SAMPLING AND ANALYSIS PLAN FOR THE SPRAY WHEEL 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

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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.

November 19, 2009

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

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ACRONYMS AND ABBREVIATIONS

AOC3	Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3
APA	air pathway analysis
ATSDR	Agency for Toxic Substances and Disease Registry
BCL_W	Basic Comparison Level for residential water
BCL_{RS}	Basic Comparison Level for residential soil
bgs	below ground surface
BRC	Basic Remediation Company
CAMU	Corrective Action Management Unit
CAP	Corrective Action Plan
COPC	chemical of potential concern
CSM	conceptual site model
DAF	dilution attenuation factor
DQA	data quality assessment
DQOs	data quality objectives
DVSR	Data Validation Summary Report
ECI	Environmental Conditions Investigation
ERM	ERM-West, Inc.
FSSOP	Field Sampling and Standard Operating Procedures
ft/ft	foot per foot
HSA	Hollow Stem Auger
IRMs	interim remedial measures
LBCL	Leaching-based Basic Comparison Level for protection of groundwater
$LBCL_{DAF1}$	Leaching-based Basic Comparison Level for protection of groundwater (Dilution Attenuation Factor 1)
MCL	Maximum Contaminant Level
NDEP	Nevada Division of Environmental Protection
NFAD	no further action determination
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
ppt	parts per trillion
PSQs	Principal Study Questions
QA/QC	Quality Assurance/Quality Control
Qal	Quaternary alluvium
QAPP	Quality Assurance Project Plan
RAP	Remedial Action Plan
RIBs	rapid infiltration basins
SAP	Sampling and Analysis Plan

ACRONYMS AND ABBREVIATIONS (Continued)

SOP	Standard Operating Procedure
SPLP	synthetic precipitation leaching procedure
SRC	Site-related chemicals
SVOC	semi-volatile organic compound
TDS	total dissolved solids
TEQ	toxic equivalency
TPH	total petroleum hydrocarbons
UCL	upper confidence limit
UMCf	Upper Muddy Creek formation
USEPA	U.S. Environmental Protection Agency
VI SL	Vapor Intrusion Screening Level
VOC	volatile organic compound
WRF	Wastewater Reclamation Facility

1.0 INTRODUCTION

Basic Remediation Company (BRC) has prepared this Sampling and Analysis Plan (SAP) for the Spray Wheel sub-area. The SAP describes tasks for performance of confirmation sampling of Site soils and soil vapor flux in order to obtain a no further action determination (NFAD) for this area. The term NFAD is defined in the *Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3* (AOC3; Nevada Division of Environmental Protection [NDEP] 2006) in Section XVII.

This revision of the SAP, Revision 1, incorporates comments received from the NDEP, dated October 12, 2009, on Revision 0 of the Spray Wheel SAP, dated September 2009. The NDEP comments and BRC's response to these comments are included in Appendix A. Also included in Appendix A is a redline/strikeout version of the text showing the revisions from the September 2009 version of the SAP. An electronic version of the entire report, as well as original format files (MS Word and MS Excel) of all text and tables are included in Appendix B.

The Spray Wheel sub-area (hereinafter "the Site") represents one of several sub-areas of the BMI Common Areas (Eastside) located in Clark County, Nevada (Figure 1), and encompasses an area of approximately 125.6 acres (Figure 2).[1] The Site has been defined to coincide with the location of an evaporative agricultural-type mechanism that was historically operated by TIMET from 1983 to 1991 for the evaporative disposal of aqueous salt waste. The Site also includes unlined wastewater effluent evaporation/infiltration ponds (and an associated conveyance ditch) that were built and into which various plant wastewaters were discharged at the Site prior to Spray Wheel operation, from 1942 through 1976. This SAP relies upon information provided in the *BRC Closure Plan* for the BMI Common Areas (BRC *et al*. 2007; hereinafter "Closure Plan"). The main text of the 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 (Closure Plan Section 3);

[1] This acreage represents a revision to what was presented in the Closure Plan (128.7 acres), due to the reassignment of the land associated with the Utility Corridor sub-area from within the Site boundaries, which occurred subsequent to Closure Plan finalization.

- 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 of this SAP);
- 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);
- The data quality objectives (DQOs; Closure Plan Section 7; a DQO discussion specific to the Site is provided in Section 3 of this SAP);
- The remedial alternative study 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 and Section 10 for ecological); and
- Data quality assessment (DQA; Closure Plan Section 5).

For certain areas within the BMI Common Areas remediation is planned and/or ongoing based on existing Site data, and will be performed prior to conducting the site characterization activities proposed under this SAP; however, none is planned for this Site other than clearing of obvious contamination (*e.g.*, burn pits, stained soil, abandoned vehicles, and other debris) and the removal of materials from the TIMET Ponds sub-area that have been temporarily placed within the Site pending their ultimate disposal. These clearing activities will occur prior to implementing the procedures described in this SAP.

Because of the various factors discussed below, risk assessments for the Site will be conducted using the data collected as part of this SAP, which has been designed to produce data representative of the conditions to which current or future users would be exposed. The need for remediation will be primarily based on these data, which represent a more robust sampling coverage than employed during the historical sampling events and can thus be more reliably used to delineate areas requiring remediation. Validated, reliable historical data will be used as appropriate to augment the dataset derived from the SAP activities.[2] However, the following data

[2] Only those historical data that are representative of the conditions to which current (non-remediation workers) or future users would be exposed (*i.e.*, excluding data associated with soils removed from the Site prior to the risk assessment) and that pass a data usability evaluation will be included in the risk assessment for the Site.

gaps associated with the existing Site characterization have been identified: many of the previous samples were composite samples; many of the previous soil samples from within the uppermost 10 feet below ground surface (bgs) were collected more than eight years ago; few of the previous samples have been analyzed for all of the major chemicals or chemical families and several analyses used different analytical methods than established in the current analytical program for the BMI Common Areas; and no vapor flux samples have been collected. Much of the historical data is associated with soil intervals that will be excavated during remediation and will not represent conditions to which future Site users would be exposed. Furthermore, the historical data represent incomplete coverage for certain constituents and will be redundant for others after implementation of this SAP. Therefore, BRC anticipates that the historical data will not generally be included in the risk assessment. However, a data usability evaluation will be conducted to determine whether any of the historical data can or should be used in the risk assessment or it will be explained why the new data supplants the old data. These historical data are useful for CSM purposes and are discussed in Section 2.0.

Sampling performed as described in this SAP relies on the statistical methodologies presented in the *Statistical Methodology Report* (NewFields 2006). The Statistical Methodology Report describes the statistical methods that will be used to confirm the final soils closure at each of the Eastside sub-areas of the BMI Common Areas.

The SAP presents sampling procedures that will be performed to assess Site conditions in soils and soil vapor flux at the Site after remediation has been performed. As described in the Closure Plan, this information will be used to determine potential impacts to current or future Site users from chemicals present in Site soils and whether remediation is needed to achieve cleanup goals. In this SAP, as recommended in the Statistical Methodology Report, soil samples will be collected throughout the Site on a systematic sampling basis. This random sampling consists of a regular 3-acre grid overlay across the property with a randomly placed sample within each grid cell. The goal of this sampling is to provide enough samples for 1) completion of a statistically robust assessment of contaminant distribution, and subsequently, 2) to provide a robust dataset upon which to perform a human health risk assessment. Additional biased sampling locations will be selected within or near small-scale contamination points of interest, including but not limited to previous debris locations, locations of temporary remediation waste storage (*i.e.*, dewatered soils/sediments from the former TIMET Ponds), ponds, berm walls, and the conveyance ditch. Soil vapor flux samples will be collected from a subset of the soil sampling locations (that is, one sample within each grid cell).

1.1 PURPOSE OF THE SAP

The purpose of this SAP is to evaluate soil and soil vapor conditions (including any indirect impacts from underlying groundwater) that may have been impacted at the Site from former activities and adjoining lands. The scope of this investigation is limited to soil and soil vapor flux sampling in an effort to assess issues that might directly impact Site development potential, consistent with the Closure Plan. However, the data will be used to determine any impacts to groundwater from future Site uses. That is, data will be collected to evaluate the soil-to-groundwater leaching pathway. The objective of the field investigation is to identify and characterize the distribution of Site-related chemicals (SRCs) such that the potential impacts from chemicals present in Site soils to current (non-remediation workers) and future Site users can be determined through risk assessment. Surface and subsurface samples that will be collected are depth-discrete soil matrix samples and surface vapor flux samples. Although this SAP does include data collection for evaluating groundwater as a potential source to the vapor intrusion pathway, it does not address potential groundwater issues, which are being investigated separately by BRC pursuant to AOC3 (NDEP 2006) as part of an overall evaluation of the BMI Common Areas. The investigation is designed to provide sufficient data to support risk-based decisions (including decisions to seek an NFAD) for the Site. The NFAD for the Site will contain a deed restriction precluding potable use of groundwater beneath the Site.

2.0 CONCEPTUAL SITE MODEL

The following sections provide information about the Site, previous investigations that have been conducted at the Site, interim remedial measures (IRMs) that have occurred, and the existing Site dataset. An overview of the CSM for the Site is provided in the Closure Plan. Consistent with the structure of prior SAPs, this section includes a summary of the investigations performed at the Site during the following primary project phases: prior to any remedial activities (Section 2.4); remedial activities affecting the Site (Section 2.5); and chemical occurrence patterns based on historical data (Section 2.6). As discussed later in this section, IRMs have not been performed to date within the Site. However, soils/sediments removed from the TIMET Ponds sub-area have been temporarily stored within the Site pending their ultimate disposal; these will be removed from the Site prior to conducting sampling in accordance with this SAP.

2.1 SITE DESCRIPTION

The Site (Figure 2) is approximately 125.6 acres in size, and is gently sloping to the northeast. The Site boundaries have been defined to coincide with the former site of an evaporative agricultural-type mechanism that was operated by TIMET for the evaporative disposal of aqueous salt waste from 1983 to 1991. Prior to that time, from 1942 through 1976, companies operating at the BMI Complex conveyed and disposed of operations effluent and cooling water to effluent ponds in the BMI Common Areas; some of these former ponds lay within the Site boundaries. The Site contains the remnants of these unlined wastewater effluent evaporation/infiltration ponds[3] and a portion of an associated conveyance ditch used for that purpose. The traces of individual effluent ponds (approximately 2 to 6 acres in size) are still visible in aerial photographs (Figures 2 and 3). The effluent ponds were once defined by berms along the north, east, and west sides; however, in preparation for and due to the operation of the spray wheel mechanism, the ground surface within the Site was regraded, and these berms currently have limited surficial expression.

[3] The Closure Plan and historical documents associated with the BMI Common Areas distinguish two primary sets of ponds in the Common Areas that are associated with historical conveyance and/or disposal operations: the "Upper Ponds" and the "Lower Ponds". The pond row labels shown on Figure 1 distinguish between the two; the 18 rows of Upper Ponds are labeled with a "U" followed by a letter (A through R) and the ten rows of Lower Ponds are labeled with an "L" followed by a letter (A through J). The Upper Ponds are the basis of the name applied to the Upper Ponds sub-area; but the Upper Ponds sub-area does not encompass all of the Upper Ponds, rather only the northern half of the Upper Ponds, which had little to no historical usage (the southern portion of the Upper Ponds are within the First Eight Rows [Phases I and II], TIMET Ponds, and Spray Wheel sub-areas). The Lower Ponds are located further north on the BMI Common Areas, within the Western Hook-Development and Western Hook-Open Space sub-areas, and were previously located within the footprint of the City of Henderson WRF prior to its construction, during which they were regraded.

As seen on Figures 1 and 2, the Utility Corridor sub-area transects the Site. Within most of the Site, the Utility Corridor sub-area is located adjacent to and east of the Beta Ditch, but it is redirected across the Beta Ditch and to the northwest in the uppermost portion of the Site. The Utility Corridor sub-area consists of a 50-foot wide ditch, which starts at the sewer alignment excavation north of Parcel 4B, and extends to the north, in order, through the Staging, First Eight Rows, Spray Wheel, Upper Ponds, and Galleria North sub-areas until it meets up with the tie-in location at the City of Henderson Water Reclamation Facility (WRF) (see Figure 1). The Utility Corridor sub-area was defined subsequent to the final BRC Closure Plan to allow expedited characterization and remediation in order to facilitate the installation of a new 48-inch sewer line along this alignment. An NFAD was received from NDEP for the Utility Corridor sub-area on September 4, 2009, for commercial or industrial land use generally for site soils above 10 feet below ground. Detailed discussions and data presentation/review for the Utility Corridor sub-area are presented in the *Data Review and Human Health Risk Assessment for the Utility Corridor Sub-Area* (BRC 2009; In Revision).

The Site was undeveloped desert land until the construction of the effluent evaporation/infiltration ponds and associated conveyance ditches and, later, the Spray Wheel. Since 1991, the Site has been vacant and unused, except for temporary placement of soils/sediments removed from the TIMET Ponds sub-area, as discussed later in this section. The native soils are compacted, poorly-sorted, non-plastic, light brown to red silty sand with varying amounts of gravel. Within individual effluent evaporation/infiltration ponds at the Site, surficial material consists of very fine material that grades in color from greenish-gray to light yellowish-brown; in places, the ground surface is white. This discolored material has been interpreted to be residual sediment associated with historic effluent disposal in the ponds. This material/discoloration is primarily evident at the Site in former ponds directly adjacent to the Beta Ditch. The presence of this material is consistent with the use of these former ponds for historical wastewater discharge, which is further supported by historical aerial photographs that show evidence of fluids within the ponds (Figure 3 shows representative evidence of these fluids, but does not does not represent all evidence, which can be seen to vary in historical aerial photos from 1950 to 1976).

Exposures to current receptors (*i.e.*, trespassers/visitors, occasional on-site workers, and off-site residents) are being managed through Site access control. Under the prospective redevelopment plan, the Site may be used for a variety of potential purposes. Residential land use (low and medium density) with roads, parks and trails interspersed, is currently planned for the Site (Figure 4). The entire Site will be enhanced by restoration and redevelopment once remediation is complete. Therefore, exposures to ecological receptors will be mitigated or removed (see Section 10 of the Closure Plan). Future receptors identified as "on-site receptors" are defined as receptors located within the current Site boundaries (Figure 2), while future "off-site receptors" are those located outside the 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 9 of the Closure Plan.

The current development plan for the Site is shown on Figure 4. To construct these facilities, the land will be cut and/or filled, paved with roads or foundations, and nurtured with imported soils from other areas within the BMI Common Areas [4] as needed. Figure 5 shows the current grading plan for the Site, indicating which areas will be filled and which areas will be cut.

Because the background general water quality (*i.e.*, high salt concentrations) of the groundwater beneath the Site and in the surrounding area is poor and because BRC will place institutional controls 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 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.

Although direct exposures to groundwater will not occur; indirect exposures are possible. The primary indirect exposure pathway from groundwater is the infiltration of volatile organic compounds (VOCs) and radon from soil and groundwater to indoor air. In addition, residual levels of chemicals in soil may leach and impact groundwater quality beneath the Site. Collection of data to evaluate both of these migration pathways at the Site is presented in this SAP.

The Site is surrounded on all sides by Eastside sub-areas as follows:

North half of Site	• The Upper Ponds sub-area (283.3 acres[5])
South half of Site	• The TIMET Ponds sub-area to the west (209.9 acres); and
	• The First Eight Rows Phase II sub-area to the east (124.4 acres[6])

[4] Note: Imported soil data will not be included in risk assessment calculations. However, the chemical data for fill material from the Site may be useful for evaluating sub-areas to receive this fill (that is, imported fill that may be used at the Site will have been included in risk assessments for sub-areas where the fill was obtained).

[5] This acreage estimate reflects a change from that presented in the Closure Plan (284.5 acres) that has resulted from the revision of site boundaries that occurred subsequent to Closure Plan finalization.

Chemicals historically detected in these sub-areas are similar to those found at the Site.

The phased remediation schedule for Eastside calls for the Upper Ponds sub-area to be remediated concurrent with or prior to remediation at the Site. After sampling is performed in accordance with approved SAPs for that sub-area to delineate locations requiring remediation, adequacy of remediation will be evaluated by human health risk assessment.

Remediation of the TIMET Ponds and the First Eight Rows sub-areas is scheduled to be finalized after remediation of the Site. Based on historical sampling, and as will be presented in the SAPs for those sub-areas, soils contain chemicals at concentrations greater than applicable comparison levels for protection of human health and groundwater protection (see Section 2.6). Remediation at those adjacent sub-areas involves major earth-moving activities and could result in a significant amount of airborne dispersion and/or overland runoff that could adversely affect Site conditions if mitigation measures were not employed. However, potential impacts from these areas to the Site during remediation activities are considered negligible because dust suppression/mitigation measures and storm water pollution prevention controls have been implemented at each sub-area undergoing remediation since remediation initiation and will be implemented during future remediation activities.[7] These dust suppression controls are implemented to comply with applicable air quality regulations and to impede the generation of airborne dust due to intrusive on-site activities. These control measures are discussed in detail in the *Corrective Action Plan* (CAP; BRC 2006). In addition, emissions of particulate matter from the site are being monitored by BRC as described in the *Perimeter Air Monitoring Plan* (BRC 2008) to assess the effectiveness of these dust control measures.

At the time of this SAP submittal, the contents of the lined ponds in the TIMET Ponds sub-area are being excavated and transported to the Corrective Action Management Unit (CAMU) for

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[6] The designation of two separate sub-areas within the First Eight Rows sub-area reflects a change from the sub-areas presented in the Closure Plan. For development purposes, the First Eight Rows sub-area as presented in the Closure Plan (201.5 acres) has been divided into two separate areas that will be addressed on separate schedules: the southeastern half (Phase I sub-area), which comprises approximately 77.1 acres, and the northwestern half (Phase II sub-area), which comprises approximately 124.4 acres. The acreage of the two subdivisions currently totals 201.5 acres; this revised acreage amount resulted from minor revision of site boundaries that occurred subsequent to Closure Plan finalization.

[7] The possibility exists that airborne dispersion and/or overland transport of surface soils/sediments from other adjacent sub-areas could have historically resulted in contamination at the Spray Wheel sub-area. However, if this was in fact the case, the nature and extent of associated impacts would be evident from historical surface soil data, and/or the data to be collected under this SAP. The need for remediation of the Spray Wheel sub-area will be based on current chemical concentrations in Site soils regardless of the source of contamination, including airborne dispersion and overland transport, if any.

disposal. For certain ponds, dewatering is being performed to reduce the moisture content to a level appropriate for placement into the CAMU. The Site has been used as a temporary staging area for these activities prior to the soils being transported to the CAMU. Some temporary soils/sediments placements created during these staging activities are evident as darkened areas on recent aerial photographs (Figures 2 and 3).

2.2 SURFACE WATER

Surface water flow occurs for brief periods of time during periodic precipitation events. The nature of the unlined wastewater effluent evaporation/infiltration ponds and their construction currently serve to reduce overland transport of surface waters collected within the former Ponds area. Under current conditions, it is unlikely that contaminants in 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 one mile); (2) the presence of at least four rows of former effluent ponds with well-defined berms between the Site and the Wash; and (3) the intervening presence of the Weston Hills and Tuscany developments, the Henderson Water Reclamation Facility and northern rapid infiltration basins (RIBs) between the Site and the Wash. However, the presence of the drainage ditch transecting the Site suggests the current potential for rainfall to be carried from the Site to the Wash.

After development there will continue to be a low likelihood that contaminants in surface waters generated within the Site will migrate via overland transport to the Las Vegas Wash from the Site, because of (1) the removal of the Beta Ditch during remediation; (2) the large distance to the Wash; (3) the intervening presence of other developed properties; and (4) storm water features as part of the future development of the Site.

2.3 GEOLOGY/HYDROGEOLOGY

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 (ft/ft) 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 to the southeast and southwest of the Site, respectively. These uppermost alluvial sediments were deposited within the last two 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 30 to 50 feet thick at the Site with variations due, in part, to the non-uniform contact between the Qal and the underlying Upper Muddy Creek Formation (UMCf).

The UMCf underlies the Qal. The Muddy Creek formation, of which the UMCf 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 UMCf underlying the Site is typically fine-grained (sandy silt and clayey silt), although layers with increased sand content are sporadically encountered. These UMCf materials have typically low permeability, with hydraulic conductivities on the order of 10^{-6} to 10^{-8} centimeters per second (Weston 1993). The UMCf in the immediate vicinity of the Site was encountered at depths ranging from 51 feet to 74 ft bgs, and extending to the maximum explored depth of 400 feet bgs. Lithologic cross sections using Site-specific stratigraphic information are shown on Figures 6 and 7.

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 as the Shallow Zone[8]), and (2) a deep, confined water-bearing zone that occurs in a sandier depth interval within the silts of the deeper UMCf (referred to as the Deep Zone). Between these two distinct water-bearing zones, a series of saturated sand stringers were sporadically and unpredictably encountered during drilling (referred to as the Middle Zone).

The Shallow Zone is an unconfined, shallower, water-bearing zone that occurs across the BMI Common Areas. Within the Site boundaries, water in the Shallow Zone occurs in the Qal. The water surface in the Shallow Zone generally follows topography, with the water surface sloping towards the Las Vegas Wash. According to recent groundwater monitoring performed in April-May 2008 (BRC and MWH 2008) the depth from the surface to first groundwater at the Site is approximately 57 to 68 feet bgs. Wells completed in the Shallow Zone are not highly productive, with sustainable flows typically less than five gallons per minute. Chemical occurrence within

[8] Note: hydrogeologic and lithologic nomenclature is based on NDEP (2009a).

this water-bearing zone, based on recent monitoring data associated with wells installed within and in the vicinity of the Site, is discussed in Section 2.7.[9]

Groundwater seeps currently exist at various locations within the BMI Common Areas near the Las Vegas Wash. However, an evaluation of historical aerial photos taken between 1964 and 1970 indicates that seeps have historically appeared to the north of the Site (in the Western Hook-Open Space, Galleria North, and Sunset North Commercial sub-areas), and at nearby off-site locations, but not in the Site itself. Evidence of seeps was not observed in aerial photographs after 1972. The extent to which these former seeps historically affected contaminant transport (*e.g.*, by means of enhanced surface water transport to the Wash or upward migration into overlying soils) is unknown.

2.4 HISTORICAL SITE INVESTIGATIONS

Shallow soil samples were collected within the Site during six separate events. The sample locations associated with these events are depicted in Figure 2; the results of these field sampling events are summarized in the database excerpt provided in Appendix B. These sampling events are as follows:

- The BMI Common Areas Environmental Conditions Investigation (ECI) conducted during March and April 1996 (dataset 1a). The soil investigation activities were performed in accordance with a work plan approved by NDEP in February 1996 (ERM 1996a). The soil sampling results for the investigation activities were presented in the ECI report (ERM 1996b), which was approved by NDEP in March 1997. Data validation results are presented in the Data Validation Summary Report (DVSR) for dataset 1a (ERM 2006a), which was approved by NDEP on September 12, 2006;

- Supplemental soil investigation conducted in October 1999 (dataset 6d) in the Upper Ponds. These data were not collected under a formal NDEP-approved work plan. Data validation results are presented in the DVSR for dataset 6d (ERM 2006b), which was approved by NDEP on October 10, 2006.

[9] Chemical occurrence in both the shallow and deep water-bearing zones beneath the Eastside and CAMU areas is currently being characterized under a process separate from the Closure Plan process under which this SAP has been prepared, which focuses on site soils. This SAP summarizes chemical occurrence trends in the shallow water-bearing zone, which is more likely to affect potential users under current and future land uses. A more detailed presentation of chemical occurrence patterns within both zones will be provided upon completion of the on-going groundwater investigation, and the CSM for the Eastside and CAMU areas will be updated accordingly.

- Supplemental soil investigation conducted in May 2000 (dataset 12) in the vicinity of the TIMET Spray Wheel to assess chemical occurrence at depth; the only location sampled within the Site was B-16, which lies within former pond PUN-04. These data were not collected under a formal NDEP-approved work plan. Data validation results are presented in the DVSR for dataset 12 (MWH 2006a), which was approved by NDEP on October 25, 2006;

- Deep soil characterization conducted in June/July 2004 during monitoring well installation at one on-site location (SB-16-B) as part of the overall Eastside 2004 Hydrologic Characterization Investigation (dataset 27). The soil investigation activities were performed in accordance with a work plan submitted in December 2003 (MWH 2003) and approved by NDEP in January 2004. The sampling results for the investigation activities were presented in the 2004 version of the BRC Closure Plan, which was not approved by NDEP. Data validation results are presented in the DVSR for dataset 27 (MWH 2006b), which was approved by NDEP on August 31, 2006.

- Supplemental soil investigation conducted in April 2005 (dataset 33) in the vicinity of the TIMET Spray Wheel to generate depth profiles for alkalinity, chloride, sulfate, calcium, magnesium, potassium and sodium. These data were not collected under a formal NDEP-approved work plan. Data validation results are presented in the DVSR for dataset 33 (MWH 2006c), which was approved by NDEP on September 26, 2006.

- Waste characterization sampling conducted in July and August 2006 (dataset 39) from throughout the BMI Common Areas (Eastside) in order to address certain regulatory requirements pertaining to their anticipated excavation and placement into the CAMU. The soil investigation activities were performed in accordance with BRC's SAP submitted on June 29, 2006, and approved by NDEP in July 2006. The soil sampling results for the investigation activities were previously presented in the *Remedial Action Plan* (RAP; BRC 2007), which was approved by NDEP on September 24, 2007. Data validation results are presented in the DVSR for dataset 39 (MWH 2006d), which was approved by NDEP on November 3, 2006.

During these investigations, soil samples at various depths were collected and analyzed for general chemistry, VOCs, semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), organochlorine pesticides, organophosphorus pesticides, alcohols, aldehydes, dioxins/furans, organic acids, metals, perchlorate, and/or radionuclides. As seen on Figure 2, the samples represent a combination of discrete and composite samples. The results of these field sampling events are provided in the database excerpt provided in Appendix B, and are summarized in Section 2.6.

In other Eastside SAPs, historical investigations were discussed in terms of when they were conducted relative to IRM performance. The purpose of this was to segregate data that might no longer be considered representative of Site conditions (*i.e.*, because it was subsequently excavated). By definition, IRMs are "interim" remedial activities conducted at a given site, performed in advance of: (1) longer-term evaluations of applicable remedial options, (2) selection of a final remedy to address conditions at that site, and (3) implementation of that remedy. As noted in the introduction to this section, IRMs *per se* have not been performed to date within the Site, but soils/sediments from within the lined ponds in the TIMET Ponds sub-area have been temporarily placed at the Site pending their off-site removal to the CAMU (see Section 2.5).

2.5 REMEDIAL ACTIVITIES ASSOCIATED WITH THE SITE

To date, the remedial activities affecting the Site that have been performed as part of the overall Eastside remediation effort are involved with the dewatering and removal of soils/sediments from the TIMET Ponds. In the Summer of 2008, remediation activities were initiated in the TIMET Ponds sub-area in accordance with the NDEP-approved CAP, and have involved:

- Excavation of soils or dried pond sediments from various locations within that sub-area, and transportation of those soils/sediments to either (1) the off-site CAMU, or, (2) to the Site, where they were temporarily staged prior to their ultimate disposal in the CAMU; and
- Dewatering of the contents of certain ponds, which involved removal of those sediments from the lined ponds, spreading those sediments in a thin layer on the ground surface in selected areas of the Site and other sub-areas, and, once dried, transportation of those dewatered soils/sediments to the off-site CAMU.

Some temporary soils/sediments drying areas created during these activities are evident as darkened areas on the 2008 aerial photograph provided in Figure 3, but staging areas within the Site are and have been routinely changed throughout the TIMET Pond soil staging process. The temporary soils/sediments placements originating from the TIMET Ponds sub-area will have been removed to the CAMU prior to sampling performed in accordance with this SAP.

2.6 CHEMICAL DISTRIBUTION WITHIN SOILS

A summary of historic, compound-specific soil chemical data for the Site from surface to 10 feet bgs is presented in Table 1.[10] Location-specific historical sampling results associated with the Site, including depth intervals deeper than 10 feet bgs, are provided in Appendix B, Tables B-1 through B-11, and included electronically in Appendix B. Sample locations are shown on Figure 2. Various applicable constituent-specific comparison levels are provided on the tables for reference, specifically:

- NDEP Basic Comparison Levels (BCLs) for residential soil (NDEP 2009b), hereinafter "BCL_{RS}",
- NDEP BCLs for protection of groundwater (LBCL), assuming dilution attenuation factors (DAF) of 1 and 20 (NDEP 2009b), hereinafter "LBCL", and
- The maximum background concentration (for metals and radionuclides only), derived from the background soil dataset for the BMI Common Areas presented in *Background Shallow Soil Summary Report, BMI Complex and Common Areas Vicinity* (BRC/TIMET 2007), which was approved by NDEP on July 26, 2007. Establishment of background conditions for the BMI Common Areas project is complicated by the unique geologic conditions in the area, specifically, the BMI Common Areas location at the confluence of alluvial fan deposits from the McCullough Range to the southwest and the River Mountains to the east. A recent supplemental background investigation performed by BRC has determined that chemical differences exist in soils derived from the two geologic formations (*2008 Supplemental Shallow Soil Background Report*; BRC and ERM 2009a). The Site appears to be underlain by sediments that are derived from the McCullough Range. Therefore, background conditions at the Site are expected to be comparable those presented in the BRC/TIMET (2007) background report, which are also primarily associated with alluvial fan deposits derived from the McCullough Range. As such, the maximum background concentrations provided in Tables 1, B-1 and B-9 are applicable comparison values.

It should be noted that the summary tables and chemical distribution figures and summaries presented later in this section do not reflect current conditions (*i.e.*, conditions at the time of this SAP submittal) because samples have not been collected in soils/sediments temporarily stored at

[10] Although the Utility Corridor sub-area crosses the Site, because this is a different sub-area, with different land use considerations, and an NFAD, data associated with the Utility Corridor sub-area are not included in Table 1 or this summary of Site data. Utility Corridor sub-area data are included on the figures in Appendix C.

the Site or in surface soils located beneath these placements. As discussed in Section 4.1, this SAP includes sampling beneath these temporary placement locations after their removal. Although these data summaries are incomplete in this regard, they are provided to present the known nature of impacts at the Site such that the adequacy of the sampling program in this SAP can be demonstrated for other areas of concern.

Figures showing the historical distribution of various representative chemicals at the Site are presented in Appendix C. SRCs were generally selected for graphical depictions if (1) a sufficient number of analyses for that constituent were performed; (2) multiple BCL_{RS} exceedances were observed for that constituent at concentrations in excess of background concentrations; and/or (3) an appreciable number of LBCL exceedances were observed for that constituent at concentrations in excess of background concentrations. For organochlorine pesticides and radionuclides, a single representative constituent was selected for graphical displays. Using these criteria, chemical occurrence figures were prepared for the following constituents, which are discussed in greater detail below along with all constituents reported at concentrations in excess of their BCL_{RS} or LBCL:

Constituent	Soil Depth	Figure No.
Antimony	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-1 Figure C-2
Arsenic	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-3 Figure C-4
Barium	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-5 Figure C-6
Chromium	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-7 Figure C-8
Iron	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-9 Figure C-10
Lead	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-11 Figure C-12

Constituent	Soil Depth	Figure No.
Mercury	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-13 Figure C-14
Vanadium	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-15 Figure C-16
Perchlorate	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-17 Figure C-18
4,4-DDE	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-19 Figure C-20
Hexachloro-benzene	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-21 Figure C-22
Radium-226	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-23 Figure C-24

These figures also include samples within the Utility Corridor sub-area, as well as all results within 1,000 feet of the Site from the adjacent sub-areas to provide information on the current upgradient, downgradient, and cross-gradient conditions.

Unless otherwise noted, to assess the potential threat to human health, chemical detections were compared to the BCL_{RS}. In addition, to assess the potential for impacts to groundwater quality, chemical detections at the Site were also compared to the LBCL (Dilution Attenuation Factor 1; $LBCL_{DAF1}$) established for each chemical. However, it should be noted that the maximum reported background concentrations[11] for several metals (for example, arsenic) are appreciably higher than the comparison levels. In these cases, the evaluations focused on those BCL_{RS} and $LBCL_{DAF1}$ exceedances that were higher than the maximum background concentrations. Chemical occurrence patterns for the chemicals detected at concentrations in excess of comparison levels, in samples collected from surface to 10 feet bgs, are provided below.

Aluminum

Aluminum was detected in both of the soil samples in which it was analyzed (one surface[12] and one subsurface sample from SB-14A; Table B-1). Neither of these detections were higher than the 77,200 mg/kg BCL_{RS}. However, both exceeded the 75 mg/kg $LBCL_{DAF1}$ (maximum detection 10,700 mg/kg in the surface soil sample). Both detections were lower than the 15,300 mg/kg maximum background detection.

Antimony

Of the 12 Site soil samples in which antimony was analyzed (10 surface and 2 subsurface samples; Table B-1), antimony was detected in only four (approximately 33 percent). All of the detections were lower than the 31 mg/kg BCL_{RS}, but were higher than the 0.3 mg/kg $LBCL_{DAF1}$ and the 0.5 mg/kg maximum background concentration. The detections were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUG-09	0	1
PUH-07	0	1.2
PUI-08	0	1.5
PUF-10	0	3.4

[11] Values used are the maximum from the shallow soils background dataset presented in the *Background Shallow Soil Summary Report, BMI Complex and Common Area Vicinity* (BRC/TIMET 2007).
[12] Surface samples are defined as those collected from the surface to 2 feet bgs; subsurface samples are defined as those collected from depths great than 2 feet bgs.

It should be noted that the standard reporting limits employed during the historical sampling events are often higher than the $LBCL_{DAF1}$, and it is unknown whether antimony is also present in those samples at concentrations in excess of the $LBCL_{DAF1}$. The reporting limits were sufficiently low such that concentrations in excess of the BCL_{RS}, if present, would have been reported. The distribution of antimony for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-1 and C-2, respectively.

Arsenic

Of the 37 Site soil samples in which arsenic was analyzed (20 surface and 17 subsurface samples; Table B-1), arsenic was detected in approximately 81 percent (30 samples). All of the detections were higher than the 0.39 mg/kg BCL_{RS} and the 1 mg/kg $LBCL_{DAF1}$. Thirteen samples had reported arsenic concentrations in excess of the maximum shallow soil background level (7.2 mg/kg; from BRC/TIMET 2007). These background exceedances are associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-15	2	9.2
B-12	5	9.7
BDB-17	0	10
PUK-09	0	12
BDB-17	5	14
PUJ-07	5	18
PUF-07	5	21

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUJ-07	0	41
PUF-07	0	42
PUG-08	0	47
PUH-08	0	62
PUG-09	0	65
B-13	2	90

The reporting limits for the seven non-detections were sufficiently low such that detections greater than background, if present, would have been reported. The distribution of arsenic for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-3 and C-4, respectively.

Barium

Barium was detected in all 37 of the Site soil samples in which it was analyzed (20 surface and 17 subsurface samples; Table B-1). None of the detections were higher than the 15,300 mg/kg BCL_{RS}, but all of the barium detections exceeded the 82 mg/kg $LBCL_{DAF1}$. However, only five of the detections exceeded the maximum background concentration of 836 mg/kg. These five samples with barium detections greater than background, were as follows:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	1400
PUF-07	5	1900
PUF-07	0	3700

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUG-08	0	5300
B-13	2	6500

The distribution of barium for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-5 and C-6, respectively.

Cadmium

Of the 33 Site soil samples in which cadmium was analyzed (16 surface and 17 subsurface samples; Table B-1), it was detected in 13 (approximately 39 percent). None of the detections were higher than the 39 mg/kg BCL_{RS}, but three results exceeded the 0.4 mg/kg $LBCL_{DAF1}$. These three cadmium results are also higher than the 0.16 mg/kg maximum background concentration, and are associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-11	5	0.42
PUG-08	5	0.46
B-13	2	1.4

It should be noted that many of the reporting limits employed during the historical sampling events are higher than the $LBCL_{DAF1}$ and maximum background concentration, and it is unknown whether cadmium is also present in those samples at concentrations in excess of the $LBCL_{DAF1}$/maximum background concentration. The reporting limits were sufficiently low such that concentrations in excess of the BCL_{RS}, if present, would have been reported.

Chromium

Chromium was detected in all but one of the 38 Site soil samples in which it was analyzed (21 surface and 17 subsurface samples; Table B-1). Nine of the detections were higher than the 240 mg/kg BCL_{RS}; these detections are associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-13	2	270
PUH-08	0	320
PUF-10	0	340
PUG-09	0	360
PUJ-07	0	360

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUK-09	0	460
PUI-08	0	660
PUF-07	0	680
PUG-08	0	860

In addition, all of the chromium detections were higher than the 2 mg/kg $LBCL_{DAF1}$ and 24 detections were higher than the 16.7 mg/kg maximum background detection. These 24 chromium exceedances higher than background, including those listed above, are associated with the following locations:

Sample ID	Depth (ft bgs)
B-11	2
B-11	5
B-12	2
B-12	5
B-13	2
B-14	2
B-14	5
B-15	2

Sample ID	Depth (ft bgs)
B-15	5
BDB-16	0
BDB-17	0
BDB-18	5
PUF-07	0
PUF-10	0
PUG-08	0
PUG-08	5

Sample ID	Depth (ft bgs)
PUG-09	0
PUH-07	0
PUH-08	0
PUH-09	0
PUI-08	0
PUI-09	0
PUJ-07	0
PUK-09	0

The distribution of chromium for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-7 and C-8, respectively.

Chromium (VI)

Hexavalent chromium was detected in four of the twelve Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 230 mg/kg BCL_{RS}. However, two detections were higher than the 2 mg/kg $LBCL_{DAF1}$. These two exceedances are associated with samples collected from 2 ft bgs at locations B-12 and B-13 (6.16 mg/kg and 3.84 mg/kg, respectively). These two detections were also higher than the 0.251 mg/kg maximum background detection.

Copper

Copper was detected in all twelve of the Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 2,910 mg/kg BCL_{RS}. However, three detections were higher than the 35 mg/kg $LBCL_{DAF1}$. These three LBCL exceedances were also higher than the 30.5 mg/kg maximum background detection, and are as follows:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-12	5	65
B-13	2	87
B-11	2	140

Iron

Iron was detected in all twelve of the Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 54,800 mg/kg BCL_{RS}. However, all of the detections were higher than the 7.5 mg/kg $LBCL_{DAF1}$ and all but two of the detections were higher than the 19,700 mg/kg maximum background detection; these background exceedances are as follows:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-11	5	20000
B-12	5	20000
SB-14-A	0	20300
B-14	5	21000
B-12	2	21000

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-15	5	22000
B-15	2	22000
B-13	2	22000
B-14	2	23000
B-11	2	24000

The distribution of iron for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-9 and C-10, respectively.

Lead

Lead was detected in all 38 of the Site soil samples in which it was analyzed (21 surface and 17 subsurface samples; Table B-1). Four of these detections were higher than the

400 mg/kg BCL_{RS}; a $LBCL_{DAF1}$ has not been established for this constituent. These four exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUF-07	0	410
PUH-08	0	410
B-13	2	2400
PUG-08	0	3000

All of the above exceedances were higher than the maximum background concentration for lead (35.1 mg/kg). The distribution of lead for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-11 and C-12, respectively.

Magnesium

Magnesium was detected in all but one of the 107 Site soil samples in which it was analyzed (36 surface and 71 subsurface samples; Table B-1). None of the detections were higher than the 100,000 mg/kg BCL_{RS}. However, forty detections were higher than the 649 mg/kg $LBCL_{DAF1}$. (maximum detection 14,000 mg/kg in the 5 ft bgs sample from B-11 and the 2 ft bgs sample from B-13). These $LBCL_{DAF1}$ exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)
B-11	2
B-11	5
B-12	2
B-12	5
B-13	5
B-13	2
B-14	2
B-14	5
B-15	2
B-15	5
SB-14-A	7
SB-14-A	0
SWB-1	10
SWB-12	10

Sample ID	Depth (ft bgs)
SWB-13	10
SWB-15	10
SWB-16	10
SWB-18	5
SWB-18	10
SWB-19	10
SWB-2	5
SWB-2	10
SWB-20	10
SWB-21	10
SWB-22	10
SWB-25	10
SWB-26	5

Sample ID	Depth (ft bgs)
SWB-26	10
SWB-27	10
SWB-27	5
SWB-28	10
SWB-32	10
SWB-33	10
SWB-4	5
SWB-4	10
SWB-5	10
SWB-6	10
SWB-8	10
SWB-9	5
SWB-9	10

All of the magnesium detections were lower than the 17,500 mg/kg maximum background detection.

Manganese

Manganese was detected in all 22 of the Site soil samples in which it was analyzed (15 surface and 7 subsurface samples; Table B-1). Of these detections, two were higher than the 1,080 mg/kg $BCL_{RS.}$ These two BCL_{RS} exceedances are associated with samples collected from 5 ft bgs at B-12 (1,800 mg/kg) and 2 ft bgs at B-13 (3,700 mg/kg). In addition, all of the detections were higher than the 3.3 mg/kg $LBCL_{DAF1}$. With the exception of the two BCL_{RS} exceedances above, the manganese detections were lower than the maximum background concentration for manganese (1,090 mg/kg).

Mercury

Of the 33 Site soil samples in which mercury was analyzed (16 surface and 17 subsurface samples; Table B-1), it was detected in approximately 24 percent (8 samples). None of the detections were higher than the 23 mg/kg BCL_{RS}, but six results exceeded the 0.1 mg/kg $LBCL_{DAF1}$. Five of these mercury BCL_{RS} exceedances were also higher than the 0.11 mg/kg maximum background concentration. These five exceedances are associated with the following:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUJ-07	0	0.22
B-15	2	0.27
B-13	2	0.3
PUF-07	0	0.43
PUG-08	0	1.2

The reporting limits for non-detections were generally lower than the BCL_{RS} and the $LBCL_{DAF1}$ such that concentrations in excess of these screening levels, if present, would have been reported. The distribution of mercury for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-13 and C-14, respectively.

Molybdenum

Molybdenum was detected in ten of the twelve Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 390 mg/kg BCL_{RS}. However, two detections were higher than the 3.6 mg/kg $LBCL_{DAF1}$ (samples collected from 2 feet bgs from B-11 and B-13, 15 mg/kg and 20 mg/kg, respectively). These two detections were also higher than the 2 mg/kg maximum background detection.

Nickel

Nickel was detected in both of the Site soil samples in which it was analyzed (one surface and one 7 ft bgs sample from SB-14-A; Table B-1). Neither of these detections (16 mg/kg and 13 mg/kg, respectively) exceeded the 1,540 mg/kg BCL_{RS}, however, both were higher than the 7 mg/kg $LBCL_{DAF1}$. Both of the detections were lower than the maximum background concentration for nickel (30 mg/kg).

Selenium

Of the 33 Site soil samples in which it was analyzed (16 surface and 17 subsurface samples; Table B-1), selenium was reported in only two samples (approximately 6 percent). These two samples were surface soil samples collected from within former ponds PUF-07 and PUG-08 (4.7 mg/kg and 9 mg/kg, respectively). Neither of the detections were higher than the 390 mg/kg BCL_{RS}; however, both were higher than the 0.3 mg/kg $LBCL_{DAF1}$. These two exceedances were also higher than the 0.6 mg/kg maximum background concentration for selenium. The standard reporting limits employed during the historical sampling events are higher than the $LBCL_{DAF1}$ (and the background range in many cases), and it is unknown whether selenium is also present in those samples at concentrations in excess of the $LBCL_{DAF1}$ (or background). The reporting limits were sufficiently low such that concentrations in excess of the BCL_{RS}, if present, would have been reported.

Silver

Of the 33 Site soil samples in which it was analyzed (16 surface and 17 subsurface samples; Table B-1), silver was reported in only five samples (approximately 15 percent). None of the detections were higher than the 390 mg/kg BCL_{RS}; however, two of the detections were higher than the 2 mg/kg $LBCL_{DAF1}$. These two exceedances were associated with surface soil samples collected from former ponds PUF-07 and PUG-08 (6 mg/kg and 11 mg/kg, respectively). Both $LBCL_{DAF1}$ exceedances are also higher than the 0.2609 mg/kg maximum background concentration for silver. The reporting limits for non-detections were all lower than BCL_{RS}, and most were sufficiently low such that concentrations in excess of the $LBCL_{DAF1}$, if present, would have been reported.

Vanadium

Vanadium was detected in all 28 of the Site soil samples in which it was analyzed (16 surface and 12 subsurface samples; Table B-1). Eleven of these detections were higher than the 390 mg/kg BCL_{RS}; these exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
BDB-17	0	440
PUH-07	0	510
PUH-09	0	550
PUG-09	0	790
PUJ-07	0	940
PUF-10	0	990

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	1000
PUK-09	0	1200
PUF-07	0	1700
PUI-08	0	2100
PUG-08	0	2800

Thirteen vanadium detections were higher than the 300 mg/kg $LBCL_{DAF1}$. These included the eleven detections listed above as BCL_{RS} exceedances; and two 5 ft bgs soil samples, collected from former pond PUF-07 and BDB-18 (310 mg/kg and 340 mg/kg, respectively). All thirteen of the BCL_{RS} and/or $LBCL_{DAF1}$ exceedances were higher than the 59.1 mg/kg maximum background detection. The distribution of vanadium for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-15 and C-16, respectively.

Other Inorganics

As seen in Table 1 and Tables B-1 and B-6 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_{RS} or the $LBCL_{DAF1}$. The reporting limits for these additional inorganic constituents were generally sufficiently low such that concentrations in excess of the BCL_{RS} or $LBCL_{DAF1}$, if present, would have been reported. The one exception was thallium, for which reporting limits ranged from 0.5 mg/kg to 1.1 mg/kg. These reporting limits are higher than the 0.4 mg/kg $LBCL_{DAF1}$ and it is unknown whether thallium is present at concentrations in excess of the $LBCL_{DAF1}$. The reporting limits were sufficiently low such that concentrations in excess of the BCL_{RS}, if present, would have been reported.

Because perchlorate is a key compound of concern at the BMI Common Areas, even though the detections do not meet the general criteria for graphic presentations in this SAP, the distribution of perchlorate for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-17 and C-18, respectively.

Organochlorine Pesticides

A total of 29 Site soil samples were analyzed for organochlorine pesticides (18 surface and 11 subsurface samples; Table B-2). The following analytes were detected in at least one sample: 2,4-DDD, 2,4-DDE, 4,4-DDE, 4,4-DDT, alpha-BHC, alpha-chlordane, beta-BHC, endosulfan (I and II), endrin aldehyde, gamma-chlordane, heptachlor epoxide, and Lindane. 4,4-DDE was the most commonly detected; it was detected in approximately 66 percent of the samples in which it was analyzed. 2,4-DDE was also detected in a high percentage of the samples in which it was analyzed (75 percent), but was only included in the analyses for four samples. Several detections exceeded the BCL_{RS}; and/or $LBCL_{DAF1}$ comparison levels as discussed below.

- 4,4-DDE was detected in three soil samples at concentrations in excess of the 1.7 mg/kg BCL_{RS} and the 3 mg/kg $LBCL_{DAF1}$. These three exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
WC-SW02	0	7.9
PUF-07	0	23
PUG-08	0	31

The distribution of 4,4-DDE for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-19 and C-20, respectively.

- 4,4-DDT was detected in three soil samples at concentrations in excess of the 1.7 mg/kg BCL_{RS} and the 2 mg/kg $LBCL_{DAF1}$. These three exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
WC-SW02	0	3.8
PUF-07	0	8.9
PUG-08	0	49

- alpha-BHC was only detected in one sample: 0.0023 mg/kg in the surface soil sample from SB-14-A. This detection was lower than the 0.09 mg/kg BCL_{RS} but exceeded the 0.00003 mg/kg $LBCL_{DAF1}$.

- beta-BHC was detected in nine soil samples. All of these detections were lower than the 0.32 mg/kg BCL_{RS}, but they were all higher than the 0.0001 mg/kg $LBCL_{DAF1}$. Those nine LBCL exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUF-10	0	0.0041
PUK-09	0	0.0044
PUH-09	0	0.0053
BDB-17	5	0.0057
PUI-09	0	0.01

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
BDB-16	0	0.011
BDB-17	0	0.012
PUJ-07	0	0.022
WC-SW01	0	0.042

- Endosulfan I was detected in twelve soil samples. All of these detections were lower than the 370 mg/kg BCL_{RS}, but two were higher than the 0.9 mg/kg $LBCL_{DAF1}$ (26 mg/kg and 51 mg/kg in surface soil samples from PUF-07 and PUG-08, respectively).

- Lindane was detected in one soil sample. This detection (0.0078 mg/kg in the surface soil sample from PUG-09) was lower than the 0.44 mg/kg BCL_{RS}, but was higher than the 0.0005 mg/kg $LBCL_{DAF1}$.

With the exception of alpha-BHC, beta-BHC, dieldrin, and lindane, the reporting limits for organochlorine pesticides were generally sufficiently low such that concentrations in excess of the comparison levels, if present, would be reported. For these four exceptions, the reporting limits were routinely higher than the $LBCL_{DAF1}$ and often higher than the BCL_{RS}, and it is unknown whether these constituents are also present in additional Site samples at concentrations in excess of those comparison levels.

Volatile Organic Compounds

Twenty-four Site soil samples were analyzed for VOCs (13 surface and 11 subsurface samples; Table B-3). As seen in Table 1 and Table B-3, the following eight VOCs were detected in at least one sample:

- 1,2,4-Trichlorobenzene
- 1,2-Dichlorobenzene
- 1,4-Dichlorobenzene
- Benzene
- Chlorobenzene
- Dichloromethane
- Isopropylbenzene
- m,p-Xylene

1,2-dichlorobenzene and 1,4-dichlorobenzene were detected the most frequently, in eight percent of the samples.[13] None of the detections were above the BCL_{RS}. With the exception of dichloromethane, the VOC detections were also lower than the $LBCL_{DAF1}$. Dichloromethane was detected in one soil sample (0.0012 mg/kg in the surface soil sample from PUK-09) at a concentration in excess of the 0.001 mg/kg $LBCL_{DAF1}$.

The standard reporting limits employed during the historical sampling events were generally lower than the BCL_{RS}, and concentrations in excess of the BCL_{RS}, if present, would have been reported. However, in many cases the reporting limits are higher than the $LBCL_{DAF1}$, and it is unknown whether these constituents are present in samples at concentrations in excess of the $LBCL_{DAF1.}$ These analytes with reporting limits routinely higher than the $LBCL_{DAF1}$ are as follows:

- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethylene
- 1,2,4-Trichlorobenzene
- 1,2-Dichloroethane
- 1,2-Dichloropropane
- 1,3-Dichloropropane
- Benzene
- Carbon tetrachloride
- Dichloromethane
- Tetrachloroethylene
- Trichloroethylene
- Vinyl chloride

Otherwise, the reporting limits for VOCs were sufficiently low such that concentrations in excess of the BCL_{RS} or $LBCL_{DAF1}$, if present, would be reported.

[13] Isopropylbenzene was detected in a higher percentage of the samples analyzed (50 percent), but was only included in the analysis of two samples.

Semi-Volatile Organic Compounds

Twenty Site soil samples were analyzed for SVOCs (13 surface and 7 subsurface samples; Table B-4). As seen in Table 1 and Table B-4, the following nine SVOCs were detected in at least one sample:

- 1,2,4,5-Tetrachlorobenzene
- 4-Bromophenyl phenyl ether
- Benzoic acid
- bis(2-Ethylhexyl) phthalate
- Dibutyl phthalate
- Fluoranthene
- Hexachlorobenzene
- Pentachlorobenzene
- Phthalic acid

Hexachlorobenzene was detected the most frequently, in 30 percent of the samples; pentachlorobenzene was also detected at a high detection frequency (50 percent), but was only included as an analyte in 4 samples (2 detections). With the exception of hexachlorobenzene, all the SVOC detections were lower than the BCL_{RS} and the $LBCL_{DAF1}$. Hexachlorobenzene was detected in six samples; all of these detections exceeded the 0.3 mg/kg BCL_{RS} and the 0.1 mg/kg $LBCL_{DAF1}$. These detections were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	0.39
WC-SW01	0	0.54
WC-SW02	0	0.66

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUF-07	0	0.99
SB-14-A	0	1.2
PUG-08	0	1.9

The distribution of hexachlorobenzene for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site is shown on Figures C-21 and C-22, respectively.

