008	< 0.103 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.113 U	< 0.0685 U	< 0.0103 U	< 0.0685 U
SRC1-AH15	10	N	11/3/2008	< 0.109 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.119 U	< 0.0724 U	< 0.0109 U	< 0.0724 U
SRC1-AH16	0	N	11/3/2008	< 0.102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U	< 0.0683 U
SRC1-AH16	11	N	11/3/2008	< 0.107 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 U	< 0.117 U	< 0.071 U	< 0.0107 U	< 0.071 U
SRC1-AH17	0	N	11/14/2008	< 0.102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U	< 0.0683 U
SRC1-AH17	11	N	11/14/2008	< 0.107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U	< 0.0714 U
SRC1-AH18	0	N	10/31/2008	< 0.102 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.112 U	< 0.0679 U	< 0.0102 U	< 0.0679 U
SRC1-AH18	11	N	10/31/2008	< 0.105 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.115 U	< 0.0699 U	< 0.0105 U	< 0.0699 U
SRC1-AH19	0	N	10/31/2008	< 0.102 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.112 U	< 0.068 U	< 0.0102 U	< 0.068 U
SRC1-AH19	0	FD	10/31/2008	< 0.102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U	< 0.0683 U
SRC1-AH19	10	N	10/31/2008	< 0.105 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.115 U	< 0.0699 U	< 0.0105 U	< 0.0699 U
SRC1-AI17	0	N	11/3/2008	< 0.103 U	< 0.069 U	< 0.069 U	< 0.069 U	0.117 J	< 0.114 U	< 0.114 U	< 0.069 U	< 0.0103 U	< 0.069 U
SRC1-AI17	3	N	11/3/2008	< 0.109 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	0.103 J	< 0.119 U	< 0.119 U	< 0.0723 U	< 0.0109 U	< 0.0723 U
SRC1-AI17	13	N	11/3/2008	< 0.108 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.118 U	< 0.0717 U	< 0.0108 U	< 0.0717 U
SRC1-AI20	0	N	10/31/2008	< 0.101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U	< 0.0676 U
SRC1-AI20	10	N	10/31/2008	< 0.107 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 U	< 0.117 U	< 0.071 U	< 0.0107 U	< 0.071 U
SRC1-AJ18	0	N	11/3/2008	< 0.101 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.112 U	< 0.0677 U	< 0.0101 U	< 0.0677 U
SRC1-AJ18	3	N	11/3/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-AJ18	13	N	11/3/2008	< 0.106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U	< 0.0708 U
SRC1-AJ19	0	N	11/14/2008	< 0.103 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.113 U	< 0.0685 U	< 0.0103 U	< 0.0685 U
SRC1-AJ19	11	N	11/14/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.103 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.00786 U	< 0.0294 U	< 0.0683 U	< 0.0103 U	< 0.0683 U
SRC1-AJ20	11	N	11/5/2008	< 0.107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.00818 U	< 0.0306 U	< 0.0711 U	< 0.0107 U	< 0.0711 U
SRC1-AJ20	21	N	11/5/2008	< 0.107 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0082 U	< 0.0307 U	< 0.0713 U	< 0.0107 U	< 0.0713 U
SRC1-AJ21	0	N	11/6/2008	< 0.108 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.118 U	< 0.0717 U	< 0.0108 U	< 0.0717 U
SRC1-AJ21	12	N	11/6/2008	< 0.108 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.119 U	< 0.0723 U	< 0.0108 U	< 0.0723 U
SRC1-AJ22	0	N	11/5/2008	< 0.106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.00814 U	< 0.0304 U	< 0.0708 U	< 0.0106 U	< 0.0708 U
SRC1-AJ22	10	N	11/5/2008	< 0.109 U	< 0.0729 U	< 0.0729 U	< 0.0729 U	< 0.0729 U	< 0.00838 U	< 0.0313 U	< 0.0729 U	< 0.0109 U	< 0.0729 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Benzyl alcohol	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	bis(p-Chlorophenyl) sulfone	bis(p-Chlorophenyl) disulfide	Butylbenzyl phthalate	Carbazole	Dibenzofuran
SRC1-AJ23	0	N	11/7/2008	< 0.106 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.177 U	< 0.117 U	< 0.117 U	< 0.0706 U	< 0.0106 U	< 0.0706 U
SRC1-AJ23	4	N	11/7/2008	< 0.107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.178 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U	< 0.0714 U
SRC1-AJ23	14	N	11/7/2008	< 0.107 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.178 U	< 0.117 U	< 0.117 U	< 0.0712 U	< 0.0107 U	< 0.0712 U
SRC1-AJ24	0	N	11/10/2008	< 0.102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.17 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC1-AJ24	10	N	11/10/2008	< 0.106 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.176 U	< 0.116 U	< 0.116 U	< 0.0704 U	< 0.0106 U	< 0.0704 U
SRC1-AJ25	0	N	11/13/2008	< 0.104 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.114 U	< 0.0691 U	< 0.0104 U	< 0.0691 U
SRC1-AJ25	3	N	11/13/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	0.0883 J	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-AJ25	13	N	11/13/2008	< 0.109 U	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.12 U	< 0.12 U	< 0.0726 U	< 0.0109 U	< 0.0726 U
SRC1-AJ26	0	N	11/13/2008	< 0.106 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.116 U	< 0.0704 U	< 0.0106 U	< 0.0704 U
SRC1-AJ26	11	N	11/13/2008	< 0.106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U	< 0.0708 U
SRC1-AJ27	0	N	11/13/2008	< 0.102 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.112 U	< 0.068 U	< 0.0102 U	< 0.068 U
SRC1-AJ27	10	N	11/13/2008	< 0.105 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.115 U	< 0.0697 U	< 0.0105 U	< 0.0697 U
SRC1-AJ28	0	N	11/13/2008	< 0.105 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.115 U	< 0.0697 U	< 0.0105 U	< 0.0697 U
SRC1-AJ28	0	FD	11/13/2008	< 0.103 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.113 U	< 0.113 U	< 0.0688 U	< 0.0103 U	< 0.0688 U
SRC1-AJ28	12	N	11/13/2008	< 0.105 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.116 U	< 0.0703 U	< 0.0105 U	< 0.0703 U
SRC1-AK20	0	N	11/5/2008	< 0.102 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.00782 U	< 0.0292 U	< 0.068 U	< 0.0102 U	< 0.068 U
SRC1-AK20	0	FD	11/5/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.00807 U	< 0.0302 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-AK20	9	N	11/5/2008	< 0.106 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.00816 U	< 0.0305 U	< 0.071 U	< 0.0106 U	< 0.071 U
SRC1-AK20	19	N	11/5/2008	< 0.108 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.00827 U	< 0.0309 U	< 0.0719 U	< 0.0108 U	< 0.0719 U
SRC1-AK21	0	N	11/6/2008	< 0.104 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.115 U	< 0.115 U	0.0722 J	< 0.0104 U	< 0.0696 U
SRC1-AK21	0	FD	11/6/2008	< 0.105 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.115 U	< 0.0699 U	< 0.0105 U	< 0.0699 U
SRC1-AK21	8	N	11/6/2008	< 0.107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.117 U	< 0.0711 U	< 0.0107 U	< 0.0711 U
SRC1-AK21	18	N	11/6/2008	< 0.108 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.119 U	< 0.119 U	< 0.0719 U	< 0.0108 U	< 0.0719 U
SRC1-AK23	0	N	11/6/2008	< 0.106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U	< 0.0707 U
SRC1-AK23	4	N	11/6/2008	< 0.109 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.119 U	< 0.0724 U	< 0.0109 U	< 0.0724 U
SRC1-AK23	14	N	11/6/2008	< 0.108 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.119 U	< 0.072 U	< 0.0108 U	< 0.072 U
SRC1-AK24	0	N	11/6/2008	< 0.102 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.113 U	< 0.0682 U	< 0.0102 U	< 0.0682 U
SRC1-AK24	10	N	11/6/2008	< 0.107 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.117 U	< 0.117 U	< 0.0712 U	< 0.0107 U	< 0.0712 U
SRC1-AK24	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.177 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U	< 0.0707 U
SRC1-AK25	11	N	11/10/2008	< 0.108 U	< 0.0721 U	< 0.0721 U	< 0.0721 U	< 0.18 U	< 0.119 U	< 0.119 U	< 0.0721 U	< 0.0108 U	< 0.0721 U
SRC1-AK26	0	N	11/7/2008	< 0.105 U	< 0.07 U	< 0.07 U	< 0.07 U	< 0.175 U	< 0.116 U	< 0.116 U	< 0.07 U	< 0.0105 U	< 0.07 U
SRC1-AK26	0	FD	11/7/2008	< 0.104 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.173 U	< 0.114 U	< 0.114 U	< 0.0691 U	< 0.0104 U	< 0.0691 U
SRC1-AK26	10	N	11/7/2008	< 0.106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.177 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U	< 0.0707 U
SRC1-AK27	0	N	11/12/2008	< 0.102 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.113 U	< 0.0682 U	< 0.0102 U	< 0.0682 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Benzyl alcohol	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	bis(p-Chlorophenyl) sulfone	bis(p-Chlorophenyl) disulfide	Butylbenzyl phthalate	Carbazole	Dibenzofuran
SRC1-AK27	3	N	11/12/2008	< 0.107 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.118 U	< 0.0715 U	< 0.0107 U	< 0.0715 U
SRC1-AK27	13	N	11/12/2008	< 0.107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U	< 0.0714 U
SRC1-AL24	0	N	11/6/2008	< 0.107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.117 U	< 0.0711 U	< 0.0107 U	< 0.0711 U
SRC1-AL24	8	N	11/6/2008	< 0.107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U	< 0.0714 U
SRC1-AL24	18	N	11/6/2008	< 0.107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U	< 0.0714 U
SRC1-AL26	0	N	11/7/2008	< 0.106 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.176 U	< 0.116 U	< 0.116 U	< 0.0705 U	< 0.0106 U	< 0.0705 U
SRC1-AL26	11	N	11/7/2008	< 0.107 U	< 0.0716 U	< 0.0716 U	< 0.0716 U	< 0.179 U	< 0.118 U	< 0.118 U	< 0.0716 U	< 0.0107 U	< 0.0716 U
SRC1-AL28	0	N	11/12/2008	< 0.102 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.112 U	< 0.0677 U	< 0.0102 U	< 0.0677 U
SRC1-AL28	4	N	11/12/2008	< 0.11 U	< 0.0731 U	< 0.0731 U	< 0.0731 U	0.0816 J	< 0.121 U	< 0.121 U	< 0.0731 U	< 0.011 U	< 0.0731 U
SRC1-AL28	14	N	11/12/2008	< 0.107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U	< 0.0714 U
SRC1-AM27	0	N	11/10/2008	< 0.102 UJ	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.17 U	< 0.112 U	< 0.112 U	< 0.0679 U	< 0.0102 U	< 0.0679 U
SRC1-AM27	3	N	11/10/2008	< 0.104 UJ	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.173 U	< 0.114 U	< 0.114 U	< 0.0693 U	< 0.0104 U	< 0.0693 U
SRC1-AM27	13	N	11/10/2008	< 0.105 UJ	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.176 U	< 0.116 U	< 0.116 U	< 0.0703 U	< 0.0105 U	< 0.0703 U
SRC1-AM28	0	N	11/12/2008	< 0.102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC1-AM28	7	N	11/12/2008	< 0.104 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.114 U	< 0.114 U	< 0.0693 U	< 0.0104 U	< 0.0693 U
SRC1-AM28	7	FD	11/12/2008	< 0.112 U	< 0.0744 U	< 0.0744 U	< 0.0744 U	< 0.0744 U	< 0.123 U	< 0.123 U	< 0.0744 U	< 0.0112 U	< 0.0744 U
SRC1-AM28	17	N	11/12/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-AN28	0	N	11/12/2008	< 0.104 U	< 0.0695 U	< 0.0695 U	< 0.0695 U	< 0.0695 U	< 0.115 U	< 0.115 U	< 0.0695 U	< 0.0104 U	< 0.0695 U
SRC1-AN28	11	N	11/12/2008	< 0.106 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.116 U	< 0.116 U	< 0.0706 U	< 0.0106 U	< 0.0706 U
SRC1-J01	0	N	11/3/2008	< 0.102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U	< 0.0683 U
SRC1-J01	0	FD	11/3/2008	< 0.101 U	< 0.0674 U	< 0.0674 U	< 0.0674 U	< 0.0674 U	< 0.111 U	< 0.111 U	< 0.0674 U	< 0.0101 U	< 0.0674 U
SRC1-J01	11	N	11/3/2008	< 0.107 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.118 U	< 0.118 U	< 0.0713 U	< 0.0107 U	< 0.0713 U
SRC1-J02	0	N	11/5/2008	< 0.103 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.00792 U	< 0.0296 U	< 0.0689 U	< 0.0103 U	< 0.0689 U
SRC1-J02	3	N	11/5/2008	< 0.104 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.00798 U	< 0.0299 U	< 0.0694 U	< 0.0104 U	< 0.0694 U
SRC1-J02	13	N	11/5/2008	< 0.106 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0081 U	< 0.0303 U	< 0.0704 U	< 0.0106 U	< 0.0704 U
SRC1-J03	0	N	11/5/2008	< 0.104 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.00801 U	< 0.0299 U	< 0.0696 U	< 0.0104 U	< 0.0696 U
SRC1-J03	5	N	11/5/2008	< 0.108 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.00832 U	< 0.0311 U	< 0.0723 U	< 0.0108 U	< 0.0723 U
SRC1-J03	15	N	11/5/2008	< 0.106 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0081 U	< 0.0303 U	< 0.0705 U	< 0.0106 U	< 0.0705 U
SRC1-J07	0	N	11/7/2008	< 0.103 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.171 U	< 0.113 U	< 0.113 U	< 0.0685 U	< 0.0103 U	< 0.0685 U
SRC1-J07	10	N	11/7/2008	< 0.106 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.177 U	< 0.117 U	< 0.117 U	< 0.071 U	< 0.0106 U	< 0.071 U
SRC1-J09	0	N	11/10/2008	< 0.103 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.172 U	< 0.114 U	< 0.114 U	< 0.0689 U	< 0.0103 U	< 0.0689 U
SRC1-J09	0	FD	11/10/2008	< 0.102 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.17 U	< 0.112 U	< 0.112 U	< 0.0682 U	< 0.0102 U	< 0.0682 U
SRC1-J09	11	N	11/10/2008	< 0.106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.177 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U	< 0.0708 U
SRC1-J10	0	N	11/13/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-J10	0	FD	11/13/2008	< 0.107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.117 U	< 0.0711 U	< 0.0107 U	< 0.0711 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Benzyl alcohol	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	bis(p-Chlorophenyl) sulfone	bis(p-Chlorophenyl) disulfide	Butylbenzyl phthalate	Carbazole	Dibenzofuran
SRC1-J10	11	N	11/13/2008	< 0.106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U	< 0.0708 U
SRC1-J11	0	N	11/14/2008	< 0.103 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.114 U	< 0.114 U	< 0.0688 U	< 0.0103 U	< 0.0688 U
SRC1-J11	10	N	11/14/2008	< 0.106 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.117 U	< 0.0709 U	< 0.0106 U	< 0.0709 U
SRC1-J12	0	N	11/13/2008	< 0.1 U	< 0.067 U	< 0.067 U	< 0.067 U	< 0.067 U	< 0.111 U	< 0.111 U	< 0.067 U	< 0.01 U	< 0.067 U
SRC1-J12	12	N	11/13/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-J13	0	N	11/12/2008	< 0.101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U	< 0.0676 U
SRC1-J13	3	N	11/12/2008	< 0.107 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.118 U	< 0.0715 U	< 0.0107 U	< 0.0715 U
SRC1-J13	13	N	11/12/2008	< 0.106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U	< 0.0707 U
SRC1-J14	0	N	11/13/2008	< 0.102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U	< 0.0683 U
SRC1-J14	12	N	11/13/2008	< 0.105 U	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.116 U	< 0.116 U	< 0.0701 U	< 0.0105 U	< 0.0701 U
SRC1-J15	0	N	11/12/2008	< 0.105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U	< 0.0702 U
SRC1-J15	0	FD	11/12/2008	< 0.104 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.114 U	< 0.114 U	< 0.0694 U	< 0.0104 U	< 0.0694 U
SRC1-J15	12	N	11/12/2008	< 0.108 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.119 U	< 0.072 U	< 0.0108 U	< 0.072 U
SRC2-J20	0	N	9/14/2009	R	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.111 U	< 0.111 U	< 0.0671 U	< 0.0101 U	< 0.0671 U
SRC2-J21	0	N	9/14/2009	R	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U	< 0.0676 U
SRC2-J22	0	N	9/14/2009	R	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.112 U	< 0.0678 U	< 0.0102 U	< 0.0678 U
SRC2-J23	0	N	9/14/2009	R	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.111 U	< 0.111 U	< 0.0675 U	< 0.0101 U	< 0.0675 U
SRC2-J24	0	N	9/14/2009	< 0.101 UJ	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U	< 0.0676 U
SRC2-J25	0	N	9/14/2009	< 0.102 UJ	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC2-J26	0	N	9/14/2009	< 0.102 UJ	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.112 U	< 0.0679 U	< 0.0102 U	< 0.0679 U
SRC2-J27	0	N	9/14/2009	< 0.102 UJ	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC2-J28	0	N	9/14/2009	R	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.112 U	< 0.0678 U	< 0.0102 U	< 0.0678 U
SRC2-J29	0	N	9/14/2009	< 0.102 UJ	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U	< 0.0681 U
SRC2-J30	0	N	9/14/2009	< 0.101 UJ	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U	< 0.0676 U
SRC2-J31	0	N	9/14/2009	< 0.101 UJ	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U	< 0.0676 U
SRC2-J32	0	N	9/14/2009	< 0.102 UJ	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.112 U	< 0.0677 U	< 0.0102 U	< 0.0677 U

All units in mg/kg.

-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Dichloromethyl ether	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diphenyl disulfide	Diphenyl sulfide	Diphenyl sulfone	Diphenylamine	Fluoranthene
SRC1-AG16	0	N	10/31/2008	< 0.115 U	< 0.0694 U	< 0.0694 U	< 0.0347 U	< 0.0694 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0694 U	< 0.0104 U
SRC1-AG16	11	N	10/31/2008	< 0.119 U	< 0.072 U	< 0.072 U	< 0.036 U	< 0.072 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.072 U	< 0.0108 U
SRC1-AG17	0	N	10/31/2008	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	0.0134 J
SRC1-AG17	11	N	10/31/2008	< 0.117 U	< 0.0709 U	< 0.0709 U	< 0.0354 U	< 0.0709 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0709 U	< 0.0106 U
SRC1-AG18	0	N	10/31/2008	< 0.113 U	< 0.0686 U	< 0.0686 U	< 0.0343 U	< 0.0686 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0686 U	< 0.0103 U
SRC1-AG18	11	N	10/31/2008	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0352 U	< 0.0705 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0705 U	< 0.0106 U
SRC1-AH15	0	N	11/3/2008	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U
SRC1-AH15	0	FD	11/3/2008	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0342 U	< 0.0685 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0685 U	< 0.0103 U
SRC1-AH15	10	N	11/3/2008	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0362 U	< 0.0724 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.0724 U	< 0.0109 U
SRC1-AH16	0	N	11/3/2008	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0341 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U
SRC1-AH16	11	N	11/3/2008	< 0.117 U	< 0.071 U	< 0.071 U	< 0.0355 U	< 0.071 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.071 U	< 0.0107 U
SRC1-AH17	0	N	11/14/2008	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0341 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U
SRC1-AH17	11	N	11/14/2008	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U
SRC1-AH18	0	N	10/31/2008	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0339 U	< 0.0679 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0679 U	< 0.0102 U
SRC1-AH18	11	N	10/31/2008	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0349 U	< 0.0699 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0699 U	< 0.0105 U
SRC1-AH19	0	N	10/31/2008	< 0.112 U	< 0.068 U	< 0.068 U	< 0.034 U	< 0.068 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.068 U	< 0.0102 U
SRC1-AH19	0	FD	10/31/2008	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0342 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U
SRC1-AH19	10	N	10/31/2008	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.035 U	< 0.0699 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0699 U	< 0.0105 U
SRC1-AI17	0	N	11/3/2008	< 0.114 U	< 0.069 U	< 0.069 U	< 0.0345 U	< 0.069 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.069 U	< 0.0103 U
SRC1-AI17	3	N	11/3/2008	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0362 U	< 0.0723 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.0723 U	< 0.0109 U
SRC1-AI17	13	N	11/3/2008	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0358 U	< 0.0717 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0717 U	< 0.0108 U
SRC1-AI20	0	N	10/31/2008	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U
SRC1-AI20	10	N	10/31/2008	< 0.117 U	< 0.071 U	< 0.071 U	< 0.0355 U	< 0.071 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.071 U	< 0.0107 U
SRC1-AJ18	0	N	11/3/2008	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0338 U	< 0.0677 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0677 U	< 0.0101 U
SRC1-AJ18	3	N	11/3/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U
SRC1-AJ18	13	N	11/3/2008	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U
SRC1-AJ19	0	N	11/14/2008	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0342 U	< 0.0685 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0685 U	< 0.0103 U
SRC1-AJ19	11	N	11/14/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0342 U	< 0.0683 U	< 0.0277 U	< 0.0287 U	< 0.0181 U	< 0.0683 U	< 0.0103 U
SRC1-AJ20	11	N	11/5/2008	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0356 U	< 0.0711 U	< 0.0288 U	< 0.0299 U	< 0.0188 U	< 0.0711 U	< 0.0107 U
SRC1-AJ20	21	N	11/5/2008	< 0.118 U	< 0.0713 U	< 0.0713 U	< 0.0357 U	< 0.0713 U	< 0.0289 U	< 0.03 U	< 0.0189 U	< 0.0713 U	< 0.0107 U
SRC1-AJ21	0	N	11/6/2008	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0359 U	< 0.0717 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0717 U	< 0.0108 U
SRC1-AJ21	12	N	11/6/2008	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0361 U	< 0.0723 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.0723 U	< 0.0108 U
SRC1-AJ22	0	N	11/5/2008	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.0708 U	< 0.0287 U	< 0.0297 U	< 0.0188 U	< 0.0708 U	< 0.0106 U
SRC1-AJ22	10	N	11/5/2008	< 0.12 U	< 0.0729 U	< 0.0729 U	< 0.0364 U	< 0.0729 U	< 0.0295 U	< 0.0306 U	< 0.0193 U	< 0.0729 U	< 0.0109 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Dichloromethyl ether	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diphenyl disulfide	Diphenyl sulfide	Diphenyl sulfone	Diphenylamine	Fluoranthene
SRC1-AJ23	0	N	11/7/2008	< 0.117 U	< 0.0706 U	< 0.0706 U	< 0.0353 U	< 0.0706 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0706 U	< 0.0106 U
SRC1-AJ23	4	N	11/7/2008	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U
SRC1-AJ23	14	N	11/7/2008	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0356 U	< 0.0712 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0712 U	< 0.0107 U
SRC1-AJ24	0	N	11/10/2008	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.034 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U
SRC1-AJ24	10	N	11/10/2008	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0352 U	< 0.0704 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0704 U	< 0.0106 U
SRC1-AJ25	0	N	11/13/2008	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0346 U	< 0.0691 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0691 U	< 0.0104 U
SRC1-AJ25	3	N	11/13/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U
SRC1-AJ25	13	N	11/13/2008	< 0.12 U	< 0.0726 U	< 0.0726 U	< 0.0363 U	< 0.0726 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.0726 U	< 0.0109 U
SRC1-AJ26	0	N	11/13/2008	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0352 U	< 0.0704 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0704 U	< 0.0106 U
SRC1-AJ26	11	N	11/13/2008	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U
SRC1-AJ27	0	N	11/13/2008	< 0.112 U	< 0.068 U	< 0.068 U	< 0.034 U	< 0.068 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.068 U	< 0.0102 U
SRC1-AJ27	10	N	11/13/2008	< 0.115 U	< 0.0697 U	< 0.0697 U	< 0.0349 U	< 0.0697 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0697 U	< 0.0105 U
SRC1-AJ28	0	N	11/13/2008	< 0.115 U	< 0.0697 U	< 0.0697 U	0.0878 J	< 0.0697 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0697 U	< 0.0105 U
SRC1-AJ28	0	FD	11/13/2008	< 0.113 U	< 0.0688 U	< 0.0688 U	< 0.0344 UJ	< 0.0688 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0688 U	0.0413
SRC1-AJ28	12	N	11/13/2008	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0351 U	< 0.0703 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0703 U	< 0.0105 U
SRC1-AK20	0	N	11/5/2008	< 0.112 U	< 0.068 U	< 0.068 U	< 0.034 U	< 0.068 U	< 0.0275 U	< 0.0285 U	< 0.018 U	< 0.068 U	< 0.0102 U
SRC1-AK20	0	FD	11/5/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.0284 U	< 0.0295 U	< 0.0186 U	< 0.0702 U	< 0.0105 U
SRC1-AK20	9	N	11/5/2008	< 0.117 U	< 0.071 U	< 0.071 U	< 0.0355 U	< 0.071 U	< 0.0287 U	< 0.0298 U	< 0.0188 U	< 0.071 U	< 0.0106 U
SRC1-AK20	19	N	11/5/2008	< 0.119 U	< 0.0719 U	< 0.0719 U	< 0.036 U	< 0.0719 U	< 0.0291 U	< 0.0302 U	< 0.0191 U	< 0.0719 U	< 0.0108 U
SRC1-AK21	0	N	11/6/2008	< 0.115 U	< 0.0696 U	< 0.0696 U	< 0.0348 U	< 0.0696 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0696 U	0.0223 J
SRC1-AK21	0	FD	11/6/2008	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.035 U	< 0.0699 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0699 U	< 0.0105 U
SRC1-AK21	8	N	11/6/2008	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0355 U	< 0.0711 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0711 U	< 0.0107 U
SRC1-AK21	18	N	11/6/2008	< 0.119 U	< 0.0719 U	< 0.0719 U	< 0.036 U	< 0.0719 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.0719 U	< 0.0108 U
SRC1-AK23	0	N	11/6/2008	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0353 U	< 0.0707 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U
SRC1-AK23	4	N	11/6/2008	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0362 U	< 0.0724 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.0724 U	< 0.0109 U
SRC1-AK23	14	N	11/6/2008	< 0.119 U	< 0.072 U	< 0.072 U	< 0.036 U	< 0.072 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.072 U	< 0.0108 U
SRC1-AK24	0	N	11/6/2008	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0341 U	< 0.0682 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0682 U	< 0.0102 U
SRC1-AK24	10	N	11/6/2008	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0356 U	< 0.0712 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0712 U	< 0.0107 U
SRC1-AK24	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0354 U	< 0.0707 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U
SRC1-AK25	11	N	11/10/2008	< 0.119 U	< 0.0721 U	< 0.0721 U	< 0.036 U	< 0.0721 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.0721 U	< 0.0108 U
SRC1-AK26	0	N	11/7/2008	< 0.116 U	< 0.07 U	< 0.07 U	< 0.035 U	< 0.07 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.07 U	< 0.0105 U
SRC1-AK26	0	FD	11/7/2008	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0346 U	< 0.0691 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0691 U	< 0.0104 U
SRC1-AK26	10	N	11/7/2008	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0354 U	< 0.0707 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U
SRC1-AK27	0	N	11/12/2008	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0341 U	< 0.0682 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0682 U	< 0.0102 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Dichloromethyl ether	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diphenyl disulfide	Diphenyl sulfide	Diphenyl sulfone	Diphenylamine	Fluoranthene
SRC1-AK27	3	N	11/12/2008	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0358 U	< 0.0715 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0715 U	< 0.0107 U
SRC1-AK27	13	N	11/12/2008	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U
SRC1-AL24	0	N	11/6/2008	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0355 U	< 0.0711 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0711 U	< 0.0107 U
SRC1-AL24	8	N	11/6/2008	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U
SRC1-AL24	18	N	11/6/2008	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U
SRC1-AL26	0	N	11/7/2008	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0352 U	< 0.0705 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0705 U	< 0.0106 U
SRC1-AL26	11	N	11/7/2008	< 0.118 U	< 0.0716 U	< 0.0716 U	< 0.0358 U	< 0.0716 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0716 U	< 0.0107 U
SRC1-AL28	0	N	11/12/2008	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0339 U	< 0.0677 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0677 U	< 0.0102 U
SRC1-AL28	4	N	11/12/2008	< 0.121 U	< 0.0731 U	< 0.0731 U	0.0448 J	< 0.0731 U	< 0.121 U	< 0.121 U	< 0.121 U	< 0.0731 U	0.099
SRC1-AL28	14	N	11/12/2008	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0357 U	< 0.0714 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0714 U	< 0.0107 U
SRC1-AM27	0	N	11/10/2008	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.034 U	< 0.0679 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0679 U	< 0.0102 U
SRC1-AM27	3	N	11/10/2008	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0347 U	< 0.0693 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0693 U	< 0.0104 U
SRC1-AM27	13	N	11/10/2008	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0352 U	< 0.0703 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0703 U	< 0.0105 U
SRC1-AM28	0	N	11/12/2008	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.034 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U
SRC1-AM28	7	N	11/12/2008	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0346 U	< 0.0693 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0693 U	< 0.0104 U
SRC1-AM28	7	FD	11/12/2008	< 0.123 U	< 0.0744 U	< 0.0744 U	< 0.0372 U	< 0.0744 U	< 0.123 U	< 0.123 U	< 0.123 U	< 0.0744 U	< 0.0112 U
SRC1-AM28	17	N	11/12/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U
SRC1-AN28	0	N	11/12/2008	< 0.115 U	< 0.0695 U	< 0.0695 U	< 0.0347 U	< 0.0695 U	< 0.115 U	< 0.115 U	< 0.115 U	< 0.0695 U	< 0.0104 U
SRC1-AN28	11	N	11/12/2008	< 0.116 U	< 0.0706 U	< 0.0706 U	< 0.0353 U	< 0.0706 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0706 U	< 0.0106 U
SRC1-J01	0	N	11/3/2008	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0341 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U
SRC1-J01	0	FD	11/3/2008	< 0.111 U	< 0.0674 U	< 0.0674 U	< 0.0337 U	< 0.0674 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.0674 U	< 0.0101 U
SRC1-J01	11	N	11/3/2008	< 0.118 U	< 0.0713 U	< 0.0713 U	< 0.0356 U	< 0.0713 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0713 U	< 0.0107 U
SRC1-J02	0	N	11/5/2008	< 0.114 U	< 0.0689 U	< 0.0689 U	< 0.0344 U	< 0.0689 U	< 0.0279 U	< 0.0289 U	< 0.0183 U	< 0.0689 U	< 0.0103 U
SRC1-J02	3	N	11/5/2008	< 0.115 U	< 0.0694 U	< 0.0694 U	< 0.0347 U	< 0.0694 U	< 0.0281 U	< 0.0292 U	< 0.0184 U	< 0.0694 U	< 0.0104 U
SRC1-J02	13	N	11/5/2008	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0352 U	< 0.0704 U	< 0.0285 U	< 0.0296 U	< 0.0187 U	< 0.0704 U	< 0.0106 U
SRC1-J03	0	N	11/5/2008	< 0.115 U	< 0.0696 U	< 0.0696 U	< 0.0348 U	< 0.0696 U	< 0.0282 U	< 0.0292 U	< 0.0184 U	< 0.0696 U	< 0.0104 U
SRC1-J03	5	N	11/5/2008	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0362 U	< 0.0723 U	< 0.0293 U	< 0.0304 U	< 0.0192 U	< 0.0723 U	< 0.0108 U
SRC1-J03	15	N	11/5/2008	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0352 U	< 0.0705 U	< 0.0285 U	< 0.0296 U	< 0.0187 U	< 0.0705 U	< 0.0106 U
SRC1-J07	0	N	11/7/2008	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0343 U	< 0.0685 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0685 U	< 0.0103 U
SRC1-J07	10	N	11/7/2008	< 0.117 U	< 0.071 U	< 0.071 U	< 0.0355 U	< 0.071 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.071 U	< 0.0106 U
SRC1-J09	0	N	11/10/2008	< 0.114 U	< 0.0689 U	< 0.0689 U	< 0.0344 U	< 0.0689 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0689 U	< 0.0103 U
SRC1-J09	0	FD	11/10/2008	< 0.112 U	< 0.0682 U	< 0.0682 U	< 0.0341 U	< 0.0682 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0682 U	< 0.0102 U
SRC1-J09	11	N	11/10/2008	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U
SRC1-J10	0	N	11/13/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U
SRC1-J10	0	FD	11/13/2008	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0355 U	< 0.0711 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0711 U	< 0.0107 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Dichloromethyl ether	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diphenyl disulfide	Diphenyl sulfide	Diphenyl sulfone	Diphenylamine	Fluoranthene
SRC1-J10	11	N	11/13/2008	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0354 U	< 0.0708 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0708 U	< 0.0106 U
SRC1-J11	0	N	11/14/2008	< 0.114 UJ	< 0.0688 U	< 0.0688 U	< 0.0344 U	< 0.0688 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0688 U	0.0283 J
SRC1-J11	10	N	11/14/2008	< 0.117 U	< 0.0709 U	< 0.0709 U	< 0.0354 U	< 0.0709 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0709 U	< 0.0106 U
SRC1-J12	0	N	11/13/2008	< 0.111 U	< 0.067 U	< 0.067 U	< 0.0335 U	< 0.067 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.067 U	< 0.01 U
SRC1-J12	12	N	11/13/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U
SRC1-J13	0	N	11/12/2008	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U
SRC1-J13	3	N	11/12/2008	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0357 U	< 0.0715 U	< 0.118 U	< 0.118 U	< 0.118 U	< 0.0715 U	0.0176 J
SRC1-J13	13	N	11/12/2008	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0354 U	< 0.0707 U	< 0.117 U	< 0.117 U	< 0.117 U	< 0.0707 U	< 0.0106 U
SRC1-J14	0	N	11/13/2008	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0342 U	< 0.0683 U	< 0.113 U	< 0.113 U	< 0.113 U	< 0.0683 U	< 0.0102 U
SRC1-J14	12	N	11/13/2008	< 0.116 U	< 0.0701 U	< 0.0701 U	< 0.0351 U	< 0.0701 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0701 U	< 0.0105 U
SRC1-J15	0	N	11/12/2008	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0351 U	< 0.0702 U	< 0.116 U	< 0.116 U	< 0.116 U	< 0.0702 U	< 0.0105 U
SRC1-J15	0	FD	11/12/2008	< 0.114 U	< 0.0694 U	< 0.0694 U	< 0.0347 U	< 0.0694 U	< 0.114 U	< 0.114 U	< 0.114 U	< 0.0694 U	< 0.0104 U
SRC1-J15	12	N	11/12/2008	< 0.119 U	< 0.072 U	< 0.072 U	< 0.036 U	< 0.072 U	< 0.119 U	< 0.119 U	< 0.119 U	< 0.072 U	< 0.0108 U
SRC2-J20	0	N	9/14/2009	< 0.111 U	< 0.0671 U	< 0.0671 U	< 0.0336 U	< 0.0671 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.0671 U	< 0.0101 U
SRC2-J21	0	N	9/14/2009	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U
SRC2-J22	0	N	9/14/2009	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0339 U	< 0.0678 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0678 U	< 0.0102 U
SRC2-J23	0	N	9/14/2009	< 0.111 U	< 0.0675 U	< 0.0675 U	< 0.0337 U	< 0.0675 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.0675 U	< 0.0101 U
SRC2-J24	0	N	9/14/2009	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U
SRC2-J25	0	N	9/14/2009	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.034 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	0.021 J
SRC2-J26	0	N	9/14/2009	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.034 U	< 0.0679 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0679 U	< 0.0102 U
SRC2-J27	0	N	9/14/2009	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U
SRC2-J28	0	N	9/14/2009	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0339 U	< 0.0678 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0678 U	< 0.0102 U
SRC2-J29	0	N	9/14/2009	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0341 U	< 0.0681 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0681 U	< 0.0102 U
SRC2-J30	0	N	9/14/2009	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U
SRC2-J31	0	N	9/14/2009	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0338 U	< 0.0676 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0676 U	< 0.0101 U
SRC2-J32	0	N	9/14/2009	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0339 U	< 0.0677 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.0677 U	< 0.0102 U

All units in mg/kg.
-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclo-pentadiene	Hexachloroethane	Hydroxymethyl phthalimide	Isophorone	m,p-Cresols	Naphthalene	Nitrobenzene
SRC1-AG16	0	N	10/31/2008	< 0.0104 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.115 U	< 0.0694 U	< 0.139 U	< 0.0104 U	< 0.0694 U
SRC1-AG16	11	N	10/31/2008	< 0.0108 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.144 U	< 0.0108 U	< 0.072 U
SRC1-AG17	0	N	10/31/2008	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC1-AG17	11	N	10/31/2008	< 0.0106 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.0709 U	< 0.142 U	< 0.0106 U	< 0.0709 U
SRC1-AG18	0	N	10/31/2008	< 0.0103 U	< 0.0686 U	< 0.0686 U	< 0.0686 U	< 0.0686 U	< 0.113 U	< 0.0686 U	< 0.137 U	< 0.0103 U	< 0.0686 U
SRC1-AG18	11	N	10/31/2008	< 0.0106 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.116 U	< 0.0705 U	< 0.141 U	< 0.0106 U	< 0.0705 U
SRC1-AH15	0	N	11/3/2008	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC1-AH15	0	FD	11/3/2008	< 0.0103 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.137 U	< 0.0103 U	< 0.0685 U
SRC1-AH15	10	N	11/3/2008	< 0.0109 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.0724 U	< 0.145 U	< 0.0109 U	< 0.0724 U
SRC1-AH16	0	N	11/3/2008	< 0.0102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.137 U	< 0.0102 U	< 0.0683 U
SRC1-AH16	11	N	11/3/2008	< 0.0107 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.142 U	< 0.0107 U	< 0.071 U
SRC1-AH17	0	N	11/14/2008	< 0.0102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.137 U	< 0.0102 U	< 0.0683 U
SRC1-AH17	11	N	11/14/2008	< 0.0107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.143 U	< 0.0107 U	< 0.0714 U
SRC1-AH18	0	N	10/31/2008	< 0.0102 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.136 U	< 0.0102 U	< 0.0679 U
SRC1-AH18	11	N	10/31/2008	< 0.0105 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.14 U	< 0.0105 U	< 0.0699 U
SRC1-AH19	0	N	10/31/2008	< 0.0102 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.136 U	< 0.0102 U	< 0.068 U
SRC1-AH19	0	FD	10/31/2008	< 0.0102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.137 U	< 0.0102 U	< 0.0683 U
SRC1-AH19	10	N	10/31/2008	< 0.0105 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.14 U	< 0.0105 U	< 0.0699 U
SRC1-AI17	0	N	11/3/2008	< 0.0103 U	< 0.069 U	< 0.069 U	< 0.069 U	< 0.069 U	< 0.114 U	< 0.069 U	< 0.138 U	< 0.0103 U	< 0.069 U
SRC1-AI17	3	N	11/3/2008	< 0.0109 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.0723 U	< 0.145 U	< 0.0109 U	< 0.0723 U
SRC1-AI17	13	N	11/3/2008	< 0.0108 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.0717 U	< 0.143 U	< 0.0108 U	< 0.0717 U
SRC1-AI20	0	N	10/31/2008	< 0.0101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.135 U	< 0.0101 U	< 0.0676 U
SRC1-AI20	10	N	10/31/2008	< 0.0107 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.142 U	< 0.0107 U	< 0.071 U
SRC1-AJ18	0	N	11/3/2008	< 0.0101 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.135 U	< 0.0101 U	< 0.0677 U
SRC1-AJ18	3	N	11/3/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-AJ18	13	N	11/3/2008	< 0.0106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.142 U	< 0.0106 U	< 0.0708 U
SRC1-AJ19	0	N	11/14/2008	< 0.0103 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.137 U	< 0.0103 U	< 0.0685 U
SRC1-AJ19	11	N	11/14/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.0103 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0509 U	< 0.0683 U	< 0.137 U	< 0.0103 U	< 0.0683 U
SRC1-AJ20	11	N	11/5/2008	< 0.0107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.053 U	< 0.0711 U	< 0.142 U	< 0.0107 U	< 0.0711 U
SRC1-AJ20	21	N	11/5/2008	< 0.0107 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0531 U	< 0.0713 U	< 0.143 U	< 0.0107 U	< 0.0713 U
SRC1-AJ21	0	N	11/6/2008	< 0.0108 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.0717 U	< 0.143 U	< 0.0108 U	< 0.0717 U
SRC1-AJ21	12	N	11/6/2008	< 0.0108 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.0723 U	< 0.145 U	< 0.0108 U	< 0.0723 U
SRC1-AJ22	0	N	11/5/2008	< 0.0106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0527 U	< 0.0708 U	< 0.142 U	< 0.0106 U	< 0.0708 U
SRC1-AJ22	10	N	11/5/2008	< 0.0109 U	< 0.0729 U	< 0.0729 U	< 0.0729 U	< 0.0729 U	< 0.0543 U	< 0.0729 U	< 0.146 U	< 0.0109 U	< 0.0729 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclo-pentadiene	Hexachloroethane	Hydroxymethyl phthalimide	Isophorone	m,p-Cresols	Naphthalene	Nitrobenzene
SRC1-AJ23	0	N	11/7/2008	< 0.0106 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.117 UJ	< 0.0706 U	< 0.141 U	< 0.0106 U	< 0.0706 U
SRC1-AJ23	4	N	11/7/2008	< 0.0107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 UJ	< 0.0714 U	< 0.143 U	< 0.0107 U	< 0.0714 U
SRC1-AJ23	14	N	11/7/2008	< 0.0107 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.117 UJ	< 0.0712 U	< 0.142 U	< 0.0107 U	< 0.0712 U
SRC1-AJ24	0	N	11/10/2008	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 UJ	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC1-AJ24	10	N	11/10/2008	< 0.0106 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 UJ	< 0.0704 U	< 0.141 U	< 0.0106 U	< 0.0704 U
SRC1-AJ25	0	N	11/13/2008	< 0.0104 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.138 U	< 0.0104 U	< 0.0691 U
SRC1-AJ25	3	N	11/13/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-AJ25	13	N	11/13/2008	< 0.0109 U	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.12 U	< 0.0726 U	< 0.145 U	< 0.0109 U	< 0.0726 U
SRC1-AJ26	0	N	11/13/2008	< 0.0106 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.141 U	< 0.0106 U	< 0.0704 U
SRC1-AJ26	11	N	11/13/2008	< 0.0106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.142 U	< 0.0106 U	< 0.0708 U
SRC1-AJ27	0	N	11/13/2008	< 0.0102 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.136 U	< 0.0102 U	< 0.068 U
SRC1-AJ27	10	N	11/13/2008	< 0.0105 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.139 U	< 0.0105 U	< 0.0697 U
SRC1-AJ28	0	N	11/13/2008	< 0.0105 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.139 U	< 0.0105 U	< 0.0697 U
SRC1-AJ28	0	FD	11/13/2008	< 0.0103 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.113 U	< 0.0688 U	< 0.138 U	< 0.0103 U	< 0.0688 U
SRC1-AJ28	12	N	11/13/2008	< 0.0105 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.141 U	< 0.0105 U	< 0.0703 U
SRC1-AK20	0	N	11/5/2008	< 0.0102 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.0506 U	< 0.068 U	< 0.136 U	< 0.0102 U	< 0.068 U
SRC1-AK20	0	FD	11/5/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0523 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-AK20	9	N	11/5/2008	< 0.0106 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.0529 U	< 0.071 U	< 0.142 U	< 0.0106 U	< 0.071 U
SRC1-AK20	19	N	11/5/2008	< 0.0108 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0536 U	< 0.0719 U	< 0.144 U	< 0.0108 U	< 0.0719 U
SRC1-AK21	0	N	11/6/2008	< 0.0104 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.115 U	< 0.0696 U	< 0.139 U	< 0.0104 U	< 0.0696 U
SRC1-AK21	0	FD	11/6/2008	< 0.0105 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.14 U	< 0.0105 U	< 0.0699 U
SRC1-AK21	8	N	11/6/2008	< 0.0107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.142 U	< 0.0107 U	< 0.0711 U
SRC1-AK21	18	N	11/6/2008	< 0.0108 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.119 U	< 0.0719 U	< 0.144 U	< 0.0108 U	< 0.0719 U
SRC1-AK23	0	N	11/6/2008	< 0.0106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.141 U	< 0.0106 U	< 0.0707 U
SRC1-AK23	4	N	11/6/2008	< 0.0109 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.0724 U	< 0.145 U	< 0.0109 U	< 0.0724 U
SRC1-AK23	14	N	11/6/2008	< 0.0108 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.144 U	< 0.0108 U	< 0.072 U
SRC1-AK24	0	N	11/6/2008	< 0.0102 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.0682 U	< 0.136 U	< 0.0102 U	< 0.0682 U
SRC1-AK24	10	N	11/6/2008	< 0.0107 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.117 U	< 0.0712 U	< 0.142 U	< 0.0107 U	< 0.0712 U
SRC1-AK24	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.0106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 UJ	< 0.0707 U	< 0.141 U	< 0.0106 U	< 0.0707 U
SRC1-AK25	11	N	11/10/2008	< 0.0108 U	< 0.0721 U	< 0.0721 U	< 0.0721 U	< 0.0721 U	< 0.119 UJ	< 0.0721 U	< 0.144 U	< 0.0108 U	< 0.0721 U
SRC1-AK26	0	N	11/7/2008	< 0.0105 U	< 0.07 U	< 0.07 U	< 0.07 U	< 0.07 U	< 0.116 UJ	< 0.07 U	< 0.14 U	< 0.0105 U	< 0.07 U
SRC1-AK26	0	FD	11/7/2008	< 0.0104 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 UJ	< 0.0691 U	< 0.138 U	< 0.0104 U	< 0.0691 U
SRC1-AK26	10	N	11/7/2008	< 0.0106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 UJ	< 0.0707 U	< 0.141 U	< 0.0106 U	< 0.0707 U
SRC1-AK27	0	N	11/12/2008	< 0.0102 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.0682 U	< 0.136 U	< 0.0102 U	< 0.0682 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclo-pentadiene	Hexachloroethane	Hydroxymethyl phthalimide	Isophorone	m,p-Cresols	Naphthalene	Nitrobenzene
SRC1-AK27	3	N	11/12/2008	< 0.0107 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.0715 U	< 0.143 U	< 0.0107 U	< 0.0715 U
SRC1-AK27	13	N	11/12/2008	< 0.0107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.143 U	< 0.0107 U	< 0.0714 U
SRC1-AL24	0	N	11/6/2008	< 0.0107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.142 U	< 0.0107 U	< 0.0711 U
SRC1-AL24	8	N	11/6/2008	< 0.0107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.143 U	< 0.0107 U	< 0.0714 U
SRC1-AL24	18	N	11/6/2008	< 0.0107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.143 U	< 0.0107 U	< 0.0714 U
SRC1-AL26	0	N	11/7/2008	< 0.0106 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.116 UJ	< 0.0705 U	< 0.141 U	< 0.0106 U	< 0.0705 U
SRC1-AL26	11	N	11/7/2008	< 0.0107 U	< 0.0716 U	< 0.0716 U	< 0.0716 U	< 0.0716 U	< 0.118 UJ	< 0.0716 U	< 0.143 U	< 0.0107 U	< 0.0716 U
SRC1-AL28	0	N	11/12/2008	< 0.0102 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.135 UJ	< 0.0102 U	< 0.0677 U
SRC1-AL28	4	N	11/12/2008	< 0.011 U	< 0.0731 U	< 0.0731 U	< 0.0731 U	< 0.0731 U	< 0.121 U	< 0.0731 U	< 0.146 U	< 0.011 U	< 0.0731 U
SRC1-AL28	14	N	11/12/2008	< 0.0107 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.143 U	< 0.0107 U	< 0.0714 U
SRC1-AM27	0	N	11/10/2008	< 0.0102 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 UJ	< 0.0679 U	< 0.136 U	< 0.0102 U	< 0.0679 U
SRC1-AM27	3	N	11/10/2008	< 0.0104 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.114 UJ	< 0.0693 U	< 0.139 U	< 0.0104 U	< 0.0693 U
SRC1-AM27	13	N	11/10/2008	< 0.0105 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 UJ	< 0.0703 U	< 0.141 U	< 0.0105 U	< 0.0703 U
SRC1-AM28	0	N	11/12/2008	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC1-AM28	7	N	11/12/2008	< 0.0104 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.114 U	< 0.0693 U	< 0.139 U	< 0.0104 U	< 0.0693 U
SRC1-AM28	7	FD	11/12/2008	< 0.0112 U	< 0.0744 U	< 0.0744 U	< 0.0744 U	< 0.0744 U	< 0.123 U	< 0.0744 U	< 0.149 U	< 0.0112 U	< 0.0744 U
SRC1-AM28	17	N	11/12/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-AN28	0	N	11/12/2008	< 0.0104 U	< 0.0695 U	< 0.0695 U	< 0.0695 U	< 0.0695 U	< 0.115 U	< 0.0695 U	< 0.139 U	< 0.0104 U	< 0.0695 U
SRC1-AN28	11	N	11/12/2008	< 0.0106 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.116 U	< 0.0706 U	< 0.141 U	< 0.0106 U	< 0.0706 U
SRC1-J01	0	N	11/3/2008	< 0.0102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.137 U	< 0.0102 U	< 0.0683 U
SRC1-J01	0	FD	11/3/2008	< 0.0101 U	< 0.0674 U	< 0.0674 U	< 0.0674 U	< 0.0674 U	< 0.111 U	< 0.0674 U	< 0.135 U	< 0.0101 U	< 0.0674 U
SRC1-J01	11	N	11/3/2008	< 0.0107 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.118 U	< 0.0713 U	< 0.143 U	< 0.0107 U	< 0.0713 U
SRC1-J02	0	N	11/5/2008	< 0.0103 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0513 U	< 0.0689 U	< 0.138 U	< 0.0103 U	< 0.0689 U
SRC1-J02	3	N	11/5/2008	< 0.0104 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0517 U	< 0.0694 U	< 0.139 U	< 0.0104 U	< 0.0694 U
SRC1-J02	13	N	11/5/2008	< 0.0106 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.0524 U	< 0.0704 U	< 0.141 U	< 0.0106 U	< 0.0704 U
SRC1-J03	0	N	11/5/2008	< 0.0104 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0519 U	< 0.0696 U	< 0.139 U	< 0.0104 U	< 0.0696 U
SRC1-J03	5	N	11/5/2008	< 0.0108 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0539 U	< 0.0723 U	< 0.145 U	< 0.0108 U	< 0.0723 U
SRC1-J03	15	N	11/5/2008	< 0.0106 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0525 U	< 0.0705 U	< 0.141 U	< 0.0106 U	< 0.0705 U
SRC1-J07	0	N	11/7/2008	< 0.0103 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 UJ	< 0.0685 U	< 0.137 U	< 0.0103 U	< 0.0685 U
SRC1-J07	10	N	11/7/2008	< 0.0106 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 UJ	< 0.071 U	< 0.142 U	< 0.0106 U	< 0.071 U
SRC1-J09	0	N	11/10/2008	< 0.0103 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.114 UJ	< 0.0689 U	< 0.138 U	< 0.0103 U	< 0.0689 U
SRC1-J09	0	FD	11/10/2008	< 0.0102 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.112 UJ	< 0.0682 U	< 0.136 U	< 0.0102 U	< 0.0682 U
SRC1-J09	11	N	11/10/2008	< 0.0106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 UJ	< 0.0708 U	< 0.142 U	< 0.0106 U	< 0.0708 U
SRC1-J10	0	N	11/13/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-J10	0	FD	11/13/2008	< 0.0107 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.142 U	< 0.0107 U	< 0.0711 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclo-pentadiene	Hexachloroethane	Hydroxymethyl phthalimide	Isophorone	m,p-Cresols	Naphthalene	Nitrobenzene
SRC1-J10	11	N	11/13/2008	< 0.0106 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.142 U	< 0.0106 U	< 0.0708 U
SRC1-J11	0	N	11/14/2008	< 0.0103 U	0.078 J	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.114 U	< 0.0688 U	< 0.138 UJ	< 0.0103 U	< 0.0688 U
SRC1-J11	10	N	11/14/2008	< 0.0106 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.0709 U	< 0.142 U	< 0.0106 U	< 0.0709 U
SRC1-J12	0	N	11/13/2008	< 0.01 U	< 0.067 U	< 0.067 U	< 0.067 U	< 0.067 U	< 0.111 U	< 0.067 U	< 0.134 U	< 0.01 U	< 0.067 U
SRC1-J12	12	N	11/13/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-J13	0	N	11/12/2008	< 0.0101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.135 U	< 0.0101 U	< 0.0676 U
SRC1-J13	3	N	11/12/2008	< 0.0107 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.0715 U	< 0.143 U	< 0.0107 U	< 0.0715 U
SRC1-J13	13	N	11/12/2008	< 0.0106 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.141 U	< 0.0106 U	< 0.0707 U
SRC1-J14	0	N	11/13/2008	< 0.0102 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.137 U	< 0.0102 U	< 0.0683 U
SRC1-J14	12	N	11/13/2008	< 0.0105 U	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.116 U	< 0.0701 U	< 0.14 U	< 0.0105 U	< 0.0701 U
SRC1-J15	0	N	11/12/2008	< 0.0105 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.14 U	< 0.0105 U	< 0.0702 U
SRC1-J15	0	FD	11/12/2008	< 0.0104 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.114 U	< 0.0694 U	< 0.139 U	< 0.0104 U	< 0.0694 U
SRC1-J15	12	N	11/12/2008	< 0.0108 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.144 U	< 0.0108 U	< 0.072 U
SRC2-J20	0	N	9/14/2009	< 0.0101 U	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.111 U	< 0.0671 U	< 0.134 U	< 0.0101 U	< 0.0671 U
SRC2-J21	0	N	9/14/2009	< 0.0101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.135 U	< 0.0101 U	< 0.0676 U
SRC2-J22	0	N	9/14/2009	< 0.0102 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.136 U	< 0.0102 U	< 0.0678 U
SRC2-J23	0	N	9/14/2009	< 0.0101 U	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.111 U	< 0.0675 U	< 0.135 U	< 0.0101 U	< 0.0675 U
SRC2-J24	0	N	9/14/2009	< 0.0101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.135 U	< 0.0101 U	< 0.0676 U
SRC2-J25	0	N	9/14/2009	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC2-J26	0	N	9/14/2009	< 0.0102 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.136 U	< 0.0102 U	< 0.0679 U
SRC2-J27	0	N	9/14/2009	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC2-J28	0	N	9/14/2009	< 0.0102 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.136 U	< 0.0102 U	< 0.0678 U
SRC2-J29	0	N	9/14/2009	< 0.0102 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.136 U	< 0.0102 U	< 0.0681 U
SRC2-J30	0	N	9/14/2009	< 0.0101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.135 U	< 0.0101 U	< 0.0676 U
SRC2-J31	0	N	9/14/2009	< 0.0101 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.135 U	< 0.0101 U	< 0.0676 U
SRC2-J32	0	N	9/14/2009	< 0.0102 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.135 U	< 0.0102 U	< 0.0677 U

All units in mg/kg.
-- = no sample data.

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				N-nitrosodi-n-propyl-amine	o-Cresol	Octachlorostyrene	p-Chloroaniline	p-Chlorobenzenethiol	Pentachlorobenzene	Pentachlorophenol	Phenol	Phthalic acid	Pyridine
SRC1-AG16	0	N	10/31/2008	< 0.0694 U	< 0.0694 U	< 0.115 U	< 0.0694 U	< 0.115 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.115 U	< 0.0694 U
SRC1-AG16	11	N	10/31/2008	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U
SRC1-AG17	0	N	10/31/2008	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U
SRC1-AG17	11	N	10/31/2008	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.0709 U	< 0.117 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.0709 U
SRC1-AG18	0	N	10/31/2008	< 0.0686 U	< 0.0686 U	< 0.113 U	< 0.0686 U	< 0.113 U	< 0.0686 U	< 0.0686 U	< 0.0686 U	< 0.113 U	< 0.0686 U
SRC1-AG18	11	N	10/31/2008	< 0.0705 U	< 0.0705 U	< 0.116 U	< 0.0705 U	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.116 U	< 0.0705 U
SRC1-AH15	0	N	11/3/2008	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U
SRC1-AH15	0	FD	11/3/2008	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U
SRC1-AH15	10	N	11/3/2008	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.0724 U	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.0724 U
SRC1-AH16	0	N	11/3/2008	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U
SRC1-AH16	11	N	11/3/2008	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U
SRC1-AH17	0	N	11/14/2008	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U
SRC1-AH17	11	N	11/14/2008	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U
SRC1-AH18	0	N	10/31/2008	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U
SRC1-AH18	11	N	10/31/2008	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U
SRC1-AH19	0	N	10/31/2008	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U
SRC1-AH19	0	FD	10/31/2008	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U
SRC1-AH19	10	N	10/31/2008	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U
SRC1-AI17	0	N	11/3/2008	< 0.069 U	< 0.069 U	< 0.114 U	< 0.069 U	< 0.114 U	< 0.069 U	< 0.069 U	< 0.069 U	< 0.114 U	< 0.069 U
SRC1-AI17	3	N	11/3/2008	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.0723 U	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.0723 U
SRC1-AI17	13	N	11/3/2008	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.0717 U	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.0717 U
SRC1-AI20	0	N	10/31/2008	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U
SRC1-AI20	10	N	10/31/2008	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U
SRC1-AJ18	0	N	11/3/2008	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U
SRC1-AJ18	3	N	11/3/2008	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U
SRC1-AJ18	13	N	11/3/2008	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U
SRC1-AJ19	0	N	11/14/2008	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U
SRC1-AJ19	11	N	11/14/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AJ20	0	N	11/5/2008	< 0.0683 U	< 0.0683 U	< 0.0195 U	< 0.0683 U	< 0.226 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.0202 U	< 0.0683 U
SRC1-AJ20	11	N	11/5/2008	< 0.0711 U	< 0.0711 U	< 0.0203 U	< 0.0711 U	< 0.235 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.021 U	< 0.0711 U
SRC1-AJ20	21	N	11/5/2008	< 0.0713 U	< 0.0713 U	< 0.0203 U	< 0.0713 U	< 0.235 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.021 U	< 0.0713 U
SRC1-AJ21	0	N	11/6/2008	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.0717 U	< 0.118 U	< 0.0717 U	< 0.0717 U	< 0.0717 U	< 0.118 U	< 0.0717 U
SRC1-AJ21	12	N	11/6/2008	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.0723 U	< 0.119 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.119 U	< 0.0723 U
SRC1-AJ22	0	N	11/5/2008	< 0.0708 U	< 0.0708 U	< 0.0202 U	< 0.0708 U	< 0.234 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.0209 U	< 0.0708 U
SRC1-AJ22	10	N	11/5/2008	< 0.0729 U	< 0.0729 U	< 0.0208 U	< 0.0729 U	< 0.241 U	< 0.0729 U	< 0.0729 U	< 0.0729 U	< 0.0215 U	< 0.0729 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				N-nitrosodi-n-propyl-amine	o-Cresol	Octachlorostyrene	p-Chloroaniline	p-Chlorobenzenethiol	Pentachlorobenzene	Pentachlorophenol	Phenol	Phthalic acid	Pyridine
SRC1-AJ23	0	N	11/7/2008	< 0.0706 U	< 0.0706 U	< 0.117 U	< 0.0706 U	< 0.117 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.117 UJ	< 0.0706 U
SRC1-AJ23	4	N	11/7/2008	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 UJ	< 0.0714 U
SRC1-AJ23	14	N	11/7/2008	< 0.0712 U	< 0.0712 U	< 0.117 U	< 0.0712 U	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.117 UJ	< 0.0712 U
SRC1-AJ24	0	N	11/10/2008	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 UJ	< 0.0681 U
SRC1-AJ24	10	N	11/10/2008	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 UJ	< 0.0704 U
SRC1-AJ25	0	N	11/13/2008	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.0691 U
SRC1-AJ25	3	N	11/13/2008	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U
SRC1-AJ25	13	N	11/13/2008	< 0.0726 U	< 0.0726 U	< 0.12 U	< 0.0726 U	< 0.12 U	< 0.0726 U	< 0.0726 U	< 0.0726 U	< 0.12 U	< 0.0726 U
SRC1-AJ26	0	N	11/13/2008	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.116 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	< 0.116 U	< 0.0704 U
SRC1-AJ26	11	N	11/13/2008	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U
SRC1-AJ27	0	N	11/13/2008	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.112 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.112 U	< 0.068 U
SRC1-AJ27	10	N	11/13/2008	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U
SRC1-AJ28	0	N	11/13/2008	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.115 U	< 0.0697 U	< 0.0697 U	< 0.0697 U	< 0.115 U	< 0.0697 U
SRC1-AJ28	0	FD	11/13/2008	< 0.0688 U	< 0.0688 U	< 0.113 U	< 0.0688 U	< 0.113 U	< 0.0688 U	< 0.0688 U	< 0.0688 U	< 0.113 U	< 0.0688 U
SRC1-AJ28	12	N	11/13/2008	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.0703 U
SRC1-AK20	0	N	11/5/2008	< 0.068 U	< 0.068 U	< 0.0194 U	< 0.068 U	< 0.224 U	< 0.068 U	< 0.068 U	< 0.068 U	< 0.0201 U	< 0.068 U
SRC1-AK20	0	FD	11/5/2008	< 0.0702 U	< 0.0702 U	< 0.02 U	< 0.0702 U	< 0.232 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.0207 U	< 0.0702 U
SRC1-AK20	9	N	11/5/2008	< 0.071 U	< 0.071 U	< 0.0202 U	< 0.071 U	< 0.234 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.0209 U	< 0.071 U
SRC1-AK20	19	N	11/5/2008	< 0.0719 U	< 0.0719 U	< 0.0205 U	< 0.0719 U	< 0.237 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.0212 U	< 0.0719 U
SRC1-AK21	0	N	11/6/2008	< 0.0696 U	< 0.0696 U	< 0.115 U	< 0.0696 U	< 0.115 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.115 U	< 0.0696 U
SRC1-AK21	0	FD	11/6/2008	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.115 U	< 0.0699 U	< 0.0699 U	< 0.0699 U	< 0.115 U	< 0.0699 U
SRC1-AK21	8	N	11/6/2008	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U
SRC1-AK21	18	N	11/6/2008	< 0.0719 U	< 0.0719 U	< 0.119 U	< 0.0719 U	< 0.119 U	< 0.0719 U	< 0.0719 U	< 0.0719 U	< 0.119 U	< 0.0719 U
SRC1-AK23	0	N	11/6/2008	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U
SRC1-AK23	4	N	11/6/2008	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.0724 U	< 0.119 U	< 0.0724 U	< 0.0724 U	< 0.0724 U	< 0.119 U	< 0.0724 U
SRC1-AK23	14	N	11/6/2008	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U
SRC1-AK24	0	N	11/6/2008	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.0682 U	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.0682 U
SRC1-AK24	10	N	11/6/2008	< 0.0712 U	< 0.0712 U	< 0.117 U	< 0.0712 U	< 0.117 U	< 0.0712 U	< 0.0712 U	< 0.0712 U	< 0.117 U	< 0.0712 U
SRC1-AK24	13	N	11/12/2008	--	--	--	--	--	--	--	--	--	--
SRC1-AK25	0	N	11/10/2008	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 UJ	< 0.0707 U
SRC1-AK25	11	N	11/10/2008	< 0.0721 U	< 0.0721 U	< 0.119 U	< 0.0721 U	< 0.119 U	< 0.0721 U	< 0.0721 U	< 0.0721 U	< 0.119 UJ	< 0.0721 U
SRC1-AK26	0	N	11/7/2008	< 0.07 U	< 0.07 U	< 0.116 U	< 0.07 U	< 0.116 U	< 0.07 U	< 0.07 U	< 0.07 U	< 0.116 UJ	< 0.07 U
SRC1-AK26	0	FD	11/7/2008	< 0.0691 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.114 U	< 0.0691 U	< 0.0691 U	< 0.0691 U	< 0.114 UJ	< 0.0691 U
SRC1-AK26	10	N	11/7/2008	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 UJ	< 0.0707 U
SRC1-AK27	0	N	11/12/2008	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.0682 U	< 0.113 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.113 U	< 0.0682 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				N-nitrosodi-n-propyl-amine	o-Cresol	Octachlorostyrene	p-Chloroaniline	p-Chlorobenzenethiol	Pentachlorobenzene	Pentachlorophenol	Phenol	Phthalic acid	Pyridine
SRC1-AK27	3	N	11/12/2008	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.0715 U	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.0715 U
SRC1-AK27	13	N	11/12/2008	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 UJ	< 0.0714 U
SRC1-AL24	0	N	11/6/2008	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U
SRC1-AL24	8	N	11/6/2008	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U
SRC1-AL24	18	N	11/6/2008	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U
SRC1-AL26	0	N	11/7/2008	< 0.0705 U	< 0.0705 U	< 0.116 U	< 0.0705 U	< 0.116 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.116 UJ	< 0.0705 U
SRC1-AL26	11	N	11/7/2008	< 0.0716 U	< 0.0716 U	< 0.118 U	< 0.0716 U	< 0.118 U	< 0.0716 U	< 0.0716 U	< 0.0716 U	< 0.118 UJ	< 0.0716 U
SRC1-AL28	0	N	11/12/2008	< 0.0677 U	< 0.0677 UJ	< 0.112 U	< 0.0677 U	< 0.112 UJ	< 0.0677 U	< 0.0677 UJ	< 0.0677 UJ	< 0.112 UJ	< 0.0677 U
SRC1-AL28	4	N	11/12/2008	< 0.0731 U	< 0.0731 U	< 0.121 U	< 0.0731 U	< 0.121 U	< 0.0731 U	< 0.0731 U	< 0.0731 U	< 0.121 UJ	< 0.0731 U
SRC1-AL28	14	N	11/12/2008	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.118 U	< 0.0714 U	< 0.0714 U	< 0.0714 U	< 0.118 U	< 0.0714 U
SRC1-AM27	0	N	11/10/2008	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 UJ	< 0.0679 U
SRC1-AM27	3	N	11/10/2008	< 0.0693 U	< 0.0693 U	< 0.114 U	< 0.0693 U	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.114 UJ	< 0.0693 U
SRC1-AM27	13	N	11/10/2008	< 0.0703 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.116 U	< 0.0703 U	< 0.0703 U	< 0.0703 U	< 0.116 UJ	< 0.0703 U
SRC1-AM28	0	N	11/12/2008	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U
SRC1-AM28	7	N	11/12/2008	< 0.0693 U	< 0.0693 U	< 0.114 U	< 0.0693 U	< 0.114 U	< 0.0693 U	< 0.0693 U	< 0.0693 U	< 0.114 U	< 0.0693 U
SRC1-AM28	7	FD	11/12/2008	< 0.0744 U	< 0.0744 U	< 0.123 U	< 0.0744 U	< 0.123 U	< 0.0744 U	< 0.0744 U	< 0.0744 U	< 0.123 U	< 0.0744 U
SRC1-AM28	17	N	11/12/2008	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U
SRC1-AN28	0	N	11/12/2008	< 0.0695 U	< 0.0695 U	< 0.115 U	< 0.0695 U	< 0.115 U	< 0.0695 U	< 0.0695 U	< 0.0695 U	< 0.115 U	< 0.0695 U
SRC1-AN28	11	N	11/12/2008	< 0.0706 U	< 0.0706 U	< 0.116 U	< 0.0706 U	< 0.116 U	< 0.0706 U	< 0.0706 U	< 0.0706 U	< 0.116 U	< 0.0706 U
SRC1-J01	0	N	11/3/2008	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U
SRC1-J01	0	FD	11/3/2008	< 0.0674 U	< 0.0674 U	< 0.111 U	< 0.0674 U	< 0.111 U	< 0.0674 U	< 0.0674 U	< 0.0674 U	< 0.111 U	< 0.0674 U
SRC1-J01	11	N	11/3/2008	< 0.0713 U	< 0.0713 U	< 0.118 U	< 0.0713 U	< 0.118 U	< 0.0713 U	< 0.0713 U	< 0.0713 U	< 0.118 U	< 0.0713 U
SRC1-J02	0	N	11/5/2008	< 0.0689 U	< 0.0689 U	< 0.0196 U	< 0.0689 U	< 0.227 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.0203 U	< 0.0689 U
SRC1-J02	3	N	11/5/2008	< 0.0694 U	< 0.0694 U	< 0.0198 U	< 0.0694 U	< 0.229 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.0205 U	< 0.0694 U
SRC1-J02	13	N	11/5/2008	< 0.0704 U	< 0.0704 U	< 0.0201 U	< 0.0704 U	< 0.232 U	< 0.0704 U	< 0.0704 U	< 0.0704 U	0.494	< 0.0704 U
SRC1-J03	0	N	11/5/2008	< 0.0696 U	< 0.0696 U	< 0.0198 U	< 0.0696 U	< 0.23 U	< 0.0696 U	< 0.0696 U	< 0.0696 U	< 0.0205 U	< 0.0696 U
SRC1-J03	5	N	11/5/2008	< 0.0723 U	< 0.0723 U	< 0.0206 U	< 0.0723 U	< 0.239 U	< 0.0723 U	< 0.0723 U	< 0.0723 U	< 0.0213 U	< 0.0723 U
SRC1-J03	15	N	11/5/2008	< 0.0705 U	< 0.0705 U	< 0.0201 U	< 0.0705 U	< 0.232 U	< 0.0705 U	< 0.0705 U	< 0.0705 U	< 0.0208 U	< 0.0705 U
SRC1-J07	0	N	11/7/2008	< 0.0685 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.113 U	< 0.0685 U	< 0.0685 U	< 0.0685 U	< 0.113 UJ	< 0.0685 U
SRC1-J07	10	N	11/7/2008	< 0.071 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.117 U	< 0.071 U	< 0.071 U	< 0.071 U	< 0.117 UJ	< 0.071 U
SRC1-J09	0	N	11/10/2008	< 0.0689 U	< 0.0689 U	< 0.114 U	< 0.0689 U	< 0.114 U	< 0.0689 U	< 0.0689 U	< 0.0689 U	< 0.114 UJ	< 0.0689 U
SRC1-J09	0	FD	11/10/2008	< 0.0682 U	< 0.0682 U	< 0.112 U	< 0.0682 U	< 0.112 U	< 0.0682 U	< 0.0682 U	< 0.0682 U	< 0.112 UJ	< 0.0682 U
SRC1-J09	11	N	11/10/2008	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 UJ	< 0.0708 U
SRC1-J10	0	N	11/13/2008	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U
SRC1-J10	0	FD	11/13/2008	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.117 U	< 0.0711 U	< 0.0711 U	< 0.0711 U	< 0.117 U	< 0.0711 U

TABLE B-9
SOIL ALDEHYDES AND SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
				N-nitrosodi-n-propyl-amine	o-Cresol	Octachlorostyrene	p-Chloroaniline	p-Chlorobenzenethiol	Pentachlorobenzene	Pentachlorophenol	Phenol	Phthalic acid	Pyridine
SRC1-J10	11	N	11/13/2008	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.117 U	< 0.0708 U	< 0.0708 U	< 0.0708 U	< 0.117 U	< 0.0708 U
SRC1-J11	0	N	11/14/2008	< 0.0688 U	< 0.0691 UJ	< 0.114 U	< 0.0688 U	< 0.114 UJ	< 0.0688 U	< 0.0691 UJ	< 0.0691 UJ	< 0.114 UJ	< 0.0688 U
SRC1-J11	10	N	11/14/2008	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.0709 U	< 0.117 U	< 0.0709 U	< 0.0709 U	< 0.0709 U	< 0.117 U	< 0.0709 U
SRC1-J12	0	N	11/13/2008	< 0.067 U	< 0.067 U	< 0.111 U	< 0.067 U	< 0.111 U	< 0.067 U	< 0.067 U	< 0.067 U	< 0.111 U	< 0.067 U
SRC1-J12	12	N	11/13/2008	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U
SRC1-J13	0	N	11/12/2008	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U
SRC1-J13	3	N	11/12/2008	< 0.0715 U	< 0.0715 U	< 0.118 U	< 0.0715 U	< 0.118 U	< 0.0715 U	< 0.0715 U	< 0.0715 U	< 0.118 UJ	< 0.0715 U
SRC1-J13	13	N	11/12/2008	< 0.0707 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.117 U	< 0.0707 U	< 0.0707 U	< 0.0707 U	< 0.117 UJ	< 0.0707 U
SRC1-J14	0	N	11/13/2008	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.113 U	< 0.0683 U	< 0.0683 U	< 0.0683 U	< 0.113 U	< 0.0683 U
SRC1-J14	12	N	11/13/2008	< 0.0701 U	< 0.0701 U	< 0.116 U	< 0.0701 U	< 0.116 U	< 0.0701 U	< 0.0701 U	< 0.0701 U	< 0.116 U	< 0.0701 U
SRC1-J15	0	N	11/12/2008	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.116 U	< 0.0702 U	< 0.0702 U	< 0.0702 U	< 0.116 U	< 0.0702 U
SRC1-J15	0	FD	11/12/2008	< 0.0694 U	< 0.0694 U	< 0.114 U	< 0.0694 U	< 0.114 U	< 0.0694 U	< 0.0694 U	< 0.0694 U	< 0.114 U	< 0.0694 U
SRC1-J15	12	N	11/12/2008	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.119 U	< 0.072 U	< 0.072 U	< 0.072 U	< 0.119 U	< 0.072 U
SRC2-J20	0	N	9/14/2009	< 0.0671 U	< 0.0671 U	< 0.111 U	< 0.0671 U	< 0.111 U	< 0.0671 U	< 0.0671 U	< 0.0671 U	< 0.111 UJ	< 0.0671 U
SRC2-J21	0	N	9/14/2009	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 UJ	< 0.0676 U
SRC2-J22	0	N	9/14/2009	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 UJ	< 0.0678 U
SRC2-J23	0	N	9/14/2009	< 0.0675 U	< 0.0675 U	< 0.111 U	< 0.0675 U	< 0.111 U	< 0.0675 U	< 0.0675 U	< 0.0675 U	< 0.111 UJ	< 0.0675 U
SRC2-J24	0	N	9/14/2009	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 UJ	< 0.0676 U
SRC2-J25	0	N	9/14/2009	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 UJ	< 0.0681 U
SRC2-J26	0	N	9/14/2009	< 0.0679 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.112 U	< 0.0679 U	< 0.0679 U	< 0.0679 U	< 0.112 UJ	< 0.0679 U
SRC2-J27	0	N	9/14/2009	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 UJ	< 0.0681 U
SRC2-J28	0	N	9/14/2009	< 0.0678 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.112 U	< 0.0678 U	< 0.0678 U	< 0.0678 U	< 0.112 UJ	< 0.0678 U
SRC2-J29	0	N	9/14/2009	< 0.0681 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.112 U	< 0.0681 U	< 0.0681 U	< 0.0681 U	< 0.112 UJ	< 0.0681 U
SRC2-J30	0	N	9/14/2009	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 UJ	< 0.0676 U
SRC2-J31	0	N	9/14/2009	< 0.0676 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.112 U	< 0.0676 U	< 0.0676 U	< 0.0676 U	< 0.112 UJ	< 0.0676 U
SRC2-J32	0	N	9/14/2009	< 0.0677 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.112 U	< 0.0677 U	< 0.0677 U	< 0.0677 U	< 0.112 UJ	< 0.0677 U

All units in mg/kg.