For SVOC non-detects, the standard reporting limits were lower than the BCL_{RS} in all cases except for 3,3'-dichlorobenzidine, bis(2-chloroethyl)ether, hexachlorobenzene, n-nitrosodi-n-propylamine and pentachlorophenol, which routinely had reporting limits higher than the BCL_{RS}. With the exception of these five compounds, concentrations in excess of the BCL_{RS}, if present, would have been reported for SVOCs. For these and several other SVOCs the reporting limits employed during the historical sampling events 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 additional analytes with reporting limits routinely higher than the $LBCL_{DAF1}$ are as follows:

- 2,4,6-Trichlorophenol
- 2,4-Dichlorophenol
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- 2-Chlorophenol
- Carbazole
- Hexachloro-1,3-butadiene
- Hexachloroethane
- Isophorone
- Nitrobenzene
- n-Nitrosodiphenylamine
- p-Chloroaniline

Dioxins and Furans

Four Site soil samples were analyzed for dioxins and furans (three surface and one subsurface samples; Table B-5). At least one of the individual dioxins and furans congeners analyzed were reported as detections in each sample. Comparison levels have not been established for individual congeners. To assess the potential threat to human health, dioxins/furans toxic equivalency (TEQ) concentrations for each sample were compared to the Agency for Toxic Substances and Disease Registry (ATSDR) comparison value of 50 parts per trillion (ppt). Three of the samples analyzed had calculated TEQ values in excess of this comparison level; these exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	TEQ Value (mg/kg)
SB-14-A	7	64.5
WC-SW02[14]	0	62.8
WC-SW01	0	620

$LBCL_{DAF1}$ 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 these levels.

Polychlorinated Biphenyls

Twenty-two Site soil samples were analyzed for PCBs (Aroclors only) (11 surface, 11 subsurface; Table B-8). PCBs were not detected in any of these samples. The reporting limits for

[14] For samples WC-SW01 and WC-SW02, the calculated TEQ value may be underestimated because not all dioxin/furan congeners were included in the analyses and the TEQ calculations.

PCBs analyzed were generally lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported for PCBs. $LBCL_{DAF1}$ values have not been established for these compounds. It is noted that lack of PCB congener data is a data gap for the Site; congener analysis will be performed as part of this SAP to fill this data gap.

Organophosphorus Pesticides

Four Site soil samples were analyzed for organophosphorus pesticides (three surface, one subsurface; Table B-7). Organophosphorus pesticides were not detected in any of these samples, with the exception of one methyl parathion detection (0.003 mg/kg in the surface soil sample from SB-14-A). This detection was lower than the 15 mg/kg BCL_{RS}. The reporting limits for these analytes were lower than their respective BCL_{RS} values; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Chlorinated Herbicides

Four Site soil samples were analyzed for chlorinated herbicides (three surface, one subsurface; Table B-10); there were no detections reported in these samples. The standard reporting limits were lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Polynuclear Aromatic Hydrocarbons

Twenty Site soil samples were analyzed for PAHs (13 surface, 7 subsurface; Table B-11); phenanthrene was detected the most frequently (in 15 percent of the samples). In addition to phenanthrene, the other three PAHs detected were: benzo(a)anthracene (in one sample), chrysene (in two samples), and pyrene (in one sample). The maximum detection was 0.58 mg/kg of phenanthrene (PUG-08). None of the PAH detections exceeded the BCL_{RS} or the $LBCL_{DAF1}$.

The standard PAH reporting limits were generally, but not always, lower than the BCL_{RS} and the $LBCL_{DAF1}$; thus concentrations in excess of these comparison levels, if present, would have been reported. In several cases the standard reporting limits employed during the older sampling events are higher than the BCL_{RS} and/or $LBCL_{DAF1}$, and it is unknown whether these constituents are present in those samples at concentrations in excess of these comparison levels. These analytes with reporting limits frequently higher than the BCL_{RS} and/or $LBCL_{DAF1}$ are as follows:

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Dibenzo(a,h)anthracene
- Indeno(1,2,3-c,d)pyrene

Aldehydes

Two Site soil samples (one surface and one subsurface sample from SB-14-A; Table B-6) were analyzed for aldehydes. Acetaldehyde was not detected in either sample; formaldehyde was detected in one sample (the 7 ft bgs sample at 0.14 mg/kg), at a concentration lower than the 11 mg/kg BCL_{RS}. The reporting limits were lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Organic Acids and Glycol/Alcohols

Two Site soil samples (one surface and one subsurface sample from SB-14-A; Table B-10) were analyzed for organic acids and glycols/alcohols; there were no detections reported in the samples. The standard reporting limits were lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. The reporting limit for 4-chlorobenzene sulfonic acid (the only analyte in these analyses with an established $LBCL_{DAF1}$) was higher than the $LBCL_{DAF1}$, and it is unknown whether this constituent is present at a concentration in excess of the $LBCL_{DAF1}$.

Radionuclides

Radionuclides were detected in all five of the Site soil samples analyzed (four surface and one subsurface soil sample; Table B-9). Exceedances of comparison levels for radionuclides are only shown in Table 1 for the eight radionuclides currently included in the project analyte list (radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238). Of those detections greater than comparison levels, several are lower than the maximum background activity, as shown in Table 1. Detections higher than comparison levels <u>and</u> background are summarized below for each radionuclide:

- Radium-226 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the BCL_{RS} and $LBCL_{DAF1}$ (0.0071 pCi/g and 0.016 pCi/g, respectively). However, only two of those detections were higher than the 2.36 pCi/g maximum background activity (surface soil samples collected from PUH-09 and PUK-09, 5.91 pCi/g and 14.6 pCi/g, respectively).

- Radium-228 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the BCL_{RS} and $LBCL_{DAF1}$ (0.013 pCi/g and 0.016 pCi/g, respectively). However, none of the detections were higher than the 2.94 pCi/g maximum background activity (maximum detection 1.45 pCi/g in the surface soil sample from SB-14-A).

- Thorium-228 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the 0.0078 pCi/g BCL_{RS} and the 0.0023 pCi/g $LBCL_{DAF1}$). Only one of these detections was higher than the 2.28 pCi/g maximum background activity (3.41 pCi/g detection in the surface soil sample from PUK-09).

- Thorium-230 was detected in all five of the samples in which it was analyzed; one of these detections was higher than the 3.2 pCi/g BCL_{RS} and all of them were higher than the 0.00084 pCi/g $LBCL_{DAF1}$. One detection (corresponding to the sample with the BCL_{RS} exceedance) was higher than the 3.01 pCi/g maximum background activity. This detection (4.51 pCi/g) was associated with the surface soil sample from PUK-09.

- Thorium-232 was detected in all five of the samples in which it was analyzed; one of these detections was higher than the 2.8 pCi/g BCL_{RS} and all of them were higher than the 0.0029 pCi/g $LBCL_{DAF1}$. However, only one detection (corresponding to the sample with the BCL_{RS} exceedance) was higher than the 2.23 pCi/g maximum background activity. This detection (2.84 pCi/g) was associated with the surface soil sample from PUK-09.

- Uranium-233/234 was detected in all five of the samples in which it was analyzed; one of these detections (5.73 pCi/g in the surface soil sample from PUK-09) was higher than the 4.2 pCi/g BCL_{RS} and the 2.84 pCi/g maximum background activity. An $LBCL_{DAF1}$ has not been established for this constituent.

- Uranium-235/236 was detected in three of the samples in which it was analyzed. One of these detections (0.3 pCi/g in the surface soil sample from PUK-09) was higher than the 0.11 pCi/g BCL_{RS} and the 0.21 pCi/g maximum background activity. An $LBCL_{DAF1}$ has not been established for this constituent.

- Uranium-238 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the 0.46 pCi/g BCL_{RS}. Of these, one detection (5.74 pCi/g in the surface soil sample from PUK-09) was higher than the 2.37 pCi/g maximum background activity.

As presented in NDEP guidance (NDEP 2009c), as part of the process used to evaluate radionuclide data for the BMI Common Areas, BRC will assess whether secular equilibrium has been attained (as an indication that steady-state conditions have been reached). Because there are limited historical radionuclide data for this Site and differences in historical analytical methods, formal statistical equivalence testing in accordance with the NDEP guidance was not conducted. However, the historical data indicate the following:

- The mean radioactivities for thorium-232, radium-228, and thorium-228 are comparable (1.8 pCi/g, 1.4 pCi/g, and 1.9 pCi/g, respectively), and are close to their maximum background radioactivity levels.

- The mean values for the uranium chain are more variable, ranging from 2 pCi/g to 5 pCi/g. The mean values for uranium-238, uranium-233/234, and thorium-230 are comparable (2 pCi/g to 2.1 pCi/g) and are lower than their respective maximum background activity levels. The mean activity level for radium-226 (5 pCi/g) is appreciably higher than the mean levels of the other isomers and its maximum radioactivity background level (2.36 pCi/g).

An evaluation of secular equilibrium status will be performed per NDEP guidance after collecting radionuclide data in accordance with this SAP.

The distribution of radium-226, representative of radionuclides, for samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-23 and C-24, respectively.

2.6.1 Summary of Soil Exceedances

As summarized above and in the associated data tables (Table 1 and Appendix B), sampling of Site soils has been limited, and the analyte list is incomplete. Based on the limited historical data, the BCL_{RS} and $LBCL_{DAF1}$ exceedances noted below were observed.

The following constituents were reported at concentrations higher than the BCL_{RS} and the maximum background concentration (the latter relevant for metals and radionuclides only):

- Arsenic
- Chromium (Total)
- Vanadium
- TCDD TEQ
- 4,4-DDT
- Hexachlorobenzene

- Lead
- Manganese
- 4,4-DDE
- Radionuclides (Radium-226 and -228 [BCL_{RS} exceedances only], Thorium-228, -230, and -232, and Uranium-233/234, -235/236 and -238)

The following constituents were reported at concentrations higher than the $LBCL_{DAF1}$ and the maximum background concentration (the latter relevant for metals and radionuclides only):

- Aluminum ($LBCL_{DAF1}$ exceedances only)
- Antimony
- Arsenic
- Barium
- Cadmium
- Chromium (Total)
- Chromium (VI)
- Copper
- Iron
- Magnesium ($LBCL_{DAF1}$ exceedances only)
- Manganese
- Mercury
- Molybdenum
- Nickel ($LBCL_{DAF1}$ exceedances only)
- Selenium
- Silver
- Vanadium
- 4,4-DDE
- 4,4-DDT
- alpha-BHC
- beta-BHC
- Endosulfan I
- Lindane
- Hexachlorobenzene
- Dichloromethane
- Radionuclides (Radium-226 and -228 [$LBCL_{DAF1}$ exceedances only], and Thorium-228, -230, and -232)

Reported values above these comparison levels were observed across the Site; however, the highest reported values were often associated with samples collected from within the southeastern side of the Site (*i.e.*, former pond rows E, F and G, ponds PUE-09, PUF-07 through -10, and PUG-08 and -09), often located within ponds with discolored soils.

2.6.2 On-Going Remedial Actions

Based on the comparison level exceedances observed in these historical samples, BRC may elect to initiate remediation of Site soils in accordance with the approved CAP (BRC 2006) prior to implementing this SAP. Such remedial actions would consist of excavating soils with visual or other evidence of impacts, and transporting those soils to the off-site CAMU for disposal. The soils targeted for excavation would likely include discolored sediments/soils and sediments/soils associated with historical sampling locations with elevated reported values, but not necessarily corresponding to exceedances of the BCL_{RS} and/or $LBCL_{DAF1}$ for a given analyte.

As of the date of this SAP submittal, the only remedial activities conducted on the Site involve the removal of TIMET Ponds remediation soils/sediments, which were temporarily stored at the

Site. During their removal process, BRC also removed surface soils that had been in contact with the placement materials. The extent of impacts to Site subsurface conditions due to the temporary soils/sediments placement will be evaluated on the basis of soil samples collected in accordance with this SAP after their removal.

2.7 CHEMICAL DISTRIBUTION WITHIN GROUNDWATER

For evaluating Shallow Zone groundwater quality at the Site, on-site wells POD2-R and POD8 were used (Figure 2). Table 2 presents analytical data associated with these wells, which were collected during the most recent overall site groundwater monitoring event (conducted from May through June 2008). Data validation results are presented in the DVSR for dataset 51 (ERM 2008), which was approved by NDEP on November 1, 2008. Chemical occurrence patterns for the chemicals detected in groundwater from these wells are provided below. For data evaluation purposes, the detections were compared to the following, where established:

- U.S. Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCLs);
- Human health screening levels for indoor air intrusion (USEPA generic groundwater to indoor air screening level; "Vapor Intrusion Screening Level," hereinafter "VI SL"); and
- The NDEP residential water BCL (BCL_W).

Organic Compounds. The few organic compounds detected during the 5th groundwater monitoring event are as follows:

- alpha-BHC was detected in the sample collected from well POD8 at a relatively low concentration (0.1 µg/L). MCLs have not been established for this constituent. The detection was well below the 3.1 µg/L VI SL, but exceeded the 0.011 µg/L BCL_W.
- beta-BHC was detected in the sample collected from well POD8 at a concentration of 0.069 µg/L. An MCL and VI SL have not been established for this constituent. The detection was higher than the 0.037 µg/L BCL_W.
- Chloroform was detected in both samples (59 µg/L and 1.4 µg/L for POD2-R and POD8, respectively). Both detections were lower than the MCL and VI SL (80 µg/L each). The POD2-R detection was higher than the 1.6 µg/L BCL_W.
- Tetrachloroethene was detected in the sample collected from well POD2-R at a concentration of 1.8 µg/L. This detection was lower than the MCL, VI SL, and BCL_W (5 µg/L each).

No other organic chemicals were detected in these monitoring wells. The standard reporting limits for most of the analytes in these samples were sufficiently low such that concentrations in excess of the comparison levels, if present, would be detected. The exceptions are as follows:

Constituent	Reporting Limit	Comparison Level of Concern[15]
Aldrin	0.0044 µg/L	0.004 µg/L BCL_W adequately low for VI SL; no MCL
Dieldrin	0.0057 µg/L	0.0042 µg/L BCL_W adequately low for VI SL; no MCL
1,2,3-Trichloropropane	0.22 µg/L	0.034 µg/L BCL_W adequately low for VI SL; no MCL
1,2-Dibromo-3-chloropropane	0.48 µg/L	0.2 µg/L MCL; 0.2 µg/L BCL_W adequately low for VI SL
2-Nitropropane	0.034 µg/L	0.0063 µg/L BCL_W adequately low for VI SL; no MCL
Tribromomethane	0.27 µg/L	0.0083 µg/L VI SL adequately low for BCL_W and MCL

For these constituents it cannot be determined whether they are present in Site groundwater at concentrations greater than the comparison levels noted above.

Inorganic Compounds. Inorganic compounds were routinely detected in the groundwater samples. It should be noted that many of these constituents are naturally-occurring in groundwater, and the extent to which the detections represent background conditions was not evaluated for this SAP. The following constituents were detected at concentrations above their respective MCLs and BCL_W[16] as summarized below:

- Chloride is higher than the 250 mg/L MCL in both samples at reported concentrations of 1,760 mg/L and 1,230 mg/L. for POD2-R and POD8, respectively.
- Chlorine is higher than the 4 mg/L BCL_W in both samples at reported concentrations of 3,520 mg/L and 2,460 mg/L. for POD2-R and POD8, respectively.
- Nitrate is higher than the 10,000 µg/L MCL and BCL_W in both samples at reported concentrations of 20,300 µg/L and 41,600 µg/L. for POD2-R and POD8, respectively
- Perchlorate is higher than the USEPA Drinking Water Equivalent Level and BCL_W (24.5 µg/L and 18 µg/L, respectively) in both samples at reported concentrations of 3,690 mg/L and 226 mg/L. for POD2-R and POD8, respectively.

[15] This table lists only those comparison levels that are lower than the standard reporting limit.
[16] VI SLs have not been established for inorganic constituents.

- Sulfate is higher than the 250 mg/L MCL in both samples at reported concentrations of 2,510 mg/L and 1,410 mg/L for POD2-R and POD8, respectively.

- Aluminum is higher than the 50 µg/L MCL in the sample collected from POD8 (250 µg/L). The reporting limit for the other sample was elevated above the MCL, and it is unknown whether aluminum is also present at this location at concentrations above the MCL.

- Hexavalent chromium is higher than the 100 µg/L BCL_W in the sample collected from well POD2-R (150 µg/L).

- Magnesium is higher than the 207,000 µg/L BCL_W in both samples at reported concentrations of 211,000 µg/L and 262,000 µg/L. for POD2-R and POD8, respectively.

- Uranium is higher than the 30 µg/L MCL and BCL_W in both samples at reported concentrations of 56.7 µg/L and 50.4 µg/L. for POD2-R and POD8, respectively.

- Total Dissolved Solids (TDS) is higher than the 500 mg/L MCL in both samples at reported concentrations of 6,170 mg/L and 4,140 mg/L. for POD2-R and POD8, respectively.

No other inorganic constituents were detected in the groundwater samples at concentrations in excess of the applicable screening levels, including specific radionuclides. It should be noted that reporting limits for several analytes in addition to those noted above were routinely higher than the MCLs or BCL_W (*e.g.*, lithium and phosphorus), and it cannot be ascertained if these constituents are present in Site groundwater at concentrations greater than those comparison levels.

Chemical occurrence in both the shallow and deep water-bearing zones beneath the Eastside and CAMU areas is currently being characterized under a process separate from the Closure Plan process under which this SAP has been prepared, which focuses on Site soils. A more detailed presentation of chemical occurrence patterns within these water-bearing zones (including comparisons to background conditions) and an assessment of the potential health risks will be provided upon completion of the on-going groundwater investigation, and the CSM for the Eastside and CAMU areas will be updated accordingly.

3.0 DATA QUALITY OBJECTIVES

The DQO process is a seven-step iterative planning approach used to prepare plans for environmental data collection activities. It provides a systematic approach for defining the criteria that a data collection design should satisfy, and covers: problem definition; when, where, and how to collect samples or measurements; determination of tolerable decision error rates; and the number of samples or measurements that should be collected. DQOs define the purpose of the data collection effort, clarify what the data should represent to satisfy this purpose, and specify the performance requirements for the quality of the data to be obtained. The DQO process, as defined by USEPA's *Guidance on Systematic Planning Using the Data Quality Objectives Process*, *EPA QA/G-4* (USEPA 2006), consists of 7 steps:

Step 1 - State the Problem;

Step 2 - Identify the Goal of the Study;

Step 3 - Identify Information Inputs;

Step 4 - Define the Boundaries of the Study;

Step 5 - Develop the Analytical Approach;

Step 6 - Specify Performance or Acceptance Criteria; and

Step 7 - Develop the Plan for Obtaining Data.

A general overview of USEPA and NDEP's 7-step DQO process is provided in the Closure Plan. The key decision inputs to the DQO process, namely the Step 2 Principal Study Questions (PSQs), are also provided in the Closure Plan. The PSQs are the central Eastside Area-wide questions that provide a basis for the overall closure effort. Per discussions with the NDEP, the other steps of the DQO process are to be addressed, on an Eastside Area sub-area basis (for soils), in the respective sub-area SAPs. Steps 1 through 5 of the DQO process are described below for this Site. Implementation of DQO Steps 6 and 7 is described in the Statistical Methodology Report, which presents the statistical approach to sample design for the Eastside Area sub-areas soils investigations.

3.1 STATE THE PROBLEM (STEP 1)

The first step in the DQO process is to define the problem that initiated the study in such a way that the focus of the study is unambiguous. This section provides the following information: a summarization of the problem being addressed; identification of the assessment team; identification of the key decision-makers and stakeholders; and a presentation of the schedule.

3.1.1 Problem Statement

The 125.6-acre Site includes open land that has been modified to accept wastewater discharges from the BMI Complex through various trenches and evaporation ponds (from 1942 through 1976) and evaporative disposal of aqueous salt waste by means of an evaporative agricultural-type mechanism (from 1983 to 1991). The industrial activity on this Site may have resulted in concentrations of chemicals that drive unacceptable human health risk. Residual contamination remains at the Site as a consequence of these discharges. The goal of this work is to remediate the Site such that chemical concentrations in all relevant media do not pose an unacceptable risk to human health and the environment under current and future land use scenarios. The problem that needs to be addressed is one of returning at least the upper 10 feet of soils at the Site to conditions that pass a human health risk assessment, with restrictions on access to deeper soils and on the use of groundwater. Risk assessment at the Site includes exposure to soils, but also exposure to VOCs and radon, which might emanate from the vadose zone or from groundwater. A further consideration is the potential for leaching contaminants into groundwater.

The Site is currently vacant. The potential on-site and off-site receptors are currently trespassers/visitors, occasional on-site workers, and off-site residents. Risks to current receptors are being managed through Site access control. Under the current, prospective redevelopment plan, the Site will be used for residential land use (low and medium density) with roads, parks and trails interspersed (Figure 4). Consequently, receptors that are considered for this problem include construction workers, residents (adult and child), maintenance workers, and trespassers. The potentially exposed populations for the Site and their potential routes of exposure are presented on Figure 8 and are summarized in Section 9 of the Closure Plan.

As described in the Closure Plan and in the Statistical Methodology Report, remediation for all media will be to risk-based levels protective of human health and the environment under current and future land use scenarios. The problem will be addressed through iterative remediation until sufficient remediation (removal of soil) has been performed that acceptable human health risks have been attained. The final Site conditions will include regrading of on-site soils, so that the future surface will not consist of the same soil as the current surface. Imported fill material may or may not be needed, including fill from other sites. The grading plan for this Site is presented on Figure 5.

Although the primary focus is human health risk assessment for residential and commercial use scenarios, secondary issues that will be addressed include contamination of deeper soils and groundwater beneath the Site. BRC will also discuss the issue of off-site transport of contaminants with the NDEP should the NDEP determine that this is necessary, maintaining consistency with the AOC3. However, because remediation of the Site will be to on-site residential standards, risks to off-site receptors are expected to be minimal.

3.1.2 Proposed Assessment Team

A multi-disciplinary approach is being and will be followed with participation by qualified geologists, chemists, radiochemists, hydrogeologists, biologists, ecologists, engineers, remediation specialists, toxicologists, risk assessors (human health and ecological), statisticians, field sampling personnel, community relations personnel, risk communications specialists, project developers, and project managers. BRC maintains an active roster of key team members, which will be periodically updated as appropriate throughout the project term. Key team members are identified in Section 1.4 of the Closure Plan.

3.1.3 Key Decision Makers and Stakeholders

The NDEP is the primary and the ultimate decision-maker for the project. Stakeholders include BRC, the City of Henderson, Clark County, the State of Nevada, the United States Government, the local public, Site developers, and other interested persons.

3.1.4 Schedule

BRC has established a phased schedule for the Eastside Area such that the various sub-areas are addressed sequentially. The timing of the phased closures is closely spaced to avoid potential complications associated with the presence of contaminated soils near areas that have been successfully remediated and closed and to mitigate potential impacts on adjacent residential housing developments.

Surface and shallow soil data will be used to evaluate both the current (post-remediation, pre-development) and future (post-development) exposures and risks. Once these data have been collected and preliminary risk calculations have been completed, BRC will determine whether the acceptable chemical concentrations and/or risk levels defined for the Site have been attained and will discuss this determination with the NDEP. If it is determined that acceptable risk levels have not been attained, BRC will perform additional remediation activities consistent with the CAP (BRC 2006), and will repeat the assessment process until risk-based goals are achieved. Each iterative remediation and data collection process is expected to take place over a one to two month period, but may extend into a slightly longer period.

3.2 IDENTIFY THE GOAL OF THE STUDY (STEP 2)

The purpose of this step is to define the Site-specific PSQs that need to be resolved in order to address the problem identified in Step 1, and to identify alternative actions that may be taken, depending on the answers to the PSQs. As noted above, the project PSQs are presented in the Closure Plan. The primary PSQ associated with this SAP is:

> Are the current (post-remediation, pre-development) and future (post-development) incremental risks to human health or the environment from exposure to Site soil and soil vapor flux sufficiently low that they are acceptable?

If the incremental risks are not sufficiently low, then reasonable further action will be taken; otherwise, no further action will be taken and a risk assessment report will be prepared. Secondary PSQs deal with groundwater quality in the context of the overall Site, and on the impact of Site contamination on off-site human receptors. Ecological risk assessment issues will be discussed with the NDEP should NDEP determine that an ecological risk assessment is warranted.

The following fundamental assumptions apply:

1. The PSQs will be assessed only after BRC has determined that achievement of Site cleanup goals is expected for Site soils.[17] Cleanup goals for the project are defined in Sections 1.1 and 9.1.1 of the Closure Plan and in the Statistical Methodology Report. The data pool employed in the risk assessment will comprise only those data collected in accordance with this SAP,[18]

[17] The existing historical data suggest that some remediation is needed to attain cleanup goals and BRC has initiated remediation in accordance with the CAP; the need for further remediation will be properly evaluated on the basis of data collected under this SAP, in accordance with the approved risk assessment methodology in the Closure Plan.

[18] Data collected prior to SAP approval that might also be representative of Site conditions will not be included in the risk assessment; however, a data usability evaluation will be conducted to determine whether any of the historical data can be used in Site risk assessment, or it will be explained why the new data supplants the old data. However, the historical data may be used to help develop the CSM for both this Site and the overall Eastside.

after remediation activities have been performed during the closure process, if such remediation occurs.

2. The data used in PSQ assessment will undergo a rigorous Quality Assurance/Quality Control (QA/QC) review prior to that assessment, in accordance with the procedures described in the *BRC Quality Assurance Project Plan* (QAPP; BRC and ERM 2009b). Based on this QA/QC review, only those data determined to be suitable for use will be included in the closure data pool. Furthermore, the adequacy of the data pool will be evaluated following the procedures provided in Section 9.3 of the Closure Plan. If found to be inadequate, additional sampling and analysis may be performed.

Stated another way, the decision is to determine whether or not Site conditions[19] result in acceptable human health risks and environmental risks for future land uses. This will be determined through human health risk assessment for potential future on-site receptors. Potential alternative actions (from the Closure Plan) that may be taken include: (1) No Action (in this context No Action means no additional action beyond removal of contaminated soils presently located on Site), (2) institutional controls/limited action, (3) importation and use of clean fill (on-site capping of soils), and (4) excavation of soils and on-site landfill disposal at the project CAMU.

How the study decisions will be determined for the Site, including how the risk assessment will be performed, is presented in the Closure Plan.

3.3 IDENTIFY INFORMATION INPUTS (STEP 3)

The purpose of this step is to identify the information needed to resolve the PSQs identified in Step 2. The data inputs for the primary PSQ are listed below. Risk assessment will be the primary means of answering the PSQs, and will incorporate the various data inputs listed below. These data inputs either 1) are already established, as presented in this SAP or the Closure Plan, 2) will be obtained during the soil and soil vapor flux sampling programs specified in this SAP, or, 3) currently exist as data gaps that will be resolved prior to performing risk assessment. A comprehensive list of the necessary data inputs for addressing the primary PSQ is provided below.

[19] "Site conditions" in the context of this sentence refers to those conditions assessed after performing any excavation of impacted soils and disposing of them outside the Site.

- Input parameters for human health risk assessment and assessment of impacts to groundwater considering relevant exposure pathways associated with potential future land uses.
- Toxicity inputs parameters consistent with current NDEP guidance (BCL_{RS}, NDEP 2009b).
- Input parameters for all fate and transport models (see Closure Plan and data to be collected as determined by this SAP).
- Site soil and soil vapor flux characterization data[20] collected according to this SAP.
- Identified locations/depth intervals, including elevations to adjust for use of fill material and regrading.
- Characterization data for imported fill if such fill is considered for use at the Site. At this point, it is not known whether imported fill materials will be used on Site.
- To address the secondary PSQs, soil data from depths greater than 10 feet bgs, and groundwater data will be used to address issues related to further understanding of vadose zone and groundwater contamination beneath the Site.

3.4 DEFINE THE BOUNDARIES OF THE STUDY (STEP 4)

The purpose of this step is to define the aspects of the project that affect the decision making process, including:

- The populations to be sampled;
- The geographical area applicable for decision making;
- Temporal boundaries for decision making;
- Any practical constraints that may interfere with data collection; and
- The scale for decision-making purposes.

Each of these portions of this step is presented below.

[20] To be collected as determined by this SAP in accordance with the most recent NDEP-approved version of Standard Operating Procedure 16 (BRC, ERM and MWH, 2008)

3.4.1 Sample Populations

Several target populations will be sampled for this project, including: surface and near-surface soils (*i.e.*, less than 10 feet bgs); subsurface soils (*i.e.*, greater than 10 feet bgs); groundwater; and soil vapor flux. These populations were segregated based on their differences in media type and pathways for potential human residential exposure following redevelopment. For this project, samples will be collected for surface and near-surface soils and soil vapor flux to address the primary PSQ via human health assessment, and for cumulative risk across these media types and associated pathways. Samples will be collected for subsurface soils and groundwater to address the secondary PSQs.

3.4.2 Spatial Boundaries

The spatial boundaries of interest for the risk assessment are the spatial extent of the Site boundary to a depth of 10 feet bgs or deeper if construction activities are below this level. However, impacts to receptors exposed to these soils can also occur from vapor intrusion from the deeper vadose zone and groundwater. Consequently, the vertical extent of the Site that encompasses vadose zone and groundwater is of interest. Based on expected land use, construction activities are not expected to occur at depths greater than 10 feet bgs.

Note that more than one set of surface spatial boundaries could ultimately be identified. For example, data may need to be grouped for sub-areas within the Site in order to appropriately address the decision units (*e.g.*, exposure areas). These spatial boundaries might be important if residual contamination varies across the Site either in the surface soils or by depth.

Because sub-areas within the Eastside are adjacent to each other, to assess or avoid potential impacts from other Site sources, risk assessment could be performed across Site boundaries, and/or adjacent Sites will be remediated in the same general time frame. To some extent this will depend on the spatial homogeneity of concentrations once remediation has been performed. Future remediation at adjacent Sites will involve dust suppression and storm water pollution prevention activities, mitigating potential impacts from cross-contamination.

3.4.3 Temporal Boundaries

The temporal boundaries of interest for this project are defined by the timeframe associated with decision making for each spatially distinct region of interest. Specifically, for each different land-use scenario, within each decision or exposure unit, both current and potential future risk needs to be considered and quantified. The time frame over which future risks will be evaluated can be regarded as indefinite, implying that future land uses must satisfy institutional constraints placed on the Site now, or a new risk assessment will need to be performed. Specific issues for each medium are described below.

Surface Soil

The surface soil concentrations used in the risk assessment will be derived from then-existing soil conditions (that is, established during the characterization activities performed in accordance with this SAP). BRC assumes that these will reflect the concentration distribution for the project lifetime, and those data will be relied upon throughout the redevelopment process and for assessing risks under current and future land use scenarios. The timeframe for data collection, assessment, and decision-making will be from one to three months for surface soils. These soil data will be used to evaluate both current (post-remediation, pre-development) and future (post-development) exposures and risks.

Subsurface Soil and Groundwater

As noted, BRC does not expect that subsurface soils (generally greater than 10 feet bgs) will be an issue from a human exposure standpoint. However, subsurface soils will be sampled in order to determine potential impacts to groundwater in accordance with the secondary PSQ relating to the deeper vadose zone and groundwater in the context of the entire Site. These subsurface soil data will be used to evaluate both current (post-remediation, pre-development) and future (post-development) impacts to groundwater. Data to support the evaluation of potential impacts to groundwater will be collected. These data will be collected to support the migration to groundwater calculations included in the Closure Plan, as well as more refined modeling tools (such as, VLEACH, SESOIL, and PESTAN). Any indirect impacts from underlying groundwater will be addressed via the proposed surface flux measurements.

Soil Vapor Flux

The soil vapor fluxes used in the risk assessment will be derived from soil vapor flux data associated with existing soil and groundwater conditions (that is, data collected during the characterization activities performed in accordance with this SAP). BRC assumes that these will reflect the soil vapor flux distribution for the project lifetime, and those data will be relied upon throughout the redevelopment process and for assessing risks under current and future land use scenarios. The timeframe for data collection, assessment, and decision-making will be from one to three months for soil vapor flux. These soil vapor flux data will be used to evaluate both current (post-remediation, pre-development) and future (post-development) exposures and risks.

3.4.4 Practical Constraints for Data Collection

Since the Site is currently unoccupied, there are no access constraints for collecting soil or soil vapor flux samples from BRC's property as specified in this SAP. For groundwater (which is not part of this SAP), additional and/or routine sampling activities (such as groundwater sampling from monitoring wells) may be required following redevelopment. However, these constraints do not apply to the situation associated with this SAP and will be dealt with at a later time.

3.4.5 Scale of Decision-Making

The scale for decision-making regarding the primary PSQ varies based on the target sample population of interest. Redevelopment of the Site following remediation includes significant changes in land uses, including residential housing. Other potential development interests in addition to residential housing include roads and parks (see Figure 4). However, the final redevelopment plans for the Site have not been completed and may change depending upon the results of post-remediation sampling. To facilitate the redevelopment of the Site with the fewest practical constraints due to residual contamination, the nominal scale for decision-making for the proposed residential exposure scenario, the most protective scenario, will be consistent with a typical residential lot size, which is 1/8th acre. However, if, as expected, the concentration distribution across the Site is statistically homogeneous representing a single population of concentrations for each chemical, then the decision unit will be the entire Site. Smaller decision units will only be defined if the spatial distribution of concentrations suggests the need to break the Site into smaller areas for risk-based decision-making. The same approach will be used for soil vapor flux, subsurface soils and groundwater as they feed into the human health risk assessment.

3.5 DEVELOP THE ANALYTICAL APPROACH (STEP 5)

The purpose of this DQO step, as described in USEPA guidance, is to define the population parameter (*e.g.*, mean risk) of interest for each population (surface soil, etc.), identify the appropriate action level (target risk level) for each population, and select measurement and analysis methods that can be used to properly evaluate the parameters against the action levels (*i.e.*, ensure detection limits do not exceed action levels, etc.). Once these actions are completed, decision rules (if-then statements) are developed for each population that state the alternative actions that would be taken depending upon the true value of the parameter relative to the specified action levels.

The PSQ-specific decision rules for the Site are presented below.

- If, after confirmation sampling conducted per the Closure Plan and this SAP, and subsequent risk assessment following procedures per the Closure Plan, it is deemed that the risk goals for the project (as discussed in Section 1 of the Closure Plan) are not met, then remediation per Alternative (4) (excavation of soils and on-site landfill disposal at the project CAMU) listed in Section 3.2 will be conducted to satisfy the risk goals. The risk assessment methodology for the project is presented in Section 9 of the Closure Plan.

- If, after implementation of the Decision Rule above it is determined that there are specific locations at the Site for which additional and continued remediation will not be practical or effective, then other alternatives such as Alternative (2) and Alternative (3) (institutional controls/limited action, and importation and use of clean fill) identified in Section 3.2 will be evaluated considering overall protection, effectiveness, permanence, implementability, cost, regulatory acceptance, and community acceptance.

- If, after implementation of the Decision rule above it is determined that no further action needs to be taken in the top 10 feet of soils, a proposal for an NFAD will be made. This proposal will be made only after consultation with NDEP.

Data for the secondary PSQs (deeper soils and groundwater) will be evaluated for obvious issues that might require immediate action, and will be included in analysis of objectives related to the groundwater program for the entire Site.

4.0 SCOPE OF WORK

Other than the removal of debris found on the Site and the removal of materials from the TIMET Ponds sub-area that have been temporarily placed within the Site, no remediation is proposed prior to the sampling activities specified in this SAP. Decisions regarding the need for remediation will be based on the initial data to be collected in accordance with this SAP as discussed in this section.

The risks posed to human health and the environment by chemicals remaining in Site soils will be assessed in accordance with the Risk Assessment Methodology provided in the Closure Plan. If this assessment indicates that risk-based cleanup goals established for the Site have not been met, additional phases of remediation, sampling/analysis and assessment will be performed as discussed in the CAP and the Closure Plan. Development may only proceed after attainment of acceptable risk levels under the future planned land uses – *i.e.*, after obtaining the NFAD from the NDEP.

The following is the proposed scope of work for investigating the Site and meeting the SAP objectives. This scope includes soil sampling (final and interim), soil vapor flux sampling,[21] and laboratory analyses of those samples. Much of the discussion below regarding confirmation soil sampling is taken from the Statistical Methodology Report.

4.1 INITIAL CONFIRMATION SOIL SAMPLING

As per the Statistical Methodology Report, the initial confirmation sampling in the Site will be conducted on the basis of combined random and biased (judgmental) sampling, as follows:

- **Stratified Random Locations:** For this purpose, the Site is covered by a 3-acre cell grid network. Within each 3-acre cell, a sampling location is randomly selected. Sampling locations are randomly selected within both full and partial grid cells if they are 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 will be included in the adjacent sub-area SAPs). The main objective of this stratified random sampling is to provide uniform coverage of the Site.

[21] A study comparing soil gas sampling and surface flux sampling is planned for the project. The outcome of that study will determine whether soil flux data will continue to be collected for the project, or whether this data will be supplemented and/or replaced by soil gas data. The sampling for the Site will be revised accordingly. The sampling method does not affect the sample locations, number of samples, or the laboratory analysis in this SAP.

- **Biased Locations:** Additional sampling locations are selected within or near small-scale contamination points of interests, including but not limited to previous debris locations, locations of temporary placement of soils/sediments from the former TIMET Ponds, ponds, berms, and ditches. For this purpose, the randomly selected location within a corresponding 3-acre cell may also be adjusted in order to cover a nearby point of interest. In the event that currently unknown impacted areas are identified during remediation, the presence of these areas will be drawn to NDEP's attention, the need for additional biased sampling points to address those areas will be evaluated, and the sampling program will be modified as needed.

Biased sampling will also be conducted along the lengths of the former conveyance ditches on the Site, at an approximate 200-foot linear spacing. Additional biased sampling locations were placed so that each pond had at least one sample located within it, and that the pond berms also had an adequate number of samples. In all, the proposed sampling locations address each of the current land uses as follows:

Land Use	Number of Samples
Former Pond	39
Pond Berm	15
Conveyance Ditch	12
Temporary Placement Area for TIMET Ponds Soils/Sediments	7

Figure 9 and accompanying Table 3 show the random and biased discrete sampling locations that are proposed to be collected within the Site.

At each selected location, multi-depth soil samples will be collected and analyzed for the project SRC list as follows. Proposed sample depths are 0 (surface) and 10 ft bgs at each sampling location. In addition, sample locations with grading greater than two ft bgs will also be sampled at the anticipated post-grading soil surface. Additionally, at three sample locations, within remediated ponds in the most heavily impacted portions of the Site, soil physical parameter data will be collected at 20 feet and every subsequent 10 feet within unsaturated soils above the capillary fringe until groundwater is reached or 50 feet deep, whichever is shallower.

Samples will be collected at:

1. Existing surface (0 ft bgs) and 10 ft bgs for sample locations in relatively flat (un-graded) locations;

2. Existing surface (0 ft bgs), post-grading surface, and post-grade 10 ft bgs for sample locations with substantial grading (that is, cut depths greater than two feet[22]) and the uppermost sampled soil is expected to be used as surface fill;

3. Existing surface (0 ft bgs) and 10 ft bgs for sample locations with minimal grading (that is, cut depths less than two feet) and the uppermost sampled soil is expected to be used as surface fill; and

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

The analytical sample results will then be divided into surface (0-2 ft depth), subsurface (2 ft -10 ft depth), and deep (>10 ft depth) layers, according to the following rules:

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

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

[22] Because sample collection will be over a two to three foot depth interval, sample locations with an anticipated cut depth less than three feet will only be sampled at the surface and one post-grade subsurface depth.

- **Rule 4: IF** the sample is collected in a part of the Site targeted for substantial grading, **AND** the sampled soil is expected to be used as surface fill (*e.g.*, soil within a berm) **AND** the cut depth is expected to be less than two feet, **THEN** the current surface soil sample will be classified as both a fill material sample and as a surface (0-2 ft depth) sample, and the soil layer grouping of the remaining deeper sampled soil will be 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 10. The current Site grading plan is shown on Figure 5. It should be noted that this is the most current plan available, but not necessarily the final grading plan. The sample-specific collection depths are presented in Table 3.

All soil samples will be tagged in the database with numeric designations of their corresponding assigned soil layer grouping based on these rules. Initially, 146 soil samples will be collected from 66 soil boring locations (not including deep samples to be collected for soil physical parameter data). This includes 39 random and 27 biased sample locations; with the following number of samples representing each post-grade type of soil:

Post-Grade Sample Type	**Number of Samples**[23]
Fill material	54
Surface soil	80
Subsurface soil	66

It should be noted that, as discussed with 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).

[23] Note that in some cases a soil sample may be considered both a fill sample and a surface sample (as indicated in Table 3). 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.

4.2 INTERMEDIATE SAMPLING AND CLEANUP

Upon layer-designation of confirmation soil samples, a series of tests will be conducted to determine whether sampled locations within a given layer include "exceeding" samples. An exceeding sample is one that warrants further investigation, which may include localized soil removal. Exceeding samples will be defined consistent with the following rules:

- **Chemicals without background concentrations:** For chemicals without corresponding background distributions, the distribution of its reported concentrations in each layer will be constructed. The 95 percent upper confidence limit (UCL) of these distributions will also be computed. **IF** the constructed distribution indicates the presence of anomalous concentrations (*e.g.*, high values at the end of an elongated tail of a uni-modal distribution, or values forming an elevated sub-population of a multi-modal distribution), **AND** the inclusion of these anomalous values causes the computed UCL to exceed 1/10 of the risk-based screening level of the chemical, **THEN** samples associated with anomalous values will be considered as potential exceeding samples. **IF** the constructed distribution indicates no presence of anomalous concentrations and the computed UCL exceeds 1/10 of the risk-based screening level of the chemical, **THEN** all samples associated with the layer will be considered as potential exceeding samples.

- **Chemicals with background concentrations:** For chemicals with corresponding background distributions, the distribution of its reported concentrations in each layer will be constructed. These concentration distributions will then be statistically compared to the background concentration distributions applicable to the Site. Appropriate two-sample tests, including Quantile test, Slippage test, *t*-Test and the Wilcoxon rank sum test with Gehan modification, will be used to identify exceeding samples through comparison of Site and background distributions. **IF** inclusion of elevated measured values in a given layer causes the rejection of the appropriate two-sample test, **THEN** samples associated with such elevated values will be considered as potential exceeding samples.

Areas with potential exceeding samples may be subjected to re-sampling prior to the confirmation of the location as an exceeding sample. After any such re-sampling, the above process will be repeated to confirm the exceeding status of the targeted sample location. It should be noted that if the data indicate a more widespread or Site-wide contamination, then it might be important to look at the effect on a sub-area basis rather than a sample basis. That is, additional alternatives, such as, changing the future land use, further division into smaller sub-areas, or more extensive remediation, would need to be considered and evaluated.

Upon confirmation of an exceeding sample, additional neighboring delineation sampling will be conducted based on a "step-out" approach. Step sizes and directions will be dependent on the location of the exceeding sample and perhaps the magnitude of the exceedance. Additional biased step-out or step-in sampling may be conducted to further refine the extent of the required removal. Each removal will be followed by confirmatory sampling. More detail on this approach is provided in the Statistical Methodology Report.

After the above intermediate removals, results associated with removed exceeding samples will be marked as excluded from the dataset, while non-exceeding delineation and confirmation data will be included in the dataset. The revised dataset will then be subjected to the above exceeding sample determination process, which will be repeated until all exceeding samples are adequately addressed.

4.3 FINAL CONFIRMATION DATASET

At this stage, the final confirmation soil dataset for the Site, consisting of: 1) the original non-exceeding confirmation data collected in accordance with this SAP for the Site; 2) the non-exceeding data generated after intermediate sampling and cleanup, and 3) additional biased and random samples collected for confirmation, will be subjected to a series of statistical analyses in order to determine representative exposure concentrations for that sub-area, as described in the Statistical Methodology Report.

4.4 SOIL VAPOR FLUX SAMPLING

Concurrent with the confirmation soil sampling, BRC will implement soil vapor flux sampling across the Site. This SAP refers to and relies on the most recent NDEP-approved version of Standard Operating Procedure (SOP) 16 for technical description of sampling and analytical methodology, QA/QC protocols, and project procedural description. The sampling procedure for the effort includes the USEPA surface emission isolation flux chamber (flux chamber) and static chamber sampling to perform an air pathway analysis (APA) for the Site. A description of the history, background, and operation of the USEPA-recommended flux chamber and radon flux approach is provided in SOP-16.

The flux chamber sample collection rationale is based on the project goal of obtaining a representative dataset of air emissions per sub-area. Flux chamber samples will be collected from each of the 3-acre grid cells. Soil vapor flux sampling locations have been preferentially selected to coincide with a biased sampling location in a given cell; several of these biased sampling locations are associated with ditches. In cases where a given cell contains no biased samples, the soil vapor flux sampling location coincides with the grid-based random sampling location. This approach results in 43 soil vapor flux sampling locations, indicated on Figure 9, providing full spatial coverage of the Site. All of the flux chamber samples will be tested for both VOC flux and radon flux, and this density of sample collection should be adequate for sub-area characterization given: the random 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 site properties. A higher density of sample collection for VOCs is not warranted given the general lack of VOC detections in soils and groundwater.

4.5 CHEMICALS SELECTED FOR ANALYSIS

The proposed analyte list for soil samples is comprised of the BRC project SRC list, as presented in the Closure Plan[24] and Table 4, with the following exceptions for this Site:

- Asbestos, dioxins/furans and PCBs will only be analyzed for in surface soil samples;
- Only acetaldehyde and formaldehyde will be analyzed for by USEPA Method 8315A (chloroacetaldehyde, dichloroacetaldehyde, and trichloroacetaldehyde removed based on the *Revisions to the Analyte List Technical Memorandum* approved by NDEP on October 16, 2008);
- The following metals will not be analyzed for: niobium, palladium, platinum, silicon, sulfur, and zirconium (removed based on the *Revisions to the Analyte List Technical Memorandum* approved by NDEP on October 16, 2008);
- Aroclors will be analyzed by USEPA Method 8082 only if the results of the analysis of total PCB congeners are greater than 33 ppb, which coincides with the standard reporting limit for this analysis;
- USEPA Method 8141A for organophosphorus pesticides will not be conducted. There have been only 47 detections of these compounds in over 10,000 soil sample records (<0.5 percent) from throughout the Eastside. There were only two detections in the nine soil samples collected within the Site that were analyzed for these compounds (including samples deeper than 10 ft bgs): one detection each of dimethoate and methyl parathion, Of these,

[24] Specific analytes and analyte-specific reporting limits for each analysis are listed in Table 4 of the QAPP.

methyl parathion has an established BCL_{RS}; dimethoate does not. The methyl parathion detection was more than three orders of magnitude lower than the applicable human health risk-based screening level.

- USEPA Method 8151A for chlorinated herbicides will not be conducted. There have been no detections of these compounds in over 1,400 soil sample records from throughout the Eastside, including those associated with nine soil samples collected within the Site (including samples collected from depths greater than 10 ft bgs). Detection limits were below the BCL_{RS};

- HPLC Method for organic acids (conducted using a proprietary method developed by Alpha Analytical) will not be conducted. There have been only three detections of these compounds in 567 soil sample records (<0.5 percent) from throughout the Eastside. These constituents were not detected in the seven soil samples collected within the Site (including samples collected from depths greater than 10 ft bgs). Detection limits were below the BCL_{RS};

- USEPA Method 8015B for nonhalogenated organics will not be conducted. There have been only five detections of these compounds in 420 soil sample records (one percent) from throughout the Eastside. These constituents were not detected in the seven samples collected within the Site (including samples collected from depths greater than 10 ft bgs). Detection limits and the few detections have been well below the BCL_{RS};

- USEPA Method 8015 for total petroleum hydrocarbons (TPH) will not be conducted. There have been only three detections of these compounds in over 299 soil sample records (one percent) from throughout the Eastside (none from within the Site). The few detections have been below 100 mg/kg, which is the typical low-end aesthetic threshold used for these compounds. While TPH is not proposed for analysis, its components are via other methods. In addition, TPH cannot be included in a risk assessment while its components can; and

- Consistent with the current project analyte list, the following radionuclides will be analyzed for: radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238. Activities for other radionuclides on the project SRC list may be back-quantitated; however, the main radionuclides listed above will likely provide information sufficient to perform a risk assessment. In addition, if the radionuclide activities are similar to background, then back-quantitation will be unnecessary and will not be performed.

The analyte list, as proposed in this SAP for the Site, consists of 307 of the 418 compounds (including water only parameters) on the project SRC list as well as physical parameters (Section 5.2.3) to support the evaluation of potential impacts to groundwater from migration of chemicals from soil. The analytical and preparatory methods used in accordance with this SAP adhere to the most recent version of the QAPP (BRC and ERM 2009b), which has been revised to ensure appropriate comparisons to the background dataset. The proposed analyte list for soil vapor flux samples is comprised of the list provided in the most recent NDEP-approved version of SOP-16 (see the *BRC Field Sampling and Standard Operating Procedures* [FSSOP]; BRC, ERM and MWH 2008), including radon. This analyte list is provided in Table 5.

5.0 FIELD AND LABORATORY METHODS

5.1 FIELD METHODS

All Site work will be performed under the responsible control and direction of a Nevada State Certified Environmental Manager. All sampling and sample handling procedures will be consistent with the NDEP-approved BRC FSSOP (BRC, ERM and MWH 2008). In accordance with applicable federal regulation (Title 29, Code of Federal Regulations [CFR] Section 1910.120) all field activities will be performed in compliance with the *BRC Health and Safety Plan* (BRC and MWH 2005).

Pre-field and field activities will be conducted in accordance with the most recent NDEP-approved versions of applicable SOPs (BRC, ERM and MWH 2008). These SOPs include SOP-1 (Drilling Methods), SOP-6 (Sample Management and Shipping), SOP-7 (Soil Sampling), SOP-10 (Surveying), SOP-12 (Asbestos Soil Sampling), SOP-13 (Field Equipment Calibration Procedures), SOP-14 (Field Documentation), SOP-15 (Field Logbook), SOP-16 (Flux Chamber Source Testing), SOP-17, (Soil Logging), SOP-23 (Split Spoon Sampling), SOP-26 (Soil Grab Sampling), and SOP-39 (Photoionization Detector Screening).

The BRC QAPP (BRC and ERM 2009b) and Health and Safety Plan (BRC and MWH 2005) prepared for the BMI Common Areas will be used for this proposed scope of work. The selected driller will notify the Underground Services Alert one-call notification system at least 48 hours before implementing any subsurface activities. BRC will also notify the NDEP at least one week prior to commencing field activities. Once the data are collected, BRC will subject the data to validation per procedures agreed to previously with the NDEP and consistent with the BRC QAPP (BRC and ERM 2009b) and SOP-40.

Soil cuttings generated during soil sampling and Hollow Stem Auger (HSA) drilling activities will be collected and stored with the other remediation waste and sent to the CAMU.

5.2 LABORATORY METHODS

Samples submitted for laboratory analysis will be analyzed in accordance with approved methodologies by a State of Nevada-certified analytical laboratory. Samples not specified for analysis will be placed on hold pending the results of the initial analysis.

5.2.1 Soil Chemical Analyses

BRC's current analyte list as approved by the NDEP is presented in Table 4 of the QAPP. Table 4 of this SAP identifies the complete list of analytes proposed for analysis of soil samples along with the appropriate analytical methods. An explanation for the sampling depth-specific exclusion of a chemical for analysis is provided in Table 4 of this SAP. Section 4.5 contains the rationale for exclusion of various chemical analyses from the SAP program for the Site.