-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene
SRC1-AG16	0	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.000069 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AG16	11	N	10/31/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00042 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AG17	0	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.000079 UJ	< 0.000067 U	< 0.00007 U	< 0.00012 U	< 0.000088 U	< 0.00039 UJ	< 0.00025 UJ	< 0.00033 UJ	0.005 J	< 0.00012 UJ
SRC1-AG17	11	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AG18	0	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AG18	11	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AH15	0	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.000079 U	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00025 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AH15	0	FD	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.000091 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AH15	10	N	11/3/2008	< 0.0002 U	< 0.00012 U	< 0.000086 U	< 0.000074 U	< 0.000077 U	< 0.00013 U	< 0.000096 U	< 0.00043 U	< 0.00027 U	< 0.00036 U	< 0.0055 U	< 0.00013 U
SRC1-AH16	0	N	11/3/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.00008 UJ	< 0.000069 UJ	< 0.000072 UJ	< 0.00012 UJ	< 0.00009 UJ	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	0.00029 J	< 0.00012 UJ
SRC1-AH16	11	N	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AH17	0	N	11/14/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-AH17	11	N	11/14/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000074 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AH18	0	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AH18	11	N	10/31/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AH19	0	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000068 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AH19	0	FD	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AH19	10	N	10/31/2008	< 0.00019 U	< 0.00011 U	< 0.000085 U	< 0.000073 U	< 0.000076 U	< 0.00013 U	< 0.000094 U	< 0.00042 U	< 0.00027 U	< 0.00036 U	< 0.0054 U	< 0.00013 U
SRC1-AI17	0	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AI17	3	N	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.0053 UJ	< 0.00013 UJ
SRC1-AI17	13	N	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AI20	0	N	10/31/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00012 U
SRC1-AI20	10	N	10/31/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AJ18	0	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.00008 UJ	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0051 UJ	< 0.00012 UJ
SRC1-AJ18	3	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AJ18	13	N	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AJ19	0	N	11/14/2008	< 0.00018 U	< 0.00011 U	< 0.000079 U	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000088 U	< 0.00039 U	< 0.00025 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-AJ19	11	N	11/14/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.000091 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-AJ20	0	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.00008 UJ	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0051 UJ	< 0.00012 UJ
SRC1-AJ20	11	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000074 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AJ20	21	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AJ21	0	N	11/6/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-AJ21	12	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ22	0	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000081 UJ	< 0.000069 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0052 UJ	< 0.00013 UJ
SRC1-AJ22	10	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.0053 UJ	< 0.00013 UJ

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene
SRC1-AJ23	0	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0052 U	< 0.0052 U
SRC1-AJ23	4	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000084 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000094 U	< 0.00042 U	< 0.00027 U	< 0.00036 U	< 0.00014 U	0.00018 J
SRC1-AJ23	14	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000084 U	< 0.000072 U	< 0.000076 U	< 0.00013 U	< 0.000094 U	< 0.00042 U	< 0.00027 U	< 0.00036 U	< 0.00014 U	< 0.00013 U
SRC1-AJ24	0	N	11/10/2008	< 0.00018 U	< 0.00011 U	< 0.000079 UJ	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000088 U	< 0.00039 UJ	< 0.00025 UJ	< 0.00034 UJ	< 0.00014 UJ	< 0.00012 UJ
SRC1-AJ24	10	N	11/10/2008	< 0.00019 UJ	< 0.00011 UJ	< 0.000083 UJ	< 0.000071 UJ	< 0.000074 UJ	< 0.00013 UJ	< 0.000092 UJ	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000081 UJ	< 0.000069 UJ	< 0.000072 UJ	< 0.00012 UJ	< 0.00009 UJ	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.00014 UJ	< 0.00012 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.00019 UJ	< 0.00011 U	< 0.000083 UJ	< 0.000071 UJ	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 UJ	< 0.00027 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ25	13	N	11/13/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ26	0	N	11/13/2008	< 0.00019 UJ	< 0.00011 U	< 0.000083 UJ	< 0.000071 UJ	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00027 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ26	11	N	11/13/2008	< 0.00018 U	< 0.00011 U	< 0.000081 UJ	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ27	0	N	11/13/2008	< 0.00019 UJ	< 0.00011 U	< 0.000083 UJ	< 0.000071 UJ	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ27	10	N	11/13/2008	< 0.00019 U	< 0.00011 U	< 0.000081 UJ	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AJ28	0	N	11/13/2008	< 0.00019 UJ	< 0.00011 UJ	R	< 0.000071 UJ	< 0.000074 UJ	< 0.00013 UJ	< 0.000092 UJ	R	R	R	R	R
SRC1-AJ28	0	FD	11/13/2008	< 0.00018 UJ	< 0.00011 U	< 0.000079 UJ	< 0.000068 UJ	< 0.000071 U	< 0.00012 U	< 0.000088 U	< 0.00039 UJ	< 0.00025 UJ	< 0.00033 UJ	< 0.00013 UJ	< 0.00012 UJ
SRC1-AJ28	12	N	11/13/2008	< 0.00019 UJ	< 0.00011 U	< 0.000082 UJ	< 0.000071 UJ	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AK20	0	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000068 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-AK20	0	FD	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AK20	9	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AK20	19	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AK21	0	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0052 U	< 0.00013 U
SRC1-AK21	0	FD	11/6/2008	< 0.00019 UJ	< 0.00011 UJ	< 0.000082 UJ	< 0.00007 UJ	< 0.000073 UJ	< 0.00013 UJ	< 0.000091 UJ	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.0052 UJ	< 0.00013 UJ
SRC1-AK21	8	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AK21	18	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000084 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000094 U	< 0.00042 U	< 0.00027 U	< 0.00035 U	< 0.0054 U	< 0.00013 U
SRC1-AK23	0	N	11/6/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00013 U
SRC1-AK23	4	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AK23	14	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AK24	0	N	11/6/2008	< 0.00018 UJ	< 0.00011 U	< 0.00008 UJ	< 0.000068 UJ	< 0.000071 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	0.0051 J	< 0.00012 UJ
SRC1-AK24	10	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000083 UJ	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 UJ	< 0.00027 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AK24	13	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00042 U	< 0.00027 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AK25	0	N	11/10/2008	< 0.00018 U	< 0.00011 U	< 0.00008 UJ	< 0.000069 UJ	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0051 UJ	< 0.00012 UJ
SRC1-AK25	11	N	11/10/2008	< 0.00019 U	< 0.00011 U	< 0.000083 UJ	< 0.000072 UJ	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 UJ	< 0.00027 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AK26	0	N	11/7/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-AK26	0	FD	11/7/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-AK26	10	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-AK27	0	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene
SRC1-AK27	3	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AL24	0	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.0052 U	< 0.00013 U
SRC1-AL24	8	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AL24	18	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000085 U	< 0.000073 U	< 0.000076 U	< 0.00013 U	< 0.000094 U	< 0.00042 U	< 0.00027 U	< 0.00036 U	< 0.0054 U	< 0.00013 U
SRC1-AL26	0	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-AL26	11	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AL28	0	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AL28	4	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-AL28	14	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AM27	0	N	11/10/2008	< 0.00019 U	< 0.00011 U	< 0.000084 UJ	< 0.000072 U	< 0.000076 U	< 0.00013 U	< 0.000094 U	< 0.00042 UJ	< 0.00027 UJ	< 0.00036 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-AM27	3	N	11/10/2008	< 0.00018 U	< 0.00011 U	< 0.000081 UJ	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	0.00017 J	< 0.00013 UJ
SRC1-AM27	13	N	11/10/2008	< 0.00019 U	< 0.00011 U	< 0.000083 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.0053 UJ	< 0.00013 UJ
SRC1-AM28	0	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-AM28	7	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AM28	7	FD	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-AM28	17	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-AN28	0	N	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-AN28	11	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.000091 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-J01	0	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.00008 UJ	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0051 UJ	< 0.00012 UJ
SRC1-J01	0	FD	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.000081 UJ	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0052 UJ	< 0.00012 UJ
SRC1-J01	11	N	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-J02	0	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000079 U	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000088 U	< 0.00039 U	< 0.00025 U	< 0.00034 U	< 0.0051 U	< 0.00012 U
SRC1-J02	3	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0052 U	< 0.00012 U
SRC1-J02	13	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-J03	0	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.00008 UJ	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.0051 UJ	< 0.00012 UJ
SRC1-J03	5	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000084 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00042 U	< 0.00027 U	< 0.00035 U	< 0.0054 U	< 0.00013 U
SRC1-J03	15	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000072 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.0053 U	< 0.00013 U
SRC1-J07	0	N	11/7/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000089 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.0051 U	0.0002 J
SRC1-J07	10	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-J09	0	N	11/10/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.00008 UJ	< 0.000069 UJ	< 0.000072 UJ	< 0.00012 UJ	< 0.000089 UJ	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.00014 UJ	< 0.00012 UJ
SRC1-J09	0	FD	11/10/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-J09	11	N	11/10/2008	< 0.00019 UJ	< 0.00011 UJ	< 0.000084 UJ	< 0.000073 UJ	< 0.000076 UJ	< 0.00013 UJ	< 0.000094 UJ	< 0.00042 UJ	< 0.00027 UJ	< 0.00036 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.00019 UJ	< 0.00011 UJ	< 0.000083 UJ	< 0.000071 UJ	< 0.000075 UJ	< 0.00013 UJ	< 0.000093 UJ	< 0.00041 UJ	< 0.00027 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-J10	11	N	11/13/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene
SRC1-J11	0	N	11/14/2008	< 0.00018 U	< 0.00011 U	< 0.000081 U	< 0.00007 U	< 0.000073 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.00013 U
SRC1-J11	10	N	11/14/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-J12	0	N	11/13/2008	< 0.00019 U	< 0.00011 U	< 0.000081 UJ	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-J12	12	N	11/13/2008	< 0.00019 U	< 0.00011 U	< 0.000082 UJ	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 UJ	< 0.00026 UJ	< 0.00035 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-J13	0	N	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.00008 U	< 0.000069 U	< 0.000072 U	< 0.00012 U	< 0.00009 U	< 0.0004 U	< 0.00026 U	< 0.00034 U	< 0.00014 U	< 0.0051 U
SRC1-J13	3	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000083 U	< 0.000071 U	< 0.000075 U	< 0.00013 U	< 0.000093 U	< 0.00041 U	< 0.00027 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-J13	13	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.00007 U	< 0.000073 U	< 0.00013 U	< 0.000091 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-J14	0	N	11/13/2008	< 0.00018 UJ	< 0.00011 U	< 0.00008 UJ	< 0.000068 UJ	< 0.000071 U	< 0.00012 U	< 0.000089 U	< 0.0004 UJ	< 0.00026 UJ	< 0.00034 UJ	0.0021 J	< 0.00012 UJ
SRC1-J14	12	N	11/13/2008	< 0.00019 U	< 0.00011 U	< 0.000084 UJ	< 0.000072 U	< 0.000076 U	< 0.00013 U	< 0.000094 U	< 0.00042 UJ	< 0.00027 UJ	< 0.00036 UJ	< 0.00014 UJ	< 0.00013 UJ
SRC1-J15	0	N	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.000079 U	< 0.000068 U	< 0.000071 U	< 0.00012 U	< 0.000088 U	< 0.00039 U	< 0.00025 U	< 0.00034 U	< 0.00014 U	< 0.00012 U
SRC1-J15	0	FD	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000082 U	< 0.000071 U	< 0.000074 U	< 0.00013 U	< 0.000092 U	< 0.00041 U	< 0.00026 U	< 0.00035 U	< 0.00014 U	< 0.00013 U
SRC1-J15	12	N	11/12/2008	< 0.0002 U	< 0.00012 U	< 0.000089 U	< 0.000076 U	< 0.00008 U	< 0.00014 U	< 0.000099 U	< 0.00044 U	< 0.00028 U	< 0.00037 U	< 0.0057 U	< 0.00014 U
SRC2-J20	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00044 U	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00045 U	< 0.00049 U	< 0.00031 U	< 0.0004 U	< 0.00036 U
SRC2-J21	0	N	9/14/2009	< 0.00038 UJ	< 0.00024 UJ	< 0.00045 UJ	< 0.00036 UJ	< 0.00037 UJ	< 0.00024 UJ	< 0.00022 UJ	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J22	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00045 U	< 0.00037 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 U	< 0.00049 U	< 0.00031 U	< 0.0004 U	< 0.00036 U
SRC2-J23	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00044 UJ	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00045 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J24	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00045 U	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 U	< 0.00049 U	< 0.00031 U	< 0.0004 U	< 0.00036 U
SRC2-J25	0	N	9/14/2009	< 0.00039 U	< 0.00024 U	< 0.00045 UJ	< 0.00037 U	< 0.00038 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J26	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00045 UJ	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J27	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00045 UJ	< 0.00037 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J28	0	N	9/14/2009	< 0.00038 UJ	< 0.00024 U	< 0.00045 U	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J29	0	N	9/14/2009	< 0.00039 UJ	< 0.00024 U	< 0.00045 UJ	< 0.00037 UJ	< 0.00038 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J30	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00045 UJ	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J31	0	N	9/14/2009	< 0.00038 UJ	< 0.00024 U	< 0.00045 UJ	< 0.00036 UJ	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00046 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J32	0	N	9/14/2009	< 0.00038 U	< 0.00024 U	< 0.00044 UJ	< 0.00036 U	< 0.00037 U	< 0.00024 U	< 0.00022 U	< 0.00045 UJ	< 0.00049 UJ	< 0.00031 UJ	< 0.0004 UJ	< 0.00036 UJ
SRC2-J33	0	N	9/17/2009	< 0.00041 U	< 0.00025 U	< 0.00048 U	< 0.00039 U	< 0.0004 UJ	< 0.00025 U	< 0.00024 U	< 0.00049 U	< 0.00052 U	< 0.00033 U	< 0.00043 U	< 0.00038 U
SRC2-J33	0	FD	9/17/2009	< 0.00038 U	< 0.00024 U	< 0.00045 U	< 0.00036 U	< 0.00037 U	< 0.00024 UJ	< 0.00022 U	< 0.00046 U	< 0.00049 U	< 0.00031 U	< 0.0004 U	< 0.00036 U
SRC2-J34	0	N	9/17/2009	< 0.00038 U	< 0.00024 U	< 0.00045 U	< 0.00036 U	< 0.00037 U	< 0.00024 UJ	< 0.00022 U	< 0.00046 U	< 0.00049 U	< 0.00031 U	< 0.0004 U	< 0.00036 U

All units in mg/kg.
-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,2-Dichloroethane	1,2-Dichloroethene	1,2-Dichloropropane	1,3,5-Trichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2,3-Trimethylbutane	2,2-Dichloropropane	2,2-Dimethylpentane	2,3-Dimethylpentane
SRC1-AG16	0	N	10/31/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AG16	11	N	10/31/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AG17	0	N	10/31/2008	< 0.000066 U	< 0.00011 U	< 0.00011 U	< 0.00037 UJ	0.00068 J	< 0.00013 UJ	< 0.000051 U	< 0.00014 UJ	< 0.00021 U	< 0.00023 U	< 0.00028 U	< 0.00023 U
SRC1-AG17	11	N	10/31/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AG18	0	N	10/31/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AG18	11	N	10/31/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AH15	0	N	11/3/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AH15	0	FD	11/3/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AH15	10	N	11/3/2008	< 0.000073 U	< 0.00012 U	< 0.00012 U	< 0.00041 U	< 0.00011 U	< 0.00014 U	< 0.000056 U	< 0.00015 U	< 0.00023 U	< 0.00026 U	< 0.0003 U	< 0.00025 U
SRC1-AH16	0	N	11/3/2008	< 0.000068 UJ	< 0.00011 UJ	< 0.00011 UJ	< 0.00038 UJ	< 0.0001 UJ	< 0.00013 UJ	< 0.000052 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 UJ	< 0.00028 UJ	< 0.00023 UJ
SRC1-AH16	11	N	11/3/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AH17	0	N	11/14/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AH17	11	N	11/14/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AH18	0	N	10/31/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AH18	11	N	10/31/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AH19	0	N	10/31/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AH19	0	FD	10/31/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AH19	10	N	10/31/2008	< 0.000072 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.00011 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00023 U	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-AI17	0	N	11/3/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AI17	3	N	11/3/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AI17	13	N	11/3/2008	< 0.00007 U	< 0.00012 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00015 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AI20	0	N	10/31/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00013 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AI20	10	N	10/31/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AJ18	0	N	11/3/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 U	< 0.00014 UJ	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ18	3	N	11/3/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ18	13	N	11/3/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AJ19	0	N	11/14/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ19	11	N	11/14/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AJ20	0	N	11/5/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.0001 UJ	< 0.00013 UJ	< 0.000052 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ20	11	N	11/5/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AJ20	21	N	11/5/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AJ21	0	N	11/6/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ21	12	N	11/6/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AJ22	0	N	11/5/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ22	10	N	11/5/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	1,2-Dichloroethane	1,2-Dichloroethene	1,2-Dichloropropane	1,3,5-Trichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2,3-Trimethylbutane	2,2-Dichloropropane	2,2-Dimethylpentane	2,3-Dimethylpentane
SRC1-AJ23	0	N	11/7/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AJ23	4	N	11/7/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00023 U	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-AJ23	14	N	11/7/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00023 U	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-AJ24	0	N	11/10/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 U	< 0.00014 UJ	< 0.00021 UJ	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ24	10	N	11/10/2008	< 0.00007 UJ	< 0.00011 UJ	< 0.00012 UJ	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 UJ	< 0.00029 UJ	< 0.00024 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.000068 UJ	< 0.00011 UJ	< 0.00011 UJ	< 0.00038 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 UJ	< 0.00028 UJ	< 0.00023 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.00007 U	< 0.00012 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AJ25	13	N	11/13/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AJ26	0	N	11/13/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AJ26	11	N	11/13/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AJ27	0	N	11/13/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AJ27	10	N	11/13/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AJ28	0	N	11/13/2008	< 0.00007 UJ	< 0.00011 UJ	< 0.00012 UJ	R	R	R	< 0.000054 UJ	R	< 0.00022 UJ	< 0.00025 UJ	< 0.00029 UJ	< 0.00024 UJ
SRC1-AJ28	0	FD	11/13/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00037 UJ	< 0.000098 UJ	< 0.00013 UJ	< 0.000052 UJ	< 0.00014 UJ	< 0.00021 UJ	< 0.00023 U	< 0.00028 U	< 0.00023 U
SRC1-AJ28	12	N	11/13/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AK20	0	N	11/5/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0051 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AK20	0	FD	11/5/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AK20	9	N	11/5/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AK20	19	N	11/5/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00015 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AK21	0	N	11/6/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AK21	0	FD	11/6/2008	< 0.000069 UJ	< 0.00011 UJ	< 0.00012 UJ	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 UJ	< 0.00029 UJ	< 0.00023 UJ
SRC1-AK21	8	N	11/6/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AK21	18	N	11/6/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00023 U	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-AK23	0	N	11/6/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AK23	4	N	11/6/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AK23	14	N	11/6/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AK24	0	N	11/6/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 UJ	< 0.00014 UJ	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AK24	10	N	11/6/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00015 UJ	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AK24	13	N	11/12/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AK25	0	N	11/10/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AK25	11	N	11/10/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00015 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AK26	0	N	11/7/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AK26	0	FD	11/7/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00013 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AK26	10	N	11/7/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AK27	0	N	11/12/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 7 of 28)

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,2-Dichloroethane	1,2-Dichloroethene	1,2-Dichloropropane	1,3,5-Trichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2,3-Trimethylbutane	2,2-Dichloropropane	2,2-Dimethylpentane	2,3-Dimethylpentane
SRC1-AK27	3	N	11/12/2008	< 0.00007 U	< 0.00012 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AL24	0	N	11/6/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AL24	8	N	11/6/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AL24	18	N	11/6/2008	< 0.000072 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.00011 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00023 U	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-AL26	0	N	11/7/2008	< 0.00007 U	< 0.00012 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00015 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AL26	11	N	11/7/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AL28	0	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AL28	4	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AL28	14	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-AM27	0	N	11/10/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000055 U	< 0.00015 UJ	< 0.00023 UJ	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-AM27	3	N	11/10/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AM27	13	N	11/10/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-AM28	0	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AM28	7	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AM28	7	FD	11/12/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00013 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AM28	17	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-AN28	0	N	11/12/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-AN28	11	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-J01	0	N	11/3/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J01	0	FD	11/3/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J01	11	N	11/3/2008	< 0.00007 U	< 0.00012 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-J02	0	N	11/5/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	0.00016 J	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J02	3	N	11/5/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J02	13	N	11/5/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-J03	0	N	11/5/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 U	< 0.00014 UJ	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J03	5	N	11/5/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00023 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-J03	15	N	11/5/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 U	< 0.0001 U	< 0.00014 U	< 0.000055 U	< 0.00015 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-J07	0	N	11/7/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J07	10	N	11/7/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-J09	0	N	11/10/2008	< 0.000068 UJ	< 0.00011 UJ	< 0.00011 UJ	< 0.00038 UJ	< 0.000099 UJ	< 0.00013 UJ	< 0.000052 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 UJ	< 0.00028 UJ	< 0.00023 UJ
SRC1-J09	0	FD	11/10/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-J09	11	N	11/10/2008	< 0.000071 UJ	< 0.00012 UJ	< 0.00012 UJ	< 0.0004 UJ	< 0.00011 UJ	< 0.00014 UJ	< 0.000055 UJ	< 0.00015 UJ	< 0.00023 UJ	< 0.00025 UJ	< 0.0003 UJ	< 0.00024 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.00007 UJ	< 0.00012 UJ	< 0.00012 UJ	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 UJ	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 UJ	< 0.00029 UJ	< 0.00024 UJ
SRC1-J10	11	N	11/13/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00025 U	< 0.00029 U	< 0.00024 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				1,2-Dichloroethane	1,2-Dichloroethene	1,2-Dichloropropane	1,3,5-Trichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2,3-Trimethylbutane	2,2-Dichloropropane	2,2-Dimethylpentane	2,3-Dimethylpentane
SRC1-J11	0	N	11/14/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-J11	10	N	11/14/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-J12	0	N	11/13/2008	< 0.000069 U	< 0.00011 U	< 0.00011 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000053 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00029 UJ	< 0.00023 U
SRC1-J12	12	N	11/13/2008	< 0.00007 U	< 0.00011 U	< 0.00012 U	< 0.00039 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000054 U	< 0.00014 UJ	< 0.00022 UJ	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-J13	0	N	11/12/2008	< 0.000068 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.0001 U	< 0.00013 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J13	3	N	11/12/2008	< 0.00007 U	< 0.00012 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00025 U	< 0.00029 U	< 0.00024 U
SRC1-J13	13	N	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000053 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00023 U
SRC1-J14	0	N	11/13/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 UJ	0.0008 J	< 0.00013 UJ	< 0.000052 UJ	< 0.00014 UJ	< 0.00021 UJ	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J14	12	N	11/13/2008	< 0.000071 U	< 0.00012 U	< 0.00012 U	< 0.0004 UJ	< 0.0001 UJ	< 0.00014 UJ	< 0.000055 U	< 0.00015 UJ	< 0.00023 UJ	< 0.00025 U	< 0.0003 U	< 0.00024 U
SRC1-J15	0	N	11/12/2008	< 0.000067 U	< 0.00011 U	< 0.00011 U	< 0.00038 U	< 0.000099 U	< 0.00013 U	< 0.000052 U	< 0.00014 U	< 0.00021 U	< 0.00024 U	< 0.00028 U	< 0.00023 U
SRC1-J15	0	FD	11/12/2008	< 0.000069 U	< 0.00011 U	< 0.00012 U	< 0.00039 U	< 0.0001 U	< 0.00014 U	< 0.000054 U	< 0.00014 U	< 0.00022 U	< 0.00024 U	< 0.00029 U	< 0.00024 U
SRC1-J15	12	N	11/12/2008	< 0.000075 U	< 0.00012 U	< 0.00012 U	< 0.00042 U	< 0.00011 U	< 0.00015 U	< 0.000058 U	< 0.00015 U	< 0.00024 U	< 0.00026 U	< 0.00031 U	< 0.00025 U
SRC2-J20	0	N	9/14/2009	< 0.00032 U	< 0.00063 U	< 0.00037 U	< 0.00051 U	< 0.00025 U	< 0.00044 U	< 0.00041 U	< 0.00031 U	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J21	0	N	9/14/2009	< 0.00033 UJ	< 0.00063 UJ	< 0.00037 UJ	< 0.00051 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 UJ	< 0.00031 UJ	< 0.00053 UJ	< 0.00031 UJ	< 0.00053 UJ	< 0.00044 UJ
SRC2-J22	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00038 U	< 0.00052 U	< 0.00025 U	< 0.00044 U	< 0.00042 U	< 0.00031 U	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J23	0	N	9/14/2009	< 0.00032 U	< 0.00063 U	< 0.00037 U	< 0.00051 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 U	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J24	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00037 U	< 0.00051 U	< 0.00025 U	< 0.00044 U	< 0.00042 U	< 0.00031 U	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J25	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00038 U	< 0.00052 UJ	< 0.00026 UJ	< 0.00044 UJ	< 0.00042 U	< 0.00031 UJ	< 0.00054 U	< 0.00031 U	< 0.00054 U	< 0.00044 U
SRC2-J26	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00037 U	< 0.00052 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 U	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J27	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00038 U	< 0.00052 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 U	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J28	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00038 U	< 0.00052 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 U	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J29	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00038 U	< 0.00052 UJ	< 0.00026 UJ	< 0.00044 UJ	< 0.00042 UJ	< 0.00031 UJ	< 0.00054 U	< 0.00031 U	< 0.00054 U	< 0.00044 U
SRC2-J30	0	N	9/14/2009	< 0.00033 U	< 0.00063 U	< 0.00038 U	< 0.00052 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 U	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J31	0	N	9/14/2009	< 0.00032 U	< 0.00063 U	< 0.00037 U	< 0.00051 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00042 UJ	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J32	0	N	9/14/2009	< 0.00032 U	< 0.00063 U	< 0.00037 U	< 0.00051 UJ	< 0.00025 UJ	< 0.00044 UJ	< 0.00041 U	< 0.00031 UJ	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J33	0	N	9/17/2009	< 0.00035 U	< 0.00067 UJ	< 0.0004 UJ	< 0.00055 U	< 0.00027 U	< 0.00047 U	< 0.00044 U	< 0.00033 U	< 0.00057 U	< 0.00033 U	< 0.00057 U	< 0.00047 U
SRC2-J33	0	FD	9/17/2009	< 0.00033 U	< 0.00063 UJ	< 0.00037 UJ	< 0.00051 U	< 0.00025 U	< 0.00044 U	< 0.00042 U	< 0.00031 U	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U
SRC2-J34	0	N	9/17/2009	< 0.00033 U	< 0.00063 UJ	< 0.00037 UJ	< 0.00051 U	< 0.00025 U	< 0.00044 U	< 0.00042 U	< 0.00031 U	< 0.00053 U	< 0.00031 U	< 0.00053 U	< 0.00044 U

All units in mg/kg.
-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				2,4-Dimethylpentane	2-Chlorotoluene	2-Hexanone	2-Methylhexane	2-Nitropropane	3,3-Dimethylpentane	3-Ethylpentane	3-Methylhexane	4-Chlorotoluene	4-Methyl-2-pentanone (MIBK)	Acetone	Acetonitrile
SRC1-AG16	0	N	10/31/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AG16	11	N	10/31/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AG17	0	N	10/31/2008	< 0.00019 U	< 0.00025 UJ	< 0.00024 U	< 0.0002 U	< 0.00061 U	< 0.0002 U	< 0.00021 U	< 0.00014 U	< 0.00017 UJ	< 0.00029 U	0.072	< 0.0054 UJ
SRC1-AG17	11	N	10/31/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AG18	0	N	10/31/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.00029 U	0.0023 J	< 0.0055 UJ
SRC1-AG18	11	N	10/31/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AH15	0	N	11/3/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 U
SRC1-AH15	0	FD	11/3/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 U
SRC1-AH15	10	N	11/3/2008	< 0.00021 U	< 0.00027 U	< 0.00026 U	< 0.00022 U	< 0.00066 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00019 U	< 0.00032 U	< 0.0019 U	< 0.006 U
SRC1-AH16	0	N	11/3/2008	< 0.0002 UJ	< 0.00025 UJ	< 0.00024 UJ	< 0.00021 UJ	< 0.00062 UJ	< 0.00021 UJ	< 0.00022 UJ	< 0.00014 UJ	< 0.00018 UJ	< 0.0003 UJ	< 0.0017 UJ	< 0.0056 UJ
SRC1-AH16	11	N	11/3/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 U
SRC1-AH17	0	N	11/14/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AH17	11	N	11/14/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AH18	0	N	10/31/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	< 0.0017 U	< 0.0056 UJ
SRC1-AH18	11	N	10/31/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AH19	0	N	10/31/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-AH19	0	FD	10/31/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-AH19	10	N	10/31/2008	< 0.00021 U	< 0.00027 U	< 0.00026 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00019 U	< 0.00031 U	< 0.0018 U	< 0.0059 UJ
SRC1-AI17	0	N	11/3/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	0.02 J	< 0.0055 UJ
SRC1-AI17	3	N	11/3/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 UJ	< 0.0003 U	0.021 J	< 0.0057 UJ
SRC1-AI17	13	N	11/3/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	0.031	< 0.0058 UJ
SRC1-AI20	0	N	10/31/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AI20	10	N	10/31/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	0.01 J	< 0.0056 UJ
SRC1-AJ18	0	N	11/3/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00018 UJ	< 0.00029 U	0.02 J	< 0.0055 UJ
SRC1-AJ18	3	N	11/3/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	0.021 J	< 0.0056 UJ
SRC1-AJ18	13	N	11/3/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	0.021 J	< 0.0058 UJ
SRC1-AJ19	0	N	11/14/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-AJ19	11	N	11/14/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AJ20	0	N	11/5/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 UJ	< 0.0003 U	0.018 J	< 0.0056 UJ
SRC1-AJ20	11	N	11/5/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	0.0083 J	< 0.0057 UJ
SRC1-AJ20	21	N	11/5/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	0.0073 J	< 0.0057 UJ
SRC1-AJ21	0	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	0.0028 J	< 0.0056 UJ
SRC1-AJ21	12	N	11/6/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AJ22	0	N	11/5/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 UJ	< 0.0003 U	0.021	< 0.0056 UJ
SRC1-AJ22	10	N	11/5/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 UJ	< 0.0003 U	0.012 J	< 0.0057 UJ

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	2,4-Dimethylpentane	2-Chlorotoluene	2-Hexanone	2-Methylhexane	2-Nitropropane	3,3-Dimethylpentane	3-Ethylpentane	3-Methylhexane	4-Chlorotoluene	4-Methyl-2-pentanone (MIBK)	Acetone	Acetonitrile
SRC1-AJ23	0	N	11/7/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	0.0085 J	< 0.0057 UJ
SRC1-AJ23	4	N	11/7/2008	< 0.00021 U	< 0.00027 U	< 0.00026 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AJ23	14	N	11/7/2008	< 0.00021 U	< 0.00027 U	< 0.00026 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AJ24	0	N	11/10/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 UJ	< 0.00017 UJ	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-AJ24	10	N	11/10/2008	< 0.0002 UJ	< 0.00026 UJ	< 0.00025 UJ	< 0.00021 UJ	< 0.00064 UJ	< 0.00021 UJ	< 0.00022 UJ	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 UJ	< 0.0018 UJ	< 0.0057 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.0002 UJ	< 0.00026 UJ	< 0.00024 UJ	< 0.00021 UJ	< 0.00062 UJ	< 0.00021 UJ	< 0.00022 UJ	< 0.00014 UJ	< 0.00018 UJ	< 0.0003 UJ	< 0.0018 UJ	< 0.0056 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.00021 U	< 0.00026 UJ	< 0.00025 UJ	< 0.00022 U	< 0.00064 UJ	< 0.00022 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 UJ	< 0.0018 U	< 0.0058 UJ
SRC1-AJ25	13	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	0.0084 J+	< 0.0057 UJ
SRC1-AJ26	0	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 UJ	< 0.00022 U	< 0.00064 UJ	< 0.00022 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 UJ	< 0.0018 U	< 0.0057 UJ
SRC1-AJ26	11	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AJ27	0	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 UJ	< 0.00022 U	< 0.00064 UJ	< 0.00022 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 UJ	< 0.0018 U	< 0.0057 UJ
SRC1-AJ27	10	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AJ28	0	N	11/13/2008	< 0.0002 UJ	R	< 0.00025 UJ	< 0.00022 UJ	< 0.00064 UJ	< 0.00022 UJ	< 0.00022 UJ	< 0.00015 UJ	R	< 0.00031 UJ	< 0.0018 UJ	< 0.0057 UJ
SRC1-AJ28	0	FD	11/13/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 UJ	< 0.00021 U	< 0.00061 UJ	< 0.00021 U	< 0.00021 U	< 0.00014 UJ	< 0.00017 UJ	< 0.00029 UJ	0.006 J+	< 0.0055 UJ
SRC1-AJ28	12	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 UJ	< 0.00021 U	< 0.00064 UJ	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 UJ	0.0086 J+	< 0.0057 UJ
SRC1-AK20	0	N	11/5/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	0.0036 J	< 0.0055 U
SRC1-AK20	0	FD	11/5/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 U
SRC1-AK20	9	N	11/5/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 U
SRC1-AK20	19	N	11/5/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 U
SRC1-AK21	0	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AK21	0	FD	11/6/2008	< 0.0002 UJ	< 0.00026 UJ	< 0.00025 UJ	< 0.00021 UJ	< 0.00063 UJ	< 0.00021 UJ	< 0.00022 UJ	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 UJ	0.013 J	< 0.0057 UJ
SRC1-AK21	8	N	11/6/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 UJ	< 0.0003 U	0.012 J	< 0.0057 UJ
SRC1-AK21	18	N	11/6/2008	< 0.00021 U	< 0.00027 U	< 0.00025 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	0.0084 J	< 0.0058 UJ
SRC1-AK23	0	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 U
SRC1-AK23	4	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 U
SRC1-AK23	14	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0057 U
SRC1-AK24	0	N	11/6/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 UJ	< 0.00021 U	< 0.00061 UJ	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 UJ	< 0.00029 UJ	0.035	< 0.0055 UJ
SRC1-AK24	10	N	11/6/2008	< 0.00021 U	< 0.00026 UJ	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 UJ	< 0.00031 U	0.0079 J	< 0.0058 UJ
SRC1-AK24	13	N	11/12/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AK25	0	N	11/10/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 UJ	< 0.00018 UJ	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-AK25	11	N	11/10/2008	< 0.00021 U	< 0.00026 UJ	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 U	0.021 J+	< 0.0058 UJ
SRC1-AK26	0	N	11/7/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AK26	0	FD	11/7/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	0.041	< 0.0056 UJ
SRC1-AK26	10	N	11/7/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AK27	0	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.021 U	< 0.0057 UJ

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				2,4-Dimethylpentane	2-Chlorotoluene	2-Hexanone	2-Methylhexane	2-Nitropropane	3,3-Dimethylpentane	3-Ethylpentane	3-Methylhexane	4-Chlorotoluene	4-Methyl-2-pentanone (MIBK)	Acetone	Acetonitrile
SRC1-AK27	3	N	11/12/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AL24	0	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	0.0057 J	< 0.0057 UJ
SRC1-AL24	8	N	11/6/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0057 UJ
SRC1-AL24	18	N	11/6/2008	< 0.00021 U	< 0.00027 U	< 0.00026 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00019 U	< 0.00031 U	< 0.0018 U	< 0.0059 UJ
SRC1-AL26	0	N	11/7/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AL26	11	N	11/7/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0057 UJ
SRC1-AL28	0	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AL28	4	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AL28	14	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AM27	0	N	11/10/2008	< 0.00021 U	< 0.00027 UJ	< 0.00026 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 U	< 0.0018 U	< 0.0058 UJ
SRC1-AM27	3	N	11/10/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-AM27	13	N	11/10/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AM28	0	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.021 U	< 0.0057 UJ
SRC1-AM28	7	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-AM28	7	FD	11/12/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	< 0.021 U	< 0.0056 UJ
SRC1-AM28	17	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.021 U	< 0.0057 UJ
SRC1-AN28	0	N	11/12/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-AN28	11	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-J01	0	N	11/3/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 UJ	< 0.0003 U	0.021 J	< 0.0055 UJ
SRC1-J01	0	FD	11/3/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 UJ	< 0.0003 U	0.021 J	< 0.0056 UJ
SRC1-J01	11	N	11/3/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 U
SRC1-J02	0	N	11/5/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 U
SRC1-J02	3	N	11/5/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 U
SRC1-J02	13	N	11/5/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0057 U
SRC1-J03	0	N	11/5/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 UJ	< 0.00029 U	0.0047 J	< 0.0055 UJ
SRC1-J03	5	N	11/5/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 U
SRC1-J03	15	N	11/5/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.0018 U	< 0.0058 U
SRC1-J07	0	N	11/7/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-J07	10	N	11/7/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-J09	0	N	11/10/2008	< 0.0002 UJ	< 0.00025 UJ	< 0.00024 UJ	< 0.00021 UJ	< 0.00062 UJ	< 0.00021 UJ	< 0.00022 UJ	< 0.00014 UJ	< 0.00018 UJ	< 0.00029 UJ	< 0.0017 UJ	< 0.0055 UJ
SRC1-J09	0	FD	11/10/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-J09	11	N	11/10/2008	< 0.00021 UJ	< 0.00027 UJ	< 0.00026 UJ	< 0.00022 UJ	< 0.00065 UJ	< 0.00022 UJ	< 0.00023 UJ	< 0.00015 UJ	< 0.00019 UJ	< 0.00031 UJ	< 0.0018 UJ	< 0.0059 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.00021 UJ	< 0.00026 UJ	< 0.00025 UJ	< 0.00022 UJ	< 0.00064 UJ	< 0.00022 UJ	< 0.00022 UJ	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 UJ	0.0056 J+	< 0.0058 UJ
SRC1-J10	11	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0057 UJ

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	2,4-Dimethylpentane	2-Chlorotoluene	2-Hexanone	2-Methylhexane	2-Nitropropane	3,3-Dimethylpentane	3-Ethylpentane	3-Methylhexane	4-Chlorotoluene	4-Methyl-2-pentanone (MIBK)	Acetone	Acetonitrile
SRC1-J11	0	N	11/14/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-J11	10	N	11/14/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-J12	0	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0056 UJ
SRC1-J12	12	N	11/13/2008	< 0.0002 U	< 0.00026 UJ	< 0.00025 U	< 0.00021 U	< 0.00064 U	< 0.00021 U	< 0.00022 U	< 0.00015 UJ	< 0.00018 UJ	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-J13	0	N	11/12/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00062 U	< 0.00021 U	< 0.00022 U	< 0.00014 U	< 0.00018 U	< 0.0003 U	< 0.021 U	< 0.0056 UJ
SRC1-J13	3	N	11/12/2008	< 0.00021 U	< 0.00026 U	< 0.00025 U	< 0.00022 U	< 0.00064 U	< 0.00022 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.00031 U	< 0.021 U	< 0.0058 UJ
SRC1-J13	13	N	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-J14	0	N	11/13/2008	< 0.0002 U	< 0.00025 UJ	< 0.00024 UJ	< 0.00021 U	< 0.00061 UJ	< 0.00021 U	< 0.00021 U	< 0.00014 UJ	< 0.00017 UJ	< 0.00029 UJ	< 0.0017 U	< 0.0055 UJ
SRC1-J14	12	N	11/13/2008	< 0.00021 U	< 0.00027 UJ	< 0.00026 U	< 0.00022 U	< 0.00065 U	< 0.00022 U	< 0.00023 U	< 0.00015 UJ	< 0.00018 UJ	< 0.00031 U	0.0093 J+	< 0.0059 UJ
SRC1-J15	0	N	11/12/2008	< 0.0002 U	< 0.00025 U	< 0.00024 U	< 0.00021 U	< 0.00061 U	< 0.00021 U	< 0.00021 U	< 0.00014 U	< 0.00017 U	< 0.00029 U	< 0.0017 U	< 0.0055 UJ
SRC1-J15	0	FD	11/12/2008	< 0.0002 U	< 0.00026 U	< 0.00025 U	< 0.00021 U	< 0.00063 U	< 0.00021 U	< 0.00022 U	< 0.00015 U	< 0.00018 U	< 0.0003 U	< 0.0018 U	< 0.0057 UJ
SRC1-J15	12	N	11/12/2008	< 0.00022 U	< 0.00028 U	< 0.00027 U	< 0.00023 U	< 0.00068 U	< 0.00023 U	< 0.00024 U	< 0.00016 U	< 0.00019 U	< 0.00033 U	< 0.023 U	< 0.0061 UJ
SRC2-J20	0	N	9/14/2009	< 0.00049 U	< 0.00034 U	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 U	< 0.00031 U	< 0.0065 UJ	< 0.0035 UJ
SRC2-J21	0	N	9/14/2009	< 0.00049 UJ	< 0.00034 UJ	< 0.00028 UJ	< 0.00051 UJ	< 0.00032 UJ	< 0.00048 UJ	< 0.00045 UJ	< 0.00047 UJ	< 0.00025 UJ	< 0.00031 UJ	< 0.0066 UJ	< 0.0035 UJ
SRC2-J22	0	N	9/14/2009	< 0.00049 U	< 0.00034 U	< 0.00029 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 U	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J23	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0065 UJ	< 0.0035 UJ
SRC2-J24	0	N	9/14/2009	< 0.00049 U	< 0.00034 U	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 U	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J25	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00029 U	< 0.00051 U	< 0.00033 U	< 0.00049 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J26	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J27	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J28	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J29	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00029 UJ	< 0.00051 U	< 0.00033 UJ	< 0.00049 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 UJ	< 0.0066 UJ	< 0.0035 UJ
SRC2-J30	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0066 UJ	< 0.0035 UJ
SRC2-J31	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 UJ	< 0.00051 U	< 0.00032 UJ	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 UJ	< 0.0065 UJ	< 0.0035 UJ
SRC2-J32	0	N	9/14/2009	< 0.00049 U	< 0.00034 UJ	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 UJ	< 0.00031 U	< 0.0065 UJ	< 0.0035 UJ
SRC2-J33	0	N	9/17/2009	< 0.00052 U	< 0.00036 U	< 0.0003 U	< 0.00054 U	< 0.00034 U	< 0.00051 U	< 0.00048 U	< 0.0005 U	< 0.00027 U	< 0.00033 U	0.014 J	< 0.0037 UJ
SRC2-J33	0	FD	9/17/2009	< 0.00049 U	< 0.00034 U	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 U	< 0.00031 U	0.01 J	< 0.0035 UJ
SRC2-J34	0	N	9/17/2009	< 0.00049 U	< 0.00034 U	< 0.00028 U	< 0.00051 U	< 0.00032 U	< 0.00048 U	< 0.00045 U	< 0.00047 U	< 0.00025 U	< 0.00031 U	0.01 J	< 0.0035 UJ

All units in mg/kg.

-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane
SRC1-AG16	0	N	10/31/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AG16	11	N	10/31/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AG17	0	N	10/31/2008	< 0.000088 U	< 0.00012 UJ	< 0.00021 U	< 0.000059 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00046 U	< 0.0001 U	< 0.00027 U
SRC1-AG17	11	N	10/31/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AG18	0	N	10/31/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AG18	11	N	10/31/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AH15	0	N	11/3/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AH15	0	FD	11/3/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AH15	10	N	11/3/2008	< 0.000096 U	< 0.00013 U	< 0.00023 U	< 0.000065 U	< 0.00014 U	< 0.00013 U	< 0.00023 U	< 0.00012 U	< 0.00025 U	< 0.00051 U	< 0.00011 U	< 0.00029 U
SRC1-AH16	0	N	11/3/2008	< 0.00009 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.000061 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00021 UJ	< 0.00011 UJ	< 0.00023 UJ	< 0.00047 UJ	< 0.0001 UJ	< 0.00028 UJ
SRC1-AH16	11	N	11/3/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AH17	0	N	11/14/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AH17	11	N	11/14/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.00011 U	< 0.00028 U
SRC1-AH18	0	N	10/31/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-AH18	11	N	10/31/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AH19	0	N	10/31/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AH19	0	FD	10/31/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AH19	10	N	10/31/2008	< 0.000094 U	< 0.00013 U	< 0.00023 U	< 0.000064 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-AI17	0	N	11/3/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AI17	3	N	11/3/2008	< 0.000092 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AI17	13	N	11/3/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AI20	0	N	10/31/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-AI20	10	N	10/31/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ18	0	N	11/3/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AJ18	3	N	11/3/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-AJ18	13	N	11/3/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AJ19	0	N	11/14/2008	< 0.000088 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AJ19	11	N	11/14/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ20	0	N	11/5/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-AJ20	11	N	11/5/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.00011 U	< 0.00028 U
SRC1-AJ20	21	N	11/5/2008	< 0.000092 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AJ21	0	N	11/6/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ21	12	N	11/6/2008	< 0.000092 U	< 0.00013 UJ	< 0.00023 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AJ22	0	N	11/5/2008	< 0.00009 U	< 0.00013 UJ	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ22	10	N	11/5/2008	< 0.000092 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane
SRC1-AJ23	0	N	11/7/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ23	4	N	11/7/2008	< 0.000094 U	< 0.00013 U	< 0.00023 U	< 0.000064 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-AJ23	14	N	11/7/2008	< 0.000094 U	< 0.00013 U	< 0.00023 U	< 0.000064 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-AJ24	0	N	11/10/2008	< 0.000088 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AJ24	10	N	11/10/2008	< 0.000092 UJ	< 0.00013 UJ	< 0.00023 UJ	< 0.000062 UJ	< 0.00014 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.00011 UJ	< 0.00024 U	< 0.00049 UJ	< 0.00011 UJ	< 0.00028 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.00009 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.000061 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00021 UJ	< 0.00011 UJ	< 0.00023 UJ	< 0.00048 UJ	< 0.0001 UJ	< 0.00028 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.000093 U	< 0.00013 UJ	< 0.00023 U	< 0.000063 UJ	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 UJ	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AJ25	13	N	11/13/2008	< 0.000091 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ26	0	N	11/13/2008	< 0.000092 U	< 0.00013 UJ	< 0.00023 U	< 0.000063 UJ	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 UJ	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AJ26	11	N	11/13/2008	< 0.00009 U	< 0.00013 UJ	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ27	0	N	11/13/2008	< 0.000092 U	< 0.00013 UJ	< 0.00023 U	< 0.000063 UJ	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 UJ	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AJ27	10	N	11/13/2008	< 0.000091 U	< 0.00013 UJ	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AJ28	0	N	11/13/2008	< 0.000092 UJ	R	< 0.00023 UJ	< 0.000063 UJ	< 0.00014 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.00011 UJ	< 0.00024 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.00028 UJ
SRC1-AJ28	0	FD	11/13/2008	< 0.000088 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 UJ	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 UJ	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AJ28	12	N	11/13/2008	< 0.000092 U	< 0.00013 UJ	< 0.00023 U	< 0.000062 UJ	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 UJ	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AK20	0	N	11/5/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AK20	0	FD	11/5/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AK20	9	N	11/5/2008	< 0.000092 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AK20	19	N	11/5/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AK21	0	N	11/6/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AK21	0	FD	11/6/2008	< 0.000091 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.000062 UJ	< 0.00014 UJ	< 0.00013 UJ	< 0.00021 UJ	< 0.00011 UJ	< 0.00024 UJ	< 0.00048 UJ	< 0.0001 UJ	< 0.00028 UJ
SRC1-AK21	8	N	11/6/2008	< 0.000092 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AK21	18	N	11/6/2008	< 0.000094 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-AK23	0	N	11/6/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AK23	4	N	11/6/2008	< 0.000092 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AK23	14	N	11/6/2008	< 0.000092 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AK24	0	N	11/6/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 UJ	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 UJ	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AK24	10	N	11/6/2008	< 0.000093 U	< 0.00013 UJ	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AK24	13	N	11/12/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AK25	0	N	11/10/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AK25	11	N	11/10/2008	< 0.000093 U	< 0.00013 UJ	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AK26	0	N	11/7/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AK26	0	FD	11/7/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-AK26	10	N	11/7/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AK27	0	N	11/12/2008	< 0.000092 U	< 0.00013 U	< 0.00023 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane
SRC1-AK27	3	N	11/12/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AL24	0	N	11/6/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AL24	8	N	11/6/2008	< 0.000092 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AL24	18	N	11/6/2008	< 0.000094 U	< 0.00013 U	< 0.00023 U	< 0.000064 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-AL26	0	N	11/7/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-AL26	11	N	11/7/2008	< 0.000092 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AL28	0	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AL28	4	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AL28	14	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AM27	0	N	11/10/2008	< 0.000094 U	< 0.00013 UJ	< 0.00023 U	< 0.000064 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-AM27	3	N	11/10/2008	< 0.00009 U	< 0.00013 UJ	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AM27	13	N	11/10/2008	< 0.000092 U	< 0.00013 UJ	< 0.00023 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-AM28	0	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AM28	7	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AM28	7	FD	11/12/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-AM28	17	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-AN28	0	N	11/12/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-AN28	11	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J01	0	N	11/3/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-J01	0	FD	11/3/2008	< 0.00009 U	< 0.00012 UJ	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J01	11	N	11/3/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-J02	0	N	11/5/2008	< 0.000088 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-J02	3	N	11/5/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J02	13	N	11/5/2008	< 0.000092 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-J03	0	N	11/5/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-J03	5	N	11/5/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-J03	15	N	11/5/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-J07	0	N	11/7/2008	< 0.000089 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-J07	10	N	11/7/2008	< 0.000092 U	< 0.00013 U	< 0.00023 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-J09	0	N	11/10/2008	< 0.000089 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00006 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00021 UJ	< 0.00011 UJ	< 0.00023 UJ	< 0.00047 UJ	< 0.0001 UJ	< 0.00027 UJ
SRC1-J09	0	FD	11/10/2008	< 0.000091 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J09	11	N	11/10/2008	< 0.000094 UJ	< 0.00013 UJ	< 0.00023 UJ	< 0.000064 UJ	< 0.00014 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.00012 UJ	< 0.00024 UJ	< 0.0005 UJ	< 0.00011 UJ	< 0.00029 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.000093 UJ	< 0.00013 UJ	< 0.00023 UJ	< 0.000063 UJ	< 0.00014 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.00012 UJ	< 0.00024 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.00029 UJ
SRC1-J10	11	N	11/13/2008	< 0.000092 U	< 0.00013 UJ	< 0.00023 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane
SRC1-J11	0	N	11/14/2008	< 0.00009 U	< 0.00013 U	< 0.00022 U	< 0.000061 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J11	10	N	11/14/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J12	0	N	11/13/2008	< 0.000091 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J12	12	N	11/13/2008	< 0.000092 U	< 0.00013 UJ	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-J13	0	N	11/12/2008	< 0.00009 U	< 0.00012 U	< 0.00022 U	< 0.000061 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00028 U
SRC1-J13	3	N	11/12/2008	< 0.000093 U	< 0.00013 U	< 0.00023 U	< 0.000063 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00029 U
SRC1-J13	13	N	11/12/2008	< 0.000091 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00021 U	< 0.00011 U	< 0.00024 U	< 0.00048 U	< 0.0001 U	< 0.00028 U
SRC1-J14	0	N	11/13/2008	< 0.000089 U	< 0.00012 UJ	< 0.00022 U	< 0.00006 UJ	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 UJ	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-J14	12	N	11/13/2008	< 0.000094 U	< 0.00013 UJ	< 0.00023 U	< 0.000064 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00012 U	< 0.00024 U	< 0.0005 U	< 0.00011 U	< 0.00029 U
SRC1-J15	0	N	11/12/2008	< 0.000088 U	< 0.00012 U	< 0.00022 U	< 0.00006 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00011 U	< 0.00023 U	< 0.00047 U	< 0.0001 U	< 0.00027 U
SRC1-J15	0	FD	11/12/2008	< 0.000092 U	< 0.00013 U	< 0.00022 U	< 0.000062 U	< 0.00014 U	< 0.00013 U	< 0.00022 U	< 0.00011 U	< 0.00024 U	< 0.00049 U	< 0.00011 U	< 0.00028 U
SRC1-J15	12	N	11/12/2008	< 0.000099 U	< 0.00014 U	< 0.00024 U	< 0.000067 U	< 0.00015 U	< 0.00014 U	< 0.00023 U	< 0.00012 U	< 0.00026 U	< 0.00052 U	< 0.00011 U	< 0.0003 U
SRC2-J20	0	N	9/14/2009	< 0.00033 U	< 0.00038 U	< 0.00032 U	< 0.00041 U	< 0.0004 U	< 0.00028 U	< 0.0003 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00027 U
SRC2-J21	0	N	9/14/2009	< 0.00033 UJ	< 0.00038 UJ	< 0.00032 UJ	< 0.00042 UJ	< 0.0004 UJ	< 0.00028 UJ	< 0.00031 UJ	< 0.0003 UJ	< 0.00044 UJ	< 0.00031 UJ	< 0.00036 UJ	< 0.00027 UJ
SRC2-J22	0	N	9/14/2009	< 0.00033 U	< 0.00038 U	< 0.00032 U	< 0.00042 U	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.00031 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J23	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00027 U
SRC2-J24	0	N	9/14/2009	< 0.00033 U	< 0.00038 U	< 0.00032 U	< 0.00042 U	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00027 U
SRC2-J25	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.00031 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J26	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J27	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.00031 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J28	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J29	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.00031 UJ	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J30	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J31	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00042 UJ	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 UJ	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00027 U
SRC2-J32	0	N	9/14/2009	< 0.00033 U	< 0.00038 UJ	< 0.00032 U	< 0.00041 UJ	< 0.0004 U	< 0.00028 U	< 0.0003 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00027 U
SRC2-J33	0	N	9/17/2009	< 0.00035 U	< 0.0004 U	< 0.00034 UJ	< 0.00044 U	< 0.00043 U	< 0.0003 U	< 0.00033 U	< 0.00032 U	< 0.00047 U	< 0.00033 U	< 0.00038 U	< 0.00029 U
SRC2-J33	0	FD	9/17/2009	< 0.00033 U	< 0.00038 U	< 0.00032 UJ	< 0.00042 U	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U
SRC2-J34	0	N	9/17/2009	< 0.00033 U	< 0.00038 U	< 0.00032 UJ	< 0.00042 U	< 0.0004 U	< 0.00028 U	< 0.00031 U	< 0.0003 U	< 0.00044 U	< 0.00031 U	< 0.00036 U	< 0.00028 U

All units in mg/kg.

-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene (Isopropy-ltoluene)	Dibromochloromethane	Dibromochloropropane	Dibromomethane	Dichloromethane (Methylene chloride)	Dimethyldisulfide	Ethanol	Ethylbenzene	Freon-11 (Trichlorofluoromethane)	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)
SRC1-AG16	0	N	10/31/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	0.000088 J	< 0.00023 U	< 0.00015 U
SRC1-AG16	11	N	10/31/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.00074 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 U	< 0.00016 U
SRC1-AG17	0	N	10/31/2008	< 0.000054 U	< 0.0001 U	< 0.00012 UJ	< 0.00012 U	< 0.00021 UJ	< 0.00017 U	< 0.00069 U	< 0.00018 U	< 0.048 UJ	0.00077 J	0.001 J	< 0.00015 U
SRC1-AG17	11	N	10/31/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AG18	0	N	10/31/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0051 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AG18	11	N	10/31/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AH15	0	N	11/3/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00017 U	< 0.011 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 UJ	< 0.00015 U
SRC1-AH15	0	FD	11/3/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.011 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 UJ	< 0.00015 U
SRC1-AH15	10	N	11/3/2008	< 0.000059 U	< 0.00011 U	< 0.00014 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.012 U	< 0.00019 U	< 0.052 UJ	< 0.000064 U	< 0.00024 UJ	< 0.00016 U
SRC1-AH16	0	N	11/3/2008	< 0.000056 UJ	< 0.0001 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00017 UJ	< 0.0051 UJ	< 0.00018 UJ	< 0.049 UJ	< 0.00006 UJ	< 0.00022 UJ	< 0.00015 UJ
SRC1-AH16	11	N	11/3/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.0085 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 UJ	< 0.00015 U
SRC1-AH17	0	N	11/14/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0038 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AH17	11	N	11/14/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0034 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AH18	0	N	10/31/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AH18	11	N	10/31/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00072 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AH19	0	N	10/31/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0007 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AH19	0	FD	10/31/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0007 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AH19	10	N	10/31/2008	< 0.000059 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.00075 U	< 0.00019 U	< 0.051 UJ	< 0.000063 U	< 0.00024 U	< 0.00016 U
SRC1-AI17	0	N	11/3/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.01 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AI17	3	N	11/3/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00018 U	< 0.0099 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AI17	13	N	11/3/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.01 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AI20	0	N	10/31/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AI20	10	N	10/31/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	0.0077	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AJ18	0	N	11/3/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.01 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AJ18	3	N	11/3/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0099 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AJ18	13	N	11/3/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.011 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AJ19	0	N	11/14/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00017 U	< 0.0037 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AJ19	11	N	11/14/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0036 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AJ20	0	N	11/5/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.024 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AJ20	11	N	11/5/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.015 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AJ20	21	N	11/5/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00018 U	< 0.016 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AJ21	0	N	11/6/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.008 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AJ21	12	N	11/6/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00018 U	< 0.0085 U	< 0.00019 U	< 0.05 UJ	< 0.000061 UJ	< 0.00023 U	< 0.00015 U
SRC1-AJ22	0	N	11/5/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.025 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AJ22	10	N	11/5/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00018 U	< 0.022 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene (Isopropyltoluene)	Dibromochloromethane	Dibromochloropropane	Dibromomethane	Dichloromethane (Methylene chloride)	Dimethyldisulfide	Ethanol	Ethylbenzene	Freon-11 (Trichlorofluoromethane)	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)
SRC1-AJ23	0	N	11/7/2008	< 0.000057 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	0.0052 J	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AJ23	4	N	11/7/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.00074 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 U	< 0.00016 U
SRC1-AJ23	14	N	11/7/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.00074 U	< 0.00019 U	< 0.051 UJ	< 0.000063 U	< 0.00024 U	< 0.00016 U
SRC1-AJ24	0	N	11/10/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00021 UJ	< 0.00017 U	< 0.0007 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AJ24	10	N	11/10/2008	< 0.000057 UJ	< 0.00011 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00018 UJ	< 0.00073 UJ	< 0.00019 UJ	< 0.05 UJ	< 0.000061 UJ	< 0.00023 UJ	< 0.00015 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.000056 UJ	< 0.0001 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00017 UJ	< 0.00071 UJ	< 0.00018 UJ	< 0.049 UJ	< 0.00006 UJ	< 0.00023 UJ	< 0.00015 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.000058 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 U	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 UJ	< 0.05 UJ	< 0.000062 UJ	< 0.00023 U	< 0.00015 U
SRC1-AJ25	13	N	11/13/2008	< 0.000057 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.00072 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AJ26	0	N	11/13/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 U	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 UJ	< 0.05 UJ	< 0.000062 UJ	< 0.00023 U	< 0.00015 U
SRC1-AJ26	11	N	11/13/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AJ27	0	N	11/13/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 UJ	< 0.05 UJ	< 0.000061 UJ	< 0.00023 U	< 0.00015 U
SRC1-AJ27	10	N	11/13/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.00072 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AJ28	0	N	11/13/2008	< 0.000057 UJ	< 0.00011 UJ	R	< 0.00013 UJ	R	< 0.00018 UJ	< 0.00085 UJ	< 0.00019 UJ	< 0.05 UJ	< 0.000062 UJ	< 0.00023 UJ	< 0.00015 UJ
SRC1-AJ28	0	FD	11/13/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 UJ	< 0.00021 UJ	< 0.00017 U	< 0.0007 U	< 0.00018 UJ	< 0.048 UJ	< 0.000059 UJ	< 0.00022 U	< 0.00015 U
SRC1-AJ28	12	N	11/13/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 UJ	< 0.05 UJ	< 0.000061 UJ	< 0.00023 U	< 0.00015 U
SRC1-AK20	0	N	11/5/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.021 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 UJ	< 0.00015 U
SRC1-AK20	0	FD	11/5/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.022 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 UJ	< 0.00015 U
SRC1-AK20	9	N	11/5/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.021 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 UJ	< 0.00015 U
SRC1-AK20	19	N	11/5/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.019 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 UJ	< 0.00015 U
SRC1-AK21	0	N	11/6/2008	< 0.000057 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0099 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AK21	0	FD	11/6/2008	< 0.000056 UJ	< 0.0001 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00017 UJ	< 0.0097 UJ	< 0.00018 UJ	< 0.049 UJ	< 0.000061 UJ	< 0.00023 UJ	< 0.00015 UJ
SRC1-AK21	8	N	11/6/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.0062 U	< 0.00019 U	< 0.05 UJ	< 0.000061 UJ	< 0.00023 U	< 0.00015 U
SRC1-AK21	18	N	11/6/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.0078 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 U	< 0.00016 U
SRC1-AK23	0	N	11/6/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0095 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 UJ	< 0.00015 U
SRC1-AK23	4	N	11/6/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.011 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 UJ	< 0.00015 U
SRC1-AK23	14	N	11/6/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.009 U	< 0.00019 U	< 0.05 UJ	< 0.0053 U	< 0.00023 UJ	< 0.00015 U
SRC1-AK24	0	N	11/6/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00017 U	< 0.0099 U	< 0.00018 UJ	< 0.048 UJ	< 0.000059 UJ	< 0.00022 U	< 0.00015 U
SRC1-AK24	10	N	11/6/2008	< 0.000058 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 U	< 0.00023 UJ	< 0.00018 U	< 0.0077 U	< 0.00019 U	< 0.051 UJ	< 0.000062 UJ	< 0.00023 U	< 0.00015 U
SRC1-AK24	13	N	11/12/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.0053 U	< 0.00019 U	< 0.051 UJ	< 0.0053 U	< 0.00023 U	< 0.00016 U
SRC1-AK25	0	N	11/10/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.0007 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AK25	11	N	11/10/2008	< 0.000058 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 U	< 0.00023 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AK26	0	N	11/7/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AK26	0	FD	11/7/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AK26	10	N	11/7/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.00072 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AK27	0	N	11/12/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00018 U	< 0.0053 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene (Isopropy-ltoluene)	Dibromochloromethane	Dibromochloropropane	Dibromomethane	Dichloromethane (Methylene chloride)	Dimethyldisulfide	Ethanol	Ethylbenzene	Freon-11 (Trichlorofluoromethane)	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)
SRC1-AK27	3	N	11/12/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.0053 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AL24	0	N	11/6/2008	< 0.000057 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0074 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AL24	8	N	11/6/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.0076 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AL24	18	N	11/6/2008	< 0.000059 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.0092 U	< 0.00019 U	< 0.051 UJ	< 0.000063 U	< 0.00024 U	< 0.00016 U
SRC1-AL26	0	N	11/7/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AL26	11	N	11/7/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-AL28	0	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0052 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AL28	4	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0056 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AL28	14	N	11/12/2008	< 0.000057 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0052 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AM27	0	N	11/10/2008	< 0.000058 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 U	< 0.00023 UJ	< 0.00018 U	< 0.00074 U	< 0.00019 U	< 0.051 UJ	< 0.000063 U	< 0.00024 U	< 0.00016 U
SRC1-AM27	3	N	11/10/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.00071 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-AM27	13	N	11/10/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AM28	0	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0053 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AM28	7	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0052 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AM28	7	FD	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0051 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-AM28	17	N	11/12/2008	< 0.000057 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0052 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-AN28	0	N	11/12/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0051 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-AN28	11	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0052 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-J01	0	N	11/3/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.0093 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-J01	0	FD	11/3/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.011 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-J01	11	N	11/3/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.0053 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 UJ	< 0.00015 U
SRC1-J02	0	N	11/5/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00017 U	< 0.018 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 UJ	< 0.00015 U
SRC1-J02	3	N	11/5/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.017 U	< 0.00018 U	< 0.049 UJ	< 0.0052 U	< 0.00022 UJ	< 0.00015 U
SRC1-J02	13	N	11/5/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.023 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 UJ	< 0.00015 U
SRC1-J03	0	N	11/5/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.017 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-J03	5	N	11/5/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.018 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 UJ	< 0.00016 U
SRC1-J03	15	N	11/5/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00023 U	< 0.00018 U	< 0.017 U	< 0.00019 U	< 0.051 UJ	< 0.000062 U	< 0.00023 UJ	< 0.00016 U
SRC1-J07	0	N	11/7/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0051 U	< 0.00018 U	< 0.048 UJ	< 0.0051 U	< 0.00022 U	< 0.00015 U
SRC1-J07	10	N	11/7/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-J09	0	N	11/10/2008	< 0.000055 UJ	< 0.0001 UJ	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00017 UJ	< 0.0007 UJ	< 0.00018 UJ	< 0.048 UJ	< 0.000059 UJ	< 0.00022 UJ	< 0.00015 UJ
SRC1-J09	0	FD	11/10/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.00072 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-J09	11	N	11/10/2008	< 0.000058 UJ	< 0.00011 UJ	< 0.00013 UJ	< 0.00013 UJ	< 0.00023 UJ	< 0.00018 UJ	< 0.00075 UJ	< 0.00019 UJ	< 0.051 UJ	< 0.000063 UJ	< 0.00024 UJ	< 0.00016 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.000058 UJ	< 0.00011 UJ	< 0.00013 UJ	< 0.00013 UJ	< 0.00022 UJ	< 0.00018 UJ	< 0.00073 UJ	< 0.00019 UJ	< 0.05 UJ	< 0.000062 UJ	< 0.00023 UJ	< 0.00015 UJ
SRC1-J10	11	N	11/13/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	Depth (ft bgs)	Sample Type	Sample Date	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene (Isopropy-ltoluene)	Dibromochloromethane	Dibromochloropropane	Dibromomethane	Dichloromethane (Methylene chloride)	Dimethyldisulfide	Ethanol	Ethylbenzene	Freon-11 (Trichlorofluoromethane)	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)
SRC1-J11	0	N	11/14/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0037 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-J11	10	N	11/14/2008	< 0.000057 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0038 U	< 0.00018 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-J12	0	N	11/13/2008	< 0.000056 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00017 U	< 0.00072 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00023 U	< 0.00015 U
SRC1-J12	12	N	11/13/2008	< 0.000057 U	< 0.00011 U	< 0.00013 UJ	< 0.00012 U	< 0.00022 UJ	< 0.00018 U	< 0.00073 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-J13	0	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0051 U	< 0.00018 U	< 0.049 UJ	< 0.00006 U	< 0.00022 U	< 0.00015 U
SRC1-J13	3	N	11/12/2008	< 0.000058 U	< 0.00011 U	< 0.00013 U	< 0.00013 U	< 0.00022 U	< 0.00018 U	< 0.0053 U	< 0.00019 U	< 0.05 UJ	< 0.000062 U	< 0.00023 U	< 0.00015 U
SRC1-J13	13	N	11/12/2008	< 0.000056 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0052 U	< 0.00018 U	< 0.049 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-J14	0	N	11/13/2008	< 0.000055 U	< 0.0001 U	< 0.00013 UJ	< 0.00012 UJ	< 0.00022 UJ	< 0.00017 U	< 0.0007 U	< 0.00018 UJ	< 0.048 UJ	< 0.000059 UJ	< 0.00022 U	< 0.00015 U
SRC1-J14	12	N	11/13/2008	< 0.000058 U	< 0.00011 U	< 0.00013 UJ	< 0.00013 U	< 0.00023 UJ	< 0.00018 U	< 0.00074 U	< 0.00019 U	< 0.051 UJ	< 0.000063 U	< 0.00024 U	< 0.00016 U
SRC1-J15	0	N	11/12/2008	< 0.000055 U	< 0.0001 U	< 0.00013 U	< 0.00012 U	< 0.00021 U	< 0.00017 U	< 0.0051 U	< 0.00018 U	< 0.048 UJ	< 0.000059 U	< 0.00022 U	< 0.00015 U
SRC1-J15	0	FD	11/12/2008	< 0.000057 U	< 0.00011 U	< 0.00013 U	< 0.00012 U	< 0.00022 U	< 0.00017 U	< 0.0053 U	< 0.00019 U	< 0.05 UJ	< 0.000061 U	< 0.00023 U	< 0.00015 U
SRC1-J15	12	N	11/12/2008	< 0.000061 U	< 0.00011 U	< 0.00014 U	< 0.00013 U	< 0.00024 U	< 0.00019 U	< 0.006 U	< 0.0002 U	< 0.054 UJ	< 0.0057 U	< 0.00025 U	< 0.00016 U
SRC2-J20	0	N	9/14/2009	< 0.00033 U	< 0.00024 U	< 0.00026 U	< 0.00029 U	< 0.0006 U	< 0.00035 U	< 0.0023 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J21	0	N	9/14/2009	< 0.00033 UJ	< 0.00024 UJ	< 0.00026 UJ	< 0.00029 UJ	< 0.0006 UJ	< 0.00035 UJ	0.0097 J	< 0.00048 UJ	< 0.062 UJ	< 0.00029 UJ	< 0.00031 UJ	< 0.00025 UJ
SRC2-J22	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 U	< 0.00029 U	< 0.0006 U	< 0.00035 U	< 0.0064 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J23	0	N	9/14/2009	< 0.00033 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0077 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J24	0	N	9/14/2009	< 0.00033 U	< 0.00024 U	< 0.00026 U	< 0.00029 U	< 0.0006 U	< 0.00035 U	0.0057	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J25	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0078 U	< 0.00049 U	< 0.063 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J26	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0084 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J27	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0086 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J28	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0066 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J29	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 UJ	< 0.0006 UJ	< 0.00035 U	< 0.004 U	< 0.00049 UJ	< 0.063 UJ	< 0.00029 UJ	< 0.00031 U	< 0.00025 U
SRC2-J30	0	N	9/14/2009	< 0.00034 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0033 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J31	0	N	9/14/2009	< 0.00033 U	< 0.00024 U	< 0.00026 UJ	< 0.00029 UJ	< 0.0006 UJ	< 0.00035 U	< 0.013 U	< 0.00048 UJ	< 0.062 UJ	< 0.00029 UJ	< 0.00031 U	< 0.00025 U
SRC2-J32	0	N	9/14/2009	< 0.00033 U	< 0.00023 U	< 0.00026 UJ	< 0.00029 U	< 0.0006 UJ	< 0.00035 U	< 0.0085 U	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 U
SRC2-J33	0	N	9/17/2009	< 0.00036 U	< 0.00025 U	< 0.00028 U	< 0.00031 U	< 0.00064 U	< 0.00037 U	< 0.0025 UJ	< 0.00051 U	< 0.066 UJ	< 0.00031 U	< 0.00033 U	< 0.00027 UJ
SRC2-J33	0	FD	9/17/2009	< 0.00034 U	< 0.00024 U	< 0.00026 U	< 0.00029 U	< 0.0006 U	< 0.00035 U	< 0.0024 UJ	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 UJ
SRC2-J34	0	N	9/17/2009	< 0.00033 U	< 0.00024 U	< 0.00026 U	< 0.00029 U	< 0.0006 U	< 0.00035 U	< 0.0024 UJ	< 0.00048 U	< 0.062 UJ	< 0.00029 U	< 0.00031 U	< 0.00025 UJ

All units in mg/kg.

-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

				Volatile Organic Compounds (VOCs)											
Sample ID	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Freon-12 (Dichlorodifluoromethane)	Heptane	Isopropylbenzene	m,p-Xylene	Methyl ethyl ketone (2-Butanone)	Methyl iodide	MTBE (Methyl tert-butyl ether)	n-Butylbenzene	Nonanal	n-Propylbenzene	o-Xylene	sec-Butylbenzene
SRC1-AG16	0	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AG16	11	N	10/31/2008	< 0.00031 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AG17	0	N	10/31/2008	< 0.00029 UJ	< 0.00016 U	< 0.0001 U	0.002 J	0.012 J	< 0.00012 U	< 0.00009 U	< 0.00018 UJ	< 0.00047 UJ	0.00041 J	0.00074 J	< 0.00011 UJ
SRC1-AG17	11	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AG18	0	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AG18	11	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AH15	0	N	11/3/2008	< 0.00029 U	< 0.00017 U	< 0.0001 U	< 0.00017 U	< 0.00088 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000077 U	< 0.00011 U
SRC1-AH15	0	FD	11/3/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AH15	10	N	11/3/2008	< 0.00032 U	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00095 U	< 0.00014 U	< 0.000098 U	< 0.0002 U	< 0.00051 U	< 0.00012 U	< 0.000084 U	< 0.00012 U
SRC1-AH16	0	N	11/3/2008	< 0.0003 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00017 UJ	< 0.00089 UJ	< 0.00013 UJ	< 0.000092 UJ	< 0.00019 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 UJ	< 0.00011 UJ
SRC1-AH16	11	N	11/3/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AH17	0	N	11/14/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AH17	11	N	11/14/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AH18	0	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AH18	11	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AH19	0	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AH19	0	FD	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AH19	10	N	10/31/2008	< 0.00031 UJ	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00094 U	< 0.00013 U	< 0.000097 U	< 0.0002 U	< 0.00051 U	< 0.00012 U	< 0.000082 U	< 0.00011 U
SRC1-AI17	0	N	11/3/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AI17	3	N	11/3/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.00008 U	< 0.00011 UJ
SRC1-AI17	13	N	11/3/2008	< 0.00031 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AI20	0	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AI20	10	N	10/31/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AJ18	0	N	11/3/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 U	< 0.00011 UJ
SRC1-AJ18	3	N	11/3/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AJ18	13	N	11/3/2008	< 0.00031 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AJ19	0	N	11/14/2008	< 0.00029 U	< 0.00017 U	< 0.0001 U	< 0.00017 U	< 0.00088 U	< 0.00013 U	< 0.00009 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000077 U	< 0.00011 U
SRC1-AJ19	11	N	11/14/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AJ20	0	N	11/5/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 U	< 0.00011 UJ
SRC1-AJ20	11	N	11/5/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AJ20	21	N	11/5/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AJ21	0	N	11/6/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AJ21	12	N	11/6/2008	< 0.00031 UJ	< 0.00017 U	< 0.00011 UJ	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00012 UJ	< 0.00008 U	< 0.00011 UJ
SRC1-AJ22	0	N	11/5/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000079 U	< 0.00011 UJ
SRC1-AJ22	10	N	11/5/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.00008 U	< 0.00011 UJ

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				Freon-12 (Dichloro-difluoromethane)	Heptane	Isopropylbenzene	m,p-Xylene	Methyl ethyl ketone (2-Butanone)	Methyl iodide	MTBE (Methyl tert-butyl ether)	n-Butylbenzene	Nonanal	n-Propylbenzene	o-Xylene	sec-Butylbenzene
SRC1-AJ23	0	N	11/7/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AJ23	4	N	11/7/2008	< 0.00031 U	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000096 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000082 U	< 0.00011 U
SRC1-AJ23	14	N	11/7/2008	< 0.00031 U	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00094 U	< 0.00013 U	< 0.000096 U	< 0.00019 U	< 0.00051 U	< 0.00012 U	< 0.000082 U	< 0.00011 U
SRC1-AJ24	0	N	11/10/2008	< 0.00029 U	< 0.00017 U	< 0.0001 U	< 0.00017 U	< 0.00088 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000077 U	< 0.00011 UJ
SRC1-AJ24	10	N	11/10/2008	< 0.00031 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 UJ	< 0.00013 UJ	< 0.000094 UJ	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.00008 UJ	< 0.00011 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.0003 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00017 UJ	< 0.0009 UJ	< 0.00013 UJ	< 0.000092 UJ	< 0.00019 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 UJ	< 0.00011 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.00031 U	< 0.00017 U	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000081 UJ	< 0.00011 UJ
SRC1-AJ25	13	N	11/13/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.00008 U	< 0.00011 UJ
SRC1-AJ26	0	N	11/13/2008	< 0.00031 U	< 0.00017 U	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000081 UJ	< 0.00011 UJ
SRC1-AJ26	11	N	11/13/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000079 U	< 0.00011 UJ
SRC1-AJ27	0	N	11/13/2008	< 0.00031 U	< 0.00017 U	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000081 UJ	< 0.00011 UJ
SRC1-AJ27	10	N	11/13/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.000079 U	< 0.00011 UJ
SRC1-AJ28	0	N	11/13/2008	< 0.00031 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 UJ	< 0.00013 UJ	< 0.000094 UJ	R	R	R	< 0.000081 UJ	R
SRC1-AJ28	0	FD	11/13/2008	< 0.00029 U	< 0.00017 U	< 0.0001 UJ	< 0.00017 UJ	< 0.00088 U	< 0.00013 U	< 0.00009 U	< 0.00018 UJ	< 0.00047 UJ	< 0.00011 UJ	< 0.000077 UJ	< 0.00011 UJ
SRC1-AJ28	12	N	11/13/2008	< 0.00031 U	< 0.00017 U	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00012 UJ	< 0.00008 UJ	< 0.00011 UJ
SRC1-AK20	0	N	11/5/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AK20	0	FD	11/5/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AK20	9	N	11/5/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AK20	19	N	11/5/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AK21	0	N	11/6/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AK21	0	FD	11/6/2008	< 0.0003 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00017 UJ	< 0.00091 UJ	< 0.00013 UJ	< 0.000093 UJ	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.000079 UJ	< 0.00011 UJ
SRC1-AK21	8	N	11/6/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 UJ	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.00008 U	< 0.00011 UJ
SRC1-AK21	18	N	11/6/2008	< 0.00031 UJ	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000096 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000082 U	< 0.00011 U
SRC1-AK23	0	N	11/6/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AK23	4	N	11/6/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AK23	14	N	11/6/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AK24	0	N	11/6/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 UJ	< 0.00017 UJ	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 UJ	< 0.00011 UJ
SRC1-AK24	10	N	11/6/2008	< 0.00031 UJ	< 0.00017 U	< 0.00011 UJ	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000081 U	< 0.00011 UJ
SRC1-AK24	13	N	11/12/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.0053 U	< 0.00011 U
SRC1-AK25	0	N	11/10/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 U	< 0.00011 U
SRC1-AK25	11	N	11/10/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000081 U	< 0.00011 U
SRC1-AK26	0	N	11/7/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AK26	0	FD	11/7/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AK26	10	N	11/7/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AK27	0	N	11/12/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.00008 U	< 0.00011 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				Freon-12 (Dichloro-difluoromethane)	Heptane	Isopropylbenzene	m,p-Xylene	Methyl ethyl ketone (2-Butanone)	Methyl iodide	MTBE (Methyl tert-butyl ether)	n-Butylbenzene	Nonanal	n-Propylbenzene	o-Xylene	sec-Butylbenzene
SRC1-AK27	3	N	11/12/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AL24	0	N	11/6/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AL24	8	N	11/6/2008	< 0.00031 UJ	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AL24	18	N	11/6/2008	< 0.00031 UJ	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00094 U	< 0.00013 U	< 0.000096 U	< 0.0002 U	< 0.00051 U	< 0.00012 U	< 0.000082 U	< 0.00011 U
SRC1-AL26	0	N	11/7/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AL26	11	N	11/7/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-AL28	0	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AL28	4	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AL28	14	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AM27	0	N	11/10/2008	< 0.00031 U	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00094 U	< 0.00013 U	< 0.000096 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000082 U	< 0.00011 UJ
SRC1-AM27	3	N	11/10/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.000079 U	< 0.00011 UJ
SRC1-AM27	13	N	11/10/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.00008 U	< 0.00011 UJ
SRC1-AM28	0	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AM28	7	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-AM28	7	FD	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AM28	17	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-AN28	0	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-AN28	11	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-J01	0	N	11/3/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 U	< 0.00011 UJ
SRC1-J01	0	FD	11/3/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 U	< 0.00011 UJ
SRC1-J01	11	N	11/3/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-J02	0	N	11/5/2008	< 0.00029 U	< 0.00017 U	< 0.0001 U	< 0.00017 U	< 0.00088 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000077 U	< 0.00011 U
SRC1-J02	3	N	11/5/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-J02	13	N	11/5/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-J03	0	N	11/5/2008	< 0.0003 UJ	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 U	< 0.00011 UJ
SRC1-J03	5	N	11/5/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-J03	15	N	11/5/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00093 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-J07	0	N	11/7/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.0051 U	< 0.00089 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	0.0051 J	< 0.00011 U
SRC1-J07	10	N	11/7/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00012 U	< 0.00008 U	< 0.00011 U
SRC1-J09	0	N	11/10/2008	< 0.0003 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00017 UJ	< 0.00089 UJ	< 0.00013 UJ	< 0.000091 UJ	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 UJ	< 0.00011 UJ
SRC1-J09	0	FD	11/10/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.000079 U	< 0.00011 UJ
SRC1-J09	11	N	11/10/2008	< 0.00031 UJ	< 0.00018 UJ	< 0.00011 UJ	< 0.00018 UJ	< 0.00094 UJ	< 0.00013 UJ	< 0.000096 UJ	< 0.00019 UJ	< 0.00051 UJ	< 0.00012 UJ	< 0.000082 UJ	< 0.00011 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.00031 UJ	< 0.00017 UJ	< 0.00011 UJ	< 0.00018 UJ	< 0.00092 UJ	< 0.00013 UJ	< 0.000095 UJ	< 0.00019 UJ	< 0.0005 UJ	< 0.00012 UJ	< 0.000081 UJ	< 0.00011 UJ
SRC1-J10	11	N	11/13/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00012 UJ	< 0.00008 U	< 0.00011 UJ

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)											
				Freon-12 (Dichloro-difluoromethane)	Heptane	Isopropylbenzene	m,p-Xylene	Methyl ethyl ketone (2-Butanone)	Methyl iodide	MTBE (Methyl tert-butyl ether)	n-Butylbenzene	Nonanal	n-Propylbenzene	o-Xylene	sec-Butylbenzene
SRC1-J11	0	N	11/14/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	0.00016 J	< 0.00011 U
SRC1-J11	10	N	11/14/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-J12	0	N	11/13/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.0009 U	< 0.00013 U	< 0.000093 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00011 UJ	< 0.000079 U	< 0.00011 UJ
SRC1-J12	12	N	11/13/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000094 U	< 0.00019 UJ	< 0.00049 UJ	< 0.00012 UJ	< 0.00008 U	< 0.00011 UJ
SRC1-J13	0	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00089 U	< 0.00013 U	< 0.000092 U	< 0.00019 U	< 0.00048 U	< 0.00011 U	< 0.000078 U	< 0.00011 U
SRC1-J13	3	N	11/12/2008	< 0.00031 U	< 0.00017 U	< 0.00011 U	< 0.00018 U	< 0.00092 U	< 0.00013 U	< 0.000095 U	< 0.00019 U	< 0.0005 U	< 0.00012 U	< 0.000081 U	< 0.00011 U
SRC1-J13	13	N	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000093 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.000079 U	< 0.00011 U
SRC1-J14	0	N	11/13/2008	< 0.00029 U	< 0.00017 U	< 0.00011 UJ	< 0.00017 UJ	< 0.00088 U	< 0.00013 U	< 0.000091 U	< 0.00018 UJ	< 0.00048 UJ	< 0.00011 UJ	< 0.000078 UJ	< 0.00011 UJ
SRC1-J14	12	N	11/13/2008	< 0.00031 U	< 0.00018 U	< 0.00011 U	< 0.00018 U	< 0.00094 U	< 0.00013 U	< 0.000096 U	< 0.00019 UJ	< 0.00051 UJ	< 0.00012 UJ	< 0.000082 U	< 0.00011 UJ
SRC1-J15	0	N	11/12/2008	< 0.00029 U	< 0.00017 U	< 0.0001 U	< 0.00017 U	< 0.00088 U	< 0.00013 U	< 0.000091 U	< 0.00018 U	< 0.00048 U	< 0.00011 U	< 0.000077 U	< 0.00011 U
SRC1-J15	0	FD	11/12/2008	< 0.0003 U	< 0.00017 U	< 0.00011 U	< 0.00017 U	< 0.00091 U	< 0.00013 U	< 0.000094 U	< 0.00019 U	< 0.00049 U	< 0.00011 U	< 0.00008 U	< 0.00011 U
SRC1-J15	12	N	11/12/2008	< 0.00033 U	< 0.00019 U	< 0.00012 U	< 0.00019 U	< 0.00099 U	< 0.00014 U	< 0.0001 U	< 0.0002 U	< 0.00053 U	< 0.00012 U	< 0.0057 U	< 0.00012 U
SRC2-J20	0	N	9/14/2009	< 0.00025 U	< 0.00037 U	< 0.00028 U	< 0.00045 U	< 0.00057 UJ	< 0.00039 U	< 0.00047 UJ	< 0.00029 U	< 0.00036 U	< 0.00027 U	< 0.00024 U	< 0.00032 U
SRC2-J21	0	N	9/14/2009	< 0.00025 UJ	< 0.00038 UJ	< 0.00029 UJ	< 0.00046 UJ	< 0.00058 UJ	< 0.00039 UJ	< 0.00047 UJ	< 0.0003 UJ	< 0.00036 UJ	< 0.00027 UJ	< 0.00024 UJ	< 0.00033 UJ
SRC2-J22	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 U	< 0.00037 U	< 0.00028 U	< 0.00024 U	< 0.00033 U
SRC2-J23	0	N	9/14/2009	< 0.00025 U	< 0.00037 U	< 0.00028 U	< 0.00045 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00036 UJ	< 0.00027 UJ	< 0.00024 U	< 0.00033 UJ
SRC2-J24	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 U	< 0.00036 U	< 0.00027 U	< 0.00024 U	< 0.00033 U
SRC2-J25	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00037 UJ	< 0.00028 UJ	< 0.00024 U	< 0.00033 UJ
SRC2-J26	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00037 UJ	< 0.00028 UJ	< 0.00024 U	< 0.00033 UJ
SRC2-J27	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00037 UJ	< 0.00028 UJ	< 0.00024 U	< 0.00033 UJ
SRC2-J28	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00037 UJ	< 0.00028 UJ	< 0.00024 U	< 0.00033 UJ
SRC2-J29	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 UJ	< 0.00046 UJ	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00037 UJ	< 0.00028 UJ	< 0.00024 UJ	< 0.00033 UJ
SRC2-J30	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00037 UJ	< 0.00028 UJ	< 0.00024 U	< 0.00033 UJ
SRC2-J31	0	N	9/14/2009	< 0.00025 U	< 0.00038 U	< 0.00029 UJ	< 0.00046 UJ	< 0.00058 UJ	< 0.00039 U	< 0.00047 UJ	< 0.0003 UJ	< 0.00036 UJ	< 0.00027 UJ	< 0.00024 UJ	< 0.00033 UJ
SRC2-J32	0	N	9/14/2009	< 0.00025 U	< 0.00037 U	< 0.00028 U	< 0.00045 U	< 0.00057 UJ	< 0.00039 U	< 0.00047 UJ	< 0.00029 UJ	< 0.00036 UJ	< 0.00027 UJ	< 0.00023 U	< 0.00032 UJ
SRC2-J33	0	N	9/17/2009	< 0.00027 U	< 0.0004 U	< 0.0003 U	< 0.00049 U	0.0045 J	< 0.00041 U	< 0.0005 U	< 0.00032 U	< 0.00039 U	< 0.00029 U	< 0.00025 U	< 0.00035 U
SRC2-J33	0	FD	9/17/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	0.004 J	< 0.00039 U	< 0.00047 U	< 0.0003 U	< 0.00037 U	< 0.00028 U	< 0.00024 U	< 0.00033 U
SRC2-J34	0	N	9/17/2009	< 0.00025 U	< 0.00038 U	< 0.00029 U	< 0.00046 U	0.0076 J	< 0.00039 U	< 0.00047 U	< 0.0003 U	< 0.00037 U	< 0.00028 U	< 0.00024 U	< 0.00033 U

All units in mg/kg.

-- = no sample data.

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)									
				Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloro-propene	Trichloroethene	Vinyl acetate	Vinyl chloride	Xylenes (total)
SRC1-AG16	0	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AG16	11	N	10/31/2008	< 0.00019 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AG17	0	N	10/31/2008	< 0.00017 U	< 0.0001 UJ	0.0007 J	0.0018 J	< 0.000091 U	< 0.0001 U	< 0.0001 U	< 0.00024 U	< 0.00011 U	0.0027 J
SRC1-AG17	11	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AG18	0	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AG18	11	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AH15	0	N	11/3/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00024 U	< 0.00011 U	< 0.00024 U
SRC1-AH15	0	FD	11/3/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AH15	10	N	11/3/2008	< 0.00019 U	< 0.00011 U	< 0.000096 U	< 0.00035 U	< 0.000099 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AH16	0	N	11/3/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.00009 UJ	< 0.00033 UJ	< 0.000093 UJ	< 0.0001 UJ	< 0.00011 UJ	< 0.00025 UJ	< 0.00012 UJ	< 0.00024 UJ
SRC1-AH16	11	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AH17	0	N	11/14/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AH17	11	N	11/14/2008	< 0.00018 U	< 0.00011 U	< 0.000091 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AH18	0	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AH18	11	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AH19	0	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AH19	0	FD	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AH19	10	N	10/31/2008	< 0.00019 U	< 0.00011 U	< 0.000094 U	< 0.00035 U	< 0.000098 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AI17	0	N	11/3/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AI17	3	N	11/3/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AI17	13	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AI20	0	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AI20	10	N	10/31/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ18	0	N	11/3/2008	< 0.00018 U	< 0.0001 UJ	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AJ18	3	N	11/3/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ18	13	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AJ19	0	N	11/14/2008	< 0.00018 U	< 0.0001 U	< 0.000088 U	< 0.00033 U	< 0.000091 U	< 0.0001 U	< 0.00011 U	< 0.00024 U	< 0.00011 U	< 0.00023 U
SRC1-AJ19	11	N	11/14/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ20	0	N	11/5/2008	< 0.00018 U	< 0.0001 UJ	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AJ20	11	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000091 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ20	21	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ21	0	N	11/6/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ21	12	N	11/6/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ22	0	N	11/5/2008	< 0.00018 U	< 0.0001 UJ	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ22	10	N	11/5/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)									
				Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloro-propene	Trichloroethene	Vinyl acetate	Vinyl chloride	Xylenes (total)
SRC1-AJ23	0	N	11/7/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ23	4	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000094 U	< 0.00035 U	< 0.000097 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AJ23	14	N	11/7/2008	< 0.00019 U	< 0.00011 U	< 0.000094 U	< 0.00035 U	< 0.000097 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AJ24	0	N	11/10/2008	< 0.00018 U	< 0.0001 UJ	< 0.000088 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00024 U	< 0.00011 U	< 0.00023 U
SRC1-AJ24	10	N	11/10/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000092 UJ	< 0.00034 UJ	< 0.000095 UJ	< 0.00011 UJ	< 0.00011 UJ	< 0.00025 UJ	< 0.00012 UJ	< 0.00024 UJ
SRC1-AJ25	0	N	11/13/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.00009 UJ	< 0.00033 UJ	< 0.000093 UJ	< 0.0001 UJ	< 0.00011 UJ	< 0.00025 UJ	< 0.00012 UJ	< 0.00024 UJ
SRC1-AJ25	3	N	11/13/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000093 UJ	< 0.00034 UJ	< 0.000096 U	< 0.00011 UJ	< 0.00011 U	< 0.00026 UJ	< 0.00012 U	< 0.00025 UJ
SRC1-AJ25	13	N	11/13/2008	< 0.00018 U	< 0.0001 UJ	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 UJ	< 0.00012 U	< 0.00024 U
SRC1-AJ26	0	N	11/13/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000092 UJ	< 0.00034 UJ	< 0.000096 U	< 0.00011 UJ	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00025 UJ
SRC1-AJ26	11	N	11/13/2008	< 0.00018 U	< 0.0001 UJ	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 UJ	< 0.00012 U	< 0.00024 U
SRC1-AJ27	0	N	11/13/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000092 UJ	< 0.00034 UJ	< 0.000095 U	< 0.00011 UJ	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 UJ
SRC1-AJ27	10	N	11/13/2008	< 0.00018 U	< 0.0001 UJ	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AJ28	0	N	11/13/2008	< 0.00018 UJ	R	< 0.000092 UJ	< 0.00034 UJ	< 0.000095 UJ	< 0.00011 UJ	< 0.00011 UJ	R	< 0.00012 UJ	< 0.00025 UJ
SRC1-AJ28	0	FD	11/13/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.000088 UJ	< 0.00033 UJ	< 0.000091 U	< 0.0001 UJ	< 0.00011 U	< 0.00024 UJ	< 0.00011 U	< 0.00023 UJ
SRC1-AJ28	12	N	11/13/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000092 UJ	< 0.00034 UJ	< 0.000095 U	< 0.00011 UJ	< 0.00011 U	< 0.00025 UJ	< 0.00012 U	< 0.00024 UJ
SRC1-AK20	0	N	11/5/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.0051 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AK20	0	FD	11/5/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK20	9	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK20	19	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AK21	0	N	11/6/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK21	0	FD	11/6/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.000091 UJ	< 0.00034 UJ	< 0.000094 UJ	< 0.0001 UJ	< 0.00011 UJ	< 0.00025 UJ	< 0.00012 UJ	< 0.00024 UJ
SRC1-AK21	8	N	11/6/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK21	18	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000094 U	< 0.00035 U	< 0.000097 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AK23	0	N	11/6/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK23	4	N	11/6/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK23	14	N	11/6/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00025 U
SRC1-AK24	0	N	11/6/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.000089 UJ	< 0.00033 UJ	< 0.000092 U	< 0.0001 UJ	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 UJ
SRC1-AK24	10	N	11/6/2008	< 0.00018 U	< 0.00011 UJ	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AK24	13	N	11/12/2008	< 0.00019 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AK25	0	N	11/10/2008	< 0.00018 U	< 0.0001 UJ	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AK25	11	N	11/10/2008	< 0.00018 U	< 0.00011 UJ	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AK26	0	N	11/7/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK26	0	FD	11/7/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK26	10	N	11/7/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AK27	0	N	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)									
				Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloro-propene	Trichloroethene	Vinyl acetate	Vinyl chloride	Xylenes (total)
SRC1-AK27	3	N	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AL24	0	N	11/6/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AL24	8	N	11/6/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00025 U
SRC1-AL24	18	N	11/6/2008	< 0.00019 U	< 0.00011 U	< 0.000094 U	< 0.00035 U	< 0.000098 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AL26	0	N	11/7/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AL26	11	N	11/7/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AL28	0	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AL28	4	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AL28	14	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AM27	0	N	11/10/2008	< 0.00019 U	< 0.00011 UJ	< 0.000094 U	< 0.00035 U	< 0.000097 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-AM27	3	N	11/10/2008	< 0.00018 U	< 0.0001 UJ	< 0.00009 U	< 0.00033 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AM27	13	N	11/10/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AM28	0	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AM28	7	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AM28	7	FD	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AM28	17	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-AN28	0	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-AN28	11	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J01	0	N	11/3/2008	< 0.00018 U	< 0.0001 UJ	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-J01	0	FD	11/3/2008	< 0.00018 U	< 0.0001 UJ	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J01	11	N	11/3/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-J02	0	N	11/5/2008	< 0.00018 U	< 0.0001 U	< 0.000088 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00024 U	< 0.00011 U	< 0.00023 U
SRC1-J02	3	N	11/5/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J02	13	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-J03	0	N	11/5/2008	< 0.00018 U	< 0.0001 UJ	< 0.000089 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-J03	5	N	11/5/2008	< 0.00019 U	< 0.00011 U	< 0.000093 U	< 0.00035 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-J03	15	N	11/5/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-J07	0	N	11/7/2008	< 0.00018 U	< 0.0001 U	< 0.000089 U	< 0.0051 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00011 U	< 0.00024 U
SRC1-J07	10	N	11/7/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J09	0	N	11/10/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.000089 UJ	< 0.00033 UJ	< 0.000092 UJ	< 0.0001 UJ	< 0.00011 UJ	< 0.00025 UJ	< 0.00011 UJ	< 0.00024 UJ
SRC1-J09	0	FD	11/10/2008	< 0.00018 U	< 0.0001 UJ	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J09	11	N	11/10/2008	< 0.00019 UJ	< 0.00011 UJ	< 0.000094 UJ	< 0.00035 UJ	< 0.000097 UJ	< 0.00011 UJ	< 0.00011 UJ	< 0.00026 UJ	< 0.00012 UJ	< 0.00025 UJ
SRC1-J10	0	N	11/13/2008	R	R	R	R	R	R	R	R	R	R
SRC1-J10	0	FD	11/13/2008	< 0.00018 UJ	< 0.00011 UJ	< 0.000093 UJ	< 0.00034 UJ	< 0.000096 UJ	< 0.00011 UJ	< 0.00011 UJ	< 0.00026 UJ	< 0.00012 UJ	< 0.00025 UJ
SRC1-J10	11	N	11/13/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 UJ	< 0.00012 U	< 0.00024 U

TABLE B-10
SOIL VOLATILE ORGANIC COMPOUNDS (VOCS) DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Sample ID	Depth (ft bgs)	Sample Type	Sample Date	Volatile Organic Compounds (VOCs)									
				Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloro-propene	Trichloroethene	Vinyl acetate	Vinyl chloride	Xylenes (total)
SRC1-J11	0	N	11/14/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J11	10	N	11/14/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J12	0	N	11/13/2008	< 0.00018 U	< 0.0001 UJ	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 UJ	< 0.00012 U	< 0.00024 U
SRC1-J12	12	N	11/13/2008	< 0.00018 U	< 0.00011 UJ	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J13	0	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.00009 U	< 0.00033 U	< 0.000093 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J13	3	N	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.000093 U	< 0.00034 U	< 0.000096 U	< 0.00011 U	< 0.00011 U	< 0.00026 U	< 0.00012 U	< 0.00025 U
SRC1-J13	13	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000091 U	< 0.00034 U	< 0.000094 U	< 0.0001 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J14	0	N	11/13/2008	< 0.00018 UJ	< 0.0001 UJ	< 0.000089 UJ	< 0.00033 UJ	< 0.000092 U	< 0.0001 UJ	< 0.00011 U	< 0.00024 UJ	< 0.00011 U	< 0.00024 UJ
SRC1-J14	12	N	11/13/2008	< 0.00019 U	< 0.00011 UJ	< 0.000094 U	< 0.00035 U	< 0.000097 U	< 0.00011 U	< 0.00011 U	< 0.00026 UJ	< 0.00012 U	< 0.00025 U
SRC1-J15	0	N	11/12/2008	< 0.00018 U	< 0.0001 U	< 0.000088 U	< 0.00033 U	< 0.000092 U	< 0.0001 U	< 0.00011 U	< 0.00024 U	< 0.00011 U	< 0.00023 U
SRC1-J15	0	FD	11/12/2008	< 0.00018 U	< 0.00011 U	< 0.000092 U	< 0.00034 U	< 0.000095 U	< 0.00011 U	< 0.00011 U	< 0.00025 U	< 0.00012 U	< 0.00024 U
SRC1-J15	12	N	11/12/2008	< 0.0002 U	< 0.00011 U	< 0.000099 U	< 0.00037 U	< 0.0001 U	< 0.00011 U	< 0.00012 U	< 0.00027 U	< 0.00013 U	< 0.00026 U
SRC2-J20	0	N	9/14/2009	< 0.00021 U	< 0.00023 U	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00026 U	< 0.00038 U	< 0.00032 U	< 0.00064 U
SRC2-J21	0	N	9/14/2009	< 0.00021 UJ	< 0.00023 UJ	< 0.00047 UJ	< 0.00024 UJ	< 0.00034 UJ	< 0.00018 UJ	< 0.00027 UJ	< 0.00038 UJ	< 0.00033 UJ	< 0.00064 U
SRC2-J22	0	N	9/14/2009	< 0.00021 U	< 0.00023 U	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 U
SRC2-J23	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00026 U	< 0.00038 U	< 0.00032 U	< 0.00064 U
SRC2-J24	0	N	9/14/2009	< 0.00021 U	< 0.00023 U	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00038 U	< 0.00033 U	< 0.00064 U
SRC2-J25	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 U
SRC2-J26	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 U
SRC2-J27	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 U
SRC2-J28	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 U
SRC2-J29	0	N	9/14/2009	< 0.00021 UJ	< 0.00023 UJ	< 0.00047 UJ	< 0.00024 UJ	< 0.00034 U	< 0.00018 UJ	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 UJ
SRC2-J30	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00047 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00027 U	< 0.00039 U	< 0.00033 U	< 0.00065 U
SRC2-J31	0	N	9/14/2009	< 0.00021 UJ	< 0.00023 UJ	< 0.00047 UJ	< 0.00024 UJ	< 0.00034 U	< 0.00018 UJ	< 0.00027 U	< 0.00038 U	< 0.00032 U	< 0.00064 UJ
SRC2-J32	0	N	9/14/2009	< 0.00021 U	< 0.00023 UJ	< 0.00046 U	< 0.00024 U	< 0.00034 U	< 0.00018 U	< 0.00026 U	< 0.00038 U	< 0.00032 U	< 0.00064 U
SRC2-J33	0	N	9/17/2009	< 0.00022 U	< 0.00024 U	< 0.0005 U	< 0.00026 U	< 0.00036 UJ	< 0.00019 U	< 0.00028 U	< 0.00041 UJ	< 0.00035 U	< 0.00069 U
SRC2-J33	0	FD	9/17/2009	< 0.00021 U	< 0.00023 U	< 0.00047 U	< 0.00024 U	< 0.00034 UJ	< 0.00018 U	< 0.00027 U	< 0.00038 UJ	< 0.00033 U	< 0.00065 U
SRC2-J34	0	N	9/17/2009	< 0.00021 U	< 0.00023 U	< 0.00047 U	< 0.00024 U	< 0.00034 UJ	< 0.00018 U	< 0.00027 U	< 0.00038 UJ	< 0.00033 U	< 0.00065 U

All units in mg/kg.

-- = no sample data.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

			Surface Flux									
Sample ID	Sample Type	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene
SRC1-AG16	N	10/24/2008	< 0.11 U	< 0.098 U	< 0.009 U	< 0.0015 U	< 0.072 U	< 0.07 U	< 0.067 U	< 0.0063 U	< 0.04 UJ	< 0.088 UJ
SRC1-AG17	N	10/24/2008	< 0.1 U	< 0.092 U	< 0.0085 U	< 0.0014 U	< 0.067 U	< 0.066 U	< 0.063 U	< 0.0059 U	< 0.038 UJ	< 0.083 UJ
SRC1-AG18	N	10/24/2008	< 0.11 U	< 0.099 U	< 0.0091 UJ	< 0.0015 UJ	< 0.073 U	< 0.071 U	< 0.068 U	< 0.0064 UJ	< 0.041 UJ	< 0.089 UJ
SRC1-AH15	N	10/24/2008	< 0.1 U	< 0.094 U	< 0.0088 U	< 0.0014 U	< 0.07 U	< 0.068 U	< 0.065 U	< 0.0061 U	< 0.039 UJ	< 0.038 U
SRC1-AH16	N	10/24/2008	< 0.11 U	< 0.098 U	< 0.0091 U	< 0.0015 U	< 0.072 U	< 0.071 U	< 0.067 U	< 0.0064 U	< 0.04 UJ	< 0.18 U
SRC1-AH17	N	10/24/2008	< 0.11 U	< 0.1 U	< 0.0092 U	< 0.0015 U	< 0.073 U	< 0.072 U	< 0.068 U	< 0.0065 U	< 0.041 UJ	0.025 J
SRC1-AH18	N	10/24/2008	< 0.11 U	< 0.095 U	< 0.0088 U	< 0.0014 U	< 0.07 U	< 0.069 U	< 0.065 U	< 0.0062 U	< 0.039 UJ	< 0.086 UJ
SRC1-AH19	N	10/24/2008	< 0.1 U	< 0.091 U	< 0.0084 U	< 0.0014 U	< 0.067 U	< 0.066 U	< 0.062 U	< 0.0059 U	< 0.037 UJ	< 0.082 UJ
SRC1-AI17	N	10/24/2008	< 0.11 U	< 0.099 U	< 0.0091 U	< 0.0015 U	< 0.073 U	< 0.071 U	< 0.068 U	< 0.0064 U	< 0.041 UJ	< 0.039 U
SRC1-AI20	N	10/24/2008	< 0.1 U	< 0.094 U	< 0.0087 U	< 0.0014 UJ	< 0.069 U	< 0.067 U	< 0.064 U	< 0.0061 U	< 0.039 UJ	< 0.084 UJ
SRC1-AJ20	N	10/24/2008	< 0.11 U	< 0.1 U	< 0.0093 U	< 0.0015 U	< 0.074 U	< 0.072 U	< 0.069 U	< 0.0065 U	< 0.041 UJ	< 0.091 UJ
SRC1-AJ21	N	10/24/2008	< 0.087 U	< 0.079 U	< 0.0092 UJ	0.002 J	< 0.058 UJ	< 0.057 UJ	< 0.054 U	0.011 J-	< 0.041 UJ	< 0.14 U
SRC1-AJ22	N	10/24/2008	< 0.11 U	< 0.098 U	< 0.009 UJ	< 0.0074 U	< 0.072 UJ	< 0.07 UJ	< 0.067 U	< 0.0063 UJ	< 0.04 UJ	< 0.18 U
SRC1-AJ23	N	10/24/2008	< 0.11 U	< 0.098 U	< 0.009 U	< 0.0015 U	< 0.072 U	< 0.07 U	< 0.067 U	< 0.0063 U	< 0.04 UJ	< 0.088 UJ
SRC1-AJ24	N	10/24/2008	< 0.11 U	< 0.096 U	< 0.0077 UJ	< 0.0028 U	< 0.071 U	< 0.069 U	< 0.066 U	< 0.0062 U	< 0.04 UJ	< 0.086 UJ
SRC1-AJ25	N	10/25/2008	< 0.11 U	< 0.1 U	< 0.0093 U	< 0.0077 U	< 0.074 U	< 0.073 U	< 0.069 U	< 0.0066 U	< 0.042 U	< 0.091 U
SRC1-AJ27	N	10/24/2008	< 0.11 U	< 0.096 U	< 0.0089 U	< 0.0014 U	< 0.071 UJ	< 0.069 UJ	< 0.066 U	< 0.0062 U	< 0.04 UJ	< 0.17 U
SRC1-AJ28	N	10/24/2008	< 0.11 U	< 0.097 U	0.0052 J	< 0.0015 U	< 0.071 UJ	< 0.07 UJ	< 0.066 U	< 0.0063 U	< 0.04 UJ	< 0.17 U
SRC1-AK20	N	10/24/2008	< 0.11 U	< 0.099 U	< 0.0091 U	< 0.0015 UJ	< 0.073 U	< 0.071 U	< 0.068 U	< 0.0064 U	< 0.041 UJ	< 0.089 UJ
SRC1-AK23	N	10/24/2008	< 0.11 U	< 0.097 U	< 0.0089 U	< 0.0015 U	< 0.071 U	< 0.07 U	< 0.066 U	< 0.0063 U	< 0.04 UJ	< 0.087 UJ
SRC1-AK24	N	10/24/2008	< 0.11 U	< 0.098 U	< 0.009 UJ	< 0.0074 U	< 0.072 UJ	< 0.07 UJ	< 0.067 U	< 0.0063 UJ	< 0.04 UJ	< 0.18 U
SRC1-AK26	N	10/25/2008	< 0.099 UJ	< 0.09 UJ	< 0.0083 UJ	< 0.0069 U	< 0.066 UJ	< 0.065 UJ	< 0.062 UJ	< 0.0059 UJ	< 0.037 UJ	0.027 J
SRC1-AL24	N	10/25/2008	< 0.11 U	< 0.1 U	< 0.0093 U	< 0.0015 U	< 0.074 U	< 0.072 U	< 0.069 U	< 0.0065 U	< 0.041 UJ	< 0.18 U
SRC1-AL26	N	10/25/2008	< 0.11 U	< 0.1 U	< 0.0095 UJ	< 0.0015 UJ	< 0.076 U	< 0.074 U	< 0.07 U	< 0.0067 UJ	< 0.042 UJ	0.05 J
SRC1-AL28	N	10/25/2008	< 0.097 UJ	< 0.088 UJ	< 0.0081 U	< 0.0013 U	< 0.065 UJ	< 0.063 UJ	< 0.06 UJ	< 0.0057 U	< 0.036 UJ	< 0.079 UJ
SRC1-AM27	N	10/25/2008	< 0.1 UJ	< 0.091 UJ	< 0.0084 UJ	< 0.0014 UJ	< 0.067 UJ	< 0.066 UJ	< 0.062 UJ	< 0.0059 UJ	< 0.037 UJ	< 0.082 UJ
SRC1-AN28	N	10/25/2008	< 0.1 UJ	< 0.092 UJ	< 0.0085 UJ	< 0.007 U	< 0.067 UJ	< 0.066 UJ	< 0.063 UJ	< 0.0059 U	< 0.038 UJ	< 0.083 UJ
SRC1-AN28R	FD	10/25/2008	< 0.11 UJ	< 0.099 UJ	< 0.0091 UJ	< 0.0076 U	< 0.073 UJ	< 0.071 UJ	< 0.068 UJ	< 0.0064 U	< 0.041 UJ	< 0.089 UJ
SRC1-J01	N	10/24/2008	< 0.11 U	< 0.1 U	< 0.0092 U	< 0.0015 U	< 0.073 U	< 0.072 U	< 0.068 U	< 0.0065 U	< 0.041 UJ	< 0.18 U
SRC1-J02	N	10/24/2008	< 0.11 U	< 0.1 U	< 0.0094 U	< 0.0015 U	< 0.074 UJ	< 0.073 UJ	< 0.069 U	< 0.0066 U	< 0.042 UJ	< 0.18 U
SRC1-J07	N	10/25/2008	< 0.11 UJ	< 0.1 UJ	< 0.0093 UJ	< 0.0077 U	< 0.074 UJ	< 0.072 UJ	< 0.069 UJ	< 0.0065 UJ	< 0.041 UJ	0.078 J
SRC1-J09	N	10/25/2008	< 0.1 U	< 0.094 U	0.0028 J	< 0.0072 U	< 0.07 U	< 0.068 U	< 0.065 U	< 0.0061 U	< 0.039 UJ	< 0.085 UJ
SRC1-J10	N	10/24/2008	< 0.11 UJ	< 0.1 UJ	< 0.0093 UJ	< 0.0015 U	< 0.074 UJ	< 0.072 UJ	< 0.069 UJ	< 0.0065 UJ	< 0.041 UJ	< 0.091 UJ
SRC1-J11	N	10/25/2008	< 0.098 UJ	< 0.089 UJ	< 0.0083 UJ	0.0014 J	< 0.066 UJ	< 0.064 UJ	< 0.061 UJ	0.003 J	< 0.037 UJ	< 0.081 UJ
SRC1-J12	N	10/24/2008	< 0.11 U	< 0.098 U	< 0.0091 U	< 0.0015 U	< 0.072 UJ	< 0.071 UJ	< 0.067 U	< 0.0064 U	< 0.04 UJ	< 0.18 U
SRC1-J14	N	10/24/2008	< 0.11 U	< 0.096 U	< 0.0089 U	< 0.0014 UJ	< 0.071 UJ	< 0.069 UJ	< 0.066 U	< 0.0062 U	< 0.04 UJ	< 0.17 U
SRC1-J15	N	10/25/2008	< 0.11 UJ	< 0.1 UJ	< 0.0092 U	< 0.0015 U	< 0.073 UJ	< 0.072 UJ	< 0.068 UJ	< 0.0065 U	< 0.041 UJ	< 0.09 UJ

All units in $\mu g/m^2,min^{-1}$.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 2 of 7)

Sample ID	Sample Type	Sample Date	Surface Flux									
			1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	1,4-Dioxane	2,2-Dichloropropane
SRC1-AG16	N	10/24/2008	< 0.0021 U	< 0.0029 UJ	0.0019	< 0.0012 UJ	< 0.091 U	< 0.0033 UJ	< 0.067 U	< 0.0046 UJ	< 0.056 U	< 0.74 U
SRC1-AG17	N	10/24/2008	< 0.002 U	< 0.0074 UJ	0.0022	< 0.0012 UJ	< 0.086 U	< 0.0016 UJ	< 0.063 U	< 0.0022 UJ	0.017 J	< 0.69 U
SRC1-AG18	N	10/24/2008	< 0.0021 UJ	< 0.008 UJ	0.0014 J	< 0.0013 UJ	< 0.093 U	< 0.0083 UJ	< 0.068 U	< 0.0027 UJ	0.013 J	< 0.75 U
SRC1-AH15	N	10/24/2008	< 0.002 U	< 0.0077 UJ	< 0.0011 U	< 0.0012 UJ	< 0.018 U	< 0.008 UJ	< 0.065 U	< 0.0021 UJ	< 0.054 UJ	< 0.72 U
SRC1-AH16	N	10/24/2008	< 0.0021 U	< 0.0079 UJ	0.0023	< 0.0013 UJ	< 0.18 U	< 0.0083 UJ	< 0.068 U	< 0.0079 UJ	< 0.056 UJ	< 0.74 U
SRC1-AH17	N	10/24/2008	< 0.0022 U	< 0.0081 UJ	0.0034	< 0.0013 UJ	< 0.093 U	< 0.0084 UJ	< 0.069 U	< 0.0028 UJ	< 0.057 U	< 0.76 U
SRC1-AH18	N	10/24/2008	< 0.002 U	< 0.0077 UJ	0.003	< 0.0012 UJ	< 0.089 U	< 0.008 UJ	< 0.066 U	< 0.0024 UJ	< 0.054 U	< 0.72 U
SRC1-AH19	N	10/24/2008	< 0.002 U	< 0.0074 UJ	0.0018	< 0.0012 UJ	< 0.085 UJ	< 0.0077 UJ	< 0.063 U	< 0.0029 UJ	< 0.052 U	< 0.69 U
SRC1-AI17	N	10/24/2008	< 0.0021 U	< 0.008 UJ	0.0013	< 0.0013 UJ	< 0.04 U	< 0.0019 UJ	< 0.068 U	< 0.0029 UJ	0.012 J	< 0.75 U
SRC1-AI20	N	10/24/2008	< 0.002 UJ	< 0.0076 UJ	0.0015 J	< 0.0012 UJ	< 0.088 UJ	< 0.0079 UJ	< 0.065 U	< 0.0017 UJ	< 0.054 U	< 0.71 U
SRC1-AJ20	N	10/24/2008	< 0.0022 U	< 0.0081 UJ	< 0.0011 U	< 0.0013 UJ	< 0.094 U	< 0.0085 UJ	< 0.069 U	< 0.0081 UJ	< 0.057 U	< 0.76 U
SRC1-AJ21	N	10/24/2008	0.0047 J	0.0058 J-	0.0018 J	< 0.0064 U	< 0.15 U	0.0052 J-	< 0.054 U	0.0059 J	< 0.045 UJ	< 0.6 U
SRC1-AJ22	N	10/24/2008	< 0.011 U	0.0017 J-	< 0.0055 U	< 0.0063 U	< 0.18 U	0.0019 J-	< 0.067 U	< 0.0022 UJ	< 0.056 UJ	< 0.74 U
SRC1-AJ23	N	10/24/2008	< 0.0021 U	< 0.0079 UJ	< 0.0011 U	< 0.0012 UJ	< 0.091 U	< 0.0082 UJ	< 0.067 U	< 0.0079 UJ	< 0.056 U	< 0.74 U
SRC1-AJ24	N	10/24/2008	< 0.0038 U	< 0.0053 UJ	0.0013	< 0.0012 UJ	< 0.09 U	< 0.0061 UJ	< 0.066 U	< 0.0075 UJ	< 0.055 U	< 0.73 U
SRC1-AJ25	N	10/25/2008	< 0.011 U	< 0.0082 U	< 0.0057 U	< 0.0065 U	< 0.095 U	< 0.0085 U	< 0.07 U	< 0.0082 U	< 0.058 U	< 0.76 U
SRC1-AJ27	N	10/24/2008	< 0.0021 U	< 0.0078 UJ	< 0.0011 U	< 0.0012 U	< 0.18 U	< 0.0081 UJ	< 0.066 U	< 0.0078 UJ	0.044 J	< 0.73 U
SRC1-AJ28	N	10/24/2008	< 0.0021 U	< 0.004 UJ	0.0012	< 0.0012 U	< 0.18 U	< 0.0043 UJ	< 0.067 U	< 0.0049 UJ	< 0.055 UJ	< 0.73 U
SRC1-AK20	N	10/24/2008	< 0.0021 UJ	< 0.008 UJ	< 0.0011 UJ	< 0.0013 UJ	< 0.093 U	< 0.0083 UJ	< 0.068 U	< 0.008 UJ	< 0.056 U	< 0.75 U
SRC1-AK23	N	10/24/2008	< 0.0021 U	< 0.0078 UJ	< 0.0011 U	< 0.0012 UJ	< 0.091 U	< 0.0081 UJ	< 0.067 U	< 0.0078 UJ	0.02 J	< 0.73 U
SRC1-AK24	N	10/24/2008	< 0.011 U	0.0019 J-	< 0.0055 U	< 0.0063 U	< 0.18 U	0.002 J-	< 0.067 U	< 0.0022 UJ	< 0.056 UJ	< 0.74 U
SRC1-AK26	N	10/25/2008	< 0.0097 U	< 0.0073 UJ	0.0013 J	< 0.0058 U	< 0.084 UJ	< 0.0076 UJ	< 0.062 UJ	< 0.0073 UJ	< 0.051 UJ	< 0.68 UJ
SRC1-AL24	N	10/25/2008	< 0.0022 U	< 0.0081 UJ	0.0025	< 0.0013 U	< 0.19 U	< 0.0085 UJ	< 0.069 U	< 0.0017 UJ	< 0.057 UJ	< 0.76 U
SRC1-AL26	N	10/25/2008	< 0.0022 UJ	< 0.0083 UJ	0.0037 J	< 0.0013 UJ	< 0.096 U	< 0.0086 UJ	< 0.071 U	< 0.0027 UJ	< 0.059 U	< 0.78 U
SRC1-AL28	N	10/25/2008	< 0.0019 U	< 0.0015 UJ	0.0012	< 0.0011 U	< 0.082 UJ	< 0.0017 UJ	< 0.061 UJ	< 0.0023 UJ	< 0.05 UJ	< 0.67 UJ
SRC1-AM27	N	10/25/2008	< 0.002 UJ	< 0.0074 UJ	0.0023 J	0.0013 J	< 0.085 UJ	< 0.0077 UJ	< 0.063 UJ	< 0.0034 UJ	< 0.052 UJ	< 0.69 UJ
SRC1-AN28	N	10/25/2008	< 0.0099 U	< 0.0074 UJ	< 0.0052 U	< 0.0059 U	< 0.086 UJ	< 0.0077 UJ	< 0.063 UJ	< 0.0074 UJ	< 0.052 UJ	< 0.69 UJ
SRC1-AN28R	FD	10/25/2008	< 0.011 U	< 0.008 UJ	< 0.0056 U	< 0.0064 U	< 0.093 UJ	< 0.0083 UJ	< 0.068 UJ	< 0.008 UJ	< 0.056 UJ	< 0.75 UJ
SRC1-J01	N	10/24/2008	< 0.0022 U	< 0.0081 UJ	< 0.0011 U	< 0.0013 UJ	< 0.19 U	< 0.0084 UJ	< 0.069 U	< 0.0017 UJ	< 0.057 UJ	< 0.76 U
SRC1-J02	N	10/24/2008	< 0.0022 U	< 0.0021 UJ	< 0.0011 U	< 0.0013 U	< 0.19 U	< 0.0025 UJ	< 0.07 U	< 0.0032 UJ	< 0.058 UJ	< 0.77 U
SRC1-J07	N	10/25/2008	< 0.011 U	0.0025 J	0.0017 J	< 0.0065 U	0.027 J	< 0.0085 UJ	< 0.069 UJ	0.006 J	< 0.057 UJ	< 0.76 UJ
SRC1-J09	N	10/25/2008	< 0.01 U	< 0.0047 UJ	0.0014 J	< 0.0061 U	< 0.089 U	< 0.0036 UJ	< 0.065 U	< 0.0056 UJ	< 0.054 U	< 0.72 U
SRC1-J10	N	10/24/2008	< 0.0022 U	< 0.0081 UJ	< 0.0011 U	< 0.0013 U	< 0.094 UJ	< 0.0085 UJ	< 0.069 UJ	< 0.0081 UJ	< 0.057 UJ	< 0.76 UJ
SRC1-J11	N	10/25/2008	0.002 J	< 0.0017 UJ	0.0093 J	0.0017 J	< 0.084 UJ	< 0.002 UJ	< 0.062 UJ	< 0.0044 UJ	< 0.051 UJ	< 0.68 UJ
SRC1-J12	N	10/24/2008	< 0.0021 U	< 0.0079 UJ	< 0.0011 U	< 0.0013 U	< 0.18 U	< 0.0083 UJ	< 0.068 U	< 0.0079 UJ	0.015 J	< 0.74 U
SRC1-J14	N	10/24/2008	< 0.0021 UJ	< 0.003 UJ	< 0.0011 UJ	< 0.0012 UJ	< 0.18 U	< 0.0034 UJ	< 0.066 U	< 0.0041 UJ	< 0.055 UJ	< 0.73 U
SRC1-J15	N	10/25/2008	< 0.0022 U	< 0.0081 UJ	0.002	< 0.0013 U	< 0.093 UJ	< 0.0084 UJ	< 0.069 UJ	< 0.0032 UJ	< 0.057 UJ	< 0.76 UJ

All units in $\mu g/m^2,min^{-1}$.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 3 of 7)

Sample ID	Sample Type	Sample Date	Surface Flux									
			2-Hexanone	2-Methyl-1-propanol	4-Methyl-2-pentanone (MIBK)	Acetone	Acetonitrile	Benzene	Benzyl chloride	Bromodichloromethane	Bromoform	Bromomethane
SRC1-AG16	N	10/24/2008	< 0.063 UJ	< 0.13 UJ	< 0.066 UJ	0.7	0.091	0.032 J	< 0.0052 UJ	0.0022	< 0.17 U	< 0.071 U
SRC1-AG17	N	10/24/2008	< 0.059 UJ	< 0.12 UJ	< 0.062 UJ	0.5	0.48	0.037 J	< 0.0049 UJ	0.0024	< 0.16 U	< 0.066 U
SRC1-AG18	N	10/24/2008	< 0.064 UJ	< 0.13 UJ	< 0.067 UJ	0.31	0.31	0.033 J	< 0.0052 UJ	0.0024 J	< 0.17 U	< 0.072 U
SRC1-AH15	N	10/24/2008	< 0.061 UJ	< 0.13 UJ	< 0.064 U	0.5 J	< 0.07 UJ	0.036 J	< 0.005 UJ	0.0026	< 0.16 UJ	< 0.069 U
SRC1-AH16	N	10/24/2008	< 0.064 UJ	< 0.13 UJ	0.014 J	1.1 J	< 0.072 UJ	0.027 J	< 0.0052 UJ	0.0023	< 0.17 UJ	< 0.071 U
SRC1-AH17	N	10/24/2008	< 0.065 UJ	< 0.13 UJ	< 0.067 UJ	< 0.077 U	< 0.074 U	0.032 J	< 0.0053 UJ	0.0038	< 0.17 U	< 0.072 U
SRC1-AH18	N	10/24/2008	< 0.062 UJ	< 0.13 UJ	< 0.064 UJ	0.7	0.068 J	0.033 J	< 0.0051 UJ	0.0027	< 0.17 U	< 0.069 U
SRC1-AH19	N	10/24/2008	< 0.059 UJ	< 0.12 UJ	< 0.062 UJ	0.8	0.95	0.03 J	< 0.0048 UJ	0.0022	< 0.16 U	< 0.066 U
SRC1-AI17	N	10/24/2008	0.044 J	< 0.13 UJ	< 0.067 U	0.16 J	< 0.073 UJ	< 0.019 UJ	< 0.0052 UJ	< 0.0012 U	< 0.17 UJ	< 0.072 U
SRC1-AI20	N	10/24/2008	< 0.061 UJ	< 0.13 UJ	< 0.064 UJ	0.16	0.029 J	0.023 J	< 0.005 UJ	0.0015 J	< 0.16 U	< 0.068 U
SRC1-AJ20	N	10/24/2008	< 0.065 UJ	< 0.13 UJ	< 0.068 UJ	0.16	< 0.074 U	< 0.015 UJ	< 0.0053 U	< 0.0012 U	< 0.17 U	< 0.073 U
SRC1-AJ21	N	10/24/2008	< 0.051 UJ	< 0.11 UJ	< 0.053 U	0.19 J	< 0.058 U	0.062	0.0056 J	0.0013 J	< 0.14 UJ	< 0.057 U
SRC1-AJ22	N	10/24/2008	< 0.063 UJ	< 0.13 UJ	< 0.066 U	0.13 J	< 0.072 U	< 0.0082 U	< 0.0052 UJ	< 0.006 U	< 0.17 UJ	< 0.071 U
SRC1-AJ23	N	10/24/2008	< 0.063 UJ	< 0.13 UJ	< 0.066 UJ	0.077	< 0.072 U	< 0.012 UJ	< 0.0052 U	< 0.0012 U	< 0.17 U	< 0.071 U
SRC1-AJ24	N	10/24/2008	< 0.062 UJ	< 0.13 UJ	< 0.065 UJ	0.23	0.022 J	< 0.015 UJ	< 0.0051 UJ	< 0.0012 U	< 0.17 U	< 0.07 U
SRC1-AJ25	N	10/25/2008	< 0.065 U	< 0.14 U	< 0.068 U	0.13	0.094	< 0.009 U	< 0.0053 U	< 0.0062 U	< 0.17 U	< 0.073 U
SRC1-AJ27	N	10/24/2008	0.017 J	< 0.13 UJ	< 0.065 U	0.16 J	< 0.071 U	< 0.011 UJ	< 0.0051 UJ	< 0.0012 U	< 0.17 UJ	< 0.07 U
SRC1-AJ28	N	10/24/2008	< 0.063 UJ	< 0.13 UJ	< 0.066 U	0.22 J	< 0.071 U	< 0.018 UJ	< 0.0051 UJ	< 0.0012 U	< 0.17 UJ	< 0.07 U
SRC1-AK20	N	10/24/2008	< 0.064 UJ	< 0.13 UJ	< 0.067 UJ	0.16	0.034 J	< 0.015 UJ	< 0.0052 U	< 0.0012 UJ	< 0.17 U	< 0.072 U
SRC1-AK23	N	10/24/2008	< 0.063 UJ	< 0.13 UJ	< 0.066 UJ	0.21	0.15	< 0.015 UJ	< 0.0051 U	< 0.0012 U	< 0.17 U	< 0.07 U
SRC1-AK24	N	10/24/2008	< 0.063 UJ	< 0.13 UJ	< 0.066 U	0.18 J	< 0.072 U	< 0.014 U	< 0.0052 UJ	< 0.006 U	< 0.17 UJ	< 0.071 U
SRC1-AK26	N	10/25/2008	< 0.058 UJ	< 0.12 UJ	< 0.061 UJ	0.76 J	0.069 J	0.031	< 0.0048 UJ	< 0.0055 U	< 0.16 UJ	< 0.065 UJ
SRC1-AL24	N	10/25/2008	0.013 J	< 0.13 UJ	< 0.068 U	0.39 J	< 0.074 U	0.023 J	< 0.0053 UJ	0.0024	< 0.17 UJ	< 0.073 U
SRC1-AL26	N	10/25/2008	< 0.067 UJ	< 0.14 UJ	< 0.069 UJ	0.38	< 0.076 UJ	0.016 J	< 0.0054 UJ	0.0024 J	< 0.18 U	< 0.074 U
SRC1-AL28	N	10/25/2008	< 0.057 UJ	< 0.12 UJ	< 0.059 UJ	0.81 J	0.038 J	0.025 J	< 0.0047 UJ	0.0014	< 0.15 UJ	< 0.064 UJ
SRC1-AM27	N	10/25/2008	< 0.059 UJ	< 0.12 UJ	< 0.062 UJ	0.28 J	0.018 J	0.015 J	< 0.0048 UJ	0.0024 J	< 0.16 UJ	< 0.066 UJ
SRC1-AN28	N	10/25/2008	< 0.059 UJ	< 0.12 UJ	< 0.062 UJ	0.21 J	0.035 J	0.027 J	< 0.0049 UJ	0.0018 J	< 0.16 UJ	< 0.066 UJ
SRC1-AN28R	FD	10/25/2008	< 0.064 UJ	< 0.13 UJ	< 0.067 UJ	0.61 J	< 0.073 UJ	0.024 J	< 0.0052 UJ	< 0.0061 U	< 0.17 UJ	< 0.072 UJ
SRC1-J01	N	10/24/2008	< 0.065 UJ	< 0.13 UJ	< 0.067 U	< 0.038 J	< 0.074 UJ	0.017 J	< 0.0053 UJ	< 0.0012 U	< 0.17 UJ	< 0.072 U
SRC1-J02	N	10/24/2008	< 0.066 UJ	< 0.14 UJ	< 0.069 U	0.76 J	< 0.074 U	< 0.018 UJ	< 0.0054 UJ	< 0.0012 U	< 0.18 UJ	< 0.073 U
SRC1-J07	N	10/25/2008	0.028 J	< 0.13 UJ	< 0.068 UJ	0.96 J	0.42 J	0.036	< 0.0053 UJ	0.0015 J	< 0.17 UJ	< 0.073 UJ
SRC1-J09	N	10/25/2008	< 0.061 UJ	< 0.13 UJ	< 0.064 UJ	0.29	< 0.07 UJ	< 0.038 U	< 0.005 UJ	< 0.0058 U	< 0.16 U	< 0.069 U
SRC1-J10	N	10/24/2008	< 0.065 UJ	< 0.13 UJ	< 0.068 UJ	0.14 J	< 0.074 UJ	0.015 J	< 0.0053 UJ	< 0.0012 U	< 0.17 UJ	< 0.073 UJ
SRC1-J11	N	10/25/2008	< 0.058 UJ	< 0.12 UJ	< 0.061 UJ	0.31 J	0.046 J	0.012 J	< 0.0047 UJ	0.0052 J	< 0.16 UJ	< 0.065 UJ
SRC1-J12	N	10/24/2008	< 0.064 UJ	< 0.13 UJ	< 0.067 U	0.2 J	< 0.072 U	< 0.0092 UJ	< 0.0052 UJ	< 0.0012 U	< 0.17 UJ	< 0.071 U
SRC1-J14	N	10/24/2008	< 0.062 UJ	< 0.13 UJ	< 0.065 U	0.31 J	< 0.071 U	< 0.015 UJ	< 0.0051 UJ	< 0.0012 UJ	< 0.17 UJ	< 0.07 U
SRC1-J15	N	10/25/2008	< 0.065 UJ	< 0.13 UJ	< 0.067 UJ	0.18 J	< 0.074 UJ	0.014 J	< 0.0053 UJ	0.0042	< 0.17 UJ	< 0.072 UJ

All units in $\mu g/m^2,min^{-1}$.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 4 of 7)

			Surface Flux									
Sample ID	**Sample Type**	**Sample Date**	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene (Isopropyltoluene)
SRC1-AG16	N	10/24/2008	0.065	0.0017	< 0.082 U	< 0.08 U	< 0.048 U	0.012	0.021 J	< 0.072 U	< 0.084 U	< 0.18 U
SRC1-AG17	N	10/24/2008	0.092	0.0051	< 0.077 U	< 0.075 U	< 0.045 U	0.017	0.016 J	< 0.067 U	< 0.079 U	< 0.16 U
SRC1-AG18	N	10/24/2008	0.059	0.0065 J	< 0.084 U	< 0.081 U	< 0.049 U	0.014 J	0.017 J	< 0.073 U	< 0.086 U	< 0.18 U
SRC1-AH15	N	10/24/2008	0.044	0.0049	< 0.08 U	< 0.078 U	< 0.047 U	0.015	0.018 J	< 0.069 U	< 0.082 U	< 0.17 U
SRC1-AH16	N	10/24/2008	< 0.098 U	< 0.0017 U	< 0.083 U	< 0.08 U	< 0.049 U	0.015	< 0.037 U	< 0.072 U	< 0.085 U	< 0.18 U
SRC1-AH17	N	10/24/2008	< 0.05 U	0.0072	< 0.084 U	< 0.081 U	< 0.049 U	0.02	< 0.038 U	< 0.073 U	< 0.086 U	< 0.18 U
SRC1-AH18	N	10/24/2008	0.11	0.0064	< 0.081 U	< 0.078 U	< 0.047 U	0.015	0.027 J	< 0.07 U	< 0.083 U	< 0.17 U
SRC1-AH19	N	10/24/2008	0.014 J	0.0067	< 0.077 U	< 0.074 U	< 0.045 U	0.012	0.022 J	< 0.067 U	< 0.079 U	0.046 J-
SRC1-AI17	N	10/24/2008	< 0.099 U	0.0061	< 0.022 U	< 0.081 U	< 0.049 U	0.0055	< 0.037 U	< 0.073 U	< 0.086 U	< 0.18 U
SRC1-AI20	N	10/24/2008	< 0.047 U	0.0044 J	< 0.079 U	< 0.077 U	< 0.046 U	0.0096 J	0.014 J	< 0.069 U	< 0.081 U	< 0.17 UJ
SRC1-AJ20	N	10/24/2008	< 0.028 U	0.004	< 0.085 U	< 0.082 U	< 0.049 U	0.0052	0.0096 J	< 0.074 U	< 0.087 U	< 0.18 U
SRC1-AJ21	N	10/24/2008	< 0.078 U	0.0056 J	< 0.066 U	< 0.064 U	< 0.039 U	0.0039 J	< 0.03 U	< 0.058 U	< 0.068 U	< 0.14 U
SRC1-AJ22	N	10/24/2008	< 0.097 U	0.0027 J	< 0.082 U	< 0.08 U	< 0.048 U	0.0019 J	< 0.037 U	< 0.072 U	< 0.084 U	< 0.18 U
SRC1-AJ23	N	10/24/2008	< 0.019 U	< 0.0017 U	< 0.082 U	< 0.08 U	< 0.048 U	0.0024	0.0077 J	< 0.072 U	< 0.084 U	< 0.18 U
SRC1-AJ24	N	10/24/2008	< 0.048 U	0.0021	< 0.081 U	< 0.079 U	< 0.047 U	0.0029	< 0.036 U	< 0.071 U	< 0.083 U	< 0.17 U
SRC1-AJ25	N	10/25/2008	0.062	0.003 J	< 0.085 U	< 0.083 U	< 0.05 U	0.0031 J	< 0.038 U	< 0.074 U	< 0.087 U	< 0.18 U
SRC1-AJ27	N	10/24/2008	< 0.096 U	< 0.0024 U	< 0.081 U	< 0.079 U	< 0.047 U	< 0.0024 U	< 0.036 U	< 0.071 U	< 0.083 U	< 0.17 U
SRC1-AJ28	N	10/24/2008	< 0.096 U	< 0.0017 U	< 0.082 U	< 0.079 U	< 0.048 U	0.0025	< 0.037 U	< 0.071 U	< 0.084 U	< 0.17 U
SRC1-AK20	N	10/24/2008	< 0.02 U	0.0051 J	< 0.084 U	< 0.081 U	< 0.049 U	0.0062 J	0.012 J	< 0.073 U	< 0.086 U	< 0.18 U
SRC1-AK23	N	10/24/2008	0.04	0.0047	< 0.082 U	< 0.079 U	< 0.048 U	0.0039	0.01 J	< 0.071 U	< 0.084 U	< 0.17 U
SRC1-AK24	N	10/24/2008	< 0.097 U	0.0021 J	< 0.082 U	< 0.08 U	< 0.048 U	0.002 J	< 0.037 U	< 0.072 U	< 0.084 U	< 0.18 U
SRC1-AK26	N	10/25/2008	< 0.045 UJ	0.007 J	< 0.076 UJ	< 0.074 UJ	< 0.044 UJ	0.0089	< 0.032 UJ	< 0.066 UJ	< 0.078 UJ	< 0.16 UJ
SRC1-AL24	N	10/25/2008	< 0.1 U	0.01	< 0.085 U	< 0.082 U	< 0.049 U	0.0064	< 0.038 U	< 0.074 U	< 0.087 U	< 0.18 U
SRC1-AL26	N	10/25/2008	0.051 J	0.016 J	< 0.087 U	< 0.084 UJ	< 0.051 U	0.01 J	< 0.039 U	< 0.076 U	< 0.089 U	< 0.18 U
SRC1-AL28	N	10/25/2008	< 0.044 UJ	0.0042	< 0.074 UJ	< 0.072 UJ	< 0.043 UJ	0.0057	< 0.033 UJ	< 0.065 UJ	< 0.076 UJ	< 0.16 UJ
SRC1-AM27	N	10/25/2008	0.026 J	0.0036 J	< 0.077 UJ	< 0.074 UJ	< 0.045 UJ	0.011 J	< 0.034 UJ	< 0.067 UJ	< 0.079 UJ	< 0.16 UJ
SRC1-AN28	N	10/25/2008	0.017 J	0.0037 J	< 0.077 UJ	< 0.075 UJ	< 0.045 UJ	0.0059 J	< 0.035 UJ	< 0.067 UJ	< 0.079 UJ	< 0.16 UJ
SRC1-AN28R	FD	10/25/2008	< 0.049 UJ	0.0035 J	< 0.084 UJ	< 0.081 UJ	< 0.049 UJ	0.0054 J	< 0.037 UJ	< 0.073 UJ	< 0.086 UJ	< 0.18 UJ
SRC1-J01	N	10/24/2008	< 0.099 U	0.0037	< 0.084 U	< 0.081 U	< 0.049 U	0.0054	< 0.038 U	< 0.073 U	< 0.086 U	< 0.18 U
SRC1-J02	N	10/24/2008	< 0.1 U	0.0037	< 0.085 U	< 0.083 U	< 0.05 U	0.0042	< 0.038 U	< 0.074 U	< 0.088 U	< 0.18 U
SRC1-J07	N	10/25/2008	0.078 J	0.0064 J	< 0.085 UJ	< 0.082 UJ	< 0.049 UJ	0.0091	0.031 J	< 0.073 UJ	< 0.087 UJ	0.048 J
SRC1-J09	N	10/25/2008	0.012 J	0.0041 J	< 0.08 U	< 0.078 UJ	< 0.047 U	0.0051 J	< 0.0096 U	< 0.069 U	< 0.082 U	0.022 J
SRC1-J10	N	10/24/2008	0.028 J	0.0048 J	< 0.085 UJ	< 0.082 UJ	< 0.049 UJ	< 0.0038 U	0.0081 J	< 0.074 UJ	< 0.087 UJ	< 0.18 UJ
SRC1-J11	N	10/25/2008	0.031 J	0.015 J	< 0.076 UJ	< 0.073 UJ	0.45 J	0.036 J	0.043 J	< 0.066 UJ	< 0.077 UJ	< 0.16 UJ
SRC1-J12	N	10/24/2008	0.035	< 0.002 U	< 0.083 U	< 0.08 U	< 0.049 U	< 0.0018 U	< 0.037 U	< 0.072 U	< 0.085 U	< 0.18 U
SRC1-J14	N	10/24/2008	< 0.096 U	0.0032 J	< 0.081 U	< 0.079 U	< 0.047 U	0.002 J	< 0.036 U	< 0.071 U	< 0.083 U	< 0.17 U
SRC1-J15	N	10/25/2008	0.027 J	0.0062	< 0.084 UJ	< 0.081 UJ	< 0.049 UJ	0.012	< 0.038 UJ	< 0.073 UJ	< 0.086 UJ	< 0.18 UJ

All units in $\mu g/m^2, min^{-1}$.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

			Surface Flux									
Sample ID	Sample Type	Sample Date	Dibromochloromethane	Dibromochloropropane	Dibromomethane	Dichloromethane (Methylene chloride)	Ethanol	Ethylbenzene	Freon-11 (Trichlorofluoromethane)	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	Freon-12 (Dichloro-difluoromethane)	Heptane
SRC1-AG16	N	10/24/2008	< 0.0085 U	< 0.027 UJ	< 0.11 U	0.012	1.6 J-	< 0.079 U	< 0.1 U	< 0.14 U	< 0.091 U	< 0.06 U
SRC1-AG17	N	10/24/2008	< 0.008 U	< 0.026 UJ	< 0.1 U	0.14	0.62 J-	0.017 J	< 0.096 U	< 0.13 U	0.019 J	0.014 J
SRC1-AG18	N	10/24/2008	< 0.0086 UJ	< 0.028 UJ	< 0.11 U	0.013 J	0.34 J-	< 0.08 U	< 0.1 U	< 0.14 U	0.019 J	0.013 J
SRC1-AH15	N	10/24/2008	< 0.0083 U	< 0.027 UJ	< 0.11 U	0.012	2.4 J	< 0.017 U	< 0.099 U	< 0.13 U	< 0.088 U	0.031 J
SRC1-AH16	N	10/24/2008	< 0.0086 U	< 0.028 UJ	< 0.11 U	0.011	< 0.081 J	< 0.08 U	< 0.1 U	< 0.14 U	< 0.092 U	0.032 J
SRC1-AH17	N	10/24/2008	< 0.0087 U	< 0.028 UJ	< 0.11 U	0.024	< 0.083 UJ	0.017 J	< 0.11 U	< 0.14 U	< 0.093 U	0.02 J
SRC1-AH18	N	10/24/2008	< 0.0083 U	< 0.027 UJ	< 0.11 U	0.037	0.14 J-	< 0.078 U	< 0.1 U	< 0.13 U	< 0.089 U	< 0.059 U
SRC1-AH19	N	10/24/2008	< 0.0079 U	< 0.026 UJ	< 0.1 U	0.016	6.3 J-	< 0.074 U	0.024 J+	< 0.13 U	0.024 J	0.013 J
SRC1-AI17	N	10/24/2008	< 0.0086 U	< 0.028 UJ	< 0.11 U	0.0066	< 0.082 J	< 0.025 U	< 0.1 U	< 0.14 U	< 0.093 U	< 0.061 U
SRC1-AI20	N	10/24/2008	< 0.0082 U	< 0.026 UJ	< 0.11 U	0.013 J	0.046 J-	< 0.076 U	0.027 J+	< 0.13 U	0.019 J	< 0.058 U
SRC1-AJ20	N	10/24/2008	< 0.0088 U	< 0.028 UJ	< 0.11 U	0.0078	0.061 J-	< 0.081 U	< 0.11 U	< 0.14 U	< 0.094 U	< 0.062 U
SRC1-AJ21	N	10/24/2008	0.0019 J	< 0.028 UJ	< 0.088 U	0.004 J	< 0.065 UJ	< 0.064 U	< 0.083 U	< 0.11 U	< 0.074 U	0.011 J
SRC1-AJ22	N	10/24/2008	< 0.0085 U	< 0.027 UJ	< 0.11 U	0.0022 J	< 0.081 UJ	< 0.079 U	< 0.1 U	< 0.14 U	< 0.091 U	< 0.06 U
SRC1-AJ23	N	10/24/2008	< 0.0085 U	< 0.027 UJ	< 0.11 U	0.0097	< 0.081 UJ	< 0.079 U	< 0.1 U	< 0.14 U	< 0.091 U	< 0.06 U
SRC1-AJ24	N	10/24/2008	< 0.0084 U	< 0.027 UJ	< 0.11 U	0.006	< 0.079 UJ	< 0.078 U	< 0.1 U	< 0.14 U	< 0.09 U	0.027 J
SRC1-AJ25	N	10/25/2008	< 0.0088 U	< 0.028 U	< 0.11 U	0.0025 J	0.06 J	< 0.082 U	< 0.11 U	< 0.14 U	< 0.094 U	< 0.062 U
SRC1-AJ27	N	10/24/2008	< 0.0084 U	< 0.027 UJ	< 0.11 U	< 0.0044 U	0.046 J	< 0.078 U	< 0.1 U	< 0.14 U	< 0.09 U	< 0.059 U
SRC1-AJ28	N	10/24/2008	< 0.0084 U	< 0.027 UJ	< 0.11 U	0.0068	0.047 J	< 0.079 U	< 0.1 U	< 0.14 U	< 0.091 U	< 0.06 U
SRC1-AK20	N	10/24/2008	< 0.0086 U	< 0.028 UJ	< 0.11 U	0.0066 J	0.21 J-	< 0.08 U	< 0.044 U	< 0.14 U	< 0.093 U	< 0.061 U
SRC1-AK23	N	10/24/2008	< 0.0084 U	< 0.027 UJ	< 0.11 U	0.0057	0.17 J-	< 0.079 U	< 0.1 U	< 0.14 U	< 0.091 U	< 0.06 U
SRC1-AK24	N	10/24/2008	< 0.0085 U	< 0.027 UJ	< 0.11 U	0.0022 J	< 0.081 UJ	< 0.079 U	< 0.1 U	< 0.14 U	< 0.091 U	< 0.06 U
SRC1-AK26	N	10/25/2008	< 0.0079 U	< 0.025 UJ	< 0.1 UJ	0.019	0.55 J	0.024 J	< 0.094 UJ	< 0.13 UJ	< 0.084 UJ	0.026 J
SRC1-AL24	N	10/25/2008	< 0.0088 U	< 0.028 UJ	< 0.11 U	0.05	0.24 J	< 0.081 U	< 0.11 U	< 0.14 U	< 0.094 U	< 0.062 U
SRC1-AL26	N	10/25/2008	< 0.0089 UJ	< 0.029 UJ	< 0.12 U	0.025 J	< 0.085 UJ	< 0.083 U	< 0.11 U	< 0.14 U	< 0.096 U	< 0.064 UJ
SRC1-AL28	N	10/25/2008	< 0.0077 U	< 0.025 UJ	< 0.099 UJ	0.016	0.33 J	< 0.071 UJ	< 0.092 UJ	< 0.12 UJ	< 0.082 UJ	< 0.054 UJ
SRC1-AM27	N	10/25/2008	< 0.0079 UJ	< 0.026 UJ	< 0.1 UJ	0.015 J	0.12 J	< 0.074 UJ	< 0.095 UJ	< 0.13 UJ	< 0.085 UJ	< 0.056 UJ
SRC1-AN28	N	10/25/2008	< 0.008 U	< 0.026 UJ	< 0.1 UJ	0.0077	0.18 J	< 0.074 UJ	< 0.096 UJ	< 0.13 UJ	< 0.086 UJ	< 0.057 UJ
SRC1-AN28R	FD	10/25/2008	< 0.0086 U	< 0.028 UJ	< 0.11 UJ	0.005	0.23 J	< 0.08 UJ	< 0.1 UJ	< 0.14 UJ	< 0.093 UJ	< 0.061 UJ
SRC1-J01	N	10/24/2008	< 0.0087 U	< 0.028 UJ	< 0.11 U	0.0061	< 0.083 J	< 0.081 U	< 0.11 U	< 0.14 U	< 0.093 U	< 0.062 U
SRC1-J02	N	10/24/2008	< 0.0088 U	< 0.028 UJ	< 0.11 U	0.0054	< 0.084 UJ	< 0.082 U	< 0.11 U	< 0.14 U	< 0.094 U	0.015 J
SRC1-J07	N	10/25/2008	< 0.0087 U	< 0.028 UJ	< 0.11 UJ	0.025 J	0.92 J	0.076 J	0.057 J	< 0.14 UJ	< 0.093 UJ	0.059 J
SRC1-J09	N	10/25/2008	< 0.0083 U	< 0.027 UJ	< 0.11 U	0.0031 J	0.32 J-	< 0.077 U	< 0.099 U	< 0.13 U	< 0.088 U	< 0.059 UJ
SRC1-J10	N	10/24/2008	< 0.0088 UJ	< 0.028 UJ	< 0.11 UJ	0.0068	0.032 J	< 0.081 UJ	< 0.11 UJ	< 0.14 UJ	< 0.094 UJ	< 0.062 UJ
SRC1-J11	N	10/25/2008	< 0.0078 UJ	< 0.025 UJ	< 0.1 UJ	0.02 J	0.099 J	< 0.072 UJ	< 0.094 UJ	< 0.13 UJ	< 0.084 UJ	< 0.055 UJ
SRC1-J12	N	10/24/2008	< 0.0086 U	< 0.028 UJ	< 0.11 U	0.0076	0.048 J	< 0.08 U	< 0.1 U	< 0.14 U	< 0.092 U	< 0.061 U
SRC1-J14	N	10/24/2008	< 0.0084 U	< 0.027 UJ	< 0.11 U	0.0094 J	< 0.079 UJ	< 0.078 U	< 0.1 U	< 0.14 U	< 0.09 U	< 0.059 U
SRC1-J15	N	10/25/2008	< 0.0087 U	< 0.028 UJ	< 0.11 UJ	0.0099	0.13 J	< 0.081 UJ	< 0.11 UJ	< 0.14 UJ	< 0.093 UJ	< 0.062 UJ

All units in $\mu g/m^2, min^{-1}$.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 6 of 7)

Sample ID	Sample Type	Sample Date	Surface Flux									
			Hexachlorobutadiene	Isopropylbenzene	m & p-Xylenes	Methyl ethyl ketone (2-Butanone)	Methyl iodide	MTBE (Methyl tert-butyl ether)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene
SRC1-AG16	N	10/24/2008	< 0.015 UJ	< 0.082 U	0.053 J	< 0.044 U	< 0.21 U	< 0.049 U	< 0.015 UJ	< 0.18 UJ	< 0.072 U	0.017 J
SRC1-AG17	N	10/24/2008	< 0.014 UJ	< 0.077 U	0.049 J	< 0.042 U	< 0.2 U	< 0.046 U	< 0.014 UJ	< 0.17 UJ	< 0.068 U	0.017 J
SRC1-AG18	N	10/24/2008	< 0.015 UJ	< 0.083 U	0.056 J	< 0.045 U	< 0.21 U	< 0.05 U	0.003 J	< 0.18 UJ	< 0.073 U	0.019 J
SRC1-AH15	N	10/24/2008	< 0.014 UJ	0.016 J	< 0.072 UJ	< 0.043 U	< 0.2 U	< 0.048 U	< 0.014 UJ	< 0.17 UJ	< 0.14 U	< 0.031 UJ
SRC1-AH16	N	10/24/2008	< 0.015 UJ	0.018 J	< 0.16 UJ	< 0.045 U	< 0.21 U	< 0.05 U	< 0.015 UJ	< 0.18 UJ	< 0.15 U	< 0.078 UJ
SRC1-AH17	N	10/24/2008	< 0.015 UJ	< 0.084 U	0.075 J	< 0.046 U	< 0.21 U	< 0.051 U	< 0.015 UJ	< 0.18 UJ	< 0.074 U	0.025 J
SRC1-AH18	N	10/24/2008	< 0.014 UJ	< 0.08 U	< 0.15 U	< 0.044 U	< 0.2 U	< 0.048 U	< 0.014 UJ	< 0.17 UJ	< 0.071 U	< 0.076 U
SRC1-AH19	N	10/24/2008	< 0.014 UJ	< 0.076 U	0.032 J	< 0.041 U	< 0.2 U	< 0.046 U	< 0.014 UJ	< 0.17 UJ	< 0.067 U	< 0.072 U
SRC1-AI17	N	10/24/2008	< 0.015 UJ	< 0.17 U	< 0.071 UJ	< 0.045 U	< 0.21 U	< 0.05 U	< 0.015 UJ	< 0.18 UJ	< 0.15 U	< 0.03 UJ
SRC1-AI20	N	10/24/2008	< 0.014 UJ	< 0.079 U	< 0.15 U	< 0.043 U	< 0.2 U	< 0.047 U	< 0.014 UJ	< 0.17 UJ	< 0.07 U	< 0.075 U
SRC1-AJ20	N	10/24/2008	< 0.015 UJ	< 0.084 U	< 0.16 U	< 0.046 U	< 0.22 U	< 0.051 U	< 0.015 UJ	< 0.18 UJ	< 0.074 U	< 0.08 U
SRC1-AJ21	N	10/24/2008	0.0084 J	< 0.13 U	< 0.13 UJ	< 0.036 U	< 0.17 U	< 0.04 U	0.326 J	< 0.14 UJ	< 0.12 U	< 0.063 UJ
SRC1-AJ22	N	10/24/2008	< 0.015 UJ	< 0.16 U	< 0.16 UJ	< 0.044 U	< 0.21 U	< 0.049 U	0.0042 J	< 0.18 UJ	< 0.15 U	< 0.078 UJ
SRC1-AJ23	N	10/24/2008	< 0.015 UJ	< 0.082 U	< 0.16 U	< 0.044 U	< 0.21 U	< 0.049 U	< 0.015 UJ	< 0.18 UJ	< 0.072 U	< 0.078 U
SRC1-AJ24	N	10/24/2008	< 0.0033 UJ	< 0.081 U	< 0.15 U	< 0.044 U	< 0.21 U	< 0.049 U	< 0.014 UJ	< 0.17 UJ	< 0.071 U	< 0.076 U
SRC1-AJ25	N	10/25/2008	< 0.015 U	< 0.085 U	< 0.16 U	< 0.046 U	< 0.22 U	< 0.051 U	< 0.031 U	< 0.18 U	< 0.075 U	< 0.08 U
SRC1-AJ27	N	10/24/2008	< 0.014 UJ	< 0.16 U	< 0.15 UJ	< 0.044 U	< 0.21 U	< 0.049 U	< 0.014 UJ	< 0.17 UJ	< 0.14 U	< 0.076 UJ
SRC1-AJ28	N	10/24/2008	< 0.0055 UJ	< 0.16 U	< 0.16 UJ	< 0.044 U	< 0.21 U	< 0.049 U	< 0.015 UJ	< 0.18 UJ	< 0.14 U	< 0.077 UJ
SRC1-AK20	N	10/24/2008	< 0.015 UJ	< 0.083 U	< 0.16 U	< 0.045 U	< 0.21 U	< 0.05 U	< 0.015 UJ	< 0.18 UJ	< 0.073 U	< 0.079 U
SRC1-AK23	N	10/24/2008	< 0.015 UJ	< 0.081 U	< 0.16 U	< 0.044 U	< 0.21 U	< 0.049 U	< 0.015 UJ	< 0.18 UJ	< 0.072 U	< 0.077 U
SRC1-AK24	N	10/24/2008	< 0.015 UJ	< 0.16 U	< 0.16 UJ	< 0.044 U	< 0.21 U	< 0.049 U	0.0069 J	< 0.18 UJ	< 0.15 U	< 0.078 UJ
SRC1-AK26	N	10/25/2008	< 0.013 UJ	0.044 J	0.092 J	< 0.041 UJ	< 0.19 UJ	< 0.046 UJ	0.0088 J	< 0.16 UJ	< 0.067 UJ	0.03 J
SRC1-AL24	N	10/25/2008	< 0.015 UJ	< 0.17 U	0.041 J	< 0.046 U	< 0.22 U	< 0.051 U	< 0.015 UJ	< 0.18 UJ	< 0.15 U	0.017 J
SRC1-AL26	N	10/25/2008	< 0.015 UJ	0.036 J	0.052 J	< 0.047 U	< 0.22 U	< 0.052 U	0.0073 J	< 0.19 UJ	< 0.076 UJ	0.018 J
SRC1-AL28	N	10/25/2008	< 0.35 UJ	0.022 J	0.038 J	< 0.04 UJ	< 0.19 UJ	< 0.044 UJ	< 0.013 UJ	< 0.16 UJ	< 0.065 UJ	< 0.07 UJ
SRC1-AM27	N	10/25/2008	< 0.014 UJ	< 0.076 UJ	0.049 J	< 0.041 UJ	< 0.2 UJ	< 0.046 UJ	< 0.014 UJ	< 0.17 UJ	< 0.067 UJ	0.015 J
SRC1-AN28	N	10/25/2008	< 0.014 UJ	0.02 J	0.04 J	< 0.042 UJ	< 0.2 UJ	< 0.046 UJ	< 0.028 UJ	< 0.17 UJ	< 0.068 UJ	< 0.073 UJ
SRC1-AN28R	FD	10/25/2008	< 0.015 UJ	< 0.083 UJ	0.042 J	< 0.045 UJ	< 0.21 UJ	< 0.05 UJ	< 0.03 UJ	< 0.18 UJ	< 0.073 UJ	< 0.079 UJ
SRC1-J01	N	10/24/2008	< 0.015 UJ	< 0.17 U	< 0.16 UJ	< 0.046 U	< 0.21 U	< 0.051 U	< 0.015 UJ	< 0.18 UJ	< 0.15 U	< 0.079 UJ
SRC1-J02	N	10/24/2008	< 0.4 UJ	< 0.17 U	< 0.16 UJ	< 0.046 U	< 0.22 U	< 0.051 U	< 0.015 UJ	< 0.18 UJ	< 0.15 U	< 0.081 UJ
SRC1-J07	N	10/25/2008	< 0.015 UJ	0.14 J	0.24 J	< 0.046 UJ	< 0.21 UJ	< 0.051 UJ	0.011 J	< 0.18 UJ	0.015 J	0.076 J
SRC1-J09	N	10/25/2008	0.0078 J	0.016 J	< 0.15 U	< 0.043 U	< 0.2 U	< 0.048 U	0.0051 J	< 0.17 UJ	< 0.07 UJ	< 0.075 U
SRC1-J10	N	10/24/2008	< 0.015 UJ	< 0.084 UJ	< 0.16 UJ	< 0.046 UJ	< 0.22 UJ	< 0.051 UJ	< 0.015 UJ	< 0.18 UJ	< 0.074 UJ	< 0.08 UJ
SRC1-J11	N	10/25/2008	< 0.013 UJ	< 0.075 UJ	0.046 J	< 0.041 UJ	< 0.19 UJ	< 0.045 UJ	0.0078 J	< 0.16 UJ	< 0.066 UJ	0.014 J
SRC1-J12	N	10/24/2008	< 0.015 UJ	< 0.17 U	< 0.16 UJ	< 0.045 U	< 0.21 U	< 0.05 U	< 0.015 UJ	< 0.18 UJ	< 0.15 U	< 0.078 UJ
SRC1-J14	N	10/24/2008	< 0.0031 UJ	< 0.16 U	< 0.15 UJ	< 0.044 U	< 0.21 U	< 0.049 U	< 0.014 UJ	< 0.17 UJ	< 0.14 U	< 0.076 UJ
SRC1-J15	N	10/25/2008	< 0.015 UJ	< 0.084 UJ	0.037 J	< 0.046 UJ	< 0.21 UJ	< 0.051 UJ	< 0.015 UJ	< 0.18 UJ	< 0.074 UJ	< 0.079 UJ

All units in $\mu g/m^2, min^{-1}$.

TABLE B-11
SURFACE FLUX DATA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 7 of 7)

Sample ID	Sample Type	Sample Date	Surface Flux									
			sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloro-propene	Trichloroethene	Vinyl acetate	Vinyl chloride
SRC1-AG16	N	10/24/2008	< 0.18 UJ	< 0.077 U	< 0.086 UJ	< 0.015 UJ	0.13	< 0.061 U	< 0.083 U	< 0.0024 U	< 0.053 U	< 0.00069 U
SRC1-AG17	N	10/24/2008	< 0.16 UJ	< 0.072 U	< 0.081 UJ	< 0.011 UJ	0.26	< 0.057 U	< 0.078 U	< 0.0042 U	< 0.05 U	< 0.00066 U
SRC1-AG18	N	10/24/2008	< 0.18 UJ	< 0.078 U	< 0.088 UJ	< 0.015 UJ	0.095	< 0.061 U	< 0.084 U	< 0.0021 UJ	< 0.054 U	< 0.00069 UJ
SRC1-AH15	N	10/24/2008	< 0.17 U	< 0.075 U	< 0.17 UJ	< 0.011 UJ	0.089	< 0.059 U	< 0.08 U	< 0.0017 U	< 0.051 U	< 0.00069 U
SRC1-AH16	N	10/24/2008	< 0.18 U	< 0.078 U	< 0.17 UJ	< 0.0072 UJ	0.07	< 0.061 U	< 0.083 U	< 0.0015 U	0.077	< 0.00069 U
SRC1-AH17	N	10/24/2008	< 0.18 UJ	< 0.079 U	< 0.089 UJ	< 0.016 UJ	0.14	< 0.062 U	< 0.084 U	< 0.0021 U	< 0.054 U	< 0.00073 U
SRC1-AH18	N	10/24/2008	< 0.17 UJ	< 0.075 U	< 0.084 UJ	< 0.02 UJ	0.079	< 0.059 U	< 0.081 U	< 0.0022 U	< 0.052 U	< 0.00069 U
SRC1-AH19	N	10/24/2008	< 0.16 UJ	< 0.072 U	< 0.081 UJ	< 0.021 UJ	0.091	< 0.056 U	< 0.077 U	< 0.002 U	< 0.049 U	< 0.00066 U
SRC1-AI17	N	10/24/2008	< 0.18 U	< 0.023 U	< 0.18 UJ	< 0.013 UJ	< 0.042 U	< 0.061 U	< 0.084 U	< 0.0015 U	< 0.054 U	< 0.00069 U
SRC1-AI20	N	10/24/2008	< 0.17 UJ	< 0.074 U	< 0.083 UJ	< 0.015 UJ	0.051 J	< 0.058 U	< 0.079 U	< 0.0015 UJ	< 0.051 U	< 0.00066 UJ
SRC1-AJ20	N	10/24/2008	< 0.18 UJ	< 0.079 U	< 0.089 UJ	0.0064	0.045 J	< 0.062 U	< 0.085 U	< 0.0015 UJ	< 0.055 U	< 0.00073 U
SRC1-AJ21	N	10/24/2008	< 0.14 U	< 0.062 U	< 0.14 UJ	0.01	0.027 J	< 0.049 U	< 0.067 U	0.0093	< 0.043 U	< 0.0036 U
SRC1-AJ22	N	10/24/2008	< 0.18 U	< 0.077 U	< 0.17 UJ	0.004 J	0.02 J	< 0.061 U	< 0.083 U	< 0.0073 U	< 0.053 U	< 0.0035 U
SRC1-AJ23	N	10/24/2008	< 0.18 UJ	< 0.077 U	< 0.086 UJ	< 0.0018 U	0.022 J	< 0.061 U	< 0.083 U	< 0.0015 UJ	< 0.053 U	< 0.00069 U
SRC1-AJ24	N	10/24/2008	< 0.17 UJ	< 0.076 U	< 0.085 UJ	< 0.0085 UJ	0.025 J	< 0.06 U	< 0.081 U	< 0.0024 U	< 0.052 U	0.00093
SRC1-AJ25	N	10/25/2008	< 0.18 U	< 0.08 U	< 0.09 U	0.0076 J	0.035 J	< 0.063 U	< 0.086 U	< 0.0076 U	< 0.055 U	< 0.0036 U
SRC1-AJ27	N	10/24/2008	< 0.17 U	< 0.076 U	< 0.17 UJ	< 0.0032 UJ	0.022 J	< 0.06 U	< 0.081 U	< 0.0016 UJ	< 0.052 U	< 0.00069 U
SRC1-AJ28	N	10/24/2008	< 0.17 U	< 0.076 U	< 0.17 UJ	< 0.0043 UJ	0.038 J	< 0.06 U	< 0.082 U	< 0.0029 UJ	< 0.053 U	< 0.00069 U
SRC1-AK20	N	10/24/2008	< 0.18 UJ	< 0.078 U	< 0.088 UJ	0.0069 J	0.037 J	< 0.061 U	< 0.084 U	< 0.0015 UJ	< 0.054 U	< 0.00069 UJ
SRC1-AK23	N	10/24/2008	< 0.17 UJ	< 0.076 U	< 0.086 UJ	0.0046	0.038 J	< 0.06 U	< 0.082 U	< 0.0014 UJ	0.024 J	< 0.00069 U
SRC1-AK24	N	10/24/2008	< 0.18 U	< 0.077 U	< 0.17 UJ	0.0043 J	0.019 J	< 0.061 U	< 0.083 U	< 0.0073 U	< 0.053 U	< 0.0035 U
SRC1-AK26	N	10/25/2008	< 0.16 UJ	< 0.071 UJ	< 0.08 UJ	0.021	0.22 J	< 0.056 UJ	< 0.076 UJ	< 0.0068 U	< 0.049 UJ	< 0.0032 U
SRC1-AL24	N	10/25/2008	< 0.18 U	< 0.079 U	< 0.18 UJ	0.0078 J	0.081	< 0.062 U	< 0.085 U	< 0.0015 UJ	< 0.055 U	< 0.00073 U
SRC1-AL26	N	10/25/2008	< 0.18 UJ	< 0.081 U	< 0.091 UJ	0.011 J	0.076	< 0.064 U	< 0.087 U	0.003 J	< 0.056 UJ	< 0.00073 UJ
SRC1-AL28	N	10/25/2008	< 0.16 UJ	< 0.069 UJ	< 0.078 UJ	0.0057 J	0.076 J	< 0.055 UJ	< 0.074 UJ	< 0.0013 UJ	< 0.048 UJ	< 0.00062 U
SRC1-AM27	N	10/25/2008	< 0.16 UJ	< 0.072 UJ	< 0.081 UJ	0.019 J	0.079 J	< 0.056 UJ	< 0.077 UJ	0.0017 J	0.029 J	< 0.00066 UJ
SRC1-AN28	N	10/25/2008	< 0.16 UJ	< 0.072 UJ	< 0.081 UJ	0.019	0.09 J	< 0.057 UJ	< 0.078 UJ	< 0.0069 U	< 0.05 UJ	< 0.0033 U
SRC1-AN28R	FD	10/25/2008	< 0.18 UJ	< 0.078 UJ	< 0.088 UJ	0.017	0.081 J	< 0.061 UJ	< 0.084 UJ	< 0.0074 U	0.086 J	< 0.0036 U
SRC1-J01	N	10/24/2008	< 0.18 U	< 0.079 U	< 0.18 UJ	< 0.011 UJ	< 0.034 U	< 0.062 U	< 0.084 U	< 0.0015 U	< 0.054 U	< 0.00073 U
SRC1-J02	N	10/24/2008	< 0.18 U	< 0.08 U	< 0.18 UJ	0.0077 J	0.034 J	< 0.063 U	< 0.086 U	< 0.0025 UJ	< 0.055 U	< 0.00073 U
SRC1-J07	N	10/25/2008	< 0.18 UJ	0.026 J	< 0.089 UJ	0.021 J	0.44 J	< 0.062 UJ	< 0.085 UJ	< 0.0075 U	0.12 J	< 0.0036 U
SRC1-J09	N	10/25/2008	< 0.17 UJ	< 0.075 U	< 0.084 UJ	0.012	0.056 J	< 0.059 U	< 0.08 U	0.0057 J	0.057 J-	< 0.0034 U
SRC1-J10	N	10/24/2008	< 0.18 UJ	< 0.079 UJ	< 0.089 UJ	< 0.0061 UJ	0.033 J	< 0.062 UJ	< 0.085 UJ	< 0.0025 UJ	< 0.055 UJ	< 0.00073 U
SRC1-J11	N	10/25/2008	< 0.16 UJ	< 0.071 UJ	< 0.079 UJ	0.0082 J	0.069 J	< 0.056 UJ	< 0.076 UJ	0.0019 J	0.022 J	0.00069 J
SRC1-J12	N	10/24/2008	< 0.18 U	< 0.078 U	< 0.17 UJ	< 0.0025 UJ	0.021 J	< 0.061 U	< 0.083 U	< 0.002 UJ	< 0.054 U	< 0.00069 U
SRC1-J14	N	10/24/2008	< 0.17 U	< 0.076 U	< 0.17 UJ	< 0.0044 UJ	0.054 J	< 0.06 U	< 0.081 U	< 0.0015 UJ	< 0.052 U	< 0.00069 UJ
SRC1-J15	N	10/25/2008	< 0.18 UJ	< 0.079 UJ	< 0.089 UJ	0.018 J	0.072 J	< 0.062 UJ	< 0.084 UJ	0.0016 J-	< 0.054 UJ	< 0.00073 U

All units in $\mu g/m^2, min^{-1}$.

TABLE B-12
SPLP DATA SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	SRC1-AJ19 Result	Residential Water BCL[c]	Count of Detects > BCL	MCL	Count of Detects > MCL
Aldehydes	Acetaldehyde	mg/L	1	< 0.0082 U	0.00221	--	--	--
	Formaldehyde	mg/L	1	< 0.021 U	0.00146	--	--	--
General Chemistry	Ammonia (as N)	mg/L	1	< 0.0078 UJ	0.209	--	--	--
	Bromide	mg/L	1	< 0.025 UJ	--	--	--	--
	Chlorate	mg/L	1	< 0.053 UJ	--	--	--	--
	Chloride	mg/L	1	16 J	--	--	--	--
	Fluoride	mg/L	1	0.11 J	4	0	4	0
	Nitrate	mg/L	--	--	10	--	10	--
	Nitrite	mg/L	1	< 0.02 UJ	1	--	1	--
	Orthophosphate as P	mg/L	1	< 0.05 UJ	--	--	--	--
	Perchlorate	mg/L	1	< 0.001 U	0.018	--	0.018/0.0245(1)	--
	Total Kjeldahl Nitrogen (TKN)	mg/L	1	< 0.25 UJ	--	--	--	--
Metals	Aluminum	mg/L	1	0.0602 J	0.05	1	--	--
	Antimony	mg/L	1	< 0.00068 UJ	0.006	--	0.006	--
	Arsenic	mg/L	1	0.003 J	0.01	0	0.01	0
	Barium	mg/L	1	0.0404 J	2	0	2	0
	Beryllium	mg/L	1	< 0.000128 UJ	0.004	--	0.004	--
	Boron	mg/L	1	0.0948 J	7.3	0	--	--
	Cadmium	mg/L	1	< 0.000042 UJ	0.005	--	0.005	--
	Calcium	mg/L	1	7.71 J	--	--	--	--
	Chromium	mg/L	1	< 0.003 UJ	0.1	--	0.1	--
	Chromium (VI)	mg/L	1	< 0.002 UJ	0.1	--	0.1	--
	Cobalt	mg/L	1	< 0.000244 UJ	0.011	--	--	--
	Copper	mg/L	1	< 0.00081 UJ	1.3	--	1.3	--
	Iron	mg/L	1	< 0.016 UJ	0.3	--	--	--
	Lead	mg/L	1	< 0.000492 UJ	0.015	--	0.015	--
	Lithium	mg/L	1	< 0.0002 UJ	0.073	--	--	--
	Magnesium	mg/L	1	3.3 J	207	0	--	--
	Manganese	mg/L	1	< 0.0006 UJ	0.02	--	--	--
	Mercury	mg/L	1	0.00008 J	0.002	0	0.002	0
	Molybdenum	mg/L	1	0.00087 J	0.183	0	--	--
	Nickel	mg/L	1	< 0.0004867 UJ	0.73	--	--	--
	Potassium	mg/L	1	0.207 J	--	--	--	--
	Selenium	mg/L	1	< 0.0004804 UJ	0.05	--	0.05	--
	Silver	mg/L	1	< 0.0002028 UJ	0.1	--	--	--
	Sodium	mg/L	1	13.5 J	--	--	--	--
	Strontium	mg/L	1	0.184 J	21.9	0	--	--
	Thallium	mg/L	1	< 0.00006 UJ	0.002	--	0.002	--
	Tin	mg/L	1	< 0.00068 UJ	21.9	--	--	--
	Titanium	mg/L	1	0.0012 J	146	0	--	--
	Tungsten	mg/L	1	< 0.00151 UJ	0.274	--	--	--
	Uranium	mg/L	1	0.00052 J	0.03	0	0.03	0
	Vanadium	mg/L	1	0.0113 J	0.183	0	--	--
	Zinc	mg/L	1	< 0.004 UJ	11	--	--	--

TABLE B-12
SPLP DATA SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	SRC1-AJ19 Result	Residential Water BCL[c]	Count of Detects > BCL	MCL	Count of Detects > MCL
OCPs	2,4-DDD	mg/L	1	< 0.000011 UJ	--	--	--	--
	2,4-DDE	mg/L	1	< 0.000009 UJ	--	--	--	--
	4,4-DDD	mg/L	1	< 0.0000038 UJ	0.00028	--	--	--
	4,4-DDE	mg/L	1	< 0.0000027 UJ	0.000198	--	--	--
	4,4-DDT	mg/L	1	< 0.0000056 UJ	0.000198	--	--	--
	Aldrin	mg/L	1	< 0.000004 UJ	0.00000395	--	--	--
	alpha-BHC	mg/L	1	< 0.0000025 UJ	0.011	--	--	--
	alpha-Chlordane	mg/L	1	< 0.000003 UJ	--	--	--	--
	beta-BHC	mg/L	1	< 0.000013 UJ	0.00219	--	--	--
	Chlordane	mg/L	1	< 0.00018 UJ	0.002	--	0.002	--
	delta-BHC	mg/L	1	< 0.000006 UJ	--	--	--	--
	Dieldrin	mg/L	1	< 0.0000023 UJ	0.0000042	--	--	--
	Endosulfan I	mg/L	1	< 0.0000025 UJ	0.219	--	--	--
	Endosulfan II	mg/L	1	< 0.00001 UJ	0.219	--	--	--
	Endosulfan sulfate	mg/L	1	< 0.000017 UJ	--	--	--	--
	Endrin	mg/L	1	< 0.0000028 UJ	0.002	--	0.002	--
	Endrin aldehyde	mg/L	1	< 0.0000032 UJ	--	--	--	--
	Endrin ketone	mg/L	1	< 0.000016 UJ	--	--	--	--
	gamma-BHC (Lindane)	mg/L	1	< 0.0000025 UJ	0.0002	--	0.0002	--
	gamma-Chlordane	mg/L	1	< 0.0000027 UJ	--	--	--	--
	Heptachlor	mg/L	1	< 0.0000025 UJ	0.0004	--	0.0004	--
	Heptachlor epoxide	mg/L	1	< 0.0000032 UJ	0.0002	--	0.0002	--
	Methoxychlor	mg/L	1	< 0.000005 UJ	0.04	--	0.04	--
	Toxaphene	mg/L	1	< 0.00033 UJ	0.003	--	0.003	--
PAHs	Acenaphthene	mg/L	1	< 0.00025 U	0.00624	--	--	--
	Acenaphthylene	mg/L	1	< 0.00025 U	0.00622	--	--	--
	Anthracene	mg/L	1	< 0.00025 U	0.00625	--	--	--
	Benzo(a)anthracene	mg/L	1	< 0.00025 U	0.0000921	--	--	--
	Benzo(a)pyrene	mg/L	1	< 0.00025 U	0.0002	--	0.0002	--
	Benzo(b)fluoranthene	mg/L	1	< 0.00025 U	0.0000921	--	--	--
	Benzo(g,h,i)perylene	mg/L	1	< 0.00025 U	1.1	--	--	--
	Benzo(k)fluoranthene	mg/L	1	< 0.00025 U	0.000921	--	--	--
	Chrysene	mg/L	1	< 0.00025 U	0.00921	--	--	--
	Dibenzo(a,h)anthracene	mg/L	1	< 0.00025 U	0.00000921	--	--	--
	Indeno(1,2,3-cd)pyrene	mg/L	1	< 0.00025 U	0.0000921	--	--	--
	Phenanthrene	mg/L	1	< 0.00025 U	0.00622	--	--	--
	Pyrene	mg/L	1	< 0.00025 U	0.00622	--	--	--
Radionuclides	Radium-226	pCi/L	1	< UJ	5	--	--	--
	Radium-228	pCi/L	1	< UJ	5	--	--	--
	Thorium-228	pCi/L	1	< UJ	0.11	--	--	--
	Thorium-230	pCi/L	1	< UJ	0.42	--	--	--
	Thorium-232	pCi/L	1	< UJ	0.14	--	--	--
	Uranium-233/234	pCi/L	1	1.55 J-	--	--	--	--
	Uranium-235/236	pCi/L	1	< UJ	--	--	--	--
	Uranium-238	pCi/L	1	< UJ	--	--	--	--

TABLE B-12
SPLP DATA SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	SRC1-AJ19 Result	Residential Water BCL[c]	Count of Detects > BCL	MCL	Count of Detects > MCL
SVOCs	1,2,4,5-Tetrachlorobenzene	mg/L	1	< 0.01 U	0.011	--	--	--
	1,2-Diphenylhydrazine	mg/L	1	< 0.01 U	0.000084	--	--	--
	1,4-Dioxane	mg/L	1	< 0.005 UJ	0.000672	--	--	--
	2,2'-Dichlorobenzil	mg/L	1	< 0.0165 U	0.011	--	--	--
	2,4,5-Trichlorophenol	mg/L	1	< 0.005 U	3.65	--	--	--
	2,4,6-Trichlorophenol	mg/L	1	< 0.01 U	0.00611	--	--	--
	2,4-Dichlorophenol	mg/L	1	< 0.01 U	0.11	--	--	--
	2,4-Dimethylphenol	mg/L	1	< 0.01 U	0.73	--	--	--
	2,4-Dinitrophenol	mg/L	1	< 0.05 U	0.073	--	--	--
	2,4-Dinitrotoluene	mg/L	1	< 0.01 U	0.000217	--	--	--
	2,6-Dinitrotoluene	mg/L	1	< 0.01 U	0.0365	--	--	--
	2-Chloronaphthalene	mg/L	1	< 0.00175 U	0.00208	--	--	--
	2-Chlorophenol	mg/L	1	< 0.01 U	0.0664	--	--	--
	2-Methylnaphthalene	mg/L	1	< 0.0015 U	--	--	--	--
	2-Nitroaniline	mg/L	1	< 0.01 U	0.11	--	--	--
	2-Nitrophenol	mg/L	1	< 0.01 U	--	--	--	--
	3,3-Dichlorobenzidine	mg/L	1	< 0.005 U	0.000149	--	--	--
	3-Nitroaniline	mg/L	1	< 0.01 U	--	--	--	--
	4-Bromophenyl phenyl ether	mg/L	1	< 0.01 U	--	--	--	--
	4-Chloro-3-methylphenol	mg/L	1	< 0.01 U	--	--	--	--
	4-Chlorophenyl phenyl ether	mg/L	1	< 0.01 U	--	--	--	--
	4-Chlorothioanisole	mg/L	1	< 0.0165 U	--	--	--	--
	4-Nitroaniline	mg/L	1	< 0.015 U	--	--	--	--
	4-Nitrophenol	mg/L	1	< 0.01 U	0.292	--	--	--
	Acetophenone	mg/L	1	< 0.01 UJ	0.679	--	--	--
	Aniline	mg/L	1	< 0.0125 U	0.0118	--	--	--
	Benzenethiol	mg/L	1	< 0.033 U	--	--	--	--
	Benzoic acid	mg/L	1	< 0.03 U	146	--	--	--
	Benzyl alcohol	mg/L	1	< 0.01 UJ	18.3	--	--	--
	bis(2-Chloroethoxy)methane	mg/L	1	< 0.015 U	--	--	--	--
	bis(2-Chloroethyl) ether	mg/L	1	< 0.01 U	0.0000119	--	--	--
	bis(2-Chloroisopropyl) ether	mg/L	1	< 0.01 U	0.000323	--	--	--
	bis(2-Ethylhexyl) phthalate	mg/L	1	< 0.01 U	0.006	--	0.006	--
	bis(p-Chlorophenyl) sulfone	mg/L	1	< 0.0165 U	--	--	--	--
	bis(p-Chlorophenyl)disulfide	mg/L	1	< 0.0165 U	--	--	--	--
	Butylbenzyl phthalate	mg/L	1	< 0.01 U	0.0354	--	--	--
	Carbazole	mg/L	1	< 0.001 U	0.00336	--	--	--
	Dibenzofuran	mg/L	1	< 0.01 U	0.073	--	--	--
	Diethyl phthalate	mg/L	1	< 0.01 U	29.2	--	--	--
	Dimethyl phthalate	mg/L	1	< 0.01 U	365	--	--	--
	Di-n-butyl phthalate	mg/L	1	< 0.01 U	3.65	--	--	--
	Di-n-octyl phthalate	mg/L	1	< 0.015 U	--	--	--	--
	Diphenyl disulfide	mg/L	1	< 0.0165 U	--	--	--	--
	Diphenyl sulfide	mg/L	1	< 0.0165 U	--	--	--	--
	Diphenyl sulfone	mg/L	1	< 0.0165 U	0.11	--	--	--

TABLE B-12
SPLP DATA SUMMARY
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter of Interest	Compound List	Units	Total Count	SRC1-AJ19 Result	Residential Water BCL[c]	Count of Detects > BCL	MCL	Count of Detects > MCL
SVOCs	Diphenylamine	mg/L	1	< 0.015 U	0.913	--	--	--
	Fluoranthene	mg/L	1	< 0.001 U	1.46	--	--	--
	Fluorene	mg/L	1	< 0.001 U	0.00623	--	--	--
	Hexachlorobenzene	mg/L	1	< 0.01 U	0.001	--	0.001	--
	Hexachlorobutadiene	mg/L	1	< 0.01 U	0.000862	--	--	--
	Hexachlorocyclopentadiene	mg/L	1	< 0.01 U	0.05	--	0.05	--
	Hexachloroethane	mg/L	1	< 0.01 U	0.0048	--	--	--
	Hydroxymethyl phthalimide	mg/L	1	< 0.0165 U	--	--	--	--
	Isophorone	mg/L	1	< 0.01 U	0.0708	--	--	--
	m,p-Cresols	mg/L	1	< 0.015 U	0.183	--	--	--
	Naphthalene	mg/L	1	< 0.0015 U	0.000143	--	--	--
	Nitrobenzene	mg/L	1	< 0.015 U	0.000122	--	--	--
	N-nitrosodi-n-propylamine	mg/L	1	< 0.01 U	0.0000096	--	--	--
	o-Cresol	mg/L	1	< 0.01 U	1.83	--	--	--
	Octachlorostyrene	mg/L	1	< 0.0165 U	--	--	--	--
	p-Chloroaniline	mg/L	1	< 0.01 U	0.000336	--	--	--
	p-Chlorobenzenethiol	mg/L	1	< 0.0165 U	--	--	--	--
	Pentachlorobenzene	mg/L	1	< 0.01 U	0.0292	--	--	--
	Pentachlorophenol	mg/L	1	< 0.01 U	0.001	--	0.001	--
	Phenol	mg/L	1	< 0.005 U	11	--	--	--
	Pyridine	mg/L	1	< 0.005 U	0.0319	--	--	--

BCL = Basic Comparison Levels (BCLs) from NDEP 2011a. Values used are residential water BCLs.