5.2.2 Soil Vapor Flux Analyses

As indicated in Table 5, all flux chamber samples will be analyzed by USEPA Method TO-15 full scan, and selective ion mode analyses on a sub-set of VOCs to achieve the lowest attainable method detection limits for the target list of study compounds (see most recent version of SOP-16). In addition, the samples will be analyzed for radon (currently via passive dosimetry for radon adsorbed onto activated charcoal [AC] canisters with detection by gamma scintillation or gamma spectroscopy; see SOP-16). All samples will be analyzed for the target list with optimum method detection limits so that these data can be used to satisfy the sensitivity requirements of the human health risk assessment.

5.2.3 Soil Physical Parameters

In addition to chemical data, to support the evaluation of potential impacts to groundwater, soil physical properties will also be measured. These parameters will be collected to support the migration to groundwater calculations included in the Closure Plan, consistent with the USEPA Soil Screening Guidance (1996; 2000; 2002), as well as more refined modeling tools (such as, VLEACH, SESOIL, and PESTAN). Site-specific soil physical parameters to be measured include pH (USEPA Method 9045C), cation exchange capacity, dry bulk density, soil permeability/saturated hydraulic conductivity, specific gravity, total porosity, volumetric water content, grain size analysis by sieve and hydrometer, and fractional organic carbon content (see Table 4). These soil physical parameters will be measured from each of the subsurface samples collected from the three deep sample locations at the Site (see Figure 9). This will ensure that soil physical parameters will be measured at various depths from across the Site so that all sample depths are represented. In addition, samples will be collected from three subsurface sample locations (see Figure 9 and Table 3) for conducting the synthetic precipitation leaching procedure (SPLP; USEPA Method 1312) with the extract analyzed for metals, organochlorine pesticides, SVOCs, radium-226, radium-228, and perchlorate. These analytes are considered those of greatest concern for potential migration and impacts to groundwater. Two of these SPLP sample locations (*i.e.*, in grid cells AS,23 and AV,25; see Figure 9) will be within ponds in portions of the Site known to be moderately impacted.

6.0 REPORTING AND SCHEDULING

After approval of the SAP by NDEP, BRC is prepared to promptly initiate field activities. BRC will be directly in charge of sampling with oversight conducted by NDEP. As discussed in Section 3.4.3 sampling activities are anticipated to be completed over a one to three month period, and laboratory analyses to be completed within a five to six-week period following field work completion. Once the data are collected, BRC will subject the data to validation per procedures agreed to previously with the NDEP and consistent with the BRC QAPP (BRC and ERM 2009b) and SOP-40 (BRC, ERM and MWH 2008). Only those data determined by the QA/QC review to be suitable for use will be considered for the Site dataset. A separate DVSR will be prepared and submitted to NDEP.

Upon receipt of laboratory analytical results and following data validation, a risk assessment will be conducted by BRC (in consultation with NDEP) to evaluate the risks posed to human health and the environment by chemicals remaining in Site soils. The risk assessment will be conducted in accordance with the Risk Assessment Methodology provided in the Closure Plan. As stated in the Closure Plan:

> …risk assessment will not be initiated unless proper data sufficiency, representativeness, and adequacy analysis is first achieved. If necessary, additional data will be gathered or analyzed to meet the goals of data quality required for risk assessment. The risk assessment will, in turn, help to assure that these data characteristics are properly evaluated. Once risk assessment is completed, the assessment will be made as to whether the remediation conducted meets cleanup goals. If cleanup goals are not achieved, additional remediation, associated confirmation sampling, and assessment cycles will be conducted until a decision end point is reached – namely that the cleanup goals are either met (and the NFAD is issued or Site Closure is achieved, as the case may be) or proven infeasible because it is technically impractical or too costly, in which case changes in land use or institutional controls may be considered.

BRC will perform risk assessment calculations to justify additional remediation or sampling; however, these interim risk assessments will not be submitted to the NDEP. It is expected that the interim decisions (to support additional sampling or remediation) will be discussed with the NDEP on an informal but regular basis. Any additional sampling and remediation will be addressed as an addendum to this SAP.

The risk assessment report will be an inclusive report that will also contain the following items:

- A summary of the sampling procedures conducted;
- Sampling location map;
- Soil boring logs;
- An evaluation and summary of the collected data;
- Tables(s) summarizing soil results; and
- If appropriate, plan view maps indicating the locations of detected constituents in soil.

As noted above, completion of the risk assessment will be an iterative process. Once the risk assessment passes internal BRC review, with NDEP consultation, and meets the risk goals stated in the Closure Plan, the risk assessment report will be submitted to the NDEP, along with an NFAD request for the Site, in accordance with AOC3. That is, the risk assessment report will be prepared and submitted to the NDEP only when BRC is comfortable that acceptable human health risks have been attained.

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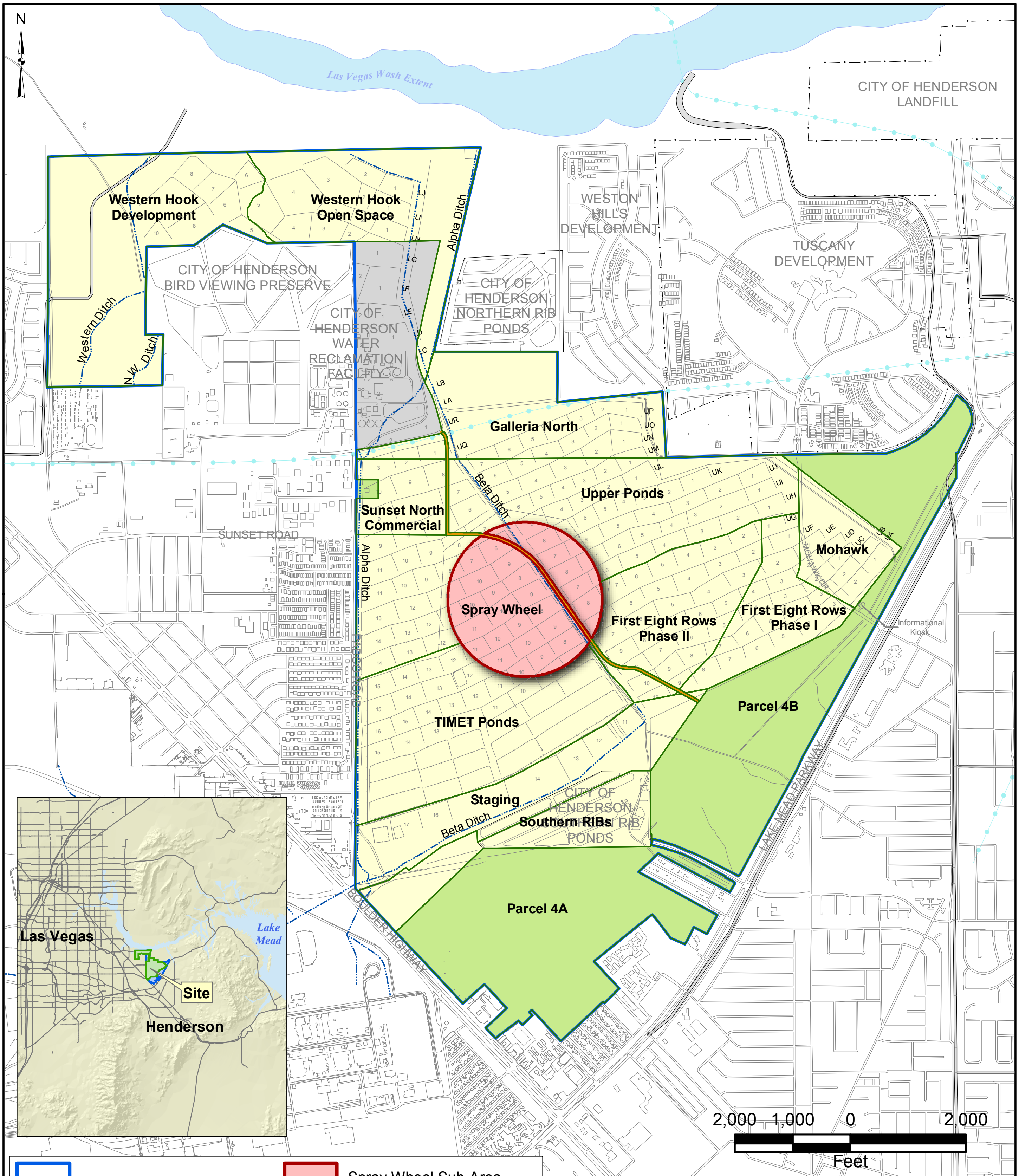
FIGURES



Site AOC3 Boundary

Ditches

Flood Conveyance Channels

Laterals

Utility Corridor Sub-Area

Spray Wheel Sub-Area

Eastside Sub-Areas

NFA Areas*

CoH WRF*

*Not part of the Closure Plan for soils.

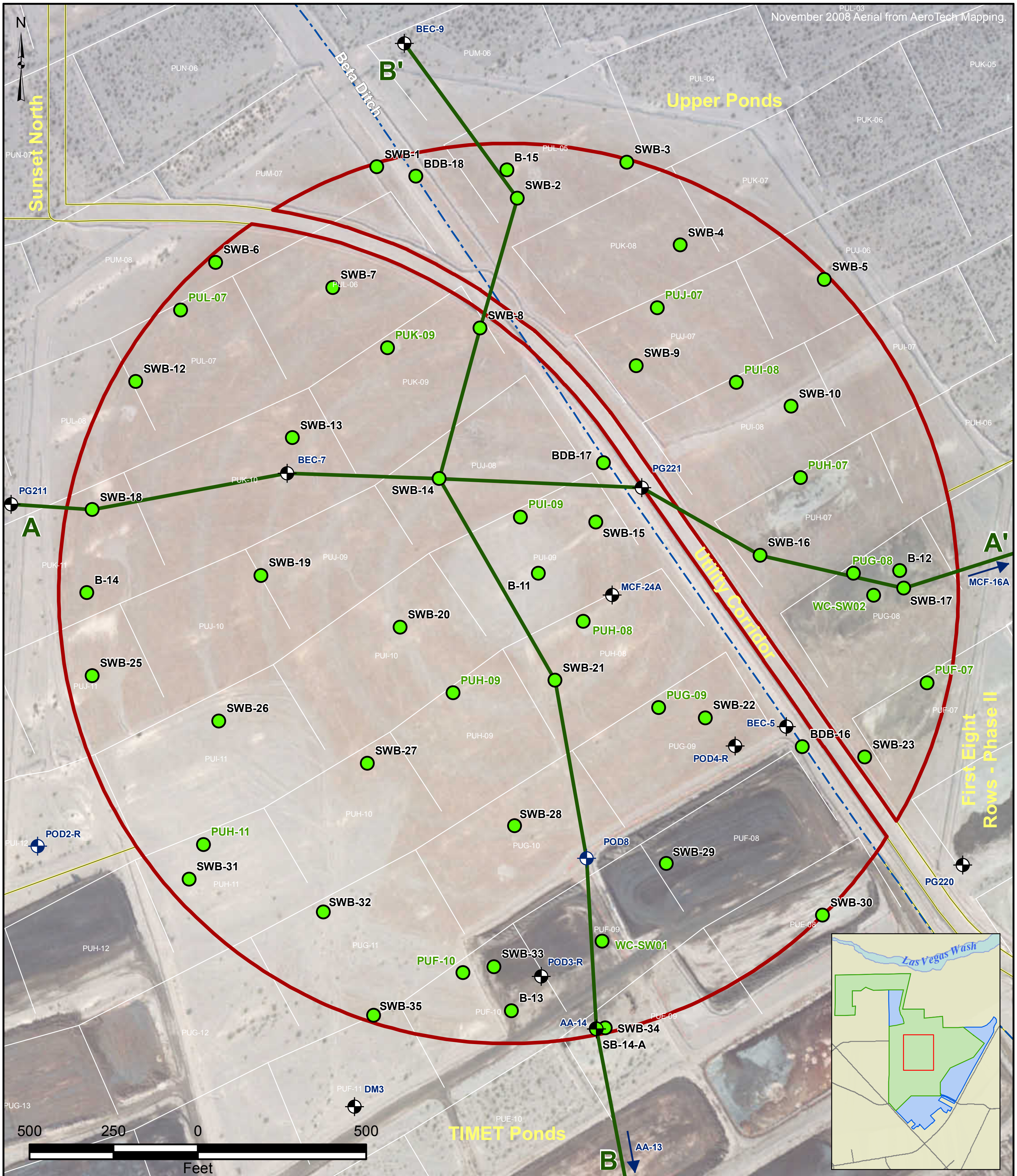
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 1

SPRAY WHEEL SUB-AREA LOCATION

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_1.MXD



Spray Wheel Sub-Area

Eastside Soil Sub-Areas

Cross-Section Location

Historical Soil Sample Locations

Monitoring Wells

Alluvial Wells with Groundwater Data

Other Monitoring Wells

SWB-27 - Discrete Sample

PUF-07 - Composite Sample

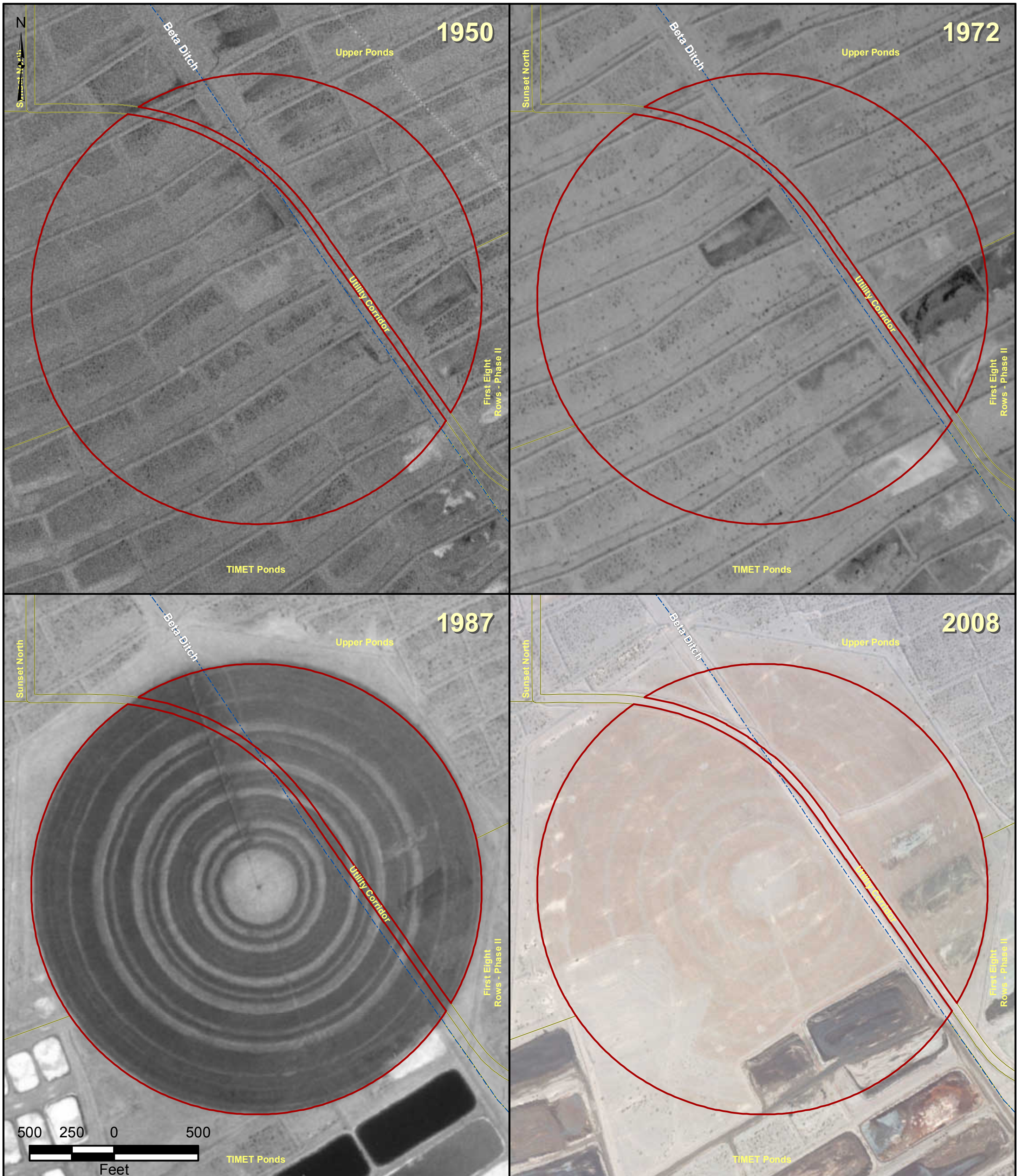
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 2

SITE PLAN WITH HISTORIC SOIL SAMPLE LOCATIONS AND MONITORING WELLS

Basic Remediation Company

Prepared by		Date	JOB No. 0064276
MKJ (ERM)	ERM	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_2.MXD



Spray Wheel Sub-Area

Eastside Soil Sub-Areas

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 3

SPRAY WELL
SUB-AREA
HISTORICAL AERIALS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_3.MXD

Spray Wheel Sub-Area

Eastside Soil Sub-Areas

Current Development Plan

Medium Density Residential

Low Density Residential

Parks & Trails

Roads/Parking

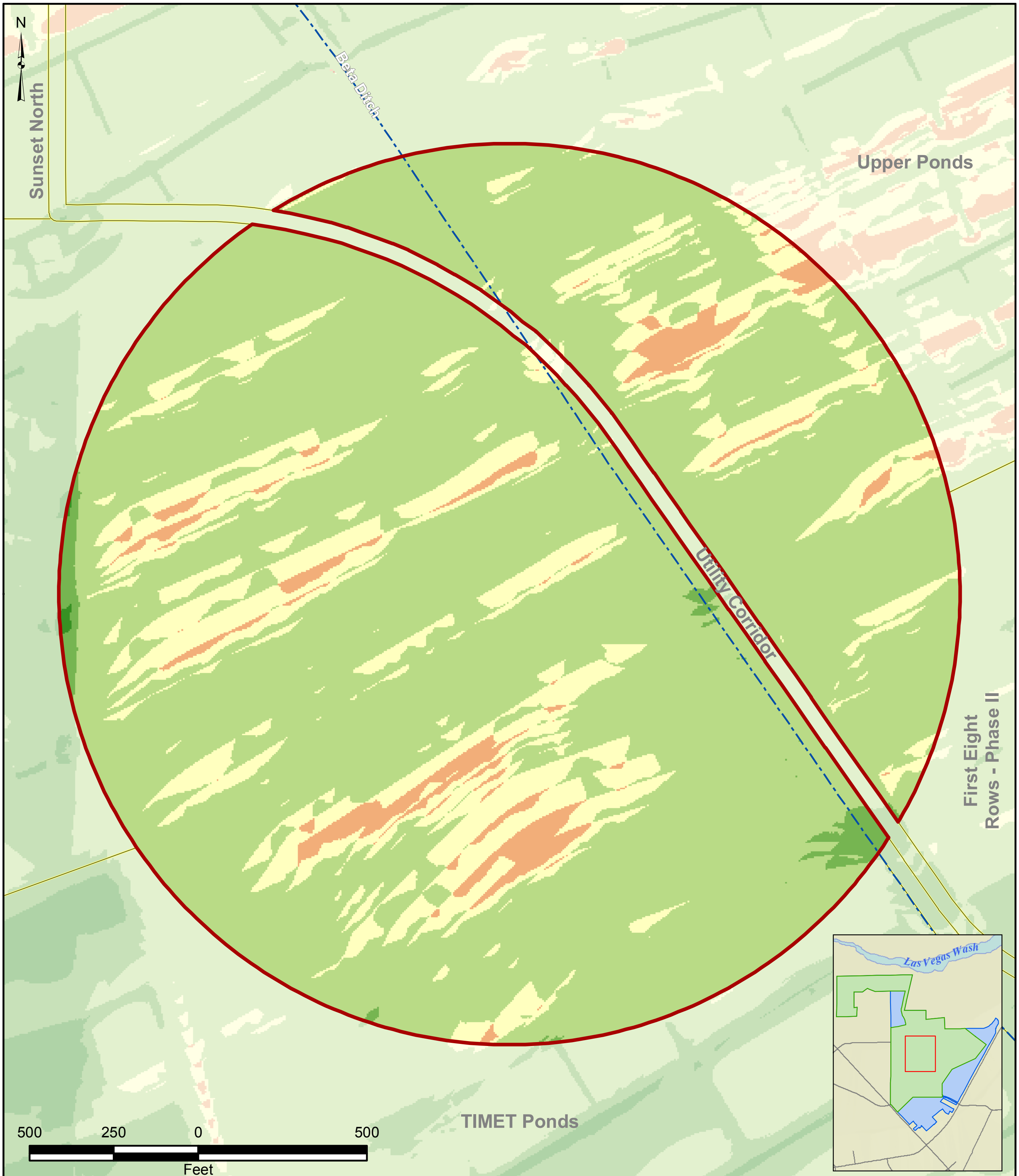
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 4

CURRENT DEVELOPMENT PLAN

Basic Remediation COMPANY

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURES_4-5.MXD



Spray Wheel Sub-Area
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

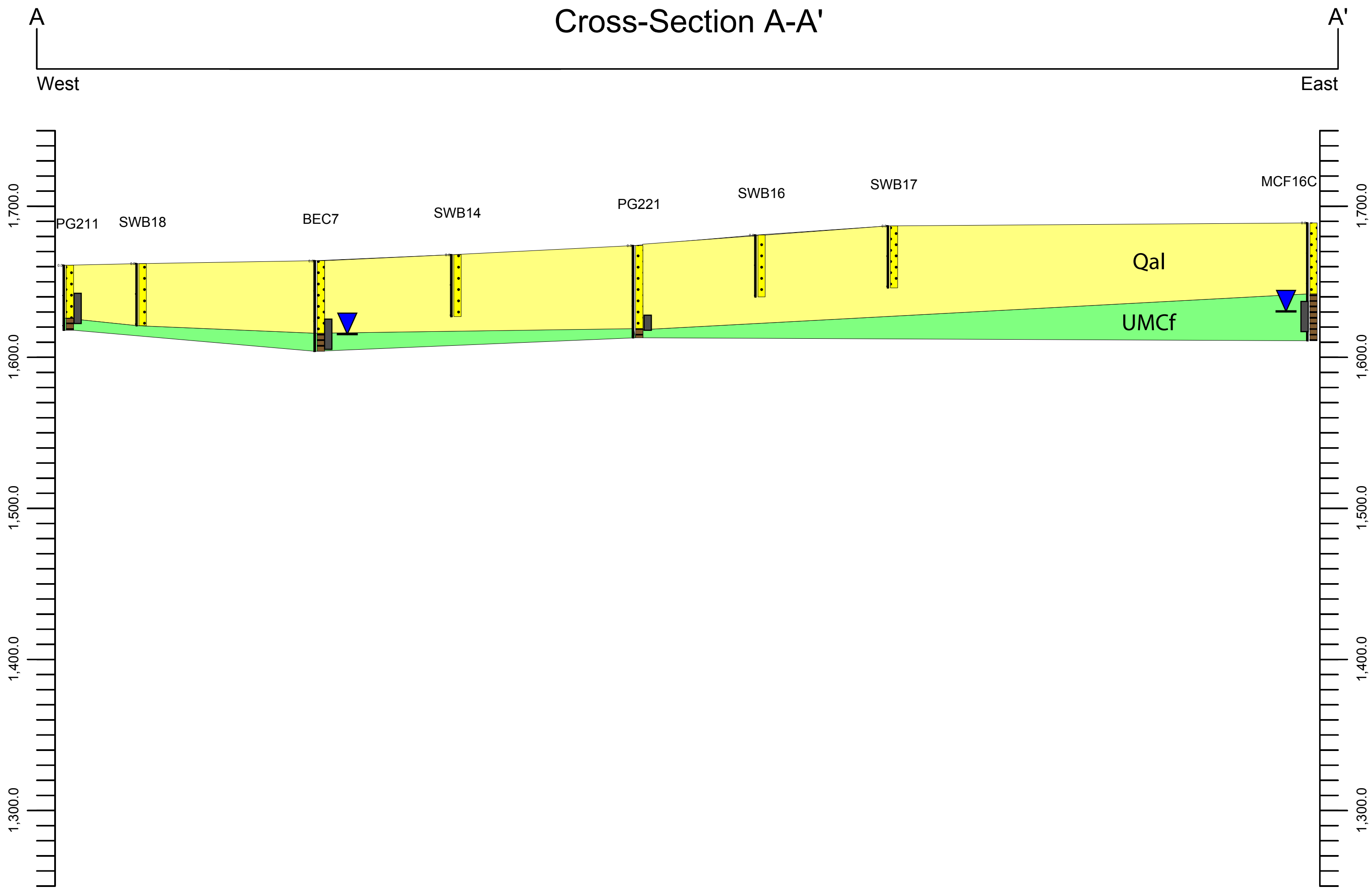
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 5

CURRENT GRADING PLAN

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURES_4-5.MXD



= Screen Interval

= Shallow Zone Water Level (Apr-May 2008)

= 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.

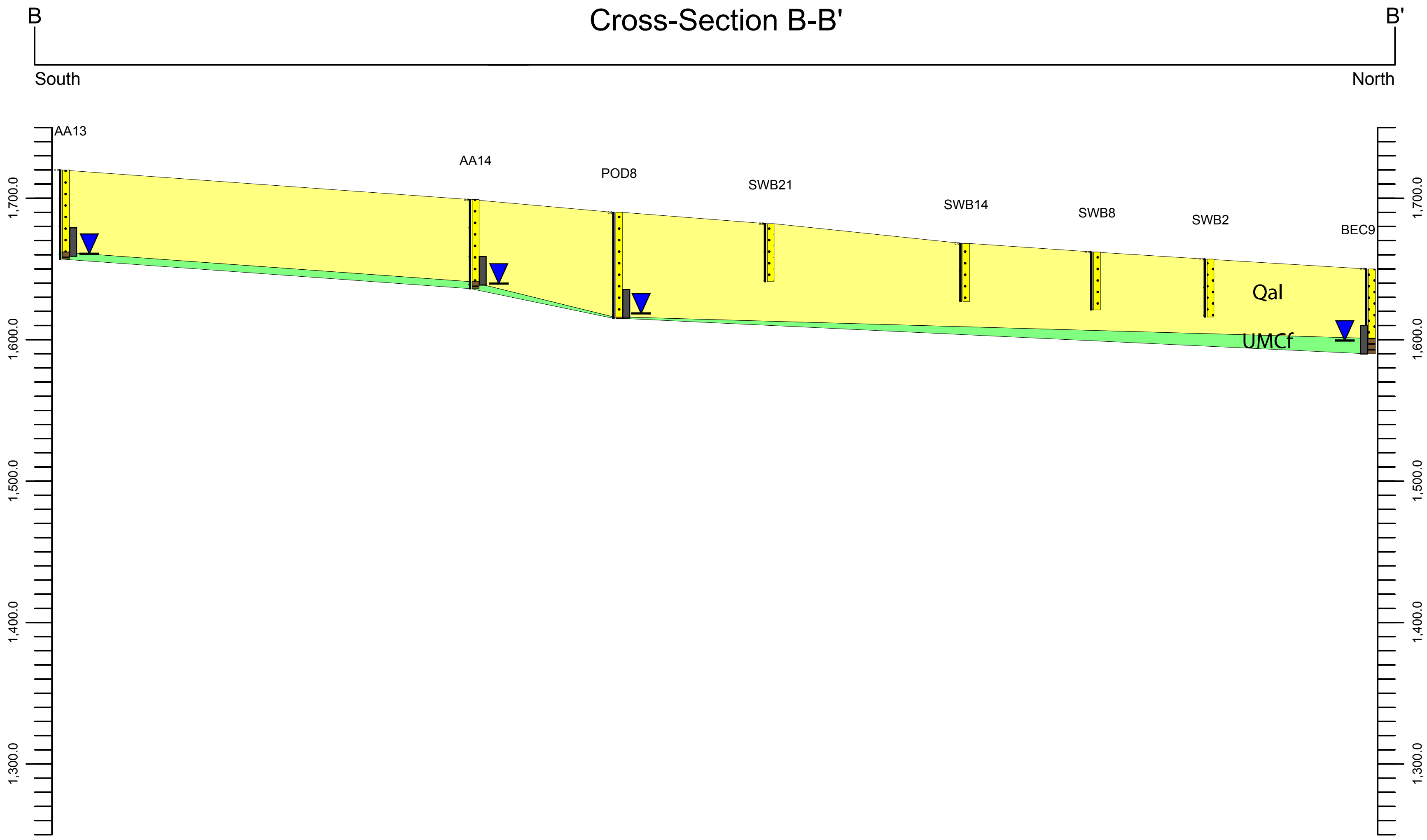
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 6

SPRAY WHEEL
SUB-AREA
CROSS-SECTION A-A'

Basic Remediation COMPANY

Prepared by MKJ (ERM)	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_6.AI



= Screen Interval

= Shallow Zone Water Level (Apr-May 2008)

= 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 7

SPRAY WHEEL
SUB-AREA
CROSS-SECTION B-B'

Basic Remediation COMPANY

Prepared by MKJ (ERM) | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_7.AI

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.

[1]Potentially complete exposure pathway following discharge to Las Vegas Wash and Lake Mead.

*Includes radionuclide exposures.

†Only radionuclide exposures.

‡Includes asbestos exposures.

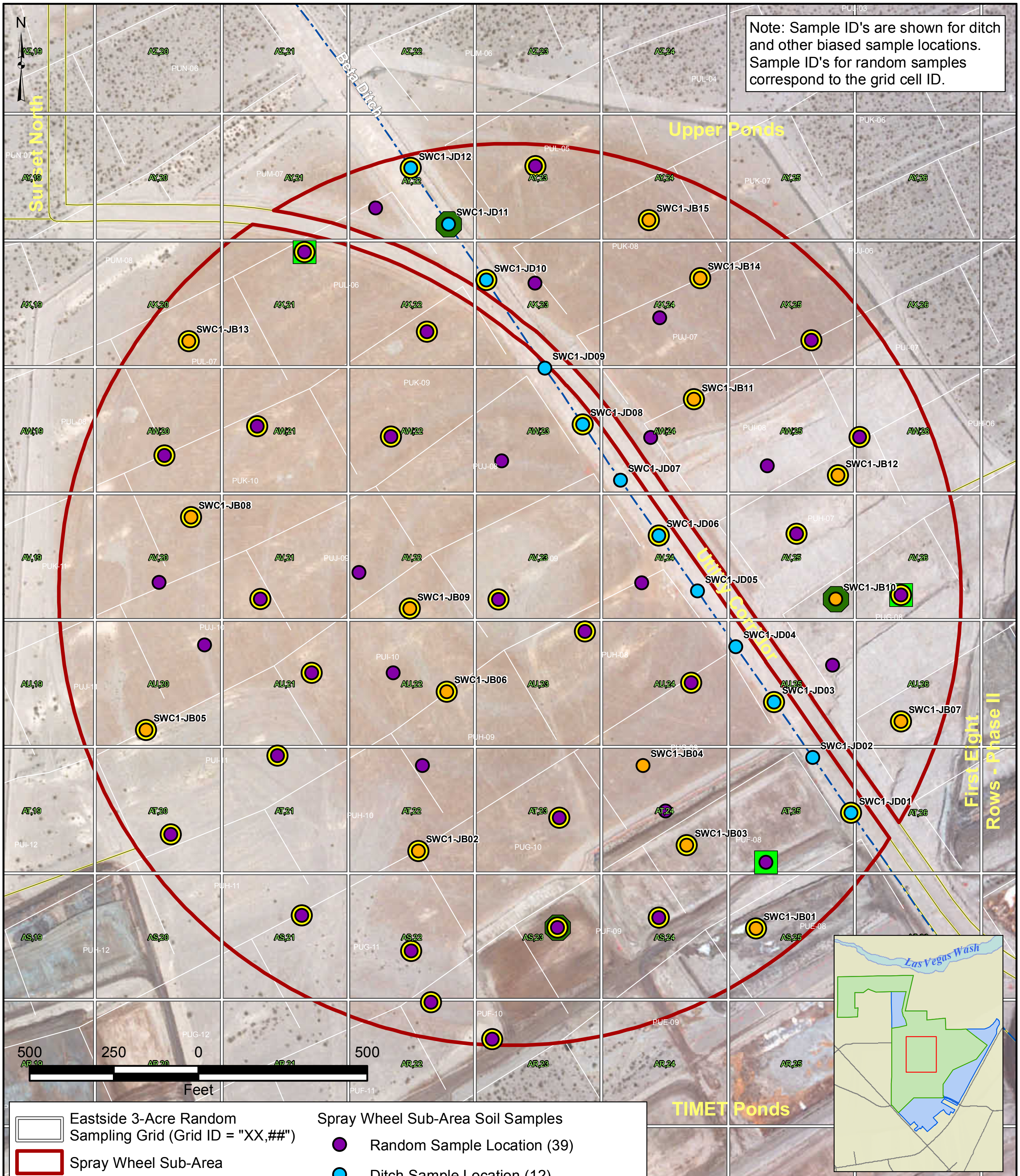
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 8

CONCEPTUAL SITE MODEL DIAGRAM FOR POTENTIAL HUMAN EXPOSURES

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_8.AI



Eastside 3-Acre Random Sampling Grid (Grid ID = "XX,##")

Spray Wheel Sub-Area

Eastside Soil Sub-Areas

Beta Ditch

Spray Wheel Sub-Area Soil Samples

- Random Sample Location (39)
- Ditch Sample Location (12)
- Other Biased Sample Locations (15)
- Surface Flux Sample Location (43)
- Deep Sample Location (3; to GW). Deep sample locations will be analyzed for soil physical parameters (see Table 4).
- SPLP Sample Location (3; subsurface)

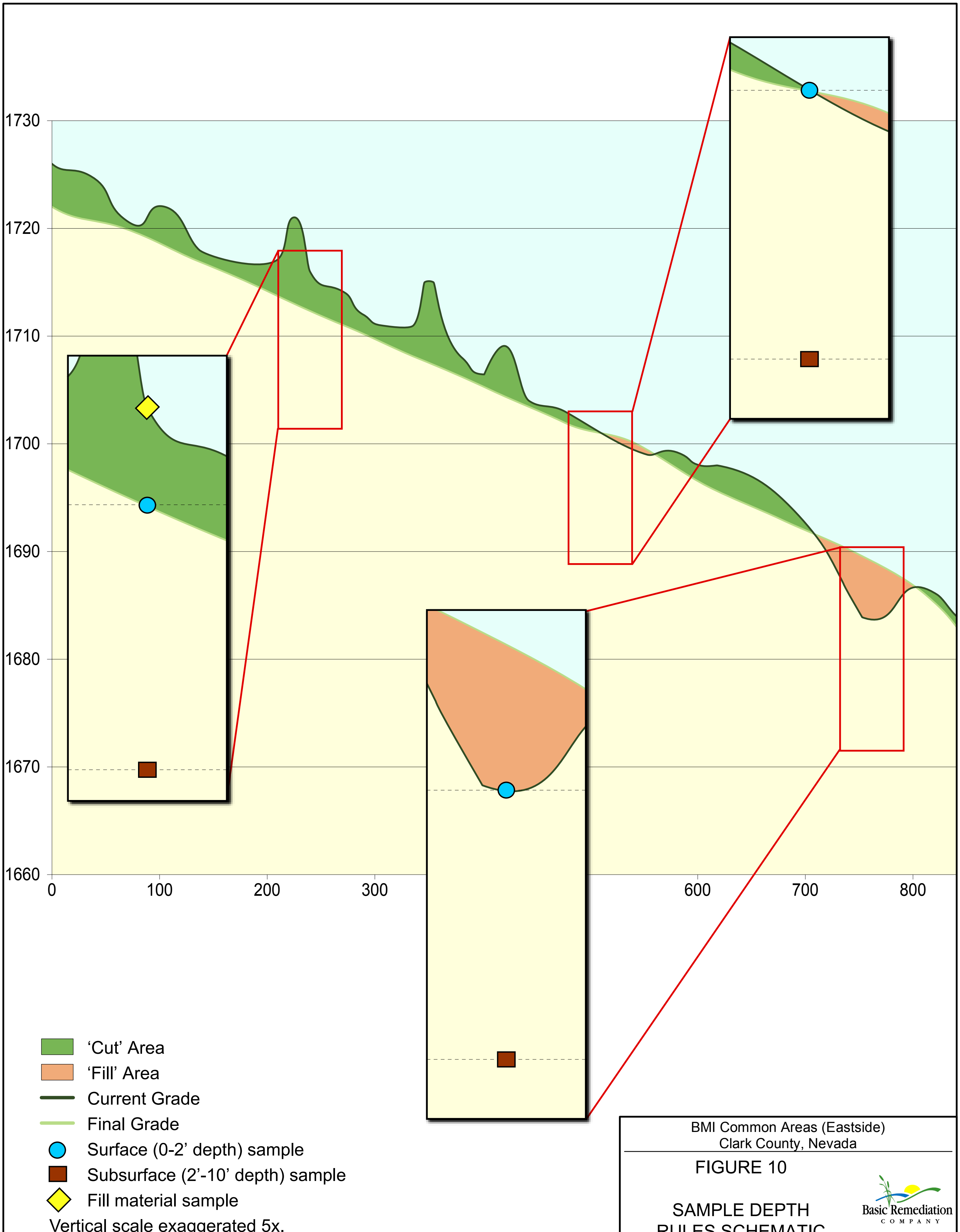
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 9

PROPOSED SOIL AND SOIL VAPOR FLUX SAMPLING LOCATIONS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_9.MXD



BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE 10

SAMPLE DEPTH
RULES SCHEMATIC

Basic Remediation COMPANY

Prepared by MKJ (ERM)	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/FIGURE_10.AI

TABLES

TABLE 1
SUMMARY OF HISTORICAL SOIL CHEMICAL DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 6)

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data Count	Min	Q1	Median	Mean	Q3	Max	Detected Data[a] Count	Min	Q1	Median	Mean	Q3	Max	Resident Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[b]	Count of Detects > Bkgrnd
Alcohols/Glycols	Ethanol	mg/kg	2	0%	2	53	--	54	54	--	54	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethylene glycol	mg/kg	2	0%	2	53	--	54	54	--	54	0	--	--	--	--	--	--	100000	--	--	--	--	--	--	--
	Methanol	mg/kg	2	0%	2	53	--	54	54	--	54	0	--	--	--	--	--	--	30600	--	--	--	--	--	--	--
	Propylene glycol	mg/kg	2	0%	2	53	--	54	54	--	54	0	--	--	--	--	--	--	100000	--	--	--	--	--	--	--
Aldehydes	Acetaldehyde	mg/kg	2	0%	2	0.21	--	0.21	0.21	--	0.21	0	--	--	--	--	--	--	14	--	--	--	--	--	--	--
	Formaldehyde	mg/kg	2	50%	1	0.1	--	0.1	0.1	--	0.1	1	0.14	--	0.14	0.14	--	0.14	11	0	--	--	--	--	--	--
Dioxins/Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/g	4	75%	1	1.4	--	1.4	1.4	--	1.4	3	350	350	3600	14000	39000	39000	--	--	--	--	--	--	--	--
	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	pg/g	4	75%	1	0.33	--	0.33	0.33	--	0.33	3	36	36	1200	1600	3600	3600	--	--	--	--	--	--	--	--
	1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/g	4	75%	1	0.55	--	0.55	0.55	--	0.55	3	120	120	1100	6400	18000	18000	--	--	--	--	--	--	--	--
	1,2,3,4,7,8-Hexachlorodibenzofuran	pg/g	2	50%	1	0.83	--	0.83	0.83	--	0.83	1	120	--	120	120	--	120	--	--	--	--	--	--	--	--
	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	pg/g	2	50%	1	0.085	--	0.085	0.085	--	0.085	1	5.2	--	5.2	5.2	--	5.2	--	--	--	--	--	--	--	--
	1,2,3,6,7,8-Hexachlorodibenzofuran	pg/g	2	50%	1	0.41	--	0.41	0.41	--	0.41	1	82	--	82	82	--	82	--	--	--	--	--	--	--	--
	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	pg/g	2	50%	1	0.13	--	0.13	0.13	--	0.13	1	9.2	--	9.2	9.2	--	9.2	--	--	--	--	--	--	--	--
	1,2,3,7,8,9-Hexachlorodibenzofuran	pg/g	2	50%	1	0.12	--	0.12	0.12	--	0.12	1	13	--	13	13	--	13	--	--	--	--	--	--	--	--
	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	pg/g	2	50%	1	0.14	--	0.14	0.14	--	0.14	1	8.8	--	8.8	8.8	--	8.8	--	--	--	--	--	--	--	--
	1,2,3,7,8-Pentachlorodibenzofuran	pg/g	2	50%	1	0.37	--	0.37	0.37	--	0.37	1	72	--	72	72	--	72	--	--	--	--	--	--	--	--
	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	pg/g	2	50%	1	0.065	--	0.065	0.065	--	0.065	1	6.3	--	6.3	6.3	--	6.3	--	--	--	--	--	--	--	--
	2,3,4,6,7,8-Hexachlorodibenzofuran	pg/g	2	50%	1	0.15	--	0.15	0.15	--	0.15	1	21	--	21	21	--	21	--	--	--	--	--	--	--	--
	2,3,4,7,8-Pentachlorodibenzofuran	pg/g	2	50%	1	0.21	--	0.21	0.21	--	0.21	1	38	--	38	38	--	38	--	--	--	--	--	--	--	--
	2,3,7,8-Tetrachlorodibenzofuran	pg/g	2	50%	1	0.37	--	0.37	0.37	--	0.37	1	28	--	28	28	--	28	--	--	--	--	--	--	--	--
	2,3,7,8-Tetrachlorodibenzo-p-dioxin	pg/g	2	50%	1	0.042	--	0.042	0.042	--	0.042	1	1.7	--	1.7	1.7	--	1.7	--	--	--	--	--	--	--	--
	Octachlorodibenzodioxin	pg/g	4	75%	1	1	--	1	1	--	1	3	33	33	3700	2900	5100	5100	--	--	--	--	--	--	--	--
	Octachlorodibenzofuran	pg/g	4	75%	1	5	--	5	5	--	5	3	1000	1000	33000	58000	140000	140000	--	--	--	--	--	--	--	--
	TCDD TEQ	pg/g	4	--[c]	--	--	--	--	--	--	--	4	0.24	16	64	190	480	620	50	3	--	--	--	--	--	--
General Chemistry	Ammonia	mg/kg	2	50%	1	0.53	--	0.53	0.53	--	0.53	1	1.7	--	1.7	1.7	--	1.7	100000	0	--	--	--	--	--	--
	Bicarbonate alkalinity	mg/kg	95	100%	0	--	--	--	--	--	--	95	104	180	200	230	260	464	--	--	--	--	--	--	--	--
	Bromide	mg/kg	2	0%	200%	2.6	--	2.7	2.7	--	2.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbonate alkalinity	mg/kg	95	4%	91	25	25	25	25	25	25	4	12	14	27	41	81	96	--	--	--	--	--	--	--	--
	Chlorate	mg/kg	22	86%	3	0.5	0.5	2.2	2.7	5.5	5.5	19	0.021	0.33	3.3	12	15	76	--	--	--	--	--	--	--	--
	Chloride	mg/kg	97	95%	5	10	10	10	10	10	10	92	10	160	1500	2700	5400	10700	--	--	--	--	--	--	1110	49
	Cyanide (Total)	mg/kg	24	17%	20	0.53	1	1	0.98	1.1	1.1	4	0.36	0.49	0.93	1	1.6	1.8	1220	0	2	0	40	0	--	--
	Fluoride	mg/kg	2	100%	0	--	--	--	--	--	--	2	1.9	--	4.2	4.2	--	6.4	3670	0	--	--	--	--	2.5	1
	Iodide	mg/kg	2	0%	2	5.3	--	5.4	5.4	--	5.4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Nitrate (as N)	mg/kg	2	100%	0	--	--	--	--	--	--	2	20	--	140	140	--	259	--	--	--	--	--	--	102	1
	Nitrite (as N)	mg/kg	2	0%	2	0.21	--	0.22	0.22	--	0.22	0	--	--	--	--	--	--	--	--	--	--	--	--	0.21	--
	Orthophosphate as P	mg/kg	2	0%	2	5.3	--	5.4	5.4	--	5.4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Perchlorate	mg/kg	21	95%	1	0.04	--	0.04	0.04	--	0.04	20	0.045	0.07	0.18	1	0.82	7.1	55	0	--	--	--	--	--	--
	Sulfate	mg/kg	2	100%	0	--	--	--	--	--	--	2	168	--	270	270	--	374	--	--	--	--	--	--	4130	0
	Sulfide	mg/kg	2	0%	2	10.5	--	11	11	--	10.9	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total Kjeldahl Nitrogen (TKN)	mg/kg	2	0%	2	2.6	--	2.7	2.7	--	2.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorinated Herbicides	2,2-Dichloropropionic acid	mg/kg	2	0%	2	0.042	--	0.043	0.043	--	0.044	0	--	--	--	--	--	--	1830	--	--	--	--	--	--	--
	2,4,5-T	mg/kg	4	0%	4	0.0051	0.0054	0.014	0.014	0.022	0.022	0	--	--	--	--	--	--	610	--	--	--	--	--	--	--
	2,4,5-TP	mg/kg	4	0%	4	0.0033	0.0035	0.013	0.013	0.022	0.022	0	--	--	--	--	--	--	490	--	--	--	--	--	--	--
	2,4-D	mg/kg	4	0%	4	0.03	0.032	0.06	0.059	0.086	0.087	0	--	--	--	--	--	--	690	--	--	--	--	--	--	--
	4-(2,4-Dichlorophenoxy)butyric acid	mg/kg	2	0%	2	0.084	--	0.086	0.086	--	0.087	0	--	--	--	--	--	--	490	--	--	--	--	--	--	--
	Dicamba	mg/kg	2	0%	2	0.042	--	0.043	0.043	--	0.044	0	--	--	--	--	--	--	1830	--	--	--	--	--	--	--
	Dichlorprop	mg/kg	2	0%	2	0.084	--	0.086	0.086	--	0.087	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dinitrobutyl phenol	mg/kg	4	0%	4	0.0061	0.0064	0.017	0.017	0.027	0.027	0	--	--	--	--	--	--	61	--	--	--	--	--	--	--
	MCPA (2-Methyl-4-chlorophenoxyacetic acid)	mg/kg	2	0%	2	8.4	--	8.6	8.6	--	8.7	0	--	--	--	--	--	--	31	--	--	--	--	--	--	--
	Mecoprop	mg/kg	2	0%	2	8.4	--	8.6	8.6	--	8.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals	Aluminum	mg/kg	2	100%	0	--	--	--	--	--	--	2	8350	--	9500	9500	--	10700	77200	0	75	2	1500	2	15300	0
	Antimony	mg/kg	12	33%	8	0.5	0.5	0.51	0.65	0.95	1.1	4	1	1.1	1.4	1.8	2.9	3.4	31	0	0.3	4	6	0	0.5	4
	Arsenic	mg/kg	37	81%	7	2	5	5	4.6	5	5	30	2.7	3.6	6.7	17	19	90	0.39	30	1	30	20	7	7.2	13
	Barium	mg/kg	37	100%	0	--	--	--	--	--	--	37	121	270	320	800	520	6500	15300	0	82	37	1640	4	836	5
	Beryllium	mg/kg	2	0%	2	0.53	--	0.54	0.54	--	0.54	0	--	--	--	--	--	--	160	--	3	--	60	--	0.89	--
	Boron	mg/kg	12	92%	1	5	--	5	5	--	5	11	3.6	4.5	5.7	6.1	6.4	14	15600	0	23	0	460	0	11.6	1
	Cadmium	mg/kg	33	39%	20	0.2	0.21	0.5	0.91	0.5	10	13	0.22	0.26	0.31	0.4	0.4	1.4	39	0	0.4	3	8	0	0.16	13
	Calcium	mg/kg	107	99%	1	530	--	530	530	--	530	106	25.9	180	760	3300	1500	37000	--	--	--	--	--	--	82800	0
	Chromium (Total)	mg/kg	38	97%	1	2.1	--	2.1	2.1	--	2.1	37	6.7	13	26	160	250	860	240	9	2	37	40	16	16.7	24
	Chromium (VI)	mg/kg	12	33%	8	0.4	0.4	0.4	0.4	0.4	0.42	4	1.28	1.3	2.7	3.2	5.6	6.16	230	0	2	2	40	0	0.251	4
	Cobalt	mg/kg	2	100%	0	--	--	--	--	--	--	2	7.9	--	8.5	8.5	--	9	23	0	33	0	660	0	16.3	0
	Copper	mg/kg	12	100%	0	--	--	--	--	--	--	12	14	17	18	38	54	140	2910	0	35	3	700	0	30.5	3
	Iron	mg/kg	12	100%	0	--	--	--	--	--	--	12	15600	20000	21000	21000	22000	24000	54800	0	7.5	12	150	12	19700	10