MCL = USEPA Maximum Contaminant Level.

(1) A MCL for perchlorate has not been promulgated. The USEPA Drinking Water Equivalent Level of 24.5 ug/L was used.

APPENDIX C

GES FIELD REPORTS
(on the report CD in Appendix B)

APPENDIX D

SURFACE FLUX CHAMBER TESTING INVESTIGATOR'S REPORT
(on the report CD in Appendix B)

APPENDIX E

DATA USABILITY TABLES
(on the report CD in Appendix B)

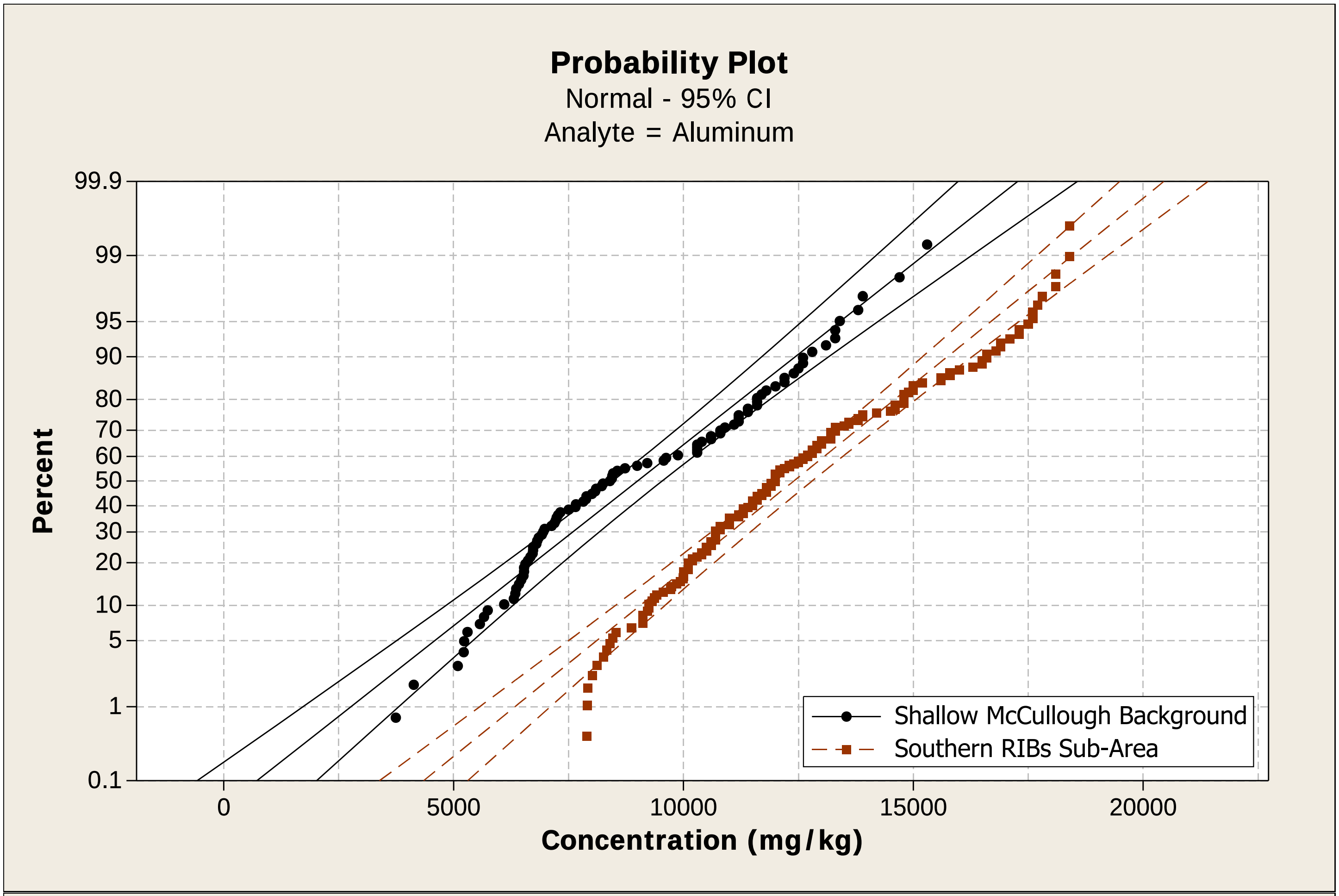
LIST OF TABLES (APPENDIX E)

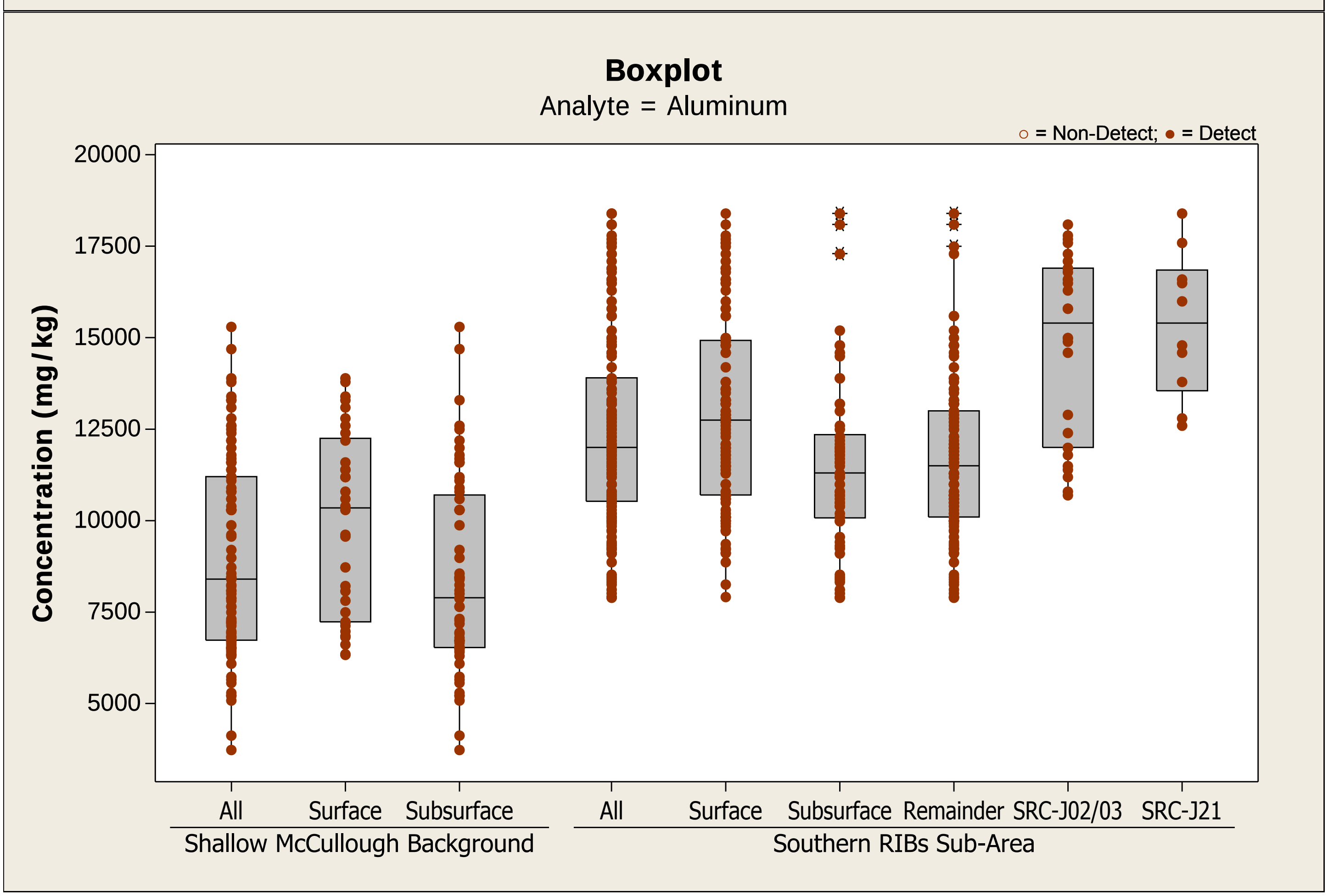
APPENDIX F

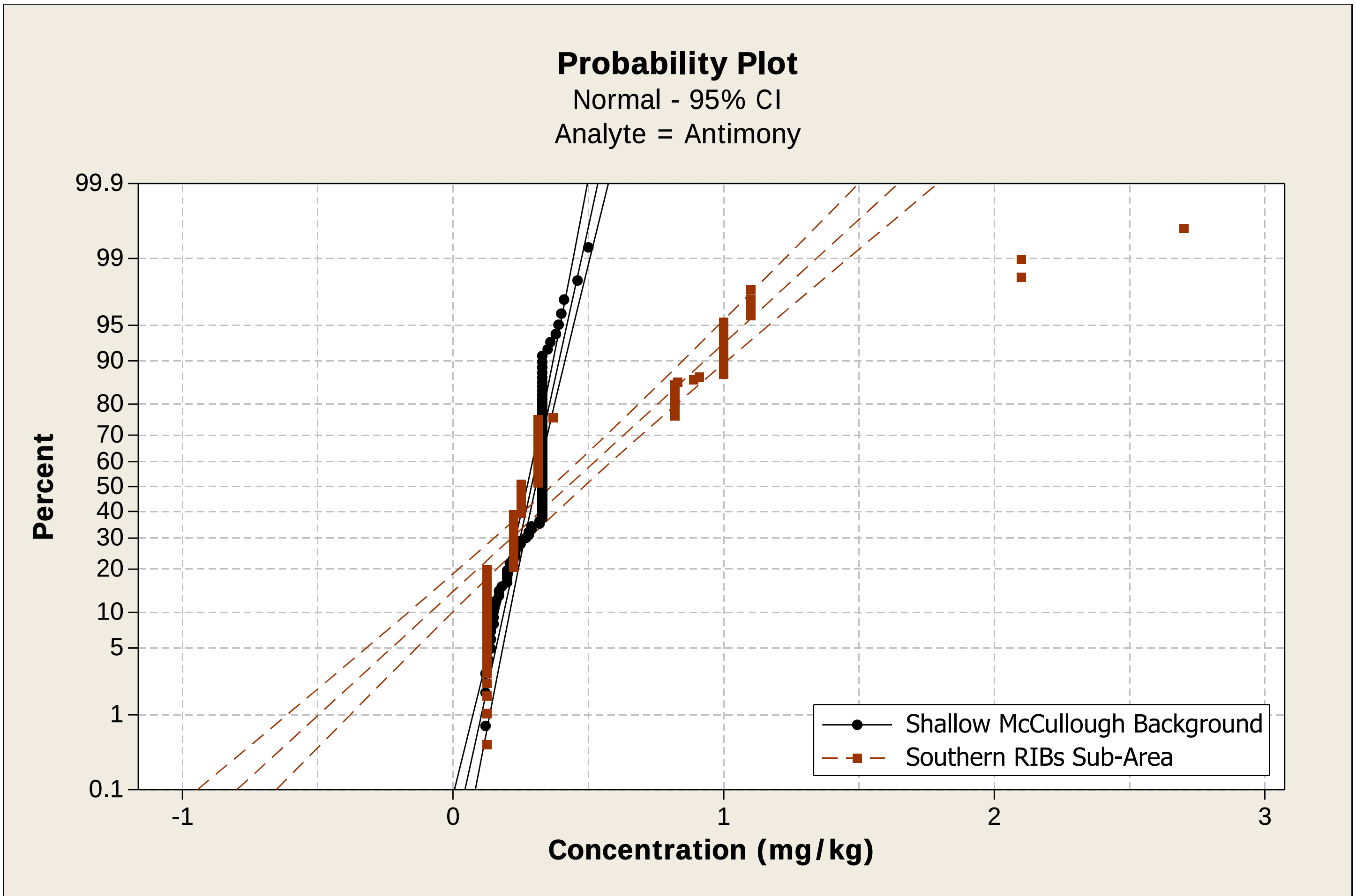
DATA VALIDATION SUMMARY REPORTS

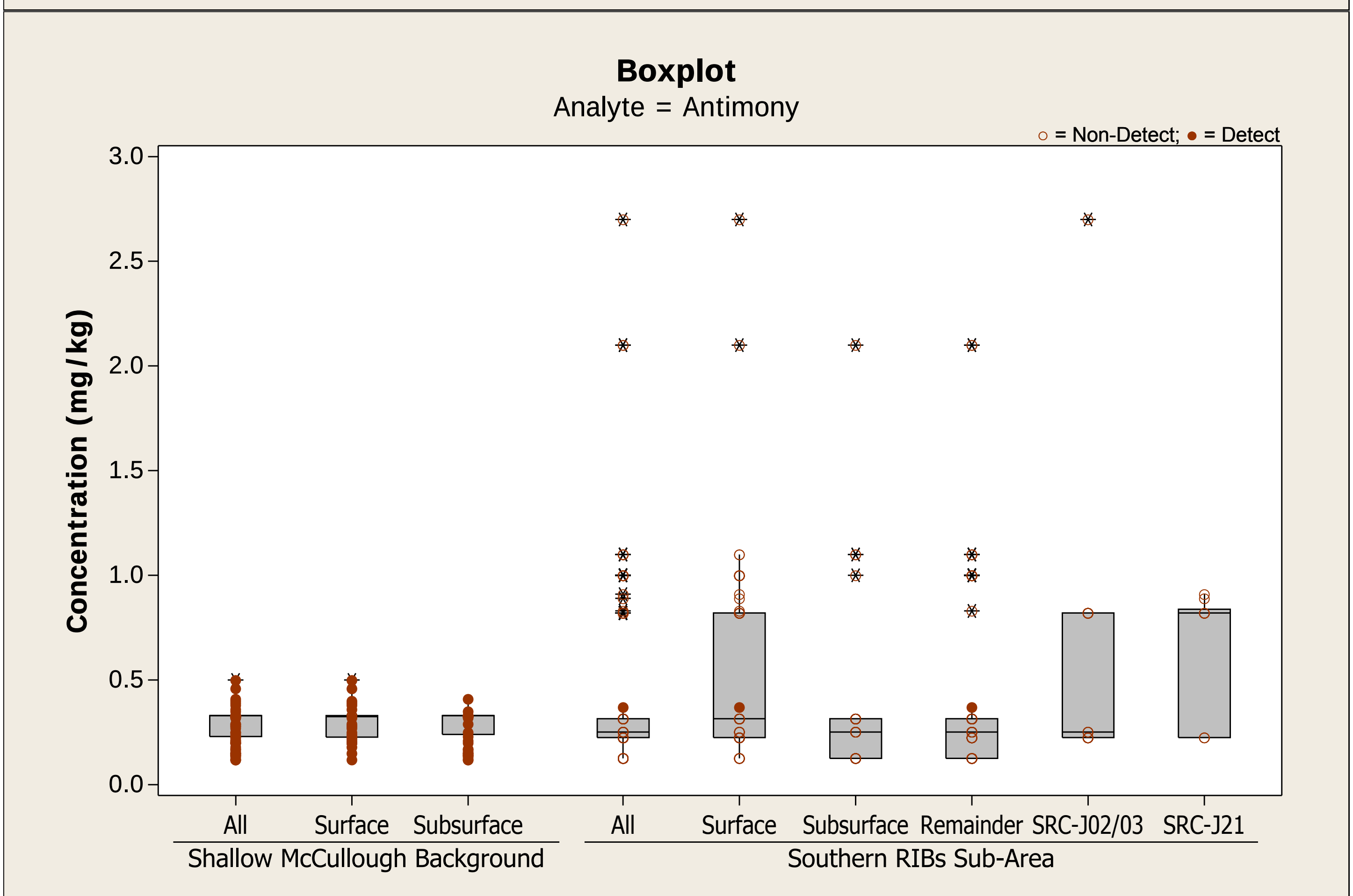
APPENDIX G

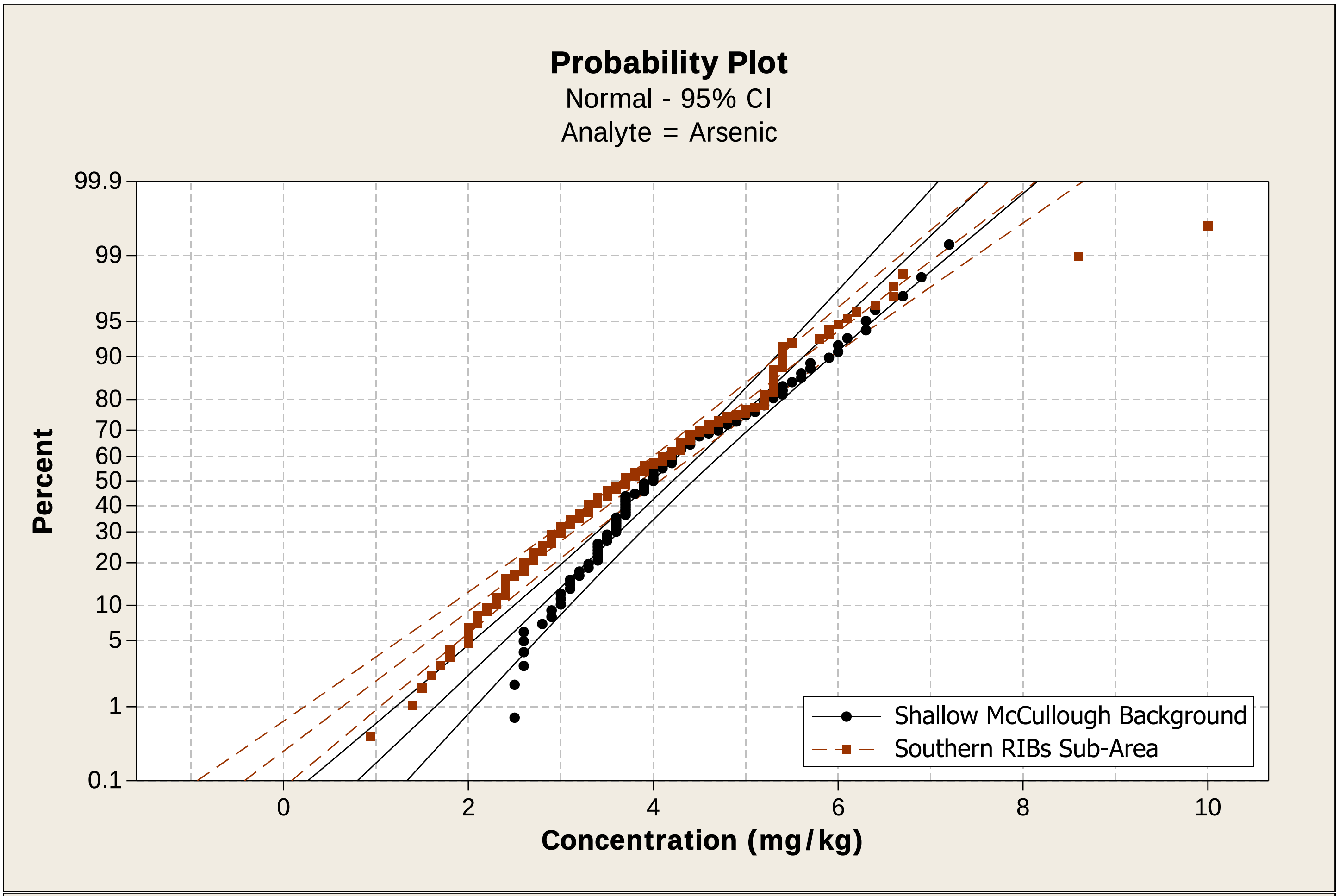
CUMULATIVE PROBABILITY PLOTS AND BOXPLOTS FOR METALS AND RADIONUCLIDES

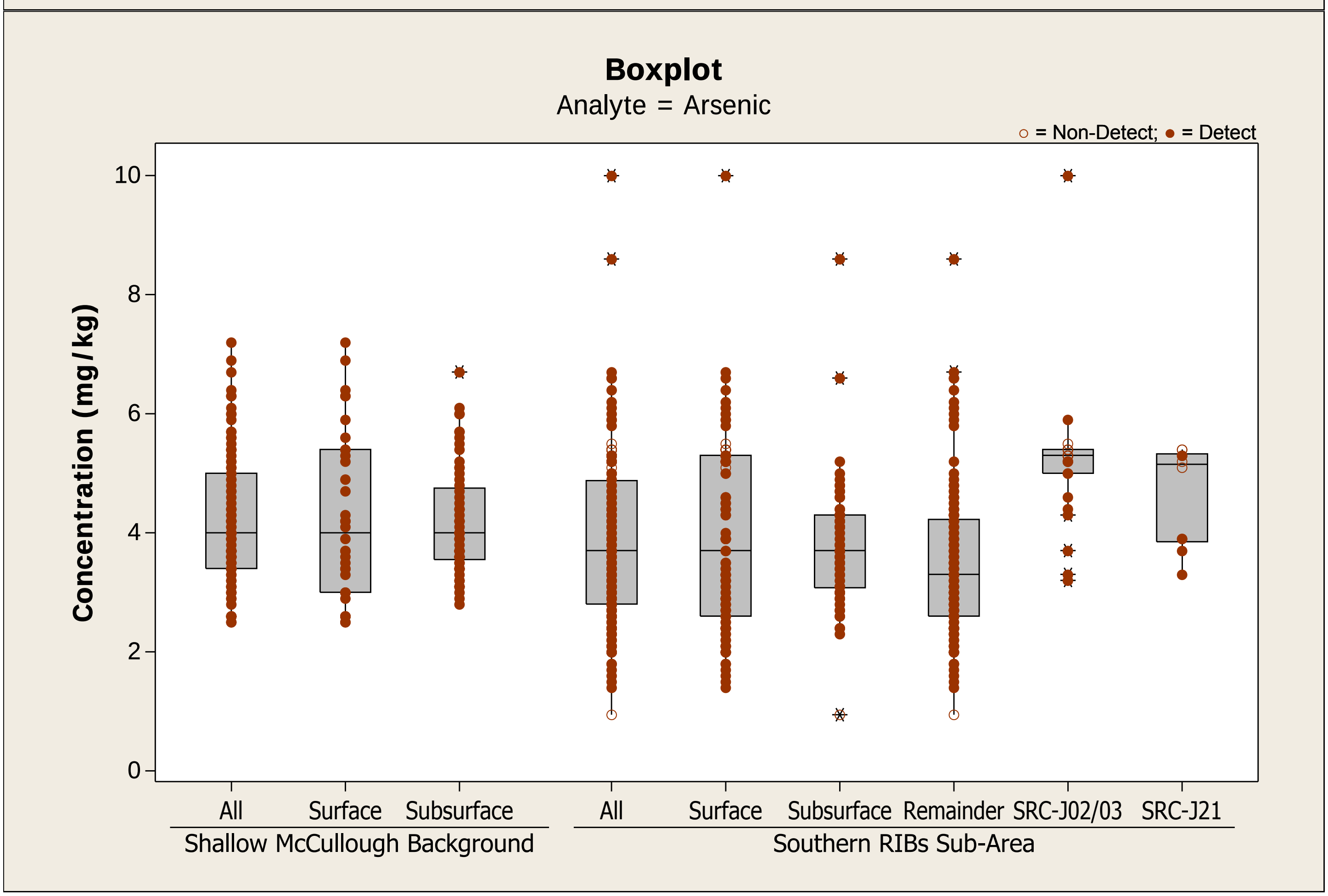

Probability Plot
Normal - 95% CI
Analyte = Aluminum
Percent
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

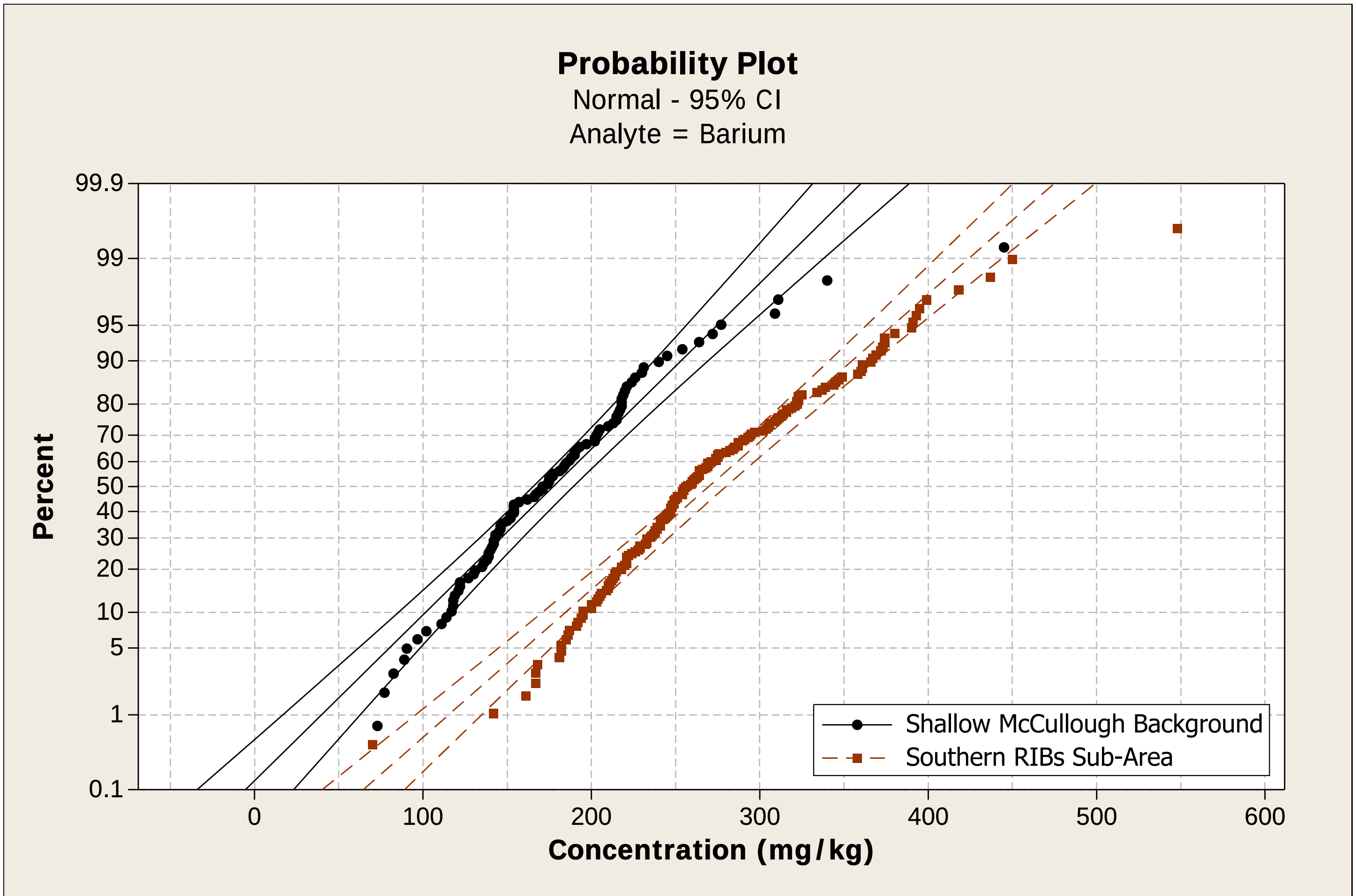

Boxplot
Analyte = Aluminum
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Antimony
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-1
0
1
2
3
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

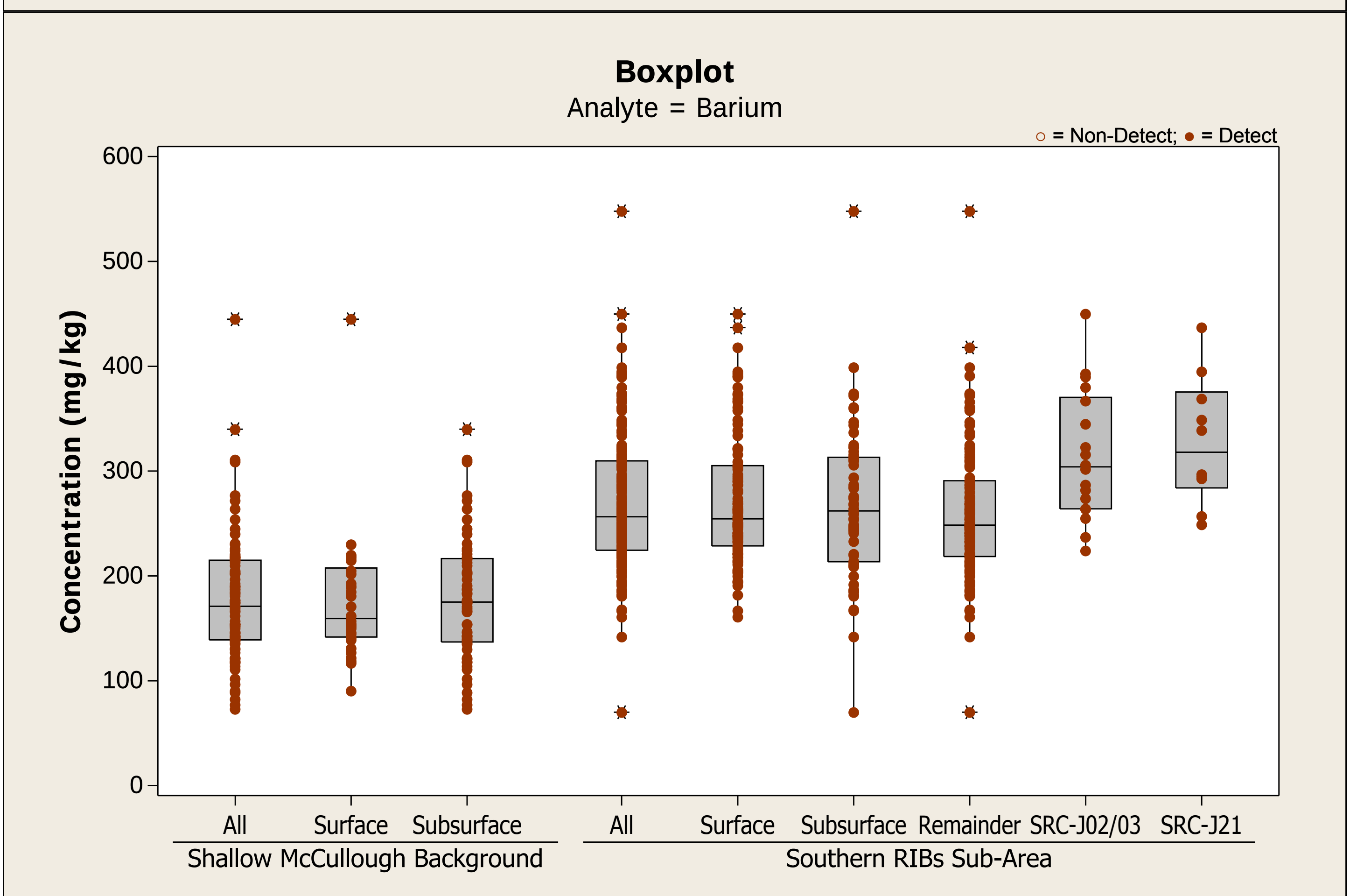

Boxplot
Analyte = Antimony
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Arsenic
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
2
4
6
8
10
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

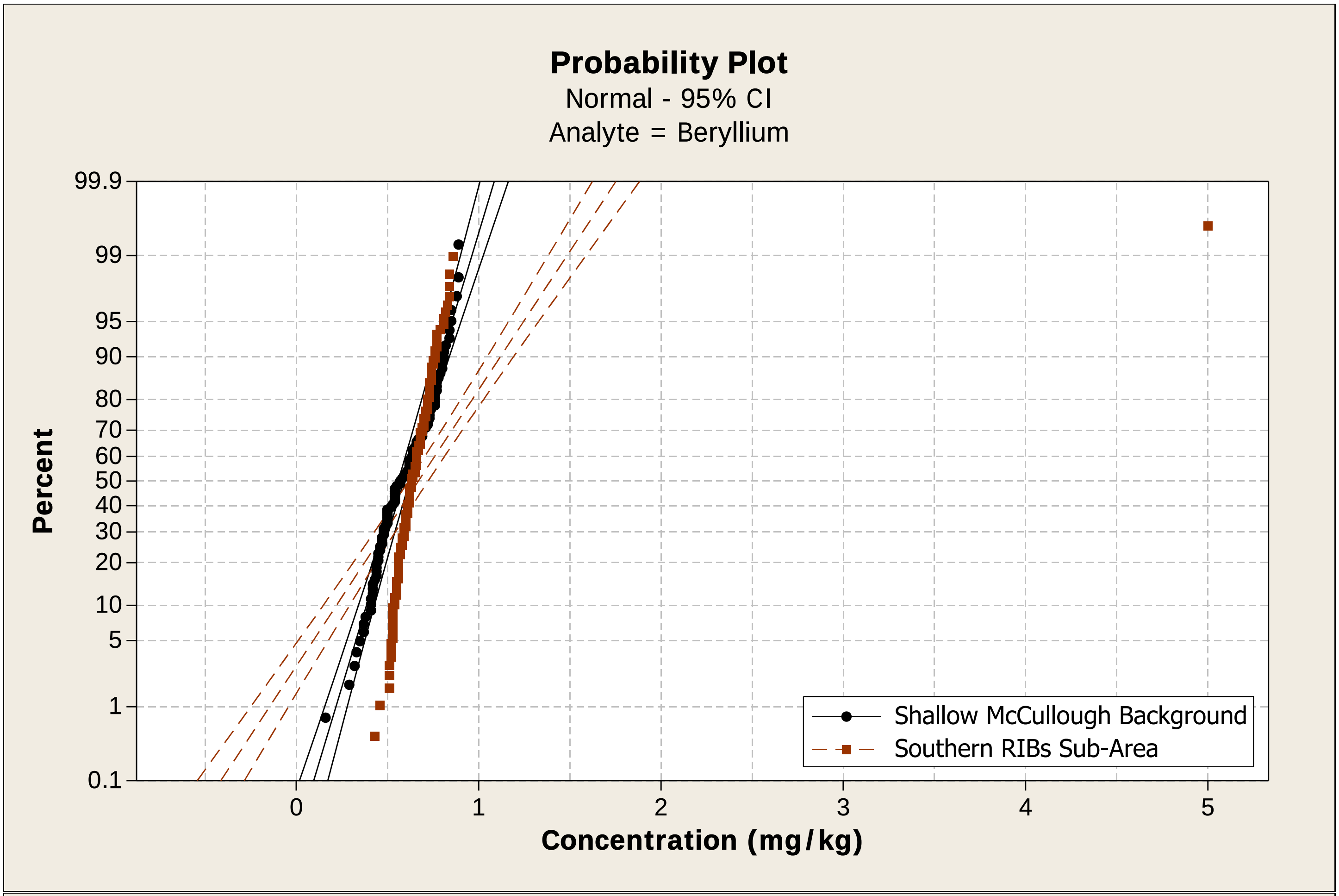

Boxplot
Analyte = Arsenic
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
10
8
6
4
2
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

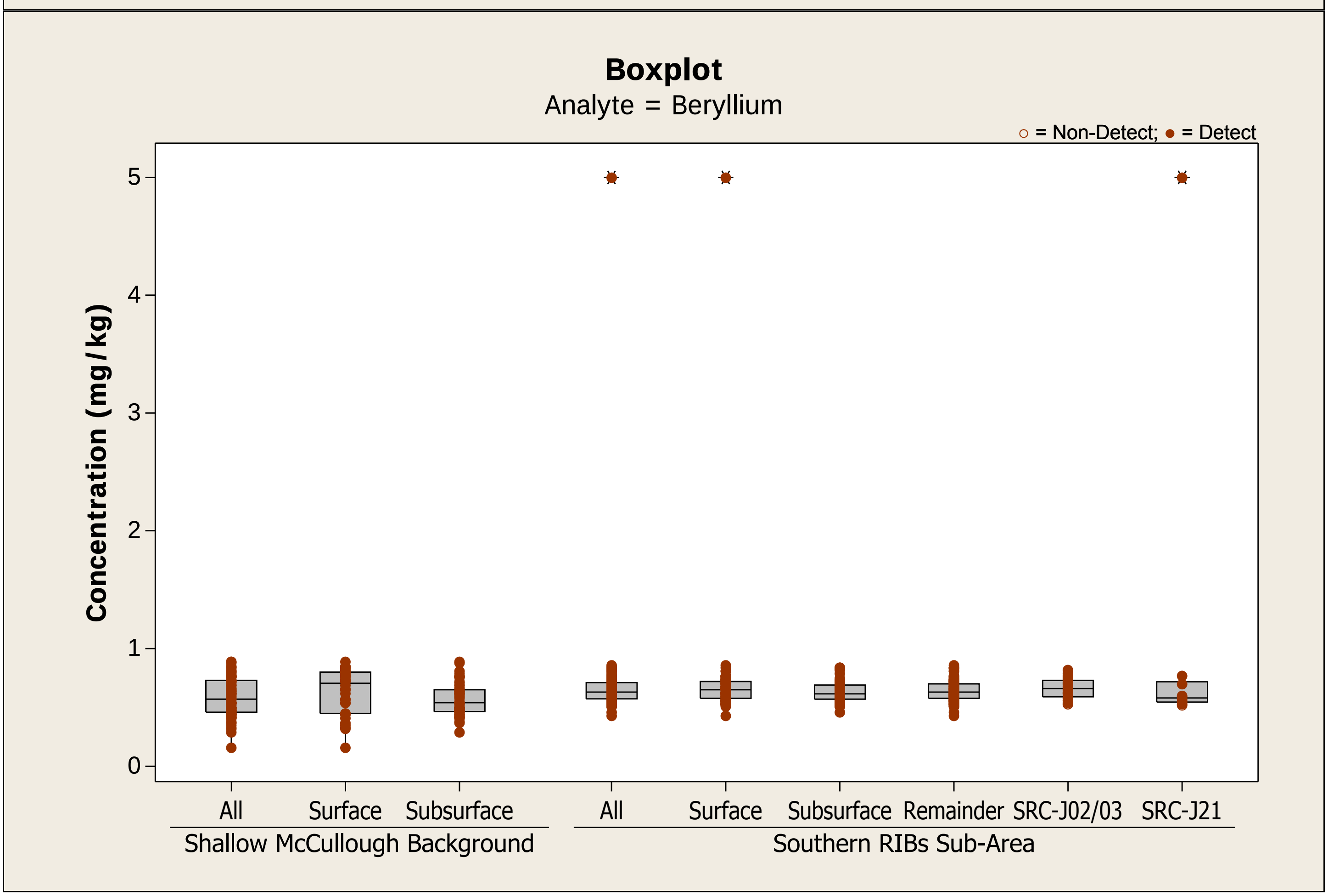


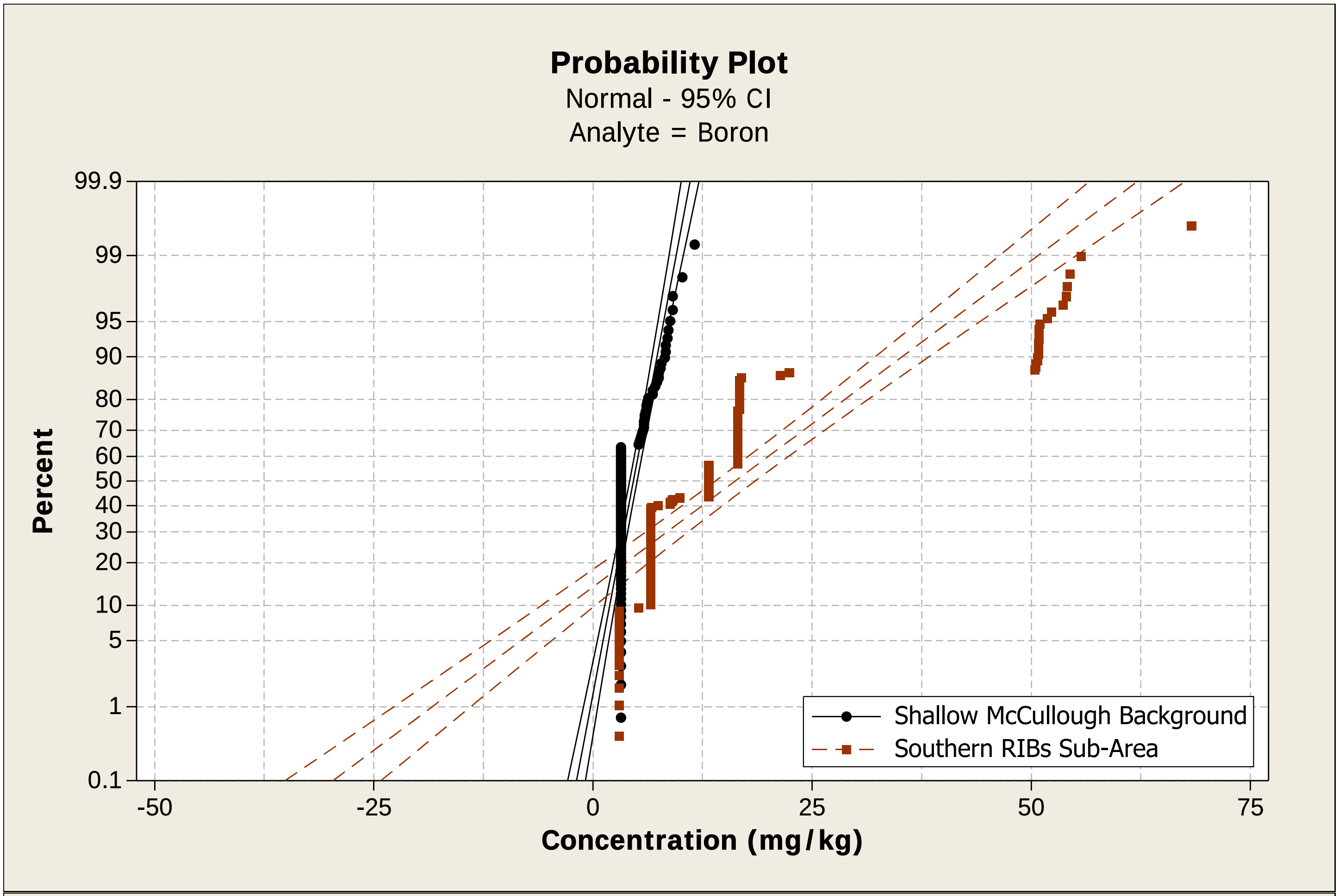
Probability Plot
Normal - 95% CI
Analyte = Barium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
100
200
300
400
500
600
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

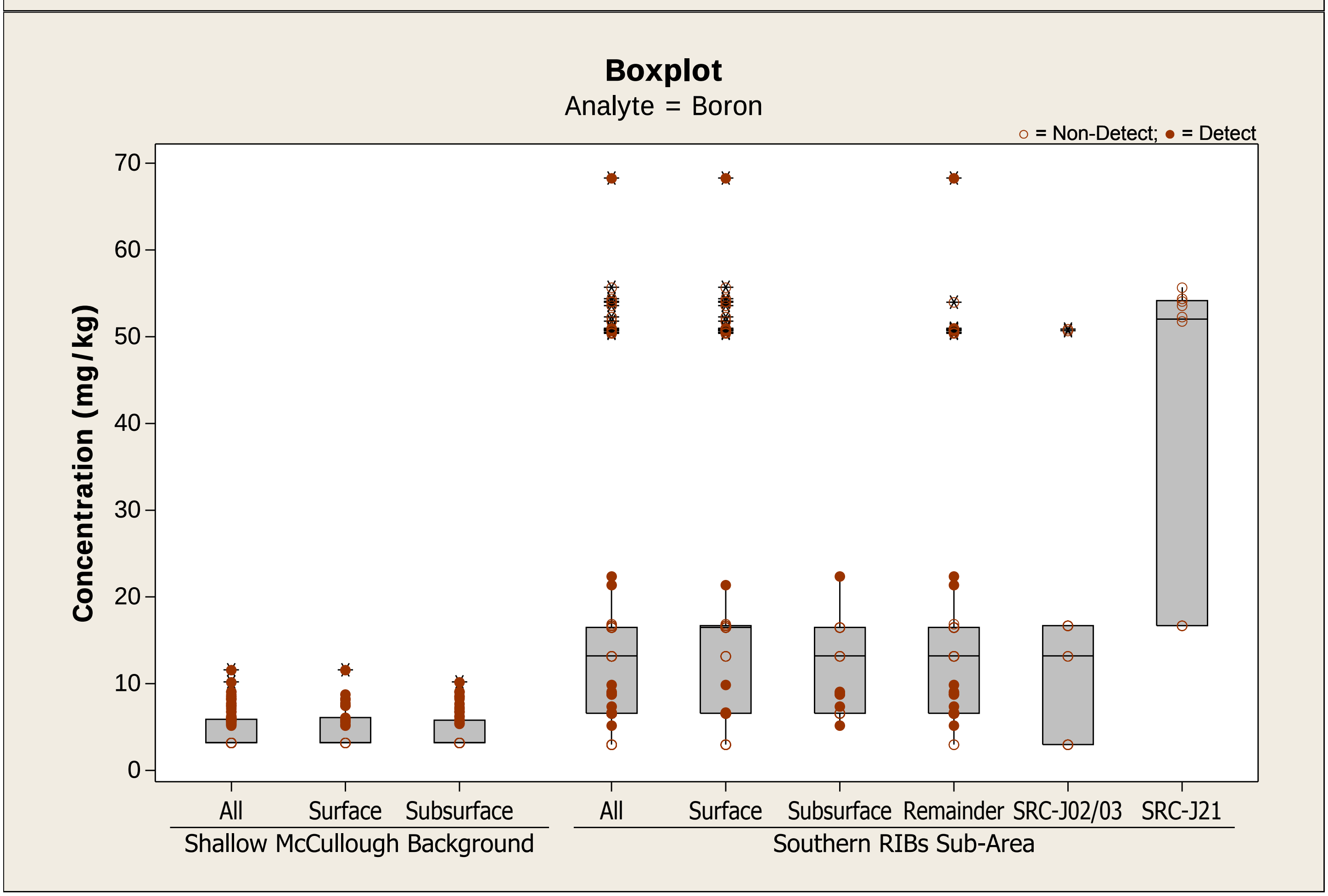


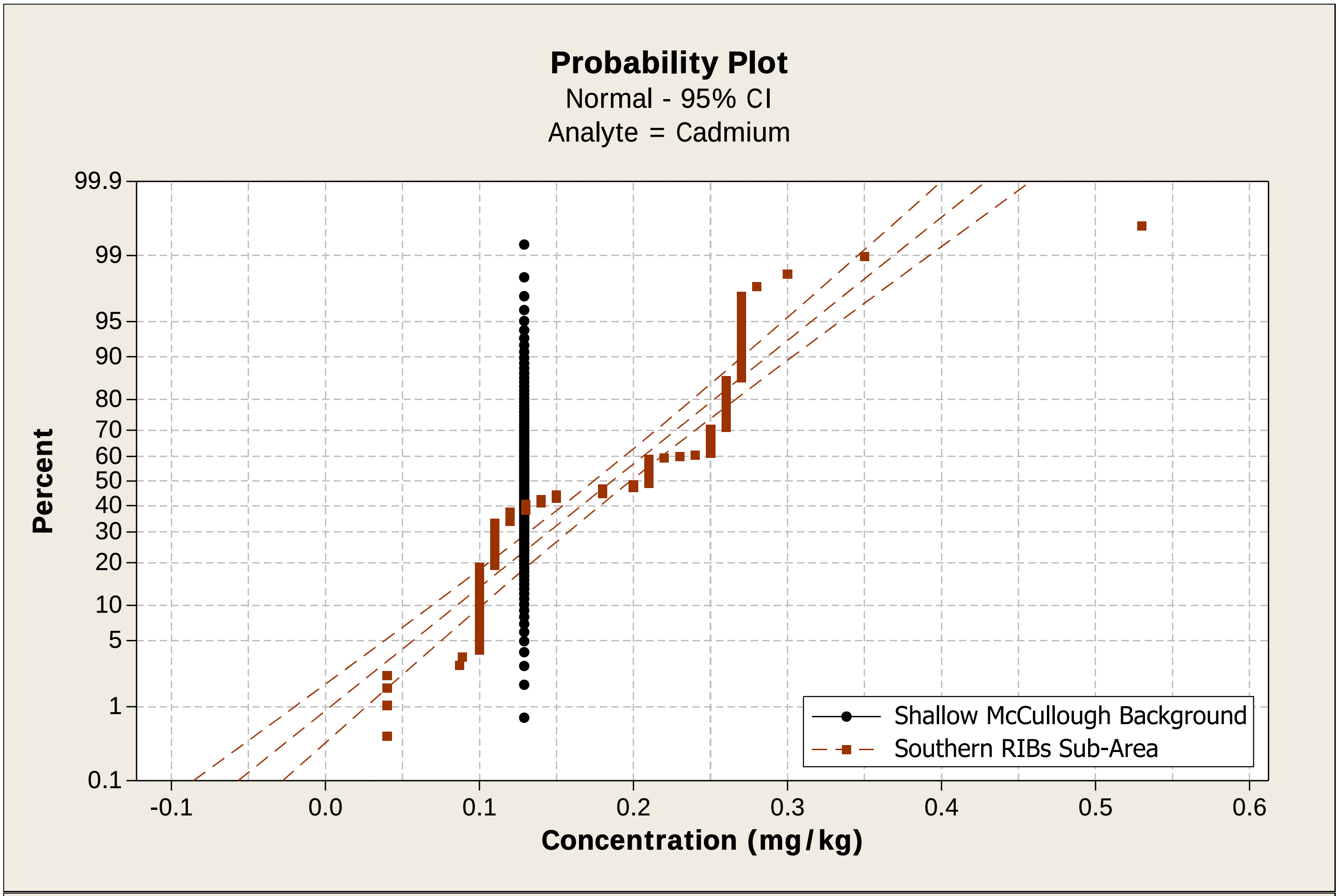
Boxplot
Analyte = Barium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
600
500
400
300
200
100
0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Beryllium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
1
2
3
4
5
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

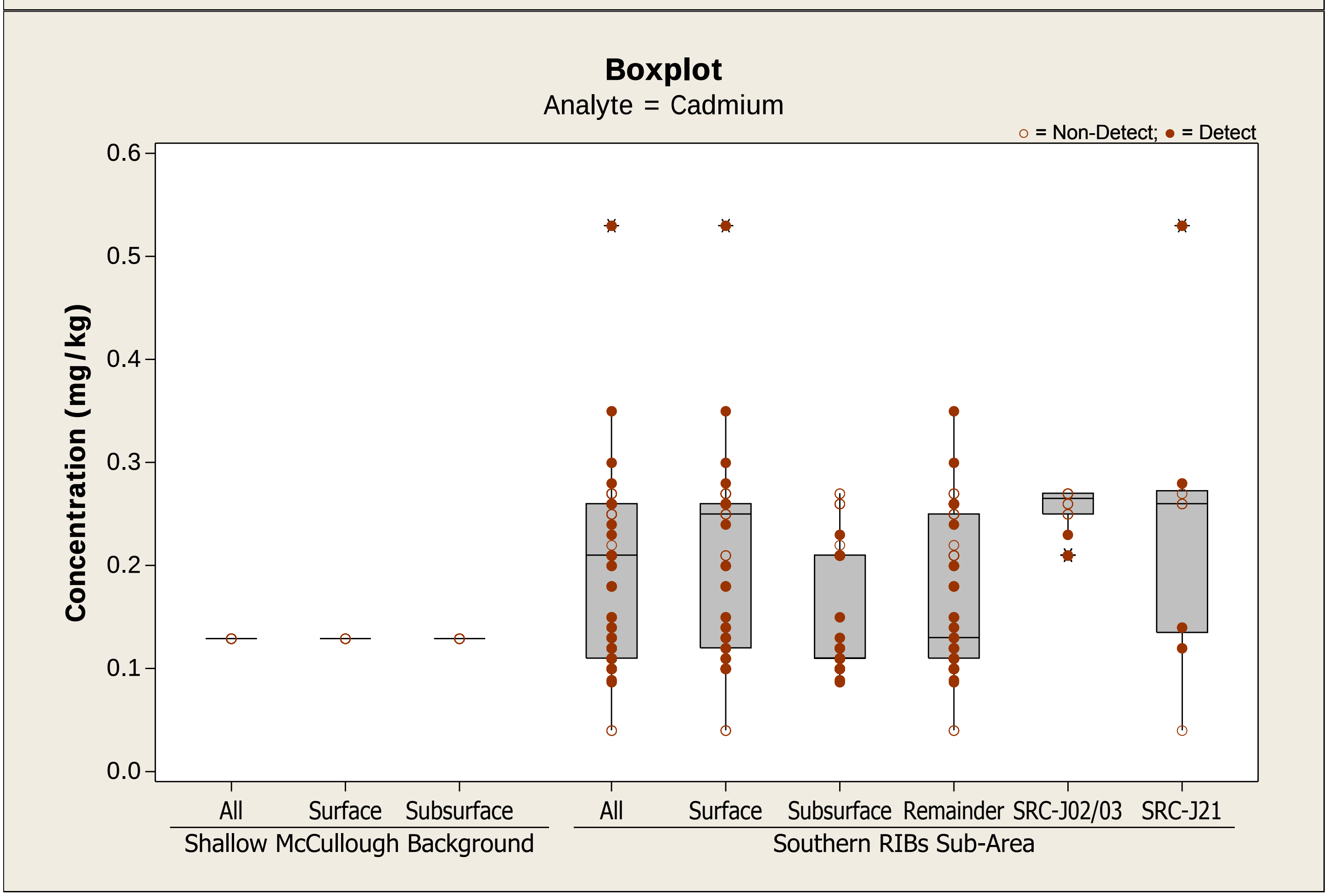

Boxplot
Analyte = Beryllium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
5
4
3
2
1
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Boron
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-50
-25
0
25
50
75
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

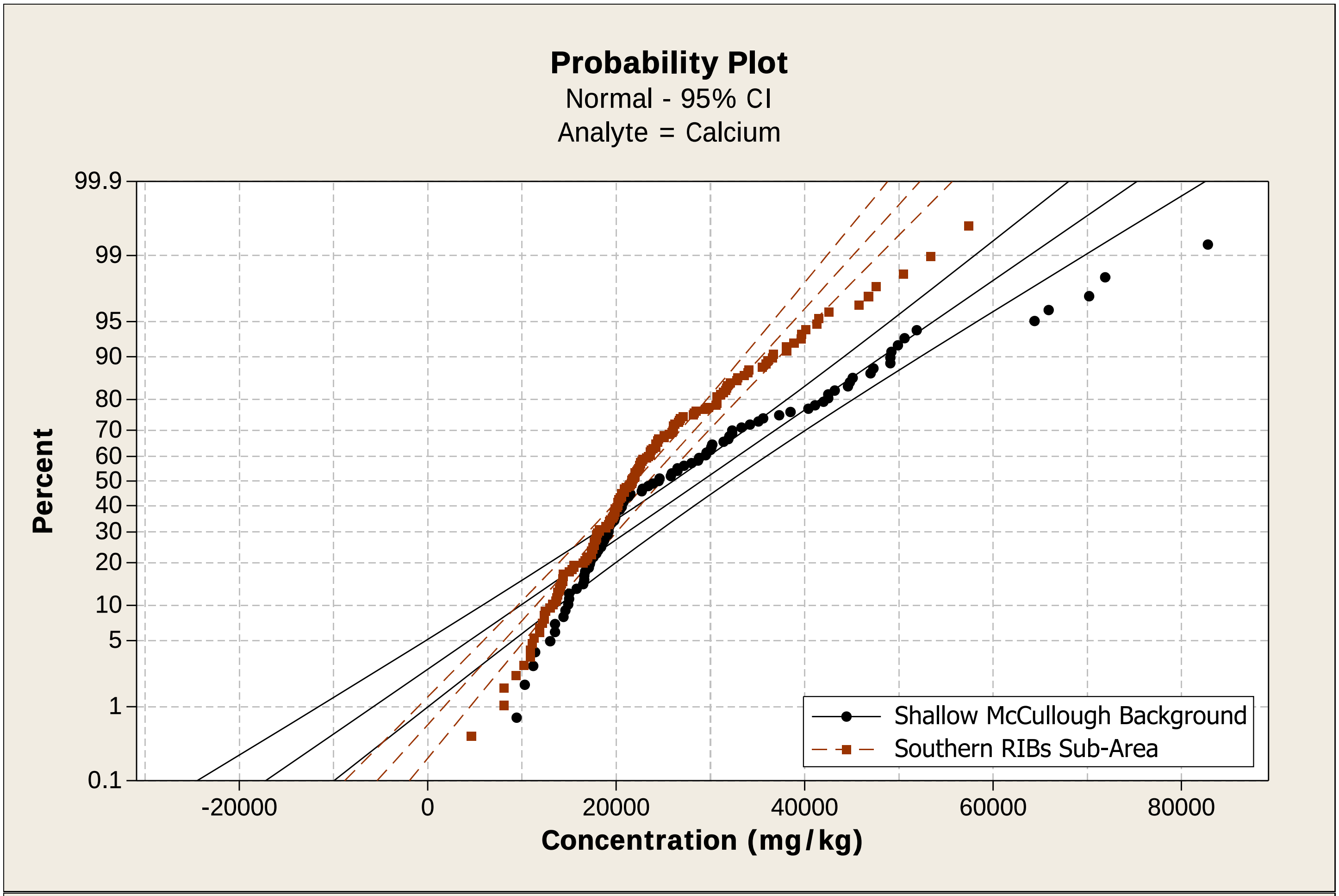

Boxplot
Analyte = Boron
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
70
60
50
40
30
20
10
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

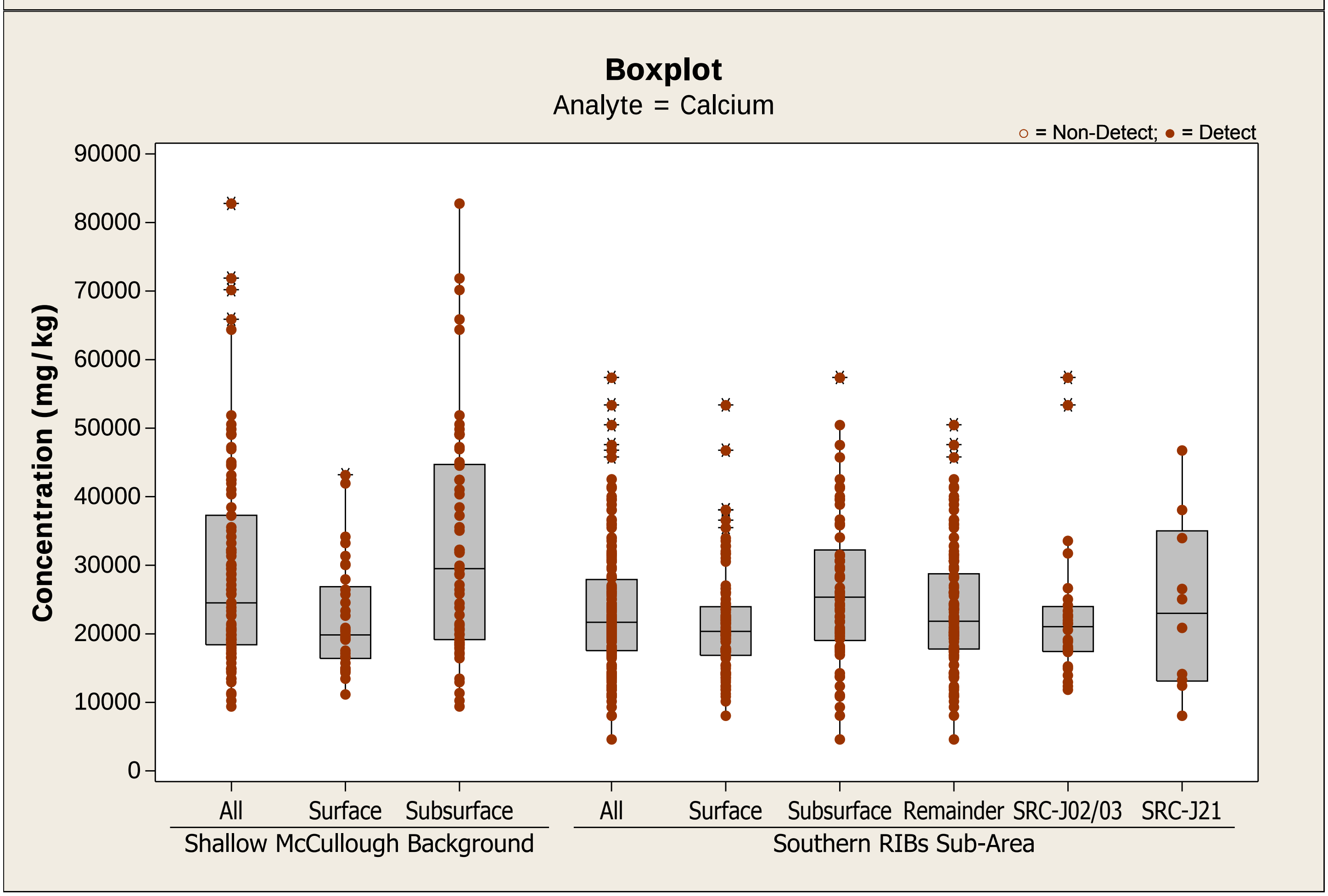


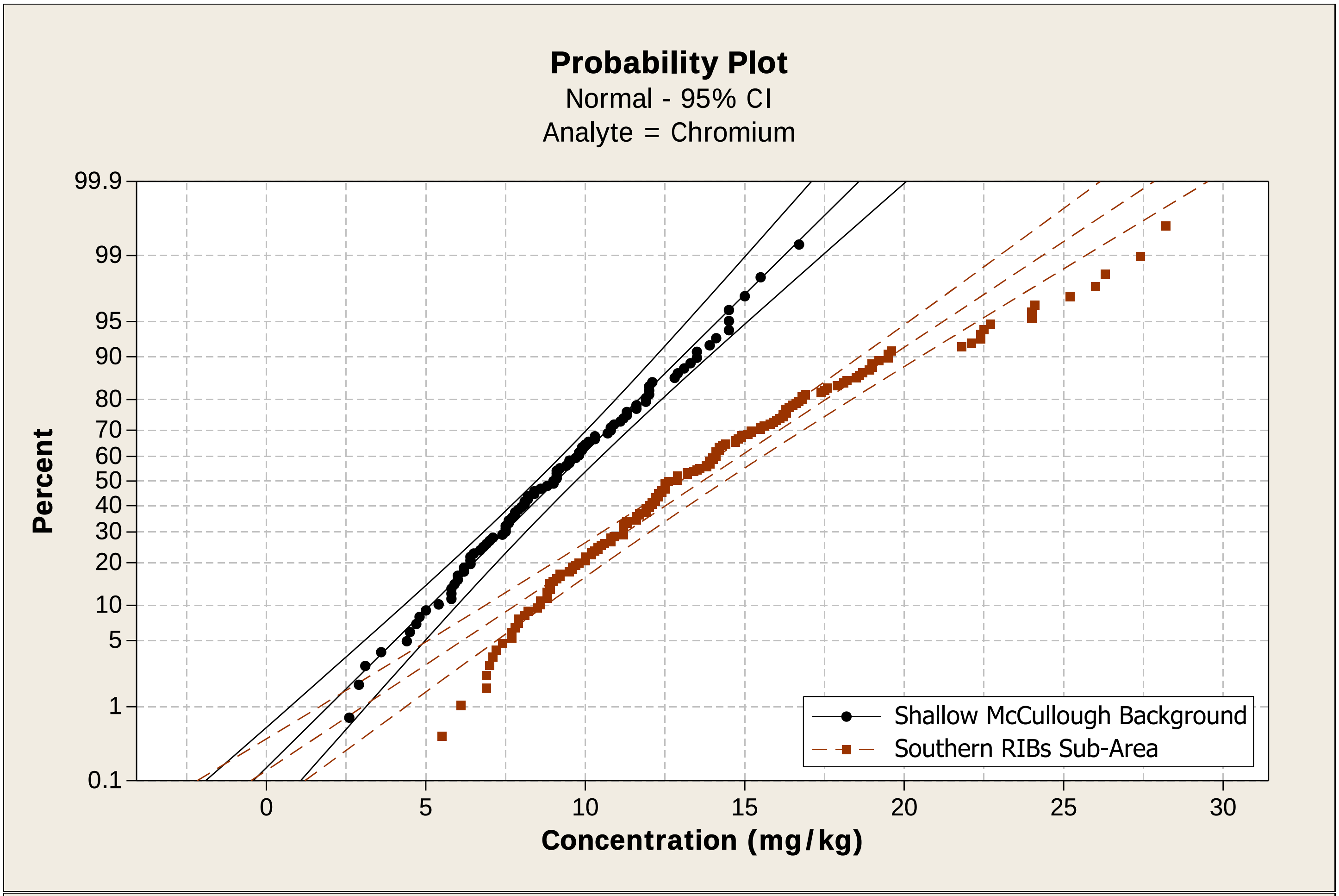
Probability Plot
Normal - 95% CI
Analyte = Cadmium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



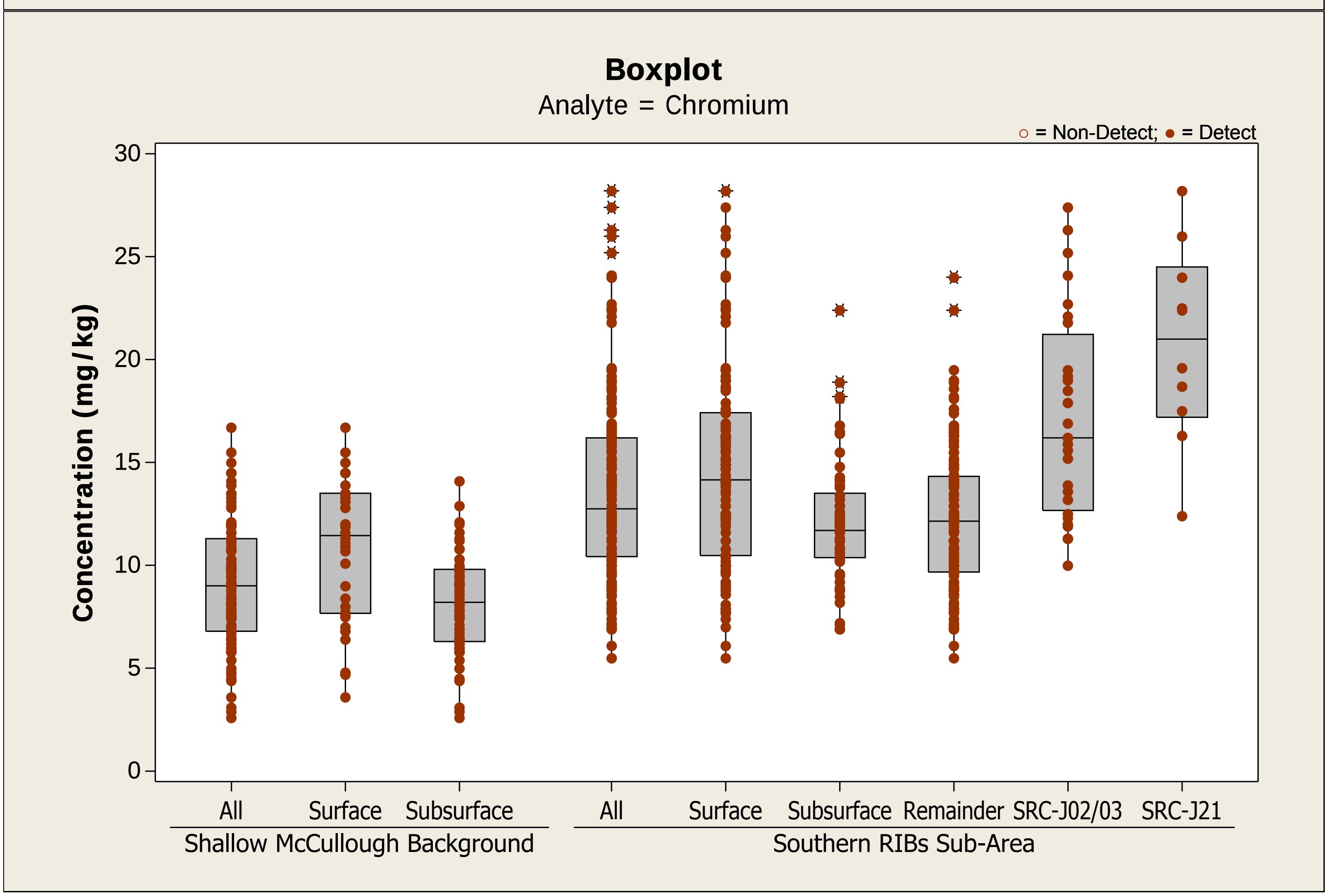
Boxplot
Analyte = Cadmium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Calcium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-20000
0
20000
40000
60000
80000
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

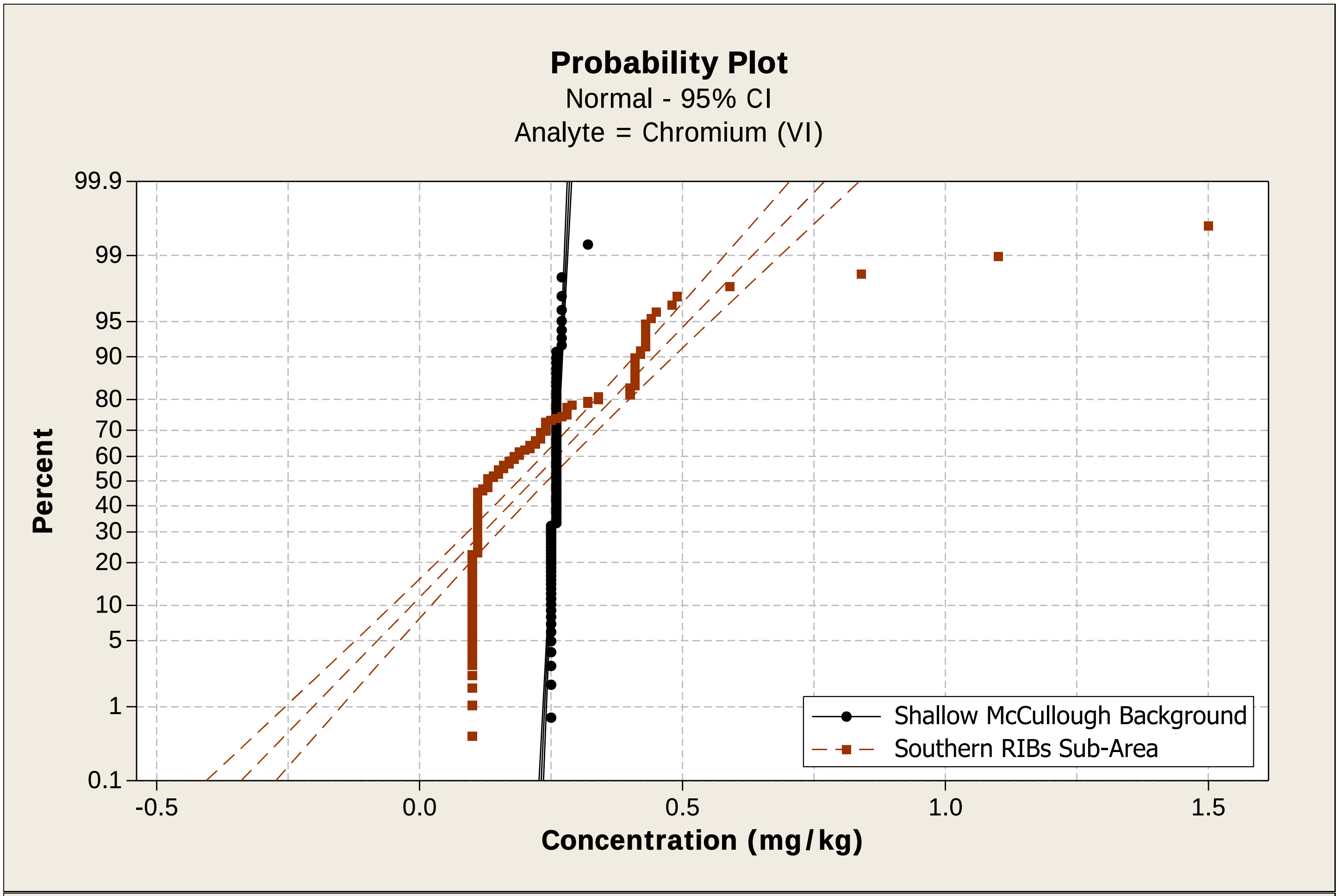

Boxplot
Analyte = Calcium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Southern RIBs Sub-Area



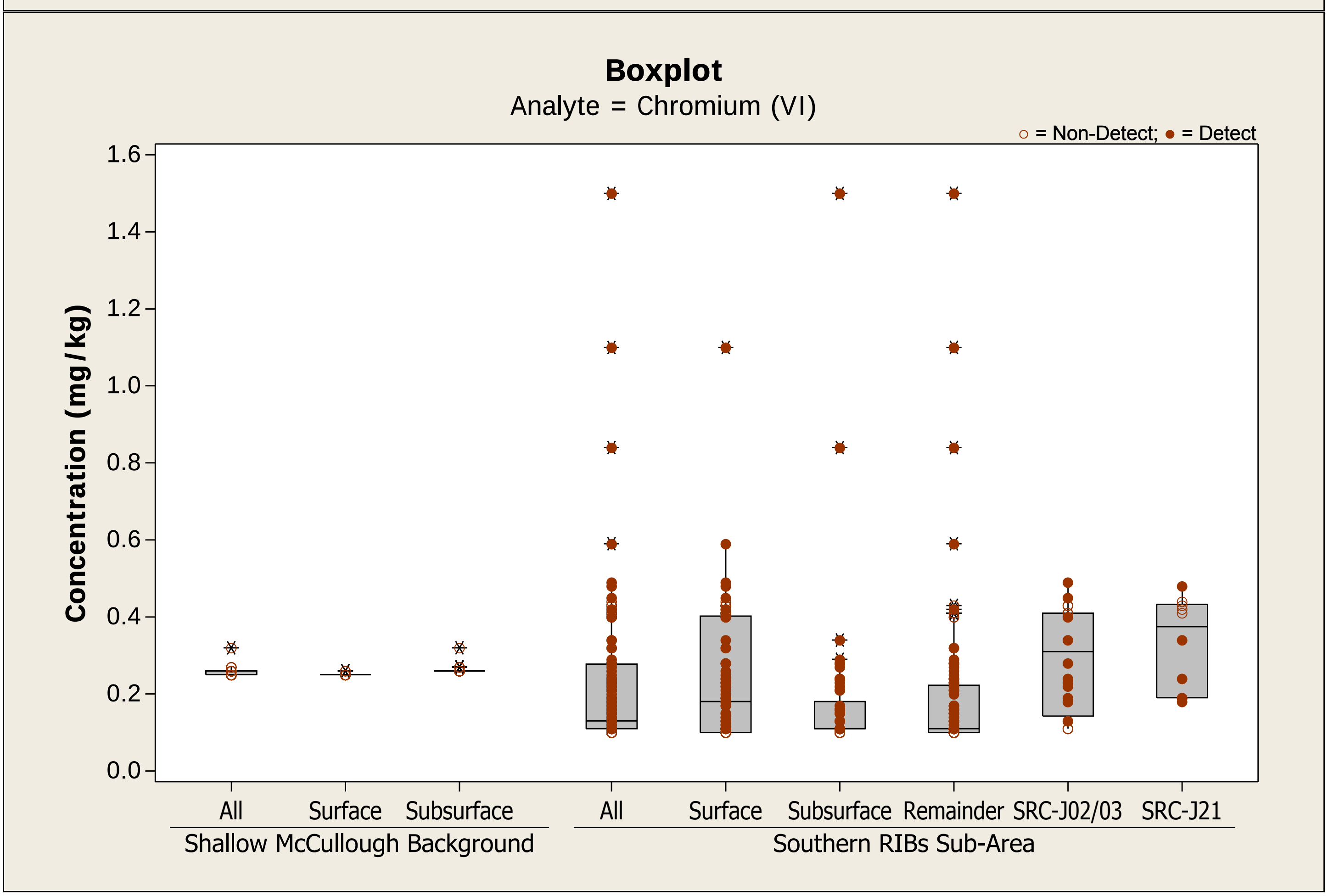
Probability Plot
Normal - 95% CI
Analyte = Chromium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
5
10
15
20
25
30
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



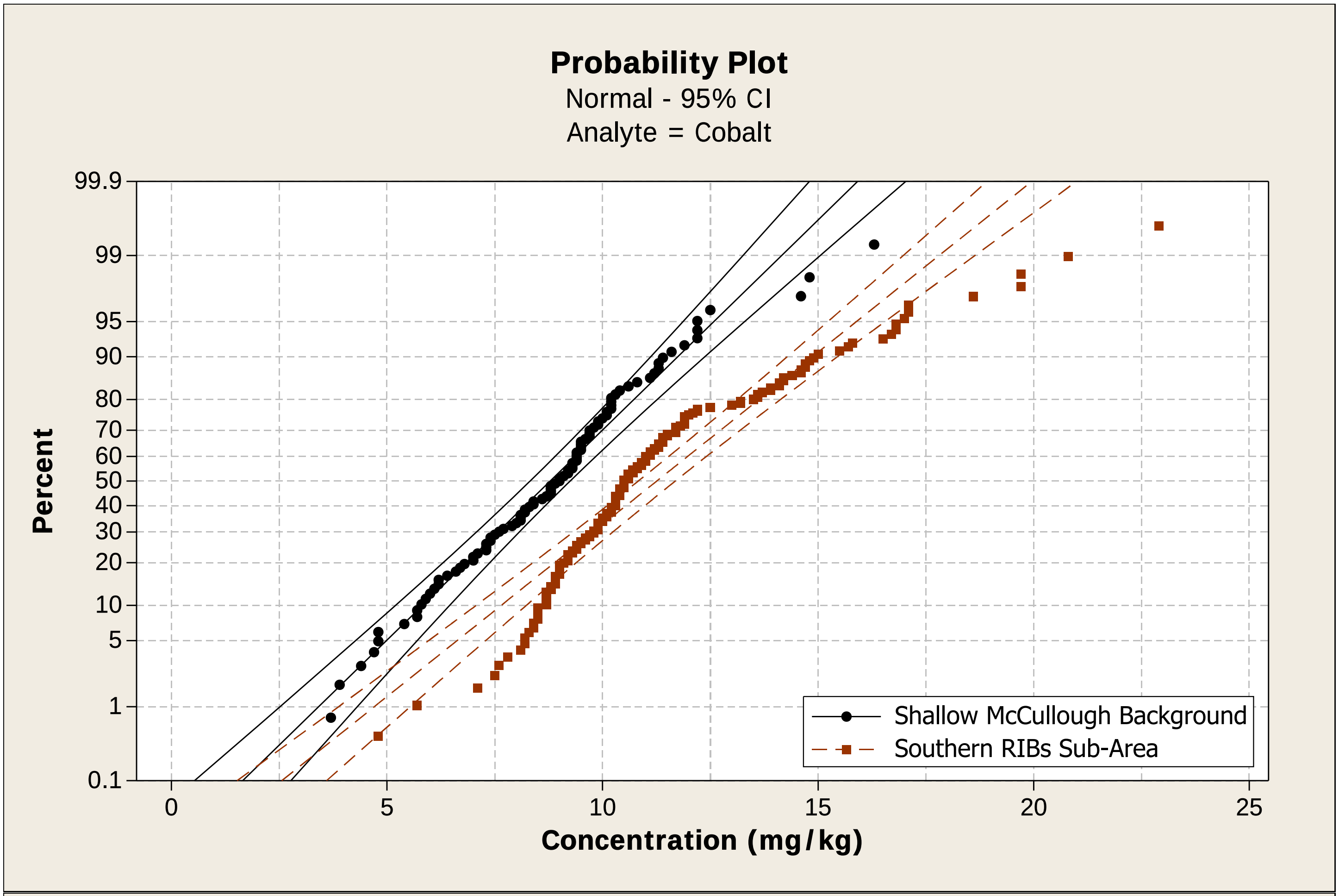
Boxplot
Analyte = Chromium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
30
25
20
15
10
5
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