TABLE 1
SUMMARY OF HISTORICAL SOIL CHEMICAL DATA
SPRAY WHEEL SUB-AREA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[a]							Resident Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[b]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Metals	Lead	mg/kg	38	100%	0	--	--	--	--	--	--	38	5.3	9.8	13	190	53	3000	400	4	--	--	--	--	35.1	11
	Lithium	mg/kg	2	0%	2	5.3	--	5.4	5.4	--	5.4	0	--	--	--	--	--	--	160	--	--	--	--	--	26.5	--
	Magnesium	mg/kg	107	99%	1	265	--	270	270	--	265	106	15	99	360	1800	1300	14000	100000	0	649	40	12970	2	17500	0
	Manganese	mg/kg	22	100%	0	--	--	--	--	--	--	22	320	470	540	730	660	3700	1080	2	3.3	22	66	22	1090	2
	Mercury	mg/kg	33	24%	25	0.08	0.09	0.1	0.097	0.1	0.11	8	0.032	0.059	0.25	0.33	0.4	1.2	23	0	0.1	6	2	0	0.11	5
	Molybdenum	mg/kg	12	83%	2	1.1	--	1.1	1.1	--	1.1	10	1.3	1.7	2.4	5.2	5.9	20	390	0	3.6	2	72	0	2	7
	Nickel	mg/kg	2	100%	0	--	--	--	--	--	--	2	13	--	15	15	--	16	1540	0	7	2	140	0	30	0
	Niobium	mg/kg	2	0%	2	2.6	--	2.7	2.7	--	2.7	0	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--
	Palladium	mg/kg	2	100%	0	--	--	--	--	--	--	2	0.86	--	0.93	0.93	--	1	--	--	--	--	--	--	1.5	0
	Phosphorus (as P)	mg/kg	2	100%	0	--	--	--	--	--	--	2	1660	--	2300	2300	--	2840	--	--	--	--	--	--	--	--
	Platinum	mg/kg	2	0%	2	0.11	--	0.11	0.11	--	0.11	0	--	--	--	--	--	--	--	--	--	--	--	--	0.099	--
	Potassium	mg/kg	112	89%	12	50	50	530	370	530	530	100	13.7	26	34	330	66	2400	--	--	--	--	--	--	3890	0
	Selenium	mg/kg	33	6%	31	0.53	0.6	0.62	2	5	5	2	4.7	--	6.9	6.9	--	9	390	0	0.3	2	6	1	0.6	2
	Silicon	mg/kg	2	100%	0	--	--	--	--	--	--	2	246	--	570	570	--	890	--	--	--	--	--	--	4150	0
	Silver	mg/kg	33	15%	28	0.2	0.21	0.21	0.62	1	2.1	5	0.42	0.7	1.4	4	8.5	11	390	0	2	2	40	0	0.2609	5
	Sodium	mg/kg	112	99%	1	530	--	530	530	--	530	111	28.7	190	450	540	750	2130	--	--	--	--	--	--	1320	7
	Strontium	mg/kg	2	100%	0	--	--	--	--	--	--	2	121	--	200	200	--	280	46900	0	--	--	--	--	808	0
	Thallium	mg/kg	12	0%	12	0.5	0.5	0.5	0.6	0.51	1.1	0	--	--	--	--	--	--	5.5	--	0.4	--	8	--	1.8	--
	Tin	mg/kg	2	100%	0	--	--	--	--	--	--	2	0.24	--	0.77	0.77	--	1.3	46900	0	--	--	--	--	0.8	1
	Titanium	mg/kg	2	100%	0	--	--	--	--	--	--	2	565	--	760	760	--	949	100000	0	150030	0	3000600	0	1010	0
	Tungsten	mg/kg	2	0%	2	0.53	--	0.54	0.54	--	0.54	0	--	--	--	--	--	--	590	--	41	--	820	--	2.5	--
	Uranium	mg/kg	2	100%	0	--	--	--	--	--	--	2	0.65	--	0.68	0.68	--	0.71	230	0	13.5	0	270	0	2.7	0
	Vanadium	mg/kg	28	100%	0	--	--	--	--	--	--	28	29	36	190	520	900	2800	390	11	300	13	6000	0	59.1	15
	Zinc	mg/kg	12	100%	0	--	--	--	--	--	--	12	38	44	49	71	61	220	23500	0	620	0	12400	0	121	2
	Zirconium	mg/kg	2	100%	0	--	--	--	--	--	--	2	3.6	--	8	8	--	12.4	--	--	--	--	--	--	179	0
Organochlorine Pesticides	2,4-DDD	mg/kg	2	50%	1	0.0072	--	0.0072	0.0072	--	0.0072	1	0.37	--	0.37	0.37	--	0.37	--	--	--	--	--	--	--	--
	2,4-DDE	mg/kg	4	75%	1	0.0018	--	0.0018	0.0018	--	0.0018	3	0.34	0.34	0.56	5	14	14	--	--	--	--	--	--	--	--
	4,4-DDD	mg/kg	29	0%	29	0.00096	0.0033	0.0036	0.28	0.005	4.3	0	--	--	--	--	--	--	2.4	--	0.8	--	16	--	--	--
	4,4-DDE	mg/kg	29	66%	10	0.0018	0.0033	0.0036	0.0033	0.0036	0.0036	19	0.002	0.013	0.037	3.3	0.072	31	1.7	3	3	3	60	0	--	--
	4,4-DDT	mg/kg	29	28%	21	0.0018	0.0033	0.0033	0.0032	0.0036	0.0036	8	0.0053	0.0076	0.018	7.7	7.6	49	1.7	3	2	3	40	1	--	--
	Aldrin	mg/kg	29	0%	29	0.001	0.0017	0.0019	0.14	0.005	2.2	0	--	--	--	--	--	--	0.029	--	0.02	--	0.4	--	--	--
	alpha-BHC	mg/kg	29	3%	28	0.0017	0.0017	0.0019	0.15	0.005	2.2	1	0.0023	--	0.0023	0.0023	--	0.0023	0.09	0	0.00003	1	0.0006	1	--	--
	alpha-Chlordane	mg/kg	29	3%	28	0.0012	0.0017	0.0019	0.15	0.0042	2.2	1	0.0054	--	0.0054	0.0054	--	0.0054	--	--	--	--	--	--	--	--
	beta-BHC	mg/kg	29	31%	20	0.0017	0.0018	0.0019	0.21	0.005	2.2	9	0.0041	0.0049	0.01	0.013	0.017	0.042	0.32	0	0.0001	9	0.002	9	--	--
	Chlordane	mg/kg	27	0%	27	0.018	0.02	0.04	3.6	0.044	52	0	--	--	--	--	--	--	1.6	--	0.5	--	10	--	--	--
	delta-BHC	mg/kg	29	0%	29	0.0011	0.0017	0.0019	0.14	0.005	2.2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dieldrin	mg/kg	29	0%	29	0.0018	0.0033	0.0036	0.28	0.005	4.3	0	--	--	--	--	--	--	0.03	--	0.0002	--	0.004	--	--	--
	Endosulfan I	mg/kg	29	41%	17	0.0013	0.0019	0.0019	0.0043	0.005	0.016	12	0.0022	0.0036	0.018	6.4	0.039	51	370	0	0.9	2	18	2	--	--
	Endosulfan II	mg/kg	29	3%	28	0.00097	0.0033	0.0036	0.29	0.0047	4.3	1	0.46	--	0.46	0.46	--	0.46	370	0	0.9	0	18	0	--	--
	Endosulfan sulfate	mg/kg	29	0%	29	0.0018	0.0033	0.0036	0.28	0.005	4.3	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Endrin	mg/kg	29	0%	29	0.0018	0.0033	0.0036	0.28	0.005	4.3	0	--	--	--	--	--	--	18	--	0.05	--	1	--	--	--
	Endrin aldehyde	mg/kg	29	3%	28	0.0017	0.0033	0.0036	0.29	0.005	4.3	1	0.015	--	0.015	0.015	--	0.015	--	--	--	--	--	--	--	--
	Endrin ketone	mg/kg	7	0%	7	0.0018	0.0019	0.005	0.0041	0.005	0.005	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	gamma-Chlordane	mg/kg	29	10%	26	0.0009	0.0017	0.0019	0.16	0.005	2.2	3	0.016	0.016	0.019	0.019	0.022	0.022	--	--	--	--	--	--	--	--
	Heptachlor	mg/kg	29	0%	29	0.001	0.0017	0.0019	0.14	0.005	2.2	0	--	--	--	--	--	--	0.11	--	1	--	20	--	--	--
	Heptachlor epoxide	mg/kg	29	3%	28	0.0014	0.0017	0.0019	0.15	0.005	2.2	1	0.0019	--	0.0019	0.0019	--	0.0019	0.053	0	0.03	0	0.6	0	--	--
	Lindane	mg/kg	29	3%	28	0.0017	0.0017	0.0019	0.15	0.0044	2.2	1	0.0078	--	0.0078	0.0078	--	0.0078	0.44	0	0.0005	1	0.01	0	--	--
	Methoxychlor	mg/kg	29	0%	29	0.0018	0.017	0.019	1.4	0.02	22	0	--	--	--	--	--	--	310	--	8	--	160	--	--	--
	Toxaphene	mg/kg	29	0%	29	0.016	0.016	0.016	0.057	0.06	0.81	0	--	--	--	--	--	--	0.44	--	2	--	40	--	--	--
Organo-phosphorus Pesticides	Azinphos-ethyl	mg/kg	1	0%	1	0.035	--	0.035	0.035	--	0.035	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Azinphos-methyl	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbophenothion	mg/kg	1	0%	1	0.035	--	0.035	0.035	--	0.035	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbophenothion-methyl	mg/kg	1	0%	1	0.035	--	0.035	0.035	--	0.035	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chlorpyrifos	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	180	--	--	--	--	--	--	--
	Coumaphos	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Demeton-O	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Demeton-S	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diazinon	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	55	--	--	--	--	--	--	--
	Dichlorvos	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--
	Dimethoate	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Disulfoton	mg/kg	3	0%	3	0.0079	0.0079	0.0096	0.011	0.014	0.014	0	--	--	--	--	--	--	2.4	--	--	--	--	--	--	--
	Ethoprophos	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethyl p-nitrophenyl phenylphosphorothioate	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
SUMMARY OF HISTORICAL SOIL CHEMICAL DATA
SPRAY WHEEL SUB-AREA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[a]							Resident Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[b]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Organo-phosphorus Pesticides	Famphur	mg/kg	3	0%	3	0.0033	0.0033	0.004	0.0071	0.014	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fenthion	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Malathion	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	1220	--	--	--	--	--	--	--
	Methyl parathion	mg/kg	4	25%	3	0.0065	0.0065	0.0079	0.0095	0.014	0.014	1	0.003	--	0.003	0.003	--	0.003	15	0	--	--	--	--	--	--
	Mevinphos	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Naled	mg/kg	1	0%	1	0.035	--	0.035	0.035	--	0.035	0	--	--	--	--	--	--	120	--	--	--	--	--	--	--
	O,O,O-Triethyl phosphorothioate	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Parathion	mg/kg	3	0%	3	0.0054	0.0054	0.0065	0.0086	0.014	0.014	0	--	--	--	--	--	--	370	--	--	--	--	--	--	--
	Phorate	mg/kg	3	0%	3	0.0058	0.0058	0.007	0.0089	0.014	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phosmet	mg/kg	1	0%	1	0.07	--	0.07	0.07	--	0.07	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ronnel	mg/kg	1	0%	1	0.07	--	0.07	0.07	--	0.07	0	--	--	--	--	--	--	3060	--	--	--	--	--	--	--
	Sulfotep	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tetrachlorvinphos (Stirophos)	mg/kg	1	0%	1	0.014	--	0.014	0.014	--	0.014	0	--	--	--	--	--	--	20	--	--	--	--	--	--	--
Organic Acids	4-Chlorobenzenesulfonic acid	mg/kg	2	0%	2	1	--	1	1	--	1	0	--	--	--	--	--	--	78200	--	0.07	--	1.4	--	--	--
	Benzenesulfonic acid	mg/kg	2	0%	2	1	--	1	1	--	1	0	--	--	--	--	--	--	39100	--	--	--	--	--	--	--
	Diethyl phosphorodithioic acid	mg/kg	2	0%	2	1	--	1	1	--	1	0	--	--	--	--	--	--	6260	--	--	--	--	--	--	--
	Dimethyl phosphorodithioic acid	mg/kg	2	0%	2	5	--	5	5	--	5	0	--	--	--	--	--	--	7820	--	--	--	--	--	--	--
Polynuclear Aromatic Hydrocarbons	Acenaphthene	mg/kg	20	0%	20	0.034	0.66	0.68	0.65	0.69	1.7	0	--	--	--	--	--	--	4690	--	29	--	580	--	--	--
	Acenaphthylene	mg/kg	20	0%	20	0.034	0.66	0.68	0.65	0.69	1.7	0	--	--	--	--	--	--	150	--	--	--	--	--	--	--
	Anthracene	mg/kg	20	0%	20	0.032	0.66	0.68	0.65	0.69	1.7	0	--	--	--	--	--	--	23500	--	590	--	11800	--	--	--
	Benzo(a)anthracene	mg/kg	20	5%	19	0.016	0.67	0.68	0.68	0.69	1.7	1	0.049	--	0.049	0.049	--	0.049	0.62	0	0.08	0	1.6	0	--	--
	Benzo(a)pyrene	mg/kg	20	0%	20	0.016	0.66	0.68	0.64	0.69	1.7	0	--	--	--	--	--	--	0.062	--	0.4	--	8	--	--	--
	Benzo(b)fluoranthene	mg/kg	20	0%	20	0.016	0.66	0.68	0.64	0.69	1.7	0	--	--	--	--	--	--	0.62	--	0.2	--	4	--	--	--
	Benzo(g,h,i)perylene	mg/kg	20	0%	20	0.032	0.66	0.68	0.65	0.69	1.7	0	--	--	--	--	--	--	2350	--	--	--	--	--	--	--
	Benzo(k)fluoranthene	mg/kg	20	0%	20	0.016	0.66	0.68	0.64	0.69	1.7	0	--	--	--	--	--	--	6.2	--	2	--	40	--	--	--
	Chrysene	mg/kg	20	10%	18	0.016	0.67	0.68	0.63	0.69	1.7	2	0.096	--	0.19	0.19	--	0.29	62	0	8	0	160	0	--	--
	Dibenzo(a,h)anthracene	mg/kg	20	0%	20	0.032	0.66	0.68	0.65	0.69	1.7	0	--	--	--	--	--	--	0.062	--	0.08	--	1.6	--	--	--
	Indeno(1,2,3-cd)pyrene	mg/kg	20	0%	20	0.016	0.66	0.68	0.64	0.69	1.7	0	--	--	--	--	--	--	0.62	--	0.7	--	14	--	--	--
	Phenanthrene	mg/kg	20	15%	17	0.032	0.67	0.68	0.57	0.69	0.72	3	0.1	0.1	0.45	0.38	0.58	0.58	25	0	--	--	--	--	--	--
	Pyrene	mg/kg	20	5%	19	0.032	0.67	0.68	0.68	0.69	1.7	1	0.062	--	0.062	0.062	--	0.062	2350	0	210	0	4200	0	--	--
Polychlorinated Biphenyls	Aroclor 1016	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	3.9	--	--	--	--	--	--	--
	Aroclor 1221	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--
	Aroclor 1232	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--
	Aroclor 1242	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--
	Aroclor 1248	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--
	Aroclor 1254	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--
	Aroclor 1260	mg/kg	22	0%	22	0.013	0.013	0.014	1.4	0.014	17	0	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--
Radionuclides[d]	Radium-226	pCi/g	5	100%	0	--	--	--	--	--	--	5	0.98	1.1	2.1	5	10	14.6	0.0071	5	0.016	5	0.32	5	2.36	2
	Radium-228	pCi/g	5	100%	0	--	--	--	--	--	--	5	1.26	1.3	1.4	1.4	1.4	1.45	0.013	5	0.016	5	0.32	5	2.94	0
	Thorium-228	pCi/g	5	100%	0	--	--	--	--	--	--	5	1.36	1.4	1.5	1.9	2.6	3.41	0.0078	5	0.0023	5	0.045	5	2.28	1
	Thorium-230	pCi/g	5	100%	0	--	--	--	--	--	--	5	1.14	1.2	1.4	2.1	3.2	4.51	3.2	1	0.00084	5	0.017	5	3.01	1
	Thorium-232	pCi/g	5	100%	0	--	--	--	--	--	--	5	1.36	1.4	1.5	1.8	2.3	2.84	2.8	1	0.0029	5	0.058	5	2.23	1
	Uranium-233/234	pCi/g	5	100%	0	--	--	--	--	--	--	5	0.61	0.83	1.3	2.1	3.8	5.73	4.2	1	--	--	--	--	2.84	1
	Uranium-235/236	pCi/g	5	60%	2	--	--	--	--	--	--	3	0.02	0.025	0.03	0.084	0.17	0.3	0.11	1	--	--	--	--	0.21	1
	Uranium-238	pCi/g	5	100%	0	--	--	--	--	--	--	5	0.75	0.76	1.2	2	3.7	5.71	0.46	5	--	--	--	--	2.37	1
	Actinium-228	pCi/g	2	100%	0	--	--	--	--	--	--	2	1.43	--	1.6	1.6	--	1.72	--	--	--	--	--	--	3.4	0
	Bismuth-210	pCi/g	2	50%	1	--	--	--	--	--	--	1	0.43	--	0.65	0.65	--	0.86	--	--	--	--	--	--	2.2	0
	Bismuth-212	pCi/g	2	0%	2	--	--	--	--	--	--	0	0.7	--	0.71	0.71	--	0.72	--	--	--	--	--	--	1.82	0
	Bismuth-214	pCi/g	2	100%	0	--	--	--	--	--	--	2	0.86	--	1.2	1.2	--	1.44	--	--	--	--	--	--	1.62	0
	Cobalt-57	pCi/g	2	0%	2	--	--	--	--	--	--	0	0.003	--	0.013	0.013	--	0.022	--	--	--	--	--	--	0.04	0
	Cobalt-60	pCi/g	2	0%	2	--	--	--	--	--	--	0	0.038	--	0.046	0.046	--	0.053	--	--	--	--	--	--	0.082	0
	Gross alpha	pCi/g	2	100%	0	--	--	--	--	--	--	2	23.9	--	41	41	--	59	--	--	--	--	--	--	--	--
	Gross beta	pCi/g	2	100%	0	--	--	--	--	--	--	2	37.6	--	41	41	--	44.1	--	--	--	--	--	--	--	--
	Lead-210	pCi/g	2	50%	1	--	--	--	--	--	--	1	0.43	--	0.65	0.65	--	0.86	--	--	--	--	--	--	2.2	0
	Lead-212	pCi/g	2	100%	0	--	--	--	--	--	--	2	1.3	--	1.5	1.5	--	1.6	--	--	--	--	--	--	2.11	0
	Lead-214	pCi/g	2	100%	0	--	--	--	--	--	--	2	0.78	--	1.1	1.1	--	1.34	--	--	--	--	--	--	1.72	0
	Polonium-210	pCi/g	2	50%	1	--	--	--	--	--	--	1	0.43	--	0.65	0.65	--	0.86	--	--	--	--	--	--	2.2	0
	Polonium-212	pCi/g	2	0%	2	--	--	--	--	--	--	0	0.45	--	0.46	0.46	--	0.46	--	--	--	--	--	--	--	--
	Polonium-214	pCi/g	2	100%	0	--	--	--	--	--	--	2	0.86	--	1.2	1.2	--	1.44	--	--	--	--	--	--	1.62	0
	Polonium-216	pCi/g	2	100%	0	--	--	--	--	--	--	2	3.6	--	3.8	3.8	--	4.02	--	--	--	--	--	--	2.11	2
	Polonium-218	pCi/g	2	0%	2	--	--	--	--	--	--	0	0	--	0	0	--	0	--	--	--	--	--	--	2.36	0
	Potassium-40	pCi/g	2	100%	0	--	--	--	--	--	--	2	24.4	--	26	26	--	26.8	--	--	--	--	--	--	35	0

TABLE 1
SUMMARY OF HISTORICAL SOIL CHEMICAL DATA
SPRAY WHEEL SUB-AREA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data Count	Min	Q1	Median	Mean	Q3	Max	Detected Data[a] Count	Min	Q1	Median	Mean	Q3	Max	Resident Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[b]	Count of Detects > Bkgrnd
Radionuclides[d]	Protactinium-234	pCi/g	2	0%	2	--	--	--	--	--	--	0	-0.08	--	-0.015	-0.015	--	0.05	--	--	--	--	--	--	0.13	0
	Radium-223	pCi/g	2	0%	2	--	--	--	--	--	--	0	0.03	--	0.26	0.26	--	0.49	--	--	--	--	--	--	0.4	1
	Radium-224	pCi/g	2	100%	0	--	--	--	--	--	--	2	3.6	--	3.8	3.8	--	4	--	--	--	--	--	--	2.11	2
	Thallium-208	pCi/g	2	100%	0	--	--	--	--	--	--	2	0.42	--	0.45	0.45	--	0.48	--	--	--	--	--	--	0.72	0
	Thorium-234	pCi/g	2	100%	0	--	--	--	--	--	--	2	1.65	--	1.8	1.8	--	1.96	--	--	--	--	--	--	2.5	0
Semi-Volatile Organic Compounds	1,2,4,5-Tetrachlorobenzene	mg/kg	4	25%	3	0.034	0.034	0.35	0.25	0.36	0.36	1	0.066	--	0.066	0.066	--	0.066	18	0	--	--	--	--	--	--
	1,2-Diphenylhydrazine	mg/kg	2	0%	2	0.034	--	0.038	0.038	--	0.041	0	--	--	--	--	--	--	0.61	--	--	--	--	--	--	--
	1,4-Dioxane	mg/kg	2	0%	2	0.034	--	0.038	0.038	--	0.041	0	--	--	--	--	--	--	44	--	--	--	--	--	--	--
	2,4,5-Trichlorophenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	6110	--	14	--	280	--	--	--
	2,4,6-Trichlorophenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	44	--	0.008	--	0.16	--	--	--
	2,4-Dichlorophenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	180	--	0.05	--	1	--	--	--
	2,4-Dimethylphenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	1220	--	0.4	--	8	--	--	--
	2,4-Dinitrophenol	mg/kg	20	0%	20	0.34	3.3	3.4	3.4	3.5	8.6	0	--	--	--	--	--	--	120	--	0.01	--	0.2	--	--	--
	2,4-Dinitrotoluene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	1.6	--	0.00004	--	0.0008	--	--	--
	2,6-Dinitrotoluene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	61	--	0.00003	--	0.0006	--	--	--
	2-Chloronaphthalene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	6260	--	--	--	--	--	--	--
	2-Chlorophenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	390	--	0.2	--	4	--	--	--
	2-Methylnaphthalene	mg/kg	18	0%	18	0.35	0.67	0.69	0.75	0.69	1.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	mg/kg	20	0%	20	0.034	3.3	3.4	3.4	3.5	8.6	0	--	--	--	--	--	--	180	--	--	--	--	--	--	--
	2-Nitrophenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	mg/kg	18	0%	18	1.3	1.3	1.4	1.6	1.5	3.4	0	--	--	--	--	--	--	1.1	--	0.0003	--	0.006	--	--	--
	3-Methylphenol & 4-Methylphenol	mg/kg	4	0%	4	0.068	0.072	0.39	0.39	0.71	0.72	0	--	--	--	--	--	--	310	--	--	--	--	--	--	--
	3-Nitroaniline	mg/kg	18	0%	18	1.7	3.3	3.4	3.7	3.5	8.6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4,6-Dinitro-o-cresol	mg/kg	16	0%	16	3.3	3.3	3.5	4	3.5	8.6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	mg/kg	20	5%	19	0.034	0.66	0.68	0.68	0.69	1.7	1	0.24	--	0.24	0.24	--	0.24	--	--	--	--	--	--	--	--
	4-Chloro-3-Methylphenol	mg/kg	20	0%	20	0.034	1.3	1.3	1.3	1.4	3.4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	mg/kg	18	0%	18	0.35	0.67	0.69	0.75	0.69	1.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	mg/kg	20	0%	20	0.34	3.3	3.4	3.4	3.5	8.6	0	--	--	--	--	--	--	490	--	--	--	--	--	--	--
	Acetophenone	mg/kg	4	0%	4	0.034	0.036	0.2	0.2	0.36	0.36	0	--	--	--	--	--	--	1740	--	--	--	--	--	--	--
	Aniline	mg/kg	4	0%	4	0.034	0.036	0.2	0.2	0.36	0.36	0	--	--	--	--	--	--	85	--	--	--	--	--	--	--
	Azobenzene	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	3.9	--	--	--	--	--	--	--
	Benzenethiol	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzoic acid	mg/kg	18	11%	16	1.7	3.3	3.4	3.6	3.5	7.3	2	0.22	--	1.2	1.2	--	2.2	100000	0	20	0	400	0	--	--
	Benzyl alcohol	mg/kg	18	0%	18	0.35	1.3	1.4	1.4	1.4	3.4	0	--	--	--	--	--	--	30600	--	--	--	--	--	--	--
	Benzyl butyl phthalate	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	240	--	810	--	16200	--	--	--
	bis(2-Chloroethoxy) methane	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	bis(2-Chloroethyl) ether	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	0.24	--	0.00002	--	0.0004	--	--	--
	bis(2-Chloroisopropyl) ether	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	3.4	--	--	--	--	--	--	--
	bis(2-Ethylhexyl) phthalate	mg/kg	18	6%	17	0.35	0.67	0.68	0.69	0.69	1.5	1	1.5	--	1.5	1.5	--	1.5	35	0	180	0	3600	0	--	--
	bis(p-Chlorophenyl) disulfide	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	bis(p-Chlorophenyl) sulfone	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbazole	mg/kg	18	0%	18	0.35	0.67	0.69	0.75	0.69	1.7	0	--	--	--	--	--	--	24	--	0.03	--	0.6	--	--	--
	Dibenzofuran	mg/kg	18	0%	18	0.35	0.67	0.69	0.75	0.69	1.7	0	--	--	--	--	--	--	160	--	--	--	--	--	--	--
	Dibutyl phthalate	mg/kg	20	5%	19	0.034	0.66	0.68	0.68	0.69	1.7	1	1.7	--	1.7	1.7	--	1.7	6110	0	270	0	5400	0	--	--
	Diethyl phthalate	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	48900	--	--	--	--	--	--	--
	Dimethyl phthalate	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	100000	--	--	--	--	--	--	--
	Di-n-octyl phthalate	mg/kg	20	0%	20	0.015	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diphenyl sulfone	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	180	--	--	--	--	--	--	--
	Fluoranthene	mg/kg	20	10%	18	0.034	0.67	0.68	0.67	0.69	1.7	2	0.11	--	0.34	0.34	--	0.56	2290	0	210	0	4200	0	--	--
	Fluorene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	3130	--	28	--	560	--	--	--
	Hexachloro-1,3-butadiene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	6.2	--	0.1	--	2	--	--	--
	Hexachlorobenzene	mg/kg	20	30%	14	0.35	0.67	0.69	0.66	0.69	0.72	6	0.39	0.5	0.83	0.95	1.4	1.9	0.3	6	0.1	6	2	0	--	--
	Hexachlorocyclopentadiene	mg/kg	20	0%	20	0.34	0.67	0.69	0.85	0.72	1.7	0	--	--	--	--	--	--	370	--	20	--	400	--	--	--
	Hexachloroethane	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	35	--	0.02	--	0.4	--	--	--
	Hydroxymethyl phthalimide	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Isophorone	mg/kg	18	0%	18	0.35	0.67	0.69	0.75	0.69	1.7	0	--	--	--	--	--	--	510	--	0.03	--	0.6	--	--	--
	Naphthalene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	3.1	--	4	--	80	--	--	--
	Nitrobenzene	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	2.7	--	0.007	--	0.14	--	--	--
	N-nitrosodi-n-propylamine	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	0.069	--	0.000002	--	0.00004	--	--	--
	N-nitrosodiphenylamine	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	99	--	0.06	--	1.2	--	--	--
	o-Cresol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	3060	--	0.8	--	16	--	--	--
	p-Chloroaniline	mg/kg	20	0%	20	0.034	1.3	1.3	1.3	1.4	3.4	0	--	--	--	--	--	--	240	--	0.03	--	0.6	--	--	--
	p-Chlorothiophenol	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
SUMMARY OF HISTORICAL SOIL CHEMICAL DATA
SPRAY WHEEL SUB-AREA
(Page 5 of 6)

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data Count	Min	Q1	Median	Mean	Q3	Max	Detected Data[a] Count	Min	Q1	Median	Mean	Q3	Max	Resident Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[b]	Count of Detects > Bkgrnd
Semi-Volatile Organic Compounds	p-Cresol	mg/kg	16	0%	16	0.66	0.67	0.69	0.8	0.7	1.7	0	--	--	--	--	--	--	310	--	--	--	--	--	--	--
	Pentachlorobenzene	mg/kg	4	50%	2	0.034	--	0.19	0.19	--	0.35	2	0.087	--	0.16	0.16	--	0.24	49	0	--	--	--	--	--	--
	Pentachlorophenol	mg/kg	20	0%	20	0.34	3.3	3.4	3.4	3.5	8.6	0	--	--	--	--	--	--	3	--	0.001	--	0.02	--	--	--
	Phenol	mg/kg	20	0%	20	0.034	0.66	0.68	0.68	0.69	1.7	0	--	--	--	--	--	--	18300	--	5	--	100	--	--	--
	Phenyl Disulfide	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenyl Sulfide	mg/kg	2	0%	2	0.35	--	0.36	0.36	--	0.36	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phthalic acid	mg/kg	4	25%	3	0.35	0.35	0.36	0.9	2	2	1	0.082	--	0.082	0.082	--	0.082	100000	0	--	--	--	--	--	--
	p-Nitroaniline	mg/kg	20	0%	20	0.34	3.3	3.4	3.4	3.5	8.6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pyridine	mg/kg	4	0%	4	0.34	0.36	0.55	0.54	0.71	0.72	0	--	--	--	--	--	--	61	--	--	--	--	--	--	--
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	mg/kg	4	0%	4	0.00023	0.00024	0.0028	0.0028	0.0054	0.0054	0	--	--	--	--	--	--	3.7	--	--	--	--	--	--	--
	1,1,1-Trichloroethane	mg/kg	24	0%	24	0.00015	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	1390	--	0.1	--	2	--	--	--
	1,1,2,2-Tetrachloroethane	mg/kg	24	0%	24	0.00014	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	0.47	--	0.0002	--	0.004	--	--	--
	1,1,2-Trichloroethane	mg/kg	24	0%	24	0.00029	0.0021	0.0021	0.0022	0.0022	0.0054	0	--	--	--	--	--	--	1	--	0.0009	--	0.018	--	--	--
	1,1-Dichloroethane	mg/kg	24	0%	24	0.00097	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	4.2	--	1	--	20	--	--	--
	1,1-Dichloroethylene	mg/kg	24	0%	24	0.00056	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	280	--	0.003	--	0.06	--	--	--
	1,1-Dichloropropene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2,3-Trichlorobenzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2,3-Trichloropropane	mg/kg	4	0%	4	0.00057	0.0006	0.003	0.003	0.0054	0.0054	0	--	--	--	--	--	--	0.32	--	--	--	--	--	--	--
	1,2,4-Trichlorobenzene	mg/kg	20	5%	19	0.00075	0.67	0.68	0.67	0.69	1.7	1	0.0011	--	0.0011	0.0011	--	0.0011	140	0	0.3	0	6	0	--	--
	1,2,4-Trimethylbenzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	140	--	--	--	--	--	--	--
	1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	4	0%	4	0.00091	0.00096	0.0061	0.006	0.011	0.011	0	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--
	1,2-Dichlorobenzene	mg/kg	24	8%	22	0.00015	0.0052	0.0052	0.005	0.0053	0.0055	2	0.001	--	0.0012	0.0012	--	0.0014	370	0	0.9	0	18	0	--	--
	1,2-Dichloroethane	mg/kg	24	0%	24	0.00045	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	0.43	--	0.001	--	0.02	--	--	--
	1,2-Dichloroethylene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2-Dichloropropane	mg/kg	24	0%	24	0.00038	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	0.82	--	0.001	--	0.02	--	--	--
	1,3,5-Trichlorobenzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,3,5-Trimethylbenzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	50	--	--	--	--	--	--	--
	1,3-Dichlorobenzene	mg/kg	24	0%	24	0.00013	0.0052	0.0052	0.0048	0.0053	0.0055	0	--	--	--	--	--	--	230	--	--	--	--	--	--	--
	1,3-Dichloropropane	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	1130	--	0.001	--	0.02	--	--	--
	1,4-Dichlorobenzene	mg/kg	24	8%	22	0.00011	0.0052	0.0052	0.005	0.0053	0.0055	2	0.0012	--	0.0013	0.0013	--	0.0013	2.6	0	0.1	0	2	0	--	--
	2,2-Dichloropropane	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chloroethyl vinyl ether	mg/kg	20	0%	20	0.001	0.001	0.001	0.001	0.0011	0.0011	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chlorotoluene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	510	--	--	--	--	--	--	--
	2-Phenylbutane	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	220	--	--	--	--	--	--	--
	4-Chlorotoluene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acetone	mg/kg	24	0%	24	0.0039	0.01	0.01	0.011	0.011	0.022	0	--	--	--	--	--	--	60000	--	0.8	--	16	--	--	--
	Acetonitrile	mg/kg	4	0%	4	0.002	0.0021	0.028	0.028	0.054	0.054	0	--	--	--	--	--	--	1470	--	--	--	--	--	--	--
	Benzene	mg/kg	24	4%	23	0.00017	0.0052	0.0052	0.0048	0.0053	0.0055	1	0.00049	--	0.00049	0.00049	--	0.00049	0.81	0	0.002	0	0.04	0	--	--
	Bromobenzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	64	--	--	--	--	--	--	--
	Bromodichloromethane	mg/kg	24	0%	24	0.00034	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	10	--	0.03	--	0.6	--	--	--
	Bromomethane	mg/kg	24	0%	24	0.00032	0.0052	0.0052	0.0053	0.0054	0.011	0	--	--	--	--	--	--	8.7	--	0.01	--	0.2	--	--	--
	Carbon disulfide	mg/kg	24	0%	24	0.00056	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	720	--	2	--	40	--	--	--
	Carbon tetrachloride	mg/kg	24	0%	24	0.00092	0.0052	0.0052	0.0049	0.0053	0.0055	0	--	--	--	--	--	--	0.3	--	0.003	--	0.06	--	--	--
	CFC-11	mg/kg	24	0%	24	0.00051	0.0052	0.0052	0.0049	0.0053	0.0055	0	--	--	--	--	--	--	880	--	--	--	--	--	--	--
	CFC-12	mg/kg	4	0%	4	0.00038	0.0004	0.0057	0.0057	0.011	0.011	0	--	--	--	--	--	--	220	--	--	--	--	--	--	--
	Chlorinated fluorocarbon (Freon 113)	mg/kg	4	0%	4	0.00055	0.00058	0.003	0.003	0.0054	0.0054	0	--	--	--	--	--	--	5550	--	--	--	--	--	--	--
	Chlorobenzene	mg/kg	24	4%	23	0.00013	0.0052	0.0052	0.0048	0.0053	0.0055	1	0.0012	--	0.0012	0.0012	--	0.0012	270	0	0.07	0	1.4	0	--	--
	Chlorobromomethane	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chlorodibromomethane	mg/kg	24	0%	24	0.00029	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	1.1	--	0.02	--	0.4	--	--	--
	Chloroethane	mg/kg	24	0%	24	0.00036	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	220	--	--	--	--	--	--	--
	Chloroform	mg/kg	24	0%	24	0.00015	0.0052	0.0052	0.0048	0.0053	0.0055	0	--	--	--	--	--	--	0.31	--	0.03	--	0.6	--	--	--
	Chloromethane	mg/kg	24	0%	24	0.00045	0.001	0.001	0.0018	0.0011	0.011	0	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--
	cis-1,2-Dichloroethylene	mg/kg	22	0%	22	0.001	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	780	--	0.02	--	0.4	--	--	--
	cis-1,3-Dichloropropylene	mg/kg	24	0%	24	0.00074	0.0021	0.0021	0.0023	0.0022	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Cymene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibromomethane	mg/kg	4	0%	4	0.00036	0.00038	0.0029	0.0029	0.0054	0.0054	0	--	--	--	--	--	--	780	--	--	--	--	--	--	--
	Dichloromethane	mg/kg	24	4%	23	0.0026	0.0052	0.0052	0.005	0.0053	0.0055	1	0.0012	--	0.0012	0.0012	--	0.0012	11	0	0.001	1	0.02	0	--	--
	Ethylbenzene	mg/kg	24	0%	24	0.00019	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	3.8	--	0.7	--	14	--	--	--
	Isopropylbenzene	mg/kg	2	50%	1	0.0054	--	0.0054	0.0054	--	0.0054	1	0.00014	--	0.00014	0.00014	--	0.00014	370	0	--	--	--	--	--	--
	m,p-Xylene	mg/kg	22	5%	21	0.002	0.0021	0.0021	0.0023	0.0022	0.0054	1	0.00069	--	0.00069	0.00069	--	0.00069	210	0	10	0	200	0	--	--
	Methyl disulfide	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Methyl ethyl ketone	mg/kg	24	0%	24	0.0014	0.01	0.01	0.011	0.011	0.022	0	--	--	--	--	--	--	32100	--	--	--	--	--	--	--
	Methyl iodide	mg/kg	4	0%	4	0.00026	0.00028	0.0028	0.0028	0.0054	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
SUMMARY OF HISTORICAL SOIL CHEMICAL DATA
SPRAY WHEEL SUB-AREA

Parameter of Interest	Compound List	Units	Total Count	Detect Freq.	Censored (Non-Detect) Data							Detected Data[a]							Resident Soil BCL	Count of Detects > BCL	LBCL (DAF 1)	Count of Detects > DAF 1	LBCL (DAF 20)	Count of Detects > DAF 20	Max. Bkgrnd[b]	Count of Detects > Bkgrnd
					Count	Min	Q1	Median	Mean	Q3	Max	Count	Min	Q1	Median	Mean	Q3	Max								
Volatile Organic Compounds	Methyl isobutyl ketone	mg/kg	24	0%	24	0.0016	0.0052	0.0052	0.0063	0.0054	0.022	0	--	--	--	--	--	--	5800	--	--	--	--	--	--	--
	Methyl n-butyl ketone	mg/kg	20	0%	20	0.003	0.0031	0.0031	0.0031	0.0032	0.0033	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MTBE (Methyl tert-butyl ether)	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	39	--	--	--	--	--	--	--
	n-Butyl benzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	240	--	--	--	--	--	--	--
	n-Propyl benzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	240	--	--	--	--	--	--	--
	o-Xylene	mg/kg	22	0%	22	0.001	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	280	--	9	--	180	--	--	--
	Styrene (monomer)	mg/kg	22	0%	22	0.001	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	1730	--	0.2	--	4	--	--	--
	tert-Butyl benzene	mg/kg	2	0%	2	0.0053	--	0.0054	0.0054	--	0.0054	0	--	--	--	--	--	--	390	--	--	--	--	--	--	--
	Tetrachloroethylene	mg/kg	24	0%	24	0.00028	0.0052	0.0052	0.0048	0.0053	0.0055	0	--	--	--	--	--	--	0.62	--	0.003	--	0.06	--	--	--
	Toluene	mg/kg	24	0%	24	0.00013	0.0052	0.0052	0.0048	0.0053	0.0055	0	--	--	--	--	--	--	520	--	0.6	--	12	--	--	--
	trans-1,2-Dichloroethylene	mg/kg	24	0%	24	0.00023	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	120	--	0.03	--	0.6	--	--	--
	trans-1,3-Dichloropropylene	mg/kg	24	0%	24	0.00021	0.0021	0.0021	0.0022	0.0022	0.0054	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tribromomethane	mg/kg	24	0%	24	0.00025	0.001	0.001	0.0013	0.0011	0.0054	0	--	--	--	--	--	--	62	--	0.04	--	0.8	--	--	--
	Trichloroethylene	mg/kg	24	0%	24	0.00037	0.0052	0.0052	0.0048	0.0053	0.0055	0	--	--	--	--	--	--	1.1	--	0.003	--	0.06	--	--	--
	Vinyl acetate	mg/kg	22	0%	22	0.001	0.001	0.001	0.0014	0.0011	0.0054	0	--	--	--	--	--	--	990	--	8	--	160	--	--	--
	Vinyl chloride	mg/kg	24	0%	24	0.00024	0.0021	0.0021	0.0022	0.0022	0.0054	0	--	--	--	--	--	--	0.35	--	0.0007	--	0.014	--	--	--
	Xylenes (total)	mg/kg	4	0%	4	0.00088	0.00094	0.0061	0.006	0.011	0.011	0	--	--	--	--	--	--	210	--	10	--	200	--	--	--

Notes:

BCL = Basic Comparison Levels (BCLs) from NDEP 2009b. Values used are residential soil BCLs.
LBCL = Leaching-based BCLs from NDEP 2009b.
Max = Maximum
Min = Minimum
Q1 = 1st quartile (25th percentile)
Q3 = 3rd quartile (75th percentile)
This table includes data only to 10 feet bgs. 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 depth.
The values used in this are simply a comparison to NDEP BCL values for historical data, for information purposes only. Use of 1/10 of the risk-based screening level in the text on page 4-4 is proposed for the identification exceeding samples for the confirmation dataset. Therefore, these are two different uses of these values and should not be considered the same.
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 2 significant figures.
a - 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.
b - Values used are the maximum from the shallow soils background data set presented in the Background Shallow Soil Summary Report, BMI Complex and Common Area Vicinity (BRC/TIMET 2007).
c - ATSDR screening value of 50 parts per trillion (ppt) (see text). TCDD TEQ values are calculated from congener-specific 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.
d - Exceedances of comparison levels for radionuclides are only shown for the eight radionuclides currently included in the project analyte list. Exceedance of background is shown for all radionuclides historically analyzed for within the Upper Ponds sub-area.
-- = Not applicable or no value has been established.

TABLE 2
SUMMARY OF RECENT (5TH MONITORING EVENT) ALLUVIAL AQUIFER GROUNDWATER DATA FROM MONITORING WELLS POD2-R AND POD8
SPRAY WHEEL SUB-AREA
(Page 1 of 6)

Class	Chemical	Units	USEPA 2002 VI SL(1)	USEPA MCL	NDEP Water BCL	POD2-R On-Site May 2008	POD8 On-Site May 2008
Aldehydes	Acetaldehyde	μg/L	340	--	66	R	R
	Chloroacetaldehyde	μg/L	--	--	--	R	R
	Formaldehyde	μg/L	--	--	1.5	R	R
General Chemistry	Alkalinity	mg/L	--	--	--	111 J-CAB	217 J-CAB
	Ammonia	μg/L	--	--	730	< 7.8 U	< 7.8 U
	Bicarbonate alkalinity	mg/L	--	--	--	111 J-CAB	217 J-CAB
	Bromide	μg/L	--	--	--	860	590
	Bromine	μg/L	--	--	--	1700	1200
	Carbonate alkalinity	mg/L	--	--	--	< 0.1 U	< 0.1 U
	Chlorate	μg/L	--	--	--	194000	3200
	Chloride	mg/L	--	250	--	**1760 J-CAB**	**1230 J-CAB**
	Chlorine	mg/L	--	--	4.0	**3520**	**2460**
	Chlorite	μg/L	--	1,000	--	*< 1000000 U*	*< 200000 U*
	Cyanide (Total)	μg/L	--	200	200	R	29 J-
	Fluoride	mg/L	--	4.0	4.0	< 1 U	1.1
	Hydroxide alkalinity	mg/L	--	--	--	< 0.1 U	< 0.1 U
	Iodide	μg/L	--	--	--	< 3000 U	< 3000 U
	Ion Balance Difference	percent	--	--	--	10.4	7.8
	Nitrate (as N)	μg/L	--	10,000	10,000	**20300 J-**	**41600**
	Nitrite (as N)	μg/L	--	1,000	1,000	< 1000 UJ	< 1000 U
	Orthophosphate as P	μg/L	--	--	--	< 50 UJ	< 50 U
	Perchlorate	μg/L	--	18/24.5(2)	18	**3690**	**226**
	Sulfate	mg/L	--	250	--	**2510 J-CAB**	**1410 J-CAB**
	Sulfide	μg/L	--	--	--	< 180 U	< 180 U
	Total Inorganic Carbon	mg/L	--	--	--	32.7 J	101
	Total Kjeldahl Nitrogen (TKN)	μg/L	--	--	--	< 250 U	550
	Total Organic Carbon	mg/L	--	--	--	< 10 U	< 10 U
Metals	Aluminum	μg/L	--	50	36,500	**< 495.5 U**	**250 J**
	Antimony	μg/L	--	6	6	< 0.68 U	*< 17 U*
	Arsenic	μg/L	--	10	10	< 1.93 U	*< 48.25 U*
	Barium	μg/L	--	2,000	2,000	< 0.524 U	29.3 J
	Beryllium	μg/L	--	4	4	< 3.2 U	< 3.2 U
	Boron	μg/L	--	--	7,300	3690 J-CAB	1810 J-CAB
	Cadmium	μg/L	--	5	5	< 0.042 U	< 1.05 U
	Calcium	μg/L	--	--	--	652000 J-CAB	394000 J-CAB
	Chromium (Total)	μg/L	--	100	--	< 3 U	< 75 U
	Chromium (VI)	μg/L	--	--	100	**150**	< 20 U
	Cobalt	μg/L	--	--	11	< 0.244 U	< 6.1 U
	Copper	μg/L	--	1,300	1,360	< 0.81 U	< 20.25 U
	Iron	μg/L	--	300	25,600	R	R
	Lead	μg/L	--	15	15	< 0.492 U	< 12.3 U
	Lithium	μg/L	--	--	73	*< 192.4 U*	*< 96.2 U*
	Magnesium	μg/L	--	--	207,000	**211000 J-CAB**	**262000 J-CAB**
	Manganese	μg/L	--	50	510	< 0.6 U	< 15 U
	Mercury	μg/L	--	2	2	< 0.0927 U	< 0.0927 U
	Molybdenum	μg/L	--	--	180	53.4 J	21.2 J
	Nickel	μg/L	--	--	730	20 J	13.9 J
	Niobium	μg/L	--	--	--	< 137.5 U	< 68.75 U
	Palladium	μg/L	--	--	--	26	22.3
	Phosphorus (as P)	μg/L	--	25(3)	--	*< 950 U*	*< 475 U*
	Platinum	μg/L	--	--	--	< 4.25 U	< 2.125 U
	Potassium	μg/L	--	--	--	18100 J-CAB	24900 J-CAB

TABLE 2
SUMMARY OF RECENT (5TH MONITORING EVENT) ALLUVIAL AQUIFER GROUNDWATER DATA FROM MONITORING WELLS POD2-R AND POD8
SPRAY WHEEL SUB-AREA
(Page 2 of 6)

Class	Chemical	Units	USEPA 2002 VI SL[1]	USEPA MCL	NDEP Water BCL	POD2-R On-Site May 2008	POD8 On-Site May 2008
Metals	Selenium	µg/L	--	50	50	< 0.4804 U	20.8 J
	Silicon	µg/L	--	--	--	44900 J-CAB	45800 J-CAB
	Silver	µg/L	--	100	180	< 0.2028 U	< 5.07 U
	Sodium	µg/L	--	--	--	813000 J-CAB	421000 J-CAB
	Strontium	µg/L	--	--	21,900	11800	9250
	Sulfur	µg/L	--	--	--	575000 J	373000 J
	Thallium	µg/L	--	2	2	< 1.35 U	*< 33.75 U*
	Tin	µg/L	--	--	21,900	< 0.68 U	< 17 U
	Titanium	µg/L	--	--	146,000	< 50.5 U	< 25.25 U
	Tungsten	µg/L	--	--	270	< 1.51 U	< 37.75 U
	Uranium	µg/L	--	30	30	**56.7**	**50.4**
	Vanadium	µg/L	--	--	180	< 2.091 U	< 52.275 U
	Zinc	µg/L	--	500	11,000	< 4 UJ	< 100 UJ
	Zirconium	µg/L	--	--	--	< 45 U	< 22.5 U
Organic Acids	4-Chlorobenzenesulfonic acid	µg/L	--	--	36,500	< 50 U	< 50 U
	Benzenesulfonic acid	µg/L	--	--	18,300	< 50 U	< 50 U
	Diethyl phosphorodithioic acid	µg/L	--	--	2,920	< 50 U	< 50 U
	Dimethyl phosphorodithioic acid	µg/L	--	--	3,650	< 250 U	< 250 U
	Phthalic acid	µg/L	--	--	73,000	< 50 U	< 50 U
Organochlorine Pesticides	2,4-DDD	µg/L	--	--	--	< 0.0071 U	< 0.0071 U
	2,4-DDE	µg/L	--	--	--	< 0.012 U	< 0.012 U
	4,4-DDD	µg/L	--	--	0.28	< 0.0075 U	< 0.0075 U
	4,4-DDE	µg/L	29	--	0.2	< 0.013 U	< 0.013 U
	4,4-DDT	µg/L	--	--	0.2	< 0.013 U	< 0.013 U
	Aldrin	µg/L	0.071	--	0.004	< 0.0044 U	< 0.0044 U
	alpha-BHC	µg/L	3.1	--	0.011	< 0.0031 U	**0.1**
	alpha-Chlordane	µg/L	--	2	--	< 0.0057 U	< 0.0057 U
	beta-BHC	µg/L	--	--	0.037	< 0.015 U	**0.069**
	Chlordane	µg/L	12	2	2	< 0.099 U	< 0.099 U
	delta-BHC	µg/L	--	--	--	< 0.0046 U	< 0.0046 U
	Dieldrin	µg/L	0.86	--	0.0042	*< 0.0057 U*	*< 0.0057 U*
	Endosulfan I	µg/L	--	--	--	< 0.0078 U	< 0.0078 U
	Endosulfan II	µg/L	--	--	--	< 0.0053 U	< 0.0053 U
	Endosulfan sulfate	µg/L	--	--	--	< 0.0063 U	< 0.0063 U
	Endrin	µg/L	--	2	2	< 0.0068 U	< 0.0068 U
	Endrin aldehyde	µg/L	--	--	--	< 0.009 U	< 0.009 U
	Endrin ketone	µg/L	--	--	--	< 0.005 U	< 0.005 U
	gamma-Chlordane	µg/L	--	2	--	< 0.0088 U	< 0.0088 U
	Heptachlor	µg/L	0.4	0.4	0.4	< 0.034 U	< 0.034 U
	Heptachlor epoxide	µg/L	--	0.2	0.2	< 0.0062 U	< 0.0062 U
	Lindane	µg/L	11	0.2	0.2	< 0.0032 U	< 0.0032 U
	Methoxychlor	µg/L	--	40	40	< 0.01 U	< 0.01 U
	Toxaphene	µg/L	--	3	3	< 0.59 U	< 0.59 U
Radionuclides	Radium-226	pCi/L	--	--	5	4.59	1
	Radium-228	pCi/L	--	--	5	1.03	0.333 U
	Radium-226/228	pCi/L	--	5[6]	--	5.62	1.33
	Thorium-228	pCi/L	--	--	0.11	0.2 U	0.0183 U
	Thorium-230	pCi/L	--	--	0.042	-0.0455 U	0.0403 U
	Thorium-232	pCi/L	--	--	0.14	0.111 U	-0.0318 U
	Uranium-233/234	pCi/L	--	--	--	25.6 J	22.2 J
	Uranium-235/236	pCi/L	--	--	--	0.999	1.15
	Uranium-238	pCi/L	--	--	--	19.2	18.4

TABLE 2
SUMMARY OF RECENT (5TH MONITORING EVENT) ALLUVIAL AQUIFER GROUNDWATER DATA FROM MONITORING WELLS POD2-R AND POD8
SPRAY WHEEL SUB-AREA

Class	Chemical	Units	USEPA 2002 VI SL(1)	USEPA MCL	NDEP Water BCL	POD2-R On-Site May 2008	POD8 On-Site May 2008
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	--	--	11	--	--
	1,2-Diphenylhydrazine	µg/L	--	--	0.084	--	--
	1,4-Dioxane	µg/L	--	--	6.1	--	--
	2,4,5-Trichlorophenol	µg/L	--	--	3,650	--	--
	2,4,6-Trichlorophenol	µg/L	--	--	6.1	--	--
	2,4-Dichlorophenol	µg/L	--	--	110	--	--
	2,4-Dimethylphenol	µg/L	--	--	730	--	--
	2,4-Dinitrophenol	µg/L	--	--	73	--	--
	2,4-Dinitrotoluene	µg/L	--	--	0.22	--	--
	2,6-Dinitrotoluene	µg/L	--	--	37	--	--
	2-Chloronaphthalene	µg/L	--	--	2,920	--	--
	2-Chlorophenol	µg/L	1,100	--	180	--	--
	2-Methylnaphthalene	µg/L	3,300	--	--	--	--
	2-Nitroaniline	µg/L	--	--	110	--	--
	2-Nitrophenol	µg/L	--	--	--	--	--
	3,3'-Dichlorobenzidine	µg/L	--	--	0.15	--	--
	3-Methylphenol/4-Methylphenol	µg/L	--	--	180	--	--
	3-Nitroaniline	µg/L	--	--	--	--	--
	4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--
	4-Chloro-3-Methylphenol	µg/L	--	--	--	--	--
	4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--
	4-Chlorothioanisole	µg/L	--	--	--	--	--
	4-Nitrophenol	µg/L	--	--	290	--	--
	Acenaphthene	µg/L	--	--	2,190	--	--
	Acenaphthylene	µg/L	--	--	1,100	--	--
	Acetophenone	µg/L	800,000	--	3,650	--	--
	Aniline	µg/L	--	--	12	--	--
	Anthracene	µg/L	--	--	11,000	--	--
	Azobenzene	µg/L	--	--	0.54	--	--
	Benzenethiol	µg/L	--	--	--	--	--
	Benzo(a)anthracene	µg/L	--	--	0.092	--	--
	Benzo(a)pyrene	µg/L	--	0.2	0.2	--	--
	Benzo(b)fluoranthene	µg/L	--	--	0.092	--	--
	Benzo(g,h,i)perylene	µg/L	--	--	1,100	--	--
	Benzo(k)fluoranthene	µg/L	--	--	0.92	--	--
	Benzoic acid	µg/L	--	--	146,000	--	--
	Benzyl alcohol	µg/L	--	--	18,300	--	--
	Benzyl butyl phthalate	µg/L	--	--	7,300	--	--
	bis(2-Chloroethoxy) methane	µg/L	0.0045	--	--	--	--
	bis(2-Chloroethyl) ether	µg/L	10	--	0.054	--	--
	bis(2-Chloroisopropyl) ether	µg/L	51	--	0.9	--	--
	bis(2-Ethylhexyl) phthalate	µg/L	--	6	6	--	--
	bis(p-Chlorophenyl) disulfide	µg/L	--	--	--	--	--
	bis(p-Chlorophenyl) sulfone	µg/L	--	--	--	--	--
	Carbazole	µg/L	--	--	3.4	--	--
	Chrysene	µg/L	--	--	9.2	--	--
	Dibenzo(a,h)anthracene	µg/L	--	--	0.0092	--	--
	Dibenzofuran	µg/L	--	--	73	--	--
	Dibutyl phthalate	µg/L	--	--	3,650	--	--
	Diethyl phthalate	µg/L	--	--	29,200	--	--
	Dimethyl phthalate	µg/L	--	--	365,000	--	--
	Di-n-octyl phthalate	µg/L	--	--	--	--	--

TABLE 2
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SPRAY WHEEL SUB-AREA

Class	Chemical	Units	USEPA 2002 VI SL(1)	USEPA MCL	NDEP Water BCL	POD2-R On-Site May 2008	POD8 On-Site May 2008
SVOCs	Diphenyl sulfone	µg/L	--	--	110	--	--
	Fluoranthene	µg/L	--	--	1,460	--	--
	Fluorene	µg/L	--	--	1460	--	--
	Hexachloro-1,3-butadiene	µg/L	0.33	--	0.86	--	--
	Hexachlorobenzene	µg/L	1	1	1	--	--
	Hexachlorocyclopentadiene	µg/L	50	50	50	--	--
	Hexachloroethane	µg/L	3.8	--	4.8	--	--
	Hydroxymethyl phthalimide	µg/L	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	µg/L	--	--	0.092	--	--
	Isophorone	µg/L	--	--	71	--	--
	Naphthalene	µg/L	150	--	4.3	--	--
	Nitrobenzene	µg/L	2,000	--	3.7	--	--
	N-nitrosodi-n-propylamine	µg/L	--	--	0.0096	--	--
	N-nitrosodiphenylamine	µg/L	--	--	14	--	--
	o-Cresol	µg/L	--	--	1,830	--	--
	Octachlorostyrene	µg/L	--	--	150	--	--
	p-Chloroaniline	µg/L	--	--	--	--	--
	p-Chlorothiophenol	µg/L	--	--	180	--	--
	Pentachlorobenzene	µg/L	--	--	29	--	--
	Pentachlorophenol	µg/L	--	1	1	--	--
	Phenanthrene	µg/L	--	--	1,100	--	--
	Phenol	µg/L	--	--	11,000	--	--
	Phenyl Disulfide	µg/L	--	--	--	--	--
	Phenyl Sulfide	µg/L	--	--	--	--	--
	p-Nitroaniline	µg/L	--	--	--	--	--
	Pyrene	µg/L	--	--	37	--	--
	Pyridine	µg/L	--	--	1,100	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	3.3	--	2.3	< 0.1 U	< 0.1 U
	1,1,1-Trichloroethane	µg/L	3,100	200	200	< 0.099 U	< 0.099 U
	1,1,2,2-Tetrachloroethane	µg/L	3	--	0.3	< 0.27 U	< 0.27 U
	1,1,2-Trichloroethane	µg/L	5	5	5	< 0.19 U	< 0.19 U
	1,1-Dichloroethane	µg/L	2,200	--	12	< 0.07 U	< 0.07 U
	1,1-Dichloroethene	µg/L	190	7	7	< 0.085 U	< 0.085 U
	1,1-Dichloropropene	µg/L	--	--	--	< 0.087 U	< 0.087 U
	1,2,3-Trichlorobenzene	µg/L	--	--	--	< 0.64 U	< 0.64 U
	1,2,3-Trichloropropane	µg/L	290	--	0.034	*< 0.22 U*	*< 0.22 U*
	1,2,4-Trichlorobenzene	µg/L	3,400	70	70	< 0.79 U	< 0.79 U
	1,2,4-Trimethylbenzene	µg/L	24	--	51	< 0.069 U	< 0.069 U
	1,2-Dibromo-3-chloropropane	µg/L	33	0.2	0.2	*< 0.48 U*	*< 0.48 U*
	1,2-Dichlorobenzene	µg/L	2,600	600	600	< 0.16 U	< 0.16 U
	1,2-Dichloroethane	µg/L	5	5	5	< 0.18 U	< 0.18 U
	1,2-Dichloroethene	µg/L	--	--	--	< 0.14 U	< 0.14 U
	1,2-Dichloropropane	µg/L	35	5	5	< 0.077 U	< 0.077 U
	1,3,5-Trichlorobenzene	µg/L	--	--	--	< 0.13 U	< 0.13 U
	1,3,5-Trimethylbenzene	µg/L	25	--	590	< 0.058 U	< 0.058 U
	1,3-Dichlorobenzene	µg/L	830	--	110	< 0.046 U	< 0.046 U
	1,3-Dichloropropane	µg/L	0.84	--	730	< 0.12 U	< 0.12 U
	1,4-Dichlorobenzene	µg/L	8,200	75	75	< 0.1 U	< 0.1 U
	1-Nonanal	µg/L	--	--	--	< 0.007 UJ	< 0.007 UJ
	2,2,3-Trimethylbutane	µg/L	--	--	--	< 0.16 U	< 0.16 U
	2,2-Dichloropropane	µg/L	--	--	--	< 0.084 U	< 0.084 U
	2,2-Dimethylpentane	µg/L	--	--	--	< 0.093 U	< 0.093 U

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SPRAY WHEEL SUB-AREA

Class	Chemical	Units	USEPA 2002 VI SL[1]	USEPA MCL	NDEP Water BCL	POD2-R On-Site May 2008	POD8 On-Site May 2008
VOCs	2,3-Dimethylpentane	µg/L	--	--	--	< 0.11 U	< 0.11 U
	2,4-Dimethylpentane	µg/L	--	--	--	< 0.14 U	< 0.14 U
	2-Chlorotoluene	µg/L	--	--	730	< 0.068 U	< 0.068 U
	2-Nitropropane	µg/L	0.18	--	0.0063	*< 0.034 UJ*	*< 0.034 UJ*
	2-Phenylbutane	µg/L	--	--	370	< 0.053 U	< 0.053 U
	3,3-dimethylpentane	µg/L	--	--	--	< 0.17 U	< 0.17 U
	3-ethylpentane	µg/L	--	--	--	< 0.13 U	< 0.13 U
	3-Methylhexane	µg/L	--	--	--	< 0.1 U	< 0.1 U
	4-Chlorotoluene	µg/L	--	--	--	< 0.068 U	< 0.068 U
	Acetone	µg/L	220,000	--	32,600	< 0.56 U	< 0.56 U
	Acetonitrile	µg/L	42,000	--	440	< 4.2 U	< 4.2 U
	Benzene	µg/L	5	5	5	< 0.032 U	< 0.032 U
	Bromobenzene	µg/L	--	--	490	< 0.18 U	< 0.18 U
	Bromodichloromethane	µg/L	2.1	80[7]	1.1	< 0.088 U	< 0.088 U
	Bromomethane	µg/L	--	--	48	< 0.5 U	< 0.5 U
	Carbon disulfide	µg/L	560	--	3,520	< 0.029 U	< 0.029 U
	Carbon tetrachloride	µg/L	5	5	5	< 0.042 U	< 0.042 U
	Freon 11	µg/L	180	--	9,890	< 0.1 U	< 0.1 U
	Freon 12	µg/L	14	--	5840	< 0.074 UJ	< 0.074 UJ
	Freon 113	µg/L	1,500	--	876,000	< 0.072 U	< 0.072 U
	Chlorobenzene	µg/L	390	100	100	< 0.48 U	< 0.48 U
	Chlorobromomethane	µg/L	3.2	--	--	< 0.2 U	< 0.2 U
	Chlorodibromomethane	µg/L	--	80[7]	0.7	< 0.17 U	< 0.17 U
	Chloroethane	µg/L	28,000	--	23	< 0.085 U	< 0.085 U
	Chloroform	µg/L	80	80[7]	1.6	**59**	1.4
	Chloromethane	µg/L	--	--	81	< 0.036 UJ	< 0.036 UJ
	cis-1,2-Dichloroethene	µg/L	210	70	70	< 0.13 U	< 0.13 U
	cis-1,3-Dichloropropene	µg/L	--	--	--	< 0.099 U	< 0.099 U
	Cymene	µg/L	--	--	--	< 0.04 U	< 0.04 U
	Dibromomethane	µg/L	990	--	370	< 0.14 U	< 0.14 U
	Dichloromethane	µg/L	58	5	5	< 0.091 U	< 0.091 U
	Ethanol	µg/L	--	--	--	< 36 U	< 36 U
	Ethylbenzene	µg/L	700	700	700	< 0.061 U	< 0.061 U
	Hexane, 2-methyl-	µg/L	--	--	--	< 0.12 U	< 0.12 U
	Isopropylbenzene	µg/L	8.4	--	3,440	< 0.032 U	< 0.032 U
	m,p-Xylene	µg/L	--	--	42,600	< 1.1 U	< 1.1 U
	Methyl disulfide	µg/L	--	--	--	< 0.089 U	< 0.089 U
	Methyl ethyl ketone	µg/L	440,000	--	21,300	< 0.96 UJ	< 0.96 UJ
	Methyl iodide	µg/L	--	--	--	< 0.33 U	< 0.33 U
	Methyl isobutyl ketone	µg/L	14,000	--	2,900	< 0.72 U	< 0.72 U
	Methyl n-butyl ketone	µg/L	--	--	--	< 0.08 U	< 0.08 U
	MTBE (Methyl tert-butyl ether)	µg/L	120,000	--	35	< 0.13 U	< 0.13 U
	n-Butyl benzene	µg/L	260	--	370	< 0.069 U	< 0.069 U
	n-Heptane	µg/L	--	--	--	< 0.08 U	< 0.08 U
	n-Propyl benzene	µg/L	320	--	370	< 0.029 U	< 0.029 U
	o-Xylene	µg/L	--	--	42,600	< 0.056 U	< 0.056 U
	Styrene	µg/L	8,900	100	100	< 0.079 U	< 0.079 U
	tert-Butyl benzene	µg/L	290	--	370	< 0.039 U	< 0.039 U
	Tetrachloroethene	µg/L	5	5	5	1.8	< 0.14 U
	Toluene	µg/L	1,500	1,000	1,000	< 0.029 U	< 0.029 U
	trans-1,2-Dichloroethene	µg/L	180	100	100	< 0.089 U	< 0.089 U
	trans-1,3-Dichloropropene	µg/L	--	--	--	< 0.08 U	< 0.08 U

TABLE 2
SUMMARY OF RECENT (5TH MONITORING EVENT) ALLUVIAL AQUIFER GROUNDWATER DATA FROM MONITORING WELLS POD2-R AND POD8
SPRAY WHEEL SUB-AREA

Class	Chemical	Units	USEPA 2002 VI SL[(1)]	USEPA MCL	NDEP Water BCL	POD2-R On-Site May 2008	POD8 On-Site May 2008
VOCs	Tribromomethane	µg/L	0.0083	80[(7)]	8.5	*< 0.27 U*	*< 0.27 U*
	Trichloroethene	µg/L	5	5	5	< 0.11 U	< 0.11 U
	Vinyl acetate	µg/L	9,600	--	16,200	< 0.22 U	< 0.22 U
	Vinyl chloride	µg/L	2	2	2	< 0.13 U	< 0.13 U
	Xylenes (total)	µg/L	22,000	10,000	10,000	< 1.6 U	< 1.6 U
Water Quality Parameters	Conductivity	umhos/cm	--	--	--	8040	5770
	Hardness, Total	mg/L	--	--	--	2870	2290
	pH (Hydrogen Ion)	--	--	6.5-9[(3)]	--	7.3 J	6.4 J
	Total Dissolved Solids	mg/L	--	500	--	**6170 J-**	**4140 J-**
	Total Suspended Solids	mg/L	--	--	--	17	8

(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 x 10-6).

(2)A MCL for perchlorate has not been promulgated. The USEPA Drinking Water Equivalent Level of 24.5 ug/L was used.

(3)A NDEP water quality standard was used for Class A (municipal or domestic supply) waters for pH and total phosphorus based on Nevada Administrative Code (NAC) 445A.118 through 445A.225.

(4)The MCL for Alpha Particles was used as comparison to Gross Alpha results. The MCL excludes the contributions from radon and uranium. The Gross Alpha concentrations were not adjusted due to contributions from radon nor uranium prior to comparison to MCL.

(5)The MCL for Beta particles photon emitters is 4 millirems per year and was not used to compare to Gross Beta concentrations.

(6)The constituent is regulated under the MCL for the combined concentration of radium-226 and radium-228. For comparison to the MCL, concentrations of both constituents are summed.

(7)The constituent is regulated under the MCL for Total Trihalomethanes (TTHM). For comparison to the MCL for TTHM, concentrations of all TTHM constituents need to be considered. Chloroform was the only TTHM detected and the detection limits of all TTHM analyzed for do not sum to a concentration that would exceed the TTHM MCL.

Bold values indicate value exceeds lowest comparison level; *italicized* values indicate detection limit exceeds lowest comparison level.

TABLE 3
SAMPLE-SPECIFIC COLLECTION DEPTHS
SPRAY WHEEL SUB-AREA

Sample Location	Sample Type	Grading Plan		Sample Depth 1	Sample Depth 2	Sample Depth 3
SWC1-AR22	Random with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AR23	Random with Flux (Pond)	Fill	+1	0 (Surface)	10 (Subsurface)	--
SWC1-AS21	Random with Flux (Berm)	Cut	-3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-AS22	Random with Flux (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AS23	Random with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AS24	Random with Flux (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-AT20	Random with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AT21	Random with Flux (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AT22	Random (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AT23	Random with Flux (Pond)	Fill	+1	0 (Surface)	10 (Subsurface)	--
SWC1-AT24	Random (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AT25	Random (Pond)	Cut	-3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-AU20	Random (Pond)	Fill	+1	0 (Surface)	10 (Subsurface)	--
SWC1-AU21	Random with Flux (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AU22	Random (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AU23	Random with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AU24	Random with Flux (Berm)	Cut	-3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-AU25	Random (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AV20	Random (Berm)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AV21	Random with Flux (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-AV22	Random (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-AV23	Random with Flux (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-AV24	Random (Berm)	Cut	-4	0 (Fill/Surface)	4 (Surface)	14 (Subsurface)
SWC1-AV25	Random with Flux (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AV26	Random with Flux (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AW20	Random with Flux (Berm)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AW21	Random with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AW22	Random with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AW23	Random (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-AW24	Random (Berm)	Cut	-3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-AW25	Random (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AW26	Random with Flux (Berm)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AX21	Random with Flux (Pond)	Cut	-4	0 (Fill/Surface)	4 (Surface)	14 (Subsurface)
SWC1-AX22	Random with Flux (Pond)	Cut	-3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-AX23	Random (Berm)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AX24	Random (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-AX25	Random with Flux (Berm)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-AY22	Random (Berm)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-AY23	Random with Flux (Pond)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JB01	Biased with Flux (Pond)	Cut	-3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-JB02	Biased with Flux (Berm)	Cut	-1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JB03	Biased with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB04	Biased (Pond)	--	0	0 (Surface)	10 (Subsurface)	--
SWC1-JB05	Biased with Flux (Berm)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB06	Biased with Flux (Berm)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB07	Biased with Flux (Pond)	Cut	-2	0 (Fill/Surface)	12 (Subsurface)	--

TABLE 3
SAMPLE-SPECIFIC COLLECTION DEPTHS
SPRAY WHEEL SUB-AREA
(Page 2 of 2)

Sample Location	Sample Type	Grading Plan	Sample Depth 1	Sample Depth 2	Sample Depth 3
SWC1-JB08	Biased with Flux (Pond)	Fill +1	0 (Surface)	10 (Subsurface)	--
SWC1-JB09	Biased with Flux (Pond)	Cut -2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB10	Biased (Pond)	Cut -2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB11	Biased with Flux (Berm)	Cut -1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JB12	Biased with Flux (Pond)	Cut -2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB13	Biased with Flux (Pond)	Cut -2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JB14	Biased with Flux (Berm)	Cut -1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JB15	Biased with Flux (Pond)	Cut -1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JD01	Ditch with Flux	Cut -6	0 (Fill/Surface)	6 (Surface)	16 (Subsurface)
SWC1-JD02	Ditch	Cut -4	0 (Fill/Surface)	4 (Surface)	14 (Subsurface)
SWC1-JD03	Ditch with Flux	Cut -3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-JD04	Ditch	Cut -5	0 (Fill/Surface)	5 (Surface)	15 (Subsurface)
SWC1-JD05	Ditch	Cut -6	0 (Fill/Surface)	6 (Surface)	16 (Subsurface)
SWC1-JD06	Ditch with Flux	Cut -1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JD07	Ditch	Cut -3	0 (Fill/Surface)	3 (Surface)	13 (Subsurface)
SWC1-JD08	Ditch with Flux	Cut -2	0 (Fill/Surface)	12 (Subsurface)	--
SWC1-JD09	Ditch	-- 0	0 (Surface)	10 (Subsurface)	--
SWC1-JD10	Ditch with Flux	Cut -1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JD11	Ditch	Cut -1	0 (Fill/Surface)	11 (Subsurface)	--
SWC1-JD12	Ditch with Flux	Cut -2	0 (Fill/Surface)	12 (Subsurface)	--

Note: Because sample collection will be over a two to three foot depth interval, sample locations with an anticipated cut depth less than three feet will only be sampled at the surface and one post-grade subsurface depth.

Yellow shaded locations (SWC1-AT25, SWC1-AV26 and SWC1-AX21) indicates deep soil samples will be collected for physical parameter analyses.

Green shaded locations (SWC1-AS23, SWC1-JB10 and SWC1-JD11) indicates subsurface soil samples will also include synthetic precipitation leaching procedure (SPLP) sampling and analysis.

Depths are in feet bgs (current grade).

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Ions	**EPA 300.0**	Bromide	24959-67-9	✓	✓	(g)	(h)
		Bromine	7726-95-6	(a)	(a)	(a)	(h)
		Chlorate	14866-68-3	✓	✓	(g)	(h)
		Chloride	16887-00-6	✓	✓	(g)	(h)
		Chlorine (soluble)	7782-50-5	(a)	(a)	(a)	(h)
		Chlorite	14998-27-7	(a)	(a)	(a)	(h)
		Fluoride	16984-48-8	✓	✓	(g)	(h)
		Nitrate (as N)	14797-55-8	✓	✓	(g)	(h)
		Nitrite (as N)	14797-65-0	✓	✓	(g)	(h)
		Orthophosphate	14265-44-2	✓	✓	(g)	(h)
		Sulfate	14808-79-8	✓	✓	(g)	(h)
	EPA 377.1	Sulfite	14265-45-3	(a)	(a)	(a)	(h)
	EPA 314.0	Perchlorate	14797-73-0	✓	✓	(g)	✓
Dissolved Gases	**RSK 175**	Ethane	74-84-0	(a)	(a)	(a)	(h)
		Ethylene	74-85-1	(a)	(a)	(a)	(h)
		Methane	74-82-8	(a)	(a)	(a)	(h)
Chlorinated Compounds	**EPA 551.1**	Chloral	75-87-6	(i)	(i)	(g)	(h)
		Dichloroacetaldehyde	79-02-7	(i)	(i)	(g)	(h)
Polychlorinated Dibenzodioxins/ Dibenzofurans	**EPA 8290**	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	✓	(e)	(e)	(h)
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	✓	(e)	(e)	(h)
		1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	✓	(e)	(e)	(h)
		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	✓	(e)	(e)	(h)
		1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	✓	(e)	(e)	(h)
		1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	✓	(e)	(e)	(h)
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	✓	(e)	(e)	(h)
		1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	✓	(e)	(e)	(h)
		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	✓	(e)	(e)	(h)
		1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	✓	(e)	(e)	(h)
		1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	✓	(e)	(e)	(h)
		1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	✓	(e)	(e)	(h)
		1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	✓	(e)	(e)	(h)
		2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	✓	(e)	(e)	(h)
		2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	✓	(e)	(e)	(h)
		2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	✓	(e)	(e)	(h)
		2,3,7,8-Tetrachlororodibenzo-p-dioxin	1746-01-6	✓	(e)	(e)	(h)
Asbestos	**Elutriator/TEM**	Asbestos	1332-21-4	✓	(f)	(f)	(h)

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
General Chemistry Parameters	**EPA 350.2**	Ammonia (as N)	7664-41-7	✓	✓	(g)	(h)
	EPA 9010/9014	Cyanide (Total)	57-12-5	✓	✓	(g)	(h)
	EPA 345.1	Iodine	7553-56-2	(a)	(a)	(a)	(h)
	EPA 9045C	pH in soil	pH	✓	✓	✓	(h)
	EPA 9040B	pH in water	pH	(a)	(a)	(a)	(h)
	EPA 376.1/376.2	Sulfide	18496-25-8	✓	✓	(g)	(h)
	Mod. EPA 415.1	Total inorganic carbon	7440-44-0	✓	✓	(g)	(h)
	EPA 351.2	Total Kjeldahl nitrogen (TKN)	TKN	✓	✓	(g)	(h)
	EPA 415.1	Total organic carbon (TOC)	7440-44-0	✓	✓	✓	(h)
Metals	**EPA 6020/6010B**	Aluminum	7429-90-5	✓	✓	(g)	✓
		Antimony	7440-36-0	✓	✓	(g)	✓
		Arsenic	7440-38-2	✓	✓	(g)	✓
		Barium	7440-39-3	✓	✓	(g)	✓
		Beryllium	7440-41-7	✓	✓	(g)	✓
		Boron	7440-42-8	✓	✓	(g)	✓
		Cadmium	7440-43-9	✓	✓	(g)	✓
		Calcium	7440-70-2	✓	✓	(g)	✓
		Chromium	7440-47-3	✓	✓	(g)	✓
		Cobalt	7440-48-4	✓	✓	(g)	✓
		Copper	7440-50-8	✓	✓	(g)	✓
		Iron	7439-89-6	✓	✓	(g)	✓
		Lead	7439-92-1	✓	✓	(g)	✓
		Lithium	1313-13-9	✓	✓	(g)	✓
		Magnesium	7439-95-4	✓	✓	(g)	✓
		Manganese	7439-96-5	✓	✓	(g)	✓
		Molybdenum	7439-98-7	✓	✓	(g)	✓
		Nickel	7440-02-0	✓	✓	(g)	✓
		Niobium	7440-03-1	(i)	(i)	(g)	✓
		Palladium	7440-05-3	(i)	(i)	(g)	✓
		Phosphorus	7723-14-0	(i)	(i)	(g)	✓
		Platinum	7440-06-4	(i)	(i)	(g)	✓
		Potassium	7440-09-7	✓	✓	(g)	✓
		Selenium	7782-49-2	✓	✓	(g)	✓
		Silicon	7440-21-3	(i)	(i)	(g)	✓
		Silver	7440-22-4	✓	✓	(g)	✓
		Sodium	7440-23-5	✓	✓	(g)	✓
		Strontium	7440-24-6	✓	✓	(g)	✓

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Metals (continued)	**EPA 6020/6010B**	Sulfur	7704-34-9	(i)	(i)	(g)	✓
		Thallium	7440-28-0	✓	✓	(g)	✓
		Tin	7440-31-5	✓	✓	(g)	✓
		Titanium	7440-32-6	✓	✓	(g)	✓
		Tungsten	7440-33-7	✓	✓	(g)	✓
		Uranium	7440-61-1	✓	✓	(g)	✓
		Vanadium	7440-62-2	✓	✓	(g)	✓
		Zinc	7440-66-6	✓	✓	(g)	✓
		Zirconium	7440-67-7	(i)	(i)	(g)	✓
	EPA 7196A	Chromium (VI)	18540-29-9	✓	✓	(g)	✓
	EPA 7470/7471A	Mercury	7439-97-6	✓	✓	(g)	✓
Organophosphorous Pesticides	**EPA 8141A**	Azinphos-ethyl	264-27-19	(b)	(b)	(b)	(h)
		Azinphos-methyl	86-50-0	(b)	(b)	(b)	(h)
		Carbophenothion	786-19-6	(b)	(b)	(b)	(h)
		Chlorpyrifos	2921-88-2	(b)	(b)	(b)	(h)
		Coumaphos	56-72-4	(b)	(b)	(b)	(h)
		Demeton-O	298-03-3	(b)	(b)	(b)	(h)
		Demeton-S	126-75-0	(b)	(b)	(b)	(h)
		Diazinon	333-41-5	(b)	(b)	(b)	(h)
		Dichlorvos	62-73-7	(b)	(b)	(b)	(h)
		Dimethoate	60-51-5	(b)	(b)	(b)	(h)
		Disulfoton	298-04-4	(b)	(b)	(b)	(h)
		EPN	2104-64-5	(b)	(b)	(b)	(h)
		Ethoprop	13194-48-4	(b)	(b)	(b)	(h)
		Ethyl parathion	56-38-2	(b)	(b)	(b)	(h)
		Fampphur	52-85-7	(b)	(b)	(b)	(h)
		Fenthion	55-38-9	(b)	(b)	(b)	(h)
		Malathion	121-75-5	(b)	(b)	(b)	(h)
		Methyl carbophenothion	953-17-3	(b)	(b)	(b)	(h)
		Methyl parathion	298-00-0	(b)	(b)	(b)	(h)
		Mevinphos	7786-34-7	(b)	(b)	(b)	(h)
		Naled	300-76-5	(b)	(b)	(b)	(h)
		O,O,O-Triethyl phosphorothioate (TEPP)	297-97-2	(b)	(b)	(b)	(h)
		Phorate	298-02-2	(b)	(b)	(b)	(h)

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Organophosphorous Pesticides (continued)	**EPA 8141A**	Phosmet	732-11-6	(b)	(b)	(b)	(h)
		Ronnel	299-84-3	(b)	(b)	(b)	(h)
		Stirophos (Tetrachlorovinphos)	22248-79-9	(b)	(b)	(b)	(h)
		Sulfotep	3689-24-5	(b)	(b)	(b)	(h)
Chlorinated Herbicides	**EPA 8151A**	2,4,5-T	93-76-5	(b)	(b)	(b)	(h)
		2,4,5-TP (Silvex)	93-72-1	(b)	(b)	(b)	(h)
		2,4-D	94-75-7	(b)	(b)	(b)	(h)
		2,4-DB	94-82-6	(b)	(b)	(b)	(h)
		Dalapon	75-99-0	(b)	(b)	(b)	(h)
		Dicamba	1918-00-9	(b)	(b)	(b)	(h)
		Dichloroprop	120-36-5	(b)	(b)	(b)	(h)
		Dinoseb	88-85-7	(b)	(b)	(b)	(h)
		MCPA	94-74-6	(b)	(b)	(b)	(h)
		MCPP	93-65-2	(b)	(b)	(b)	(h)
Organic Acids	**HPLC**	4-Chlorobenzene sulfonic acid	98-66-8	(b)	(b)	(b)	(h)
		Benzenesulfonic acid	98-11-3	(b)	(b)	(b)	(h)
		O,O-Diethylphosphorodithioic acid	298-06-6	(b)	(b)	(b)	(h)
		O,O-Dimethylphosphorodithioic acid	756-80-9	(b)	(b)	(b)	(h)
Nonhalogenated Organics	**EPA 8015B**	Ethylene glycol	107-21-1	(b)	(b)	(b)	(h)
		Ethylene glycol monobutyl ether	111-76-2	(b)	(b)	(b)	(h)
		Methanol	67-56-1	(b)	(b)	(b)	(h)
		Propylene glycol	57-55-6	(b)	(b)	(b)	(h)
Organochlorine Pesticides	**EPA 8081A**	2,4-DDD	53-19-0	✓	✓	(g)	✓
		2,4-DDE	3424-82-6	✓	✓	(g)	✓
		4,4-DDD	72-54-8	✓	✓	(g)	✓
		4,4-DDE	72-55-9	✓	✓	(g)	✓
		4,4-DDT	50-29-3	✓	✓	(g)	✓
		Aldrin	309-00-2	✓	✓	(g)	✓
		alpha-BHC	319-84-6	✓	✓	(g)	✓
		alpha-Chlordane	5103-71-9	✓	✓	(g)	✓
		beta-BHC	319-85-7	✓	✓	(g)	✓
		Chlordane	57-74-9	✓	✓	(g)	✓
		delta-BHC	319-86-8	✓	✓	(g)	✓
		Dieldrin	60-57-1	✓	✓	(g)	✓
		Endosulfan I	959-98-8	✓	✓	(g)	✓
		Endosulfan II	33213-65-9	✓	✓	(g)	✓
		Endosulfan sulfate	1031-07-8	✓	✓	(g)	✓

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Organochlorine Pesticides (continued)	**EPA 8081A**	Endrin	72-20-8	✓	✓	(g)	✓
		Endrin aldehyde	7421-93-4	✓	✓	(g)	✓
		Endrin ketone	53494-70-5	✓	✓	(g)	✓
		gamma-BHC (Lindane)	58-89-9	✓	✓	(g)	✓
		gamma-Chlordane	5103-74-2	✓	✓	(g)	✓
		Heptachlor	76-44-8	✓	✓	(g)	✓
		Heptachlor epoxide	1024-57-3	✓	✓	(g)	✓
		Methoxychlor	72-43-5	✓	✓	(g)	✓
		Toxaphene	8001-35-2	✓	✓	(g)	✓
Polychlorinated Biphenyls	**EPA 8082**	Aroclor 1016 (j)	12674-11-2	✓	(e)	(e)	(h)
		Aroclor 1221 (j)	11104-28-2	✓	(e)	(e)	(h)
		Aroclor 1232 (j)	11141-16-5	✓	(e)	(e)	(h)
		Aroclor 1242 (j)	53469-21-9	✓	(e)	(e)	(h)
		Aroclor 1248 (j)	12672-29-6	✓	(e)	(e)	(h)
		Aroclor 1254 (j)	11097-69-1	✓	(e)	(e)	(h)
		Aroclor 1260 (j)	11096-82-5	✓	(e)	(e)	(h)
	EPA 1668	PCB-77	32598-13-3	✓	(e)	(e)	(h)
		PCB-81	70362-50-4	✓	(e)	(e)	(h)
		PCB-105	32598-14-4	✓	(e)	(e)	(h)
		PCB-114	74472-37-0	✓	(e)	(e)	(h)
		PCB-118	31508-00-6	✓	(e)	(e)	(h)
		PCB-123	65510-44-3	✓	(e)	(e)	(h)
		PCB-126	57465-28-8	✓	(e)	(e)	(h)
		PCB-156	38380-08-4	✓	(e)	(e)	(h)
		PCB-157	69782-90-7	✓	(e)	(e)	(h)
		PCB-167	52663-72-6	✓	(e)	(e)	(h)
		PCB-169	32774-16-6	✓	(e)	(e)	(h)
		PCB-189	39635-31-9	✓	(e)	(e)	(h)
		PCB-209	2051-24-3	✓	(e)	(e)	(h)
Polynuclear Aromatic Hydrocarbons	**EPA 8310 [1] or EPA 8270SIM**	Acenaphthene	83-32-9	✓	✓	(g)	(h)
		Acenaphthylene	208-96-8	✓	✓	(g)	(h)
		Anthracene	120-12-7	✓	✓	(g)	(h)
		Benzo(a)anthracene	56-55-3	✓	✓	(g)	(h)
		Benzo(a)pyrene	50-32-8	✓	✓	(g)	(h)
		Benzo(b)fluoranthene	205-99-2	✓	✓	(g)	(h)
		Benzo(g,h,i)perylene	191-24-2	✓	✓	(g)	(h)
		Benzo(k)fluoranthene	207-08-9	✓	✓	(g)	(h)

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SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4) Depth 1	Depth 2/3	Deep	SPLP
Polynuclear Aromatic Hydrocarbons (continued)	**EPA 8310 [1] or EPA 8270SIM**	Chrysene	218-01-9	✓	✓	(g)	(h)
		Dibenzo(a,h)anthracene	53-70-3	✓	✓	(g)	(h)
		Indeno(1,2,3-cd)pyrene	193-39-5	✓	✓	(g)	(h)
		Phenanthrene	85-01-8	✓	✓	(g)	(h)
		Pyrene	129-00-0	✓	✓	(g)	(h)
Radionuclides	**EPA 900.0 or EPA 9310**	Gross alpha	G_Alpha	(c)	(c)	(c)	(h)
		Gross beta	G_Beta	(c)	(c)	(c)	(h)
	EPA 901.1/ HASL GA-01-R	Actinium-228	14331-83-0	(c)	(c)	(c)	(h)
		Bismuth-212	14913-49-6	(c)	(c)	(c)	(h)
		Bismuth-214	14733-03-0	(c)	(c)	(c)	(h)
		Cobalt-57	13981-50-5	(c)	(c)	(c)	(h)
		Cobalt-60	10198-40-0	(c)	(c)	(c)	(h)
		Lead-210	14255-04-0	(c)	(c)	(c)	(h)
		Lead-211	015816-77-0	(c)	(c)	(c)	(h)
		Lead-212	15092-94-1	(c)	(c)	(c)	(h)
		Lead-214	15067-28-4	(c)	(c)	(c)	(h)
		Potassium-40	13966-00-2	(c)	(c)	(c)	(h)
		Thallium-208	14913-50-9	(c)	(c)	(c)	(h)
		Thorium-227	15623-47-9	(c)	(c)	(c)	(h)
		Thorium-234	15065-10-8	(c)	(c)	(c)	(h)
	HASL A-01-R	Thorium-232	7440-29-1	✓	✓	(g)	(h)
		Thorium-228	14274-82-9	✓	✓	(g)	(h)
		Thorium-230	14269-63-7	✓	✓	(g)	(h)
		Uranium-233/234	13966-29-5	✓	✓	(g)	(h)
		Uranium 235/236	15117-96-1	✓	✓	(g)	(h)
		Uranium-238	7440-61-1	✓	✓	(g)	(h)
	EPA 903.0 / 903.1	Radium-226	13982-63-3	✓	✓	(g)	✓
	EPA 904.0	Radium-228	15262-20-1	✓	✓	(g)	✓
	Quantitate from Parent or Daughter Radionuclide	Actinium-227 (from Th-227)	14952-40-0	(c)	(c)	(c)	(h)
		Bismuth-210 (from Pb-210)	14331-79-4	(c)	(c)	(c)	(h)
		Bismuth-211 (from Pb-211)	15229-37-5	(c)	(c)	(c)	(h)
		Polonium-210 (from Pb-210)	13981-52-7	(c)	(c)	(c)	(h)
		Polonium-212 (from Bi-212)	13981-52-7	(c)	(c)	(c)	(h)
		Polonium-214 (from Bi-214)	15735-67-8	(c)	(c)	(c)	(h)
		Polonium-216 (from Pb-212)	15756-58-8	(c)	(c)	(c)	(h)
		Polonium-218 (from Pb-214)	15422-74-9	(c)	(c)	(c)	(h)
		Protactinium-231 (from U-235)	14331-85-2	(c)	(c)	(c)	(h)

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Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Radionuclides (continued)	**Quantitate from Parent or Daughter Radionuclide**	Protactinium-234 (from Th-234)	15100-28-4	(c)	(c)	(c)	(h)
		Radium-223 (from Th-227)	15623-45-7	(c)	(c)	(c)	(h)
		Radium-224 (from Pb-212)	13233-32-4	(c)	(c)	(c)	(h)
		Thallium-207 (from Pb-211)	14133-67-6	(c)	(c)	(c)	(h)
		Thorium-231 (from U-235)	14932-40-2	(c)	(c)	(c)	(h)
Radon	**FLUX**	Radon-220	22481-48-7	(d)	(d)	(d)	(h)
		Radon-222	14859-67-7	(d)	(d)	(d)	(h)
Aldehydes	**EPA 8315A**	Acetaldehyde	75-07-0	✓	✓	(g)	(h)
		Chloroacetaldehyde	107-20-0	(i)	(i)	(g)	(h)
		Dichloroacetaldehyde	79-02-7	(i)	(i)	(g)	(h)
		Formaldehyde	50-00-0	✓	✓	(g)	(h)
		Trichloroacetaldehyde	75-87-6	(i)	(i)	(g)	(h)
Semivolatile Organic Compounds	**EPA 8270C [2]**	1,2,4,5-Tetrachlorobenzene	95-94-3	✓	✓	(g)	✓
		1,2-Diphenylhydrazine	122-66-7	✓	✓	(g)	✓
		1,4-Dioxane	123-91-1	✓	✓	(g)	✓
		2,2'/4,4'-Dichlorobenzil	3457-46-3	✓	✓	(g)	✓
		2,4,5-Trichlorophenol	95-95-4	✓	✓	(g)	✓
		2,4,6-Trichlorophenol	88-06-2	✓	✓	(g)	✓
		2,4-Dichlorophenol	120-83-2	✓	✓	(g)	✓
		2,4-Dimethylphenol	105-67-9	✓	✓	(g)	✓
		2,4-Dinitrophenol	51-28-5	✓	✓	(g)	✓
		2,4-Dinitrotoluene	121-14-2	✓	✓	(g)	✓
		2,6-Dinitrotoluene	606-20-2	✓	✓	(g)	✓
		2-Chloronaphthalene	91-58-7	✓	✓	(g)	✓
		2-Chlorophenol	95-57-8	✓	✓	(g)	✓
		2-Methylnaphthalene	91-57-6	✓	✓	(g)	✓
		2-Nitroaniline	88-74-4	✓	✓	(g)	✓
		2-Nitrophenol	88-75-5	✓	✓	(g)	✓
		3,3-Dichlorobenzidine	91-94-1	✓	✓	(g)	✓
		3-Nitroaniline	99-09-2	✓	✓	(g)	✓
		4,4'-Dichlorobenzil	3457-46-3	✓	✓	(g)	✓
		4-Bromophenyl phenyl ether	101-55-3	✓	✓	(g)	✓
		4-Chloro-3-methylphenol	59-50-7	✓	✓	(g)	✓
		4-Chlorophenyl phenyl ether	7005-72-3	✓	✓	(g)	✓
		4-Chlorothioanisole	123-09-1	✓	✓	(g)	✓
		4-Chlorothiophenol	106-54-7	✓	✓	(g)	✓
		4-Nitroaniline	100-01-6	✓	✓	(g)	✓

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SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
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Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Semivolatile Organic Compounds (continued)	**EPA 8270C** [2]	4-Nitrophenol	100-02-7	✓	✓	(g)	✓
		Acenaphthene	83-32-9	✓	✓	(g)	✓
		Acenaphthylene	208-96-8	✓	✓	(g)	✓
		Acetophenone	98-86-2	✓	✓	(g)	✓
		Aniline	62-53-3	✓	✓	(g)	✓
		Anthracene	120-12-7	✓	✓	(g)	✓
		Azobenzene	103-33-3	✓	✓	(g)	✓
		Benzo(a)anthracene	56-55-3	✓	✓	(g)	✓
		Benzo(a)pyrene	50-32-8	✓	✓	(g)	✓
		Benzo(b)fluoranthene	205-99-2	✓	✓	(g)	✓
		Benzo(g,h,i)perylene	191-24-2	✓	✓	(g)	✓
		Benzo(k)fluoranthene	207-08-9	✓	✓	(g)	✓
		Benzoic acid	65-85-0	✓	✓	(g)	✓
		Benzyl alcohol	100-51-6	✓	✓	(g)	✓
		bis(2-Chloroethoxy)methane	111-91-1	✓	✓	(g)	✓
		bis(2-Chloroethyl) ether	111-44-4	✓	✓	(g)	✓
		bis(2-Chloroisopropyl) ether	108-60-1	✓	✓	(g)	✓
		bis(2-Ethylhexyl) phthalate	117-81-7	✓	✓	(g)	✓
		bis(Chloromethyl) ether	542-88-1	✓	✓	(g)	✓
		bis(p-Chlorophenyl) sulfone	80-07-9	✓	✓	(g)	✓
		bis(p-Chlorophenyl)disulfide	1142-19-4	✓	✓	(g)	✓
		Butylbenzyl phthalate	85-68-7	✓	✓	(g)	✓
		Carbazole	86-74-8	✓	✓	(g)	✓
		Chrysene	218-01-9	✓	✓	(g)	✓
		Dibenzo(a,h)anthracene	53-70-3	✓	✓	(g)	✓
		Dibenzofuran	132-64-9	✓	✓	(g)	✓
		Dichloromethyl ether	542-88-1	✓	✓	(g)	✓
		Diethyl phthalate	84-66-2	✓	✓	(g)	✓
		Dimethyl phthalate	131-11-3	✓	✓	(g)	✓
		Di-n-butyl phthalate	84-74-2	✓	✓	(g)	✓
		Di-n-octyl phthalate	117-84-0	✓	✓	(g)	✓
		Diphenyl disulfide	882-33-7	✓	✓	(g)	✓
		Diphenyl sulfide	139-66-2	✓	✓	(g)	✓
		Diphenyl sulfone	127-63-9	✓	✓	(g)	✓
		Fluoranthene	206-44-0	✓	✓	(g)	✓
		Fluorene	86-73-7	✓	✓	(g)	✓
		Hexachlorobenzene	118-74-1	✓	✓	(g)	✓

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SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
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Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Semivolatile Organic Compounds (continued)	**EPA 8270C [2]**	Hexachlorobutadiene	87-68-3	✓	✓	(g)	✓
		Hexachlorocyclopentadiene	77-47-4	✓	✓	(g)	✓
		Hexachloroethane	67-72-1	✓	✓	(g)	✓
		Hydroxymethyl phthalimide	118-29-6	✓	✓	(g)	✓
		Indeno(1,2,3-cd)pyrene	193-39-5	✓	✓	(g)	✓
		Isophorone	78-59-1	✓	✓	(g)	✓
		m,p-Cresol	106-44-5	✓	✓	(g)	✓
		Naphthalene	91-20-3	✓	✓	(g)	✓
		Nitrobenzene	98-95-3	✓	✓	(g)	✓
		N-nitrosodi-n-propylamine	621-64-7	✓	✓	(g)	✓
		N-nitrosodiphenylamine	86-30-6	✓	✓	(g)	✓
		o-Cresol	95-48-7	✓	✓	(g)	✓
		Octachlorostyrene	29082-74-4	✓	✓	(g)	✓
		p-Chloroaniline (4-Chloroaniline)	106-47-8	✓	✓	(g)	✓
		p-Chlorobenzenethiol	106-54-7	✓	✓	(g)	✓
		Pentachlorobenzene	608-93-5	✓	✓	(g)	✓
		Pentachlorophenol	87-86-5	✓	✓	(g)	✓
		Phenanthrene	85-01-8	✓	✓	(g)	✓
		Phenol	108-95-2	✓	✓	(g)	✓
		Phthalic acid	88-99-3	✓	✓	(g)	✓
		Pyrene	129-00-0	✓	✓	(g)	✓
		Pyridine	110-86-1	✓	✓	(g)	✓
		Thiophenol	108-98-5	✓	✓	(g)	✓
		Tentatively Identified Compounds (TICs)		✓	✓	(g)	✓
Volatile Organic Compounds	**EPA 8260B**	1,1,1,2-Tetrachloroethane	630-20-6	✓	✓	(g)	(h)
		1,1,1-Trichloroethane	71-55-6	✓	✓	(g)	(h)
		1,1,2,2-Tetrachloroethane	79-34-5	✓	✓	(g)	(h)
		1,1,2-Trichloroethane	79-00-5	✓	✓	(g)	(h)
		1,1-Dichloroethane	75-34-3	✓	✓	(g)	(h)
		1,1-Dichloroethene	75-35-4	✓	✓	(g)	(h)
		1,1-Dichloropropene	563-58-6	✓	✓	(g)	(h)
		1,2,3-Trichlorobenzene	87-61-6	✓	✓	(g)	(h)
		1,2,3-Trichloropropane	96-18-4	✓	✓	(g)	(h)
		1,2,4-Trichlorobenzene	120-82-1	✓	✓	(g)	(h)
		1,2,4-Trimethylbenzene	95-63-6	✓	✓	(g)	(h)
		1,2-Dichlorobenzene	95-50-1	✓	✓	(g)	(h)
		1,2-Dichloroethane	107-06-2	✓	✓	(g)	(h)

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Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Volatile Organic Compounds (continued)	**EPA 8260B**	1,2-Dichloroethene	540-59-0	✓	✓	(g)	(h)
		1,2-Dichloropropane	78-87-5	✓	✓	(g)	(h)
		1,3,5-Trichlorobenzene	108-70-3	✓	✓	(g)	(h)
		1,3,5-Trimethylbenzene	108-67-8	✓	✓	(g)	(h)
		1,3-Dichlorobenzene	541-73-1	✓	✓	(g)	(h)
		1,3-Dichloropropene	542-75-6	✓	✓	(g)	(h)
		1,3-Dichloropropane	142-28-9	✓	✓	(g)	(h)
		1,4-Dichlorobenzene	106-46-7	✓	✓	(g)	(h)
		2,2-Dichloropropane	594-20-7	✓	✓	(g)	(h)
		2,2-Dimethylpentane	590-35-2	✓	✓	(g)	(h)
		2,2,3-Trimethylbutane	464-06-2	✓	✓	(g)	(h)
		2,3-Dimethylpentane	565-59-3	✓	✓	(g)	(h)
		2,4-Dimethylpentane	108-08-7	✓	✓	(g)	(h)
		2-Chlorotoluene	95-49-8	✓	✓	(g)	(h)
		2-Hexanone	591-78-6	✓	✓	(g)	(h)
		2-Methylhexane	591-76-4	✓	✓	(g)	(h)
		2-Nitropropane	79-46-9	✓	✓	(g)	(h)
		3,3-Dimethylpentane	562-49-2	✓	✓	(g)	(h)
		3-Ethylpentane	617-78-7	✓	✓	(g)	(h)
		3-Methylhexane	589-34-4	✓	✓	(g)	(h)
		4-Chlorobenzene	108-90-7	✓	✓	(g)	(h)
		4-Chlorotoluene	106-43-4	✓	✓	(g)	(h)
		4-Methyl-2-pentanone (MIBK)	108-10-1	✓	✓	(g)	(h)
		Acetone	67-64-1	✓	✓	(g)	(h)
		Acetonitrile	75-05-8	✓	✓	(g)	(h)
		Benzene	71-43-2	✓	✓	(g)	(h)
		Bromobenzene	108-86-1	✓	✓	(g)	(h)
		Bromodichloromethane	75-27-4	✓	✓	(g)	(h)
		Bromoform	75-25-2	✓	✓	(g)	(h)
		Bromomethane	74-83-9	✓	✓	(g)	(h)
		Carbon disulfide	75-15-0	✓	✓	(g)	(h)
		Carbon tetrachloride	56-23-5	✓	✓	(g)	(h)
		Chlorobenzene	108-90-7	✓	✓	(g)	(h)
		Chlorobromomethane	74-97-5	✓	✓	(g)	(h)
		Chlorodibromomethane	124-48-1	✓	✓	(g)	(h)
		Chloroethane	75-00-3	✓	✓	(g)	(h)
		Chloroform	67-66-3	✓	✓	(g)	(h)

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Volatile Organic Compounds (continued)	**EPA 8260B**	Chloromethane	74-87-3	✓	✓	(g)	(h)
		cis-1,2-Dichloroethene	156-59-2	✓	✓	(g)	(h)
		cis-1,3-Dichloropropene	10061-01-5	✓	✓	(g)	(h)
		Cymene (Isopropyltoluene)	99-87-6	✓	✓	(g)	(h)
		Dibromochloroethane	73506-94-2	✓	✓	(g)	(h)
		Dibromochloromethane	124-48-1	✓	✓	(g)	(h)
		Dibromochloropropane	96-12-8	✓	✓	(g)	(h)
		Dibromomethane	74-95-3	✓	✓	(g)	(h)
		Dichloromethane (Methylene chloride)	75-09-2	✓	✓	(g)	(h)
		Dimethyldisulfide	624-92-0	✓	✓	(g)	(h)
		Ethanol	64-17-5	✓	✓	(g)	(h)
		Ethylbenzene	100-41-4	✓	✓	(g)	(h)
		Freon-11	75-69-4	✓	✓	(g)	(h)
		Freon-113	76-13-1	✓	✓	(g)	(h)
		Freon-12	75-71-8	✓	✓	(g)	(h)
		Heptane	142-82-5	✓	✓	(g)	(h)
		Isoheptane	31394-54-4	✓	✓	(g)	(h)
		Isopropylbenzene	98-82-8	✓	✓	(g)	(h)
		m,p-Xylene	mp-XYL	✓	✓	(g)	(h)
		Methyl ethyl ketone (2-Butanone)	78-93-3	✓	✓	(g)	(h)
		Methyl iodide	74-88-4	✓	✓	(g)	(h)
		MTBE (Methyl tert-butyl ether)	1634-04-4	✓	✓	(g)	(h)
		n-Butyl benzene	104-51-8	✓	✓	(g)	(h)
		n-Propylbenzene	103-65-1	✓	✓	(g)	(h)
		Nonanal	124-19-6	✓	✓	(g)	(h)
		o-Xylene	95-47-6	✓	✓	(g)	(h)
		sec-Butylbenzene	135-98-8	✓	✓	(g)	(h)
		Styrene	100-42-5	✓	✓	(g)	(h)
		tert-Butyl benzene	98-06-6	✓	✓	(g)	(h)
		Tetrachloroethene	127-18-4	✓	✓	(g)	(h)
		Toluene	108-88-3	✓	✓	(g)	(h)
		trans-1,2-Dichloroethene	156-60-5	✓	✓	(g)	(h)
		trans-1,3-Dichloropropene	10061-02-6	✓	✓	(g)	(h)
		Trichloroethene	79-01-6	✓	✓	(g)	(h)
		Vinyl acetate	108-05-4	✓	✓	(g)	(h)
		Vinyl chloride	75-01-4	✓	✓	(g)	(h)
		Xylenes (total)	1330-20-7	✓	✓	(g)	(h)
		Tentatively Identified Compounds (TICs)		✓	✓	(g)	(h)

TABLE 4
SITE-RELATED CHEMICALS LIST AND PROPOSED SAMPLE ANALYSES AND DEPTHS
SPRAY WHEEL SUB-AREA

Parameter of Interest	Analytical Method	Compound List	CAS Number	Sample Depth (from Table 4)			SPLP
				Depth 1	Depth 2/3	Deep	
Water Quality Parameters	**EPA 120.1**	Conductivity	COND	(a)	(a)	(a)	(h)
	EPA 130.2	Hardness, total	Hardness	(a)	(a)	(a)	(h)
	EPA 160.1	Total dissolved solids	TDS	(a)	(a)	(a)	(h)
	EPA 160.2	Total suspended solids	TSS	(a)	(a)	(a)	(h)
	EPA 310.1	Alkalinity, Total (as $CACO_3$)	ALK	(a)	(a)	(a)	(h)
		Bicarbonate alkalinity	71-52-3	(a)	(a)	(a)	(h)
		Carbonate alkalinity	3812-32-6	(a)	(a)	(a)	(h)
		Hydroxide alkalinity	OH-ALK	(a)	(a)	(a)	(h)
Flashpoint	**EPA 1010**	Flammables	NA	(b)	(b)	(b)	(h)
Total Petroleum Hydrocarbons	**EPA 8015**	Diesel	64742-46-7	(b)	(b)	(b)	(h)
		Gasoline	8006-61-9	(b)	(b)	(b)	(h)
		Grease	68153-81-1	(b)	(b)	(b)	(h)
		Mineral Spirits	NA	(b)	(b)	(b)	(h)
White Phosphorus	**EPA 7580M**	White phosphorus	12185-10-3	(b)	(b)	(b)	(h)
Methyl Mercury	**EPA 1630**	Methyl mercury	22967-92-6	(b)	(b)	(b)	(h)
Soil Physical Parameters	**ASTM D2937/ MOSA1Ch .13**	Dry bulk density	NA	(g)	✓	✓	(h)
	ASTM D2435/ MOSA1Ch .18	Total porosity	NA	(g)	✓	✓	(h)
	ASTM D5084	Soil permeability/saturated hydraulic cond.	NA	(g)	✓	✓	(h)
	ASTM D854	Specific gravity of soils	NA	(g)	✓	✓	(h)
	SW846 Method 9081	Cation exchange capacity	NA	(g)	✓	✓	(h)
	ASTM D2216/D4643/D2974	Volumetric water content	NA	(g)	✓	✓	(h)
	ASTM D422	Grain size analysis by sieve and hydrometer	NA	(g)	✓	✓	(h)
	EPA 415.1/ASTM 2947	Fractional organic carbon content	NA	(g)	✓	✓	(h)

Notes:
Laboratory limits are subject to matrix interferences and may not always be achieved in all samples.
The laboratory will be instructed to report the top 25 Tentatively Identified Compounds (TICs) under method 8260B and 8270C.
NA = Not applicable.
a - Groundwater only analyte.
b - Removed based on rationale provided in the text.
c - Removed consistent with approved list of radionuclides for project analysis.
d - Radon will be sampled and analyzed via surface flux sampling and analysis protocols.
e - Dioxins/furans and PCBs will only be analyzed for in fill and surface soil samples only.
f - Asbestos will only be analyzed for in current grade surface soil samples only.
g - Soil physical parameters will be collected from at-depth samples only; from three sample locations (see Table 3).
h - Rationale provided in text for analyte list for synthetic precipitation leaching procedure (SPLP); from three subsurface sample locations (see Table 3).
i - Removed based on Revisions to the Analyte List Technical Memorandum approved by NDEP on 10/16/2008.
j - Extraction only; analyze for Aroclors only if the sum of PCB congeners is greater than 33 ppb.
[1]For polynuclear aromatic hydrocarbons, either Method 8310 or Method 8270SIM is the primary analytical method.
[2]Method 3540 for extraction and Method 3640 for cleanup are to be used as appropriate.