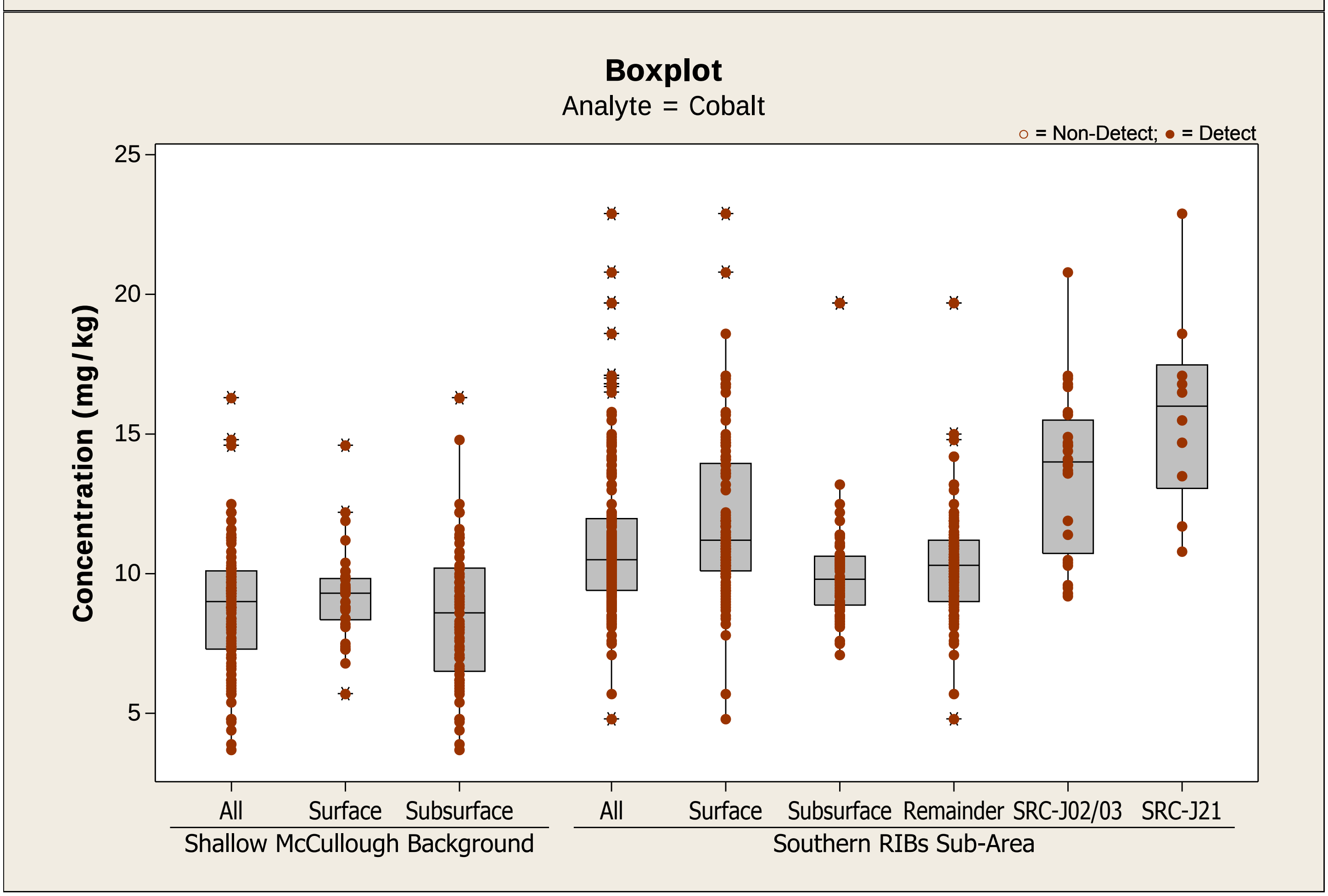


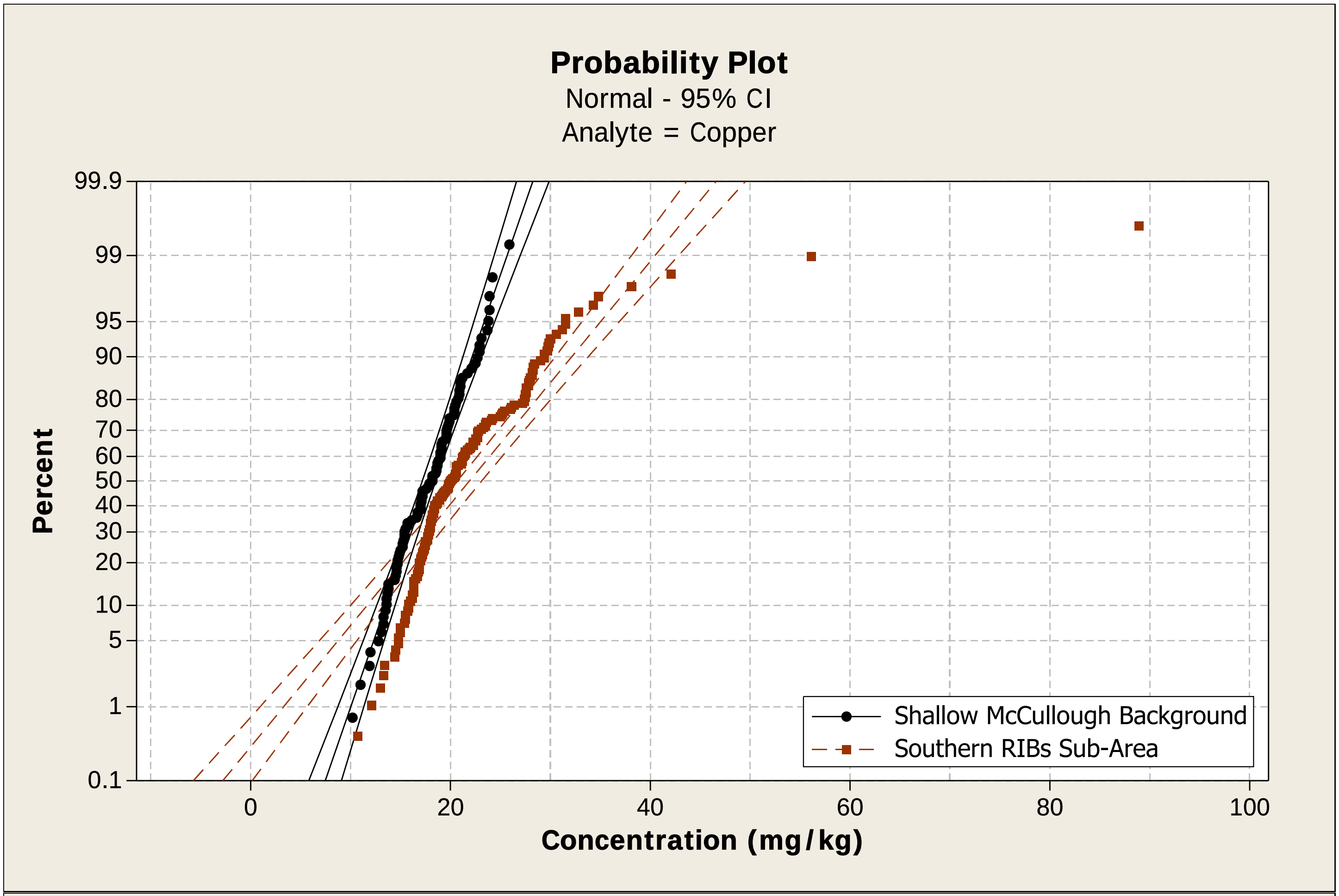
Probability Plot
Normal - 95% CI
Analyte = Chromium (VI)
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-0.5
0.0
0.5
1.0
1.5
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

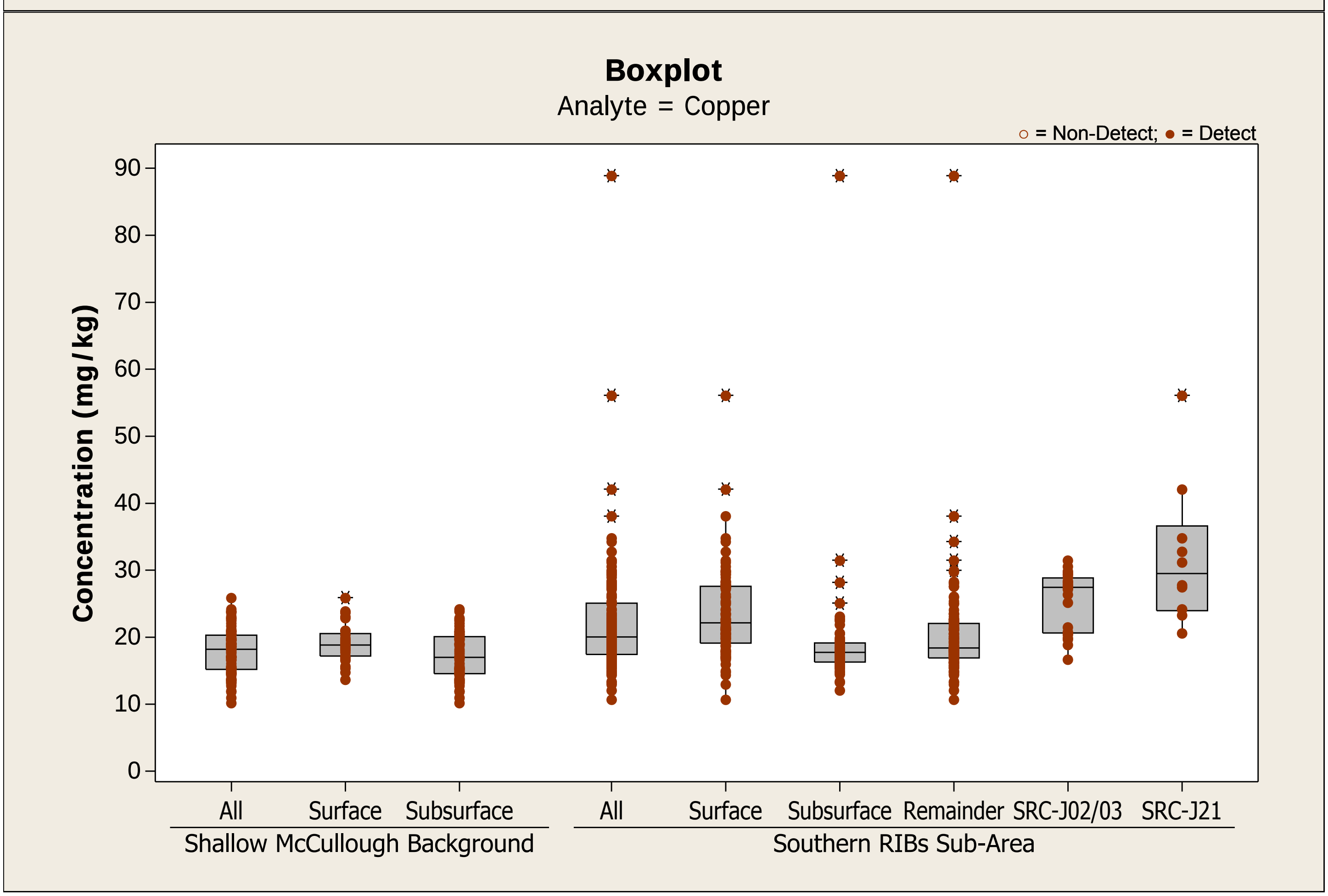


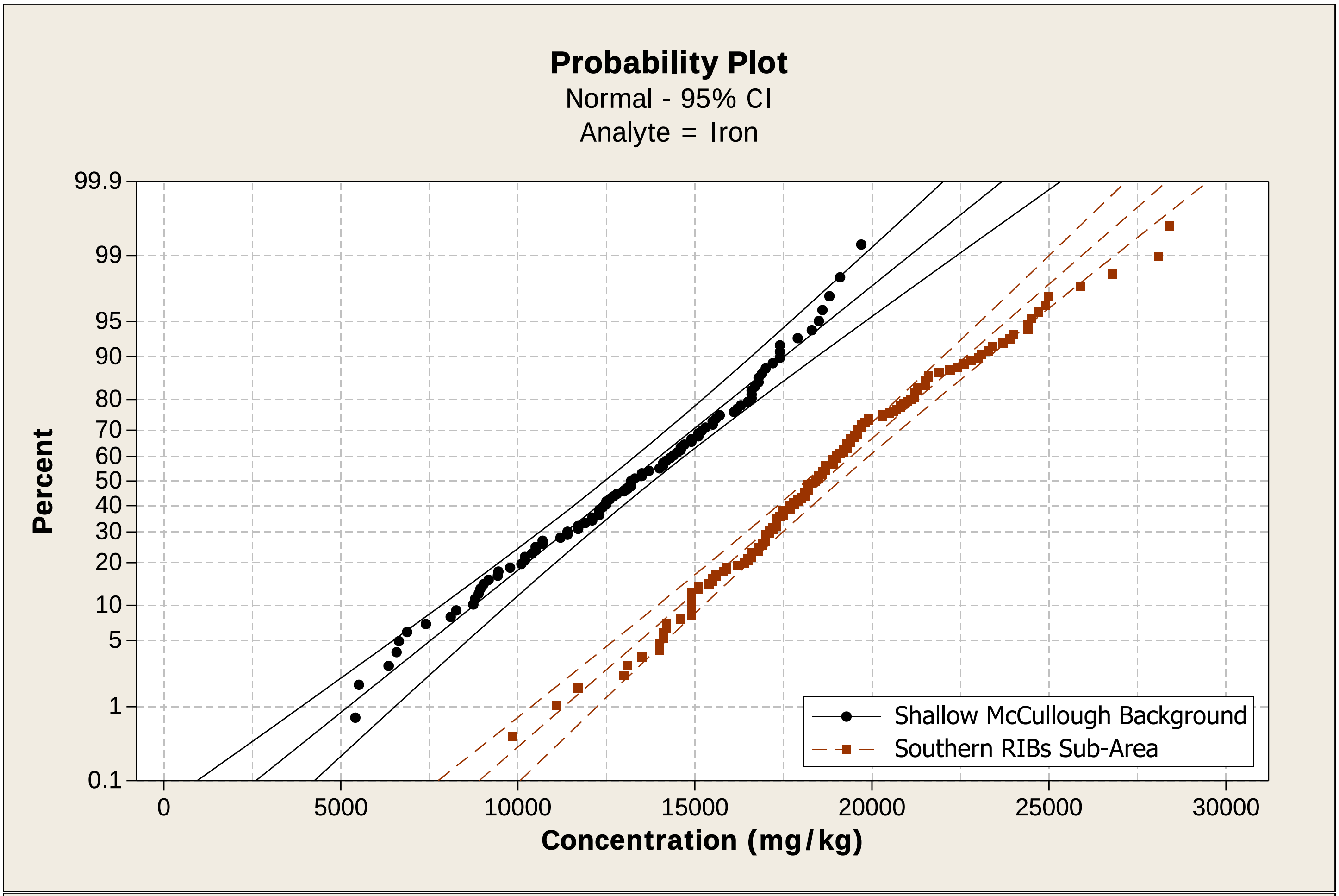
Boxplot
Analyte = Chromium (VI)
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Cobalt
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
5
10
15
20
25
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

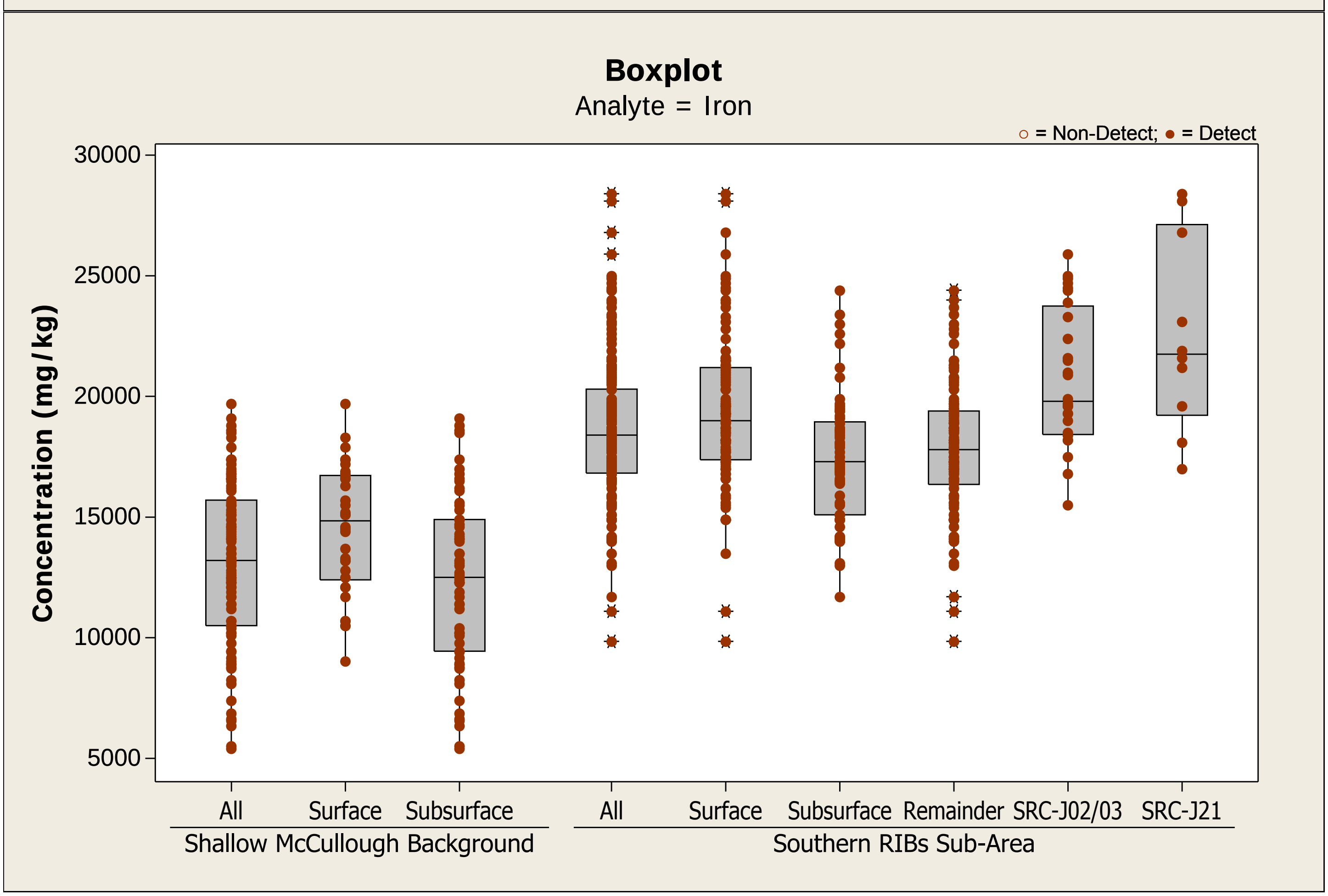

Boxplot
Analyte = Cobalt
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
25
20
15
10
5
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Copper
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
20
40
60
80
100
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

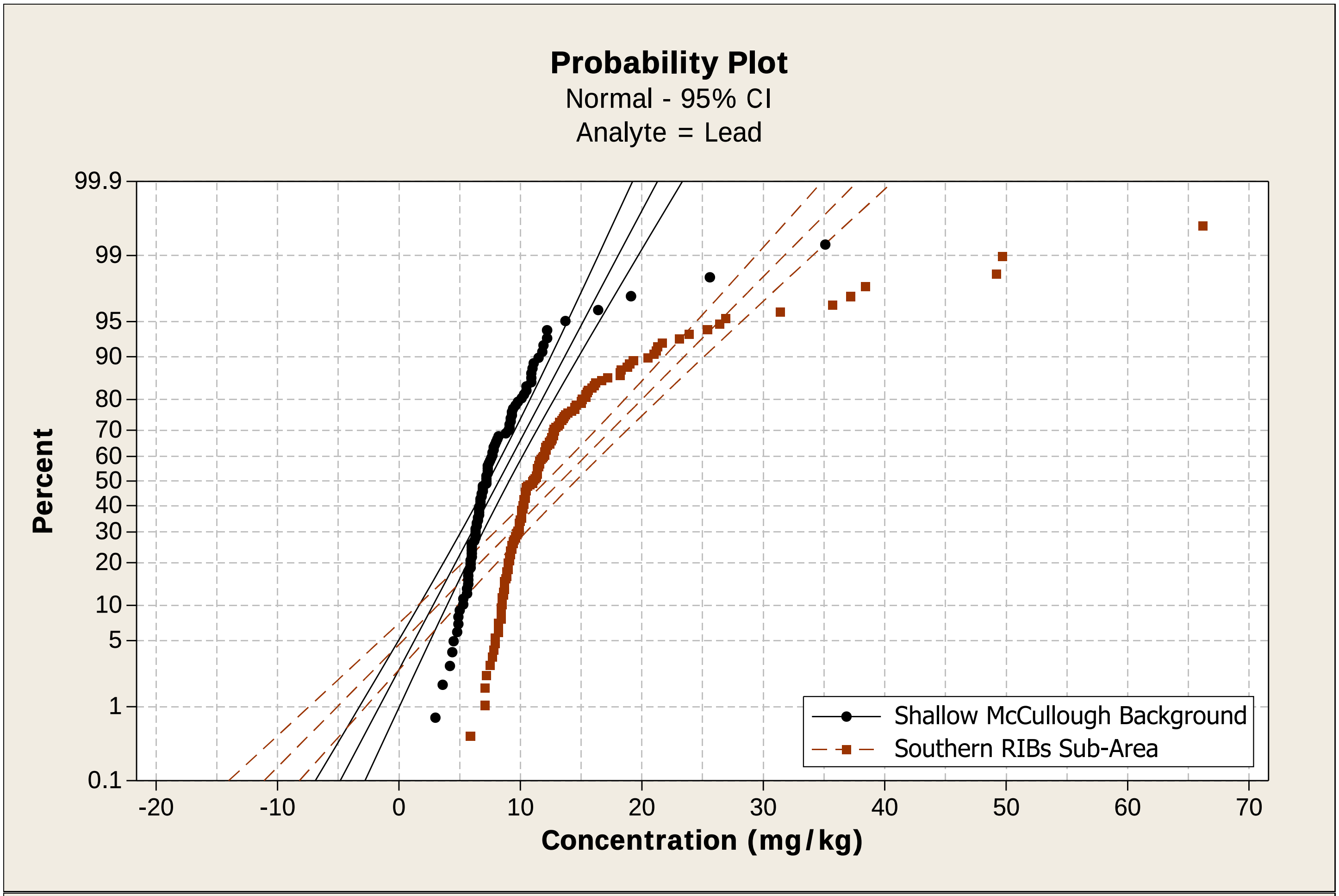

Boxplot
Analyte = Copper
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
90
80
70
60
50
40
30
20
10
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area



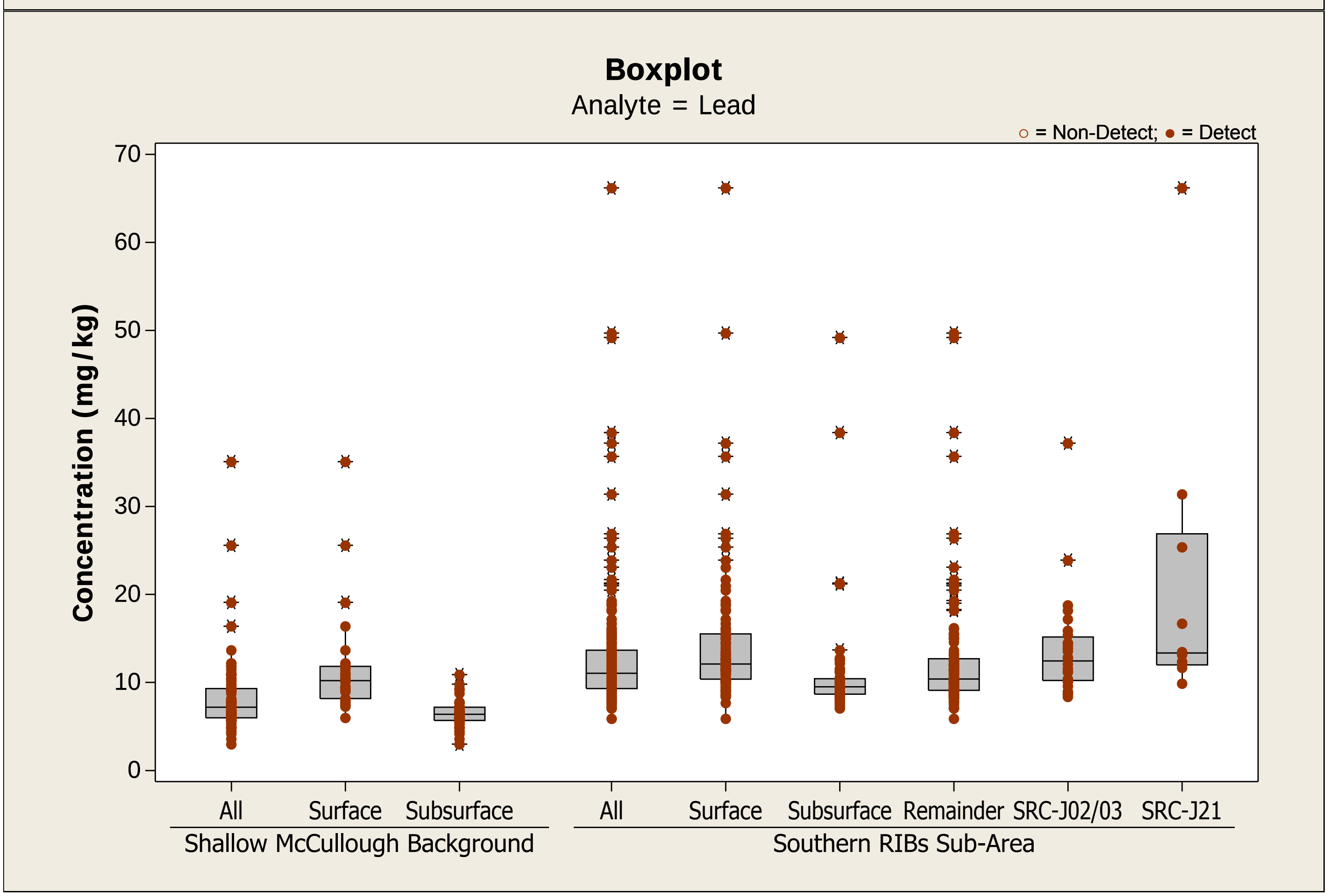
Probability Plot
Normal - 95% CI
Analyte = Iron
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
5000
10000
15000
20000
25000
30000
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



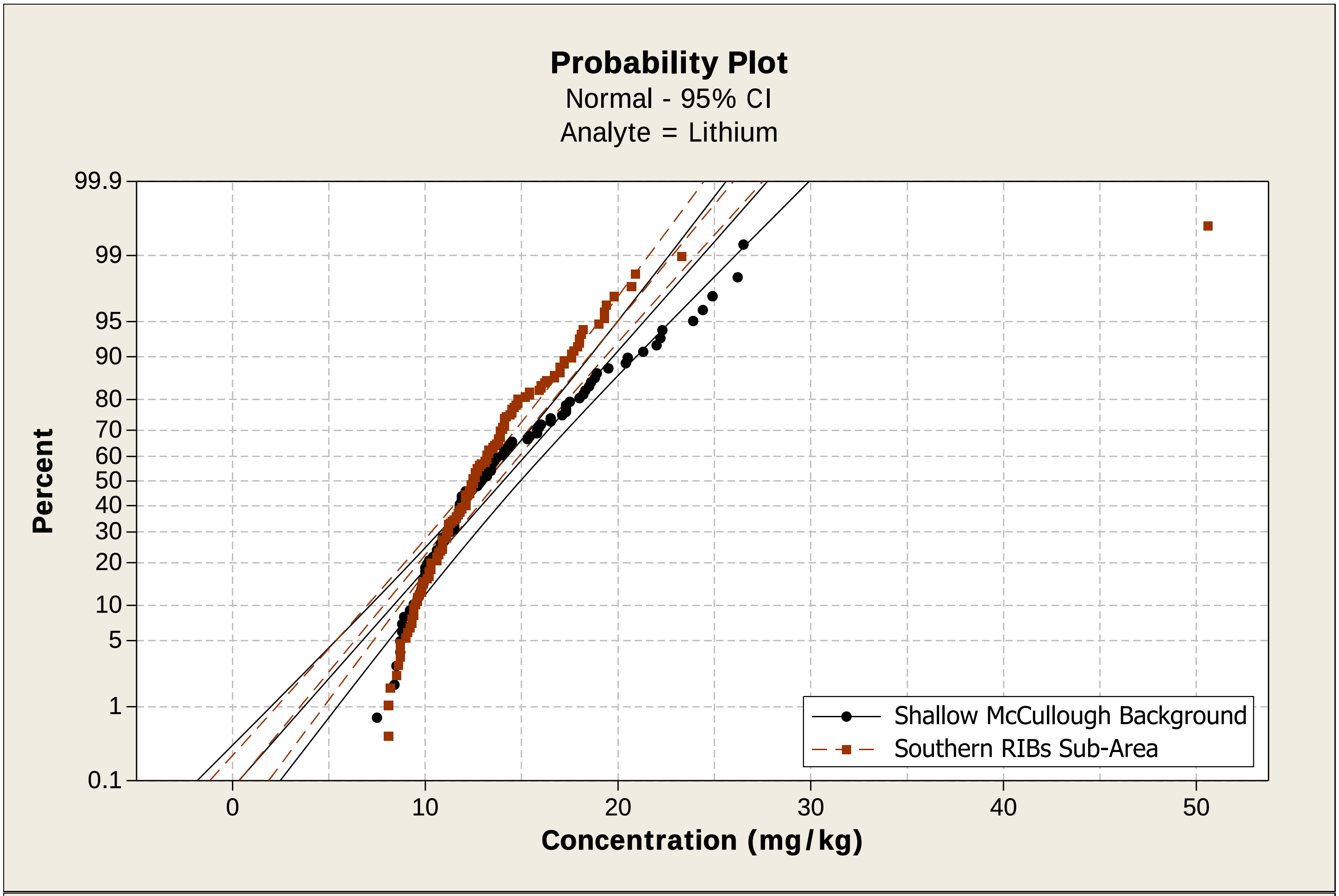
Boxplot
Analyte = Iron
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
30000
25000
20000
15000
10000
5000
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

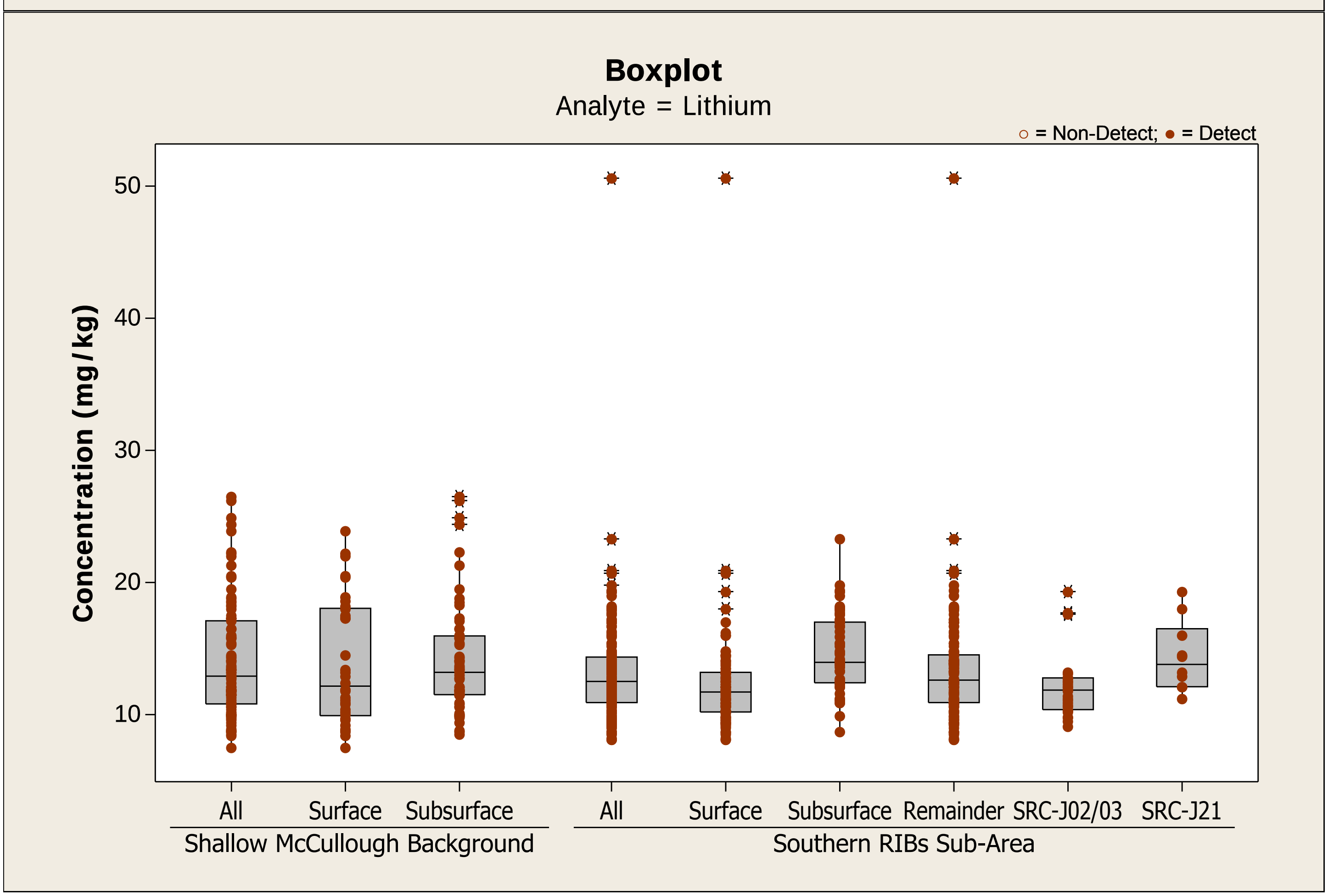


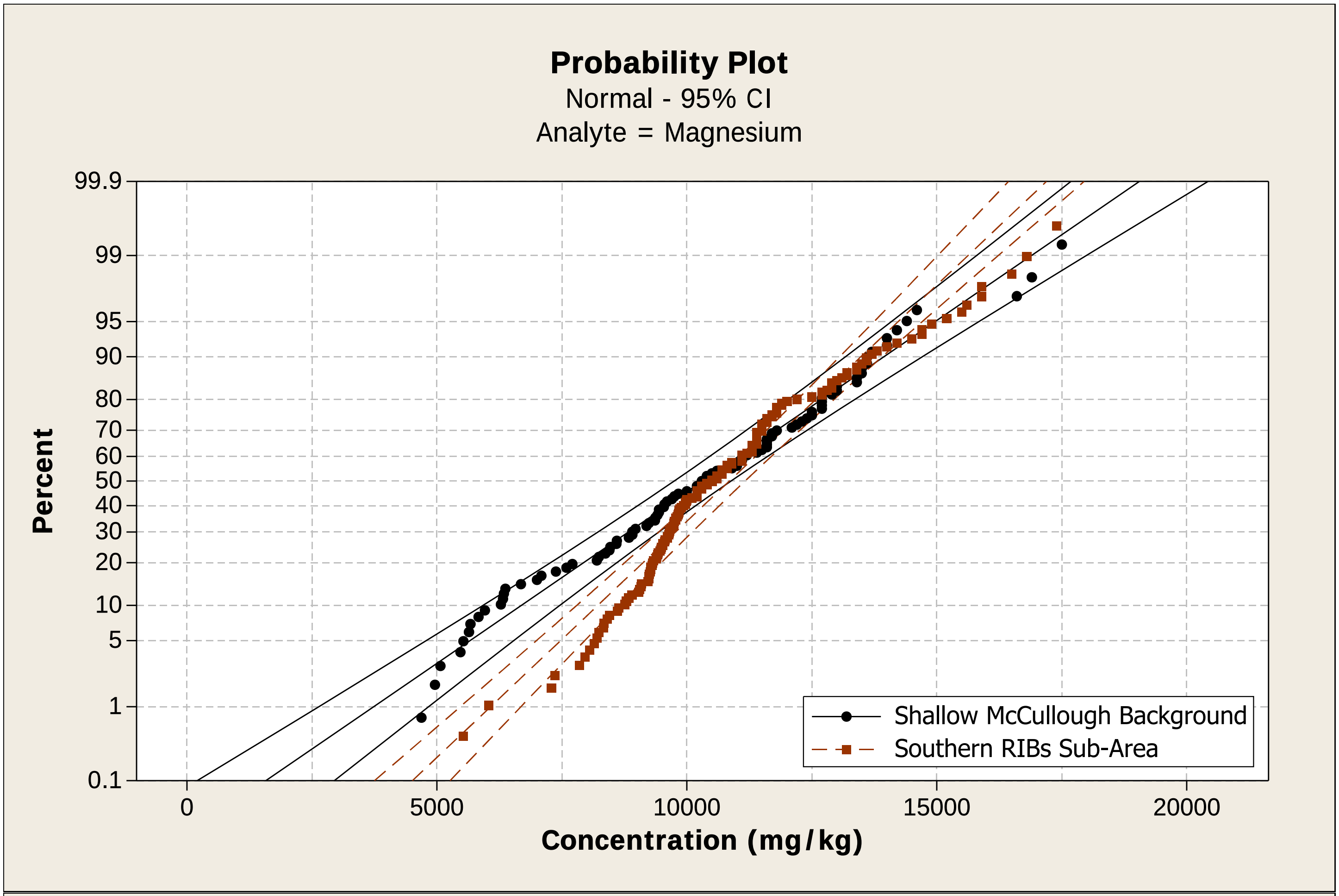
Probability Plot
Normal - 95% CI
Analyte = Lead
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-20
-10
0
10
20
30
40
50
60
70
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

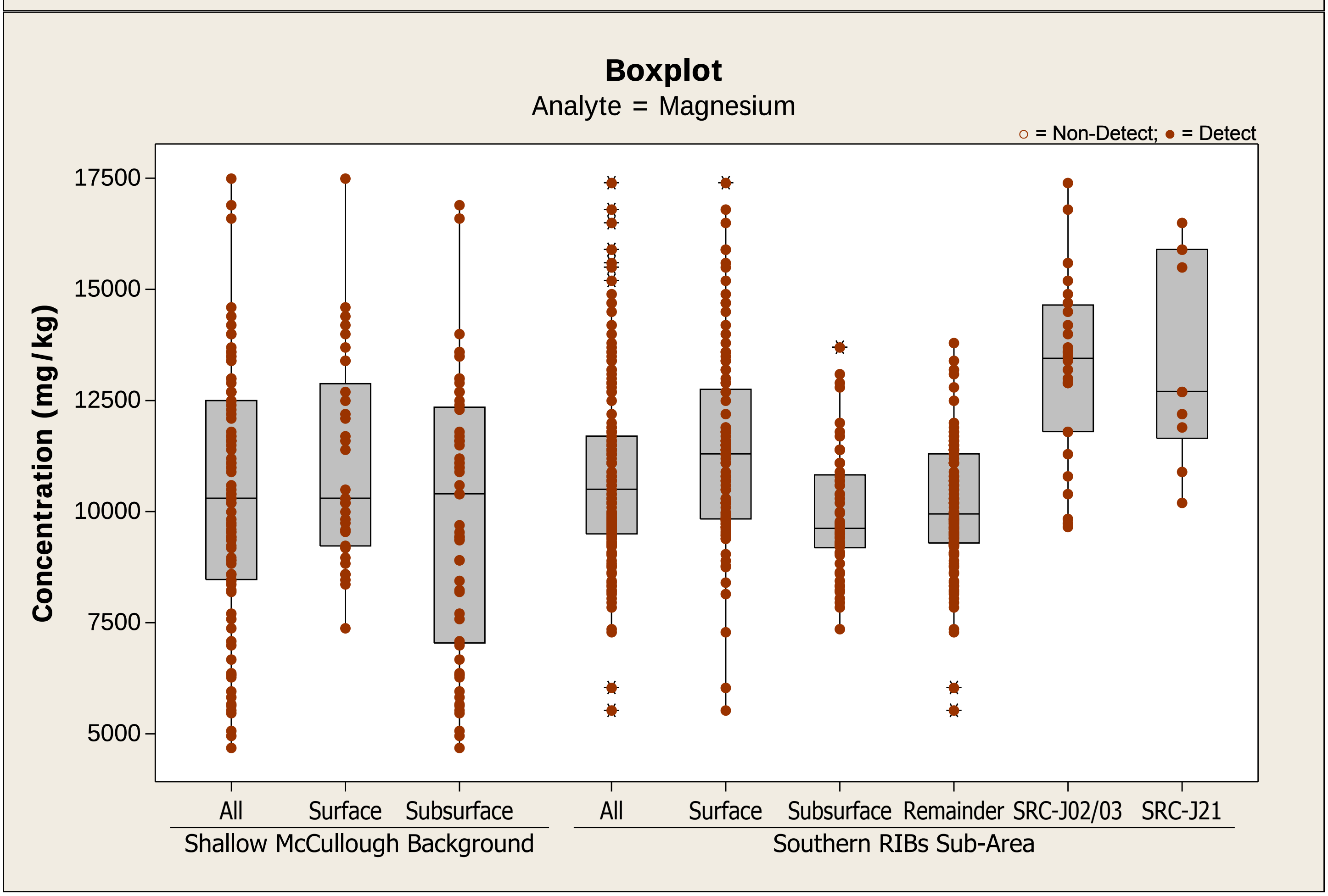


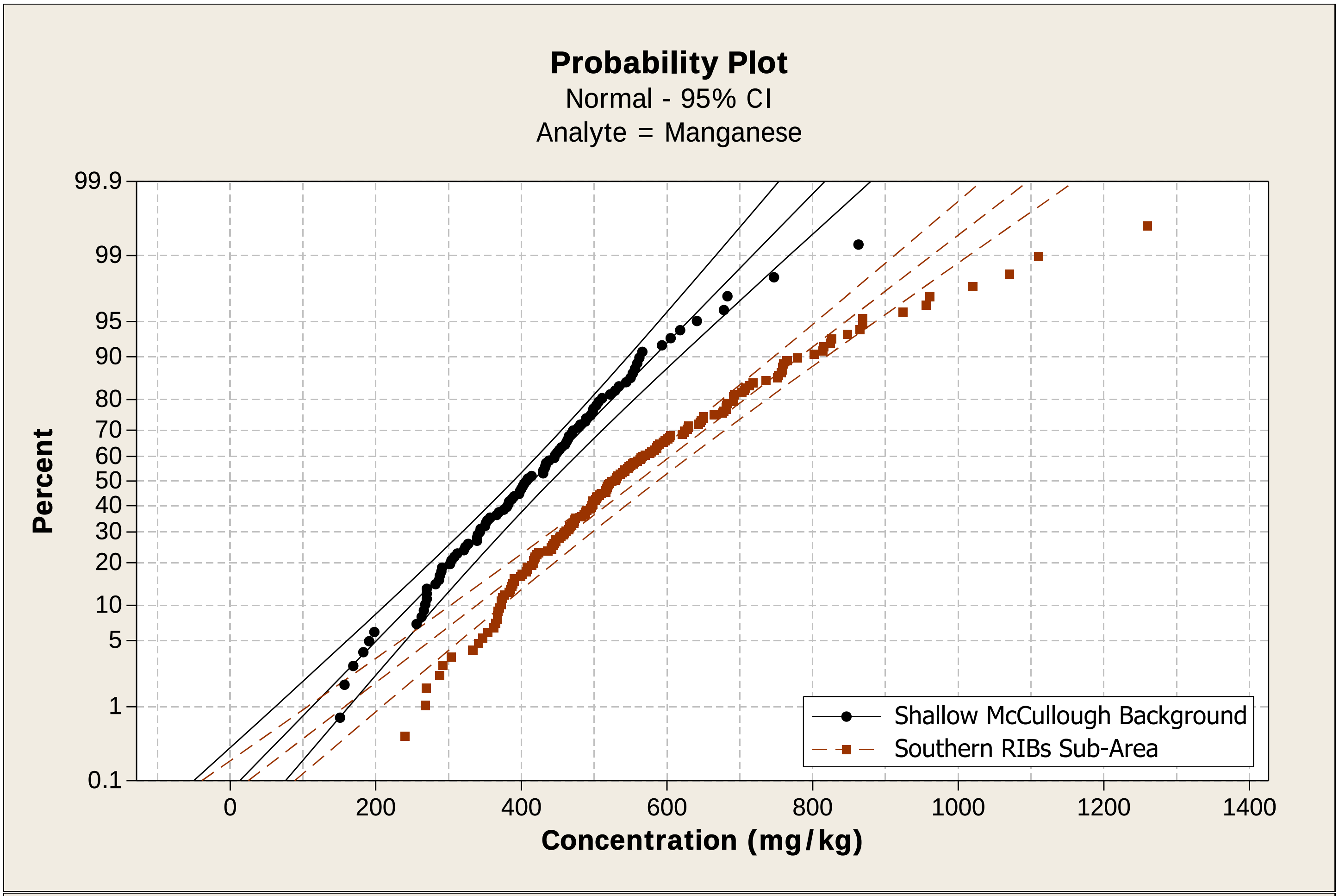
Boxplot
Analyte = Lead
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
70
60
50
40
30
20
10
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Lithium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
10
20
30
40
50
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

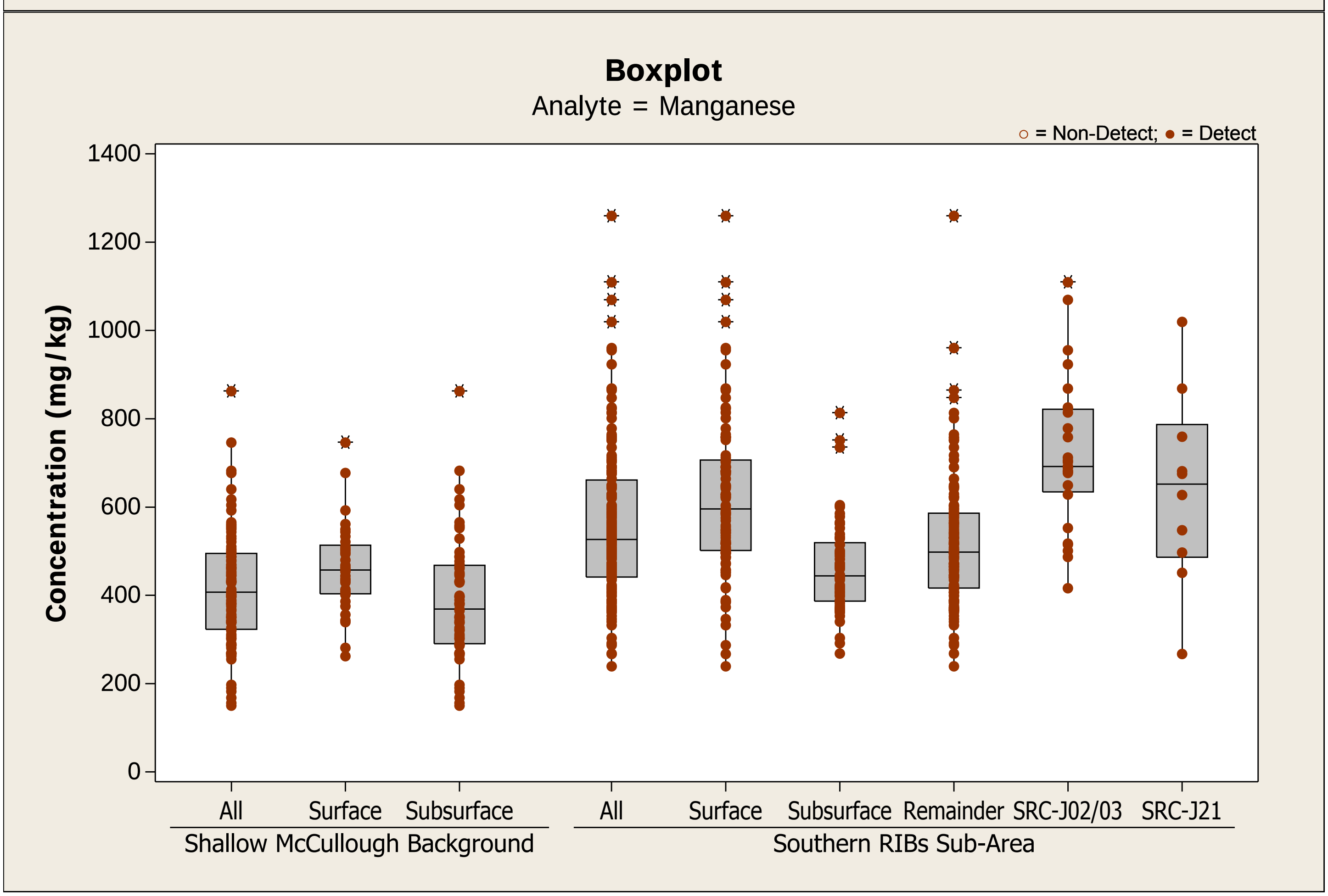

Boxplot
Analyte = Lithium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
50
40
30
20
10
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Magnesium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
5000
10000
15000
20000
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

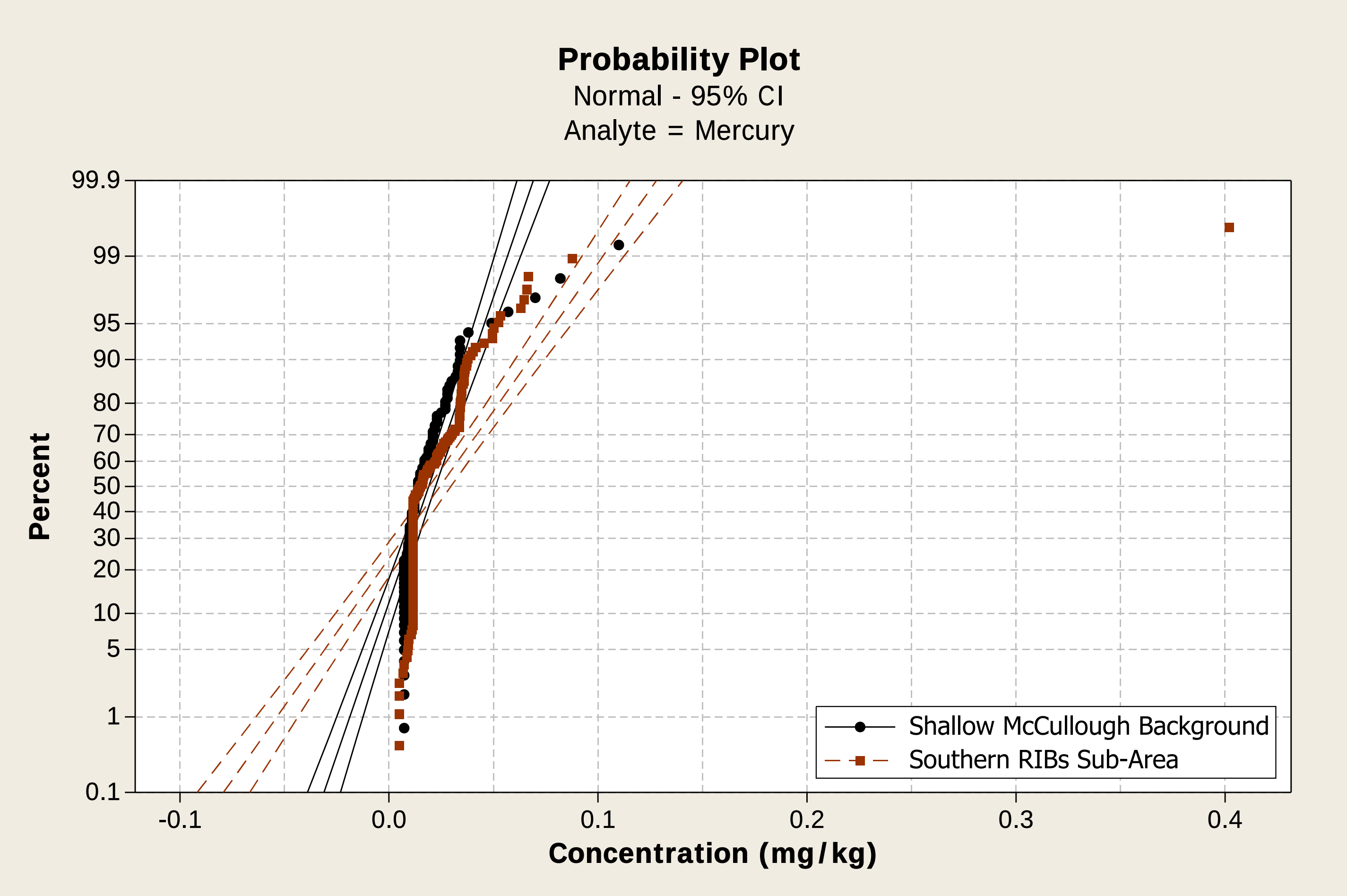

Boxplot
Analyte = Magnesium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
17500
15000
12500
10000
7500
5000
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

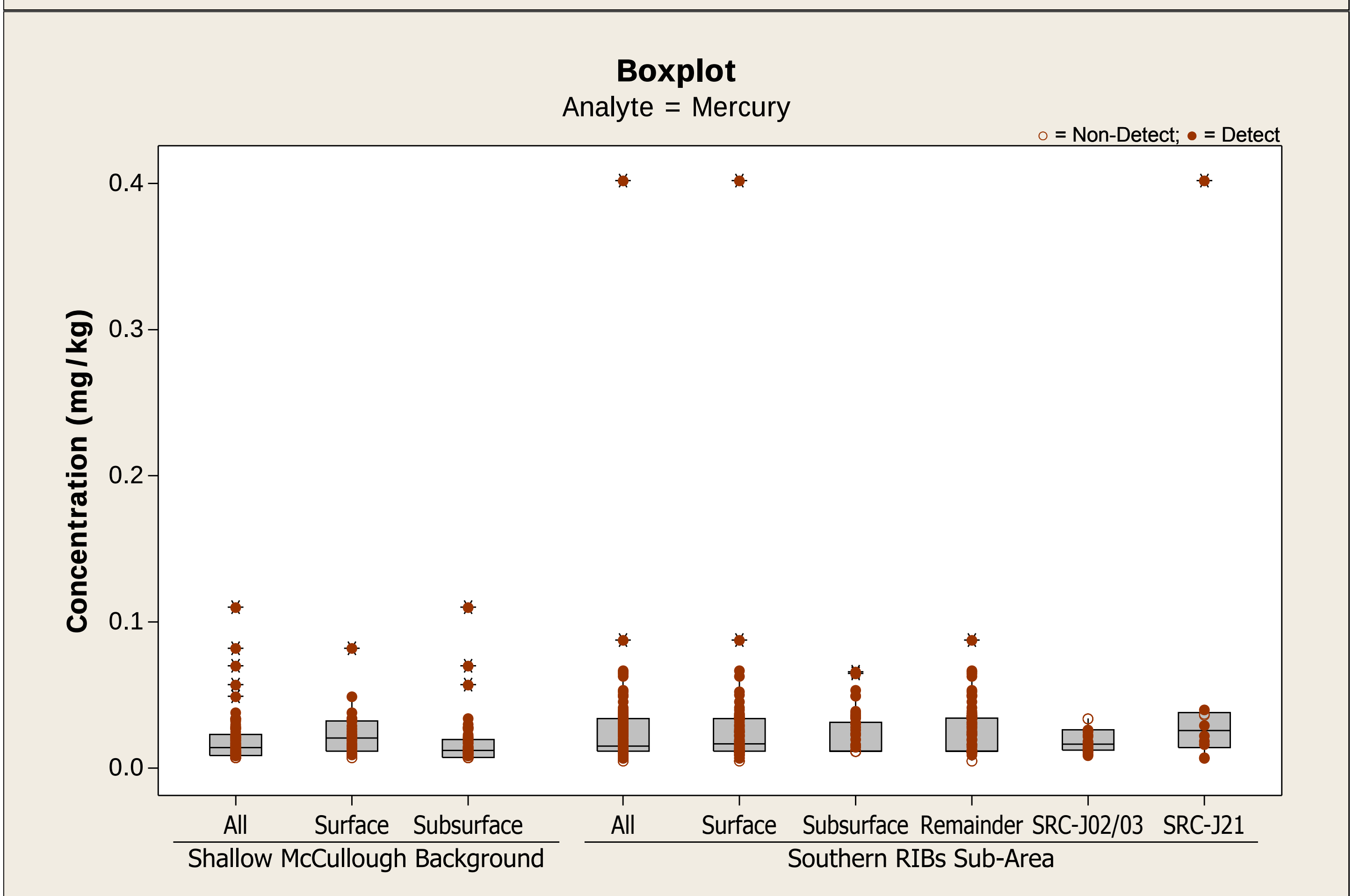


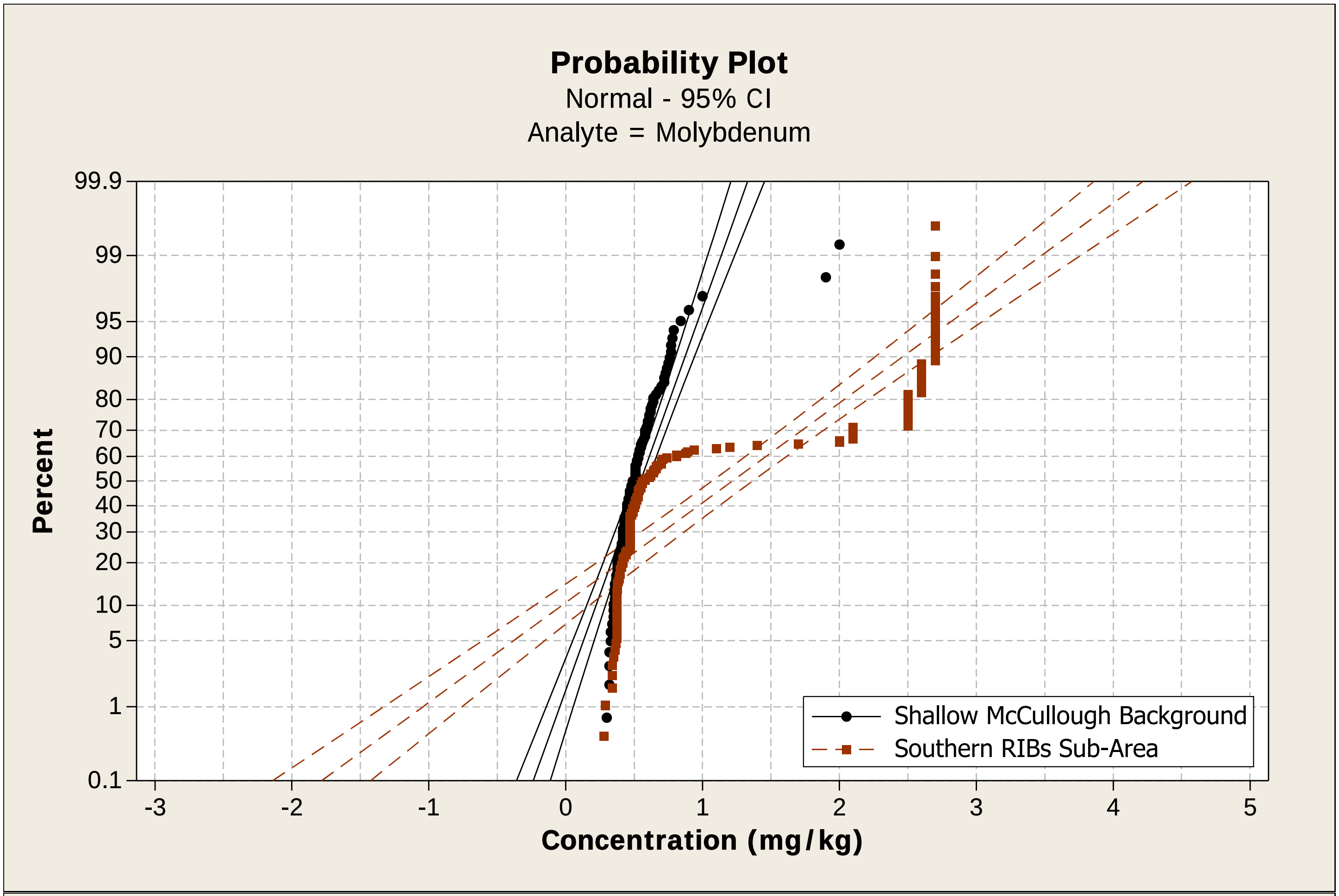
Probability Plot
Normal - 95% CI
Analyte = Manganese
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
200
400
600
800
1000
1200
1400
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

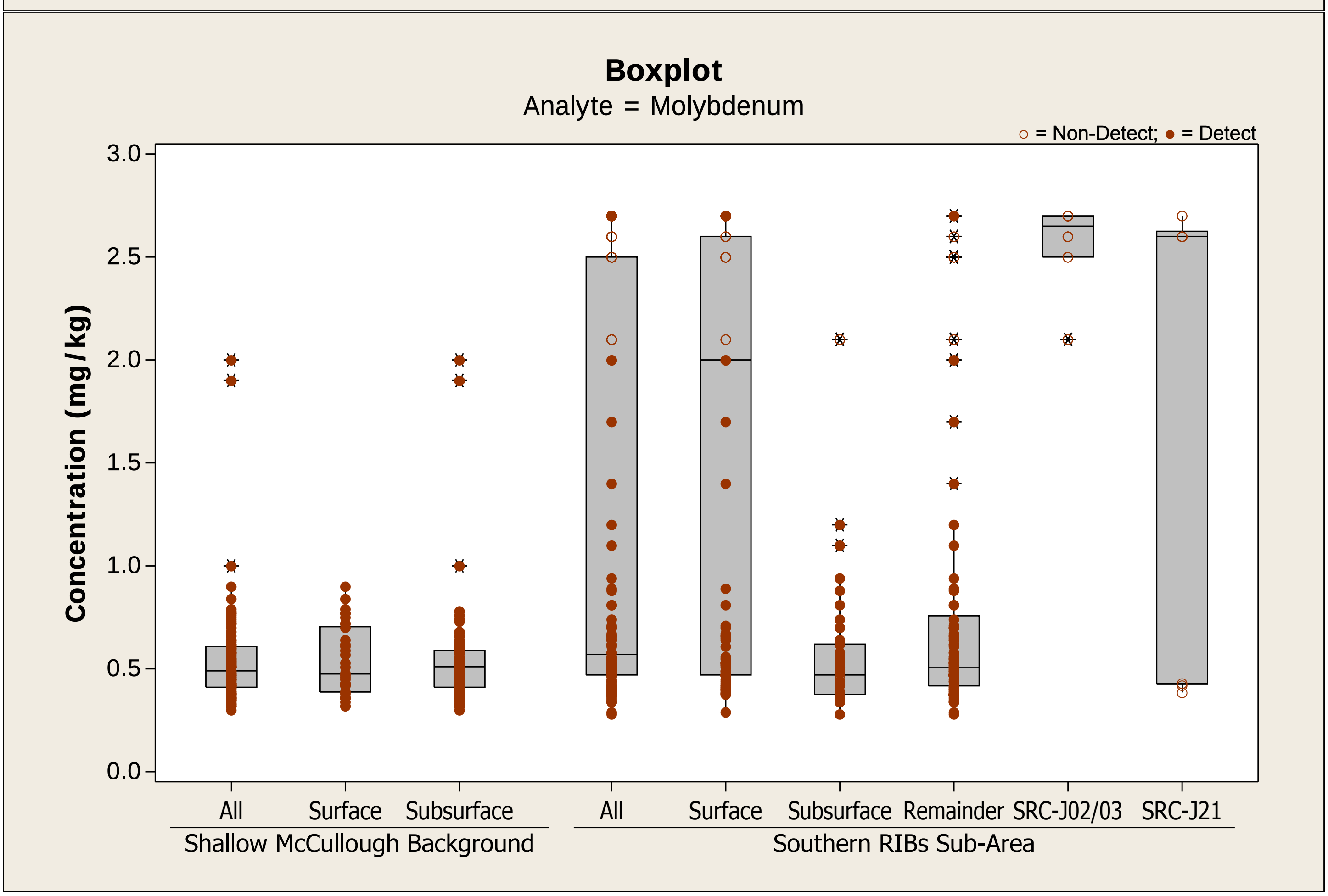


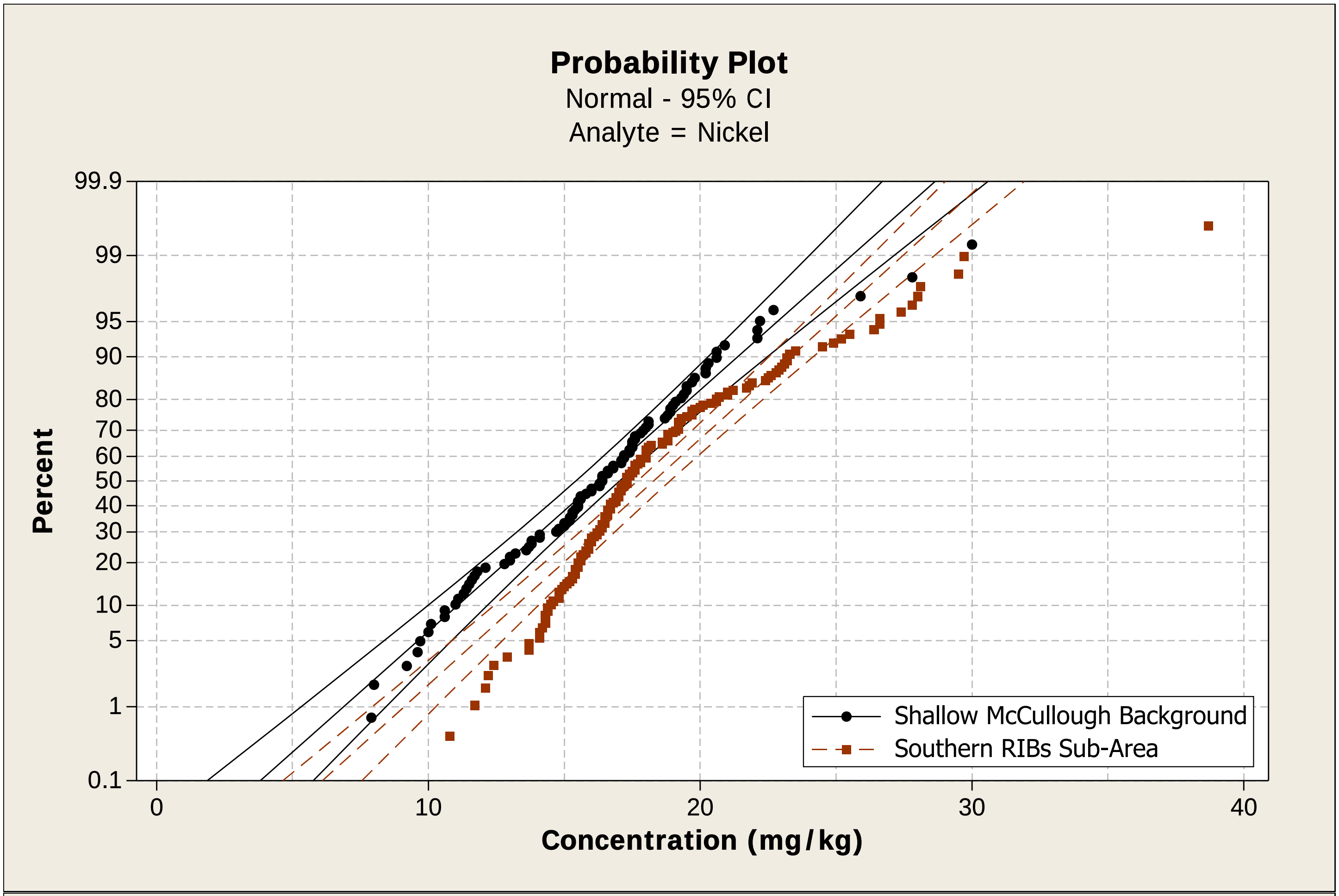
Boxplot
Analyte = Manganese
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
1400
1200
1000
800
600
400
200
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

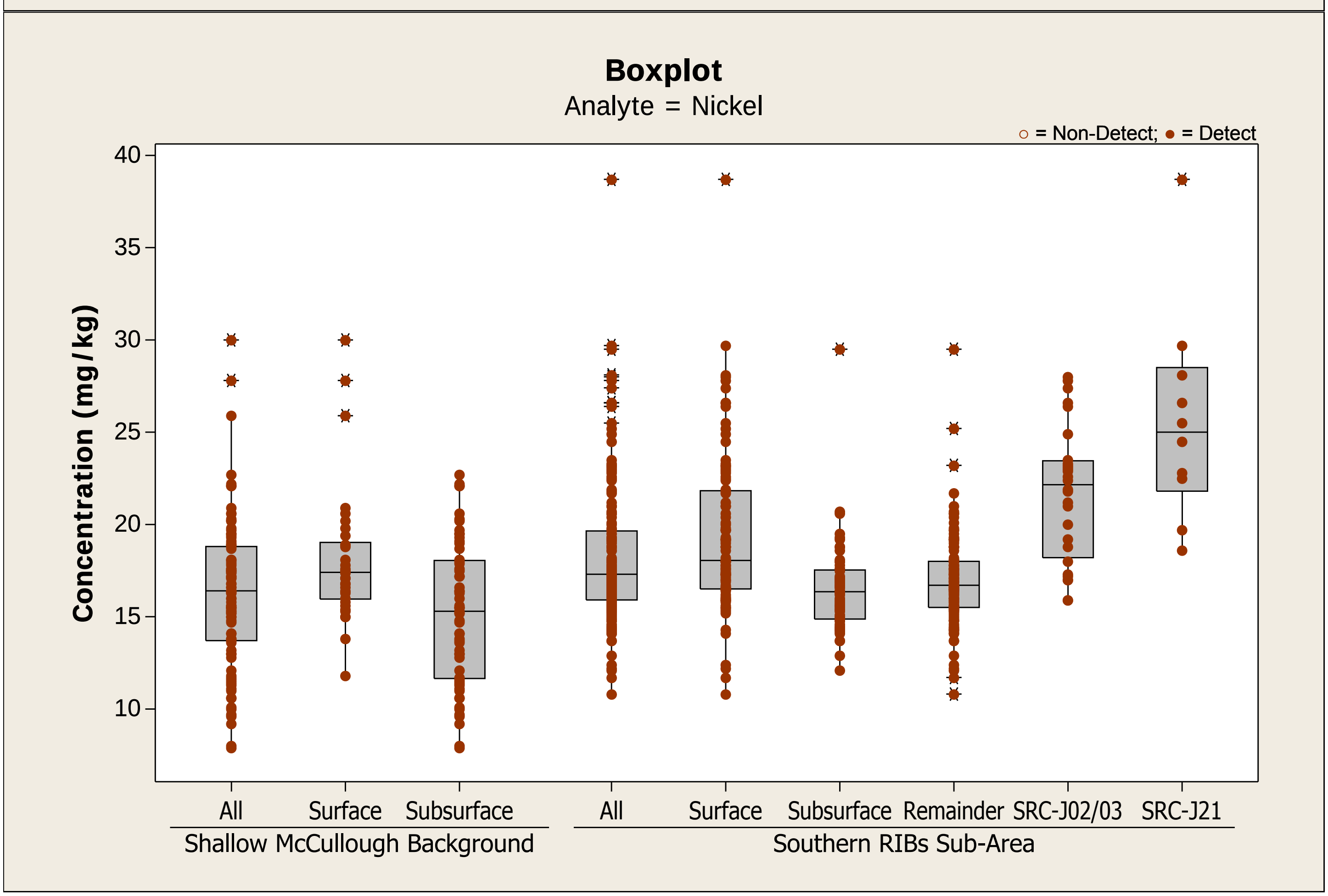

Probability Plot
Normal - 95% CI
Analyte = Mercury
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-0.1
0.0
0.1
0.2
0.3
0.4
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

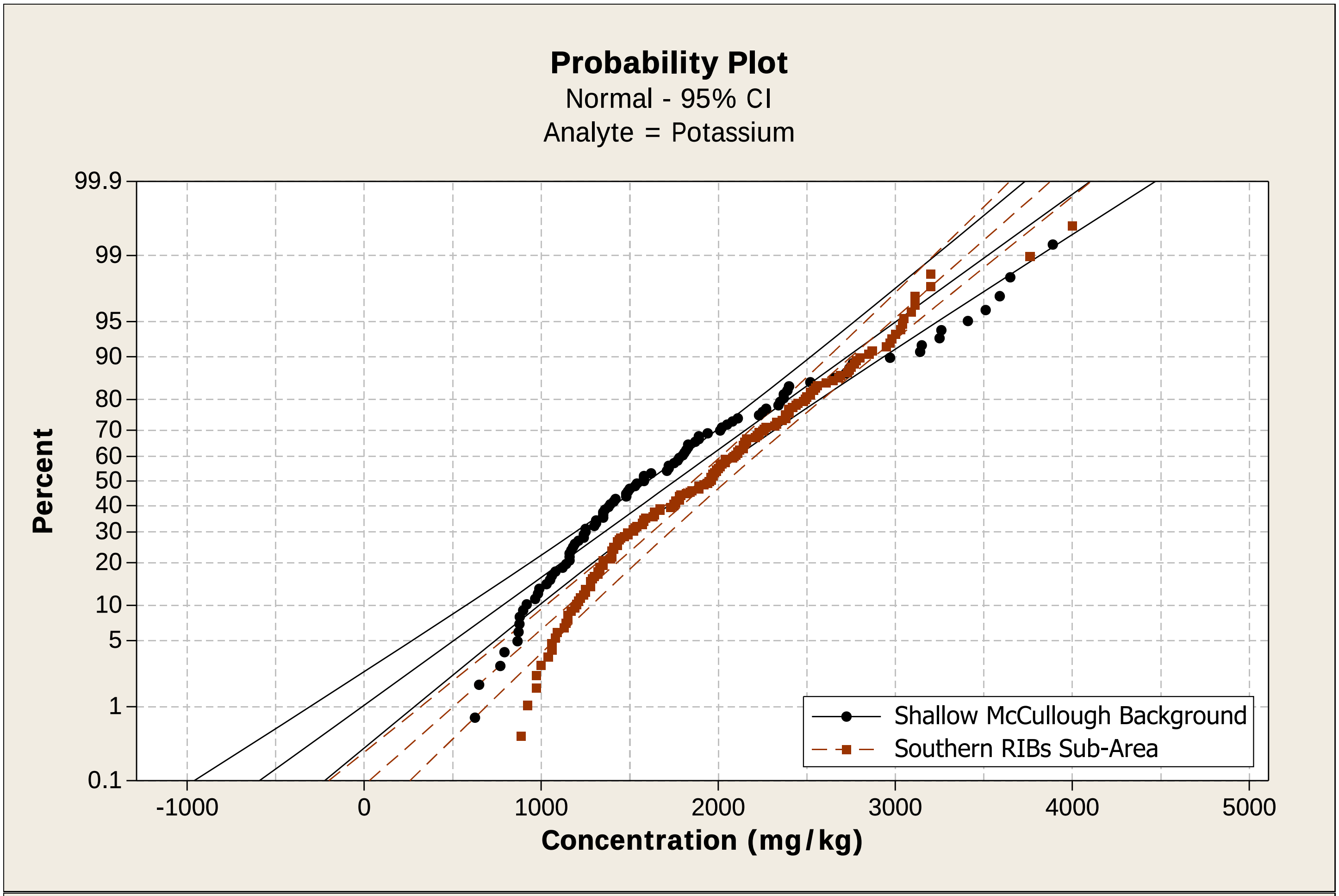

Boxplot
Analyte = Mercury
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
0.4
0.3
0.2
0.1
0.0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Molybdenum
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-3
-2
-1
0
1
2
3
4
5
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

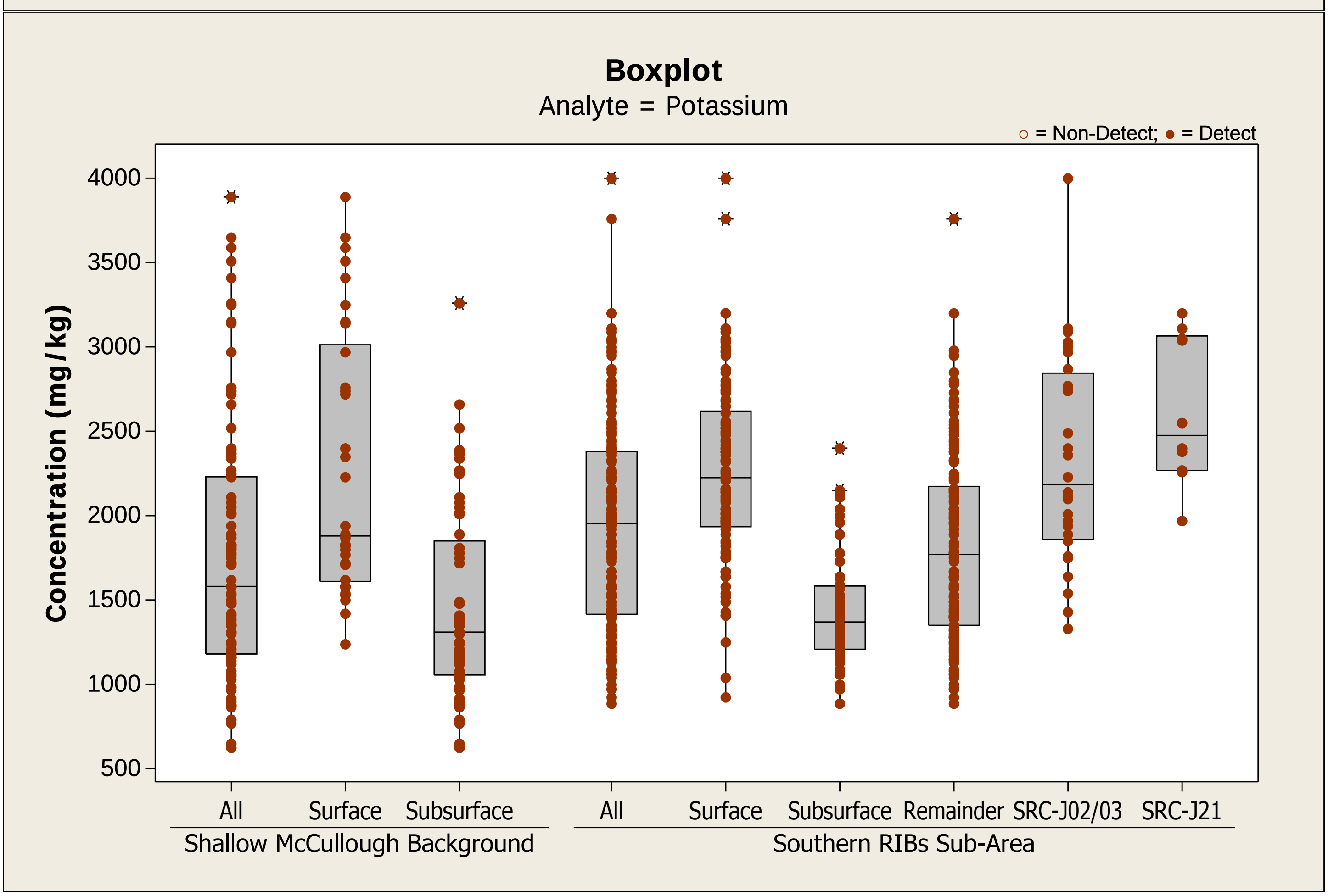

Boxplot
Analyte = Molybdenum
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Nickel
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
10
20
30
40
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

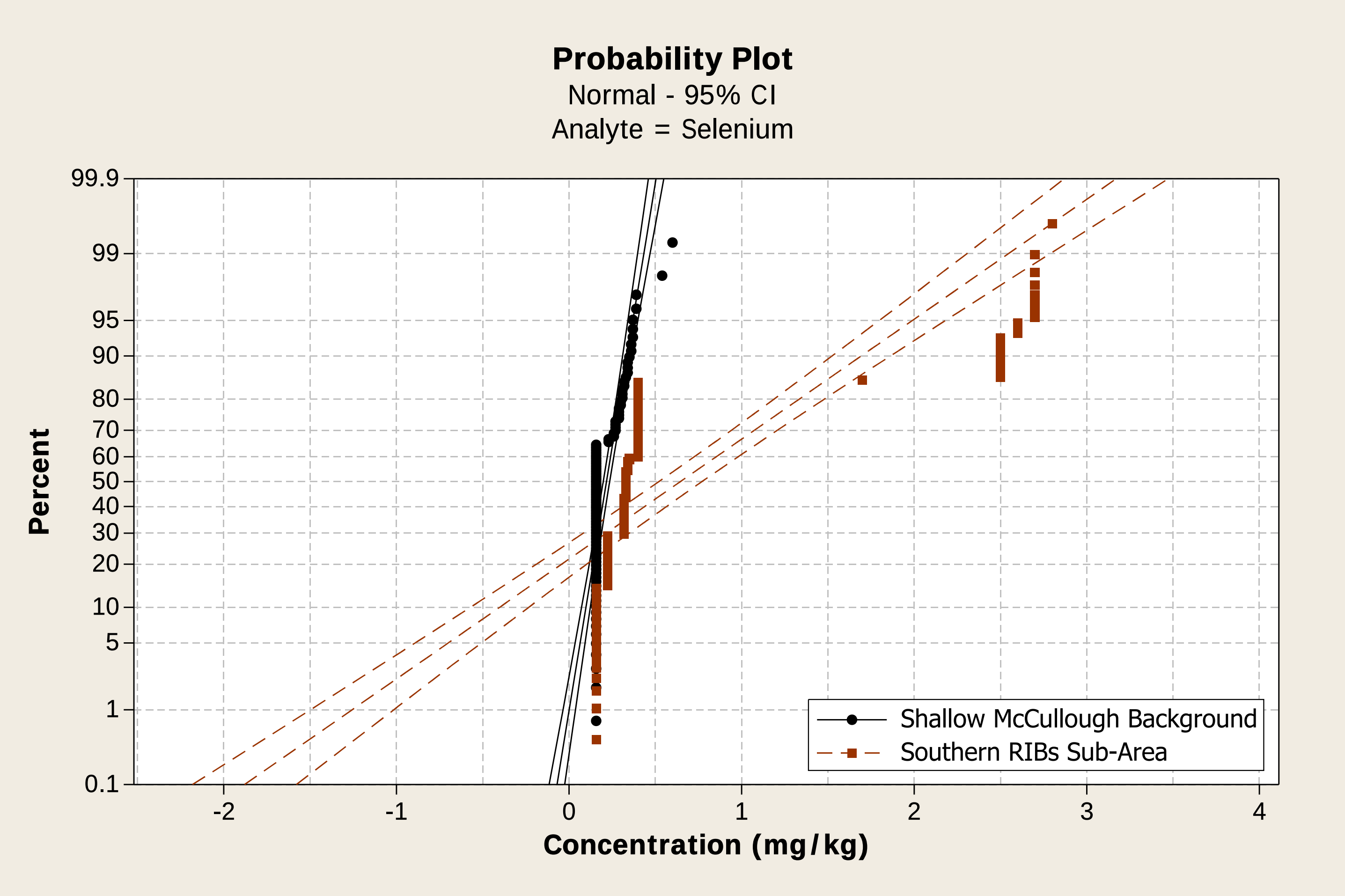

Boxplot
Analyte = Nickel
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
40
35
30
25
20
15
10
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