TABLE 5
PROPOSED SOIL VAPOR FLUX SAMPLE ANALYSES
SPRAY WHEEL SUB-AREA

Compound	CAS Number	MDL ppbv	RL ppbv	MDL µg/m^3	RL µg/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
1,1,2,2-Tetrachloroethane	79-34-5	0.1	0.52	0.73	3.65
1,1,2-Trichloroethane	79-00-5	0.1	0.51	0.57	2.86
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
1,2,3-Trichloropropane	96-18-4	0.11	0.55	0.68	3.39
1,2,4-Trichlorobenzene	120-82-1	0.1	0.52	0.79	3.94
1,2,4-Trimethylbenzene	95-63-6	0.1	0.52	0.52	2.61
1,2-Dibromo-3-chloropropane	96-12-8	0.22	1.1	2.2	10.98
1,2-Dibromoethane	106-93-4	0.1	0.52	0.82	4.09
1,2-Dichlorobenzene	95-50-1	0.1	0.52	0.64	3.2
1,2-Dichloroethane	107-06-2	0.1	0.52	0.43	2.15
1,2-Dichloropropane	78-87-5	0.1	0.52	0.49	2.46
1,3,5-Trimethylbenzene	108-67-8	0.1	0.52	0.53	2.64
1,3-Dichlorobenzene	541-73-1	0.1	0.52	0.64	3.2
1,3-Dichloropropane	142-28-9	0.11	0.54	0.52	2.58
1,4-Dichlorobenzene	106-46-7	0.1	0.52	0.64	3.2
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-Butanone	78-93-3	0.09	0.43	0.26	1.31
2-Hexanone	591-78-6	0.09	0.44	0.37	1.86
Acetone	67-64-1	0.09	0.45	0.22	1.1
Acetonitrile	75-05-8	0.22	1.12	0.48	2.39
Benzene	71-43-2	0.1	0.52	0.34	1.7
Benzyl chloride	100-44-7	0.09	0.45	0.48	2.41
Bromochloromethane	74-97-5	0.1	0.51	0.55	2.76
Bromodichloromethane	75-27-4	0.08	0.4	0.55	2.77
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
Carbon tetrachloride	56-23-5	0.1	0.52	0.67	3.38
Chlorobenzene	108-90-7	0.1	0.52	0.5	2.48
Chloroethane	75-00-3	0.1	0.51	0.28	1.39
Chloroform	67-66-3	0.1	0.52	0.52	2.59
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
Dibromochloromethane	124-48-1	0.09	0.44	0.77	3.87
Dibromomethane	74-95-3	0.11	0.55	0.97	4.84

TABLE 5
PROPOSED SOIL VAPOR FLUX SAMPLE ANALYSES
SPRAY WHEEL SUB-AREA

Compound	CAS Number	MDL ppbv	RL ppbv	MDL µg/m^3	RL µg/m^3
Dichlorodifluoromethane	75-71-8	0.1	0.51	0.52	2.61
Dichloromethane	75-09-2	0.1	0.52	0.37	1.86
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 113	76-13-1	0.1	0.52	0.81	4.07
Hexachlorobutadiene	87-68-3	0.1	0.52	1.14	5.68
Isobutyl alcohol	78-83-1	0.23	1.13	0.84	4.21
Isopropylbenzene	98-82-8	0.11	0.57	0.58	2.89
Isopropyltoluene	99-87-6	0.11	0.55	0.62	3.12
m & p-Xylene	108-38-3	0.21	1.03	0.92	4.61
Methyl iodide	4227-95-6	0.19	0.94	1.13	5.67
Methyl Isobutyl Ketone	108-10-1	0.09	0.46	0.38	1.95
Methyl tert butyl ether	1634-04-4	0.08	0.39	0.29	1.45
Naphthalene	91-20-3	0.22	1.09	1.19	5.9
n-Butylbenzene	104-51-8	0.1	0.52	0.59	2.95
n-Heptane	142-82-5	0.08	0.42	0.35	1.78
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
Tetrachloroethene	127-18-4	0.1	0.52	0.72	3.61
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
Trichloroethene	79-01-6	0.1	0.52	0.57	2.85
Trichlorofluoromethane	75-69-4	0.1	0.51	0.59	2.95
Vinyl acetate	108-05-4	0.09	0.43	0.31	1.56
Vinyl chloride	75-01-4	0.1	0.51	0.27	1.35

TABLE 5
PROPOSED SOIL VAPOR FLUX SAMPLE ANALYSES
SPRAY WHEEL SUB-AREA

Compound	CAS Number	MDL ppbv	RL ppbv	MDL µg/m^3	RL µg/m^3
List of Compounds for USEPA Method TO-15 Selective Ion Mode (SIM) Operation and MDLs					
1,1,1,2-Tetrachloroethane	630-20-6	0.005	0.026	0.035	0.18
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-Dibromo-3-chloropropane	96-12-8	0.01	0.026	0.098	0.26
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
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
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
µg/m^3 - microgram per cubic meter

APPENDIX A

NDEP COMMENTS AND
BRC'S RESPONSE TO COMMENTS

Response to NDEP Comments Received October 12, 2009 on the Sampling and Analysis Plan for the Spray Wheel Sub-Area dated September 2009

1. General comment, there are several instances in this sampling and analysis plan (SAP) where the idea of remediating before sampling is presented, while other instances state that BRC intends to initiate remediation based on findings from the historical sampling event (i.e., not yet being conducted). Clarification is needed.

Response: *BRC has reviewed the SAP to identify instances in which the timing of remediation relative to sampling is referenced and has revised those references to consistently reflect the correct sequence of events for the Spray Wheel sub-area. That is, prior to sampling in accordance with this SAP, BRC will remove soils/sediments temporarily stored within the Site as part of the TIMET Ponds dewatering process.*

2. General comment, clarification is also needed on the role that on-site storage of remediation materials from the Lower Ponds plays in the remediation effort in the Spray Wheel area. Mention is made, it seems that the material will be transferred to the BRC Corrective Action Management Unit (CAMU), however, the details are not clear. This is not the same as remediating other sub-areas because of the interim storage that has occurred here. The interim storage also raises the question of characterization of the stored waste, and contamination problems, if any, that might result from the interim waste storage. More discussion and explanation is needed of the interim storage of waste materials and their disposal as part of the Spray Wheel remediation.

Response: *As a point of information, remediation materials from the Lower Ponds have not been and are not currently present in the Spray Wheel sub-area, and the SAP includes no references to the temporary storage of remediation materials from the Lower Ponds. As referenced above, remediation materials from the TIMET Ponds have been temporarily stored within the Spray Wheel sub-area. Section 2.5 has been expanded to further explain the scope and schedule of the interim storage activities, and biased sampling points have been added to the SAP sampling program within areas where this interim storage occurred.*

3. General comment, the SAP references Sections that are not existent in this document (e.g., Section 2.8). Please revise, as appropriate. This comment will not be repeated for each instance.

Response: *The document has been reviewed with respect to this comment, and various section references have been revised accordingly.*

4. Page 1-1; 2nd paragraph. Please include the dates of operation for the Site.

Response: *Information regarding the dates of operation of the Spray Wheel and wastewater conveyance to the Upper Ponds and ditches is provided in Section 2.1. However, in response to NDEP's comment, the subject text has been revised to include this information as well on page 1-1.*

5. Page 1-3; 3rd paragraph, 3rd sentence. This sentence is a run-on sentence. Please reword.

Response: *The subject text has been reworded.*

6. Page 1-3; 2nd to last sentence. This is a global comment and will not be repeated. Please capitalize the "s" in all instances of the word "site" to maintain consistency with prior usage of the word.

Response: *In the revised document, all instances of the word "site" that refer to the Spray Wheel sub-area specifically have been capitalized, except for the terms "on-site" and "off-site," which remain in lower case.*

7. Page 2-1; 2nd paragraph. There are several instances in the text where it states that BRC intends to initiate remediation, however page 1-2 indicates that remediation at the Site is currently being conducted. Some clarification is needed along these lines. Also, see general comments above.

Response: *See response to general comment #1 above. With the exception of the removal of dewatered TIMET pond contents from the Site to the CAMU, no remediation is currently being conducted at the Site. The subject text has been revised accordingly.*

8. Page 2-2; 1st paragraph, 1st sentence. Please add Figure 7 as an additional reference to Figure 2.

Response: *Figure 3 (formerly Figure 7) has been added as an additional reference in the subject text on page 2-1.*

9. Page 2-2; last sentence. Please provide a Figure reference or incorporate a new figure to show evidence of fluid within the ponds due to historical wastewater discharge.

Response: *Review of historical aerial photos indicates that fluids within the ponds varied from year to year. The aerial photograph from 1972, shown in the upper right portion of Figure 3 (formerly Figure 7) was considered representative of this evidence; however, it does not represent all evidence, as this would involve the incorporation of numerous historical aerial photos from 1950 to 1976. The following statement has been added, parenthetically, to the end of this sentence on page 2-2: "(Figure 3 shows representative evidence of these fluids, but does not does not represent all evidence, which can be seen to vary in historical aerial photos from 1950 to 1976)."*

10. Page 2-3; 3rd sentence. Please reference Figure 3 at the end of this sentence.

Response: *A reference to Figure 4 (formerly Figure 3) has been added at the end of the subject text on page 2-2.*

11. Page 2-4; 2nd paragraph under bullets, 3rd sentence. This is somewhat confusing. It seems that dust suppression is offered as a means for reducing wind blown contaminated dust. Please discuss how long dust suppression been applied. Please discuss if airborne dispersion could have caused contamination on Site prior to these dust suppression activities. Please clarify.

Response: *To reduce reader confusion, BRC has revised the subject text on page 2-4 to clarify that the subject text refers to the remediation phase. The issue of concern in the subject text is whether remediation at those adjacent sites, which involves major earth-moving activities, would cause a significant amount of airborne dispersion or overland runoff that could adversely affect Site conditions. As noted in the subject text, mitigation measures employed during remediation will reduce that possibility.*

BRC acknowledges that airborne dispersion and/or overland transport of surface soils/sediments from other adjacent sub-areas could have historically resulted in contamination at the Spray Wheel sub-area. However, if this was in fact the case, the nature and extent of associated impacts would be evident from historical surface soil data and/or the data to be collected under this SAP. Footnote #7 has been added to provide clarification.

12. Page 2-5; 1st full sentence. Reference is made to Figure 2 in this sentence, but it seems that Figure 7 would be the more appropriate reference. Please clarify.

Response: *The subject text has been revised on page 2-4 to include a reference to Figure 3 (formerly Figure 7) as well as Figure 2.*

13. Page 2-7; Section 2.4, 1st paragraph. This paragraph alludes to the idea that interim remedial measures (IRMs) have not been carried out. The first issue with this statement is the title of the overall section. If IRMs have not been carried out, this Section heading should be reworded. Also, more discussion is needed for the interim storage of waste from the Lower Ponds that has occurred on Site. Please clarify and modify sections as appropriate.

Response: *See response to comment #2 above for discussion of the interim storage of wastes from the lower Ponds. The heading of this section has been changed, and the opening paragraph of this section has been removed.*

14. Page 2-8; last bullet. Please clarify which waste is being referred to.

Response: *The following text has been added to the end of first sentence of this bullet on page 2-8: "…from throughout the BMI Common Areas (Eastside) in order to address certain regulatory requirements pertaining to their anticipated excavation and placement into the CAMU."*

15. Page 2-8; last paragraph, 2nd to last sentence. This sentence indicates that the majority of the soil samples were composite samples. However, when looking at Figure 2, the majority of the samples taken appear to be discrete samples. Please clarify.

Response: *The subject text has been revised on page 2-8 to note that the samples represent a combination of discrete and composite samples.*

16. Page 2-9; Section 2.5, Title. The title does not seem to apply. Please clarify.

Response: *The section title has been changed from "Interim Remedial Measures (IRMs)" to "Remedial Activities Associated with the Site" to more accurately reflect the contents of that section.*

17. Page 2-9; Section 2.5, 1st paragraph under bullets. Please remove the comma at the end of the 1st sentence.

Response: *The comma has been removed from the end of the subject sentence on page 2-9.*

18. Page 2-10; 1st bullet. This bullet states LBCL factors with dilution attenuation factors of DAF1 and DAF20. However, now here in this report (except for tables and Appendix C) is DAF20 discussed. All comparisons in the text are made with DAF1. Please clarify.

Response: *The lead-in statement to the bullet in question is"* Various applicable constituent-specific comparison levels are provided on the tables for reference, specifically," *followed by a listing of relevant comparison levels, in which both DAF1 and DAF20 are included. This statement as written is true; both the DAF1 and DAF20 values are presented in the tables in question.*

To be conservative, BRC used the DAF1 value as a comparison level for protection of groundwater. As noted on page 2-11 "… to assess the potential for impacts to groundwater quality, chemical detections at the Site were also compared to the LBCL (Dilution Attenuation Factor 1; $LBCL_{DAF1}$) established for each chemical." *The text then provides discussions of all DAF1 exceedances. Consistent with the other SAPs, BRC did not enumerate the DAF20 exceedances. However, in case this information was of interest to the reader, both the DAF1 and DAF20 values are provided in the tables and Appendix C. No changes were made to the text in response to this comment.*

19. Page 2-10; 2nd bullet, 3rd sentence. The background reports that are currently approved document that chemical differences exist in soils derived from two geologic formations. Please clarify here.

Response: *The subject sentence has been revised on page 2-10 to reference the supplemental background investigations performed by BRC.*

20. Page 2-10; 2nd bullet, last sentence. Please make it clear which report is being referred to in this sentence.

Response: *The subject text has been revised on page 2-10 to more clearly reference the appropriate reports.*

21. Page 2-10; paragraph under bullets, last sentence. Please discuss the stockpiles and if they have been sampled. Please clarify how this SAP will address the stockpile material.

Response: *The subject text has been expanded to include a discussion of the temporary placement of soils/sediments from the TIMET Ponds, and the fact that neither they nor the underlying soils have been sampled to date.*

22. Page 2-11 to 2-20; Page 2-11, 2nd paragraph, 3rd sentence states that comparison to maximum background concentrations is more appropriate for several metals than using the BCL_{RS} and $LBCL_{DAF1}$. However on pages 2-12 to 2-20, only selected maximum background exceedances are reported. For example, for cadmium the text only states that three cadmium results were higher than maximum background when in fact there were a total of 13 maximum background exceedances. Please check all numbers provided.

Response: *Consistent with prior SAPs, the exceedances discussed in the text are* BCL_{RS} *exceedances and* $LBCL_{DAF1}$ *exceedances, with consideration of the maximum background concentration (i.e., focusing on those* BCL_{RS} *and* $LBCL_{DAF1}$ *exceedances that were higher than the maximum background concentrations). In general, this and other SAPs do not discuss all background exceedances; however, for reference, Table 1 includes the number of exceedances of the maximum background concentration for a given metal or radionuclide.*

*The cadmium discussion in question specifically stated "*These three cadmium results [*emphasis added*] are also higher than the 0.16 mg/kg maximum background concentration, and are associated with the following samples...*" The wording "[t]hese three cadmium results" refers back to the prior sentence, in which it is stated that "…three results exceeded the 0.4 mg/kg* $LBCL_{DAF1}$*." Except where otherwise noted, comparable tallies of background exceedances cited for other metals refer to* BCL_{RS}/$LBCL_{DAF1}$ *exceedances that also exceed the maximum background concentration.*

The sentence on page 2-11 has been revised to explain that in cases where the BCL_{RS} *and* $LBCL_{DAF1}$ *values were lower than background, the data evaluation focused on those* BCL_{RS} *and* $LBCL_{DAF1}$ *exceedances that were higher than the maximum background concentrations.*

23. Page 2-14; last paragraph under "Cadmium" section. Please change "BCLRS" to "BCL_{RS}".

Response: *The subject text has been revised on page 2-14 as requested.*

24. Page 2-18; 2nd sentence under "Mercury" section. Table 1 indicates that the BCL_{RS} is 23 mg/kg and not 13 mg/kg as reported in the text. Please clarify. Also in this section, the 1st sentence under the table should have the word "the" before BCL_{RS}.

Response: *The mercury* BCL_{RS} *is 23 mg/kg, as noted in Tables 1 and B-1. The text has been revised accordingly on page 2-18. The sentence that is the subject of the second issue in this comment has also been revised as requested.*

25. Page 2-20; 1st paragraph under table. This paragraph is confusing and can benefit from some rewording. In addition, the first instance of LBCL in this paragraph should be written as "$LBCL_{DAF1}$".

Response: *The subject text has been reworded on page 2-20, including the re-writing of "LBCL" as "$LBCL_{DAF1}$" in the first instance cited.*

26. Page 2-22; Volatile Organic Compounds, 2nd sentence. Please list the eight VOCs of concern.

Response: *Text has been revised on page 2-23 to include a listing of the eight VOCs detected.*

27. Page 2-23; Bullet list. Please also include 1,1-Dicholoroethylene in this list.

Response: *For context, the bullet list referenced in NDEP's comment pertains to VOCs for which reporting limits were "routinely" higher than the $LBCL_{DAF1}$. The compound 1,1-dichloroethylene had reporting limits ranging from 0.00056 mg/kg to 0.0054 mg/kg. While some of these reporting limits are higher than the 0.003 mg/kg $LBCL_{DAF1}$ (7 results; representing 29 percent of the samples), the majority were lower. However, in response to NDEP's comment, 1,1-dichloroethylene has been added to the bullet list.*

28. Page 2-23; Semi-Volatile Organic Compounds, 2nd sentence. Please list the nine SVOCs of concern.

Response: *Text has been revised on page 2-23 to include a listing of the nine SVOCs detected.*

29. Page 2-23; last sentence. Please change "3,3-dichlorobenzidine" to "3,3'-dichlorobenzidine". Also, please add 2,4-Dinitrotoluene to this sentence.

Response: *In the subject sentence, "3,3-dichlorobenzidine" has been changed to "3,3'-dichlorobenzidine." For context, the subject sentence provides a listing of SVOC non-detects for which the <u>standard</u> reporting limits were "routinely" higher than the BCL_{RS}. As inferred in NDEP's comment, the maximum reporting limit for 2,4-dinitrotoluene was higher than the BCL_{RS}. However, because the reporting limit was higher than the BCL_{RS} in only one instance, this constituent was not included in the listing. No changes were made in response to this comment.*

30. Page 2-24; Bullet list. Please include o-Cresol to this list.

Response: *For context, the bullet list provides a listing of SVOC non-detects for which the reporting limits were "routinely" higher than the $LBCL_{DAF1}$. As inferred in NDEP's comment, the maximum reporting limit for o-Cresol was higher than the $LBCL_{DAF1}$. However, because the reporting limit was higher than the $LBCL_{DAF1}$ in only two instances, this constituent was not included in the listing. No changes were made in response to this comment.*

31. Page 2-24; 2nd sentence under "Dioxins and Furans" section. The TEQ values might be underestimated, considering not all 4 samples were analyzed for all dioxins. Some further discussion and explanation is needed.

Response: *A footnote has been added to this section on page 2-25 to note that for samples WC-SW02 and WC-SW01 the calculated TEQ value may be underestimated, given that not all dioxin/furan congeners were included in the analysis and the TEQ calculations. This situation does not significantly affect the findings of this section, as these two samples exceeded the TEQ on the basis of the limited congeners reported.*

32. Page 2-27; last sentence before bullets. "comparison levels and background" should be changed to "comparison levels or background".

Response: *The comment refers to the following sentence: "Detections higher than comparison levels and background are summarized below for each radionuclide." In the bullets that follow this statement, the tallies of $BCL_{RS}/LBCL_{DAF1}$ exceedances are included (regardless of background), but the sample IDs with which they are associated are only provided for $BCL_{RS}/LBCL_{DAF1}$ exceedances that also exceed the maximum background concentration. Therefore, revising the sentence as suggested would be incorrect; no changes were made in response to this comment.*

33. Page 2-28; 1st paragraph under bullets, 1st and 2nd sentences. Some clarification is needed. The secular equilibrium test is not being applied to the historical data. Its introduction is somewhat unnecessary and somewhat confusing. Secular equilibrium can be introduced, and appeals then made to ad hoc comparison of the mean radionuclide concentrations, but given the NDEP guidance is not used on the historical data, this could be removed. Please clarify.

Response: *The subject text has been reworded on page 2-29 in response to this comment.*

34. Page 2-29; 1st set of bullets. Please present "Chromium" as "Chromium (Total)", "TCDD" as "TCDD TEQ", and write out the specific radionuclides that are being referenced here. Also, please use an asterisk or some other form of superscript to indicate which constituents exceed both BCL_{RS} and the maximum background concentration.

Response: *In the original text, the bullet list cited in NDEP's comment referred to those constituents that have been detected at concentrations higher than the BCL_{RS}, excluding those detected at concentrations lower than the maximum background concentration. Based on this comment, the bullet list has been expanded on pages 2-29 and 2-30 to include any constituent detected at a concentration in excess of the BCL_{RS}, regardless of how those detections compared to the maximum background concentration, and wording has been added to distinguish constituents for which detections did not exceed the maximum background concentration.*

35. Page 2-29; 2nd set of bullets. Please write out the specific radionuclides that are being referenced here. Please add magnesium and nickel to this list as well. Also, please use an

asterisk or some other form of superscript to indicate which constituents exceed both $LBCL_{DAF1}$ and the maximum background concentration.

Response: *The bullet list has been expanded on page 2-30 as noted in this and the prior comment.*

36. Page 2-29; Section 2.6.2. Please clarify which remediation is on-going (considering previous references to remediation for this Site indicate they will happen before sampling, but have not started). Please clarify how the stockpiles are included in the on-going remediation. It seems that more remediation is likely than described here given the presence of the stockpiles.

Response: *The sub-section has been revised on pages 2-30 and 2-31 to clarify the extent of on-going remediation, including a brief discussion of the TIMET Ponds soils/sediments that were temporarily stored at the Site.*

37. Page 2-30; Section 2.7, 1st sentence. Please specify if POD2 is referring to POD2-R in Figure 2. If not, POD2 cannot be found on Figure 2.

Response: *The reference is to POD2-R. This has been revised in the text and Table 2.*

38. Page 2-30; Section 2.7, 2nd sentence. Table 2 only indicates May 2008, not May through June 2008. Please clarify.

Response: *The text in question refers to the dates of the overall site monitoring event, which occurred during May and June 2008, whereas Table 2 refers to the sample dates specifically associated with wells POD2-R and POD8 (both collected in May 2008). The subject text has been revised slightly on page 2-31 for clarification.*

39. Page 2-31 to 2-32. The constituents listed under the "Inorganic Compounds" Section need to be checked so that the correct units are being reported in the text. For example, magnesium is reported in both *micro*grams/kg <u>and</u> *milli*grams/kg. Please fix.

Response: *Units presented in the subject section have been checked and revised where needed.*

40. Page 3-2; 3rd paragraph, 3rd sentence. Please reference Figure 3 at the end of this sentence.

Response: *The 4th sentence of the subject paragraph, which appeared more relevant than the 3rd sentence, has been revised on page 3-2 to include a reference to Figure 4 (formerly Figure 3).*

41. Page 3-3; Section 3.1.4, last sentence. Please change "housing development" to "housing developments".

Response: *The subject text has been revised on page 3-3 as suggested.*

42. Page 3-5; Bullet #2, 2nd sentence. This sentence is awkward and should be reworded. It is suggested that "...as a result..." be deleted.

***Response:** The subject text has been reworded on page 3-5 for clarity.*

43. Page 4-1; 1st paragraph. Paragraph suggests BRC intends to initiate remediation. Again, clarification is needed on the timing of remediation activities.

***Response:** See response to comment #1.*

44. Page 4-6; Section 4.4, 1st paragraph, 2nd sentence. Please note that SOP-16 is currently undergoing revision.

***Response:** SOP-16 was accepted by NDEP in a letter dated May 11, 2009, and is not currently undergoing revision. No changes were made in response to this comment.*

45. Page 4-6; Section 4.4, 2nd paragraph, 3rd sentence. The text "if none are present" seems strange given the sample design is presented on Figure 9. Does this mean that more samples might be added? It might also be worth noting that the biased locations chosen for flux chamber samples are from the ditch. In general, more description of the sampling plan and sample locations would be helpful.

***Response:** BRC does not plan to collect any additional flux samples beyond what is depicted in Figure 9. The subject text has been reworded on page 4-6 for clarity.*

46. Page 4-6; Section 4.4, 2nd paragraph, 5th sentence. Reference is made to testing the flux chamber samples for radon. It is not clear given the current status of the radon study that this will be the case. Please clarify.

***Response:** If the in-progress radon study indicates that radon testing should be removed from the analytical program, that adjustment will be made during the SAP sampling process. Until that time, BRC is retaining it in this SAP. No changes were made in response to this comment.*

47. Page 4-8; 2nd bullet. It seems that a specific method number should accompany the HPLC method that is being referenced.

***Response:** HPLC analyses have been historically performed using a proprietary laboratory method developed by Alpha Analytical. The text has been revised on page 4-8 for clarification.*

48. Page 5-2; Section 5.2.1. This Section should reference Section 4.5.

***Response:** A reference to Section 4.5 has been added to the subject section on page 5-2.*

49. Page 5-2; Section 5.2.2. Section 4.4 indicates that radon will be included in the flux chamber samples analyses. If this is the case, then the methods should be described here.

Response: *The subject text has been revised on page 5-2 to include radon analysis.*

50. Page 5-2; Section 5.2.3, 3rd sentence. Please change "Soil" to "soil".

Response: *The subject text has been revised on page 5-2 as suggested.*

51. Page 5-2; last sentence. Please identify the two SPLP sample locations that are in the most heavily impacted portions of the Site.

Response: *The subject text has been revised on page 5-2 to identify the two locations that are in areas of the Site known to be moderately impacted (wording changed).*

52. Table 2; Please indicate "USEPA" in the heading column for MCL.

Response: *Table 2 has been revised to include "USEPA" in the heading column for MCL.*

53. Table 3; The word "subsurface" is misspelled in several instances. Please fix.

Response: *Table 3 has been revised to correct the misspellings.*

54. Table 4; Footnotes G and H. Please remove the reference to Table 4 as this does not make sense.

Response: *The reference has been revised on Table 4 to refer to Table 3 in these footnotes.*

55. Figure 7; Please label each panel so that the Beta Ditch is highlighted.

Response: *Labeling of the Beta Ditch has been added to each of the panels of Figure 3 (formerly Figure 7).*

56. Figure C-13 and C-14; Notes Box. The residential BCL is listed as 23.5 mg/kg, but Table 1 indicates 23.0 mg/kg. Also, the LBCL (DAF1) is listed as 0.1 mg/kg on the figure, but Table 1 indicates 0.11 mg/kg. Please change to be consistent with previous figures.

Response: *Figures C-13 and C-14 have been revised to correct the listed BCL_{RS} to 23 mg/kg as suggested in NDEP's comment. However, the LBCL (DAF1) listed in the figures is consistent with Table 1 (both 0.1 mg/kg) and has not been changed. Note: the maximum background concentration (listed in the figures and in Table 1) is 0.11 mg/kg.*

REDLINE/STRIKE-OUT TEXT

1.0 INTRODUCTION

Basic Remediation Company (BRC) has prepared this Sampling and Analysis Plan (SAP) for the Spray Wheel sub-area. The SAP describes tasks for performance of confirmation sampling of Site soils and soil vapor flux in order to obtain a no further action determination (NFAD) for this area. The term NFAD is defined in the *Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3* (AOC3; Nevada Division of Environmental Protection [NDEP] 2006) in Section XVII.

This revision~~initial version~~ of the SAP, Revision 1, incorporates comments received from the NDEP, dated October 12, 2009, on Revision 0 of the Spray Wheel SAP, dated September 2009~~all previously submitted BMI Common Areas (Eastside) sub-area SAPs~~. The NDEP comments and BRC's response to these comments are ~~not~~ included in Appendix A. Also included in~~; however,~~ Appendix A is ~~provided as~~ a redline/strikeout version of the text showing the revisions from the September 2009 version of the SAP~~placeholder for consistency with these previous sub-area SAPs~~. An electronic version of the entire report, as well as original format files (MS Word and MS Excel) of all text and tables are included in Appendix B.

The Spray Wheel sub-area (hereinafter "the Site") represents one of several sub-areas of the BMI Common Areas (Eastside) located in Clark County, Nevada (Figure 1), and encompasses an area of approximately 125.6 acres (Figure 2).[1] The Site has been defined to coincide with the location of an evaporative agricultural-type mechanism that was historically operated by TIMET from 1983 to 1991 for the evaporative disposal of aqueous salt waste. The Site also includes unlined wastewater effluent evaporation/infiltration ponds (and an associated conveyance ditch) that were built and into which various plant wastewaters were discharged at the Site prior to Spray Wheel operation, from 1942 through 1976. This SAP relies upon information provided in the *BRC Closure Plan* for the BMI Common Areas (BRC *et al*. 2007; hereinafter "Closure Plan"). The main text of the 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~~site~~-related chemicals (Closure Plan Section 3);

[1] This acreage represents a revision to what was presented in the Closure Plan (128.7 acres), due to the reassignment of the land associated with the Utility Corridor sub-area from within the Site boundaries, which occurred subsequent to Closure Plan finalization.

- 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 of this SAP);
- 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);
- The data quality objectives (DQOs; Closure Plan Section 7; a DQO discussion specific to the Site is provided in Section 3 of this SAP);
- The remedial alternative study 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 and Section 10 for ecological); and
- Data quality assessment (DQA; Closure Plan Section 5).

For certain areas within the BMI Common Areas remediation ~~Remediation~~ is planned and/or ongoing ~~currently being conducted~~ based on existing Site data, and will be performed prior to conducting the site characterization activities proposed under this SAP; however, none is planned for this Site other than clearing of obvious contamination (*e.g.*, burn pits, stained soil, abandoned vehicles, and other debris) and the removal of materials from the TIMET Ponds sub-area that have been temporarily placed within the Site pending their ultimate disposal. These clearing activities will occur prior to implementing the procedures described in this SAP.

Because of the various factors discussed below, ~~(see Section 2.8). Therefore,~~ risk assessments for the Site will be conducted ~~primarily~~ using the data collected as part of this SAP, which has been designed to produce data representative of the conditions to which current ~~(non-remediation workers)~~ or future users would be exposed. The need for ~~additional~~ remediation will be primarily based on these ~~the~~ data, which represent a more robust sampling coverage than employed during the historical sampling events and can thus be more reliably used to delineate areas requiring remediation. ~~collected based on this SAP.~~

Validated, reliable historical data ~~associated with areas or depth intervals not affected by the remediation~~ will be used as appropriate to augment the dataset derived from the SAP activities.[2] However, the following data gaps associated with the existing Site characterization have been identified: many of the previous samples were composite samples; many of the previous soil samples from within the uppermost 10 feet below ground surface (bgs) were collected more than eight years ago; few of the previous samples have been analyzed for all of the major chemicals or chemical families and several analyses used different analytical methods than established in the current analytical program for the BMI Common Areas; and no vapor flux samples have been collected. Much of the historical data is associated with soil intervals that will be excavated during remediation and will not represent conditions to which future Site~~site~~ users would be exposed. Furthermore, the historical data represent incomplete coverage for certain constituents and will be redundant for others after implementation of this SAP. Therefore, BRC anticipates that the historical data will not generally be included in the risk assessment. However, a data usability evaluation will be conducted to determine whether any of the historical data can or should be used in the risk assessment or it will be explained why the new data supplants the old data. These historical data are useful for CSM purposes and are discussed in Section 2.0.

Sampling performed as described in this SAP relies on the statistical methodologies presented in the *Statistical Methodology Report* (NewFields 2006). The Statistical Methodology Report describes the statistical methods that will be used to confirm the final soils closure at each of the Eastside sub-areas of the BMI Common Areas.

The SAP presents sampling procedures that will be performed to assess Site~~site~~ conditions in soils and soil vapor flux at the Site after remediation has been performed. As described in the Closure Plan, this information will be used to determine potential impacts to current ~~(non-remediation workers)~~ or future Site users from chemicals present in Site~~site~~ soils and whether ~~additional~~ remediation is needed to achieve cleanup goals. In this SAP, as recommended in the Statistical Methodology Report, soil samples will be collected throughout the Site on a systematic sampling basis. This random sampling consists~~, consisting~~ of a regular 3-acre grid overlay across the property with a randomly placed sample within each grid cell. The goal of this sampling is to provide enough samples for 1) completion of a statistically robust assessment of contaminant distribution, and subsequently, 2) to provide a robust dataset upon which to perform a human health risk assessment. Additional biased sampling locations will be selected within or

[2] Only those historical data that are representative of the conditions to which current (non-remediation workers) or future users would be exposed (*i.e.*, excluding data associated with soils removed from the Site prior to the risk assessment) and that pass a data usability evaluation will be included in the risk assessment for the Site.

near small-scale contamination points of interest, including but not limited to previous debris locations, locations of temporary remediation waste storage (*i.e*., dewatered soils/sediments from the former TIMET Ponds), ponds, berm walls, and the conveyance ditch. Soil vapor flux samples will be collected from a subset of the soil sampling locations (that is, one sample within each grid cell).

1.1 PURPOSE OF THE SAP

The purpose of this SAP is to evaluate soil and soil vapor conditions (including any indirect impacts from underlying groundwater) that may have been impacted at the Site from former activities and adjoining lands. The scope of this investigation is limited to soil and soil vapor flux sampling in an effort to assess issues that might directly impact Site development potential, consistent with the Closure Plan. However, the data will be used to determine any impacts to groundwater from future Sitesite uses. That is, data will be collected to evaluate the soil-to-groundwater leaching pathway. The objective of the field investigation is to identify and characterize the distribution of Site-related chemicals (SRCs) such that the potential impacts from chemicals present in Sitesite soils to current (non-remediation workers) and future Site users can be determined through risk assessment. Surface and subsurface samples that will be collected are depth-discrete soil matrix samples and surface vapor flux samples. Although this SAP does include data collection for evaluating groundwater as a potential source to the vapor intrusion pathway, it does not address potential groundwater issues, which are being investigated separately by BRC pursuant to AOC3 (NDEP 2006) as part of an overall evaluation of the BMI Common Areas. The investigation is designed to provide sufficient data to support risk-based decisions (including decisions to seek an NFAD) for the Site. The NFAD for the Site will contain a deed restriction precluding potable use of groundwater beneath the Site.

2.0 CONCEPTUAL SITE MODEL

The following sections provide information about the Site, previous investigations that have been conducted at the Site, interim remedial measures (IRMs) that have occurred, and the existing Site dataset. An overview of the CSM for the Site is provided in the Closure Plan. Consistent with the structure of prior SAPs, this section includes a summary of the investigations performed at the Site during the following primary project phases: prior to any remedial activitiesIRM performance (Section 2.4); remedial activities affecting the Site during or immediately following any IRMs (Section 2.56); and chemical occurrence patterns based on historical data subsequent to IRM performance (Section 2.6). 7).

As discussed later in this section, IRMs have not been performed to date within the Site. However, soils/sediments removed from the TIMET Pondsother sub-areaareas within the BMI Common Areas have been temporarily stored within the Site pending their ultimate disposal; these will be removed from , and BRC intends to initiate remediation within the Site based on the Site prior to conducting findings of historical sampling in accordance with the *Corrective Action Plan* (CAP; BRC 2006). The timing of this remediation may be prior to SAP approval. In terms of sampling data pertinent to Site conditions, this SAP provides only the data collected prior to these remediation activities.

2.1 SITE DESCRIPTION

The Site (Figure 2) is approximately 125.6 acres in size, and is gently sloping to the northeast. The Site boundaries have been defined to coincide with the former site of an evaporative agricultural-type mechanism that was operated by TIMET for the evaporative disposal of aqueous salt waste from 1983 to 1991. Prior to that time, from 1942 through 1976, companies operating at the BMI Complex conveyed and disposed of operations effluent and cooling water to effluent ponds in the BMI Common Areas; some of these former ponds lay within the Site boundaries. The Sitesite contains the remnants of these unlined wastewater effluent evaporation/infiltration ponds[3] and a portion of an associated conveyance ditch used for that purpose. The traces of individual effluent ponds (approximately 2 to 6 acres in size) are still visible in aerial photographs (Figures 2 and 3). The effluent ponds were once defined by berms along the north, east, and west sides; however, in preparation for and due to the operation of the spray wheel mechanism, the ground surface within the Site was regraded, and these berms currently have limited surficial expression.

As seen on Figures 1 and 2, the Utility Corridor sub-area transects the Site. Within most of the Site, the Utility Corridor sub-area is located adjacent to and east of the Beta Ditch, but it is redirected across the Beta Ditch and to the northwest in the uppermost portion of the Site. The Utility Corridor sub-area consists of a 50-foot wide ditch, which starts at the sewer alignment excavation north of Parcel 4B, and extends to the north, in order, through the Staging, First Eight Rows, Spray Wheel, Upper Ponds, and Galleria North sub-areas until it meets up with the tie-in location at the City of Henderson Water Reclamation Facility (WRF) (see Figure 1). The Utility Corridor sub-area was defined subsequent to the final BRC Closure Plan to allow expedited characterization and remediation in order to facilitate the installation of a new 48-inch sewer line along this alignment. An NFAD was received from NDEP for the Utility Corridor sub-area on September 4, 2009, for commercial or industrial land use generally for site soils above 10 feet below ground. Detailed discussions and data presentation/review for the Utility Corridor sub-area are presented in the *Data Review and Human Health Risk Assessment for the Utility Corridor Sub-Area* (BRC 2009; In Revision).

The Site was undeveloped desert land until the construction of the effluent evaporation/infiltration ponds and associated conveyance ditches and, later, the Spray Wheel. Since 1991, the Site has been vacant and unused, except for temporary placement~~stockpiling~~ of soils/sediments removed from the TIMET Ponds sub-area~~other Eastside areas~~, as discussed later in this section. The native soils are compacted, poorly-sorted, non-plastic, light brown to red silty sand with varying amounts of gravel. Within individual effluent evaporation/infiltration ponds at

[3] The Closure Plan and historical documents associated with the BMI Common Areas distinguish two primary sets of ponds in the Common Areas that are associated with historical conveyance and/or disposal operations: the “Upper Ponds” and the “Lower Ponds”. The pond row labels shown on Figure 1 distinguish between the two; the 18 rows of Upper Ponds are labeled with a “U” followed by a letter (A through R) and the ten rows of Lower Ponds are labeled with an “L” followed by a letter (A through J). The Upper Ponds are the basis of the name applied to the Upper Ponds sub-area; but the Upper Ponds sub-area does not encompass all of the Upper Ponds, rather only the northern half of the Upper Ponds, which had little to no historical usage (the southern portion of the Upper Ponds are within the First Eight Rows [Phases I and II], TIMET Ponds, and Spray Wheel sub-areas). The Lower Ponds are located further north on the BMI Common Areas, within the Western Hook-Development and Western Hook-Open Space sub-areas, and were previously located within the footprint of the City of Henderson WRF prior to its construction, during which they were regraded.

the Site, surficial material consists of very fine material that grades in color from greenish-gray to light yellowish-brown; in places, the ground surface is white. This discolored material has been interpreted to be residual sediment associated with historic effluent disposal in the ponds. This material/discoloration is primarily evident at the Site in former ponds directly adjacent to the Beta Ditch. The presence of this material is consistent with the use of these former ponds for historical wastewater discharge, which is further supported by historical aerial photographs that show evidence of fluids within the ponds (Figure 3 shows representative evidence of these fluids, but does not does not represent all evidence, which can be seen to vary in historical aerial photos from 1950 to 1976).

Exposures to current receptors (*i.e.*, trespassers/visitors, occasional on-site workers, and off-site residents) are being managed through Site site access control. Under the prospective redevelopment plan, the Site may be used for a variety of potential purposes. Residential land use (low and medium density) with roads, parks and trails interspersed, is currently planned for the Site (Figure 4). The entire Site will be enhanced by restoration and redevelopment once remediation is complete. Therefore, exposures to ecological receptors will be mitigated or removed (see Section 10 of the Closure Plan). Future receptors identified as “on-site receptors” are defined as receptors located within the current Site boundaries (Figure 2), while future “off-site receptors” are those located outside the 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 9 of the Closure Plan.

The current development plan for the Site is shown on Figure 43. To construct these facilities, the land will be cut and/or filled, paved with roads or foundations, and nurtured with imported soils from other areas within the BMI Common Areas [4] as needed. Figure 54 shows the current grading plan for the Site, indicating which areas will be filled and which areas will be cut.

Because the background general water quality (*i.e.*, high salt concentrations) of the groundwater beneath the Site and in the surrounding area is poor and because BRC will place institutional controls 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 or parks for drinking water, irrigation

[4] Note: Imported soil data will not be included in risk assessment calculations. However, the chemical data for fill material from the Site may be useful for evaluating sub-areas to receive this fill (that is, imported fill that may be used at the Site will have been included in risk assessments for sub-areas where the fill was obtained).

water, or other non-potable uses (*e.g.*, washing cars, filling swimming pools) will not occur in the post-redevelopment phase.

Although direct exposures to groundwater will not occur; indirect exposures are possible. The primary indirect exposure pathway from groundwater is the infiltration of volatile organic compounds (VOCs) and radon from soil and groundwater to indoor air. In addition, residual levels of chemicals in soil may leach and impact groundwater quality beneath the Site. Collection of data to evaluate both of these migration pathways at the Site is presented in this SAP.

The Site is surrounded on all sides by Eastside sub-areas as follows:

North half of Site
- The Upper Ponds sub-area (283.3 acres[5])

South half of Site
- The TIMET Ponds sub-area to the west (209.9 acres); and
- The First Eight Rows Phase II sub-area to the east (124.4 acres[6])

Chemicals historically detected in these sub-areas are similar to those found at the Site.

The phased remediation schedule for Eastside calls for the Upper Ponds sub-area to be remediated concurrent with or prior to remediation at the Site. After sampling is performed in accordance with approved SAPs for that sub-area to delineate locations requiring remediation, adequacy of remediation will be evaluated by human health risk assessment.

Remediation of the TIMET Ponds and the First Eight Rows sub-areas is scheduled to be finalized after remediation of the Site. Based on historical sampling, and as will be presented in the SAPs for those sub-areas, soils contain chemicals at concentrations greater than applicable comparison levels for protection of human health and groundwater protection (see Section 2.6). Remediation at those adjacent sub-areas involves major earth-moving activities and could result in a significant amount of airborne dispersion and/or overland runoff that could adversely affect

[5] This acreage estimate reflects a change from that presented in the Closure Plan (284.5 acres) that has resulted from the revision of site boundaries that occurred subsequent to Closure Plan finalization.

[6] The designation of two separate sub-areas within the First Eight Rows sub-area reflects a change from the sub-areas presented in the Closure Plan. For development purposes, the First Eight Rows sub-area as presented in the Closure Plan (201.5 acres) has been divided into two separate areas that will be addressed on separate schedules: the southeastern half (Phase I sub-area), which comprises approximately 77.1 acres, and the northwestern half (Phase II sub-area), which comprises approximately 124.4 acres. The acreage of the two subdivisions currently totals 201.5 acres; this revised acreage amount resulted from minor revision of site boundaries that occurred subsequent to Closure Plan finalization.

Site conditions if mitigation measures were not employed. However, potential8). Despite this timing, impacts from these areas to the Site during remediation activities are considered negligible because dust suppression/mitigation measures and storm water pollution prevention controls have been implemented at each sub-area undergoing remediation since remediation initiation are being and will be implemented during future remediation activities.[7] These dust suppression controls are implemented to comply with applicable air quality regulations and to impede the generation of airborne dust due to intrusive on-site activities. These control measures are discussed in detail in the *Corrective Action Plan* (CAP; (BRC 2006). In addition, emissions of particulate matter from the site are being monitored by BRC as described in the *Perimeter Air Monitoring Plan* (BRC 2008) to assess the effectiveness of these dust control measures.

At the time of this SAP submittal, the contents of the lined ponds in the TIMET Ponds sub-area are being excavated and transported to the Corrective Action Management Unit (CAMU) for disposal. For certain ponds, dewatering is being performed to reduce the moisture content to a level appropriate for placement into the CAMU. The Site has been used as a temporary staging area for these activities prior to the soils being transported to the CAMU. Some temporary soils/sediments placementsstockpiles created during these staging activities are evident as darkened areas on recentthe aerial photographs (Figuresphotograph provided in Figure 2 and 3).

2.2 SURFACE WATER

Surface water flow occurs for brief periods of time during periodic precipitation events. The nature of the unlined wastewater effluent evaporation/infiltration ponds and their construction currently serve to reduce overland transport of surface waters collected within the former Ponds area. Under current conditions, it is unlikely that contaminants in 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 one mile); (2) the presence of at least four rows of former effluent ponds with well-defined berms between the Site and the Wash; and (3) the intervening presence of the Weston Hills and Tuscany developments, the Henderson Water Reclamation Facility and northern rapid infiltration basins (RIBs) between the Site and the Wash. However,

[7] The possibility exists that airborne dispersion and/or overland transport of surface soils/sediments from other adjacent sub-areas could have historically resulted in contamination at the Spray Wheel sub-area. However, if this was in fact the case, the nature and extent of associated impacts would be evident from historical surface soil data, and/or the data to be collected under this SAP. The need for remediation of the Spray Wheel sub-area will be based on current chemical concentrations in Site soils regardless of the source of contamination, including airborne dispersion and overland transport, if any.

the presence of the drainage ditch transecting the Site suggests the current potential for rainfall to be carried from the Site to the Wash.

After development there will continue to be a low likelihood that contaminants in surface waters generated within the Site will migrate via overland transport to the Las Vegas Wash from the Site, because of (1) the removal of the Beta Ditch during remediation; (2) the large distance to the Wash; (3) the intervening presence of other developed properties; and (4) storm water features as part of the future development of the Site.

2.3 GEOLOGY/HYDROGEOLOGY

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 (ft/ft) 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 to the southeast and southwest of the Site, respectively. These uppermost alluvial sediments were deposited within the last two 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 30 to 50 feet thick at the Site with variations due, in part, to the non-uniform contact between the Qal and the underlying Upper Muddy Creek Formation (UMCf).

The UMCf underlies the Qal. The Muddy Creek formation, of which the UMCf 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 UMCf underlying the Site is typically fine-grained (sandy silt and clayey silt), although layers with increased sand content are sporadically encountered. These UMCf materials have typically low permeability, with hydraulic conductivities on the order of 10^{-6} to 10^{-8} centimeters per second (Weston 1993). The UMCf in the immediate vicinity of the Site was encountered at depths ranging from 51 feet to 74 ft bgs, and extending to the maximum explored depth of 400 feet bgs. Lithologic cross sections using Site-specific stratigraphic information are shown on Figures 6~~5~~ and 7~~6~~.

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 as the Shallow Zone[8]), and (2) a deep, confined water-bearing zone that occurs in a sandier depth interval within the silts of the deeper UMCf (referred to as the Deep Zone). Between these two distinct water-bearing zones, a series of saturated sand stringers were sporadically and unpredictably encountered during drilling (referred to as the Middle Zone).

The Shallow Zone is an unconfined, shallower, water-bearing zone that occurs across the BMI Common Areas. Within the Site boundaries, water in the Shallow Zone occurs in the Qal. The water surface in the Shallow Zone generally follows topography, with the water surface sloping towards the Las Vegas Wash. According to recent groundwater monitoring performed in April-May 2008 (BRC and MWH 2008) the depth from the surface to first groundwater at the Site is approximately 57 to 68 feet bgs. Wells completed in the Shallow Zone are not highly productive, with sustainable flows typically less than five gallons per minute. Chemical occurrence within this water-bearing zone, based on recent monitoring data associated with wells installed within and in the vicinity of the Site, is discussed in Section 2.7~~9~~.[9]

Groundwater seeps currently exist at various locations within the BMI Common Areas near the Las Vegas Wash. However, an evaluation of historical aerial photos taken between 1964 and 1970 indicates that seeps have historically appeared to the north of the Site (in the Western Hook-Open Space, Galleria North, and Sunset North Commercial sub-areas), and at nearby off-site locations, but not in the Site itself. Evidence of seeps was not observed in aerial photographs after 1972. The extent to which these former seeps historically affected contaminant transport (*e.g.*, by means of enhanced surface water transport to the Wash or upward migration into overlying soils) is unknown.

~~2.4~~ HISTORICAL SITE INVESTIGATIONS ~~PRIOR TO IRM PERFORMANCE~~

~~By definition, IRMs are "interim" remedial activities conducted at a given site, performed in advance of: (1) longer-term evaluations of applicable remedial options, (2) selection of a final remedy to address conditions at that site, and (3) implementation of that remedy. As noted in the introduction to this section, IRMs *per se* have not been performed to date within the Site, but~~

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[8] Note: hydrogeologic and lithologic nomenclature is based on NDEP (2009a).

[9] Chemical occurrence in both the shallow and deep water-bearing zones beneath the Eastside and CAMU areas is currently being characterized under a process separate from the Closure Plan process under which this SAP has been prepared, which focuses on site soils. This SAP summarizes chemical occurrence trends in the shallow water-bearing zone, which is more likely to affect potential users under current and future land uses. A more detailed presentation of chemical occurrence patterns within both zones will be provided upon completion of the on-going groundwater investigation, and the CSM for the Eastside and CAMU areas will be updated accordingly.

~~soils/sediments from within the lined ponds in the TIMET Ponds sub-area have been temporarily stockpiled at the Site pending their off-site removal to the CAMU, and BRC intends to initiate remediation at the Site in accordance with the CAP (BRC 2006 – *i.e.*, excavation and off-site removal to the CAMU) as soon as practical, possibly in advance of SAP finalization.~~

Shallow soil samples were collected within the Site ~~prior to initiation of remediation activities~~ during six separate events. The sample locations associated with these events are depicted in Figure 2; the results of these field sampling events are summarized in the database excerpt provided in Appendix B. These sampling events are as follows:

- The BMI Common Areas Environmental Conditions Investigation (ECI) conducted during March and April 1996 (dataset 1a). The soil investigation activities were performed in accordance with a work plan approved by NDEP in February 1996 (ERM 1996a). The soil sampling results for the investigation activities were presented in the ECI report (ERM 1996b), which was approved by NDEP in March 1997. Data validation results are presented in the Data Validation Summary Report (DVSR) for dataset 1a (ERM 2006a), which was approved by NDEP on September 12, 2006;

- Supplemental soil investigation conducted in October 1999 (dataset 6d) in the Upper Ponds. These data were not collected under a formal NDEP-approved work plan. Data validation results are presented in the DVSR for dataset 6d (ERM 2006b), which was approved by NDEP on October 10, 2006.

- Supplemental soil investigation conducted in May 2000 (dataset 12) in the vicinity of the TIMET Spray Wheel to assess chemical occurrence at depth; the only location sampled within the Site was B-16, which lies within former pond PUN-04. These data were not collected under a formal NDEP-approved work plan. Data validation results are presented in the DVSR for dataset 12 (MWH 2006a), which was approved by NDEP on October 25, 2006;

- Deep soil characterization conducted in June/July 2004 during monitoring well installation at one on-site location (SB-16-B) as part of the overall Eastside 2004 Hydrologic Characterization Investigation (dataset 27). The soil investigation activities were performed in accordance with a work plan submitted in December 2003 (MWH 2003) and approved by NDEP in January 2004. The sampling results for the investigation activities were presented in the 2004 version of the BRC Closure Plan, which was not approved by NDEP. Data validation results are presented in the DVSR for dataset 27 (MWH 2006b), which was approved by NDEP on August 31, 2006.