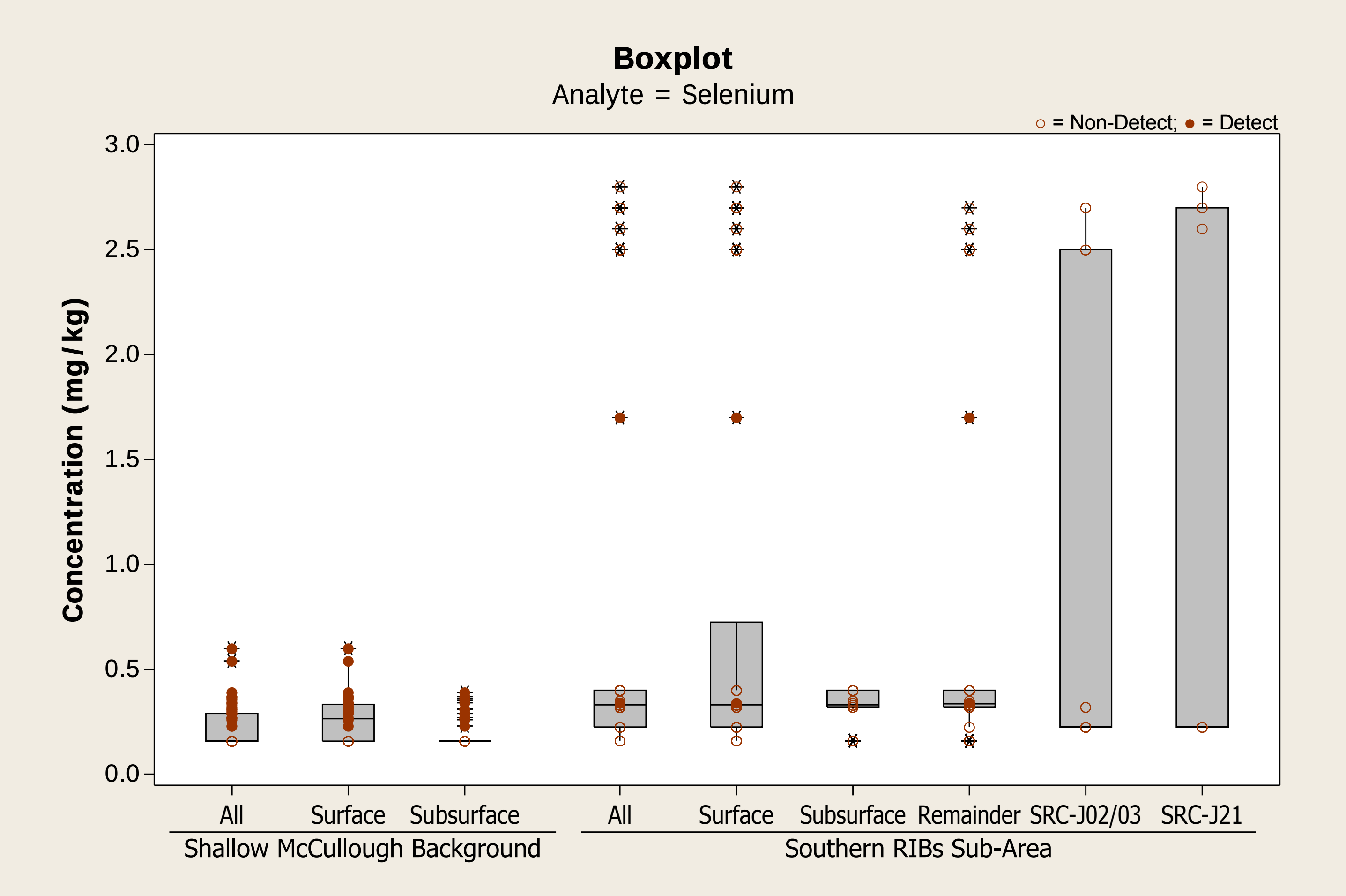


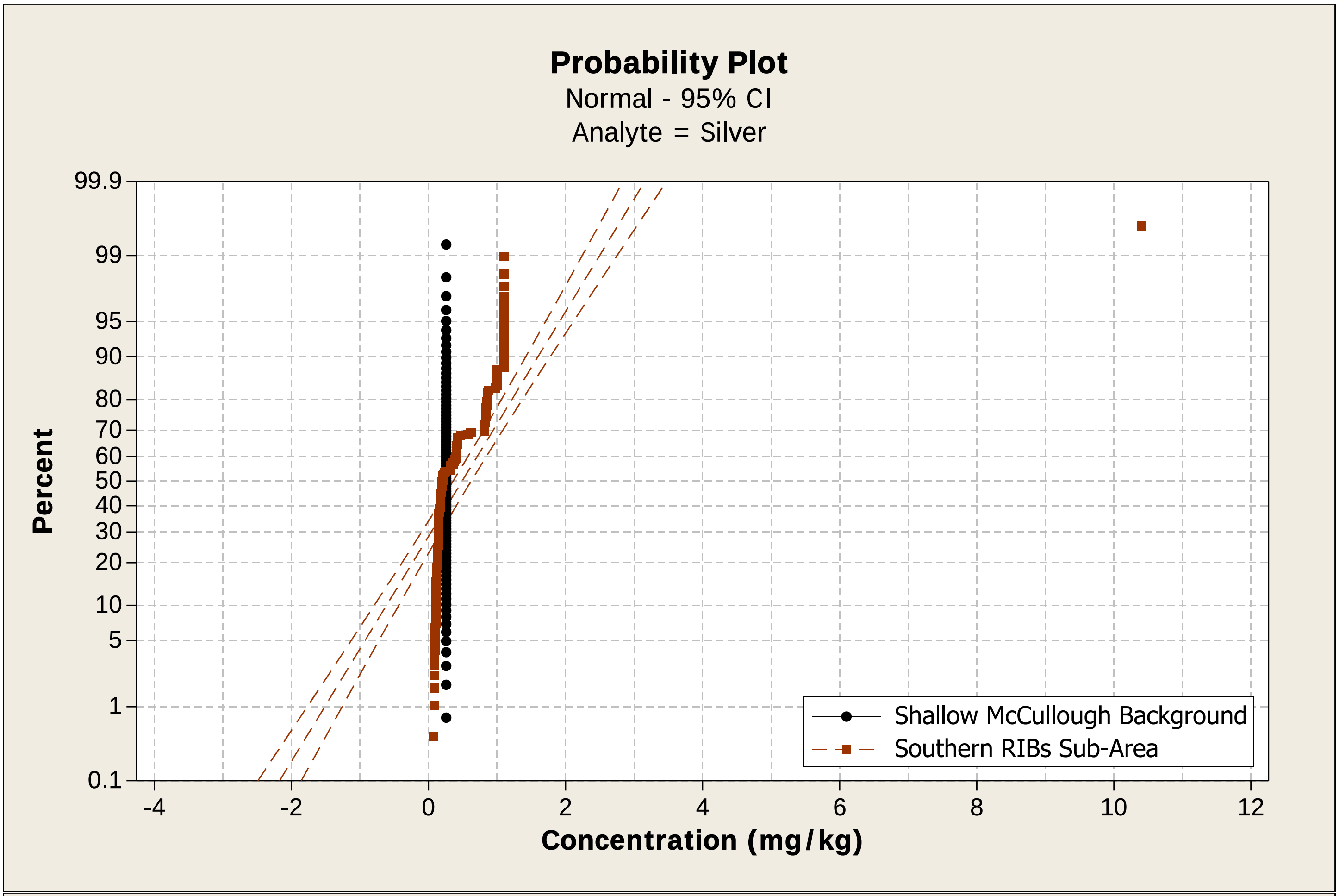
Probability Plot
Normal - 95% CI
Analyte = Potassium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-1000
0
1000
2000
3000
4000
5000
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



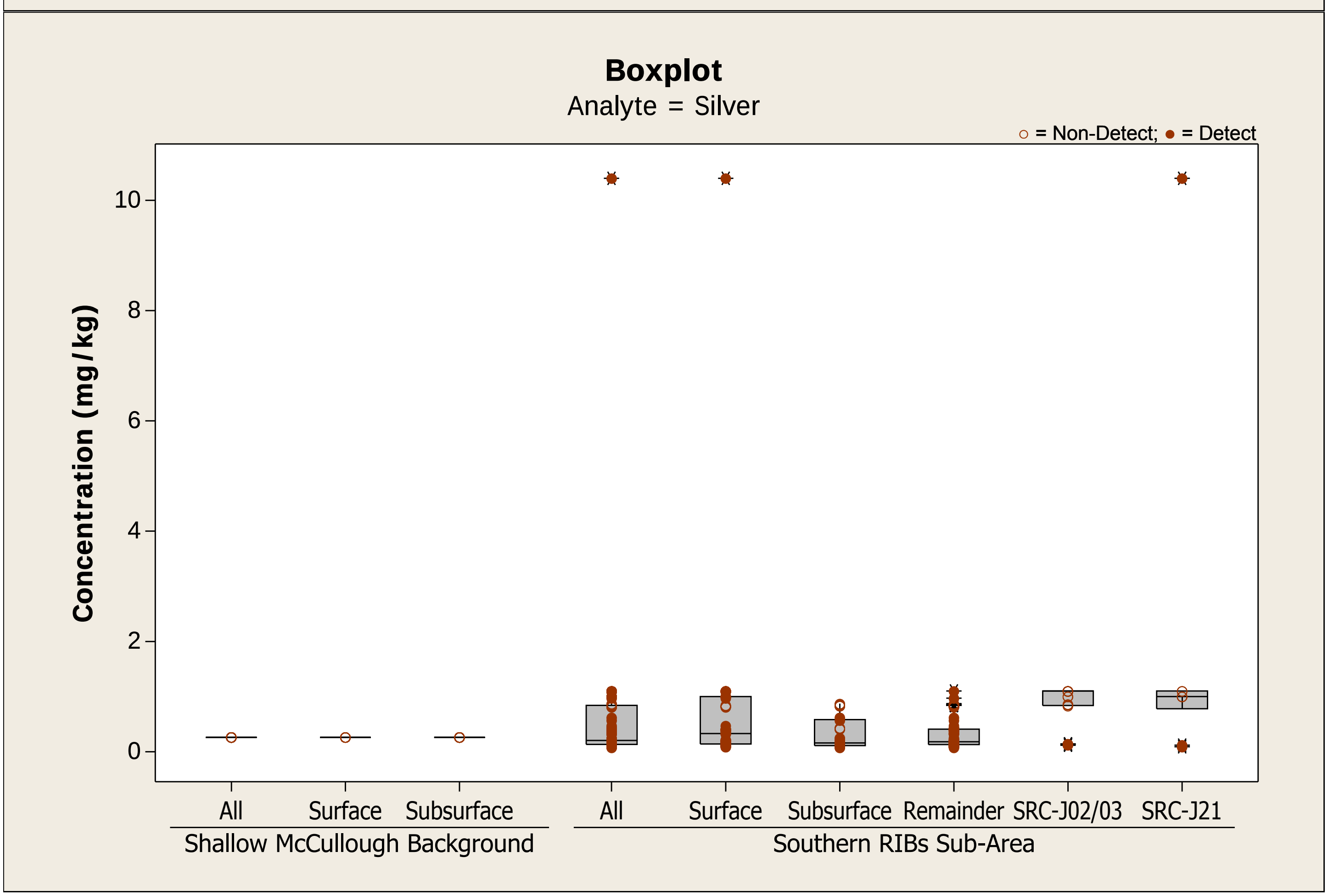
Boxplot
Analyte = Potassium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
4000
3500
3000
2500
2000
1500
1000
500
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Selenium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-2
-1
0
1
2
3
4
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

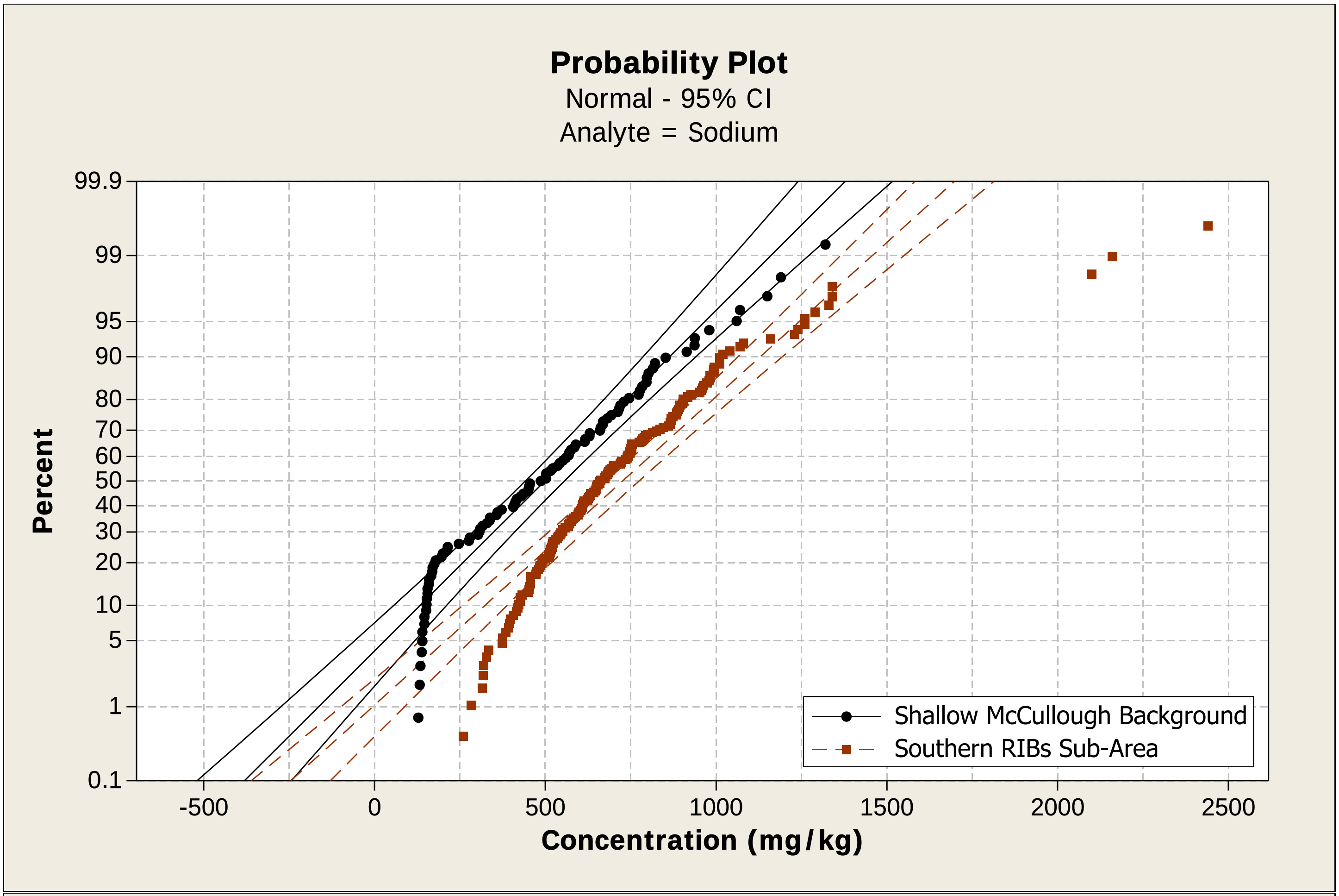

Boxplot
Analyte = Selenium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area



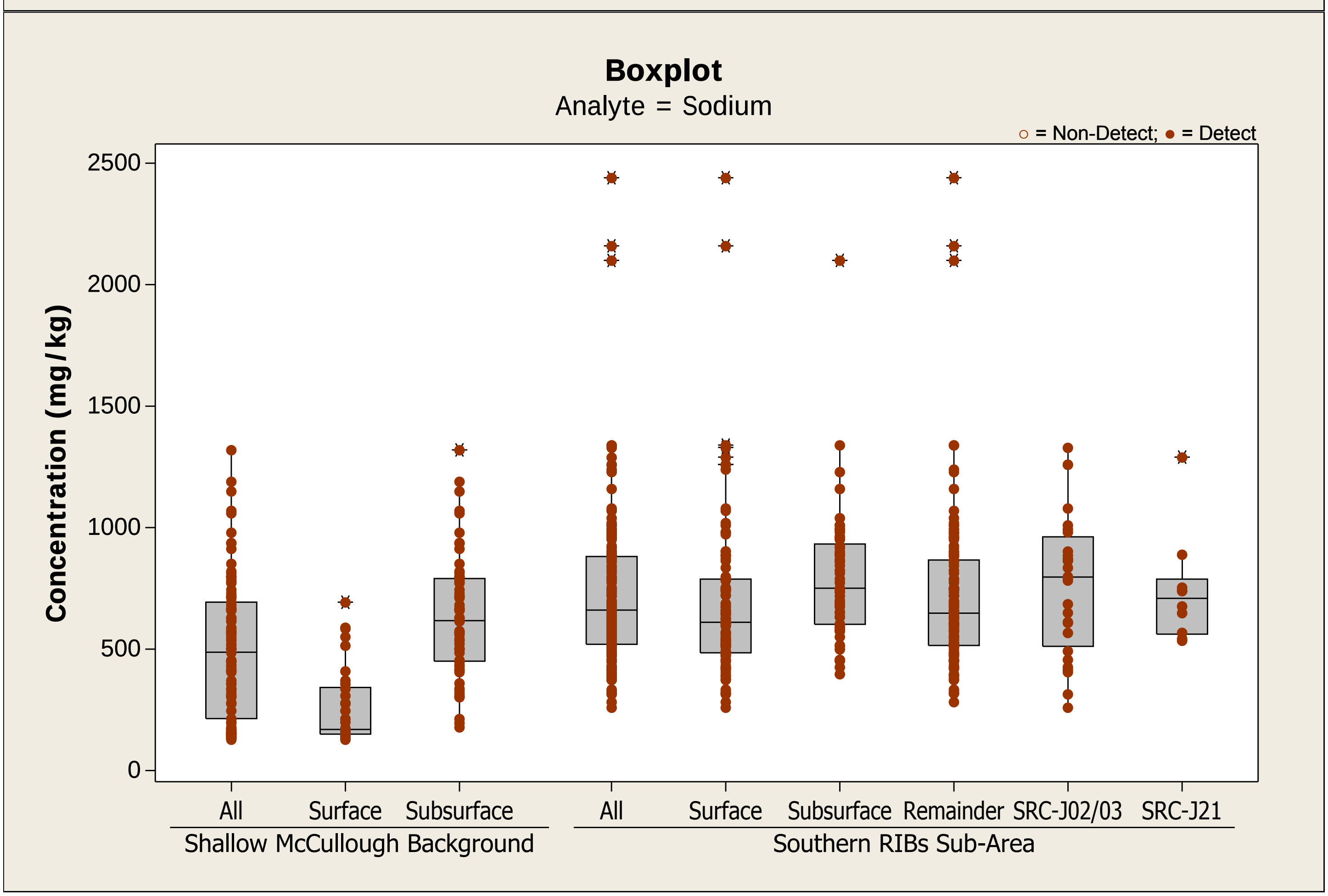
Probability Plot
Normal - 95% CI
Analyte = Silver
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-4
-2
0
2
4
6
8
10
12
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



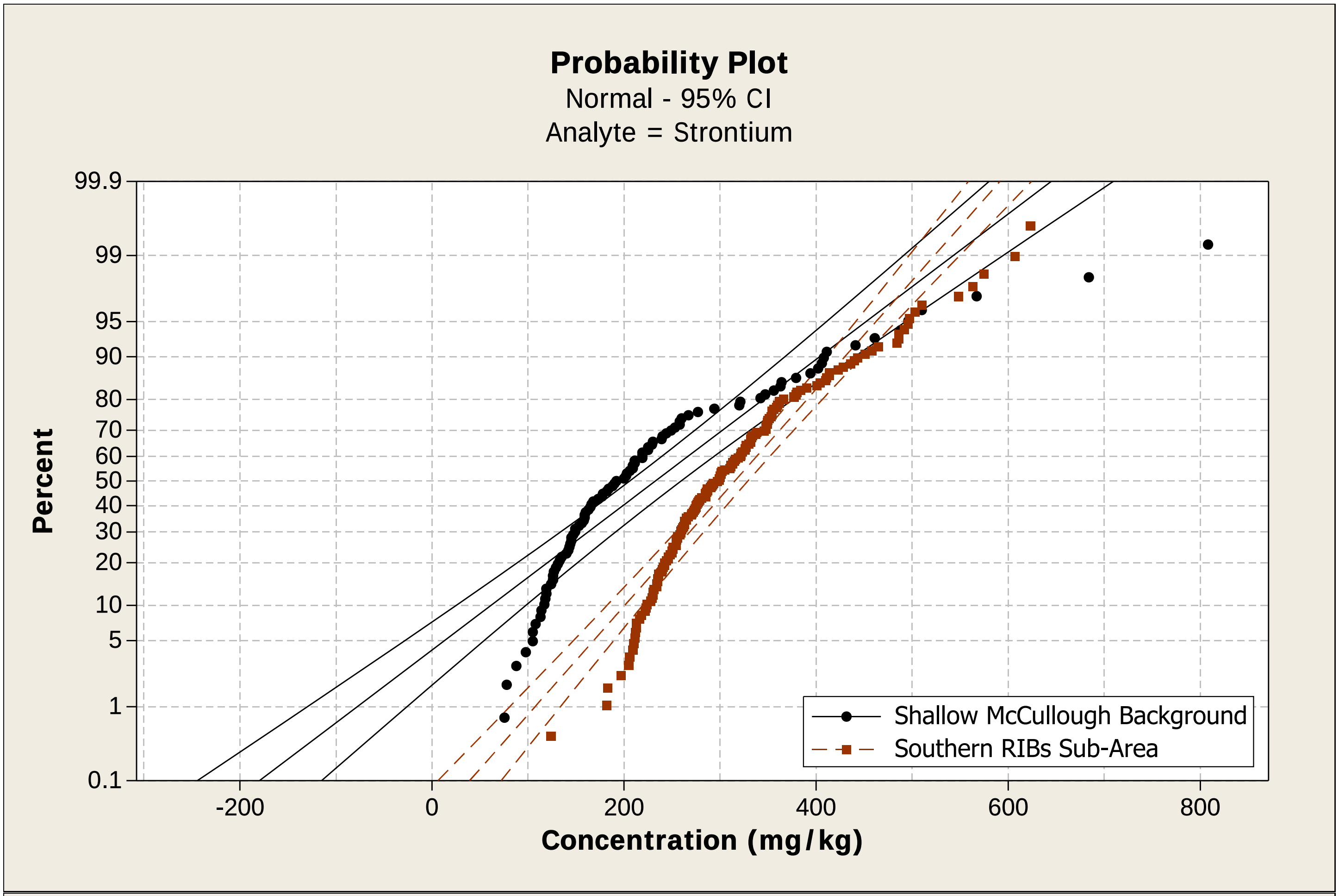
Boxplot
Analyte = Silver
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
10
8
6
4
2
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area



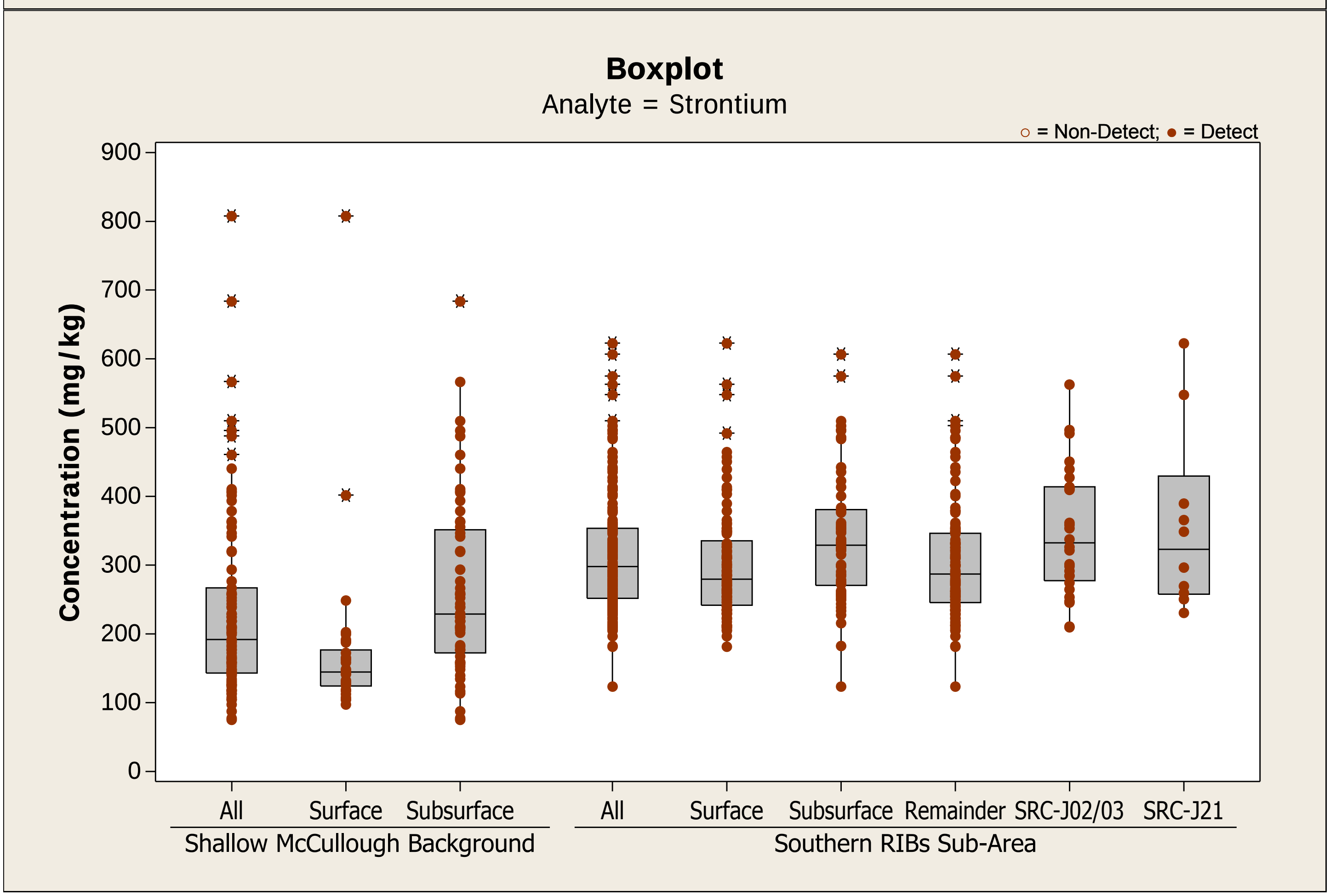
Probability Plot
Normal - 95% CI
Analyte = Sodium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-500
0
500
1000
1500
2000
2500
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



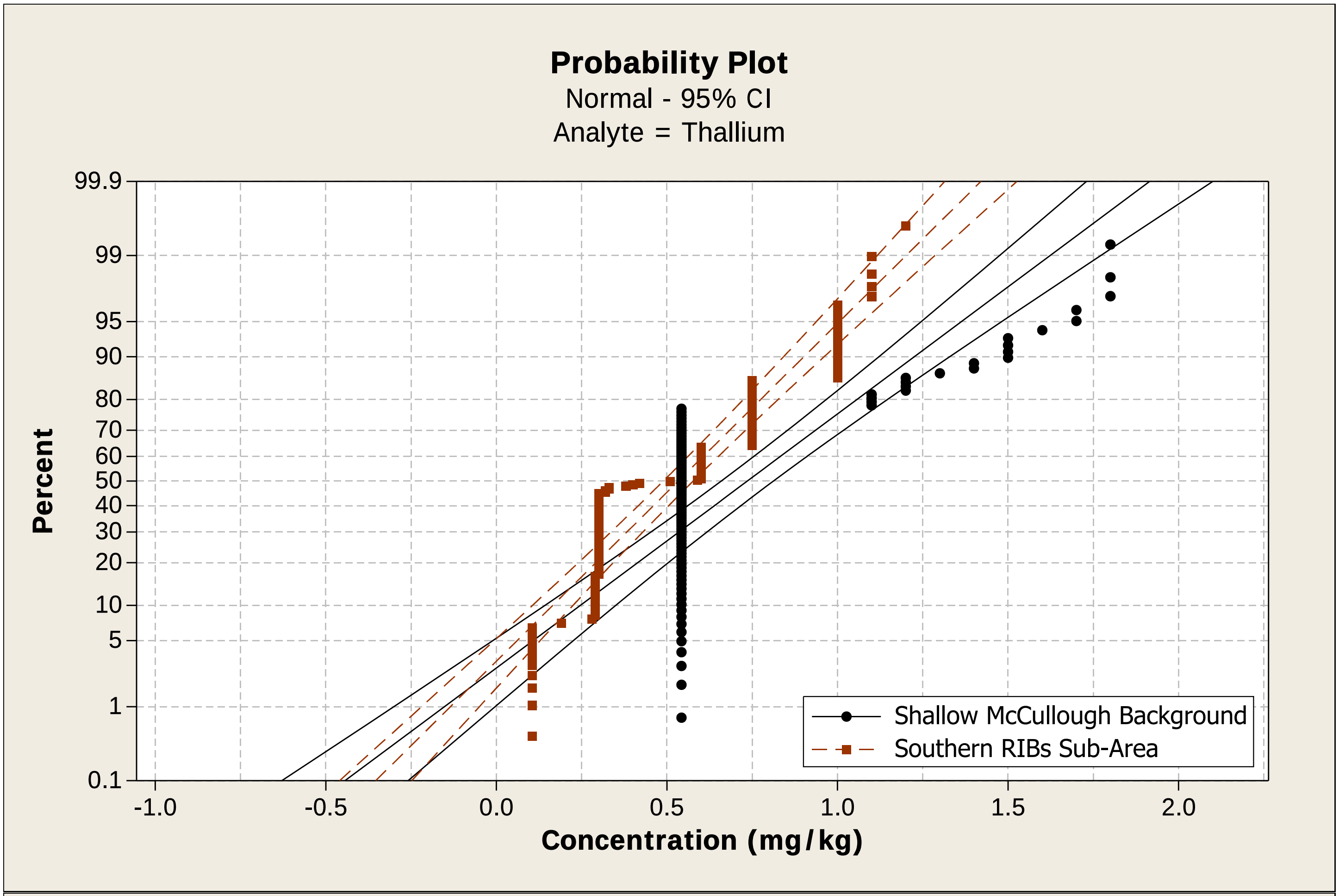
Boxplot
Analyte = Sodium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
2500
2000
1500
1000
500
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

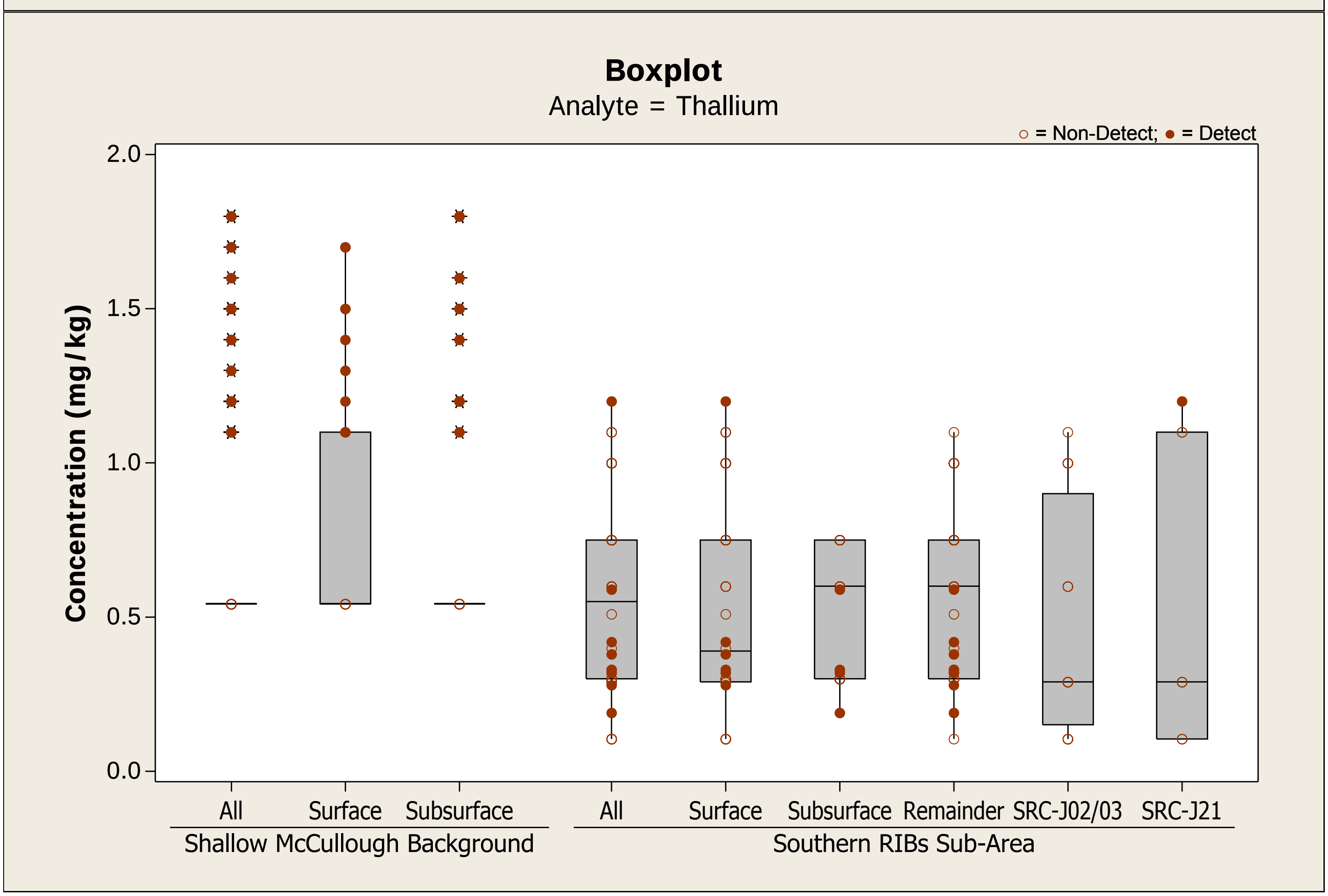


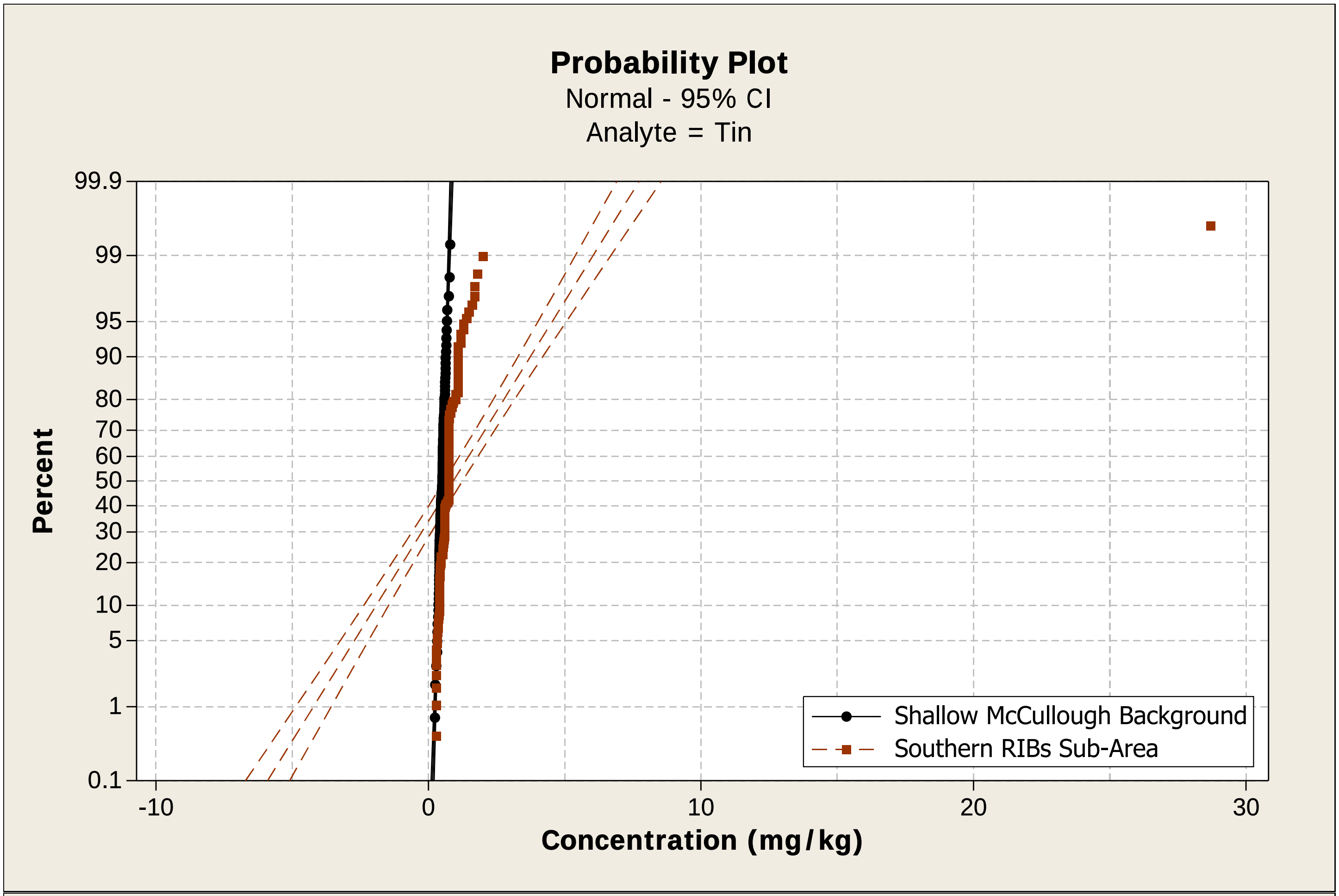
Probability Plot
Normal - 95% CI
Analyte = Strontium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-200
0
200
400
600
800
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



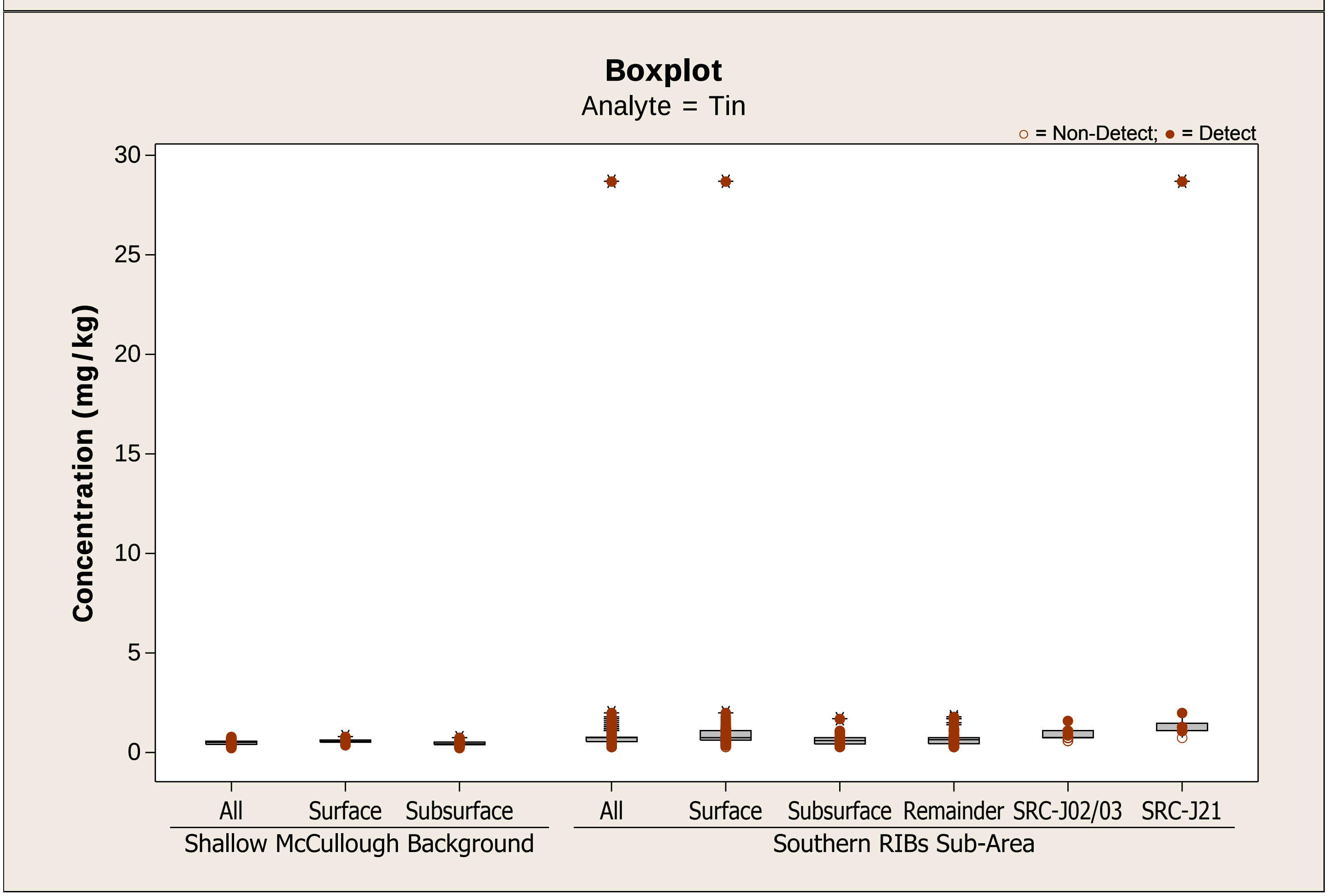
Boxplot
Analyte = Strontium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
900
800
700
600
500
400
300
200
100
0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Thallium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

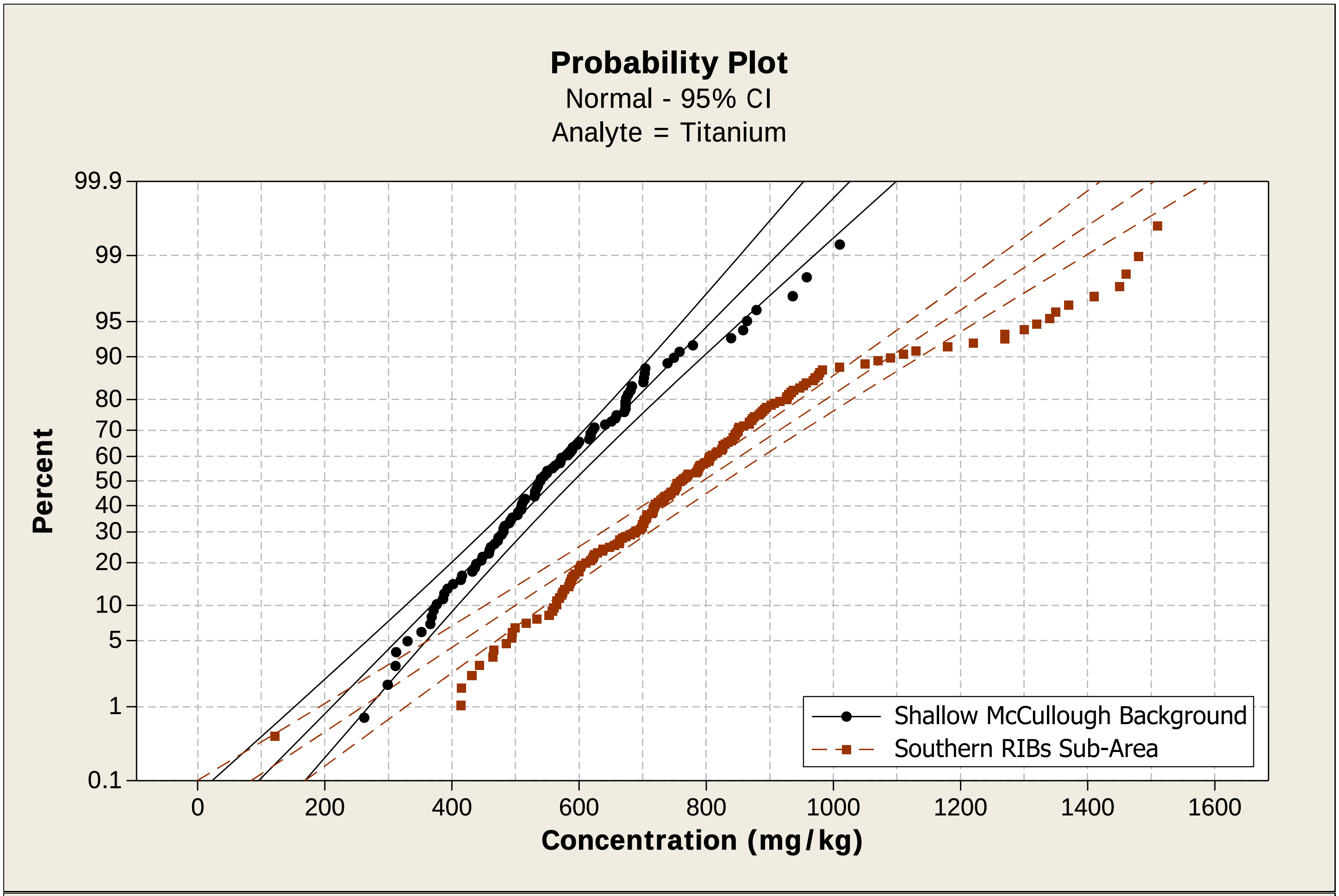

Boxplot
Analyte = Thallium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

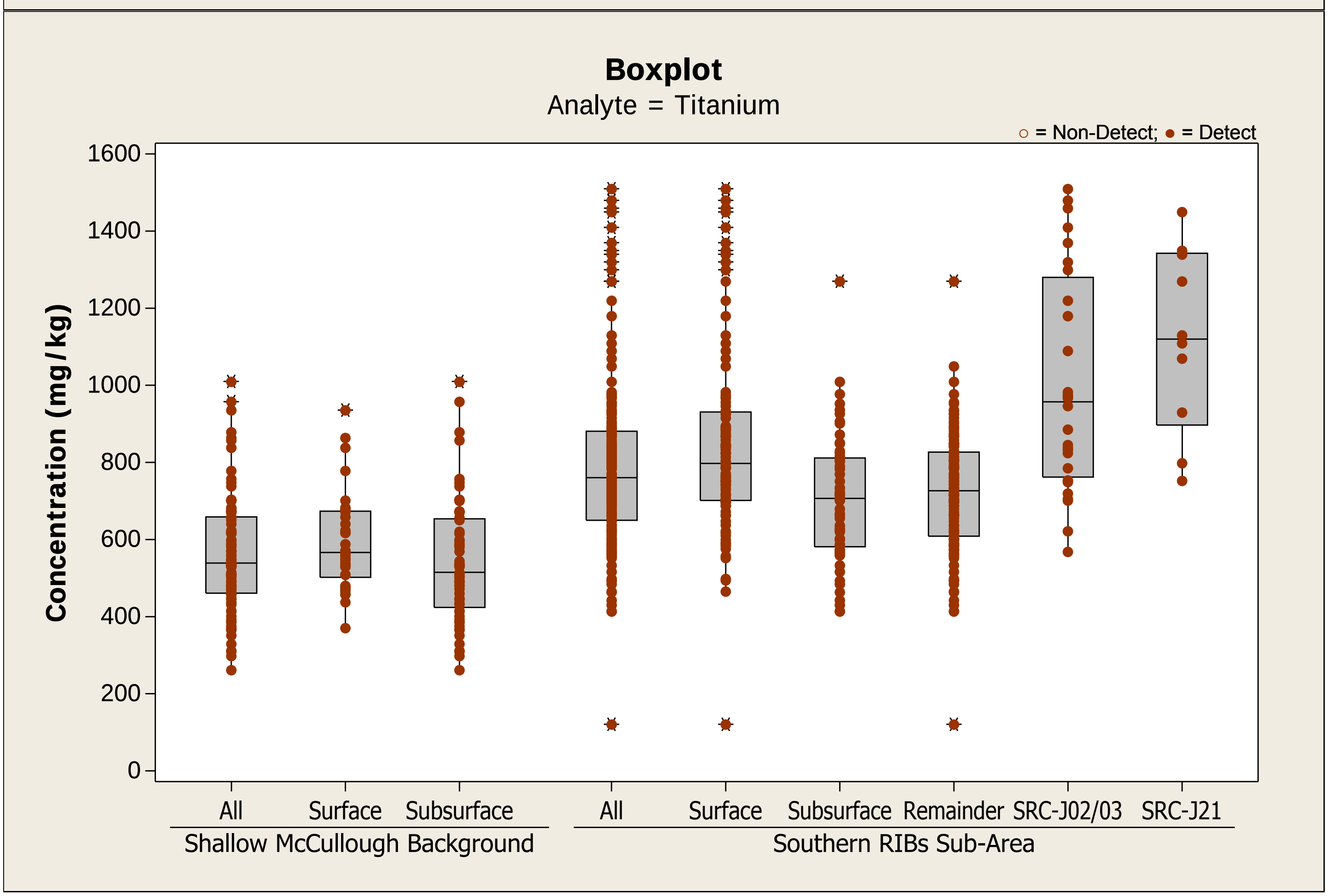


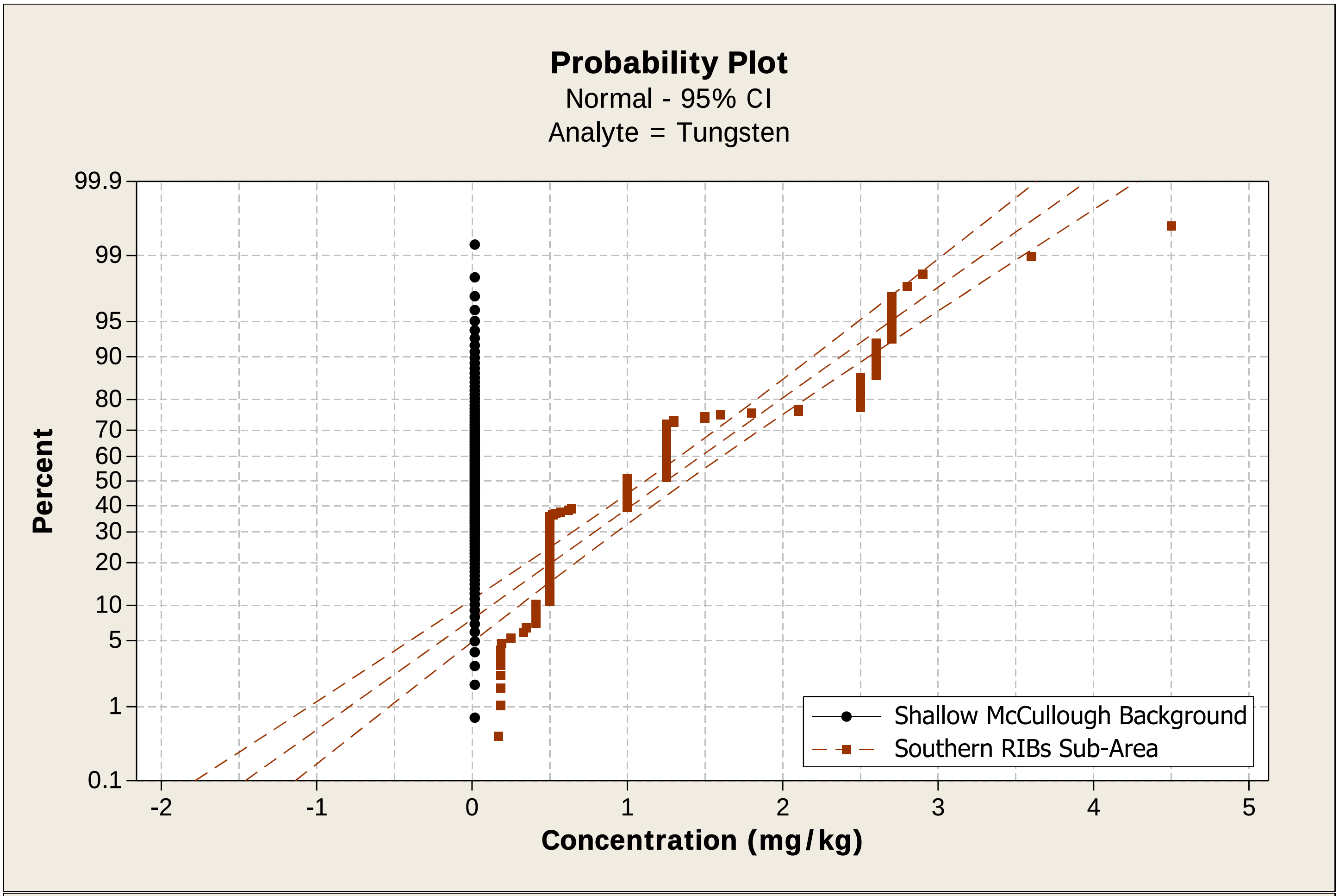
Probability Plot
Normal - 95% CI
Analyte = Tin
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-10
0
10
20
30
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



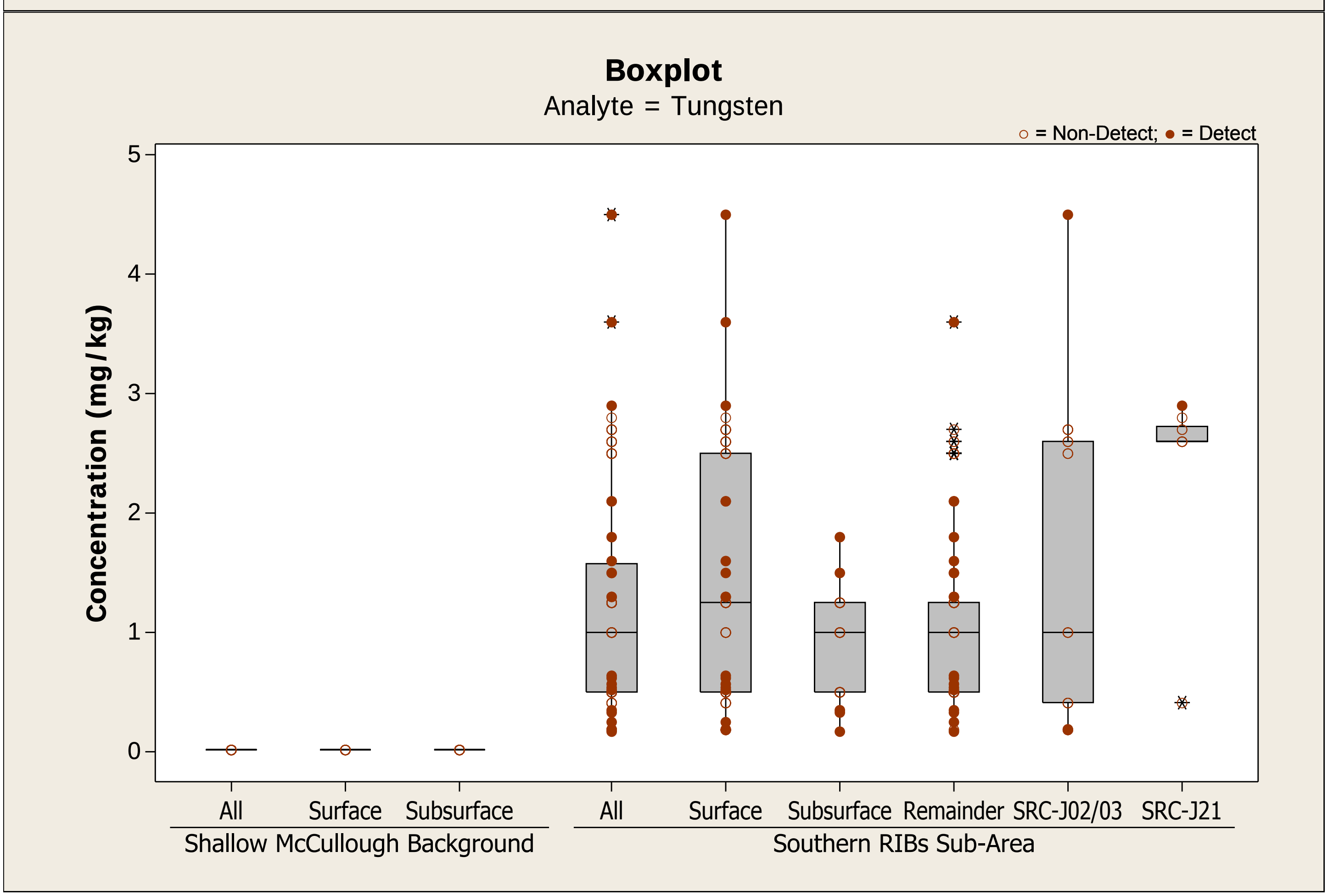
Boxplot
Analyte = Tin
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
30
25
20
15
10
5
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Titanium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
200
400
600
800
1000
1200
1400
1600
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

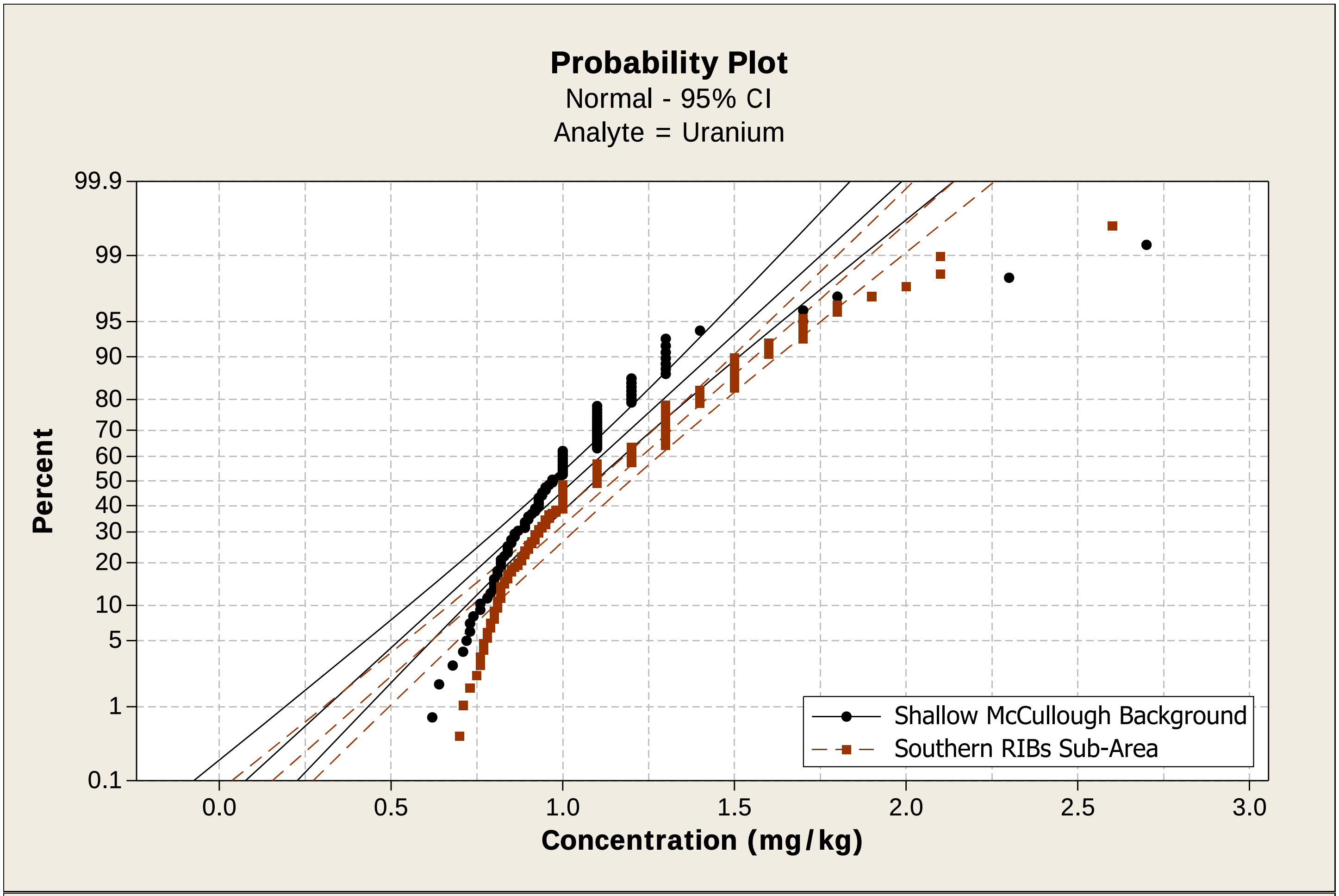

Boxplot
Analyte = Titanium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
1600
1400
1200
1000
800
600
400
200
0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Southern RIBs Sub-Area



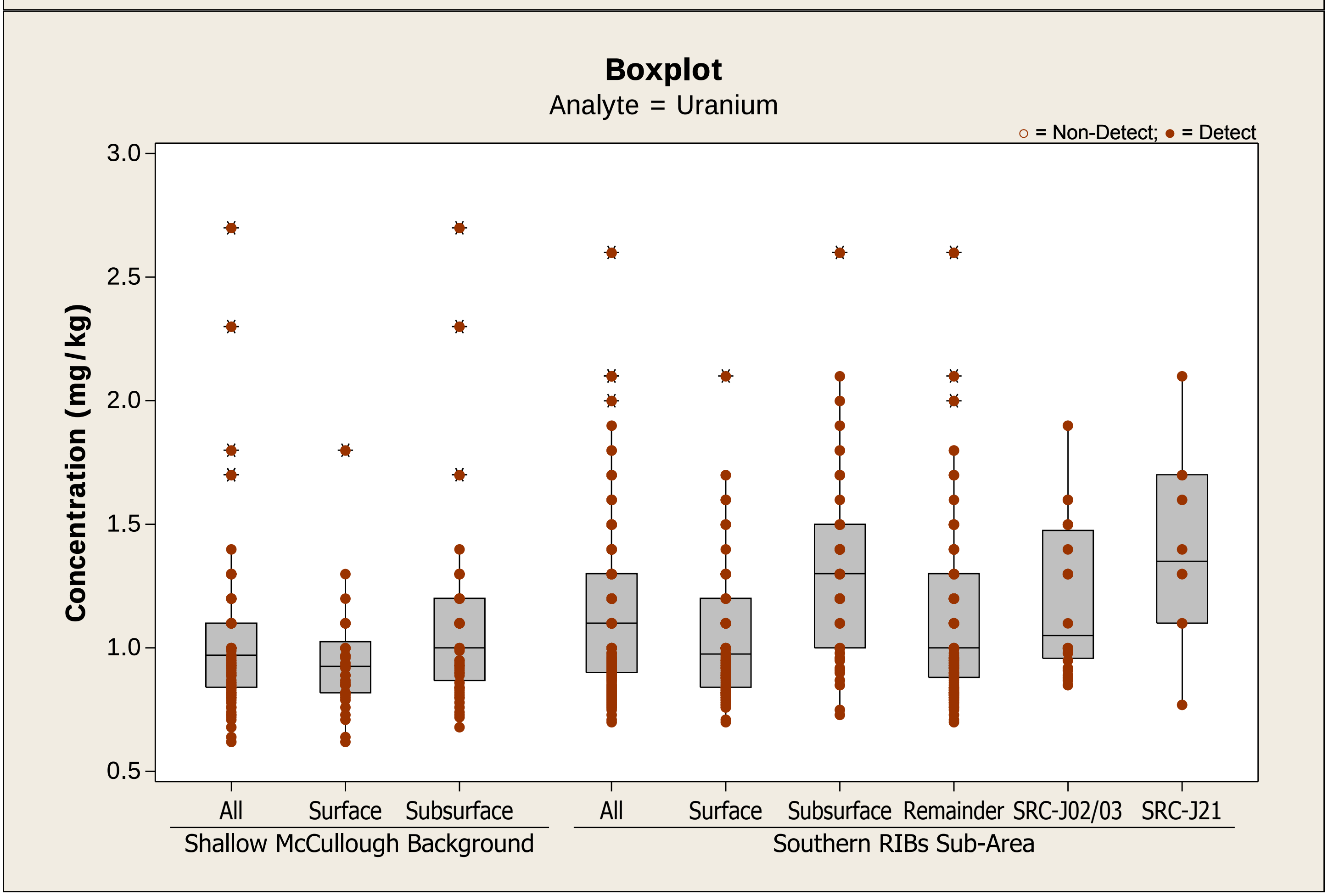
Probability Plot
Normal - 95% CI
Analyte = Tungsten
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-2
-1
0
1
2
3
4
5
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



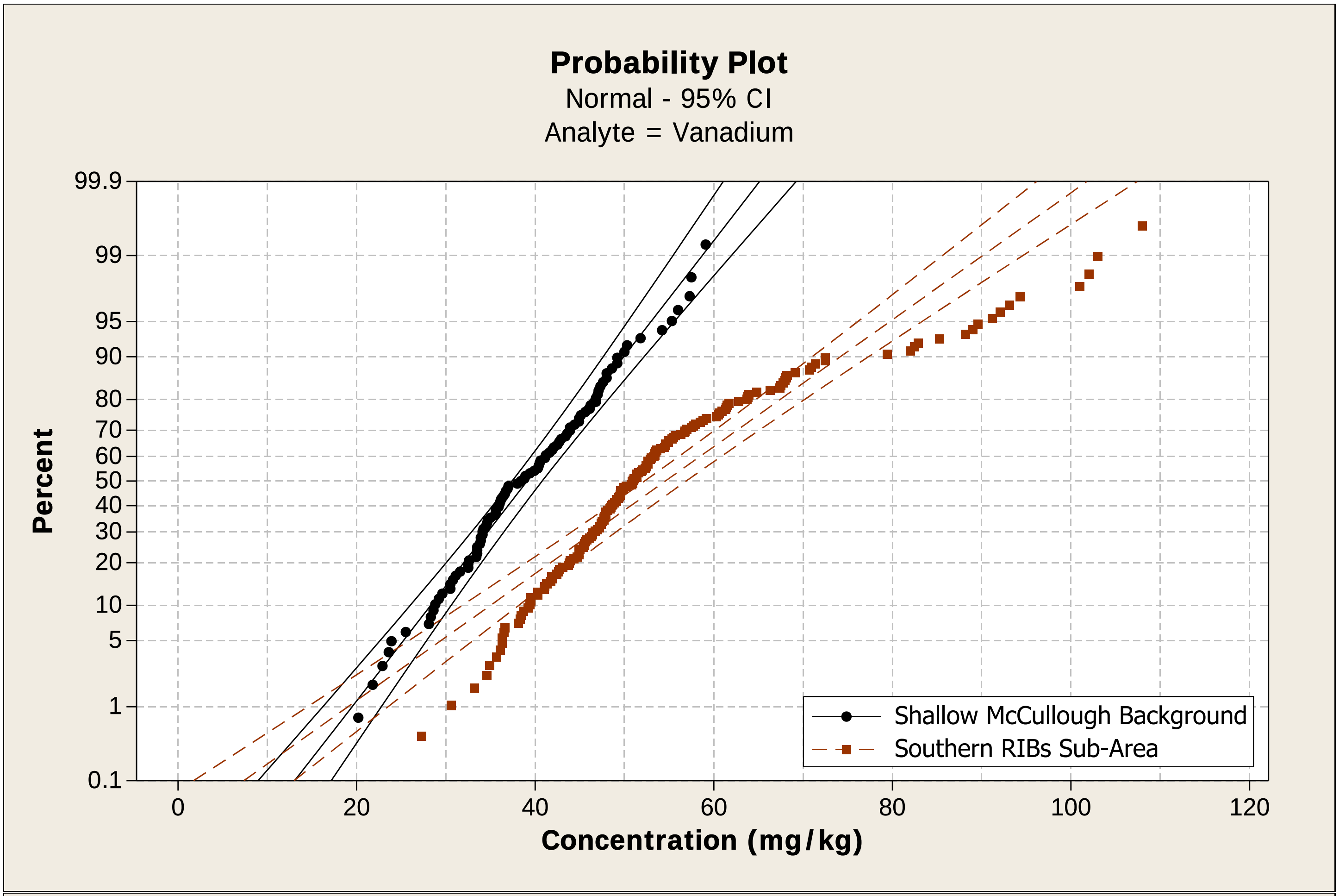
Boxplot
Analyte = Tungsten
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
5
4
3
2
1
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area



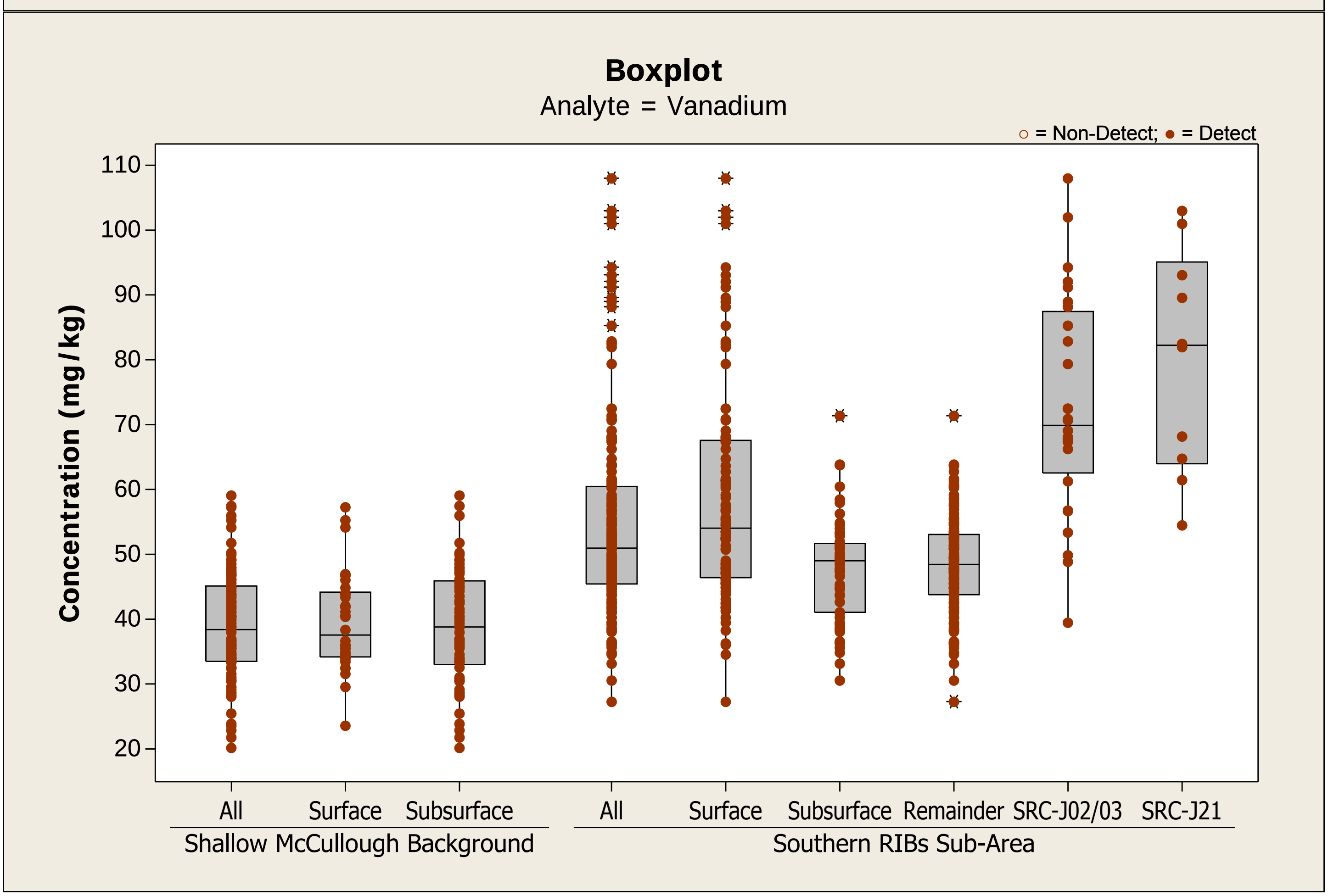
Probability Plot
Normal - 95% CI
Analyte = Uranium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area



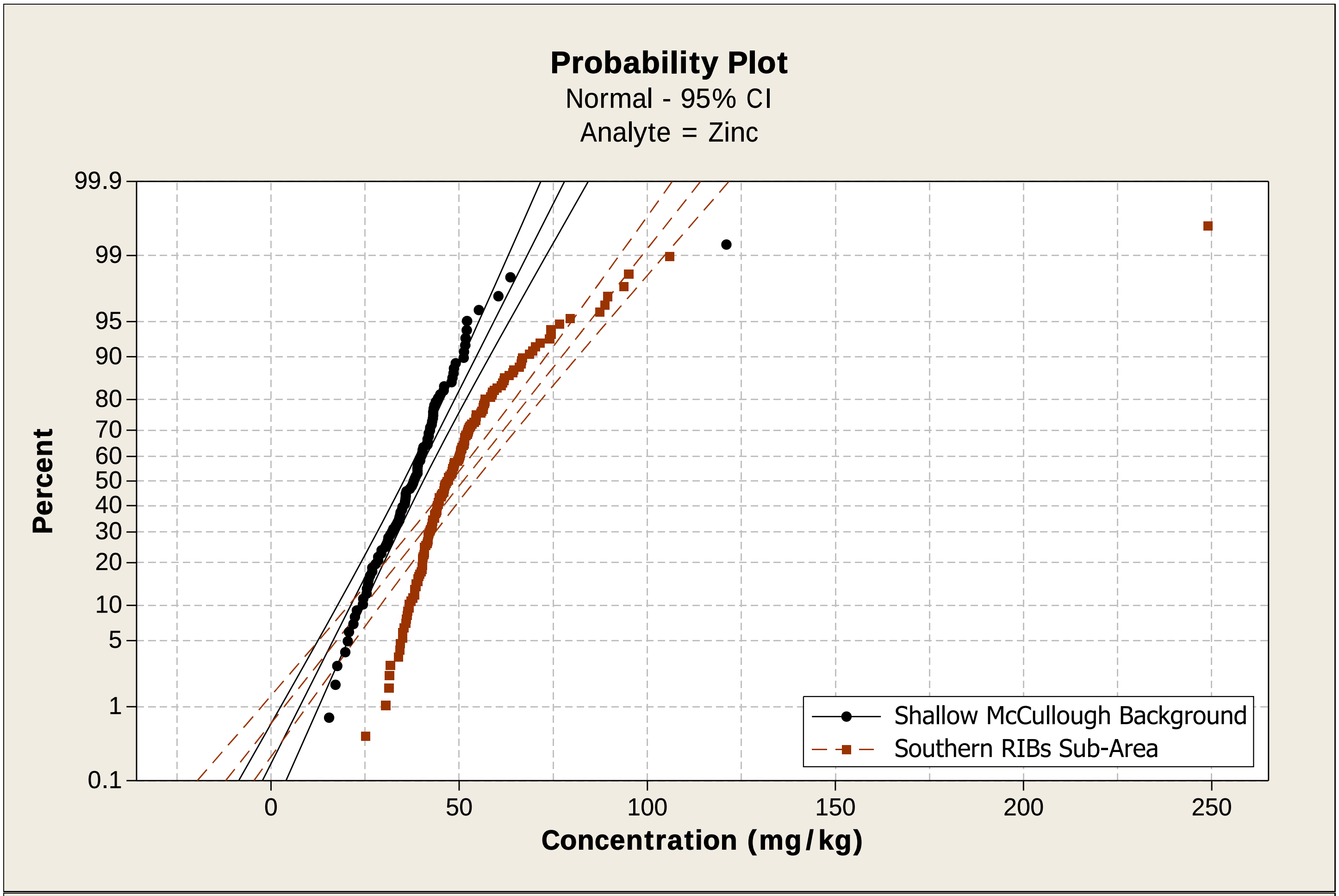
Boxplot
Analyte = Uranium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
3.0
2.5
2.0
1.5
1.0
0.5
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

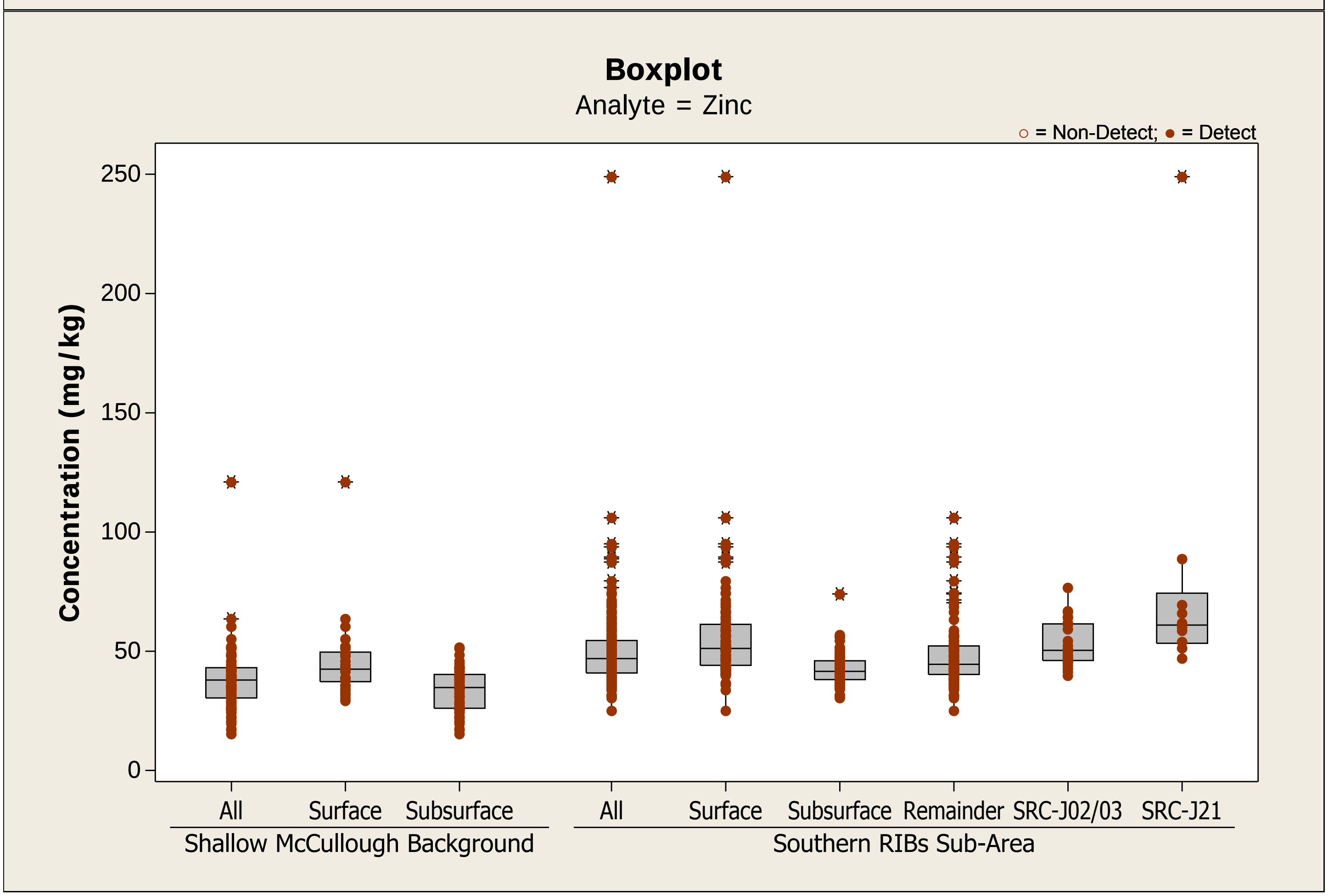


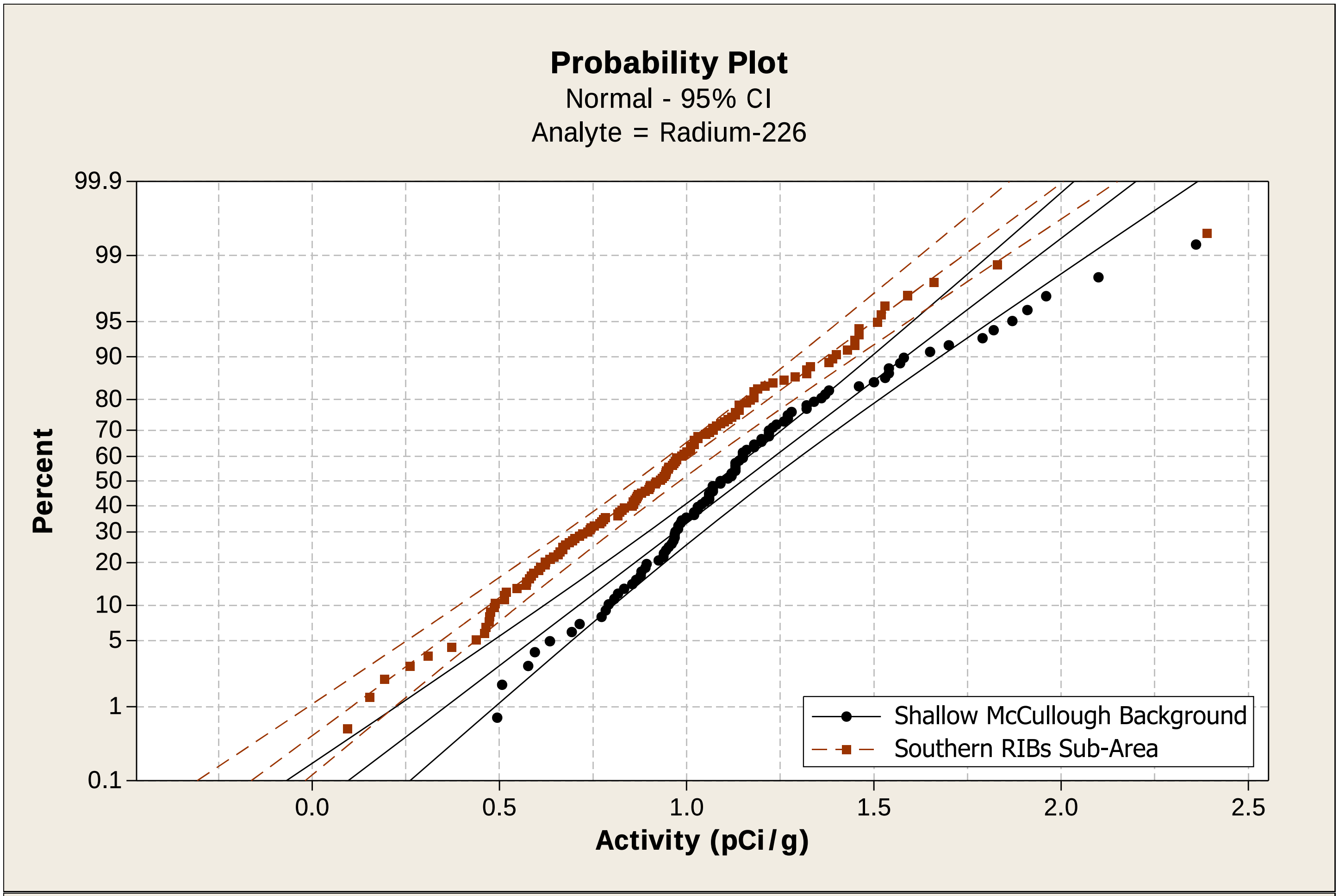
Probability Plot
Normal - 95% CI
Analyte = Vanadium
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
20
40
60
80
100
120
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

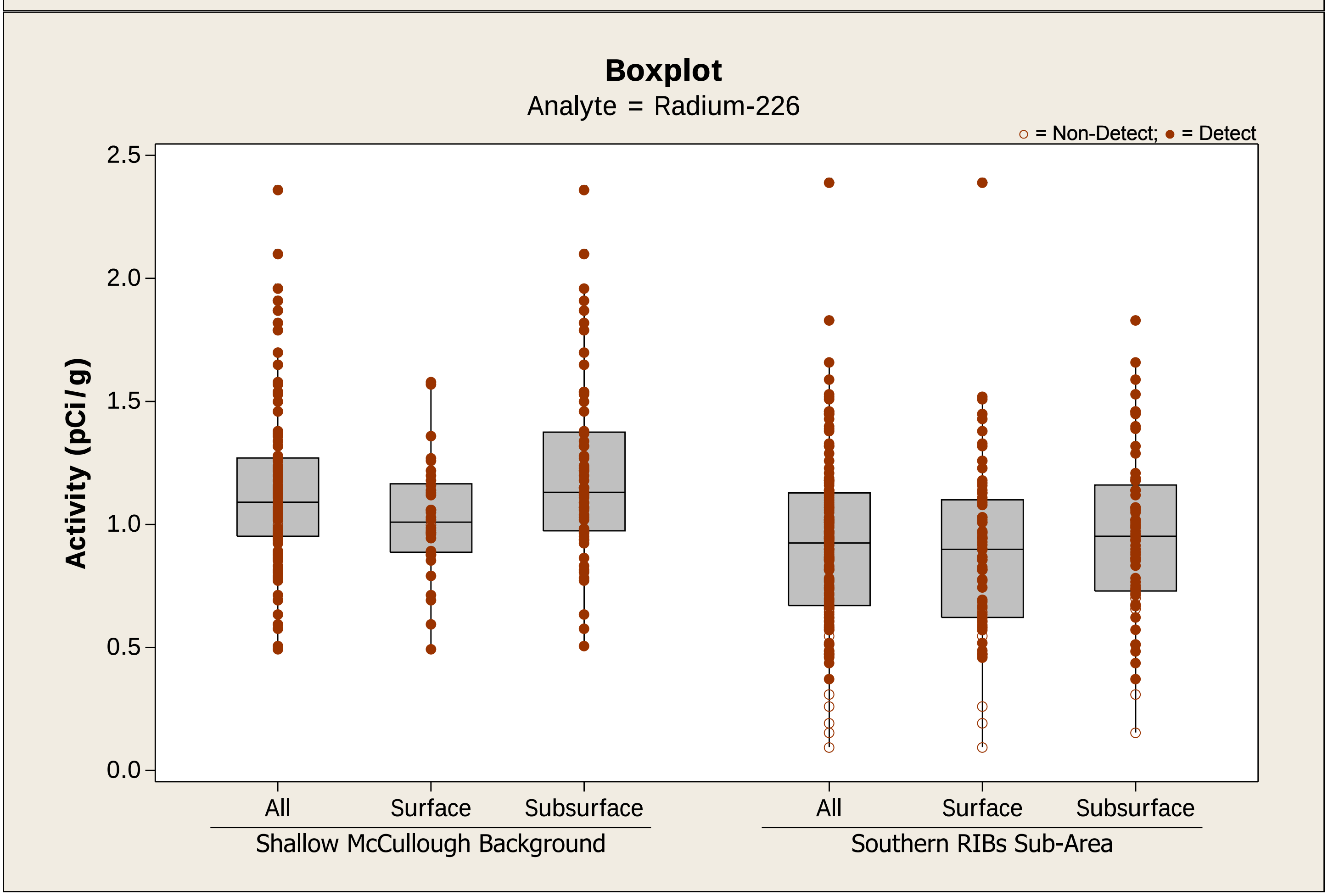


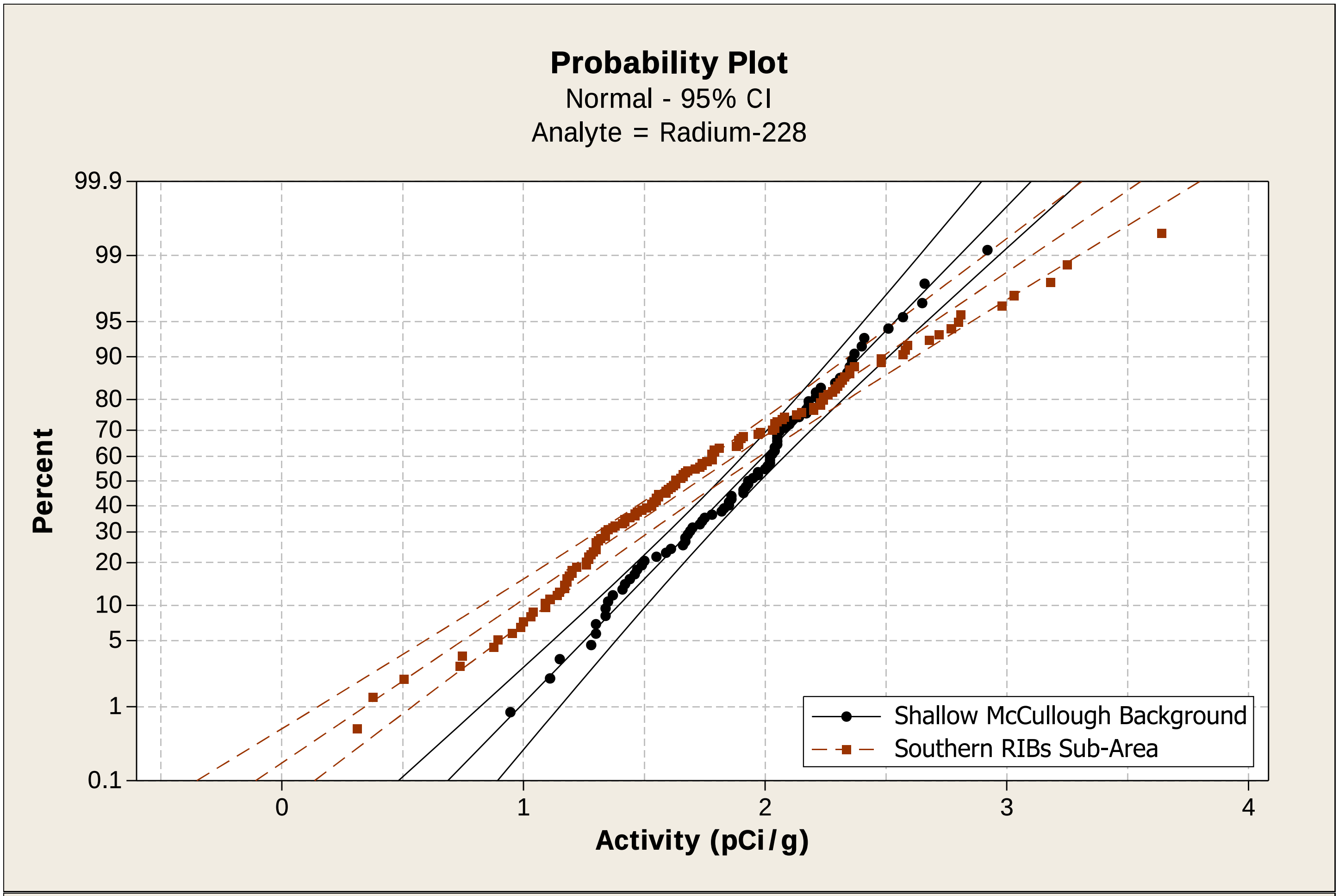
Boxplot
Analyte = Vanadium
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
110
100
90
80
70
60
50
40
30
20
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

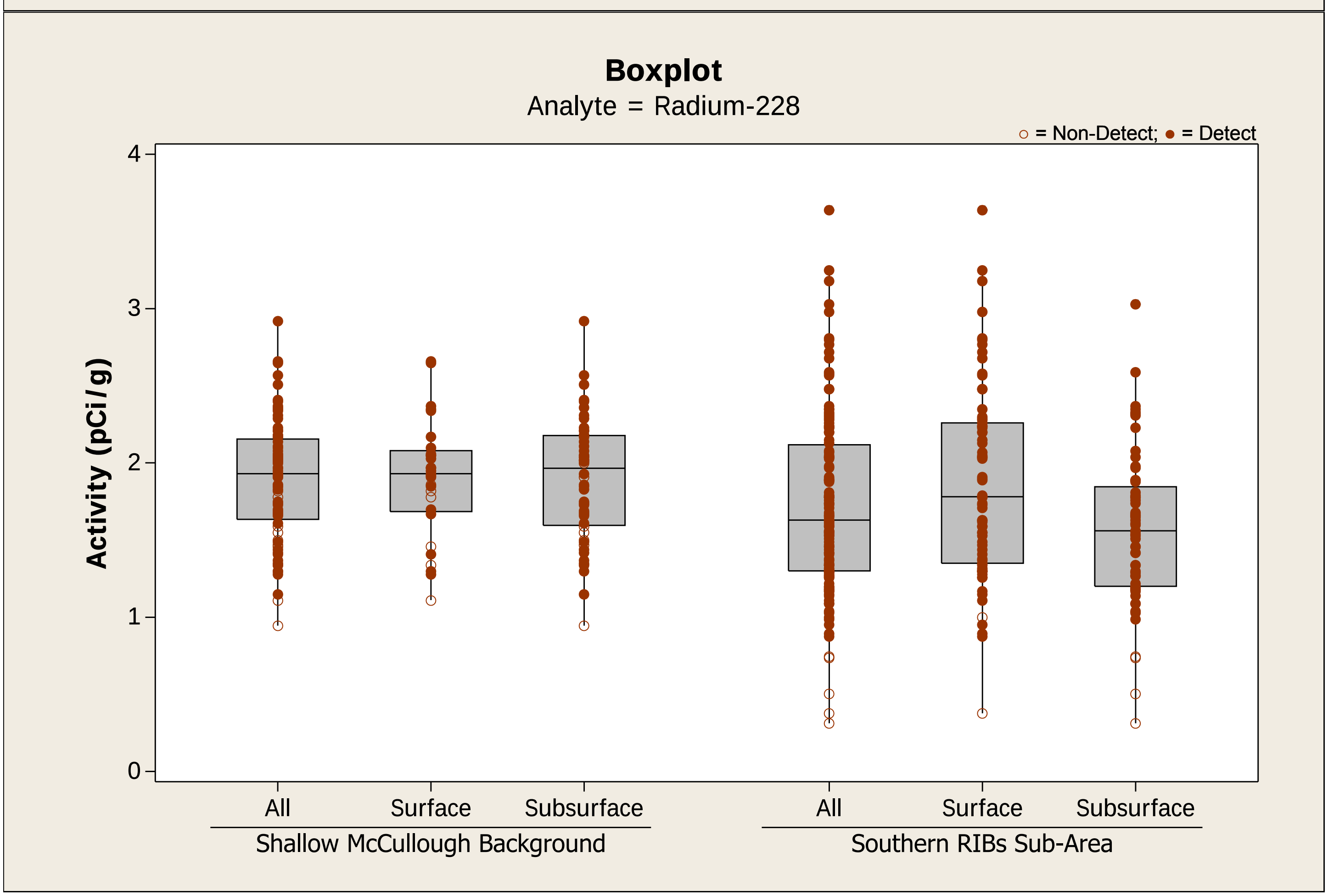

Probability Plot
Normal - 95% CI
Analyte = Zinc
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
50
100
150
200
250
Concentration (mg/kg)
Shallow McCullough Background
Southern RIBs Sub-Area

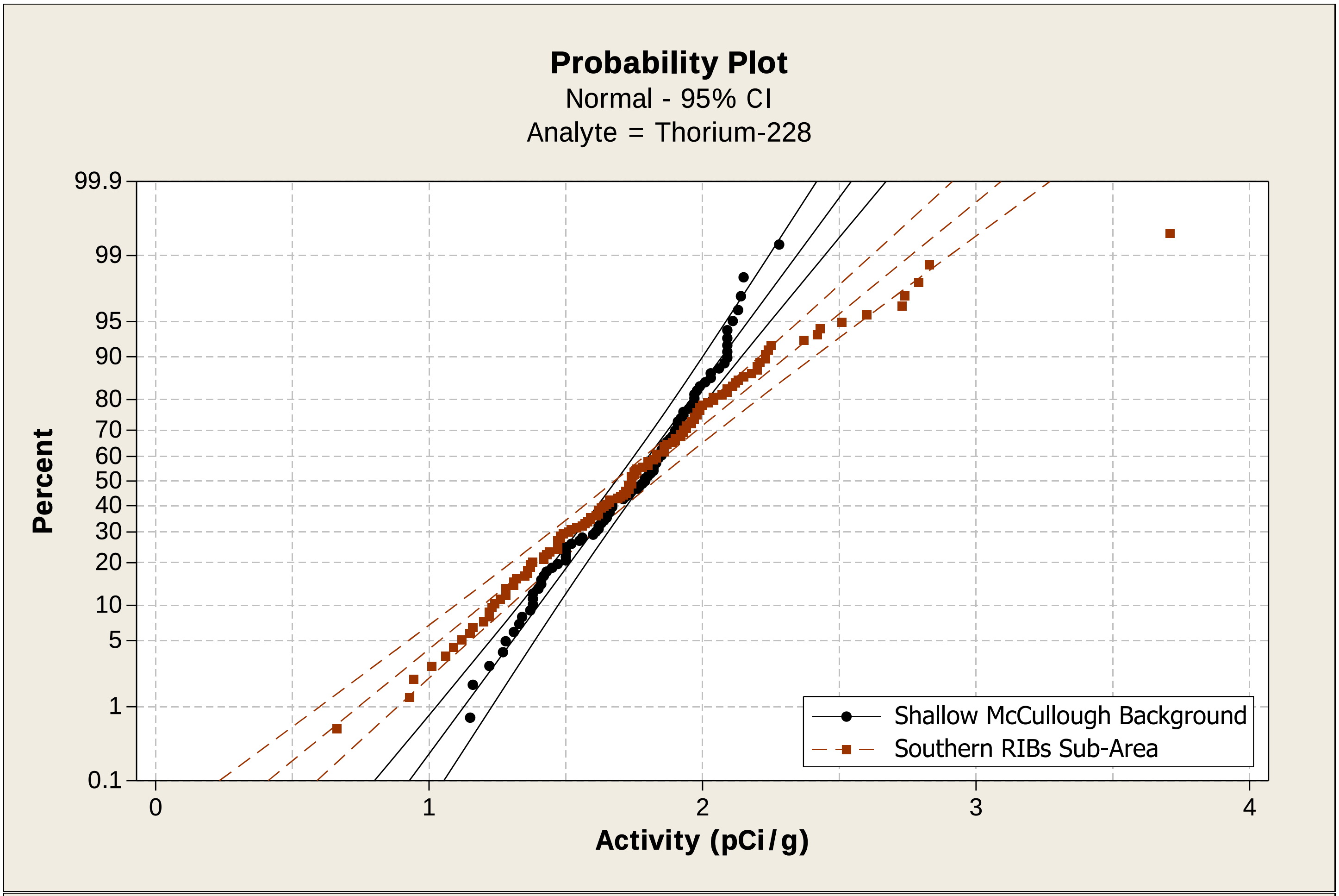

Boxplot
Analyte = Zinc
○ = Non-Detect; ● = Detect
Concentration (mg/kg)
250
200
150
100
50
0
All
Surface
Subsurface
All
Surface
Subsurface
Remainder
SRC-J02/03
SRC-J21
Shallow McCullough Background
Southern RIBs Sub-Area

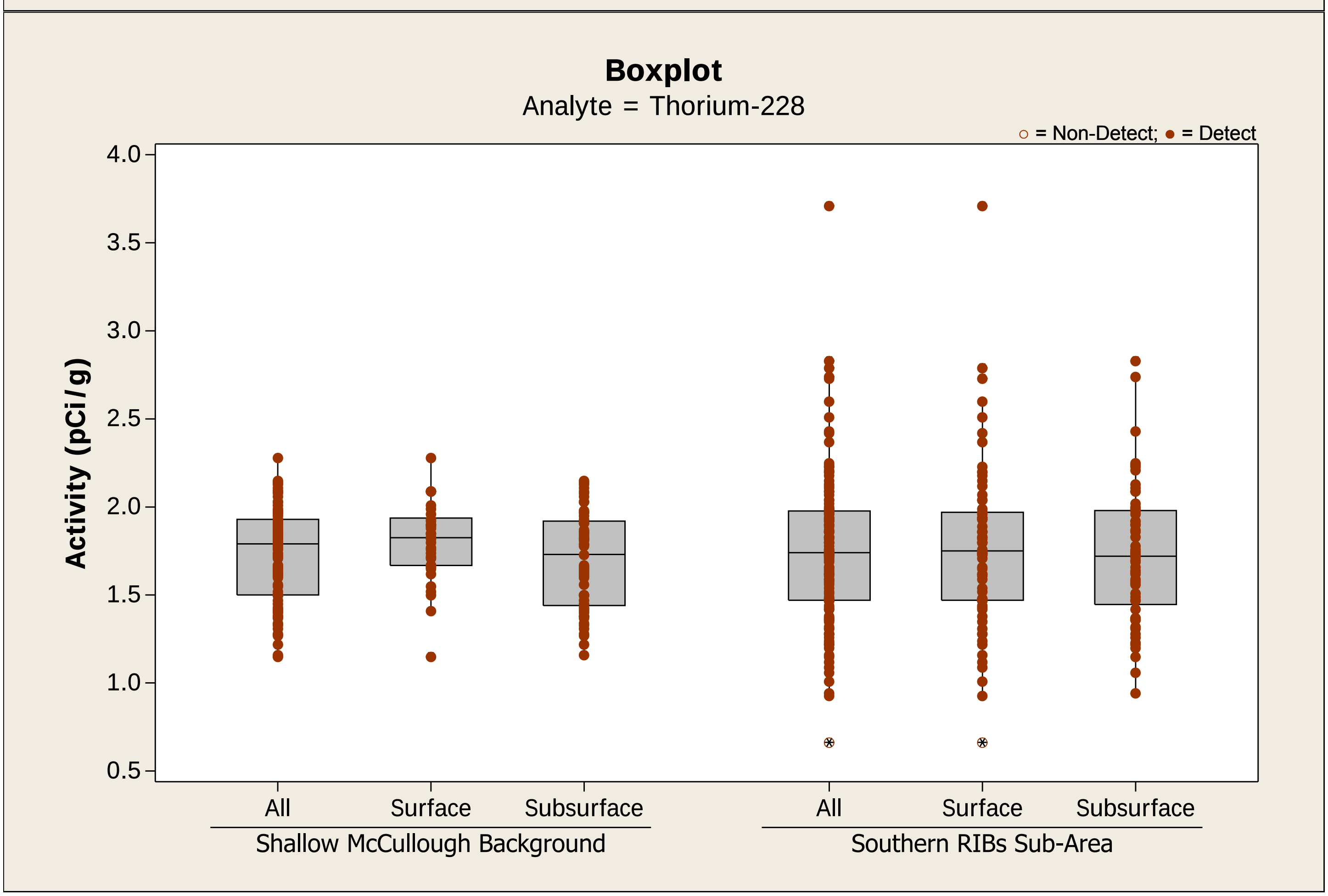

Probability Plot
Normal - 95% CI
Analyte = Radium-226
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0.0
0.5
1.0
1.5
2.0
2.5
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area

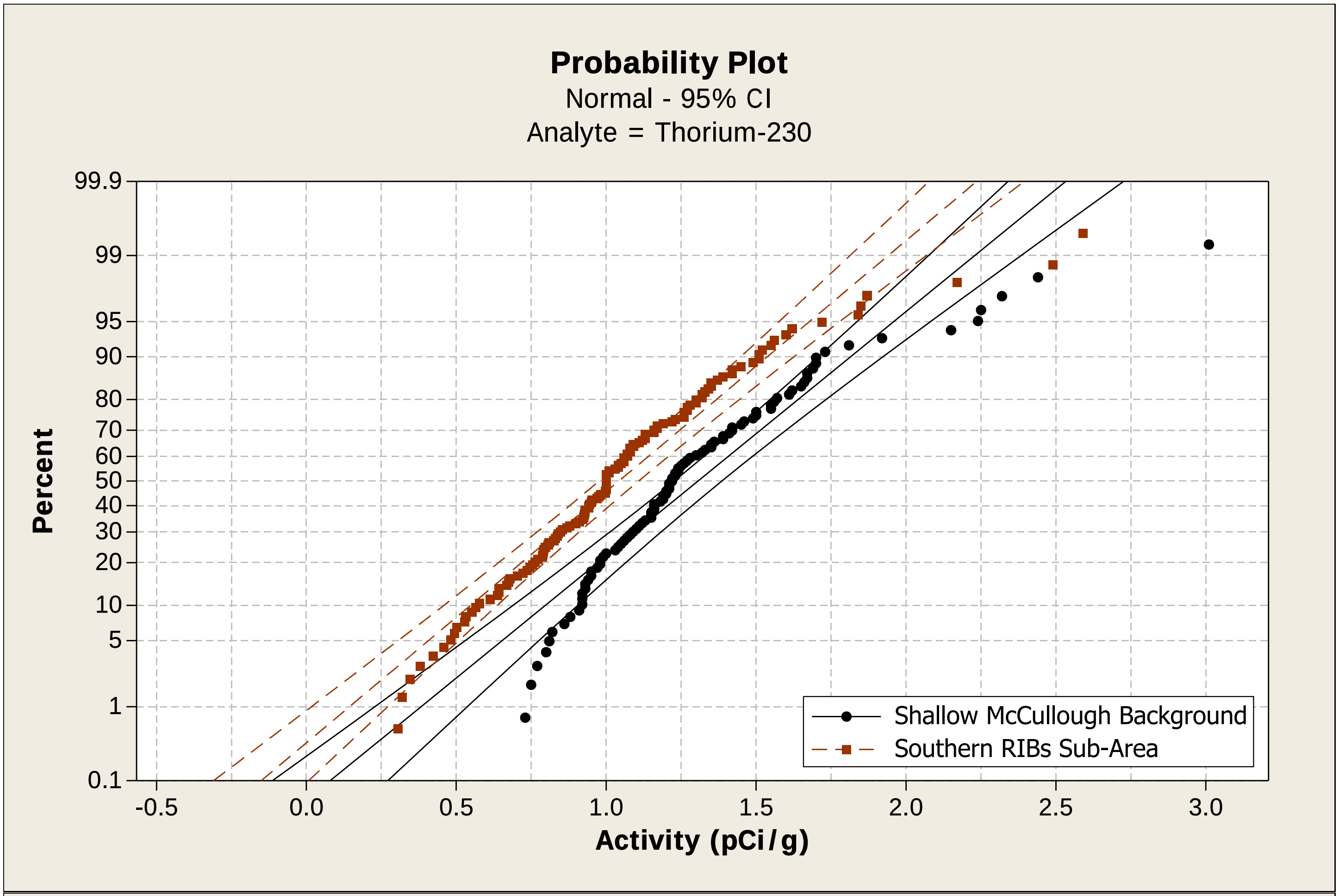

Boxplot
Analyte = Radium-226
○ = Non-Detect; ● = Detect
Activity (pCi/g)
2.5
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Radium-228
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
1
2
3
4
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area

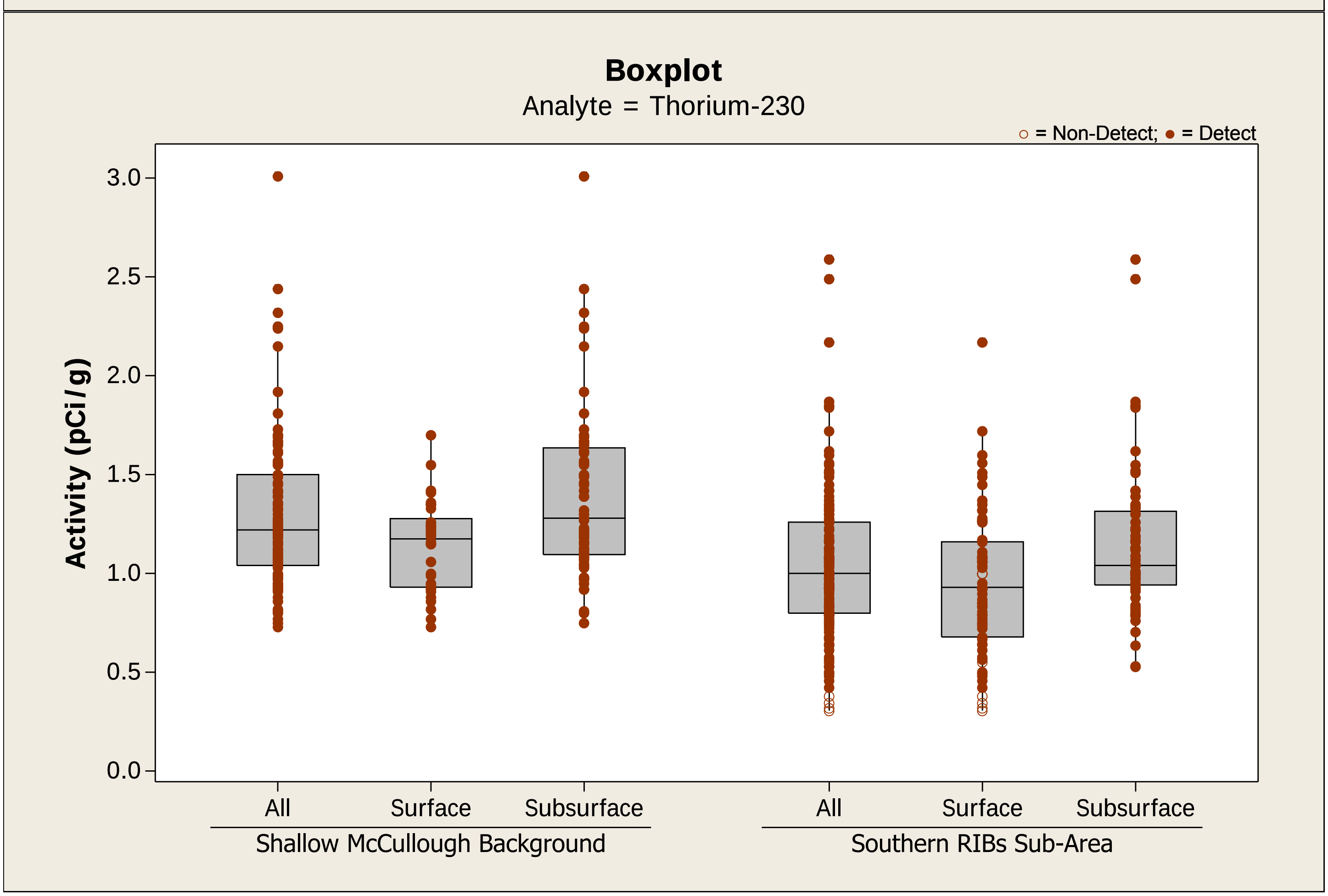

Boxplot
Analyte = Radium-228
○ = Non-Detect; ● = Detect
Activity (pCi/g)
4
3
2
1
0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Thorium-228
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0
1
2
3
4
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area

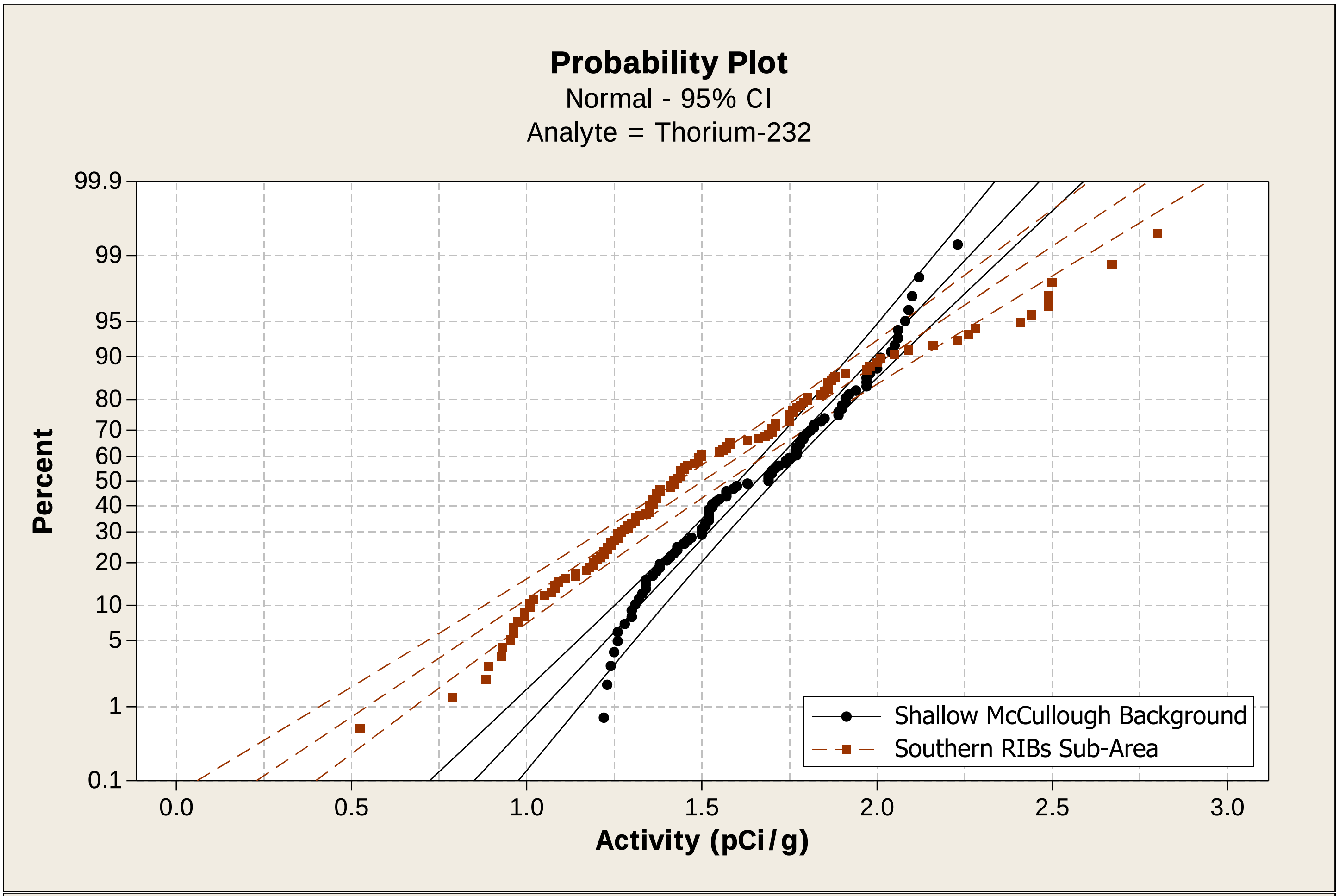

Boxplot
Analyte = Thorium-228
○ = Non-Detect; ● = Detect
Activity (pCi/g)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
All
Surface
Subsurface
All
Surface
Subsurface
Shallow McCullough Background
Southern RIBs Sub-Area



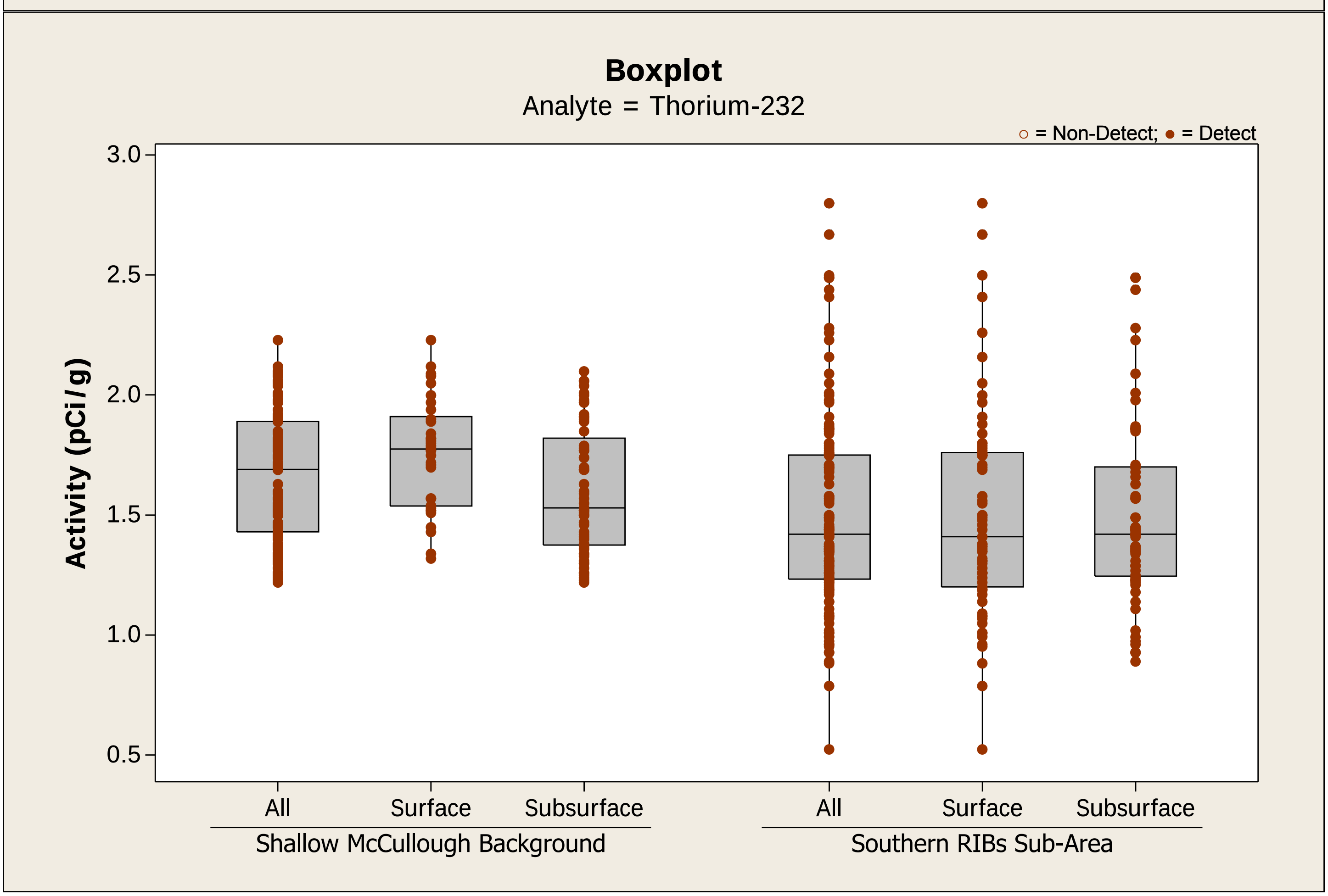
Probability Plot
Normal - 95% CI
Analyte = Thorium-230
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area



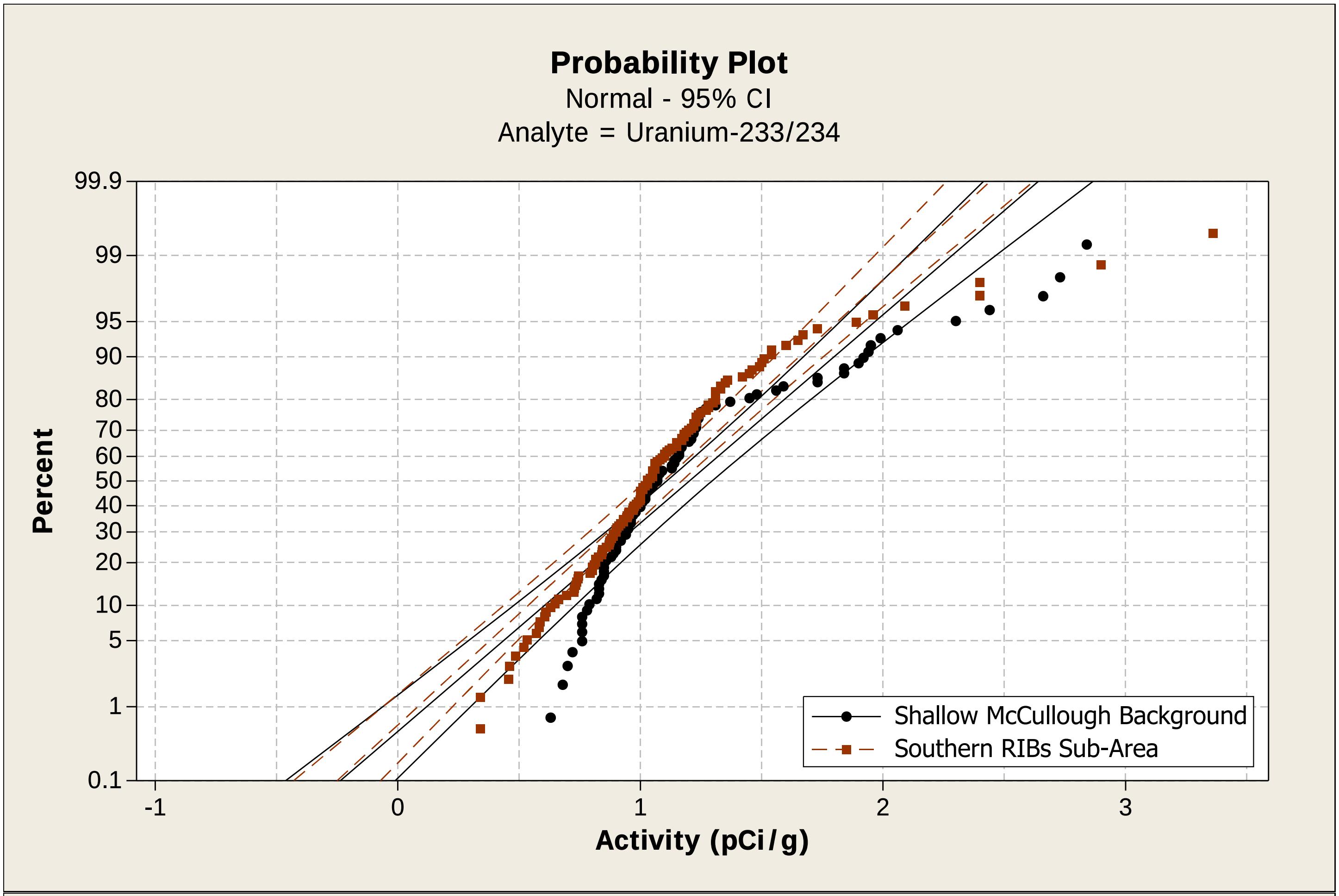
Boxplot
Analyte = Thorium-230
○ = Non-Detect; ● = Detect
Activity (pCi/g)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Southern RIBs Sub-Area



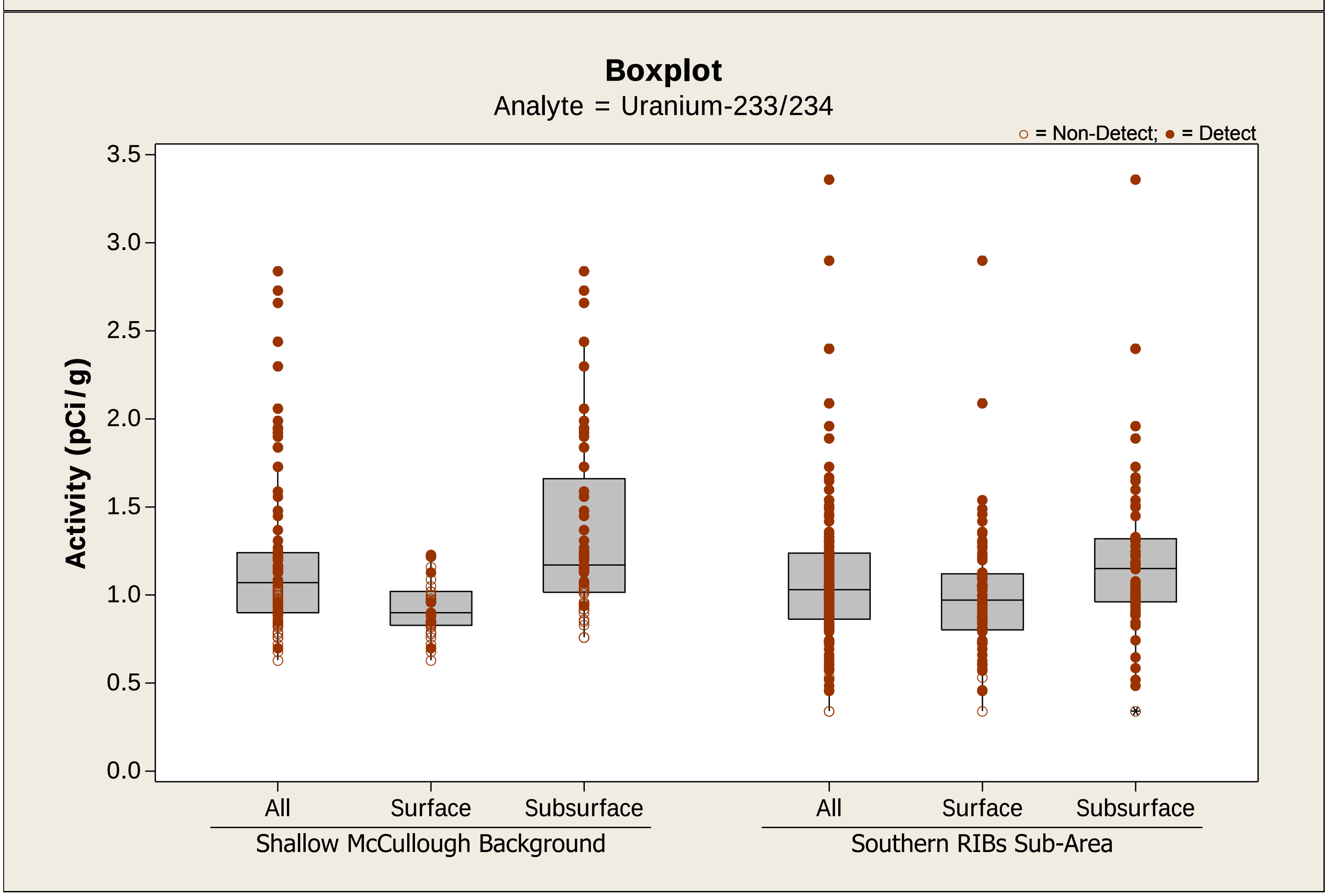
Probability Plot
Normal - 95% CI
Analyte = Thorium-232
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area



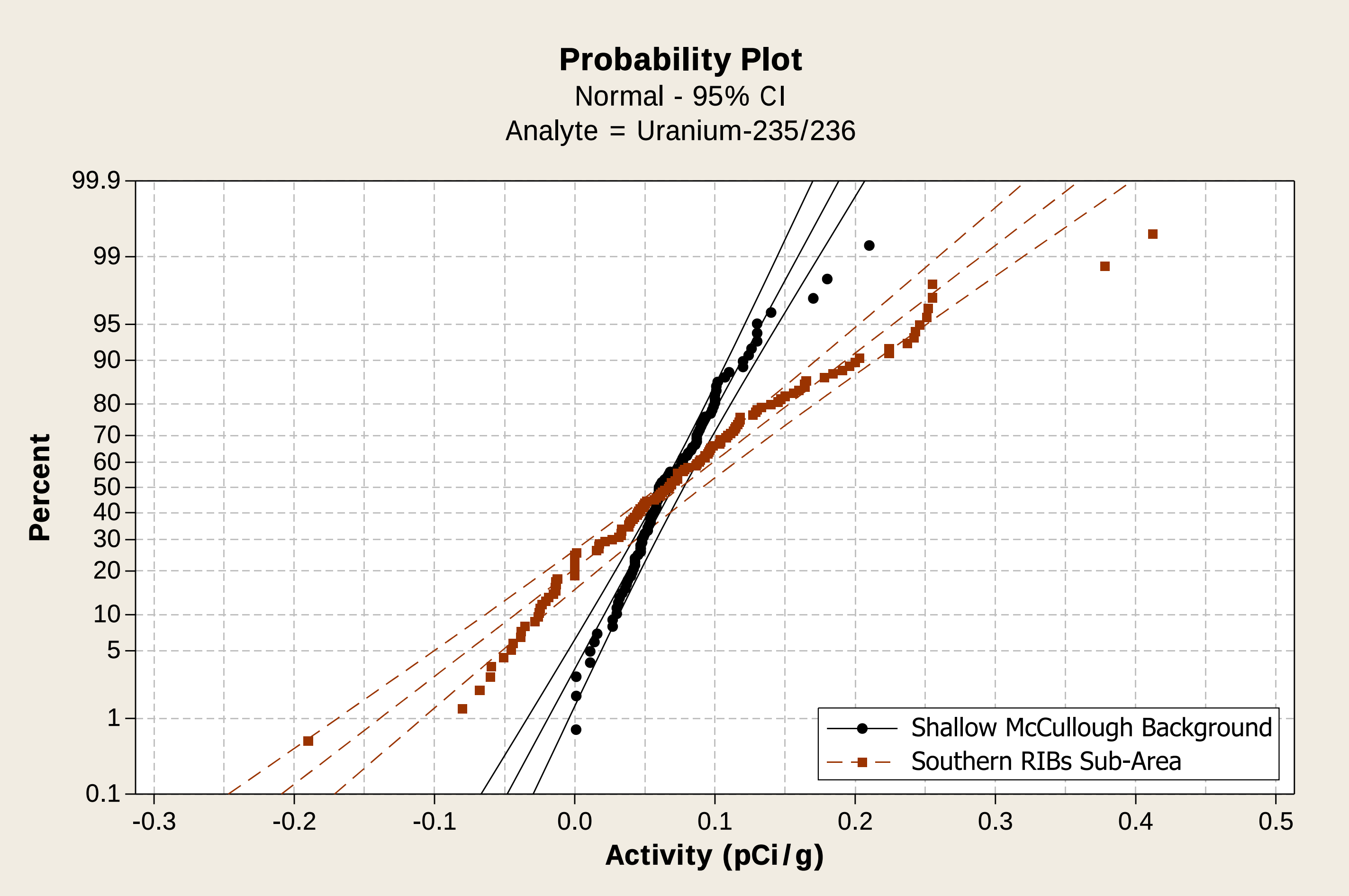
Boxplot
Analyte = Thorium-232
○ = Non-Detect; ● = Detect
Activity (pCi/g)
3.0
2.5
2.0
1.5
1.0
0.5
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Southern RIBs Sub-Area



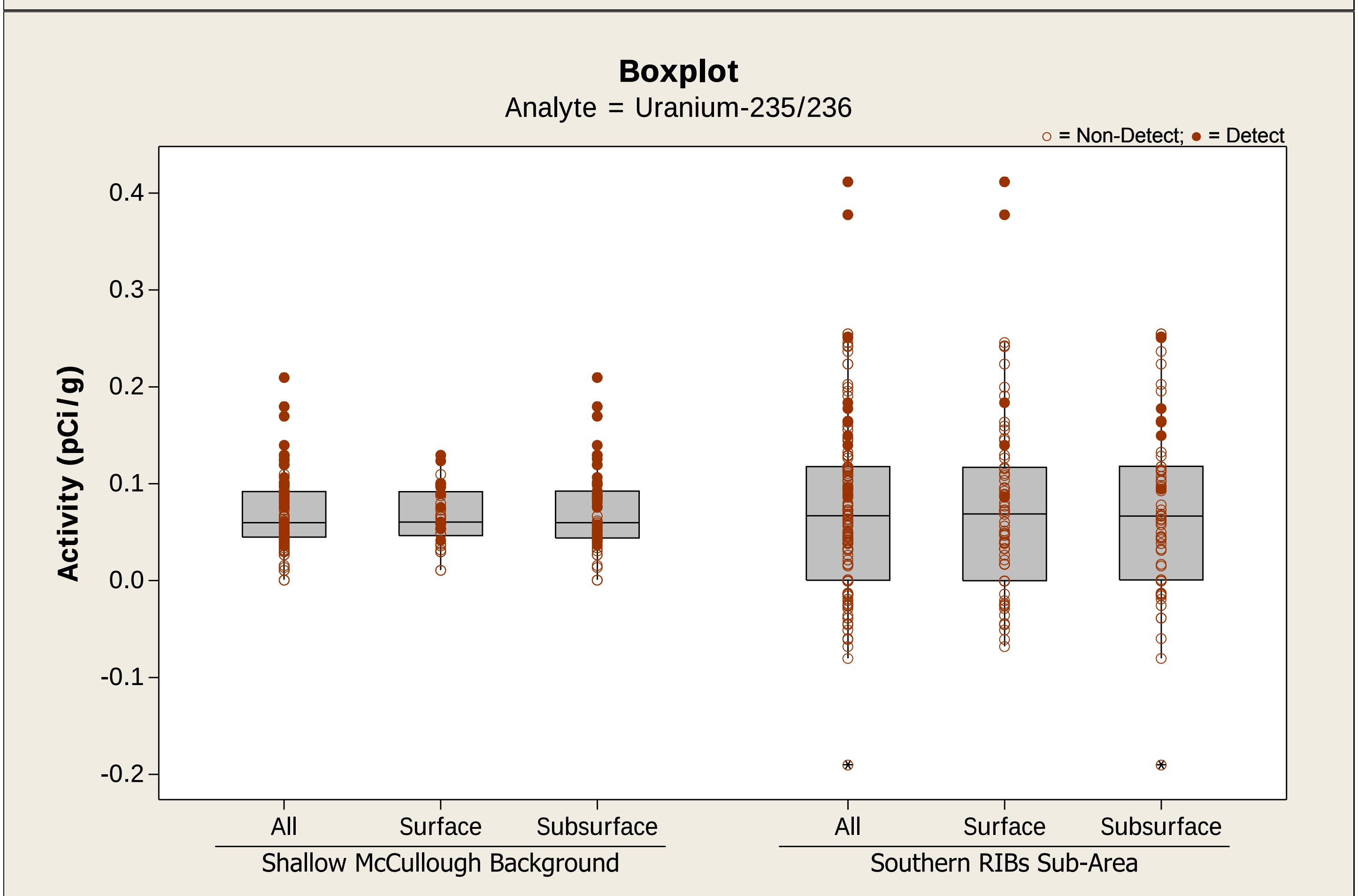
Probability Plot
Normal - 95% CI
Analyte = Uranium-233/234
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-1
0
1
2
3
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area



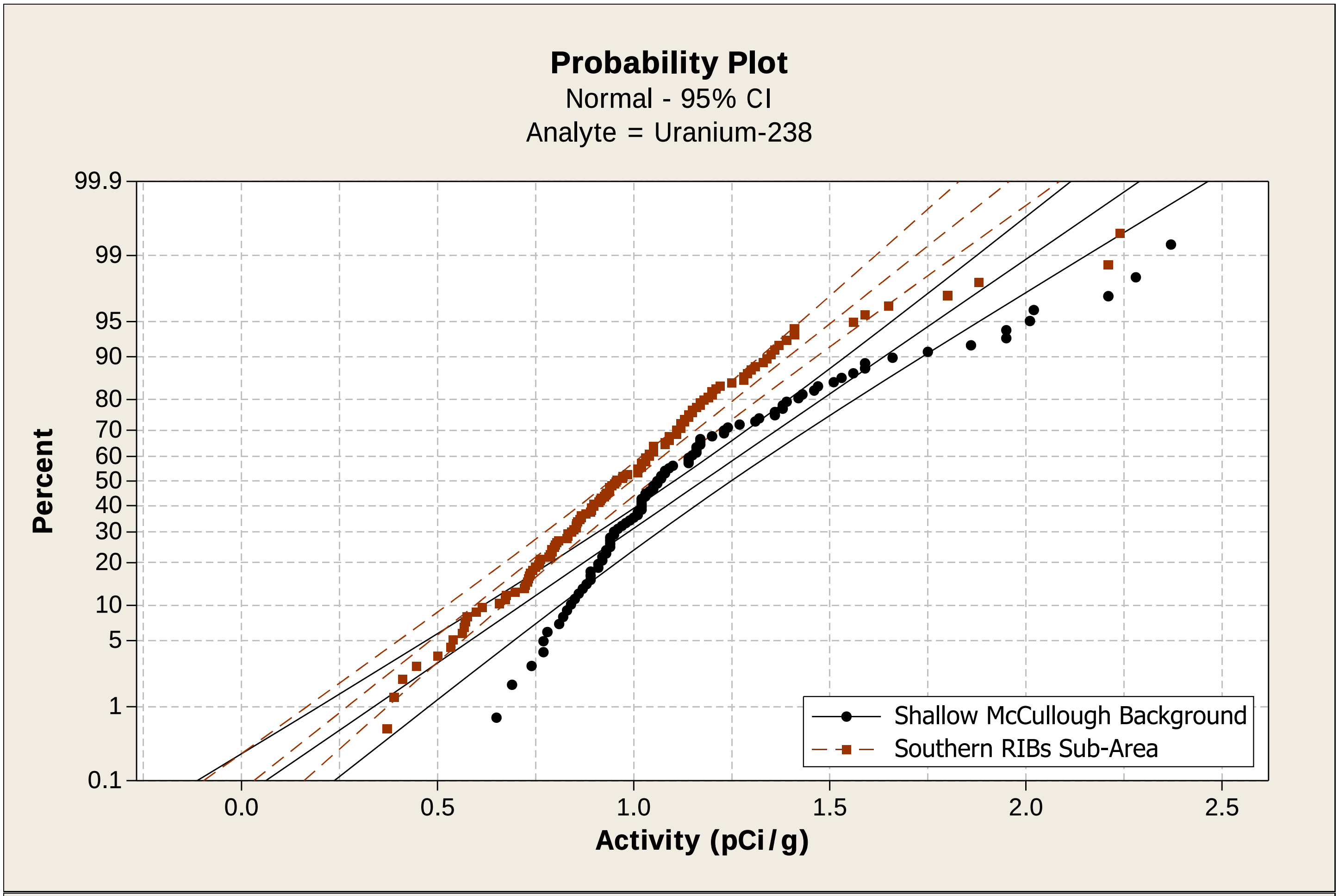
Boxplot
Analyte = Uranium-233/234
○ = Non-Detect; ● = Detect
Activity (pCi/g)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
All
Surface
Subsurface
Shallow McCullough Background
All
Surface
Subsurface
Southern RIBs Sub-Area

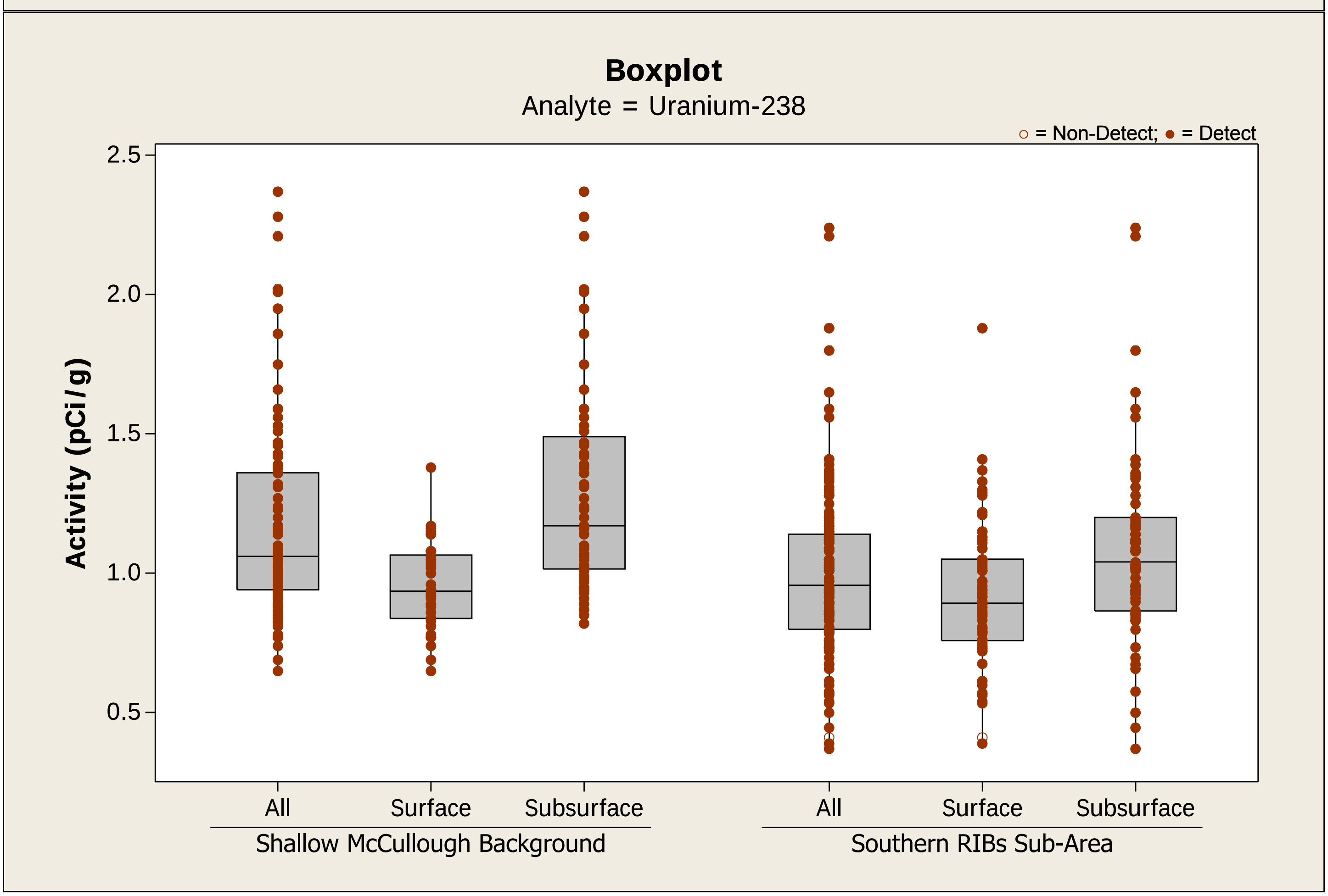


Probability Plot
Normal - 95% CI
Analyte = Uranium-235/236
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
-0.3
-0.2
-0.1
0.0
0.1
0.2
0.3
0.4
0.5
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area



Boxplot
Analyte = Uranium-235/236
○ = Non-Detect; ● = Detect
Activity (pCi/g)
0.4
0.3
0.2
0.1
0.0
-0.1
-0.2
All
Surface
Subsurface
All
Surface
Subsurface
Shallow McCullough Background
Southern RIBs Sub-Area


Probability Plot
Normal - 95% CI
Analyte = Uranium-238
Percent
99.9
99
95
90
80
70
60
50
40
30
20
10
5
1
0.1
0.0
0.5
1.0
1.5
2.0
2.5
Activity (pCi/g)
Shallow McCullough Background
Southern RIBs Sub-Area


Boxplot
Analyte = Uranium-238
○ = Non-Detect; ● = Detect
Activity (pCi/g)
2.5
2.0
1.5
1.0
0.5
All
Surface
Subsurface
All
Surface
Subsurface
Shallow McCullough Background
Southern RIBs Sub-Area

APPENDIX H

HUMAN HEALTH RISK ASSESSMENT
CALCULATION SPREADSHEETS
(on the report CD in Appendix B)

APPENDIX I

METALS AND CHEMICALS OF POTENTIAL CONCERN INTENSITY PLOTS

LIST OF FIGURES (APPENDIX I)

Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Max. Shallow Background (15,500 mg/kg)
>= Max. Shallow Background and < Residential BCL (77,200 mg/kg)
>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

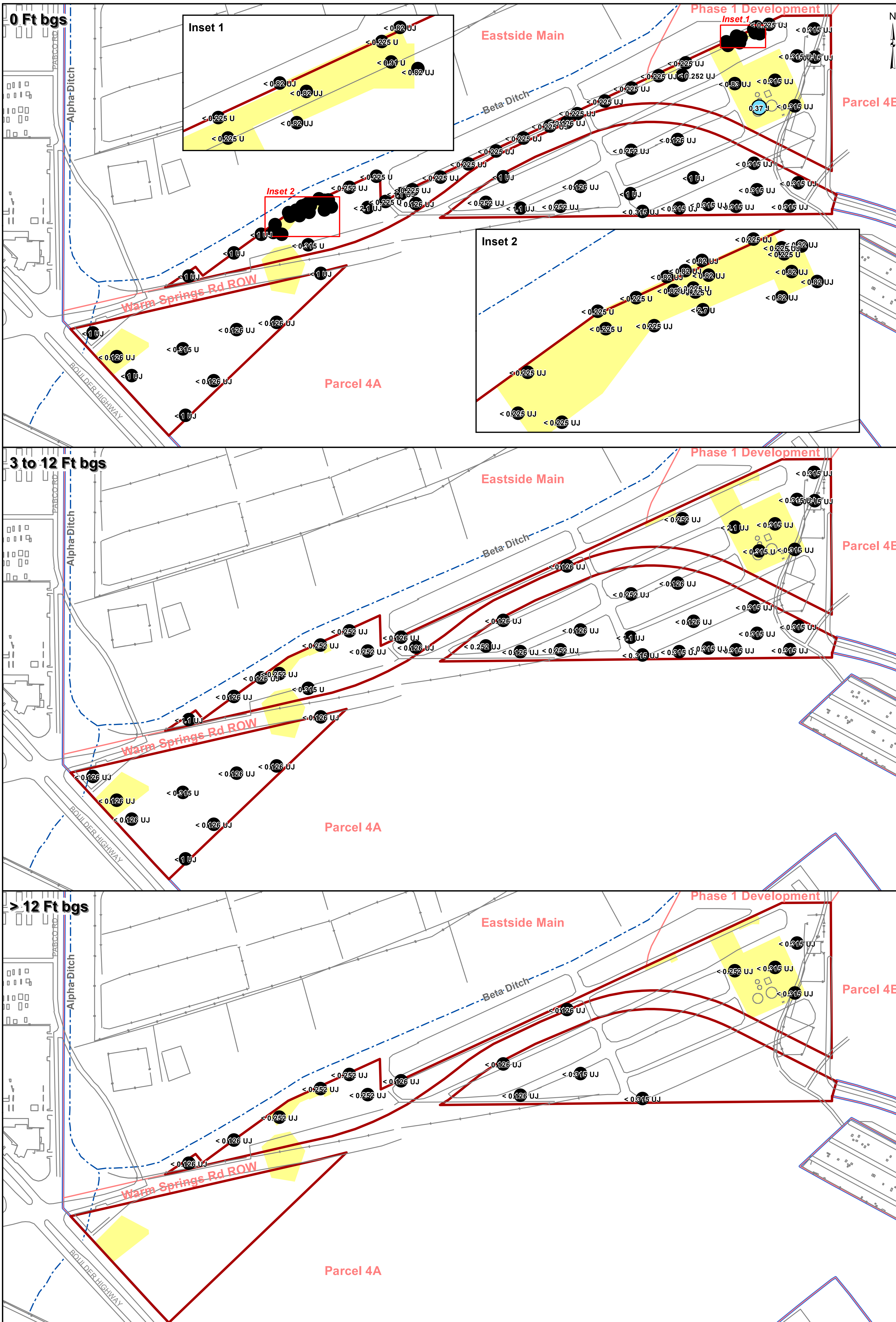
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-1

ALUMINUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Residential BCL (31.3 mg/kg)
	>= Residential BCL and < 10x Residential BCL
	>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-2

ANTIMONY SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < Residential BCL (0.39 mg/kg)
Eastside Soil Sub-Areas	>= Residential BCL and < Max. Qal McCullough Background (7.2 mg/kg)
	>= Max. Qal McCullough Background and < Max. Qal (All) Background
	>= Max. Qal (All) Background (27.6 mg/kg)

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

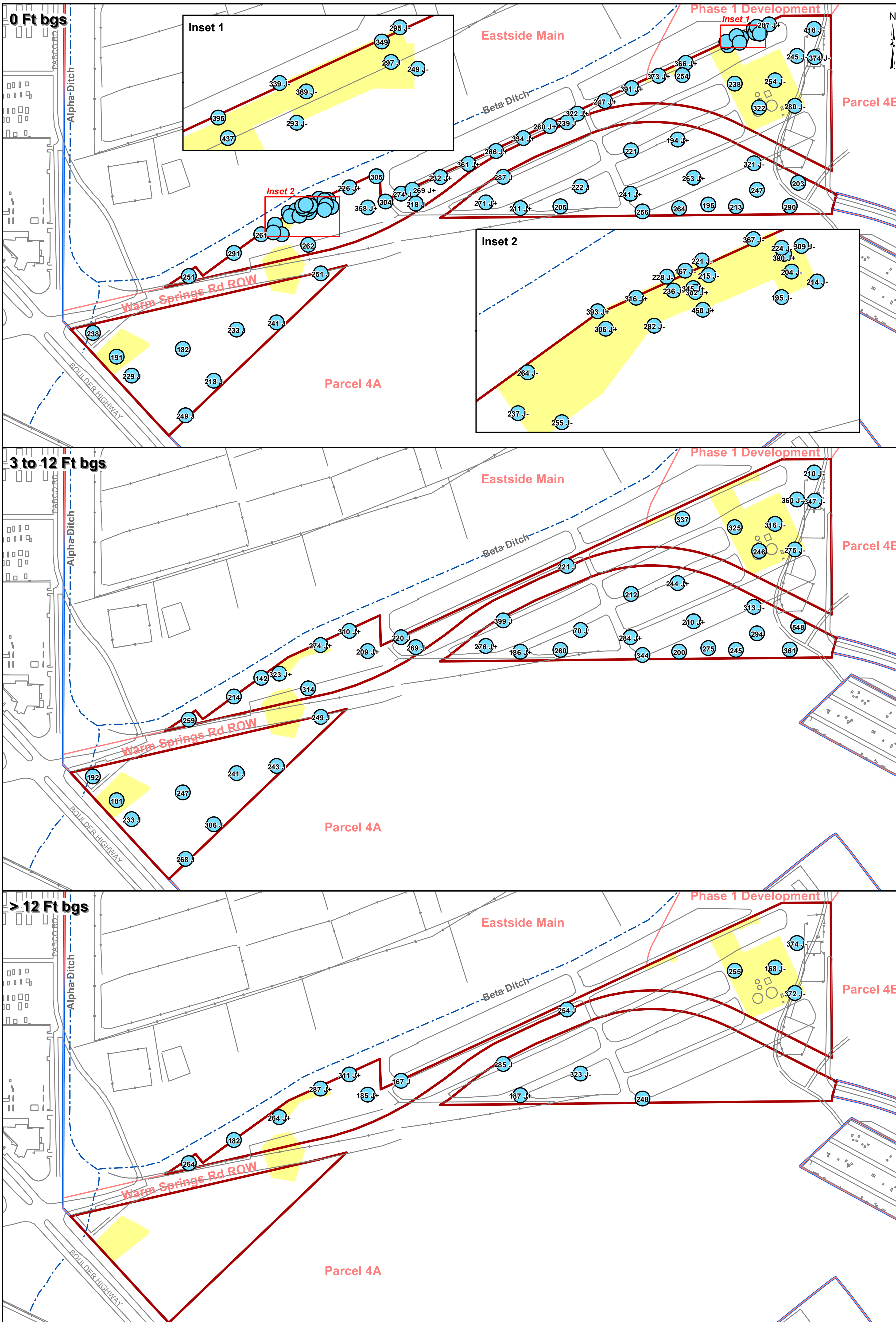
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-3

ARSENIC SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (15,300 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-4

BARIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (155 mg/kg)

>= Residential BCL and < 10x Residential BCL

>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

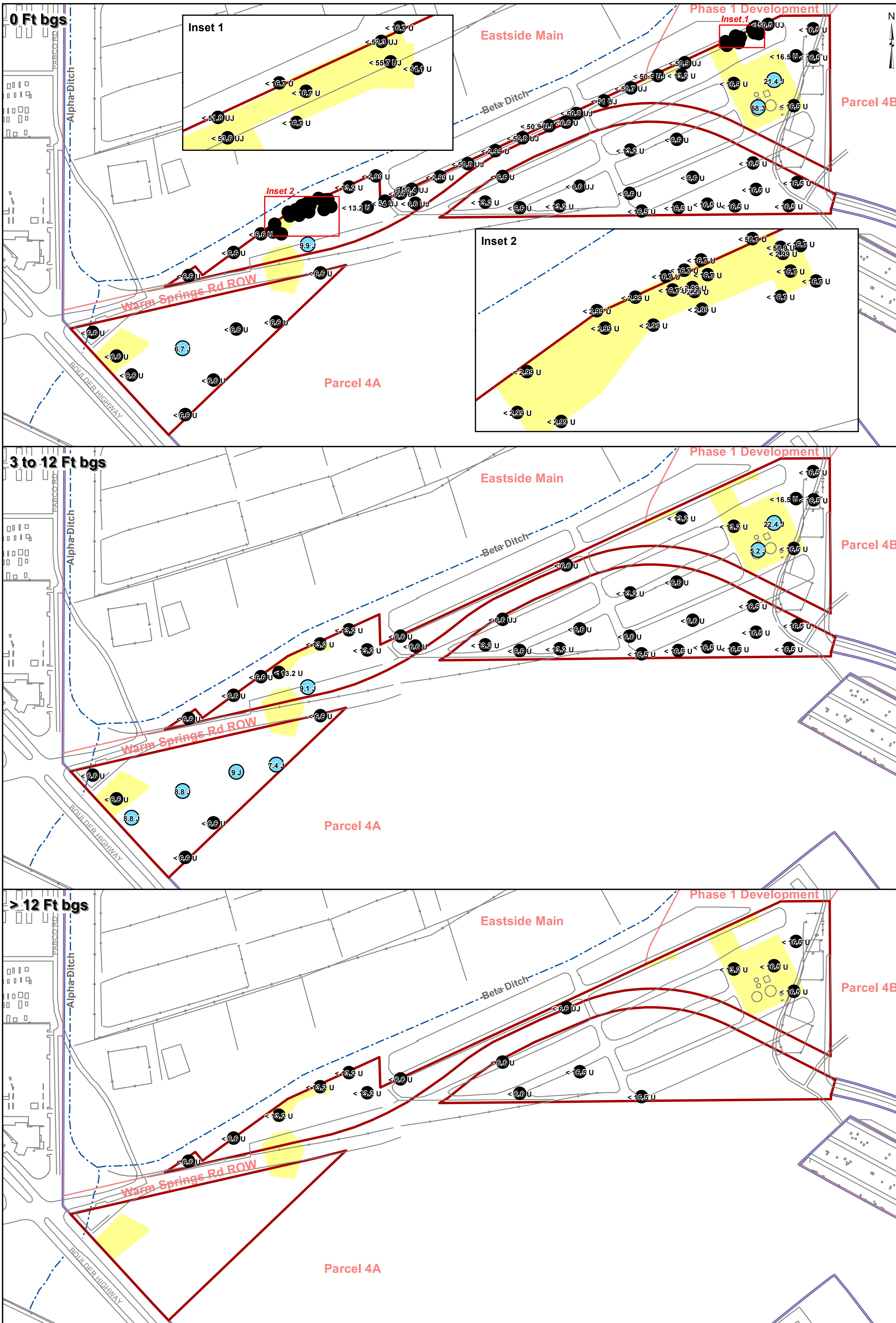
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-5

BERYLLIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (15,600 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

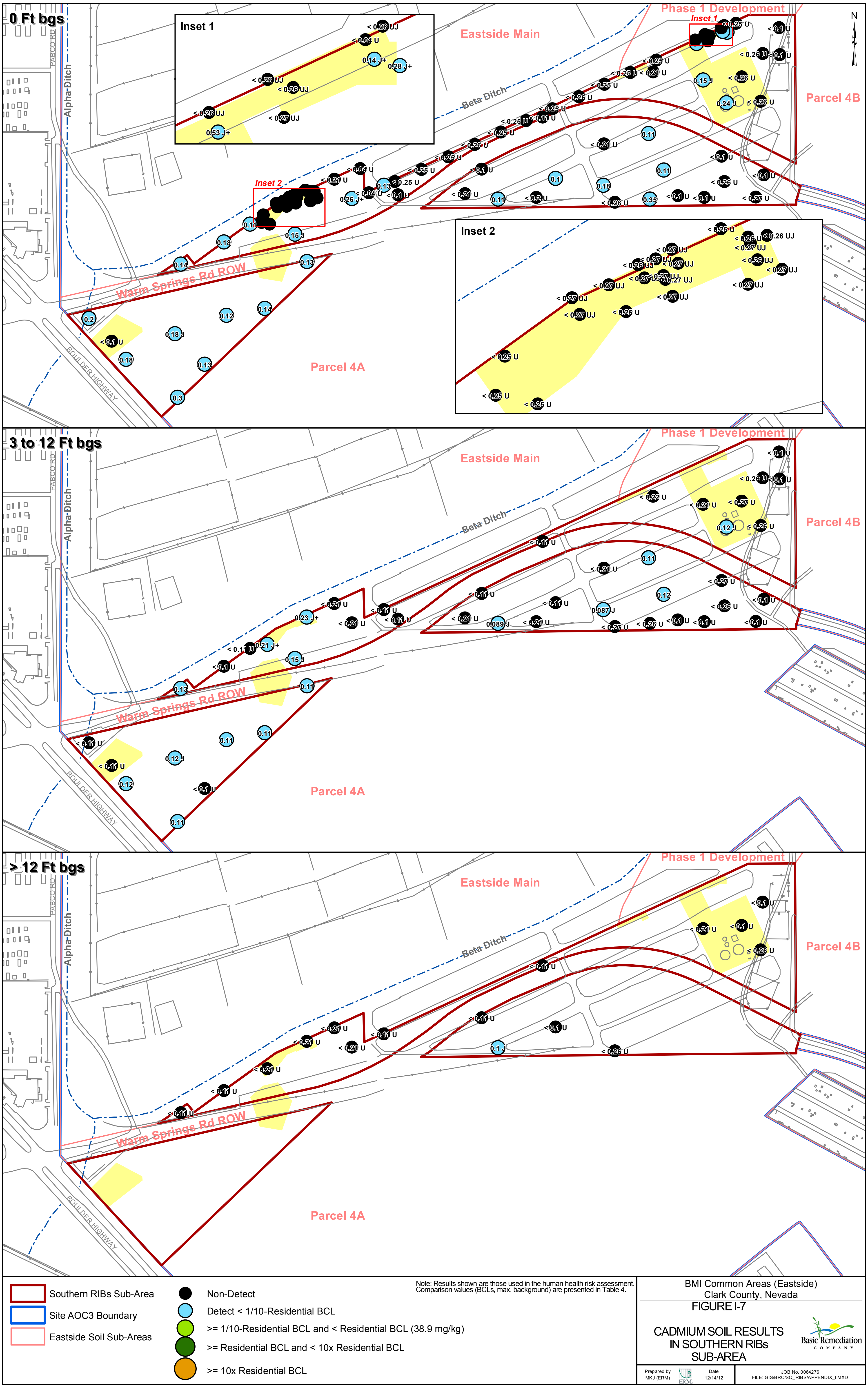
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-6

BORON SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



0 Ft bgs
3 to 12 Ft bgs
> 12 Ft bgs
Eastside Main
Phase 1 Development
Parcel 4A
Parcel 4B
Alpha Ditch
Beta Ditch
Warm Springs Rd ROW
BOULDER HIGHWAY
Inset 1
Inset 2
Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (38.9 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL
Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.
BMI Common Areas (Eastside)
Clark County, Nevada
FIGURE I-7
CADMIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA
Basic Remediation Company
Prepared by MKJ (ERM)
Date 12/14/12
JOB No. 0064276
FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < Max. Shallow Background (82,800 mg/kg)
Eastside Soil Sub-Areas	>= Max. Shallow Background

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-8

CALCIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

- Southern RIBs Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas
- Non-Detect
- Detect < 1/10-Residential BCL
- >= 1/10-Residential BCL and < Residential BCL (100,000 mg/kg)
- >= Residential BCL and < 10x Residential BCL
- >= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

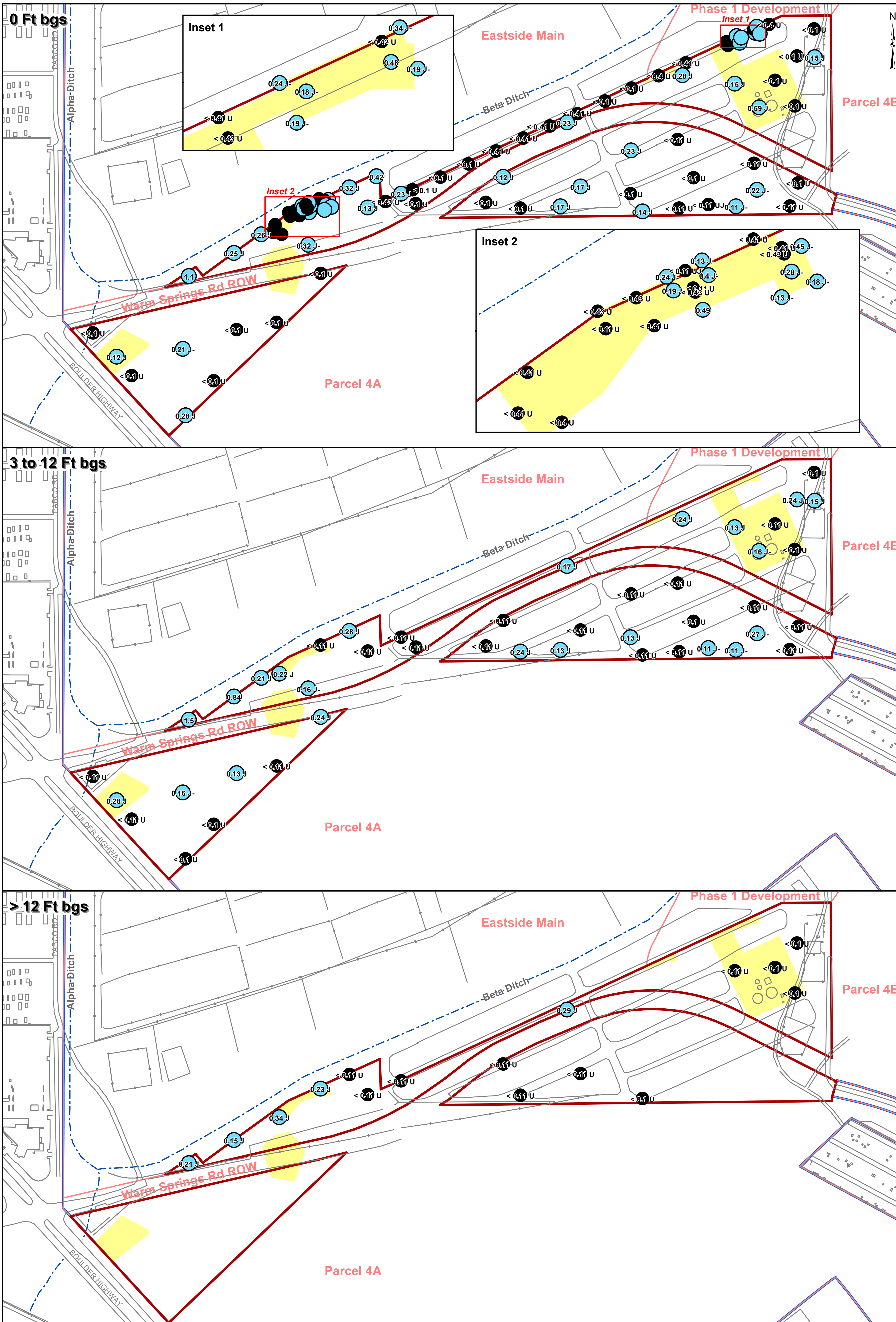
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-9

CHROMIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Residential BCL (229 mg/kg)
	>= Residential BCL and < 10x Residential BCL
	>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-10

CHROMIUM (VI) SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Max. Shallow Background (16.3 mg/kg)

>= Max. Shallow Background and < Residential BCL (23.4 mg/kg)

>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-11

COBALT SOIL RESULTS
IN SOUTHERN RIBs
SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (2,910 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-12

COPPER SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Max. Shallow Background (21,700 mg/kg)
>= Max. Shallow Background and < Residential BCL (54,800 mg/kg)
>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-13

IRON SOIL RESULTS
IN SOUTHERN RIBs
SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (400 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-14

LEAD SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Max. Shallow Background (41.8 mg/kg)
>= Max. Shallow Background and < Residential BCL (156 mg/kg)
>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-15

LITHIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Max. Shallow Background (17,500 mg/kg)
>= Max. Shallow Background and < Residential BCL (100,000 mg/kg)
>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-16

MAGNESIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (1,820 mg/kg)

>= Residential BCL and < Max. Shallow Background (2,070 mg/kg)

>= Max. Shallow Background

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

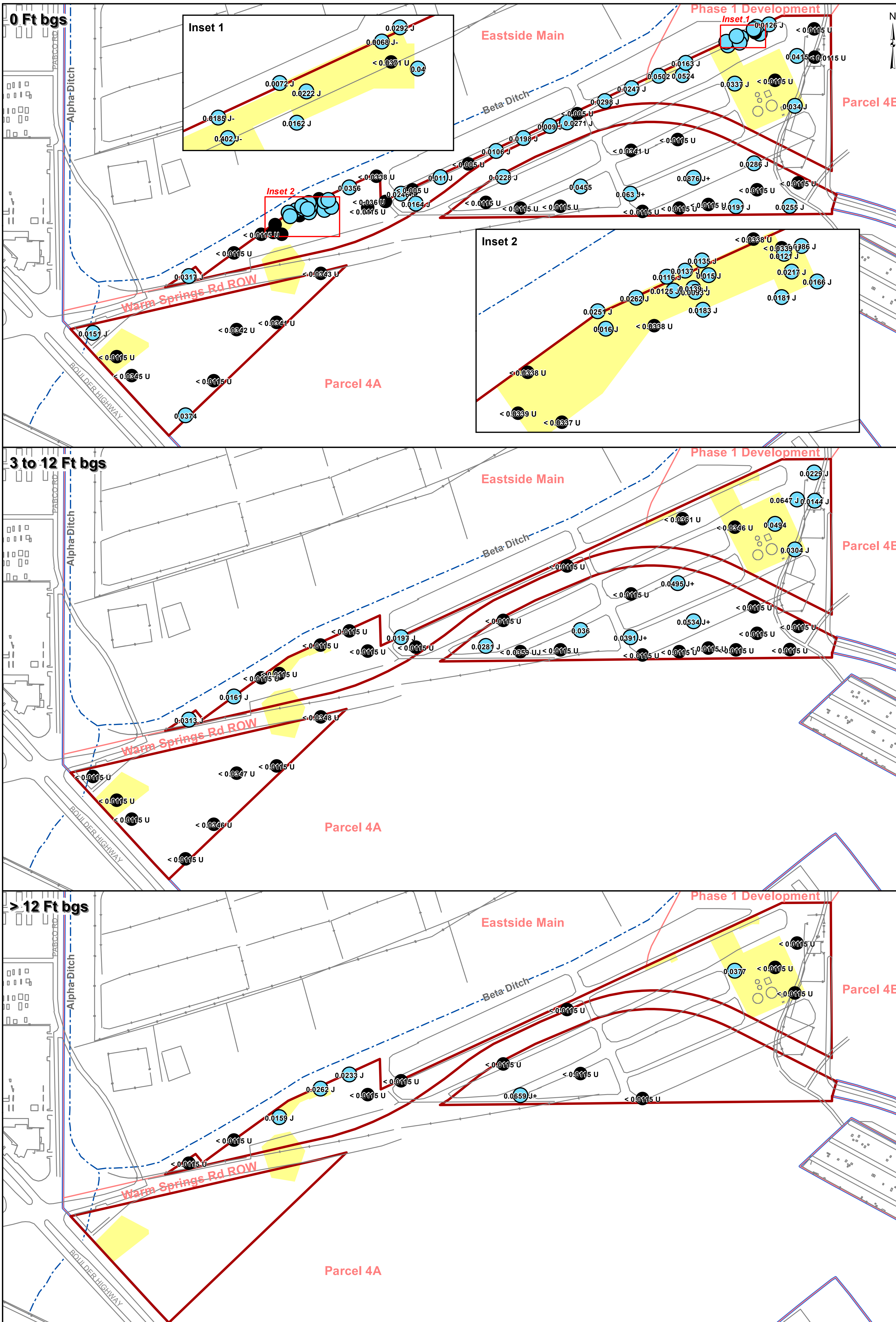
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-17

MANGANESE SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (23.5 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

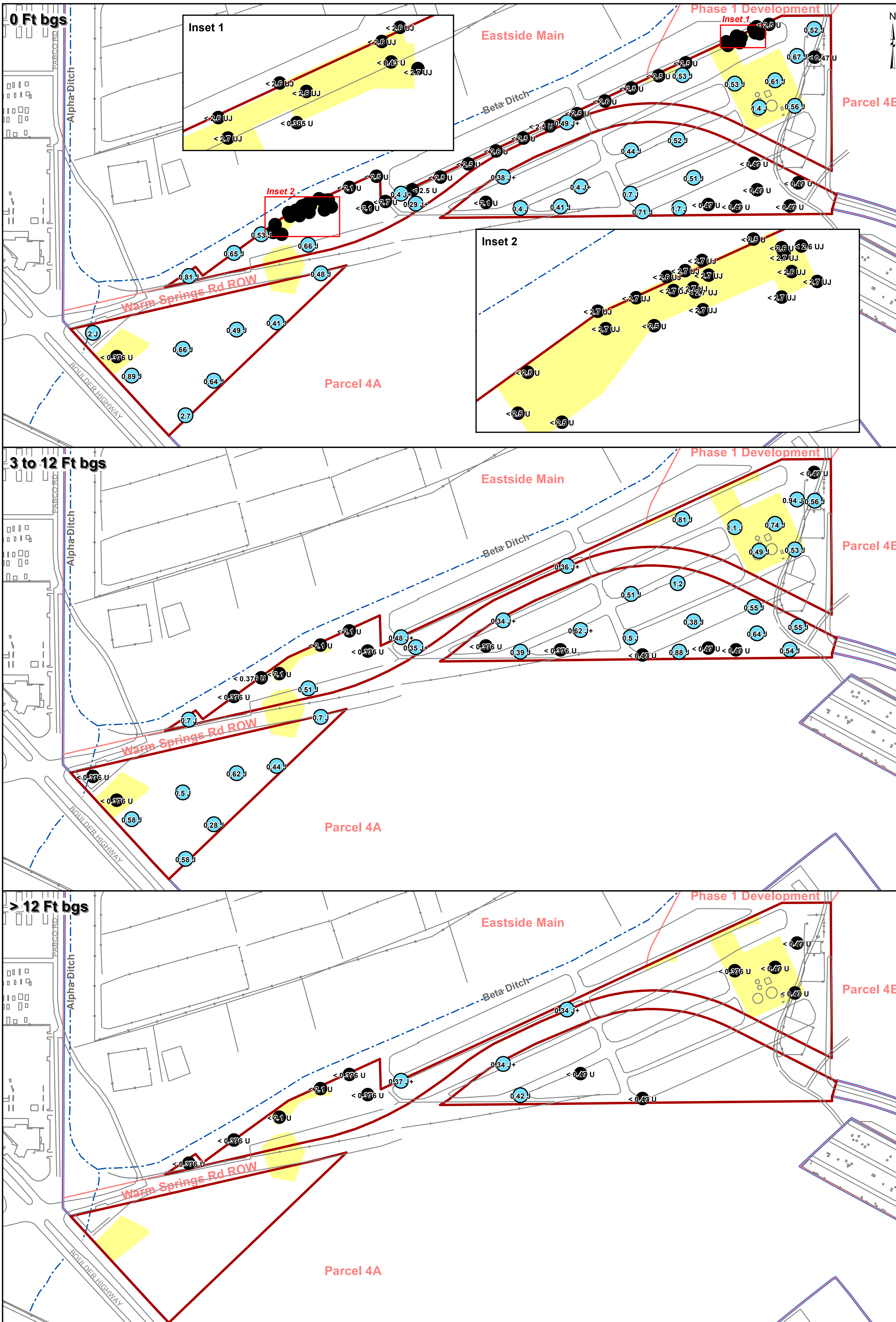
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-18

MERCURY SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (391 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-19

MOLYBDENUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Residential BCL (1,540 mg/kg)
	>= Residential BCL and < 10x Residential BCL
	>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-20

NICKEL SOIL RESULTS
IN SOUTHERN RIBs
SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < Max. Shallow Background (9,000 mg/kg)
Eastside Soil Sub-Areas	>= Max. Shallow Background