- Supplemental soil investigation conducted in April 2005 (dataset 33) in the vicinity of the TIMET Spray Wheel to generate depth profiles for alkalinity, chloride, sulfate, calcium, magnesium, potassium and sodium. These data were not collected under a formal NDEP-approved work plan. Data validation results are presented in the DVSR for dataset 33 (MWH 2006c), which was approved by NDEP on September 26, 2006.

- Waste characterization sampling conducted in July and August 2006 (dataset 39) from throughout the BMI Common Areas (Eastside) in order to address certain regulatory requirements pertaining to their anticipated excavation and placement into the CAMU. The soil investigation activities were performed in accordance with BRC's SAP submitted on June 29, 2006, and approved by NDEP in July 2006. The soil sampling results for the investigation activities were previously presented in the *Remedial Action Plan* (RAP; BRC 2007), which was approved by NDEP on September 24, 2007. Data validation results are presented in the DVSR for dataset 39 (MWH 2006d), which was approved by NDEP on November 3, 2006.

During these investigations, soil samples at various depths were collected and analyzed for general chemistry, VOCs, semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), organochlorine pesticides, organophosphorus pesticides, alcohols, aldehydes, dioxins/furans, organic acids, metals, perchlorate, and/or radionuclides. As seen on Figure 2, the majority of these samples represent a combination of discrete and were composite samples. The results of these field sampling events are provided in the database excerpt provided in Appendix B, and are summarized in Section 2.68.

In other Eastside SAPs, historical investigations were discussed in terms of when they were conducted relative to IRM performance. The purpose of this was to segregate data that might no longer be considered representative of Site conditions (*i.e.*, because it was subsequently excavated). By definition, IRMs are "interim" remedial activities conducted at a given site, performed in advance of: (1) longer-term evaluations of applicable remedial options, (2) selection of a final remedy to address conditions at that site, and (3) implementation of that remedy. As noted in the introduction to this section, IRMs *per se* have not been performed to date within the Site, but soils/sediments from within the lined ponds in the TIMET Ponds sub-area have been temporarily placed at the Site pending their off-site removal to the CAMU (see Section 2.5).

2.4 INTERIM REMEDIAL ACTIVITIES ASSOCIATED WITH THE SITE

2.5 MEASURES (IRMs)

To date, the remedial activities affecting the Site that have been performed as part of the overall Eastside remediation effort are involved with the dewatering and removal of soils/sediments from the TIMET Ponds. In the Summer of 2008, remediation activities were initiated in the TIMET Ponds sub-area in accordance with the NDEP-approved CAP, and have involved:

- Excavation of soils or dried pond sediments from various locations within that sub-area, and transportation of those soils/sediments to either (1) the off-site CAMU, or, (2) to the Site, where they were temporarily staged prior to their ultimate disposal in the CAMU; and
- Dewatering of the contents of certain ponds, which involved removal of those sediments from the lined ponds, spreading those sediments in a thin layer on the ground surface in selected areas of the Site and other sub-areas, and, once dried, transportation of those dewatered soils/sediments to the off-site CAMU.

Some temporary soils/sedimentsstockpiles and sediment drying areas created during these activities are evident as darkened areas on the 2008 aerial photograph provided in Figure 37, but staging areas within the Site are and have been routinely changed throughout the TIMET Pond soil staging process. The ;. As of the date of this SAP the temporary soils/sediments placementsstockpiles originating from the TIMET Ponds sub-area will have mostly been removed to the CAMU prior to sampling performed in accordance with this SAP.

2.5 CHEMICAL DISTRIBUTION WITHIN SOILS

A summary of historic, compound-specific soil chemical data for the Site from surface to 10 feet bgs is presented in Table 1.[10] Location-specific historical sampling results associated with the Site, including depth intervals deeper than 10 feet bgs, are provided in Appendix B, Tables B-1 through B-11, and included electronically in Appendix B. Sample locations are shown on

[10] Although the Utility Corridor sub-area crosses the Site, because this is a different sub-area, with different land use considerations, and an NFAD, data associated with the Utility Corridor sub-area are not included in Table 1 or this summary of Site data. Utility Corridor sub-area data are included on the figures in Appendix C.

Figure 2. Various applicable constituent-specific comparison levels are provided on the tables for reference, specifically:

- NDEP Basic Comparison Levels (BCLs) for residential soil (NDEP 2009b), hereinafter "BCL_{RS}",
- NDEP BCLs for protection of groundwater (LBCL), assuming dilution attenuation factors (DAF) of 1 and 20 (NDEP 2009b), hereinafter "LBCL", and
- The maximum background concentration (for metals and radionuclides only), derived from the background soil dataset for the BMI Common Areas presented in *Background Shallow Soil Summary Report, BMI Complex and Common Areas Vicinity* (BRC/TIMET 2007), which was approved by NDEP on July 26, 2007. Establishment of background conditions for the BMI Common Areas project is complicated by the unique geologic conditions in the area, specifically, the BMI Common Areas location at the confluence of alluvial fan deposits from the McCullough Range to the southwest and the River Mountains to the east. A recent supplemental background investigation performed by BRC has determined that~~Efforts are currently underway to determine whether~~ chemical differences exist in soils derived from the two geologic formations (*2008 Supplemental Shallow Soil Background Report*; BRC and ERM 2009a). The Site appears to be underlain by sediments that are derived from the McCullough Range. Therefore, background ~~Background~~ conditions at the Site are expected to be comparable those presented in the BRC/TIMET (2007) background ~~this~~ report, which are also primarily associated with alluvial fan deposits derived from the McCullough Range. As such, the maximum background concentrations provided in Tables 1, B-1 and B-9 are applicable comparison values.

It should be noted that ~~with the remediation activities currently being conducted at the Site in accordance with the CAP,~~ the summary tables and chemical distribution figures and summaries presented later in this section do not reflect current conditions (*i.e.*, conditions at the time of this SAP submittal) because samples have not been collected in soils/sediments temporarily stored at the Site or in surface soils located beneath these placements. As discussed in Section 4.1, this SAP includes sampling beneath these temporary placement locations after their removal. Although~~). However,~~ these data summaries are incomplete in this regard, they are provided to present the known nature of impacts at the Site such that the adequacy of the sampling program in this SAP can be demonstrated for other areas of concern.

Figures showing the historical distribution of various representative chemicals at the Site are presented in Appendix C. SRCs were generally selected for graphical depictions if (1) a sufficient number of analyses for that constituent were performed; (2) multiple BCL_{RS} exceedances were observed for that constituent at concentrations in excess of background concentrations; and/or (3) an appreciable number of LBCL exceedances were observed for that constituent at concentrations in excess of background concentrations. For organochlorine pesticides and radionuclides, a single representative constituent was selected for graphical displays. Using these criteria, chemical occurrence figures were prepared for the following constituents, which are discussed in greater detail below along with all constituents reported at concentrations in excess of their BCL_{RS} or LBCL:

Constituent	Soil Depth	Figure No.
Antimony	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-1 Figure C-2
Arsenic	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-3 Figure C-4
Barium	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-5 Figure C-6
Chromium	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-7 Figure C-8
Iron	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-9 Figure C-10
Lead	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-11 Figure C-12

Constituent	Soil Depth	Figure No.
Mercury	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-13 Figure C-14
Vanadium	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-15 Figure C-16
Perchlorate	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-17 Figure C-18
4,4-DDE	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-19 Figure C-20
Hexachloro-benzene	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-21 Figure C-22
Radium-226	0 to 2 ft bgs 3 to 10 ft bgs	Figure C-23 Figure C-24

These figures also include samples within the Utility Corridor sub-area, as well as all results within 1,000 feet of the Site from the adjacent sub-areas to provide information on the current upgradient, downgradient, and cross-gradient conditions.

Unless otherwise noted, to assess the potential threat to human health, chemical detections were compared to the BCL_{RS}. In addition, to assess the potential for impacts to groundwater quality, chemical detections at the Site were also compared to the LBCL (Dilution Attenuation Factor 1; $LBCL_{DAF1}$) established for each chemical. However, it should be noted that the maximum reported background concentrations[11] for several metals (for example, arsenic) are appreciably higher than the comparison levels. In these cases, the evaluations focused on those BCL_{RS} and $LBCL_{DAF1}$ exceedances that were higher than the maximum ; therefore, comparison to background concentrations is more appropriate for these metals than using the BCL_{RS} and $LBCL_{DAF1}$ as points of comparison. Chemical occurrence patterns for the chemicals detected at concentrations in excess of comparison levels, in samples collected from surface to 10 feet bgs, are provided below.

Aluminum

Aluminum was detected in both of the soil samples in which it was analyzed (one surface[12] and one subsurface sample from SB-14A; Table B-1). Neither of these detections were higher than the 77,200 mg/kg BCL_{RS}. However, both exceeded the 75 mg/kg $LBCL_{DAF1}$ (maximum detection 10,700 mg/kg in the surface soil sample). Both detections were lower than the 15,300 mg/kg maximum background detection.

Antimony

Of the 12 Site soil samples in which antimony was analyzed (10 surface and 2 subsurface samples; Table B-1), antimony was detected in only four (approximately 33 percent). All of the detections were lower than the 31 mg/kg BCL_{RS}, but were higher than the 0.3 mg/kg $LBCL_{DAF1}$ and the 0.5 mg/kg maximum background concentration. The detections were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUG-09	0	1
PUH-07	0	1.2
PUI-08	0	1.5
PUF-10	0	3.4

It should be noted that the standard reporting limits employed during the historical sampling events are often higher than the $LBCL_{DAF1}$, and it is unknown whether antimony is also present

[11] Values used are the maximum from the shallow soils background dataset presented in the *Background Shallow Soil Summary Report, BMI Complex and Common Area Vicinity* (BRC/TIMET 2007).
[12] Surface samples are defined as those collected from the surface to 2 feet bgs; subsurface samples are defined as those collected from depths great than 2 feet bgs.

in those samples at concentrations in excess of the $LBCL_{DAF1}$. The reporting limits were sufficiently low such that concentrations in excess of the BCL_{RS}, if present, would have been reported. The distribution of antimony for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-1 and C-2, respectively.

Arsenic

Of the 37 Site soil samples in which arsenic was analyzed (20 surface and 17 subsurface samples; Table B-1), arsenic was detected in approximately 81 percent (30 samples). All of the detections were higher than the 0.39 mg/kg BCL_{RS} and the 1 mg/kg $LBCL_{DAF1}$. Thirteen samples had reported arsenic concentrations in excess of the maximum shallow soil background level (7.2 mg/kg; from BRC/TIMET 2007). These background exceedances are associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-15	2	9.2
B-12	5	9.7
BDB-17	0	10
PUK-09	0	12
BDB-17	5	14
PUJ-07	5	18
PUF-07	5	21

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUJ-07	0	41
PUF-07	0	42
PUG-08	0	47
PUH-08	0	62
PUG-09	0	65
B-13	2	90

The reporting limits for the seven non-detections were sufficiently low such that detections greater than background, if present, would have been reported. The distribution of arsenic for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-3 and C-4, respectively.

Barium

Barium was detected in all 37 of the Site soil samples in which it was analyzed (20 surface and 17 subsurface samples; Table B-1). None of the detections were higher than the 15,300 mg/kg BCL_{RS}, but all of the barium detections exceeded the 82 mg/kg $LBCL_{DAF1}$. However, only five of the detections exceeded the maximum background concentration of 836 mg/kg. These five samples with barium detections greater than background, were as follows:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	1400
PUF-07	5	1900
PUF-07	0	3700

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUG-08	0	5300
B-13	2	6500

The distribution of barium for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-5 and C-6, respectively.

Cadmium

Of the 33 Site soil samples in which cadmium was analyzed (16 surface and 17 subsurface samples; Table B-1), it was detected in 13 (approximately 39 percent). None of the detections were higher than the 39 mg/kg BCL_{RS}, but three results exceeded the 0.4 mg/kg $LBCL_{DAF1}$. These three cadmium results are also higher than the 0.16 mg/kg maximum background concentration, and are associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-11	5	0.42
PUG-08	5	0.46
B-13	2	1.4

It should be noted that many of the reporting limits employed during the historical sampling events are higher than the $LBCL_{DAF1}$ and maximum background concentration, and it is unknown whether cadmium is also present in those samples at concentrations in excess of the $LBCL_{DAF1}$/maximum background concentration. The reporting limits were sufficiently low such that concentrations in excess of the BCLRS, if present, would have been reported.

Chromium

Chromium was detected in all but one of the 38 Site soil samples in which it was analyzed (21 surface and 17 subsurface samples; Table B-1). Nine of the detections were higher than the 240 mg/kg BCL_{RS}; these detections are associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-13	2	270

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUK-09	0	460

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	320
PUF-10	0	340
PUG-09	0	360
PUJ-07	0	360

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUI-08	0	660
PUF-07	0	680
PUG-08	0	860

In addition, all of the chromium detections were higher than the 2 mg/kg $LBCL_{DAF1}$ and 24 detections were higher than the 16.7 mg/kg maximum background detection. These 24 chromium exceedances higher than background, including those listed above, are associated with the following locations:

Sample ID	Depth (ft bgs)
B-11	2
B-11	5
B-12	2
B-12	5
B-13	2
B-14	2
B-14	5
B-15	2

Sample ID	Depth (ft bgs)
B-15	5
BDB-16	0
BDB-17	0
BDB-18	5
PUF-07	0
PUF-10	0
PUG-08	0
PUG-08	5

Sample ID	Depth (ft bgs)
PUG-09	0
PUH-07	0
PUH-08	0
PUH-09	0
PUI-08	0
PUI-09	0
PUJ-07	0
PUK-09	0

The distribution of chromium for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-7 and C-8, respectively.

Chromium (VI)

Hexavalent chromium was detected in four of the twelve Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 230 mg/kg BCL_{RS}. However, two detections were higher than the 2 mg/kg $LBCL_{DAF1}$. These two exceedances are associated with samples collected from 2 ft bgs at locations B-12 and B-13 (6.16 mg/kg and 3.84 mg/kg, respectively). These two detections were also higher than the 0.251 mg/kg maximum background detection.

Copper

Copper was detected in all twelve of the Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 2,910 mg/kg BCL_{RS}. However, three detections were higher than the 35 mg/kg $LBCL_{DAF1}$. These three LBCL exceedances were also higher than the 30.5 mg/kg maximum background detection, and are as follows:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-12	5	65
B-13	2	87
B-11	2	140

Iron

Iron was detected in all twelve of the Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 54,800 mg/kg BCL_{RS}. However, all of the detections were higher than the 7.5 mg/kg $LBCL_{DAF1}$ and all but two of the detections were higher than the 19,700 mg/kg maximum background detection; these background exceedances are as follows:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-11	5	20000
B-12	5	20000
SB-14-A	0	20300
B-14	5	21000
B-12	2	21000

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
B-15	5	22000
B-15	2	22000
B-13	2	22000
B-14	2	23000
B-11	2	24000

The distribution of iron for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-9 and C-10, respectively.

Lead

Lead was detected in all 38 of the Site soil samples in which it was analyzed (21 surface and 17 subsurface samples; Table B-1). Four of these detections were higher than the

400 mg/kg BCL_{RS}; a $LBCL_{DAF1}$ has not been established for this constituent. These four exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUF-07	0	410
PUH-08	0	410
B-13	2	2400
PUG-08	0	3000

All of the above exceedances were higher than the maximum background concentration for lead (35.1 mg/kg). The distribution of lead for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-11 and C-12, respectively.

Magnesium

Magnesium was detected in all but one of the 107 Site soil samples in which it was analyzed (36 surface and 71 subsurface samples; Table B-1). None of the detections were higher than the 100,000 mg/kg BCL_{RS}. However, forty detections were higher than the 649 mg/kg $LBCL_{DAF1}$. (maximum detection 14,000 mg/kg in the 5 ft bgs sample from B-11 and the 2 ft bgs sample from B-13). These $LBCL_{DAF1}$ exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)
B-11	2
B-11	5
B-12	2
B-12	5
B-13	5
B-13	2
B-14	2
B-14	5
B-15	2
B-15	5
SB-14-A	7
SB-14-A	0
SWB-1	10
SWB-12	10

Sample ID	Depth (ft bgs)
SWB-13	10
SWB-15	10
SWB-16	10
SWB-18	5
SWB-18	10
SWB-19	10
SWB-2	5
SWB-2	10
SWB-20	10
SWB-21	10
SWB-22	10
SWB-25	10
SWB-26	5

Sample ID	Depth (ft bgs)
SWB-26	10
SWB-27	10
SWB-27	5
SWB-28	10
SWB-32	10
SWB-33	10
SWB-4	5
SWB-4	10
SWB-5	10
SWB-6	10
SWB-8	10
SWB-9	5
SWB-9	10

All of the magnesium detections were lower than the 17,500 mg/kg maximum background detection.

Manganese

Manganese was detected in all 22 of the Site soil samples in which it was analyzed (15 surface and 7 subsurface samples; Table B-1). Of these detections, two were higher than the 1,080 mg/kg $BCL_{RS.}$ These two BCL_{RS} exceedances are associated with samples collected from 5 ft bgs at B-12 (1,800 mg/kg) and 2 ft bgs at B-13 (3,700 mg/kg). In addition, all of the detections were higher than the 3.3 mg/kg $LBCL_{DAF1}$. With the exception of the two BCL_{RS} exceedances above, the manganese detections were lower than the maximum background concentration for manganese (1,090 mg/kg).

Mercury

Of the 33 Site soil samples in which mercury was analyzed (16 surface and 17 subsurface samples; Table B-1), it was detected in approximately 24 percent (8 samples). None of the detections were higher than the 23~~13~~ mg/kg BCL_{RS}, but six results exceeded the 0.1 mg/kg $LBCL_{DAF1}$. Five of these mercury BCL_{RS} exceedances were also higher than the 0.11 mg/kg maximum background concentration. These five exceedances are associated with the following:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUJ-07	0	0.22
B-15	2	0.27
B-13	2	0.3
PUF-07	0	0.43
PUG-08	0	1.2

The reporting limits for non-detections were generally lower than the BCL_{RS} and the $LBCL_{DAF1}$ such that concentrations in excess of these screening levels, if present, would have been reported. The distribution of mercury for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-13 and C-14, respectively.

Molybdenum

Molybdenum was detected in ten of the twelve Site soil samples in which it was analyzed (6 surface and 6 subsurface samples; Table B-1). None of the detections were higher than the 390 mg/kg BCL_{RS}. However, two detections were higher than the 3.6 mg/kg $LBCL_{DAF1}$ (samples collected from 2 feet bgs from B-11 and B-13, 15 mg/kg and 20 mg/kg, respectively). These two detections were also higher than the 2 mg/kg maximum background detection.

Nickel

Nickel was detected in both of the Site soil samples in which it was analyzed (one surface and one 7 ft bgs sample from SB-14-A; Table B-1). Neither of these detections (16 mg/kg and 13 mg/kg, respectively) exceeded the 1,540 mg/kg BCL_{RS}, however, both were higher than the 7 mg/kg $LBCL_{DAF1}$. Both of the detections were lower than the maximum background concentration for nickel (30 mg/kg).

Selenium

Of the 33 Site soil samples in which it was analyzed (16 surface and 17 subsurface samples; Table B-1), selenium was reported in only two samples (approximately 6 percent). These two samples were surface soil samples collected from within former ponds PUF-07 and PUG-08 (4.7 mg/kg and 9 mg/kg, respectively). Neither of the detections were higher than the 390 mg/kg BCL_{RS}; however, both were higher than the 0.3 mg/kg $LBCL_{DAF1}$. These two exceedances were also higher than the 0.6 mg/kg maximum background concentration for selenium. The standard reporting limits employed during the historical sampling events are higher than the $LBCL_{DAF1}$ (and the background range in many cases), and it is unknown whether selenium is also present in those samples at concentrations in excess of the $LBCL_{DAF1}$ (or background). The reporting limits were sufficiently low such that concentrations in excess of the BCL_{RS}, if present, would have been reported.

Silver

Of the 33 Site soil samples in which it was analyzed (16 surface and 17 subsurface samples; Table B-1), silver was reported in only five samples (approximately 15 percent). None of the detections were higher than the 390 mg/kg BCL_{RS}; however, two of the detections were higher than the 2 mg/kg $LBCL_{DAF1}$. These two exceedances were associated with surface soil samples collected from former ponds PUF-07 and PUG-08 (6 mg/kg and 11 mg/kg, respectively). Both $LBCL_{DAF1}$ exceedances are also higher than the 0.2609 mg/kg maximum background concentration for silver. The reporting limits for non-detections were all lower than BCL_{RS}, and most were sufficiently low such that concentrations in excess of the $LBCL_{DAF1}$, if present, would have been reported.

Vanadium

Vanadium was detected in all 28 of the Site soil samples in which it was analyzed (16 surface and 12 subsurface samples; Table B-1). Eleven of these detections were higher than the 390 mg/kg BCL$_{RS}$; these exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
BDB-17	0	440
PUH-07	0	510
PUH-09	0	550
PUG-09	0	790
PUJ-07	0	940
PUF-10	0	990

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	1000
PUK-09	0	1200
PUF-07	0	1700
PUI-08	0	2100
PUG-08	0	2800

Thirteen vanadium detections were higher than the 300 mg/kg LBCL$_{DAF1}$. These included ~~. In addition to~~ the eleven detections~~samples~~ listed above as BCL$_{RS}$~~, two vanadium detections were higher than the 300 mg/kg LBCL$_{DAF1}$. These additional LBCL$_{DAF1}$~~ exceedances; and ~~were associated with~~ two 5 ft bgs soil samples, collected from former pond PUF-07 and BDB-18 (310 mg/kg and 340 mg/kg, respectively). All thirteen of the BCL$_{RS}$ and/or LBCL$_{DAF1}$~~comparison level~~ exceedances were higher than the 59.1 mg/kg maximum background detection. The distribution of vanadium for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-15 and C-16, respectively.

Other Inorganics

As seen in Table 1 and Tables B-1 and B-6 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$_{RS}$ or the LBCL$_{DAF1}$. The reporting limits for these additional inorganic constituents were generally sufficiently low such that concentrations in excess of the BCL$_{RS}$ or LBCL$_{DAF1}$, if present, would have been reported. The one exception was thallium, for which reporting limits ranged from 0.5 mg/kg to 1.1 mg/kg. These reporting limits are higher than the 0.4 mg/kg LBCL$_{DAF1}$ and it is unknown whether thallium is present at concentrations in excess of the LBCL$_{DAF1}$. The reporting limits were sufficiently low such that concentrations in excess of the BCL$_{RS}$, if present, would have been reported.

Because perchlorate is a key compound of concern at the BMI Common Areas, even though the detections do not meet the general criteria for graphic presentations in this SAP, the distribution of perchlorate for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-17 and C-18, respectively.

Organochlorine Pesticides

A total of 29 Site soil samples were analyzed for organochlorine pesticides (18 surface and 11 subsurface samples; Table B-2). The following analytes were detected in at least one sample: 2,4-DDD, 2,4-DDE, 4,4-DDE, 4,4-DDT, alpha-BHC, alpha-chlordane, beta-BHC, endosulfan (I and II), endrin aldehyde, gamma-chlordane, heptachlor epoxide, and Lindane. 4,4-DDE was the most commonly detected; it was detected in approximately 66 percent of the samples in which it was analyzed. 2,4-DDE was also detected in a high percentage of the samples in which it was analyzed (75 percent), but was only included in the analyses for four samples. Several detections exceeded the BCL_{RS}; and/or $LBCL_{DAF1}$ comparison levels as discussed below.

- 4,4-DDE was detected in three soil samples at concentrations in excess of the 1.7 mg/kg BCL_{RS} and the 3 mg/kg $LBCL_{DAF1}$. These three exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
WC-SW02	0	7.9
PUF-07	0	23
PUG-08	0	31

The distribution of 4,4-DDE for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-19 and C-20, respectively.

- 4,4-DDT was detected in three soil samples at concentrations in excess of the 1.7 mg/kg BCL_{RS} and the 2 mg/kg $LBCL_{DAF1}$. These three exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
WC-SW02	0	3.8
PUF-07	0	8.9
PUG-08	0	49

- alpha-BHC was only detected in one sample: 0.0023 mg/kg in the surface soil sample from SB-14-A. This detection was lower than the 0.09 mg/kg BCL_{RS} but exceeded the 0.00003 mg/kg $LBCL_{DAF1}$.

- beta-BHC was detected in nine soil samples. All of these detections were lower than the 0.32 mg/kg BCL_{RS}, but they were all higher than the 0.0001 mg/kg $LBCL_{DAF1}$. Those nine LBCL exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUF-10	0	0.0041
PUK-09	0	0.0044
PUH-09	0	0.0053
BDB-17	5	0.0057
PUI-09	0	0.01

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
BDB-16	0	0.011
BDB-17	0	0.012
PUJ-07	0	0.022
WC-SW01	0	0.042

- Endosulfan I was detected in twelve soil samples. All of these detections were lower than the 370 mg/kg BCL_{RS}, but two were higher than the 0.9 mg/kg $LBCL_{DAF1}$ (26 mg/kg and 51 mg/kg in surface soil samples from PUF-07 and PUG-08, respectively).

- Lindane was detected in one soil sample. This detection (0.0078 mg/kg in the surface soil sample from PUG-09) was lower than the 0.44 mg/kg BCL_{RS}, but was higher than the 0.0005 mg/kg $LBCL_{DAF1}$.

With the exception of alpha-BHC, beta-BHC, dieldrin, and lindane, the reporting limits for organochlorine pesticides were generally sufficiently low such that concentrations in excess of the comparison levels, if present, would be reported. For these four exceptions, the reporting limits were routinely higher than the $LBCL_{DAF1}$ and often higher than the BCL_{RS}, and it is unknown whether these constituents are also present in additional Site samples at concentrations in excess of those comparison levels.

Volatile Organic Compounds

Twenty-four Site soil samples were analyzed for VOCs (13 surface and 11 subsurface samples; Table B-3). As seen in Table 1 and Table B-3, the following eight VOCs were detected in at least one sample:

- 1,2,4-Trichlorobenzene
- 1,2-Dichlorobenzene
- 1,4-Dichlorobenzene
- Benzene
- Chlorobenzene
- Dichloromethane
- Isopropylbenzene
- m,p-Xylene

; 1,2-dichlorobenzene and 1,4-dichlorobenzene were detected the most frequently, in eight percent of the samples.[13] None of the detections were above the BCL_{RS}. With the exception of dichloromethane, the VOC detections were also lower than the $LBCL_{DAF1}$. Dichloromethane was detected in one soil sample (0.0012 mg/kg in the surface soil sample from PUK-09) at a concentration in excess of the 0.001 mg/kg $LBCL_{DAF1}$.

The standard reporting limits employed during the historical sampling events were generally lower than the BCL_{RS}, and concentrations in excess of the BCL_{RS}, if present, would have been reported. However, in many cases the reporting limits are higher than the $LBCL_{DAF1}$, and it is unknown whether these constituents are present in samples at concentrations in excess of the $LBCL_{DAF1.}$ These analytes with reporting limits routinely higher than the $LBCL_{DAF1}$ are as follows:

- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethylene1,2,4-Trichlorobenzene
- 1,2,4-Trichlorobenzene1,2-Dichloroethane
- 1,2-Dichloroethane1,2-Dichloropropane
- 1,23-Dichloropropane
- 1,3-Dichloropropane
- Benzene
- Carbon tetrachloride
- Dichloromethane
- Tetrachloroethylene
- Trichloroethylene
- Vinyl chloride

[13] Isopropylbenzene was detected in a higher percentage of the samples analyzed (50 percent), but was only included in the analysis of two samples.

Otherwise, the reporting limits for VOCs were sufficiently low such that concentrations in excess of the BCL_{RS} or $LBCL_{DAF1}$, if present, would be reported.

Semi-Volatile Organic Compounds

Twenty Site soil samples were analyzed for SVOCs (13 surface and 7 subsurface samples; Table B-4). As seen in Table 1 and Table B-4, the following nine SVOCs were detected in at least one sample:

- 1,2,4,5-Tetrachlorobenzene
- 4-Bromophenyl phenyl ether
- Benzoic acid
- bis(2-Ethylhexyl) phthalate
- Dibutyl phthalate
- Fluoranthene
- Hexachlorobenzene
- Pentachlorobenzene
- Phthalic acid

. Hexachlorobenzene was detected the most frequently, in 30 percent of the samples; pentachlorobenzene was also detected at a high detection frequency (50 percent), but was only included as an analyte in 4 samples (2 detections). With the exception of hexachlorobenzene, all the SVOC detections were lower than the BCL_{RS} and the $LBCL_{DAF1}$. Hexachlorobenzene was detected in six samples; all of these detections exceeded the 0.3 mg/kg BCL_{RS} and the 0.1 mg/kg $LBCL_{DAF1}$. These detections were associated with the following samples:

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUH-08	0	0.39
WC-SW01	0	0.54
WC-SW02	0	0.66

Sample ID	Depth (ft bgs)	Concentration (mg/kg)
PUF-07	0	0.99
SB-14-A	0	1.2
PUG-08	0	1.9

The distribution of hexachlorobenzene for soil samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site is shown on Figures C-21 and C-22, respectively.

For SVOC non-detects, the standard reporting limits were lower than the BCL_{RS} in all cases except for 3,3'-dichlorobenzidine, bis(2-chloroethyl)ether, hexachlorobenzene, n-nitrosodi-n-propylaminepropylamine and pentachlorophenol, which routinely had reporting limits higher than the BCL_{RS}. With the exception of these five compounds, concentrations in excess of the BCL_{RS}, if present, would have been reported for SVOCs. For these and several other SVOCs the reporting limits employed during the historical sampling events 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 additional analytes with reporting limits routinely higher than the $LBCL_{DAF1}$ are as follows:

- 2,4,6-Trichlorophenol
- 2,4-Dichlorophenol
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2,4-Dinitrotoluene
- 2,6-Dinitrotoluene
- 2-Chlorophenol
- Carbazole
- Hexachloro-1,3-butadiene
- Hexachloroethane
- Isophorone
- Nitrobenzene
- n-Nitrosodiphenylamine
- p-Chloroaniline

Dioxins and Furans

Four Site soil samples were analyzed for dioxins and furans (three surface and one subsurface samples; Table B-5). At least one of the individual dioxins and furans congeners analyzed were reported as detections in each sample. Comparison levels have not been established for individual congeners. To assess the potential threat to human health, dioxins/furans toxic equivalency (TEQ) concentrations for each sample were compared to the Agency for Toxic Substances and Disease Registry (ATSDR) comparison value of 50 parts per trillion (ppt). Three of the samples analyzed had calculated TEQ values in excess of this comparison level; these exceedances were associated with the following samples:

Sample ID	Depth (ft bgs)	TEQ Value (mg/kg)
WC-SW02	0	62.8
SB-14-A	7	64.5
WC-SW02[14]	0	62.8
WC-SW01	0	620

$LBCL_{DAF1}$ 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 these levels.

[14] For samples WC-SW01 and WC-SW02, the calculated TEQ value may be underestimated because not all dioxin/furan congeners were included in the analyses and the TEQ calculations.

Polychlorinated Biphenyls

Twenty-two Site soil samples were analyzed for PCBs (Aroclors only) (11 surface, 11 subsurface; Table B-8). PCBs were not detected in any of these samples. The reporting limits for PCBs analyzed were generally lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported for PCBs. $LBCL_{DAF1}$ values have not been established for these compounds. It is noted that lack of PCB congener data is a data gap for the Site; congener analysis will be performed as part of this SAP to fill this data gap.

Organophosphorus Pesticides

Four Site soil samples were analyzed for organophosphorus pesticides (three surface, one subsurface; Table B-7). Organophosphorus pesticides were not detected in any of these samples, with the exception of one methyl parathion detection (0.003 mg/kg in the surface soil sample from SB-14-A). This detection was lower than the 15 mg/kg BCL_{RS}. The reporting limits for these analytes were lower than their respective BCL_{RS} values; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Chlorinated Herbicides

Four Site soil samples were analyzed for chlorinated herbicides (three surface, one subsurface; Table B-10); there were no detections reported in these samples. The standard reporting limits were lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Polynuclear Aromatic Hydrocarbons

Twenty Site soil samples were analyzed for PAHs (13 surface, 7 subsurface; Table B-11); phenanthrene was detected the most frequently (in 15 percent of the samples). In addition to phenanthrene, the other three PAHs detected were: benzo(a)anthracene (in one sample), chrysene (in two samples), and pyrene (in one sample). The maximum detection was 0.58 mg/kg of phenanthrene (PUG-08). None of the PAH detections exceeded the BCL_{RS} or the $LBCL_{DAF1}$.

The standard PAH reporting limits were generally, but not always, lower than the BCL_{RS} and the $LBCL_{DAF1}$; thus concentrations in excess of these comparison levels, if present, would have been reported. In several cases the standard reporting limits employed during the older sampling events are higher than the BCL_{RS} and/or $LBCL_{DAF1}$, and it is unknown whether these constituents are present in those samples at concentrations in excess of these comparison levels. These analytes with reporting limits frequently higher than the BCL_{RS} and/or $LBCL_{DAF1}$ are as follows:

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Dibenzo(a,h)anthracene
- Indeno(1,2,3-c,d)pyrene

Aldehydes

Two Site soil samples (one surface and one subsurface sample from SB-14-A; Table B-6) were analyzed for aldehydes. Acetaldehyde was not detected in either sample; formaldehyde was detected in one sample (the 7 ft bgs sample at 0.14 mg/kg), at a concentration lower than the 11 mg/kg BCL_{RS}. The reporting limits were lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. $LBCL_{DAF1}$ values have not been established for these compounds.

Organic Acids and Glycol/Alcohols

Two Site soil samples (one surface and one subsurface sample from SB-14-A; Table B-10) were analyzed for organic acids and glycols/alcohols; there were no detections reported in the samples. The standard reporting limits were lower than the BCL_{RS}; thus concentrations in excess of the BCL_{RS}, if present, would have been reported. The reporting limit for 4-chlorobenzene sulfonic acid (the only analyte in these analyses with an established $LBCL_{DAF1}$) was higher than the $LBCL_{DAF1}$, and it is unknown whether this constituent is present at a concentration in excess of the $LBCL_{DAF1.}$

Radionuclides

Radionuclides were detected in all five of the Site soil samples analyzed (four surface and one subsurface soil sample; Table B-9). Exceedances of comparison levels for radionuclides are only shown in Table 1 for the eight radionuclides currently included in the project analyte list (radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238). Of those detections greater than comparison levels, several are lower than the maximum background activity, as shown in Table 1. Detections higher than comparison levels and background are summarized below for each radionuclide:

- Radium-226 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the BCL_{RS} and $LBCL_{DAF1}$ (0.0071 pCi/g and 0.016 pCi/g, respectively). However, only two of those detections were higher than the 2.36 pCi/g maximum background activity (surface soil samples collected from PUH-09 and PUK-09, 5.91 pCi/g and 14.6 pCi/g, respectively).

- Radium-228 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the BCL_{RS} and $LBCL_{DAF1}$ (0.013 pCi/g and 0.016 pCi/g, respectively). However, none of the detections were higher than the 2.94 pCi/g maximum background activity (maximum detection 1.45 pCi/g in the surface soil sample from SB-14-A).

- Thorium-228 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the 0.0078 pCi/g BCL_{RS} and the 0.0023 pCi/g $LBCL_{DAF1}$). Only one of these detections was higher than the 2.28 pCi/g maximum background activity (3.41 pCi/g detection in the surface soil sample from PUK-09).

- Thorium-230 was detected in all five of the samples in which it was analyzed; one of these detections was higher than the 3.2 pCi/g BCL_{RS} and all of them were higher than the 0.00084 pCi/g $LBCL_{DAF1}$. One detection (corresponding to the sample with the BCL_{RS} exceedance) was higher than the 3.01 pCi/g maximum background activity. This detection (4.51 pCi/g) was associated with the surface soil sample from PUK-09.

- Thorium-232 was detected in all five of the samples in which it was analyzed; one of these detections was higher than the 2.8 pCi/g BCL_{RS} and all of them were higher than the 0.0029 pCi/g $LBCL_{DAF1}$. However, only one detection (corresponding to the sample with the BCL_{RS} exceedance) was higher than the 2.23 pCi/g maximum background activity. This detection (2.84 pCi/g) was associated with the surface soil sample from PUK-09.

- Uranium-233/234 was detected in all five of the samples in which it was analyzed; one of these detections (5.73 pCi/g in the surface soil sample from PUK-09) was higher than the 4.2 pCi/g BCL_{RS} and the 2.84 pCi/g maximum background activity. An $LBCL_{DAF1}$ has not been established for this constituent.

- Uranium-235/236 was detected in three of the samples in which it was analyzed. One of these detections (0.3 pCi/g in the surface soil sample from PUK-09) was higher than the

0.11 pCi/g BCL_{RS} and the 0.21 pCi/g maximum background activity. An $LBCL_{DAF1}$ has not been established for this constituent.

- Uranium-238 was detected in all five of the samples in which it was analyzed; all of these detections were higher than the 0.46 pCi/g BCL_{RS}. Of these, one detection (5.74 pCi/g in the surface soil sample from PUK-09) was higher than the 2.37 pCi/g maximum background activity.

As presented in NDEP guidance (NDEP 2009c), as part of the process used to evaluate radionuclide data for the BMI Common Areas, BRC will assess whether secular equilibrium has been attained (as an indication that steady-state conditions have been reached). Because there are ~~Given the~~ limited historical ~~amount of~~ radionuclide data for this Site and ~~the~~ differences in historical analytical methods, formal~~and without conducting~~ statistical equivalence testing in accordance with~~,~~ the NDEP guidance was not conducted. However, the historical data indicate the following:

- The ~~that secular equilibrium has been broadly attained at the Site for the thorium decay chain. Specifically, the~~ mean radioactivities for thorium-232, radium-228, and thorium-228 are comparable (1.8 pCi/g, 1.4 pCi/g, and 1.9 pCi/g, respectively), and are close to their maximum background radioactivity levels.

- The ~~However, the~~ mean values for the uranium chain are more variable, ranging from 2 pCi/g to 5 pCi/g. The mean values for uranium-238, uranium-233/234, and thorium-230 are comparable (2 pCi/g to 2.1 pCi/g) and are lower than their respective maximum background activity levels. The mean activity level for radium-226 (5 pCi/g) is appreciably higher than the mean levels of the other isomers and its maximum radioactivity background level (2.36 pCi/g).

An~~A more thorough~~ evaluation of secular equilibrium status will be performed per NDEP guidance after collecting radionuclide data in accordance with this SAP.

The distribution of radium-226, representative of radionuclides, for samples collected in the intervals from 0 to 2 feet bgs and 3 to 10 feet bgs at the Site are shown on Figures C-23 and C-24, respectively.

2.5.1 Summary of Soil Exceedances

As summarized above and in the associated data tables (Table 1 and Appendix B), sampling of Site soils has been limited, and the analyte list is incomplete. Based on the limited historical data, the BCL$_{RS}$ and LBCL$_{DAF1}$ exceedances noted below were observed.

The following constituents were reported at concentrations higher than the BCL$_{RS}$ and the maximum background concentration (the latter relevant for metals and radionuclides only~~where applicable~~):

- Arsenic
- Vanadium
- 4,4-DDT
- Chromium (Total)
- TCDD TEQ
- Hexachlorobenzene
- Lead
- 4,4-DDE
- Radionuclides (Radium-226 and -228 [BCL$_{RS}$ exceedances only], Thorium-228, -230, and -232, and Uranium-233/234, -235/236 and -238)
- Manganese
- ~~Lead~~
- ~~4,4-DDE~~
- ~~Radionuclides~~
- ~~Manganese~~

The following constituents were reported at concentrations higher than the LBCL$_{DAF1}$ and the maximum background concentration (the latter relevant for metals and radionuclides only~~where applicable~~):

- Aluminum (LBCL$_{DAF1}$ exceedances only)
- Magnesium (LBCL$_{DAF1}$ exceedances only)
- 4,4-DDT
- Antimony
- Manganese
- alpha-BHC
- Arsenic
- Mercury
- beta-BHC
- Barium
- Molybdenum
- Endosulfan I
- Cadmium
- Nickel (LBCL$_{DAF1}$ exceedances only)~~Selenium~~
- Lindane
- Chromium (Total)
- Selenium~~Silver~~
- Hexachlorobenzene
- Chromium (VI)
- Silver~~Vanadium~~
- Dichloromethane
- Copper
- Vanadium
- Radionuclides (Radium-226

- Iron
- 4,4-DDE
- and -228 [$LBCL_{DAF1}$ exceedances only], and Thorium-228, -230, and -232)
- Copper
- 4,4-DDE
- Radionuclides
- Iron
- 4,4-DDT

Reported values above these comparison levels were observed across the Site; however, the highest reported values were often associated with samples collected from within the southeastern side of the Site (*i.e.*, former pond rows E, F and G, ponds PUE-09, PUF-07 through -10, and PUG-08 and -09), often located within ponds with discolored soils.

2.5.2 On-Going Remedial Actions

Based on the comparison level exceedances observed in these historical samples, BRC may elect to initiateis currently conducting remediation of Site soils in accordance with the approved CAP (BRC 2006) prior to implementing this SAP. SuchThis remedial actions would consistaction consists of excavating soils with visual or other evidence of impacts, and transporting those soils to the off-site CAMU for disposal. The soils targeted for excavation would likely include discolored sediments/soils and sediments/soils associated with historical sampling locations with elevated reported values, but not necessarily corresponding to exceedances of the BCL_{RS} and/or $LBCL_{DAF1}$ for a given analyte.

As of the date of this SAP submittal, the only remedial activities conducted on the Site involve the removal of TIMET Ponds remediation soils/sediments, which were temporarily stored at the Site. During their removal process, BRC also removed surface soils that had been in contact with the placement materials. The extent of impacts to Site subsurface conditions due to the temporary soils/sediments placement will be evaluated on the basis of soil samples collected in accordance with this SAP after their removal.

2.6 CHEMICAL DISTRIBUTION WITHIN GROUNDWATER

For evaluating Shallow Zone groundwater quality at the Site, on-site wells POD2-R and POD8 were used (Figure 2). Table 2 presents analyticalThe data associated with these wells, which were collected during from the most recent overall site groundwater monitoring event (conducted from May through June 2008).) are presented in Table 2. Data validation results are presented in the DVSR for dataset 51 (ERM 2008), which was approved by NDEP on November 1, 2008. Chemical occurrence patterns for the chemicals detected in groundwater from these wells are provided below. For data evaluation purposes, the detections were compared to the following, where established:

- U.S. Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCLs);
- Human health screening levels for indoor air intrusion (USEPA generic groundwater to indoor air screening level; "Vapor Intrusion Screening Level," hereinafter "VI SL"); and
- The NDEP residential water BCL (BCL_W).

Organic Compounds. The few organic compounds detected during the 5th groundwater monitoring event are as follows:

- alpha-BHC was detected in the sample collected from well POD8 at a relatively low concentration (0.1 µg/L). MCLs have not been established for this constituent. The detection was well below the 3.1 µg/L VI SL, but exceeded the 0.011 µg/L BCL_W.
- beta-BHC was detected in the sample collected from well POD8 at a concentration of 0.069 µg/L. An MCL and VI SL have not been established for this constituent. The detection was higher than the 0.037 µg/L BCL_W.
- Chloroform was detected in both samples (59 µg/L and 1.4 µg/L for POD2-R and POD8, respectively). Both detections were lower than the MCL and VI SL (80 µg/L each). The POD2-R detection was higher than the 1.6 µg/L BCL_W.
- Tetrachloroethene was detected in the sample collected from well POD2-R at a concentration of 1.8 µg/L. This detection was lower than the MCL, VI SL, and BCL_W (5 µg/L each).

No other organic chemicals were detected in these monitoring wells. The standard reporting limits for most of the analytes in these samples were sufficiently low such that concentrations in excess of the comparison levels, if present, would be detected. The exceptions are as follows:

Constituent	Reporting Limit	Comparison Level of Concern[15]
Aldrin	0.0044 µg/L	0.004 µg/L BCL_W adequately low for VI SL; no MCL
Dieldrin	0.0057 µg/L	0.0042 µg/L BCL_W adequately low for VI SL; no MCL
1,2,3-Trichloropropane	0.22 µg/L	0.034 µg/L BCL_W adequately low for VI SL; no MCL

[15] This table lists only those comparison levels that are lower than the standard reporting limit.

Constituent	Reporting Limit	Comparison Level of Concern[15]
1,2-Dibromo-3-chloropropane	0.48 µg/L	0.2 µg/L MCL; 0.2 µg/L BCL_W adequately low for VI SL
2-Nitropropane	0.034 µg/L	0.0063 µg/L BCL_W adequately low for VI SL; no MCL
Tribromomethane	0.27 µg/L	0.0083 µg/L VI SL adequately low for BCL_W and MCL

For these constituents it cannot be determined whether they are present in Site groundwater at concentrations greater than the comparison levels noted above.

Inorganic Compounds. Inorganic compounds were routinely detected in the groundwater samples. It should be noted that many of these constituents are naturally-occurring in groundwater, and the extent to which the detections represent background conditions was not evaluated for this SAP. The following constituents were detected at concentrations above their respective MCLs and BCL_W[16] as summarized below:

- Chloride is higher than the 250 mg/L MCL in both samples at reported concentrations of 1,760 mg/L and 1,230 mg/L. for POD2-R and POD8, respectively.
- Chlorine is higher than the 4 mg/L BCL_W in both samples at reported concentrations of 3,520 mg/L and 2,460 mg/L. for POD2-R and POD8, respectively.
- Nitrate is higher than the 10,000 µgmg/L MCL and BCL_W in both samples at reported concentrations of 20,300 µgmg/L and 41,600 µgmg/L. for POD2-R and POD8, respectively
- Perchlorate is higher than the USEPA Drinking Water Equivalent Level and BCL_W (24.5 µg/L and 18 µg/L, respectively) in both samples at reported concentrations of 3,690 mg/L and 226 mg/L. for POD2-R and POD8, respectively.
- Sulfate is higher than the 250 mg/L MCL in both samples at reported concentrations of 2,510 mg/L and 1,410 mg/L. for POD2-R and POD8, respectively.
- Aluminum is higher than the 50 µg/L MCL in the sample collected from POD8 (250 µg/L). The reporting limit for the other sample was elevated above the MCL, and it is unknown whether aluminum is also present at this location at concentrations above the MCL.
- Hexavalent chromium is higher than the 100 µg/L BCL_W in the sample collected from well POD2-R (150 µg/L).

[16] VI SLs have not been established for inorganic constituents.

- Magnesium is higher than the 207,000 µg/L BCL_W in both samples at reported concentrations of 211,000 µgmg/L and 262,000 µgmg/L. for POD2-R and POD8, respectively.

- Uranium is higher than the 30 µg/L MCL and BCL_W in both samples at reported concentrations of 56.7 µgmg/L and 50.4 µgmg/L. for POD2-R and POD8, respectively.

- Total Dissolved Solids (TDS) is higher than the 500 mg/L MCL in both samples at reported concentrations of 6,170 mg/L and 4,140 mg/L. for POD2-R and POD8, respectively.

No other inorganic constituents were detected in the groundwater samples at concentrations in excess of the applicable screening levels, including specific radionuclides. It should be noted that reporting limits for several analytes in addition to those noted above were routinely higher than the MCLs or BCL_W (*e.g.*, lithium and phosphorus), and it cannot be ascertained if these constituents are present in Site groundwater at concentrations greater than those comparison levels.

Chemical occurrence in both the shallow and deep water-bearing zones beneath the Eastside and CAMU areas is currently being characterized under a process separate from the Closure Plan process under which this SAP has been prepared, which focuses on Sitesite soils. A more detailed presentation of chemical occurrence patterns within these water-bearing zones (including comparisons to background conditions) and an assessment of the potential health risks will be provided upon completion of the on-going groundwater investigation, and the CSM for the Eastside and CAMU areas will be updated accordingly.

3.0 DATA QUALITY OBJECTIVES

The DQO process is a seven-step iterative planning approach used to prepare plans for environmental data collection activities. It provides a systematic approach for defining the criteria that a data collection design should satisfy, and covers: problem definition; when, where, and how to collect samples or measurements; determination of tolerable decision error rates; and the number of samples or measurements that should be collected. DQOs define the purpose of the data collection effort, clarify what the data should represent to satisfy this purpose, and specify the performance requirements for the quality of the data to be obtained. The DQO process, as defined by USEPA's *Guidance on Systematic Planning Using the Data Quality Objectives Process*, *EPA QA/G-4* (USEPA 2006), consists of 7 steps:

Step 1 - State the Problem;

Step 2 - Identify the Goal of the Study;

Step 3 - Identify Information Inputs;

Step 4 - Define the Boundaries of the Study;

Step 5 - Develop the Analytical Approach;

Step 6 - Specify Performance or Acceptance Criteria; and

Step 7 - Develop the Plan for Obtaining Data.

A general overview of USEPA and NDEP's 7-step DQO process is provided in the Closure Plan. The key decision inputs to the DQO process, namely the Step 2 Principal Study Questions (PSQs), are also provided in the Closure Plan. The PSQs are the central Eastside Area-wide questions that provide a basis for the overall closure effort. Per discussions with the NDEP, the other steps of the DQO process are to be addressed, on an Eastside Area sub-area basis (for soils), in the respective sub-area SAPs. Steps 1 through 5 of the DQO process are described below for this Site. Implementation of DQO Steps 6 and 7 is described in the Statistical Methodology Report, which presents the statistical approach to sample design for the Eastside Area sub-areas soils investigations.

3.1 STATE THE PROBLEM (STEP 1)

The first step in the DQO process is to define the problem that initiated the study in such a way that the focus of the study is unambiguous. This section provides the following information: a summarization of the problem being addressed; identification of the assessment team; identification of the key decision-makers and stakeholders; and a presentation of the schedule.

3.1.1 Problem Statement

The 125.6-acre Site includes open land that has been modified to accept wastewater discharges from the BMI Complex through various trenches and evaporation ponds (from 1942 through 1976) and evaporative disposal of aqueous salt waste by means of an evaporative agricultural-type mechanism (from 1983 to 1991). The industrial activity on this Site may have resulted in concentrations of chemicals that drive unacceptable human health risk. Residual contamination remains at the Site as a consequence of these discharges. The goal of this work is to remediate the Site such that chemical concentrations in all relevant media do not pose an unacceptable risk to human health and the environment under current and future land use scenarios. The problem that needs to be addressed is one of returning at least the upper 10 feet of soils at the Site to conditions that pass a human health risk assessment, with restrictions on access to deeper soils and on the use of groundwater. Risk assessment at the Site includes exposure to soils, but also exposure to VOCs and radon, which might emanate from the vadose zone or from groundwater. A further consideration is the potential for leaching contaminants into groundwater.

The Site is currently vacant. The potential on-site and off-site receptors are currently trespassers/visitors, occasional on-site workers, and off-site residents. Risks to current receptors are being managed through Site access control. Under the current, prospective redevelopment plan, the Site will be used for residential land use (low and medium density) with roads, parks and trails interspersed (Figure 4). Consequently, receptors that are considered for this problem include construction workers, residents (adult and child), maintenance workers, and trespassers. The potentially exposed populations for the Site and their potential routes of exposure are presented on Figure 8 and are summarized in Section 9 of the Closure Plan.

As described in the Closure Plan and in the Statistical Methodology Report, remediation for all media will be to risk-based levels protective of human health and the environment under current and future land use scenarios. The problem will be addressed through iterative remediation until sufficient remediation (removal of soil) has been performed that acceptable human health risks have been attained. The final Site site conditions will include regrading of on-site soils, so that the future surface will not consist of the same soil as the current surface. Imported fill material may or may not be needed, including fill from other sites.Sites. The grading plan for this Site is presented on Figure 54.