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

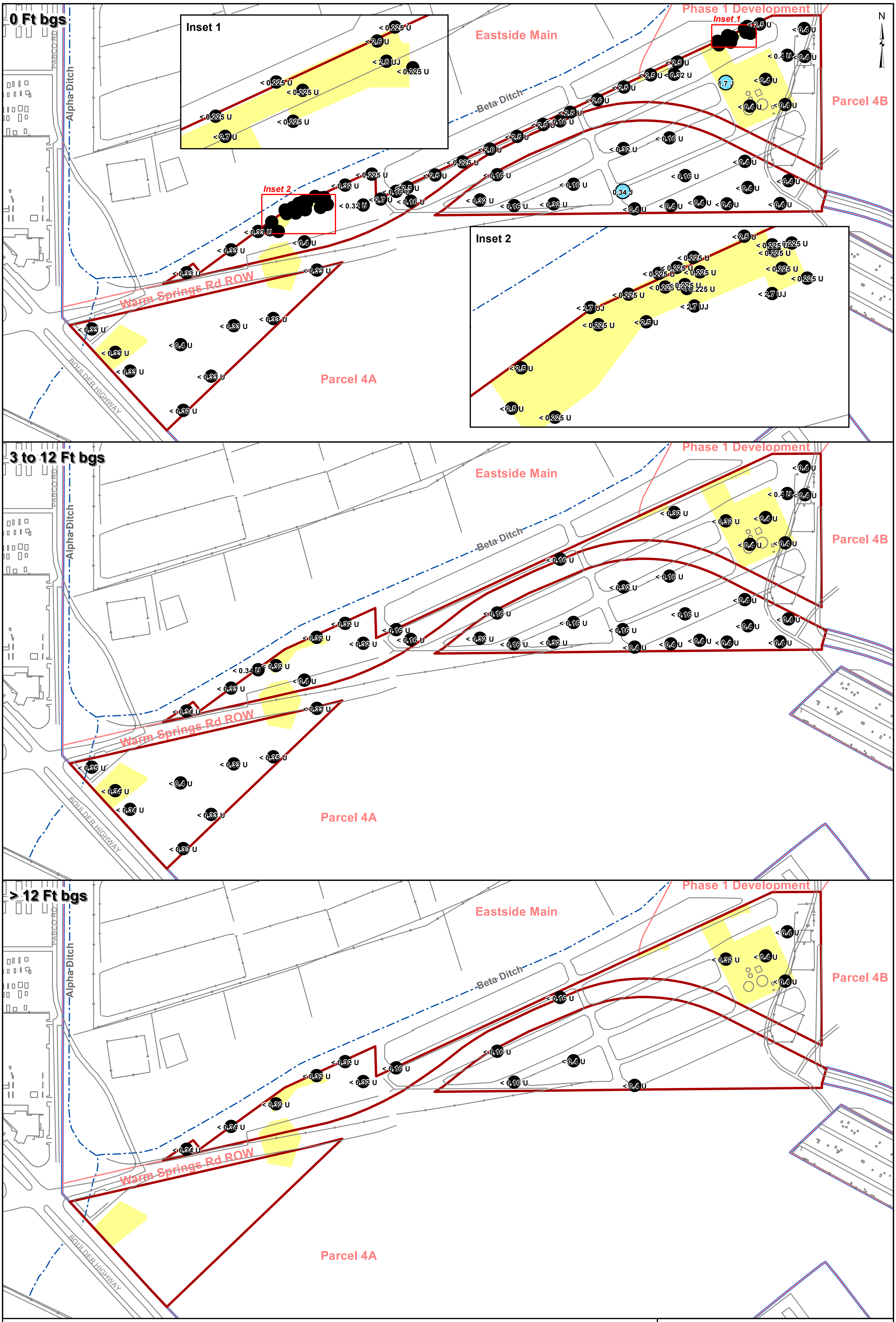
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-21

POTASSIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area		Non-Detect
Site AOC3 Boundary		Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas		>= 1/10-Residential BCL and < Residential BCL (391 mg/kg)
		>= Residential BCL and < 10x Residential BCL
		>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

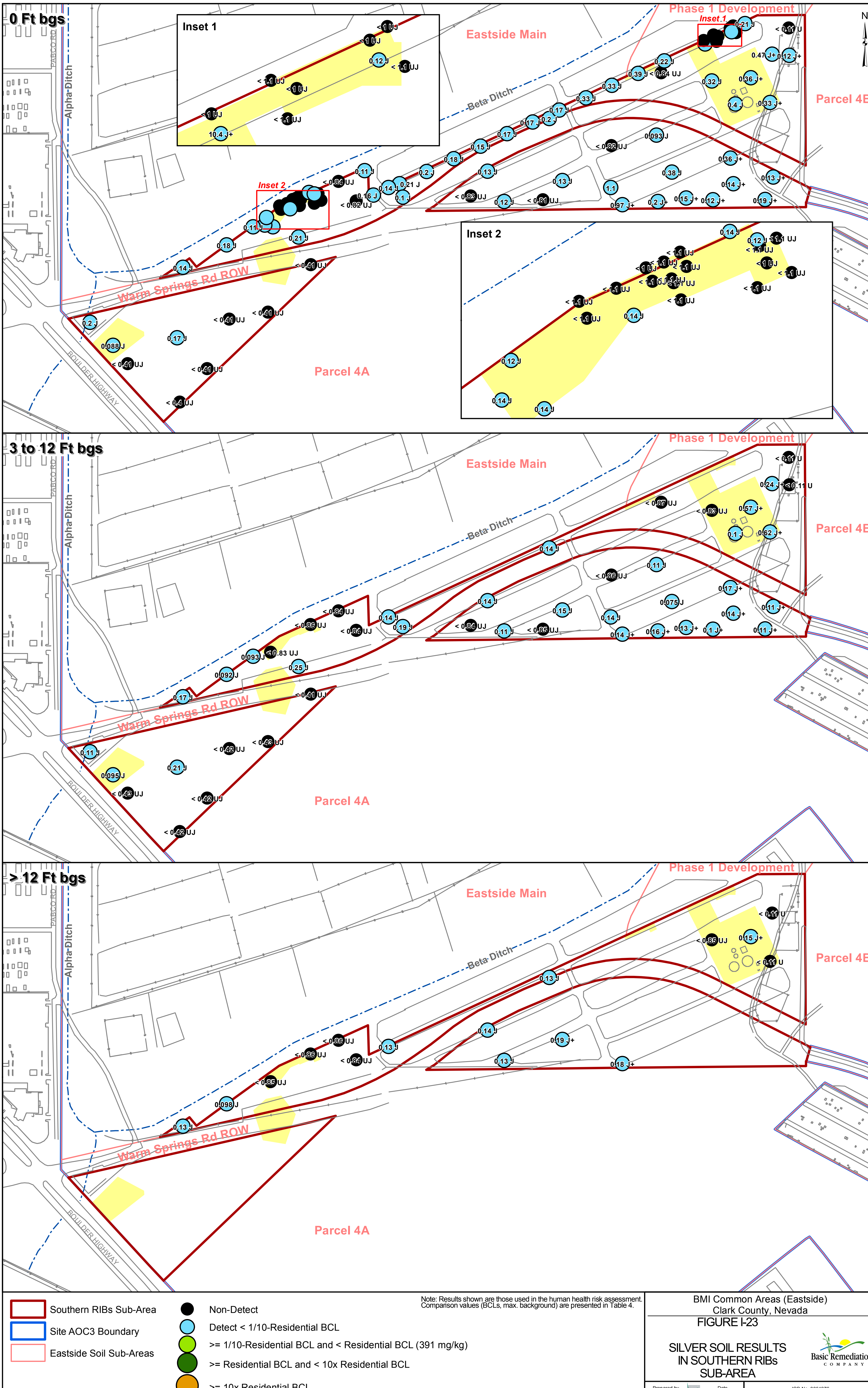
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-22

SELENIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) ERM Date 12/14/12 JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-23

SILVER SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < Max. Shallow Background (4,210 mg/kg)
Eastside Soil Sub-Areas	>= Max. Shallow Background

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

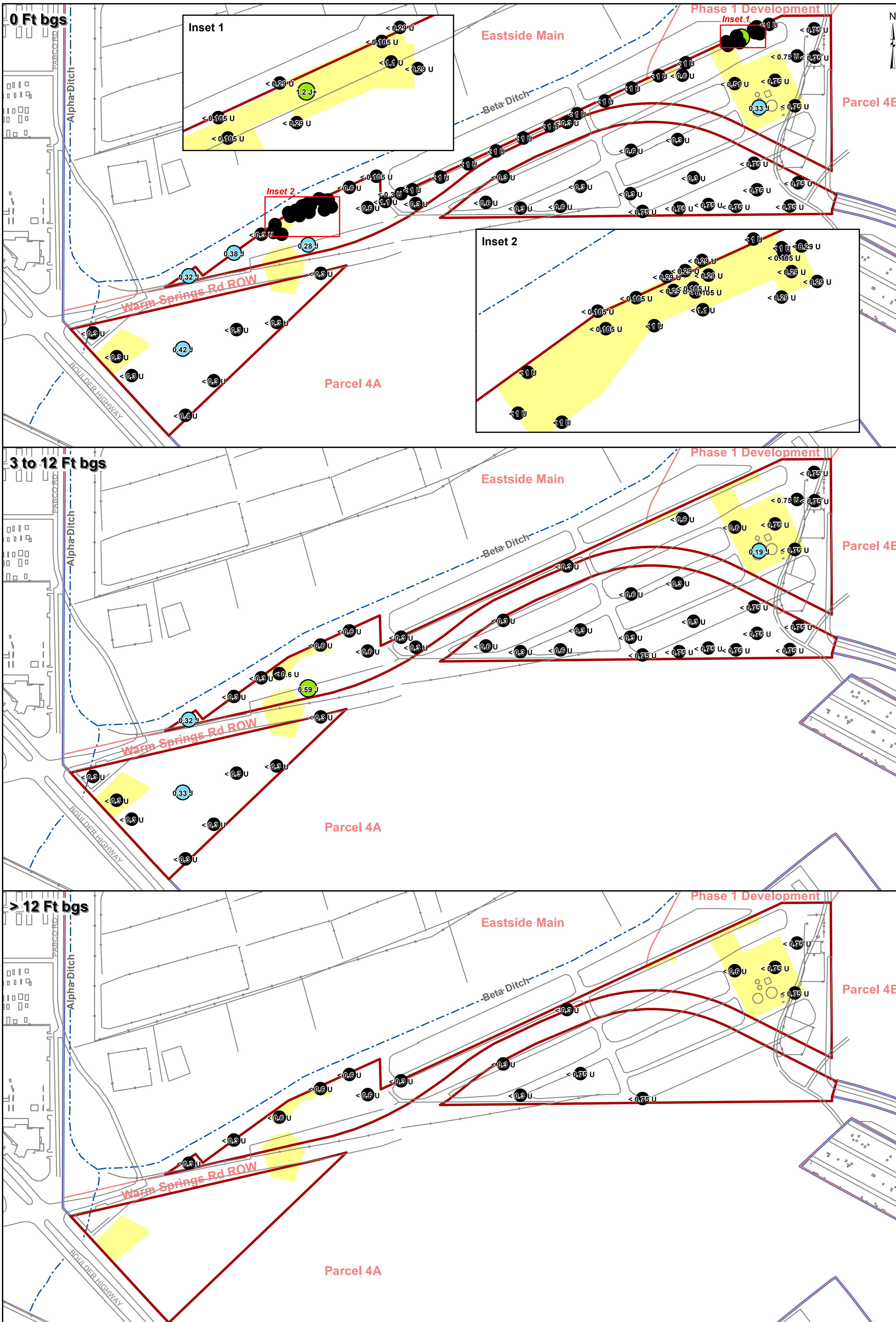
FIGURE I-24

SODIUM SOIL RESULTS
IN SOUTHERN RIBs
SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD


0 Ft bgs
3 to 12 Ft bgs
> 12 Ft bgs
Inset 1
Inset 2
Eastside Main
Phase 1 Development
Parcel 4B
Parcel 4A
Beta Ditch
Alpha Ditch
Warm Springs Rd ROW
BOULDER HIGHWAY
PABCO RD
N
Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (46,900 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL
Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.
BMI Common Areas (Eastside)
Clark County, Nevada
FIGURE I-25
STRONTIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA
Basic Remediation Company
Prepared by MKJ (ERM)
Date 12/14/12
JOB No. 0064276
FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Max. Shallow Background (2.0 mg/kg)
	>= Max. Shallow Background and < Residential BCL (5.48 mg/kg)
	>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

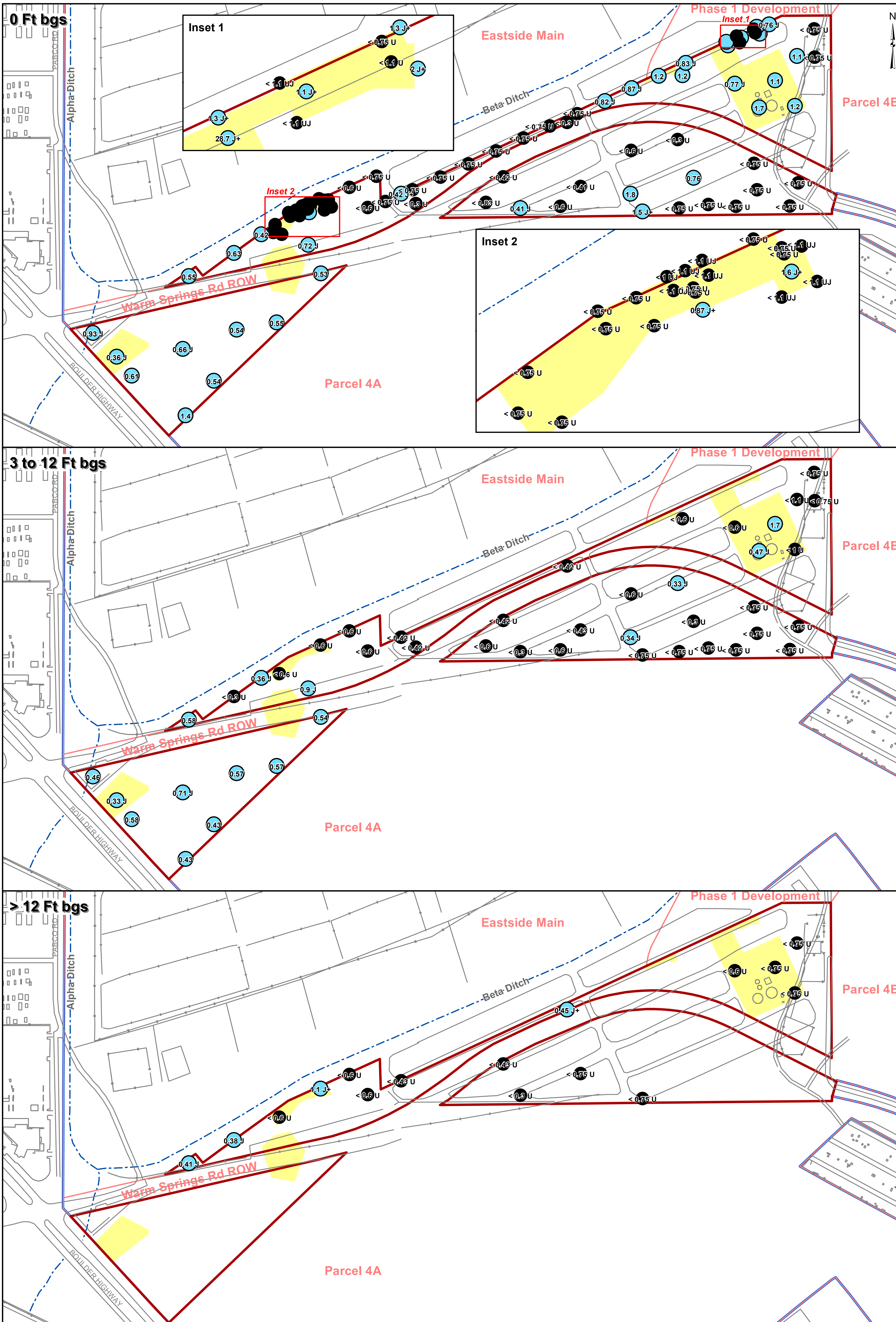
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-26

THALLIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation COMPANY

Prepared by MKJ (ERM) ERM Date 12/14/12 JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (46,900 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

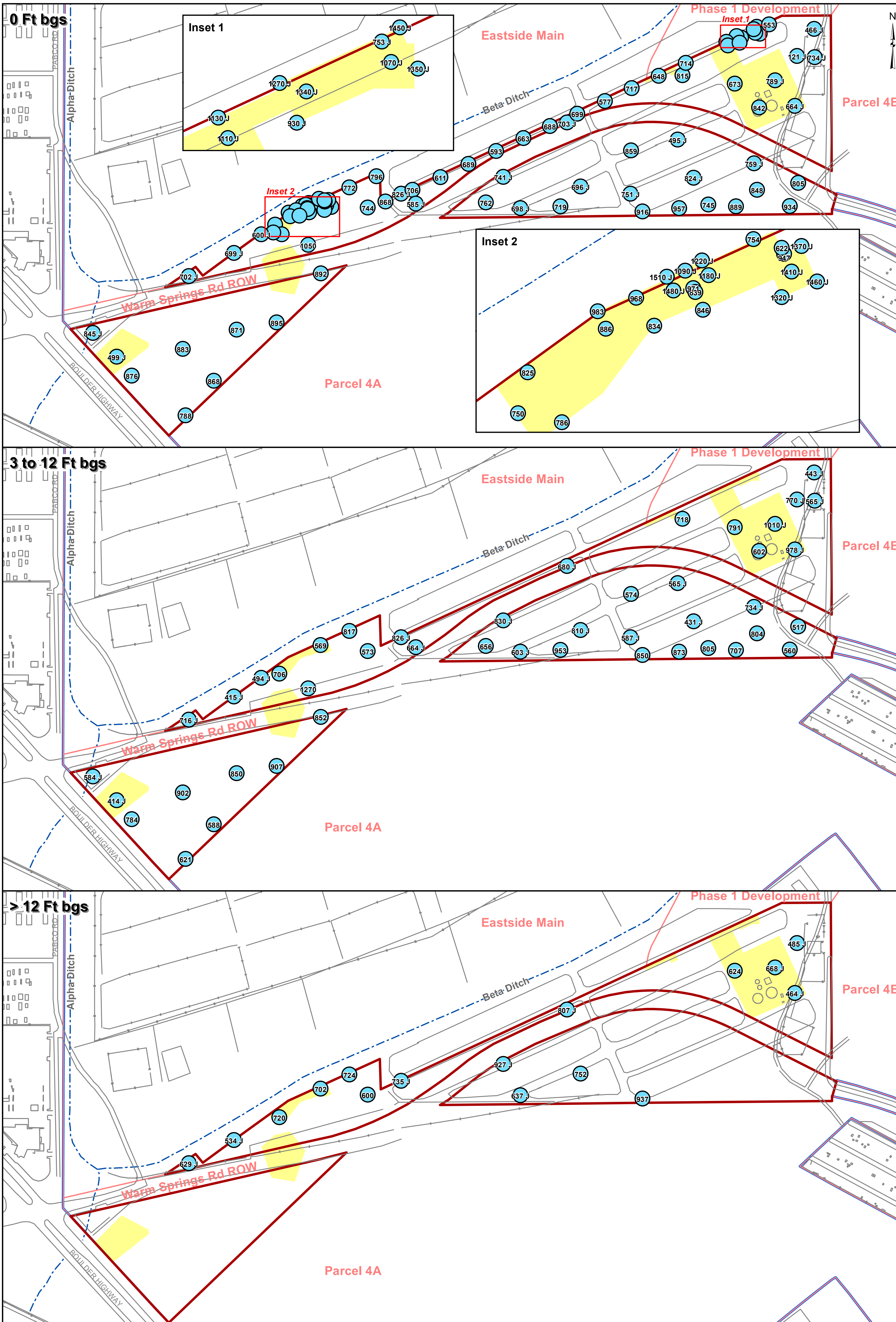
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-27

TIN SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (100,000 mg/kg)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

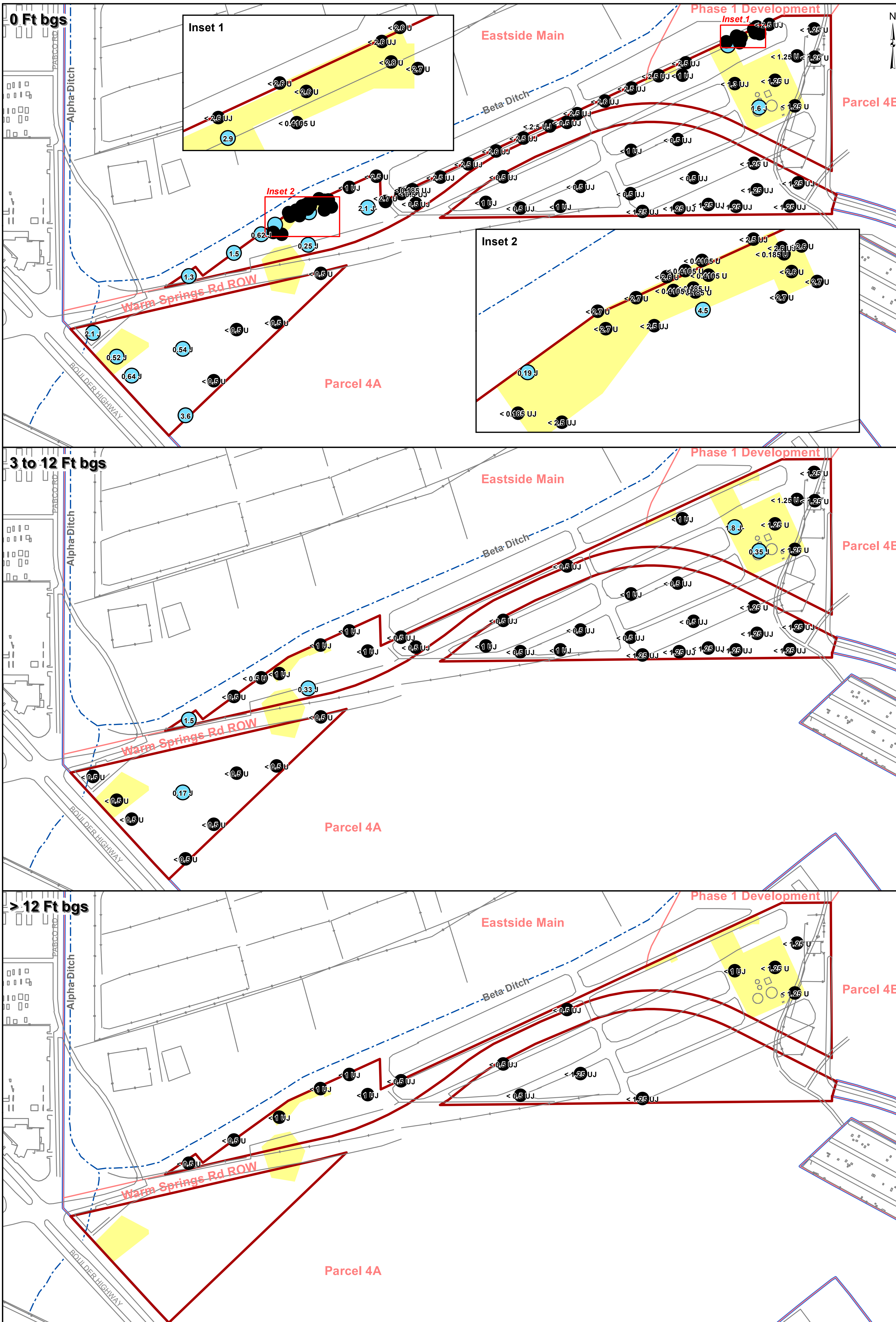
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-28

TITANIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Residential BCL (587 mg/kg)
	>= Residential BCL and < 10x Residential BCL
	>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-29

TUNGSTEN SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (235 mg/kg)

>= Residential BCL and < 10x Residential BCL

>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-30

URANIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Max. Shallow Background (59.1 mg/kg)

>= Max. Shallow Background and < Residential BCL (391 mg/kg)

>= Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-31

VANADIUM SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by	Date	JOB No. 0064276
MKJ (ERM)	12/14/12	FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Residential BCL (23,500 mg/kg)
	>= Residential BCL and < 10x Residential BCL
	>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

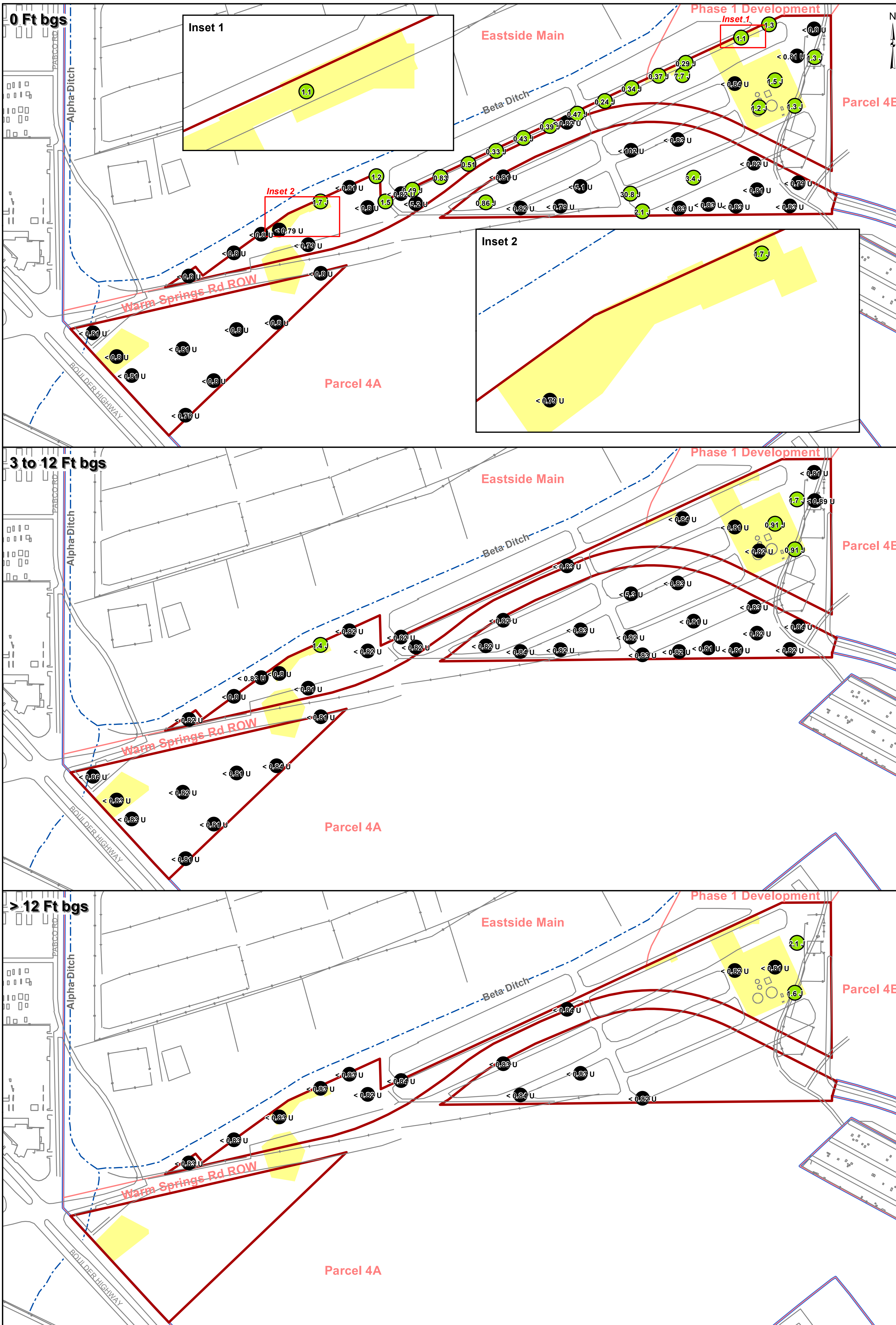
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-32

ZINC SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect (No BCL for Ammonia)
Eastside Soil Sub-Areas	

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

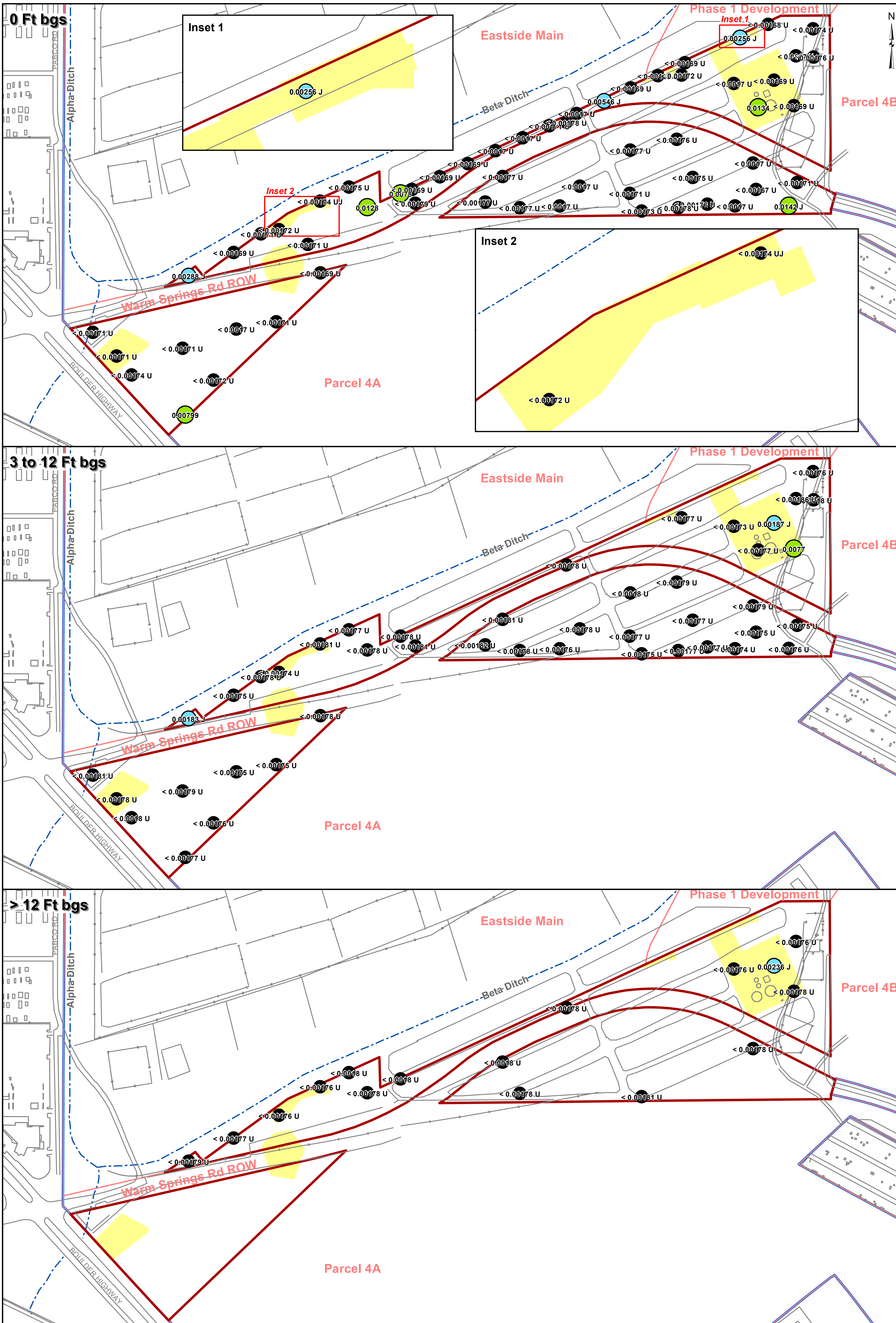
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-33

AMMONIA (as N) SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (0.0622 mg/kg)

>= Residential BCL and < 10x Residential BCL

>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

Benzo(a)pyrene is shown as representative of the PAH COPCs.

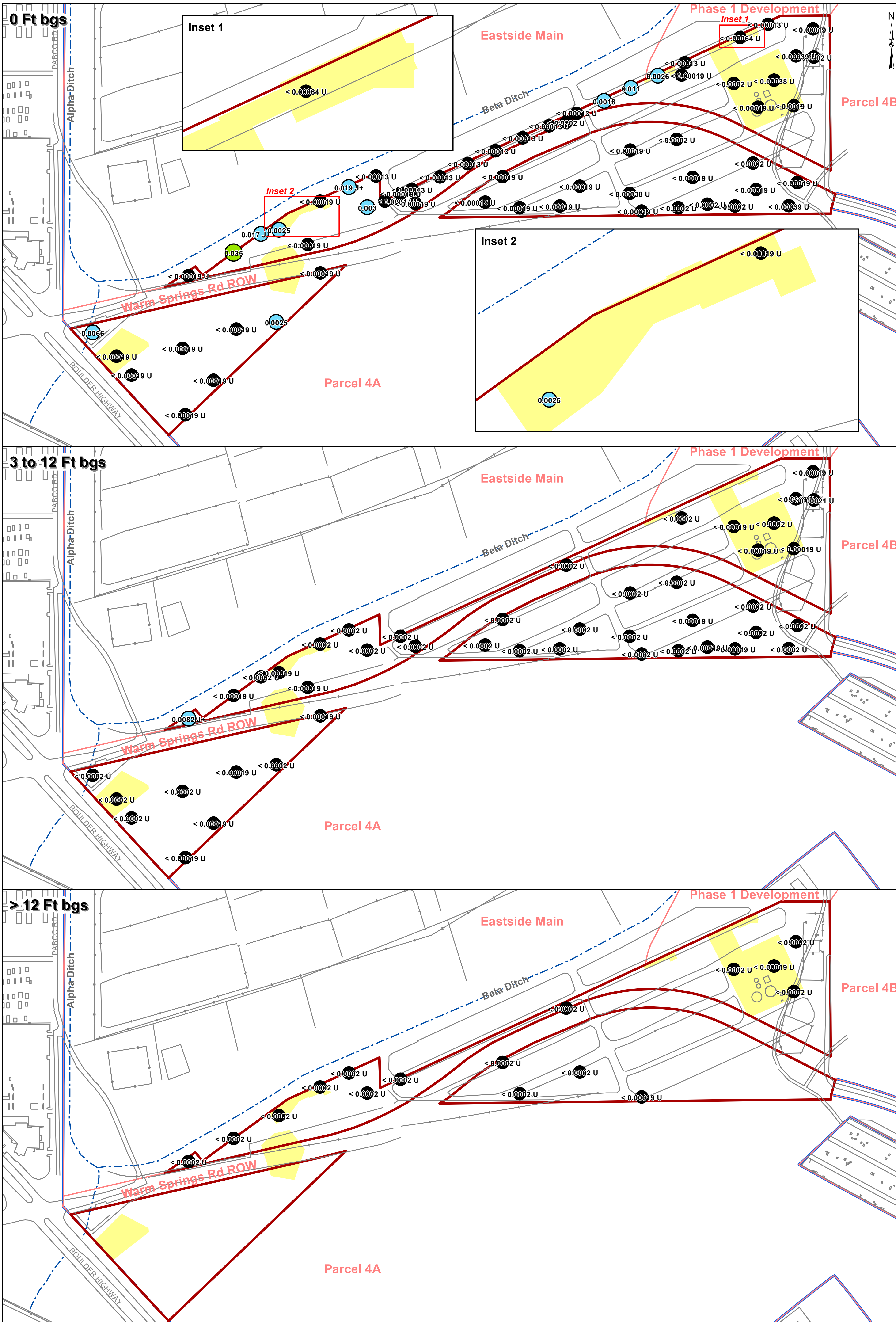
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-34

BENZO(a)PYRENE SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation COMPANY

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (0.316 mg/kg)

>= Residential BCL and < 10x Residential BCL

>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-35

beta-BHC SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by	Date	JOB No. 0064276
MKJ (ERM)	12/14/12	FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

Southern RIBs Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/10-Residential BCL
Eastside Soil Sub-Areas	>= 1/10-Residential BCL and < Residential BCL (10.6 mg/kg)
	>= Residential BCL and < 10x Residential BCL
	>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

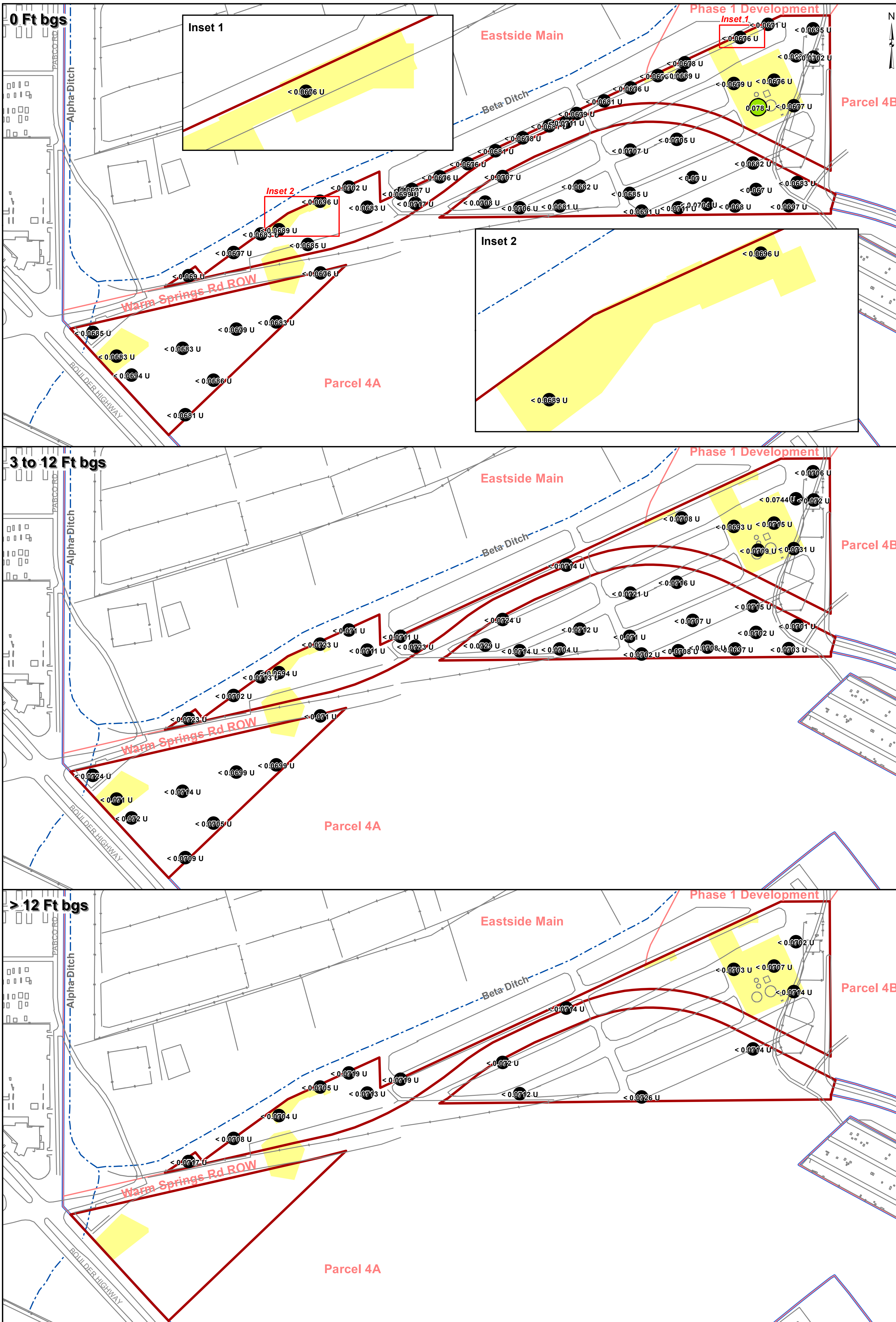
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-36

FORMALDEHYDE SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (0.304 mg/kg)

>= Residential BCL and < 10x Residential BCL

>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

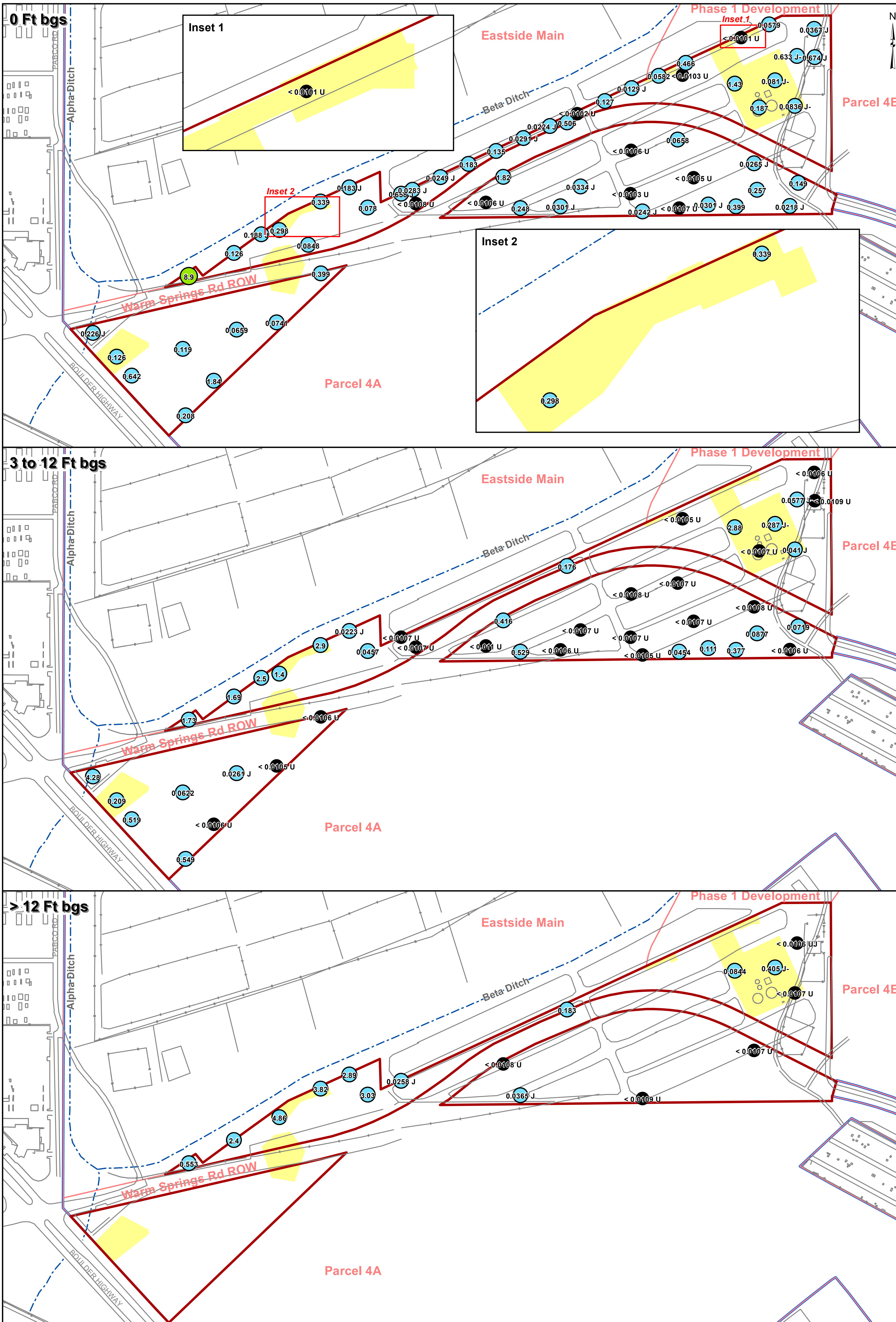
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-37

HEXACHLOROBENZENE SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

Non-Detect

Detect < 1/10-Residential BCL

>= 1/10-Residential BCL and < Residential BCL (54.8 mg/kg)

>= Residential BCL and < 10x Residential BCL

>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

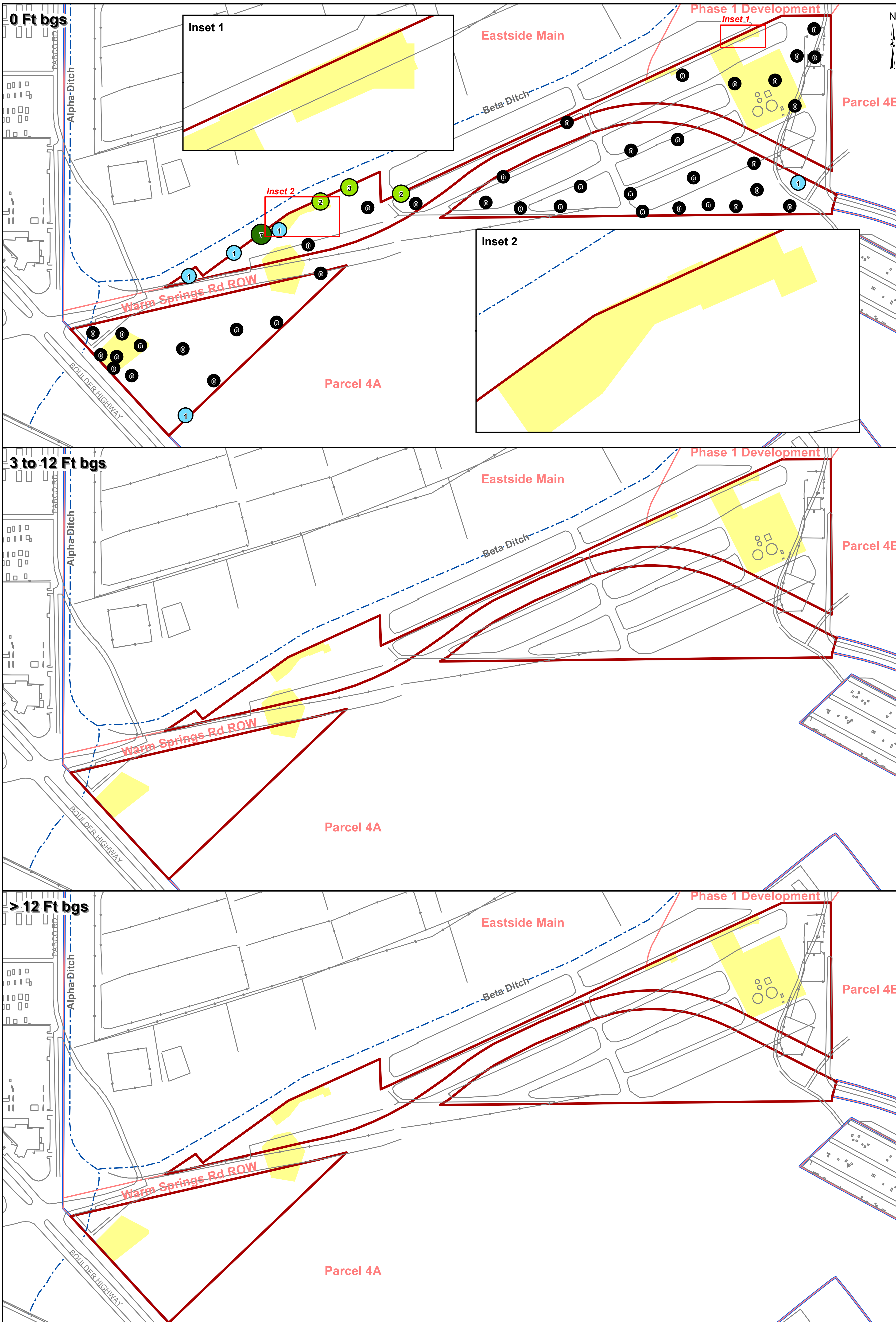
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-38

PERCHLORATE SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area

Site AOC3 Boundary

Eastside Soil Sub-Areas

None Detected

1 Long Chrysotile Fiber

2-3 Long Chrysotile Fibers

4-7 Long Chrysotile Fibers

>7 Long Chrysotile Fibers

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

Results shown are for long fibers. No long amphibole fibers were detected in the human health risk assessment datset.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-39

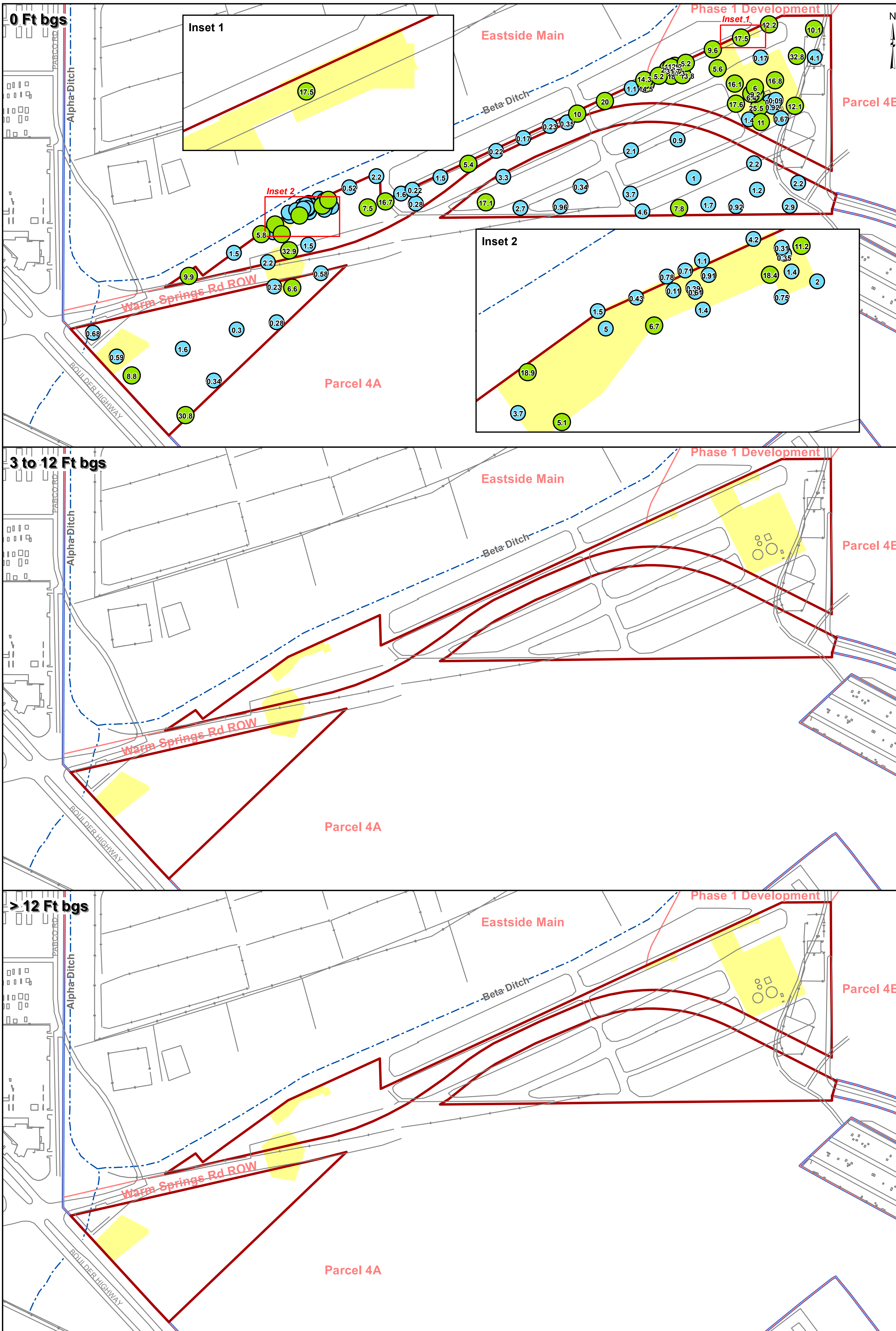
ASBESTOS SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM)

Date 12/14/12

JOB No. 0064276
FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD



Southern RIBs Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas

Non-Detect
Detect < 1/10-Residential BCL
>= 1/10-Residential BCL and < Residential BCL (50 ppt)
>= Residential BCL and < 10x Residential BCL
>= 10x Residential BCL

Note: Results shown are those used in the human health risk assessment. Comparison values (BCLs, max. background) are presented in Table 4.

Although not a COPC in the human health risk assessment, TCDD TEQ is presented here because it is a primary chemical of interest for the project.

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE I-40

TCDD TEQ SOIL RESULTS IN SOUTHERN RIBs SUB-AREA

Basic Remediation Company

Prepared by MKJ (ERM) | Date 12/14/12 | JOB No. 0064276 | FILE: GIS/BRC/SO_RIBS/APPENDIX_I.MXD

APPENDIX J

VAPOR INTRUSION TIER 2 ASSESSMENT AND
COMPARISON STUDY AREA RESULTS
(model files on the report CD in Appendix B)

LIST OF TABLES (APPENDIX J)

TABLE J-1
TIER 2 ASSESSMENT FOR THE SOUTHERN RIBs SUB-AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA
(Page 1 of 2)

Chemical	Units	USEPA 2002 VI SL(1)	AA-1 August 2009
1,1,1,2-Tetrachloroethane	µg/L	3.3	< 0.16 U
1,1,1-Trichloroethane	µg/L	3100	< 0.088 U
1,1,2,2-Tetrachloroethane	µg/L	3	< 0.11 U
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	1500	< 0.12 U
1,1,2-Trichloroethane	µg/L	5	< 0.071 U
1,1-Dichloroethane	µg/L	2200	0.1 J
1,1-Dichloroethene	µg/L	190	1.8
1,1-Dichloropropene	µg/L	--	< 0.068 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.16 U
1,2,3-Trichloropropane	µg/L	290	< 0.23 U
1,2,4-Trichlorobenzene	µg/L	3400	< 0.16 U
1,2,4-Trimethylbenzene	µg/L	24	< 0.062 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	33	< 0.2 U
1,2-Dichlorobenzene	µg/L	2600	< 0.11 U
1,2-Dichloroethane	µg/L	5	< 0.05 U
1,2-Dichloroethene (total)	µg/L	--	< 0.21 U
1,2-Dichloropropane	µg/L	35	< 0.054 U
1,3,5-Trichlorobenzene	µg/L	--	< 0.12 U
1,3,5-Trimethylbenzene	µg/L	25	< 0.11 U
1,3-Dichlorobenzene	µg/L	830	< 0.081 U
1,3-Dichloropropane	µg/L	0.84	< 0.053 U
1,4-Dichlorobenzene	µg/L	8200	< 0.11 U
2,2-Dichloropropane	µg/L	--	< 0.1 U
2-Chlorotoluene	µg/L	--	< 0.11 U
2-Hexanone	µg/L	--	< 1.3 U
2-Nitropropane	µg/L	0.18	< 1.1 U
4-Chlorotoluene	µg/L	--	< 0.095 U
4-Methyl-2-pentanone	µg/L	14000	< 0.32 U
Acetone	µg/L	220000	< 0.42 U
Acetonitrile	µg/L	42000	< 4.2 U
Benzene	µg/L	5	< 0.06 U
Bromobenzene	µg/L	--	< 0.084 U
Bromodichloromethane	µg/L	2.1	< 0.098 U
Bromoform	µg/L	0.0083	< 0.15 U
Bromomethane	µg/L	20	< 0.096 U
Carbon disulfide	µg/L	560	< 0.52 U
Carbon tetrachloride	µg/L	5	< 0.073 U
Chlorobenzene	µg/L	390	< 0.06 U
Chlorobromomethane	µg/L	3.2	< 0.12 U
Chlorodibromomethane	µg/L	3.2	< 0.21 U
Chloroethane	µg/L	28000	< 0.085 U
Chloroform	µg/L	80	5.7
Chloromethane	µg/L	6.7	< 0.086 U
cis-1,2-Dichloroethene	µg/L	210	< 0.14 U
cis-1,3-Dichloropropene	µg/L	0.84	< 0.099 U
Cymene (Isopropyltoluene)	µg/L	--	< 0.11 U
Dibromomethane	µg/L	990	< 0.095 U
Dichlorodifluoromethane (Freon-12)	µg/L	14	< 0.058 UJ

TABLE J-1
TIER 2 ASSESSMENT FOR THE SOUTHERN RIBs SUB-AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Chemical	Units	USEPA 2002 VI SL[1]	AA-1 August 2009
Dichloromethane	µg/L	58	< 0.1 U
Dimethyl disulfide	µg/L	--	< 0.27 U
Ethanol	µg/L	--	< 85 U
Ethylbenzene	µg/L	700	< 0.11 U
Isopropylbenzene	µg/L	8.4	< 0.096 U
m,p-Xylene	µg/L	23000	< 0.19 U
Methyl ethyl ketone	µg/L	440000	< 0.83 U
Methyl iodide	µg/L	--	< 0.091 U
MTBE (Methyl tert-butyl ether)	µg/L	120000	< 0.098 U
n-Butylbenzene	µg/L	260	< 0.12 U
n-Heptane	µg/L	--	< 0.12 U
Nonanal	µg/L	--	< 1.2 U
n-Propylbenzene	µg/L	320	< 0.093 U
o-Xylene	µg/L	33000	< 0.055 U
sec-Butylbenzene	µg/L	250	< 0.085 U
Styrene	µg/L	8900	< 0.042 U
tert-Butylbenzene	µg/L	290	< 0.11 U
Tetrachloroethene	µg/L	5	**73 J**
Toluene	µg/L	1500	< 0.07 U
Total Trihalomethanes	µg/L	80	6.2
trans-1,2-Dichloroethene	µg/L	180	< 0.081 U
trans-1,3-Dichloropropene	µg/L	0.84	< 0.23 U
Trichloroethene	µg/L	5	0.3 J
Trichlorofluoromethane (Freon-11)	µg/L	180	< 0.11 U
Vinyl acetate	µg/L	9600	< 0.23 U
Vinyl chloride	µg/L	2	< 0.091 U
Xylenes (total)	µg/L	22000	< 0.22 U

[1]Groundwater to indoor air vapor intrusion screening level; from USEPA. 2002. Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). Table 2c (Generic Screening Levels and Summary Sheet; Risk = 1×10^{-6}).

TABLE J-2
MEASURED SOIL PHYSICAL PROPERTIES FROM COMPARISON STUDY AREA
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter	Sample ID	Sample Depth	Result	Units
Dry Bulk Density	STA-4C-0-SO	0	1.61	g/cm^3
	STA-4C-2-SO	2	1.69	g/cm^3
	STA-4C-4-SO	4	1.9	g/cm^3
	STA-4C-6-SO	6	1.76	g/cm^3
	STA-4C-8-SO	8	1.78	g/cm^3
	STA-4C-10-SO	10	1.84	g/cm^3
Percent Moisture	STA-4C-0-SO	0	3.9	percent
	STA-4C-0-SO	0	6.9	percent
	STA-4C-2-SO	2	3.6	percent
	STA-4C-2-SO	2	3.8	percent
	STA-4C-4-SO	4	2.8	percent
	STA-4C-4-SO	4	3.7	percent
	STA-4C-6-SO	6	3	percent
	STA-4C-6-SO	6	4.4	percent
	STA-4C-8-SO	8	4.7	percent
	STA-4C-8-SO	8	5.5	percent
	STA-4C-10-SO	10	4.4	percent
	STA-4C-10-SO	10	6.8	percent
Porosity	STA-4C-0-SO	0	39.9	percent
	STA-4C-2-SO	2	36.3	percent
	STA-4C-4-SO	4	28.8	percent
	STA-4C-6-SO	6	34.6	percent
	STA-4C-8-SO	8	32.9	percent
	STA-4C-10-SO	10	30.4	percent
Particle Density	STA-4C-0-SO	0	2.676	g/cm^3
	STA-4C-2-SO	2	2.658	g/cm^3
	STA-4C-4-SO	4	2.663	g/cm^3
	STA-4C-6-SO	6	2.696	g/cm^3
	STA-4C-8-SO	8	2.659	g/cm^3
	STA-4C-10-SO	10	2.652	g/cm^3

TABLE J-3
COMPARISON STUDY AREA JOHNSON AND ETTINGER MODEL INPUT VALUES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter	Value	Source
Interval 1 (0-5 feet)		
Depth Below grade to bottom of enclosed floor space (cm)	15	Default
Depth to Soil Vapor Sample (ft)	5 or 10	Sample Specific
Average Soil Temperature (C)	16.67	Site-specific
Stratum Thickness (cm)	152.4	Site-specific
Interval 1 Dry Bulk Density (g/cm^3)	1.73	Site-specific Average
Interval 1 Total Porosity (unitless)	0.35	Site-specific Average
Interval 1 Water-Filled Porosity (unitless)	0.070	Site-specific Average
Interval 2 (5-10 feet)		
Stratum Thickness (cm)	152.4	Site-specific
Vadose Zone Dry Bulk Density (g/cm^3)	1.79	Site-specific Average
Vadose Zone Total Porosity (unitless)	0.33	Site-specific Average
Vadose Zone Water-Filled Porosity (unitless)	0.068	Site-specific Average
Building Characteristics		
Enclosed space floor thickness (cm)	10	Default
Soil-building pressure differential (g/cm-s^2)	40	Default
Enclosed space floor length (cm)	1,000	Default
Enclosed space floor width (cm)	1,000	Default
Enclosed space floor are (cm^2)	1.0 E+6	Default
Enclosed space height (cm)	244	Default
Enclosed space volume (cm^3)	2.4 E+8	Default
Floor-wall seam crack width (cm)	0.1	Default
Indoor air exchange rate (1/hr)	0.50	Default (from Cal/EPA)

TABLE J-4
COMPARISON STUDY AREA SURFACE FLUX TO INDOOR AIR EQUATION INPUT VALUES
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Parameter	Abbrev.	Value	Units	Reference
Foundation crack fraction	η	0.01	unitless	ASTM 2000
Enclosed space volume/infiltration area ratio, residential	L_r	200	cm	ASTM 2000
Enclosed space air exchange rate, residential	ER_r	12	1/day	ASTM 2000

TABLE J-5
MEASURED AND MODELED SOIL GAS, SURFACE FLUX, AND INDOOR AIR RESULTS FOR CHLOROFORM
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Location	Sample	Soil Vapor Sample Depth	Method	Measured Soil Vapor Conc. (ug/m^3)	Modeled Indoor Air Conc. from Soil Vapor (ug/m^3)	Measured Surface Flux (ug/m^2-min)	Crack Fraction (unitless)	Volume:Area Ratio (m)	Air Exchange Rate (l/min)	Modeled Indoor Air Conc. from Measured Surface Flux (ug/m^3)
4C	STA-4C-5	5	TO-15	137.3	0.117	*<0.013 U*	0.01	2	0.00833	ND
4C	STA-4C-5	5	TO-15 SIM	135.91 J	0.058	0.0067	0.01	2	0.00833	0.0040
4C	STA-4C-5B	5	TO-15	*<0.26 U*	ND	*<0.013 U*	0.01	2	0.00833	ND
4C	STA-4C-5B	5	TO-15 SIM	*<0.026 U*	ND	0.0067	0.01	2	0.00833	0.0040
4C	STA-4C-10	10	TO-15	239.03	0.086	*<0.013 U*	0.01	2	0.00833	ND
4C	STA-4C-10	10	TO-15 SIM	250.45 J	0.090	0.0067	0.01	2	0.00833	0.0040
4CR	STA-4CR-5	5	TO-15	146.62	0.063	*<0.013 U*	0.01	2	0.00833	ND
4CR	STA-4CR-5	5	TO-15 SIM	43.537 J	0.019	0.0074	0.01	2	0.00833	0.0044
4CR	STA-4C-5-DUP	5	TO-15	153.94	0.066	*<0.013 U*	0.01	2	0.00833	ND
4CR	STA-4C-5-DUP	5	TO-15 SIM	147.947 J	0.063	0.0080	0.01	2	0.00833	0.0048
4CR	STA-4CR-10	10	TO-15	184.85	0.066	*<0.013 U*	0.01	2	0.00833	ND
4CR	STA-4CR-10	10	TO-15 SIM	246.687 J	0.088	0.0074	0.01	2	0.00833	0.0044
4CR	STA-4C-10-DUP	10	TO-15	213.93	0.077	*<0.013 U*	0.01	2	0.00833	ND
4CR	STA-4C-10-DUP	10	TO-15 SIM	225.465 J	0.081	0.0080	0.01	2	0.00833	0.0048
4E	STA-4E-5	5	TO-15	302.65	0.129	0.0154 J	0.01	2	0.00833	0.0092
4E	STA-4E-5	5	TO-15 SIM	49.718 J	0.021	0.0260	0.01	2	0.00833	0.016
4E	STA-4E-10	10	TO-15	402.61	0.144	0.0154 J	0.01	2	0.00833	0.0092
4E	STA-4E-10	10	TO-15 SIM	274.322 J	0.098	0.0260	0.01	2	0.00833	0.016
4N	STA-4N-5	5	TO-15	125.18	0.053	0.0146 J	0.01	2	0.00833	0.0088
4N	STA-4N-5	5	TO-15 SIM	32.201 J	0.014	0.0185 J	0.01	2	0.00833	0.011
4N	STA-4N-10	10	TO-15	278.35	0.100	0.0146 J	0.01	2	0.00833	0.0088
4N	STA-4N-10	10	TO-15 SIM	*<0.201 UJ*	ND	0.0185 J	0.01	2	0.00833	0.011
4S	STA-4S-5	5	TO-15	103.16	0.044	*<0.013 U*	0.01	2	0.00833	ND
4S	STA-4S-5	5	TO-15 SIM	110.502 J	0.047	0.0026 J	0.01	2	0.00833	0.0016
4S	STA-4S-10	10	TO-15	225.84	0.081	*<0.013 U*	0.01	2	0.00833	ND
4S	STA-4S-10	10	TO-15 SIM	197.818 J	0.071	0.0026 J	0.01	2	0.00833	0.0016
4W	STA-4W-5	5	TO-15	111.38	0.048	*<0.013 U*	0.01	2	0.00833	ND
4W	STA-4W-5	5	TO-15 SIM	145.454 J	0.062	0.0123	0.01	2	0.00833	0.0074
4W	STA-4W-10	10	TO-15	111.77	0.040	*<0.013 U*	0.01	2	0.00833	ND
4W	STA-4W-10	10	TO-15 SIM	139.903 J	0.050	0.0123	0.01	2	0.00833	0.0074

TABLE J-6
CHLOROFORM RESIDENTIAL INDOOR AIR RISKS FROM SURFACE FLUX AND SOIL GAS MEASUREMENTS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

	Chloroform Residential Indoor Air Risks			Indoor Air Concentration (ug/m^3)	Sampling Method
Site	**Sample Location**	**HQ**	**ILCR**		
Side-by-Side Comparison Study	STA-4C-5	0.0008	8 E-7	1.2 E-1	Soil Gas
	STA-4C-5 (SIM)	0.0004	4 E-7	5.8 E-2	Soil Gas
	STA-4C-5B	--	--	ND	Soil Gas
	STA-4C-5B (SIM)	--	--	ND	Soil Gas
	STA-4C-10	0.0006	6 E-7	8.6 E-2	Soil Gas
	STA-4C-10 (SIM)	0.0006	6 E-7	9.0 E-2	Soil Gas
	STA-4CR-5	0.0004	4 E-7	6.3 E-2	Soil Gas
	STA-4CR-5 (SIM)	0.00013	1 E-7	1.9 E-2	Soil Gas
	STA-4C-5-DUP	0.0004	4 E-7	6.6 E-2	Soil Gas
	STA-4C-5-DUP (SIM)	0.0004	4 E-7	6.3 E-2	Soil Gas
	STA-4CR-10	0.0005	4 E-7	6.6 E-2	Soil Gas
	STA-4CR-10 (SIM)	0.0006	6 E-7	8.8 E-2	Soil Gas
	STA-4C-10-DUP	0.0005	5 E-7	7.7 E-2	Soil Gas
	STA-4C-10-DUP (SIM)	0.0005	5 E-7	8.1 E-2	Soil Gas
	STA-4E-5	0.0009	8 E-7	1.3 E-1	Soil Gas
	STA-4E-5 (SIM)	0.00014	1 E-7	2.1 E-2	Soil Gas
	STA-4E-10	0.0010	9 E-7	1.4 E-1	Soil Gas
	STA-4E-10 (SIM)	0.0007	6 E-7	9.8 E-2	Soil Gas
	STA-4N-5	0.0004	4 E-7	5.3 E-2	Soil Gas
	STA-4N-5 (SIM)	0.00009	9 E-8	1.4 E-2	Soil Gas
	STA-4N-10	0.0007	7 E-7	1.0 E-1	Soil Gas
	STA-4N-10 (SIM)	--	--	ND	Soil Gas
	STA-4S-5	0.0003	3 E-7	4.4 E-2	Soil Gas
	STA-4S-5 (SIM)	0.0003	3 E-7	4.7 E-2	Soil Gas
	STA-4S-10	0.0006	5 E-7	8.1 E-2	Soil Gas
	STA-4S-10 (SIM)	0.0005	5 E-7	7.1 E-2	Soil Gas
	STA-4W-5	0.0003	3 E-7	4.8 E-2	Soil Gas
	STA-4W-5 (SIM)	0.0004	4 E-7	6.2 E-2	Soil Gas
	STA-4W-10	0.00027	3 E-7	4.0 E-2	Soil Gas
	STA-4W-10 (SIM)	0.0003	3 E-7	5.0 E-2	Soil Gas

TABLE J-6
CHLOROFORM RESIDENTIAL INDOOR AIR RISKS FROM SURFACE FLUX AND SOIL GAS MEASUREMENTS
HUMAN HEALTH RISK ASSESSMENT AND CLOSURE REPORT FOR SOUTHERN RIBs SUB-AREA
BMI COMMON AREAS (EASTSIDE), CLARK COUNTY, NEVADA

Site	Chloroform Residential Indoor Air Risks			Indoor Air Concentration (ug/m^3)	Sampling Method
	Sample Location	HQ	ILCR		
Side-by-Side Comparison Study	STA-4C	0.000027	3 E-8	4.0 E-3	Surface Flux
	STA-4CR	0.000030	3 E-8	4.4 E-3	Surface Flux
	STA-4C-DUP	0.000033	3 E-8	4.8 E-3	Surface Flux
	STA-4E	0.00011	1 E-7	1.6 E-2	Surface Flux
	STA-4N	0.000075	7 E-8	1.1 E-2	Surface Flux
	STA-4S	0.000011	1 E-8	1.6 E-3	Surface Flux
	STA-4W	0.000050	5 E-8	7.4 E-3	Surface Flux

Side-by-Side Comparison Study	Minimum Risk	0.000011	1 E-8	1.6 E-3	Surface Flux
	Minimum Risk	0.000094	9 E-8	1.4 E-2	Soil Gas
	Maximum Risk	0.00011	1 E-7	1.6 E-2	Surface Flux
	Maximum Risk	0.00098	9 E-7	1.4 E-1	Soil Gas

HQ = Hazard Quotient
ILCR = Incremental Lifetime Cancer Risk

APPENDIX K

LEGAL DESCRIPTION OF THE SOUTHERN RIBs SUB-AREA

ATKINS

Atkins North America, Inc.
2270 Corporate Circle, Suite 100
Henderson, Nevada 89074-7755

Telephone: +1.702.263.7275
Fax: +1.702.263.7200

www.atkinsglobal.com/northamerica

LEGAL DESCRIPTION
NFA – PARCEL SoRIB

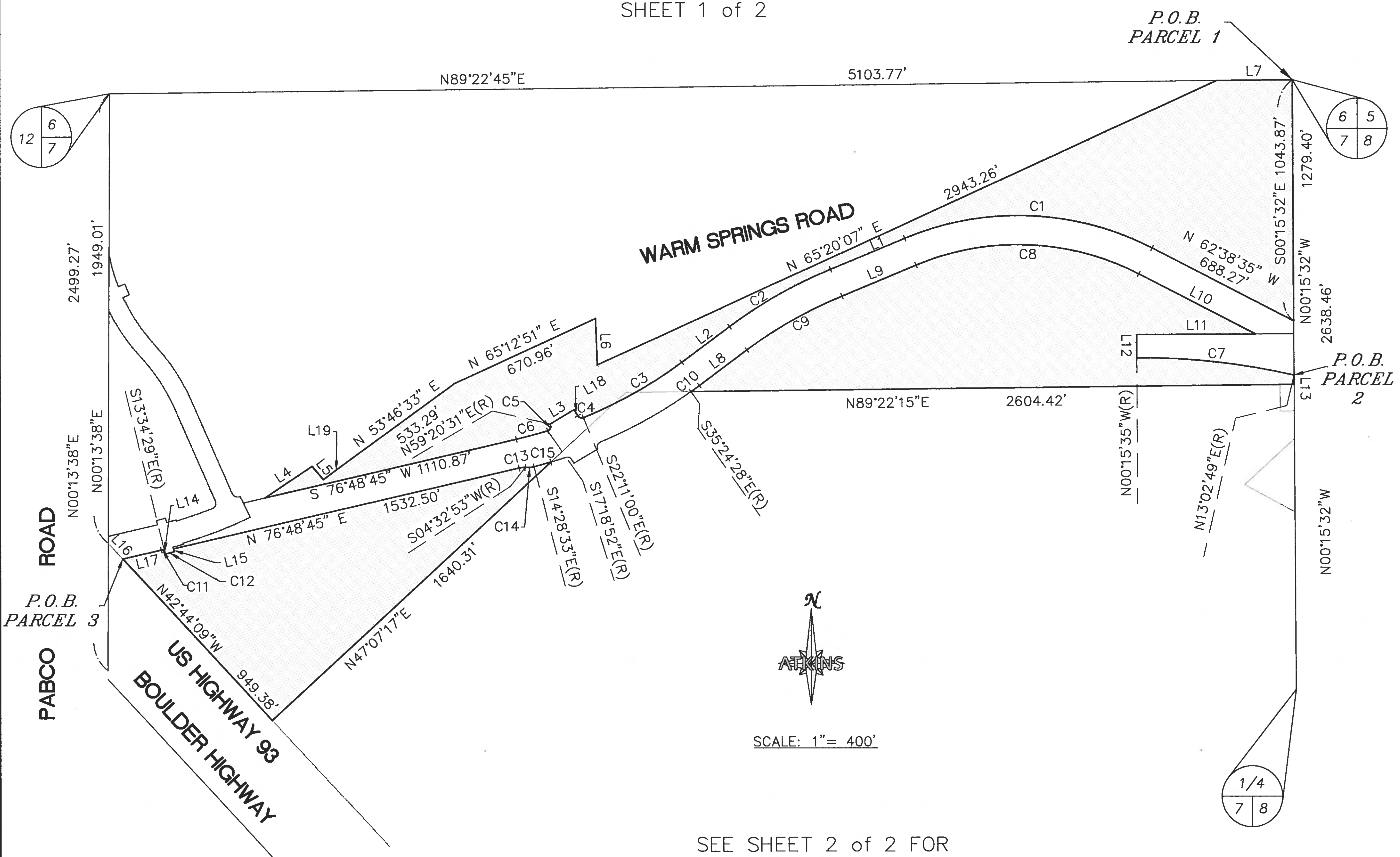
LOCATED IN THE NORTH HALF (N 1/2) OF SECTION 7, TOWNSHIP 22 SOUTH, RANGE 63 EAST, M.D.M., CITY OF HENDERSON, CLARK COUNTY, NEVADA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL 1

BEGINNING AT THE CORNER COMMON TO SAID SECTIONS 5, 6, 7 AND 8; THENCE SOUTH 00°15'32" EAST, ALONG THE EAST LINE OF SAID SECTION 7, A DISTANCE OF 1043.87 FEET TO NORTHEASTERLY RIGHT-OF-WAY OF WARM SPRINGS ROAD; THENCE NORTH 62°38'35" WEST, ALONG SAID NORTHEASTERLY RIGHT-OF-WAY, 688.27 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHERLY HAVING A RADIUS OF 1263.00 FEET; THENCE ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 50°03'37", AN ARC LENGTH OF 1103.50 FEET; THENCE SOUTH 67°17'48" WEST, 347.23 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 2063.00 FEET; THENCE ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 13°56'45", AN ARC LENGTH OF 502.14 FEET; THENCE SOUTH 53°21'03" WEST, 258.51 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1937.00 FEET; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 14°27'58", AN ARC LENGTH OF 489.05 FEET TO THE BEGINNING OF A COMPOUND CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 20.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 22°11'00" EAST; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 81°13'46", AN ARC LENGTH OF 28.35 FEET; THENCE NORTH 30°57'13" WEST, 30.57 FEET; THENCE SOUTH 59°02'47" WEST, 119.98 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 20.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH 59°20'31" EAST; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 103°20'37", AN ARC LENGTH OF 36.07 FEET TO THE BEGINNING OF A COMPOUND CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1938.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 17°18'52" EAST; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 4°07'37", AN ARC LENGTH OF 139.59 FEET; THENCE SOUTH 76°48'45" WEST, 1110.87 FEET; THENCE NORTH 55°55'02" EAST, DEPARTING SAID NORTHEASTERLY RIGHT-OF-WAY, 243.16 FEET; THENCE SOUTH 39°42'10" EAST, 74.85 FEET; THENCE NORTH 53°20'49" EAST, 168.83 FEET; THENCE NORTH 53°46'33" EAST, 533.29 FEET; THENCE NORTH 65°12'51" EAST, 670.96 FEET;

NFA PARCEL SoRIB EXHIBIT

PORTIONS OF SECTION 7, TOWNSHIP 22 SOUTH, RANGE 63 EAST, M.D.M.,
CITY OF HENDERSON, CLARK COUNTY, NEVADA,
SHEET 1 of 2



SEE SHEET 2 of 2 FOR
LINE AND CURVE TABLES

ATKINS
2270 Corporate Circle,
Suite 100
Henderson, NV 89074-6382
Telephone: 702/263-7275
Fax: 702/263-7200

THENCE SOUTH 02°09'02" EAST, 201.06 FEET; THENCE NORTH 65°20'07" EAST, 2943.26 FEET; THENCE NORTH 89°22'45" EAST, 326.76 FEET TO **THE POINT OF BEGINNING**.

CONTAINING 1,248,331 SQUARE FEET (28.66 ACRES), MORE OR LESS, AS DETERMINED BY COMPUTER METHODS.

PARCEL 2

COMMENCING AT THE CORNER COMMON TO SAID SECTIONS 5, 6, 7 AND 8; THENCE SOUTH 00°15'32" EAST, ALONG THE EAST LINE OF SAID SECTION 7, A DISTANCE OF 1279.40 FEET TO **THE POINT OF BEGINNING**; THENCE CONTINUING SOUTH 00°15'32" EAST, ALONG SAID EAST LINE, 39.90 FEET; THENCE SOUTH 89°22'15" WEST, DEPARTING SAID EAST LINE, 2604.42 FEET TO THE SOUTHERLY RIGHT-OF-WAY OF SAID WARM SPRINGS ROAD, SAME BEING THE BEGINNING OF A NON-TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 2063.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 35°24'28" EAST; THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY AND SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 1°14'29", AN ARC LENGTH OF 44.69 FEET; THENCE NORTH 53°21'03" EAST, 258.51 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 1937.00 FEET; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 13°56'45", AN ARC LENGTH OF 471.47 FEET; THENCE NORTH 67°17'48" EAST, 347.23 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHERLY HAVING A RADIUS OF 1137.00 FEET; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 50°03'37", AN ARC LENGTH OF 993.42 FEET; THENCE SOUTH 62°38'35" EAST, 568.96 FEET; THENCE SOUTH 89°44'28" WEST, 514.85 FEET; THENCE SOUTH 00°15'32" EAST, 100.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE SOUTHERLY HAVING A RADIUS OF 2950.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS NORTH 00°15'35" WEST; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 13°18'24", AN ARC LENGTH OF 685.12 FEET TO **THE POINT OF BEGINNING**.

CONTAINING 986,979 SQUARE FEET (22.66 ACRES), MORE OR LESS, AS DETERMINED BY COMPUTER METHODS.

PARCEL 3

COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 7; THENCE SOUTH 00°13'38" WEST, ALONG THE WEST LINE OF SAID SECTION 7, A DISTANCE OF, 1949.01 FEET; THENCE SOUTH 42°44'09" EAST, DEPARTING SAID WEST LINE, 91.26 FEET TO **THE POINT OF BEGINNING**; THENCE NORTH 76°48'45" EAST, 169.80 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1855.00 FEET; THENCE ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 0°22'01", AN ARC LENGTH OF 11.88 FEET; THENCE SOUTH 14°11'09" EAST, 20.67 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1875.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 13°34'29" EAST; THENCE ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 1°13'20", AN ARC LENGTH OF 40.00 FEET; THENCE NORTH 14°11'09" WEST, 12.93 FEET; THENCE NORTH 76°48'45" EAST, 1532.50 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHERLY HAVING A RADIUS OF 84.00 FEET; THENCE ALONG SAID CURVE

TO THE RIGHT THROUGH A CENTRAL ANGLE OF 17°44'08", AN ARC LENGTH OF 26.00 FEET TO THE BEGINNING OF A REVERSE CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 116.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 04°32'53" WEST; THENCE ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 19°01'26", AN ARC LENGTH OF 38.52 FEET TO THE BEGINNING OF A COMPOUND CURVE CONCAVE NORTHERLY HAVING A RADIUS OF 2072.00 FEET, A RADIAL LINE TO SAID BEGINNING BEARS SOUTH 14°28'33" EAST; THENCE ALONG SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 2°05'03", AN ARC LENGTH OF 75.37 FEET; THENCE SOUTH 47°07'17" WEST, 1640.31 FEET; THENCE NORTH 42°44'09" WEST, 949.38 FEET TO **THE POINT OF BEGINNING**.

CONTAINING 77,870 SQUARE FEET (17.86 ACRES), MORE OR LESS, AS DETERMINED BY COMPUTER METHODS.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS LEGAL DESCRIPTION IS GRID NORTH AS DEFINED BY THE NEVADA COORDINATE SYSTEM OF 1983(NC83) EAST ZONE (2701).

```
Parcel name: NFA-SoRIB-1

   North: 20574.7420          East : 25612.3490
Line  Course: S 00-15-32 E  Length: 1043.87
       North: 19530.8836            East : 25617.0681
Line  Course: N 62-38-35 W  Length: 688.27
       North: 19847.1681            East : 25005.7708
Curve  Length: 1103.50             Radius: 1263.00
       Delta: -50-03-37           Tangent: 589.76
       Chord: 1068.74              Course: N 87-40-23 W
   Course In: S 27-21-25 W     Course Out: N 22-42-12 W
   RP  North: 18725.4213            East : 24425.3803
   End North: 19890.5592            East : 23937.9147
Line  Course: S 67-17-48 W  Length: 347.23
       North: 19756.5410            East : 23617.5850
Curve  Length: 502.14              Radius: 2063.00
       Delta: -13-56-45           Tangent: 252.32
       Chord: 500.90               Course: S 60-19-26 W
   Course In: S 22-42-12 E     Course Out: N 36-38-57 W
   RP  North: 17853.3902            East : 24413.8176
   End North: 19508.5463            East : 23182.3845
Line  Course: S 53-21-03 W  Length: 258.51
       North: 19354.2381            East : 22974.9805
Curve  Length: 489.05              Radius: 1937.00
       Delta: 14-27-58            Tangent: 245.83
       Chord: 487.75               Course: S 60-35-02 W
   Course In: N 36-38-57 W     Course Out: S 22-11-00 E
   RP  North: 20908.3036            East : 21818.7585
   End North: 19114.6778            East : 22550.1104
Curve  Length: 28.35               Radius: 20.00
       Delta: 81-13-46            Tangent: 17.15
       Chord: 26.04                Course: N 71-34-06 W
   Course In: N 22-11-00 W     Course Out: S 59-02-47 W
   RP  North: 19133.1975            East : 22542.5590
   End North: 19122.9106            East : 22525.4073
Line  Course: N 30-57-13 W  Length: 30.57
       North: 19149.1260            East : 22509.6844
Line  Course: S 59-02-47 W  Length: 119.98
       North: 19087.4152            East : 22406.7920
Curve  Length: 36.07               Radius: 20.00
       Delta: 103-20-37           Tangent: 25.30
       Chord: 31.38                Course: S 21-00-49 W
   Course In: S 59-20-31 W     Course Out: S 17-18-52 E
   RP  North: 19077.2170            East : 22389.5874
   End North: 19058.1233            East : 22395.5398
Curve  Length: 139.59              Radius: 1938.00
       Delta: 4-07-37             Tangent: 69.83
       Chord: 139.56               Course: S 74-44-56 W
   Course In: N 17-18-52 W     Course Out: S 13-11-15 E
   RP  North: 20908.3036            East : 21818.7585
   End North: 19021.4111            East : 22260.8905
Line  Course: S 76-48-45 W  Length: 1110.87
       North: 18767.9788            East : 21179.3142
Line  Course: N 55-55-02 E  Length: 243.16
       North: 18904.2437            East : 21380.7061
Line  Course: S 39-42-10 E  Length: 74.85
       North: 18846.6565            East : 21428.5208
Line  Course: N 53-20-49 E  Length: 168.83
       North: 18947.4429            East : 21563.9670
Line  Course: N 53-46-33 E  Length: 533.29
       North: 19262.5893            East : 21994.1774
Line  Course: N 65-12-51 E  Length: 670.96
```

```
        North: 19543.8754             East : 22603.3288
Line   Course: S 02-09-02 E  Length: 201.06
        North: 19342.9570             East : 22610.8740
Line   Course: N 65-20-07 E  Length: 2943.26
        North: 20571.2008             East : 25285.6082
Line   Course: N 89-22-45 E  Length: 326.76
        North: 20574.7420             East : 25612.3490
```

Perimeter: 11060.19   Area: 1,248,331 sq. ft. 28.66 acres