Although the primary focus is human health risk assessment for residential and commercial use scenarios, secondary issues that will be addressed include contamination of deeper soils and groundwater beneath the Site. BRC will also discuss the issue of off-siteSite transport of contaminants with the NDEP should the NDEP determine that this is necessary, maintaining consistency with the AOC3. However, because remediation of the Site will be to on-site residential standards, risks to off-site receptors are expected to be minimal.

3.1.2 Proposed Assessment Team

A multi-disciplinary approach is being and will be followed with participation by qualified geologists, chemists, radiochemists, hydrogeologists, biologists, ecologists, engineers, remediation specialists, toxicologists, risk assessors (human health and ecological), statisticians, field sampling personnel, community relations personnel, risk communications specialists, project developers, and project managers. BRC maintains an active roster of key team members, which will be periodically updated as appropriate throughout the project term. Key team members are identified in Section 1.4 of the Closure Plan.

3.1.3 Key Decision Makers and Stakeholders

The NDEP is the primary and the ultimate decision-maker for the project. Stakeholders include BRC, the City of Henderson, Clark County, the State of Nevada, the United States Government, the local public, Sitesite developers, and other interested persons.

3.1.4 Schedule

BRC has established a phased schedule for the Eastside Area such that the various sub-areas are addressed sequentially. The timing of the phased closures is closely spaced to avoid potential complications associated with the presence of contaminated soils near areas that have been successfully remediated and closed and to mitigate potential impacts on adjacent residential housing developments.

Surface and shallow soil data will be used to evaluate both the current (post-remediation, pre-development) and future (post-development) exposures and risks. Once these data have been collected and preliminary risk calculations have been completed, BRC will determine whether the acceptable chemical concentrations and/or risk levels defined for the Site have been attained and will discuss this determination with the NDEP. If it is determined that acceptable risk levels have not been attained, BRC will perform additional remediation activities consistent with the CAP (BRC 2006), and will repeat the assessment process until risk-based goals are achieved. Each iterative remediation and data collection process is expected to take place over a one to two month period, but may extend into a slightly longer period.

3.2 IDENTIFY THE GOAL OF THE STUDY (STEP 2)

The purpose of this step is to define the Site-specific PSQs that need to be resolved in order to address the problem identified in Step 1, and to identify alternative actions that may be taken, depending on the answers to the PSQs. As noted above, the project PSQs are presented in the Closure Plan. The primary PSQ associated with this SAP is:

> Are the current (post-remediation, pre-development) and future (post-development) incremental risks to human health or the environment from exposure to Site soil and soil vapor flux sufficiently low that they are acceptable?

If the incremental risks are not sufficiently low, then reasonable further action will be taken; otherwise, no further action will be taken and a risk assessment report will be prepared. Secondary PSQs deal with groundwater quality in the context of the overall Sitesite, and on the impact of Sitesite contamination on off-site human receptors. Ecological risk assessment issues will be discussed with the NDEP should NDEP determine that an ecological risk assessment is warranted.

The following fundamental assumptions apply:

1. The PSQs will be assessed only after BRC has determined that achievement of Site cleanup goals is expected for Site soils.[17] Cleanup goals for the project are defined in Sections 1.1 and 9.1.1 of the Closure Plan and in the Statistical Methodology Report. The data pool employed in the risk assessment will comprise only those data collected in accordance with this SAP,[18]

[17] The existing historical data suggest that some remediation is needed to attain cleanup goals and BRC has initiated remediation in accordance with the CAP; the need for further remediation will be properly evaluated on the basis of data collected under this SAP, in accordance with the approved risk assessment methodology in the Closure Plan.
[18] Data collected prior to SAP approval that might also be representative of Site conditions will not be included in the risk assessment; however, a data usability evaluation will be conducted to determine whether any of the historical data can be used in Site risk assessment, or it will be explained why the new data supplants the old data. However, the historical data may be used to help develop the CSM for both this Site and the overall Eastside.

after remediation activities have been performed during the closure process, if such remediation occurs.

2. The data used in PSQ assessment will undergo a rigorous Quality Assurance/Quality Control (QA/QC) review prior to that assessment, in accordance with the procedures described in the *BRC Quality Assurance Project Plan* (QAPP; BRC and ERM 2009b). Based on this QA/QC review, only). Only those data determined as a result to be suitable for use will be included in the closure data pool. Furthermore, the adequacy of the data pool will be evaluated following the procedures provided in Section 9.3 of the Closure Plan. If found to be inadequate, additional sampling and analysis may be performed.

Stated another way, the decision is to determine whether or not Site conditions[19] result in acceptable human health risks and environmental risks for future land uses. This will be determined through human health risk assessment for potential future on-site receptors. Potential alternative actions (from the Closure Plan) that may be taken include: (1) No Action (in this context No Action means no additional action beyond removal of contaminated soils presently located on Site), (2) institutional controls/limited action, (3) importation and use of clean fill (on-site capping of soils), and (4) excavation of soils and on-site landfill disposal at the project CAMU.

How the study decisions will be determined for the Site, including how the risk assessment will be performed, is presented in the Closure Plan.

3.3 IDENTIFY INFORMATION INPUTS (STEP 3)

The purpose of this step is to identify the information needed to resolve the PSQs identified in Step 2. The data inputs for the primary PSQ are listed below. Risk assessment will be the primary means of answering the PSQs, and will incorporate the various data inputs listed below. These data inputs either 1) are already established, as presented in this SAP or the Closure Plan, 2) will be obtained during the soil and soil vapor flux sampling programs specified in this SAP, or, 3) currently exist as data gaps that will be resolved prior to performing risk assessment. A comprehensive list of the necessary data inputs for addressing the primary PSQ is provided below.

[19] "Site conditions" in the context of this sentence refers to those conditions assessed after performing any excavation of impacted soils and disposing of them outside the Site.

- Input parameters for human health risk assessment and assessment of impacts to groundwater considering relevant exposure pathways associated with potential future land uses.

- Toxicity inputs parameters consistent with current NDEP guidance (BCL_{RS}, NDEP 2009b).

- Input parameters for all fate and transport models (see Closure Plan and data to be collected as determined by this SAP).

- Site soil and soil vapor flux characterization data[20] collected according to this SAP.

- Identified locations/depth intervals, including elevations to adjust for use of fill material and regrading.

- Characterization data for imported fill if such fill is considered for use at the Site. At this point, it is not known whether imported fill materials will be used on Site.

- To address the secondary PSQs, soil data from depths greater than 10 feet bgs, and groundwater data will be used to address issues related to further understanding of vadose zone and groundwater contamination beneath the Site.

3.4 DEFINE THE BOUNDARIES OF THE STUDY (STEP 4)

The purpose of this step is to define the aspects of the project that affect the decision making process, including:

- The populations to be sampled;

- The geographical area applicable for decision making;

- Temporal boundaries for decision making;

- Any practical constraints that may interfere with data collection; and

- The scale for decision-making purposes.

Each of these portions of this step is presented below.

[20] To be collected as determined by this SAP in accordance with the most recent NDEP-approved version of Standard Operating Procedure 16 (BRC, ERM and MWH, 2008)

3.4.1 Sample Populations

Several target populations will be sampled for this project, including: surface and near-surface soils (*i.e.*, less than 10 feet bgs); subsurface soils (*i.e.*, greater than 10 feet bgs); groundwater; and soil vapor flux. These populations were segregated based on their differences in media type and pathways for potential human residential exposure following redevelopment. For this project, samples will be collected for surface and near-surface soils and soil vapor flux to address the primary PSQ via human health assessment, and for cumulative risk across these media types and associated pathways. Samples will be collected for subsurface soils and groundwater to address the secondary PSQs.

3.4.2 Spatial Boundaries

The spatial boundaries of interest for the risk assessment are the spatial extent of the Site boundary to a depth of 10 feet bgs or deeper if construction activities are below this level. However, impacts to receptors exposed to these soils can also occur from vapor intrusion from the deeper vadose zone and groundwater. Consequently, the vertical extent of the Site that encompasses vadose zone and groundwater is of interest. Based on expected land use, construction activities are not expected to occur at depths greater than 10 feet bgs.

Note that more than one set of surface spatial boundaries could ultimately be identified. For example, data may need to be grouped for sub-areas within the Site in order to appropriately address the decision units (*e.g.*, exposure areas). These spatial boundaries might be important if residual contamination varies across the Site either in the surface soils or by depth.

Because sub-areas within the Eastside are adjacent to each other, to assess or avoid potential impacts from other Site sources, risk assessment could be performed across Site boundaries, and/or adjacent Sites will be remediated in the same general time frame. To some extent this will depend on the spatial homogeneity of concentrations once remediation has been performed. Future remediation at adjacent Sites will involve dust suppression and storm water pollution prevention activities, mitigating potential impacts from cross-contamination.

3.4.3 Temporal Boundaries

The temporal boundaries of interest for this project are defined by the timeframe associated with decision making for each spatially distinct region of interest. Specifically, for each different land-use scenario, within each decision or exposure unit, both current and potential future risk needs to be considered and quantified. The time frame over which future risks will be evaluated can be regarded as indefinite, implying that future land uses must satisfy institutional constraints placed on the Sitesite now, or a new risk assessment will need to be performed. Specific issues for each medium are described below.

Surface Soil

The surface soil concentrations used in the risk assessment will be derived from then-existing soil conditions (that is, established during the characterization activities performed in accordance with this SAP). BRC assumes that these will reflect the concentration distribution for the project lifetime, and those data will be relied upon throughout the redevelopment process and for assessing risks under current and future land use scenarios. The timeframe for data collection, assessment, and decision-making will be from one to three months for surface soils. These soil data will be used to evaluate both current (post-remediation, pre-development) and future (post-development) exposures and risks.

Subsurface Soil and Groundwater

As noted, BRC does not expect that subsurface soils (generally greater than 10 feet bgs) will be an issue from a human exposure standpoint. However, subsurface soils will be sampled in order to determine potential impacts to groundwater in accordance with the secondary PSQ relating to the deeper vadose zone and groundwater in the context of the entire Site. These subsurface soil data will be used to evaluate both current (post-remediation, pre-development) and future (post-development) impacts to groundwater. Data to support the evaluation of potential impacts to groundwater will be collected. These data will be collected to support the migration to groundwater calculations included in the Closure Plan, as well as more refined modeling tools (such as, VLEACH, SESOIL, and PESTAN). Any indirect impacts from underlying groundwater will be addressed via the proposed surface flux measurements.

Soil Vapor Flux

The soil vapor fluxes used in the risk assessment will be derived from soil vapor flux data associated with existing soil and groundwater conditions (that is, data collected during the characterization activities performed in accordance with this SAP). BRC assumes that these will reflect the soil vapor flux distribution for the project lifetime, and those data will be relied upon throughout the redevelopment process and for assessing risks under current and future land use scenarios. The timeframe for data collection, assessment, and decision-making will be from one to three months for soil vapor flux. These soil vapor flux data will be used to evaluate both current (post-remediation, pre-development) and future (post-development) exposures and risks.

3.4.4 Practical Constraints for Data Collection

Since the Site is currently unoccupied, there are no access constraints for collecting soil or soil vapor flux samples from BRC's property as specified in this SAP. For groundwater (which is not part of this SAP), additional and/or routine sampling activities (such as groundwater sampling from monitoring wells) may be required following redevelopment. However, these constraints do not apply to the situation associated with this SAP and will be dealt with at a later time.

3.4.5 Scale of Decision-Making

The scale for decision-making regarding the primary PSQ varies based on the target sample population of interest. Redevelopment of the Site following remediation includes significant changes in land uses, including residential housing. Other potential development interests in addition to residential housing include roads and parks (see Figure 43). However, the final redevelopment plans for the Site have not been completed and may change depending upon the results of post-remediation sampling. To facilitate the redevelopment of the Site with the fewest practical constraints due to residual contamination, the nominal scale for decision-making for the proposed residential exposure scenario, the most protective scenario, will be consistent with a typical residential lot size, which is 1/8th acre. However, if, as expected, the concentration distribution across the Site is statistically homogeneous representing a single population of concentrations for each chemical, then the decision unit will be the entire Site. Smaller decision units will only be defined if the spatial distribution of concentrations suggests the need to break the Site into smaller areas for risk-based decision-making. The same approach will be used for soil vapor flux, subsurface soils and groundwater as they feed into the human health risk assessment.

3.5 DEVELOP THE ANALYTICAL APPROACH (STEP 5)

The purpose of this DQO step, as described in USEPA guidance, is to define the population parameter (*e.g.*, mean risk) of interest for each population (surface soil, etc.), identify the appropriate action level (target risk level) for each population, and select measurement and analysis methods that can be used to properly evaluate the parameters against the action levels (*i.e.*, ensure detection limits do not exceed action levels, etc.). Once these actions are completed, decision rules (if-then statements) are developed for each population that state the alternative actions that would be taken depending upon the true value of the parameter relative to the specified action levels.

The PSQ-specific decision rules for the Site are presented below.

- If, after confirmation sampling conducted per the Closure Plan and this SAP, and subsequent risk assessment following procedures per the Closure Plan, it is deemed that the risk goals for the project (as discussed in Section 1 of the Closure Plan) are not met, then remediation per Alternative (4) (excavation of soils and on-site landfill disposal at the project CAMU) listed in Section 3.2 will be conducted to satisfy the risk goals. The risk assessment methodology for the project is presented in Section 9 of the Closure Plan.

- If, after implementation of the Decision Rule above it is determined that there are specific locations at the Site for which additional and continued remediation will not be practical or effective, then other alternatives such as Alternative (2) and Alternative (3) (institutional controls/limited action, and importation and use of clean fill) identified in Section 3.2 will be evaluated considering overall protection, effectiveness, permanence, implementability, cost, regulatory acceptance, and community acceptance.

- If, after implementation of the Decision rule above it is determined that no further action needs to be taken in the top 10 feet of soils, a proposal for an NFAD will be made. This proposal will be made only after consultation with NDEP.

Data for the secondary PSQs (deeper soils and groundwater) will be evaluated for obvious issues that might require immediate action, and will be included in analysis of objectives related to the groundwater program for the entire Site.

4.0 SCOPE OF WORK

Other than the removal of debris found on the Site and the removal of materials from the TIMET Ponds sub-area that have been temporarily placed within the Site, no remediation is proposed prior to the sampling activities specified in this SAP.As noted above, based on existing historical analytical results, BRC intends to initiate remediation at the Site in accordance with the CAP (BRC 2006) as soon as possible, prior to the sampling activities specified in this SAP. Decisions regarding the need for further remediation will be based on the initial data to be collected in accordance with this SAP as discussed in this section.

The risks posed to human health and the environment by chemicals remaining in Site soils will be assessed in accordance with the Risk Assessment Methodology provided in the Closure Plan. If this assessment indicates that risk-based cleanup goals established for the Site have not been met, additional phases of remediation, sampling/analysis and assessment will be performed as discussed in the CAP and the Closure Plan. Development may only proceed after attainment of acceptable risk levels under the future planned land uses – *i.e.*, after obtaining the NFAD from the NDEP.

The following is the proposed scope of work for investigating the Site and meeting the SAP objectives. This scope includes soil sampling (final and interim), soil vapor flux sampling,[21] and laboratory analyses of those samples. Much of the discussion below regarding confirmation soil sampling is taken from the Statistical Methodology Report.

4.1 INITIAL CONFIRMATION SOIL SAMPLING

As per the Statistical Methodology Report, the initial confirmation sampling in the Site will be conducted on the basis of combined random and biased (judgmental) sampling, as follows:

- **Stratified Random Locations:** For this purpose, the Site is covered by a 3-acre cell grid network. Within each 3-acre cell, a sampling location is randomly selected. Sampling locations are randomly selected within both full and partial grid cells if they are 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

[21] A study comparing soil gas sampling and surface flux sampling is planned for the project. The outcome of that study will determine whether soil flux data will continue to be collected for the project, or whether this data will be supplemented and/or replaced by soil gas data. The sampling for the Site will be revised accordingly. The sampling method does not affect the sample locations, number of samples, or the laboratory analysis in this SAP.

Site will be included in the adjacent sub-area SAPs). The main objective of this stratified random sampling is to provide uniform coverage of the Site.

- **Biased Locations:** Additional sampling locations are selected within or near small-scale contamination points of interests, including but not limited to previous debris locations, locations of temporary placement of soils/sediments from the former TIMET Ponds, ponds, berms, and ditches. For this purpose, the randomly selected location within a corresponding 3-acre cell may also be adjusted in order to cover a nearby point of interest. In the event that currently unknown impacted areas are identified during remediation, the presence of these areas will be drawn to NDEP's attention, the need for additional biased sampling points to address those areas will be evaluated, and the sampling program will be modified as needed.

Biased sampling will also be conducted along the lengths of the former conveyance ditches on the Site, at an approximate 200-foot linear spacing. Additional biased sampling locations were placed so that each pond had at least one sample located within it, and that the pond berms also had an adequate number of samples. In all, the proposed sampling locations address each of the current land uses as follows:

Land Use	Number of Samples
Former Pond	39
Pond Berm	15
Conveyance Ditch	12
Temporary Placement Area for TIMET Ponds Soils/Sediments	7

Figure 9 and accompanying Table 3 show the random and biased discrete sampling locations that are proposed to be collected within the Site.

At each selected location, multi-depth soil samples will be collected and analyzed for the project SRC list as follows. Proposed sample depths are 0 (surface) and 10 ft bgs at each sampling location. In addition, sample locations with grading greater than two ft bgs will also be sampled at the anticipated post-grading soil surface. Additionally, at three sample locations, within remediated ponds in the most heavily impacted portions of the Site, soil physical parameter data will be collected at 20 feet and every subsequent 10 feet within unsaturated soils above the capillary fringe until groundwater is reached or 50 feet deep, whichever is shallower.

Samples will be collected at:

1. Existing surface (0 ft bgs) and 10 ft bgs for sample locations in relatively flat (un-graded) locations;

2. Existing surface (0 ft bgs), post-grading surface, and post-grade 10 ft bgs for sample locations with substantial grading (that is, cut depths greater than two feet[22]) and the uppermost sampled soil is expected to be used as surface fill;

3. Existing surface (0 ft bgs) and 10 ft bgs for sample locations with minimal grading (that is, cut depths less than two feet) and the uppermost sampled soil is expected to be used as surface fill; and

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

The analytical sample results will then be divided into surface (0-2 ft depth), subsurface (2 ft -10 ft depth), and deep (>10 ft depth) layers, according to the following rules:

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

- **Rule 2: IF** the sample is 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 will be classified as a surface (0-2 ft depth) sample, and the soil layer grouping of the remaining deeper sampled soil will be 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 sampled soil is expected to be used as surface fill (*e.g.*, soil within a berm) **AND** the cut depth is expected to be greater than two feet, **THEN** the current surface soil sample will be

[22] Because sample collection will be over a two to three foot depth interval, sample locations with an anticipated cut depth less than three feet will only be sampled at the surface and one post-grade subsurface depth.

classified as a fill material sample, a final (post-graded) surface sample will be classified as a surface (0-2 ft depth) sample, and the soil layer grouping of the remaining deeper sampled soil will be determined based on the difference between its elevation and the final (post-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 sampled soil is expected to be used as surface fill (*e.g.*, soil within a berm) **AND** the cut depth is expected to be less than two feet, **THEN** the current surface soil sample will be classified as both a fill material sample and as a surface (0-2 ft depth) sample, and the soil layer grouping of the remaining deeper sampled soil will be 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 10. The current Sitesite grading plan is shown on Figure 5.4. It should be noted that this is the most current plan available, but not necessarily the final grading plan. The sample-specific collection depths are presented in Table 3.

All soil samples will be tagged in the database with numeric designations of their corresponding assigned soil layer grouping based on these rules. Initially, 146 soil samples will be collected from 66 soil boring locations (not including deep samples to be collected for soil physical parameter data). This includes 39 random and 27 biased sample locations; with the following number of samples representing each post-grade type of soil:

Post-Grade Sample Type	Number of Samples[23]
Fill material	54
Surface soil	80
Subsurface soil	66

It should be noted that, as discussed with 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

[23] Note that in some cases a soil sample may be considered both a fill sample and a surface sample (as indicated in Table 3). 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.

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).

4.2 INTERMEDIATE SAMPLING AND CLEANUP

Upon layer-designation of confirmation soil samples, a series of tests will be conducted to determine whether sampled locations within a given layer include "exceeding" samples. An exceeding sample is one that warrants further investigation, which may include localized soil removal. Exceeding samples will be defined consistent with the following rules:

- **Chemicals without background concentrations:** For chemicals without corresponding background distributions, the distribution of its reported concentrations in each layer will be constructed. The 95 percent upper confidence limit (UCL) of these distributions will also be computed. **IF** the constructed distribution indicates the presence of anomalous concentrations (*e.g.*, high values at the end of an elongated tail of a uni-modal distribution, or values forming an elevated sub-population of a multi-modal distribution), **AND** the inclusion of these anomalous values causes the computed UCL to exceed 1/10 of the risk-based screening level of the chemical, **THEN** samples associated with anomalous values will be considered as potential exceeding samples. **IF** the constructed distribution indicates no presence of anomalous concentrations and the computed UCL exceeds 1/10 of the risk-based screening level of the chemical, **THEN** all samples associated with the layer will be considered as potential exceeding samples.

- **Chemicals with background concentrations:** For chemicals with corresponding background distributions, the distribution of its reported concentrations in each layer will be constructed. These concentration distributions will then be statistically compared to the background concentration distributions applicable to the Site. Appropriate two-sample tests, including Quantile test, Slippage test, *t*-Test and the Wilcoxon rank sum test with Gehan modification, will be used to identify exceeding samples through comparison of Site and background distributions. **IF** inclusion of elevated measured values in a given layer causes the rejection of the appropriate two-sample test, **THEN** samples associated with such elevated values will be considered as potential exceeding samples.

Areas with potential exceeding samples may be subjected to re-sampling prior to the confirmation of the location as an exceeding sample. After any such re-sampling, the above process will be repeated to confirm the exceeding status of the targeted sample location. It should be noted that if the data indicate a more widespread or Site-wide contamination, then it might be important to look at the effect on a sub-area basis rather than a sample basis. That is, additional alternatives, such as, changing the future land use, further division into smaller sub-areas, or more extensive remediation, would need to be considered and evaluated.

Upon confirmation of an exceeding sample, additional neighboring delineation sampling will be conducted based on a "step-out" approach. Step sizes and directions will be dependent on the location of the exceeding sample and perhaps the magnitude of the exceedance. Additional biased step-out or step-in sampling may be conducted to further refine the extent of the required removal. Each removal will be followed by confirmatory sampling. More detail on this approach is provided in the Statistical Methodology Report.

After the above intermediate removals, results associated with removed exceeding samples will be marked as excluded from the dataset, while non-exceeding delineation and confirmation data will be included in the dataset. The revised dataset will then be subjected to the above exceeding sample determination process, which will be repeated until all exceeding samples are adequately addressed.

4.3 FINAL CONFIRMATION DATASET

At this stage, the final confirmation soil dataset for the Site, consisting of: 1) the original non-exceeding confirmation data collected in accordance with this SAP for the Site; 2) the non-exceeding data generated after intermediate sampling and cleanup, and 3) additional biased and random samples collected for confirmation, will be subjected to a series of statistical analyses in order to determine representative exposure concentrations for that sub-area, as described in the Statistical Methodology Report.

4.4 SOIL VAPOR FLUX SAMPLING

Concurrent with the confirmation soil sampling, BRC will implement soil vapor flux sampling across the Site. This SAP refers to and relies on the most recent NDEP-approved version of Standard Operating Procedure (SOP) 16 for technical description of sampling and analytical methodology, QA/QC protocols, and project procedural description. The sampling procedure for the effort includes the USEPA surface emission isolation flux chamber (flux chamber) and static chamber sampling to perform an air pathway analysis (APA) for the Site. A description of the history, background, and operation of the USEPA-recommended flux chamber and radon flux approach is provided in SOP-16.

The flux chamber sample collection rationale is based on the project goal of obtaining a representative dataset of air emissions per sub-area. Flux chamber samples will be collected from each of the 3-acre grid cells. Soil vapor flux sampling locations have been preferentially selected to ~~will~~ coincide with a biased sampling location~~, if any,~~ in a given cell; several of these biased sampling locations~~if none~~ are associated with ditches. In cases where a given cell contains no biased samples~~present~~, the soil vapor flux sampling location coincides with~~will be performed at~~ the grid-based~~specific~~ random sampling location. This approach results in 43 soil vapor flux sampling locations, indicated on Figure 9, providing full spatial coverage of the Site. All of the flux chamber samples will be tested for both VOC flux and radon flux, and this density of sample collection should be adequate for sub-area characterization given: the random 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 site properties. A higher density of sample collection for VOCs is not warranted given the general lack of VOC detections in soils and groundwater.

4.5 CHEMICALS SELECTED FOR ANALYSIS

The proposed analyte list for soil samples is comprised of the BRC project SRC list, as presented in the Closure Plan[24] and Table 4, with the following exceptions for this Site:

- Asbestos, dioxins/furans and PCBs will only be analyzed for in surface soil samples;
- Only acetaldehyde and formaldehyde will be analyzed for by USEPA Method 8315A (chloroacetaldehyde, dichloroacetaldehyde, and trichloroacetaldehyde removed based on the *Revisions to the Analyte List Technical Memorandum* approved by NDEP on October 16, 2008);
- The following metals will not be analyzed for: niobium, palladium, platinum, silicon, sulfur, and zirconium (removed based on the *Revisions to the Analyte List Technical Memorandum* approved by NDEP on October 16, 2008);
- Aroclors will be analyzed by USEPA Method 8082 only if the results of the analysis of total PCB congeners are greater than 33 ppb, which coincides with the standard reporting limit for this analysis;

[24] Specific analytes and analyte-specific reporting limits for each analysis are listed in Table 4 of the QAPP.

- USEPA Method 8141A for organophosphorus pesticides will not be conducted. There have been only 47 detections of these compounds in over 10,000 soil sample records (<0.5 percent) from throughout the Eastside. There were only two detections in the nine soil samples collected within the Site that were analyzed for these compounds (including samples deeper than 10 ft bgs): one detection each of dimethoate and methyl parathion, Of these, methyl parathion has an established BCL_{RS}; dimethoate does not. The methyl parathion detection was more than three orders of magnitude lower than the applicable human health risk-based screening level.

- USEPA Method 8151A for chlorinated herbicides will not be conducted. There have been no detections of these compounds in over 1,400 soil sample records from throughout the Eastside, including those associated with nine soil samples collected within the Site (including samples collected from depths greater than 10 ft bgs). Detection limits were below the BCL_{RS};

- HPLC Method for organic acids (conducted using a proprietary method developed by Alpha Analytical) will not be conducted. There have been only three detections of these compounds in 567 soil sample records (<0.5 percent) from throughout the Eastside. These constituents were not detected in the seven soil samples collected within the Site (including samples collected from depths greater than 10 ft bgs). Detection limits were below the BCL_{RS};

- USEPA Method 8015B for nonhalogenated organics will not be conducted. There have been only five detections of these compounds in 420 soil sample records (one percent) from throughout the Eastside. These constituents were not detected in the seven samples collected within the Site (including samples collected from depths greater than 10 ft bgs). Detection limits and the few detections have been well below the BCL_{RS};

- USEPA Method 8015 for total petroleum hydrocarbons (TPH) will not be conducted. There have been only three detections of these compounds in over 299 soil sample records (one percent) from throughout the Eastside (none from within the Site). The few detections have been below 100 mg/kg, which is the typical low-end aesthetic threshold used for these compounds. While TPH is not proposed for analysis, its components are via other methods. In addition, TPH cannot be included in a risk assessment while its components can; and

- Consistent with the current project analyte list, the following radionuclides will be analyzed for: radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, and uranium-238. Activities for other radionuclides on the project SRC list may be back-quantitated; however, the main radionuclides listed above will likely provide information sufficient to perform a risk assessment. In addition, if the radionuclide activities are similar to background, then back-quantitation will be unnecessary and will not be performed.

The analyte list, as proposed in this SAP for the Site, consists of 307 of the 418 compounds (including water only parameters) on the project SRC list as well as physical parameters (Section 5.2.3) to support the evaluation of potential impacts to groundwater from migration of chemicals from soil. The analytical and preparatory methods used in accordance with this SAP adhere to the most recent version of the QAPP (BRC and ERM 2009b), which has been revised to ensure appropriate comparisons to the background dataset. The proposed analyte list for soil vapor flux samples is comprised of the list provided in the most recent NDEP-approved version of SOP-16 (see the *BRC Field Sampling and Standard Operating Procedures* [FSSOP]; BRC, ERM and MWH 2008), including radon. This analyte list is provided in Table 5.

5.0 FIELD AND LABORATORY METHODS

5.1 FIELD METHODS

All Site work will be performed under the responsible control and direction of a Nevada State Certified Environmental Manager. All sampling and sample handling procedures will be consistent with the NDEP-approved BRC FSSOP (BRC, ERM and MWH 2008). In accordance with applicable federal regulation (Title 29, Code of Federal Regulations [CFR] Section 1910.120) all field activities will be performed in compliance with the *BRC Health and Safety Plan* (BRC and MWH 2005).

Pre-field and field activities will be conducted in accordance with the most recent NDEP-approved versions of applicable SOPs (BRC, ERM and MWH 2008). These SOPs include SOP-1 (Drilling Methods), SOP-6 (Sample Management and Shipping), SOP-7 (Soil Sampling), SOP-10 (Surveying), SOP-12 (Asbestos Soil Sampling), SOP-13 (Field Equipment Calibration Procedures), SOP-14 (Field Documentation), SOP-15 (Field Logbook), SOP-16 (Flux Chamber Source Testing), SOP-17, (Soil Logging), SOP-23 (Split Spoon Sampling), SOP-26 (Soil Grab Sampling), and SOP-39 (Photoionization Detector Screening).

The BRC QAPP (BRC and ERM 2009b) and Health and Safety Plan (BRC and MWH 2005) prepared for the BMI Common Areas will be used for this proposed scope of work. The selected driller will notify the Underground Services Alert one-call notification system at least 48 hours before implementing any subsurface activities. BRC will also notify the NDEP at least one week prior to commencing field activities. Once the data are collected, BRC will subject the data to validation per procedures agreed to previously with the NDEP and consistent with the BRC QAPP (BRC and ERM 2009b) and SOP-40.

Soil cuttings generated during soil sampling and Hollow Stem Auger (HSA) drilling activities will be collected and stored with the other remediation waste and sent to the CAMU.

5.2 LABORATORY METHODS

Samples submitted for laboratory analysis will be analyzed in accordance with approved methodologies by a State of Nevada-certified analytical laboratory. Samples not specified for analysis will be placed on hold pending the results of the initial analysis.

5.2.1 Soil Chemical Analyses

BRC's current analyte list as approved by the NDEP is presented in Table 4 of the QAPP. Table 4 of this SAP identifies the complete list of analytes proposed for analysis of soil samples along with the appropriate analytical methods. An explanation for the sampling depth-specific exclusion of a chemical for analysis is provided in Table 4 of this SAP. Section 4.5 contains the rationale for exclusion of various chemical analyses from the SAP program for the Site.

5.2.2 Soil Vapor Flux Analyses

As indicated in Table 5, all flux chamber samples will be analyzed by USEPA Method TO-15 full scan, and selective ion mode analyses on a sub-set of VOCs to achieve the lowest attainable method detection limits for the target list of study compounds (see most recent version of SOP-16). In addition, the samples will be analyzed for radon (currently via passive dosimetry for radon adsorbed onto activated charcoal [AC] canisters with detection by gamma scintillation or gamma spectroscopy; see SOP-16). All samples will be analyzed for the target list with optimum method detection limits so that these data can be used to satisfy the sensitivity requirements of the human health risk assessment.

5.2.3 Soil Physical Parameters

In addition to chemical data, to support the evaluation of potential impacts to groundwater, soil physical properties will also be measured. These parameters will be collected to support the migration to groundwater calculations included in the Closure Plan, consistent with the USEPA Soil Screening Guidance (1996; 2000; 2002), as well as more refined modeling tools (such as, VLEACH, SESOIL, and PESTAN). Site-specific soil physical parameters to be measured include pH (USEPA Method 9045C), cation exchange capacity, dry bulk density, soilSoil permeability/saturated hydraulic conductivity, specific gravity, total porosity, volumetric water content, grain size analysis by sieve and hydrometer, and fractional organic carbon content (see Table 4). These soil physical parameters will be measured from each of the subsurface samples collected from the three deep sample locations at the Site (see Figure 9). This will ensure that soil physical parameters will be measured at various depths from across the Site so that all sample depths are represented. In addition, samples will be collected from three subsurface sample locations (see Figure 9 and Table 3) for conducting the synthetic precipitation leaching procedure (SPLP; USEPA Method 1312) with the extract analyzed for metals, organochlorine pesticides, SVOCs, radium-226, radium-228, and perchlorate. These analytes are considered those of greatest concern for potential migration and impacts to groundwater. Two of these SPLP sample locations (*i.e.*, in grid cells AS,23 and AV,25; see Figure 9) will be within ponds in the most heavily impacted portions of the Site known to be moderately impacted.

6.0 REPORTING AND SCHEDULING

After approval of the SAP by NDEP, BRC is prepared to promptly initiate field activities. BRC will be directly in charge of sampling with oversight conducted by NDEP. As discussed in Section 3.4.3 sampling activities are anticipated to be completed over a one to three month period, and laboratory analyses to be completed within a five to six-week period following field work completion. Once the data are collected, BRC will subject the data to validation per procedures agreed to previously with the NDEP and consistent with the BRC QAPP (BRC and ERM 2009b) and SOP-40 (BRC, ERM and MWH 2008). Only those data determined by the QA/QC review to be suitable for use will be considered for the Sitesite dataset. A separate DVSR will be prepared and submitted to NDEP.

Upon receipt of laboratory analytical results and following data validation, a risk assessment will be conducted by BRC (in consultation with NDEP) to evaluate the risks posed to human health and the environment by chemicals remaining in Site soils. The risk assessment will be conducted in accordance with the Risk Assessment Methodology provided in the Closure Plan. As stated in the Closure Plan:

> …risk assessment will not be initiated unless proper data sufficiency, representativeness, and adequacy analysis is first achieved. If necessary, additional data will be gathered or analyzed to meet the goals of data quality required for risk assessment. The risk assessment will, in turn, help to assure that these data characteristics are properly evaluated. Once risk assessment is completed, the assessment will be made as to whether the remediation conducted meets cleanup goals. If cleanup goals are not achieved, additional remediation, associated confirmation sampling, and assessment cycles will be conducted until a decision end point is reached – namely that the cleanup goals are either met (and the NFAD is issued or Site Closure is achieved, as the case may be) or proven infeasible because it is technically impractical or too costly, in which case changes in land use or institutional controls may be considered.

BRC will perform risk assessment calculations to justify additional remediation or sampling; however, these interim risk assessments will not be submitted to the NDEP. It is expected that the interim decisions (to support additional sampling or remediation) will be discussed with the NDEP on an informal but regular basis. Any additional sampling and remediation will be addressed as an addendum to this SAP.

The risk assessment report will be an inclusive report that will also contain the following items:

- A summary of the sampling procedures conducted;
- Sampling location map;
- Soil boring logs;
- An evaluation and summary of the collected data;
- Tables(s) summarizing soil results; and
- If appropriate, plan view maps indicating the locations of detected constituents in soil.

As noted above, completion of the risk assessment will be an iterative process. Once the risk assessment passes internal BRC review, with NDEP consultation, and meets the risk goals stated in the Closure Plan, the risk assessment report will be submitted to the NDEP, along with an NFAD request for the Site, in accordance with AOC3. That is, the risk assessment report will be prepared and submitted to the NDEP only when BRC is comfortable that acceptable human health risks have been attained.

APPENDIX B

ALL HISTORICAL SAMPLING RESULTS COLLECTED FROM THE SPRAY WHEEL SUB-AREA

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 21)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
B-11	12	2	N	5/18/2000	--	--	< 5 U	270 J	--	< 5 U	< 0.5 U	7700 J+	230	< 0.4 U	--	140	24000
B-11	12	5	N	5/18/2000	--	--	< 5 U	260 J	--	5.7	< 0.5 U	23000 J+	17	< 0.4 U	--	17	20000
B-11	12	10	N	5/18/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-11	12	20	N	5/18/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-12	12	2	N	5/19/2000	--	--	< 5 U	280	--	5.9	< 0.5 U	37000 J+	21	6.16	--	17	21000
B-12	12	5	N	5/19/2000	--	--	9.7	380	--	3.6	< 0.5 U	14000 J+	35	< 0.4 U	--	65	20000
B-12	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-12	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-13	12	2	N	5/19/2000	--	--	90	6500	--	14	1.4	20000 J+	270	3.84	--	87	22000
B-13	12	5	N	5/19/2000	--	--	< 5 U	260	--	5.4	< 0.5 U	29000 J+	16	< 0.4 U	--	14	18000
B-13	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-13	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-14	12	2	N	5/19/2000	--	--	--	--	--	6.5	< 0.5 U	20000 J+	26	1.28	--	17	23000
B-14	12	5	N	5/19/2000	--	--	< 5 U	230	--	5.7	< 0.5 U	32000 J+	17	< 0.4 U	--	19	21000
B-14	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-14	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-15	12	2	N	5/19/2000	--	--	9.2	670	--	6.4	< 0.5 U	19000 J+	45	< 0.4 U	--	22	22000
B-15	12	5	N	5/19/2000	--	--	< 5 U	340	--	5.2	< 0.5 U	19000 J+	19	< 0.4 U	--	18	22000
B-15	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
B-15	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	--	--
BDB-16	1a	0	N	4/5/1996	--	--	6.8	370	--	--	0.24	--	35	--	--	--	--
BDB-16	1a	5	N	4/5/1996	--	--	3.1	320	--	--	0.33	--	12	--	--	--	--
BDB-17	1a	0	N	4/5/1996	--	--	10	410	--	--	< 0.21 U	--	220	--	--	--	--
BDB-17	1a	5	N	4/5/1996	--	--	14	270	--	--	0.26	--	13	--	--	--	--
BDB-18	1a	0	N	4/5/1996	--	--	5	270	--	--	0.26	--	10	--	--	--	--
BDB-18	1a	5	N	4/5/1996	--	--	3.7	330	--	--	0.22	--	150	--	--	--	--
PUF-07	1a	0	N	4/5/1996	--	--	42	3700	--	--	< 0.22 U	--	680	--	--	--	--
PUF-07	1a	5	N	4/5/1996	--	--	6.8	350	--	--	< 1.1 U	--	< 2.1 U	--	--	--	--
PUF-07	1a	5	FD	4/5/1996	--	--	21	1900	--	--	0.31	--	16	--	--	--	--
PUF-10	1a	0	N	4/8/1996	--	--	< 2 U	360	--	--	< 10 U	--	340	--	--	--	--
PUF-10	1a	5	N	4/8/1996	--	--	2.7	240	--	--	< 0.21 U	--	9.3	--	--	--	--
PUF-10	6d	0	N	10/27/1999	--	3.4 J-	--	--	--	--	--	--	--	--	--	--	--
PUG-08	1a	0	N	4/5/1996	--	--	47	5300	--	--	< 0.26 U	--	860	--	--	--	--
PUG-08	1a	5	N	4/5/1996	--	--	5.7	280	--	--	0.46	--	22	--	--	--	--
PUG-09	6d	0	N	10/27/1999	--	1 J-	65	420	--	--	--	--	360	--	--	--	--
PUH-07	6d	0	N	10/27/1999	--	1.2 J-	6.4	620	--	--	--	--	180	--	--	--	--
PUH-08	1a	0	N	4/5/1996	--	--	62	1400	--	--	< 0.2 U	--	320	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
PUH-08	1a	5	N	4/5/1996	--	--	3.1	310	--	--	0.27	--	12	--	--	--	--
PUH-09	6d	0	N	10/27/1999	--	< 0.5 UJ	3.2	300	--	--	--	--	190	--	--	--	--
PUH-11	1a	0	N	4/8/1996	--	--	2.8	280	--	--	0.37	--	12	--	--	--	--
PUH-11	1a	5	N	4/8/1996	--	--	3.7	210	--	--	0.42	--	14	--	--	--	--
PUH-11	6d	0	N	10/27/1999	--	< 0.51 UJ	--	--	--	--	--	--	--	--	--	--	--
PUI-08	6d	0	N	10/27/1999	--	1.5 J-	4.7	610	--	--	--	--	660	--	--	--	--
PUI-09	6d	0	N	10/27/1999	--	< 0.5 UJ	6.1	400	--	--	--	--	110	--	--	--	--
PUJ-07	1a	0	N	4/5/1996	--	--	41	610	--	--	< 0.2 U	--	360	--	--	--	--
PUJ-07	1a	5	N	4/5/1996	--	--	18	310	--	--	0.31	--	11	--	--	--	--
PUJ-07	6d	0	N	10/27/1999	--	< 0.51 UJ	--	--	--	--	--	--	--	--	--	--	--
PUK-09	1a	0	N	4/8/1996	--	--	12	300	--	--	< 0.2 U	--	460	--	--	--	--
PUK-09	1a	5	N	4/8/1996	--	< 0.5 U	6.6	300	--	--	0.29	--	12	--	--	--	--
PUK-09	6d	0	N	10/27/1999	--	< 0.5 UJ	--	--	--	--	--	--	--	--	--	--	--
SB-14-A	27	0	N	6/15/2004	10700	< 1.1 UJ-	2.8	230 J-	< 0.54 U	4.5 J	< 0.54 U	25100	10.7 J-	1.5	9 J	15.9 J-	20300
SB-14-A	27	7	N	6/15/2004	8350	< 1.1 UJ-	2.8	121 J-	< 0.53 U	3.8 J	< 0.53 U	22100	6.7 J-	< 0.42 U	7.9 J	18.4 J-	15600
SB-14-A	27	17	N	6/15/2004	11100	< 1.1 UJ-	5.4	452 J-	< 0.54 U	4.3 J	< 0.54 U	17300	14.5 J-	< 0.43 U	9.9 J	21.2 J-	22500
SB-14-A	27	27	N	6/15/2004	8740	< 1 UJ-	6.6	240 J-	< 0.52 U	4.7 J	< 0.52 U	32800	14.2 J-	< 0.42 U	6.4 J	25.1 J-	15900
SB-14-A	27	77	N	6/15/2004	20000	< 1.5 UJ-	56.8	39.7 J-	1.1	69	< 0.75 U	7010	24.5 J-	< 0.6 U	8.9 J	19.9 J-	22000
SB-14-A	27	87	N	6/15/2004	10700	< 1.6 UJ-	49.5	18.8 J-	< 0.78 U	68.6	< 0.78 U	125000	10.4 J-	< 0.62 U	3.7 J	8 J-	9560
SB-14-A	27	107	N	6/15/2004	22000	< 1.4 UJ-	23.7	97.5 J-	1.3	56.2	< 0.7 U	9010	25 J-	< 0.56 U	9.4 J	26.3 J-	21300
SWB-1	33	0	N	4/6/2005	--	--	--	--	--	--	--	507	--	--	--	--	--
SWB-1	33	5	N	4/6/2005	--	--	--	--	--	--	--	321	--	--	--	--	--
SWB-1	33	10	N	4/6/2005	--	--	--	--	--	--	--	1430	--	--	--	--	--
SWB-1	33	20	N	4/6/2005	--	--	--	--	--	--	--	1360	--	--	--	--	--
SWB-1	33	30	N	4/6/2005	--	--	--	--	--	--	--	315	--	--	--	--	--
SWB-1	33	40	N	4/6/2005	--	--	--	--	--	--	--	6080	--	--	--	--	--
SWB-10	33	0	N	4/13/2005	--	--	--	--	--	--	--	121 J+	--	--	--	--	--
SWB-10	33	5	N	4/13/2005	--	--	--	--	--	--	--	147 J+	--	--	--	--	--
SWB-10	33	10	N	4/13/2005	--	--	--	--	--	--	--	336 J+	--	--	--	--	--
SWB-10	33	20	N	4/13/2005	--	--	--	--	--	--	--	1080 J+	--	--	--	--	--
SWB-10	33	30	N	4/13/2005	--	--	--	--	--	--	--	1060 J+	--	--	--	--	--
SWB-10	33	40	N	4/13/2005	--	--	--	--	--	--	--	118 J+	--	--	--	--	--
SWB-12	33	0	N	4/1/2005	--	--	--	--	--	--	--	1210 J+	--	--	--	--	--
SWB-12	33	5	N	4/1/2005	--	--	--	--	--	--	--	266 J+	--	--	--	--	--
SWB-12	33	10	N	4/1/2005	--	--	--	--	--	--	--	6240 J+	--	--	--	--	--
SWB-12	33	20	N	4/1/2005	--	--	--	--	--	--	--	1840 J+	--	--	--	--	--
SWB-12	33	30	N	4/1/2005	--	--	--	--	--	--	--	467 J+	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
SWB-13	33	0	N	4/1/2005	--	--	--	--	--	--	--	73.8 J+	--	--	--	--	--
SWB-13	33	5	N	4/1/2005	--	--	--	--	--	--	--	636 J+	--	--	--	--	--
SWB-13	33	10	N	4/1/2005	--	--	--	--	--	--	--	1190 J+	--	--	--	--	--
SWB-13	33	20	N	4/1/2005	--	--	--	--	--	--	--	864 J+	--	--	--	--	--
SWB-13	33	30	N	4/1/2005	--	--	--	--	--	--	--	240 J+	--	--	--	--	--
SWB-14	33	0	N	4/5/2005	--	--	--	--	--	--	--	118	--	--	--	--	--
SWB-14	33	5	N	4/5/2005	--	--	--	--	--	--	--	333	--	--	--	--	--
SWB-14	33	10	N	4/5/2005	--	--	--	--	--	--	--	878	--	--	--	--	--
SWB-14	33	20	N	4/5/2005	--	--	--	--	--	--	--	65.3	--	--	--	--	--
SWB-14	33	30	N	4/5/2005	--	--	--	--	--	--	--	96.6	--	--	--	--	--
SWB-15	33	0	N	4/5/2005	--	--	--	--	--	--	--	1200	--	--	--	--	--
SWB-15	33	5	N	4/5/2005	--	--	--	--	--	--	--	398	--	--	--	--	--
SWB-15	33	10	N	4/5/2005	--	--	--	--	--	--	--	1360	--	--	--	--	--
SWB-15	33	20	N	4/5/2005	--	--	--	--	--	--	--	967	--	--	--	--	--
SWB-15	33	30	N	4/5/2005	--	--	--	--	--	--	--	451	--	--	--	--	--
SWB-15	33	40	N	4/5/2005	--	--	--	--	--	--	--	248	--	--	--	--	--
SWB-16	33	0	N	4/8/2005	--	--	--	--	--	--	--	458	--	--	--	--	--
SWB-16	33	10	N	4/8/2005	--	--	--	--	--	--	--	1360	--	--	--	--	--
SWB-16	33	20	N	4/8/2005	--	--	--	--	--	--	--	678	--	--	--	--	--
SWB-16	33	30	N	4/8/2005	--	--	--	--	--	--	--	331	--	--	--	--	--
SWB-16	33	40	N	4/8/2005	--	--	--	--	--	--	--	106	--	--	--	--	--
SWB-17	33	5	N	4/14/2005	--	--	--	--	--	--	--	59.8 J+	--	--	--	--	--
SWB-17	33	10	N	4/14/2005	--	--	--	--	--	--	--	65.5 J+	--	--	--	--	--
SWB-17	33	20	N	4/14/2005	--	--	--	--	--	--	--	115 J+	--	--	--	--	--
SWB-17	33	30	N	4/14/2005	--	--	--	--	--	--	--	403 J+	--	--	--	--	--
SWB-17	33	40	N	4/14/2005	--	--	--	--	--	--	--	175 J+	--	--	--	--	--
SWB-18	33	0	N	3/31/2005	--	--	--	--	--	--	--	891	--	--	--	--	--
SWB-18	33	5	N	3/31/2005	--	--	--	--	--	--	--	742	--	--	--	--	--
SWB-18	33	10	N	3/31/2005	--	--	--	--	--	--	--	1760	--	--	--	--	--
SWB-18	33	20	N	3/31/2005	--	--	--	--	--	--	--	1720	--	--	--	--	--
SWB-18	33	30	N	3/31/2005	--	--	--	--	--	--	--	180	--	--	--	--	--
SWB-19	33	0	N	4/12/2005	--	--	--	--	--	--	--	160	--	--	--	--	--
SWB-19	33	5	N	4/12/2005	--	--	--	--	--	--	--	84.1	--	--	--	--	--
SWB-19	33	10	N	4/12/2005	--	--	--	--	--	--	--	1050	--	--	--	--	--
SWB-19	33	20	N	4/12/2005	--	--	--	--	--	--	--	586	--	--	--	--	--
SWB-19	33	30	N	4/12/2005	--	--	--	--	--	--	--	164	--	--	--	--	--
SWB-2	33	0	N	4/6/2005	--	--	--	--	--	--	--	641	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

					Metals												
Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
SWB-2	33	5	N	4/6/2005	--	--	--	--	--	--	--	2180	--	--	--	--	--
SWB-2	33	10	N	4/6/2005	--	--	--	--	--	--	--	5760	--	--	--	--	--
SWB-2	33	20	N	4/6/2005	--	--	--	--	--	--	--	1910	--	--	--	--	--
SWB-2	33	30	N	4/6/2005	--	--	--	--	--	--	--	4620	--	--	--	--	--
SWB-20	33	0	N	4/11/2005	--	--	--	--	--	--	--	25.9	--	--	--	--	--
SWB-20	33	5	N	4/11/2005	--	--	--	--	--	--	--	189	--	--	--	--	--
SWB-20	33	10	N	4/11/2005	--	--	--	--	--	--	--	1430	--	--	--	--	--
SWB-20	33	20	N	4/11/2005	--	--	--	--	--	--	--	897	--	--	--	--	--
SWB-20	33	30	N	4/11/2005	--	--	--	--	--	--	--	330	--	--	--	--	--
SWB-21	33	0	N	4/5/2005	--	--	--	--	--	--	--	527	--	--	--	--	--
SWB-21	33	5	N	4/5/2005	--	--	--	--	--	--	--	388	--	--	--	--	--
SWB-21	33	10	N	4/5/2005	--	--	--	--	--	--	--	1170	--	--	--	--	--
SWB-21	33	20	N	4/5/2005	--	--	--	--	--	--	--	977	--	--	--	--	--
SWB-21	33	30	N	4/5/2005	--	--	--	--	--	--	--	248	--	--	--	--	--
SWB-21	33	40	N	4/5/2005	--	--	--	--	--	--	--	78.2	--	--	--	--	--
SWB-22	33	0	N	4/8/2005	--	--	--	--	--	--	--	120	--	--	--	--	--
SWB-22	33	5	N	4/8/2005	--	--	--	--	--	--	--	918	--	--	--	--	--
SWB-22	33	10	N	4/8/2005	--	--	--	--	--	--	--	1920	--	--	--	--	--
SWB-22	33	20	N	4/8/2005	--	--	--	--	--	--	--	1310	--	--	--	--	--
SWB-22	33	30	N	4/8/2005	--	--	--	--	--	--	--	1000	--	--	--	--	--
SWB-22	33	40	N	4/8/2005	--	--	--	--	--	--	--	96.4	--	--	--	--	--
SWB-23	33	0	N	4/12/2005	--	--	--	--	--	--	--	48	--	--	--	--	--
SWB-23	33	5	N	4/12/2005	--	--	--	--	--	--	--	318	--	--	--	--	--
SWB-23	33	10	N	4/12/2005	--	--	--	--	--	--	--	640	--	--	--	--	--
SWB-23	33	20	N	4/12/2005	--	--	--	--	--	--	--	726	--	--	--	--	--
SWB-23	33	30	N	4/12/2005	--	--	--	--	--	--	--	310	--	--	--	--	--
SWB-23	33	40	N	4/12/2005	--	--	--	--	--	--	--	91.3	--	--	--	--	--
SWB-25	33	0	N	3/31/2005	--	--	--	--	--	--	--	1450	--	--	--	--	--
SWB-25	33	5	N	3/31/2005	--	--	--	--	--	--	--	564	--	--	--	--	--
SWB-25	33	10	N	3/31/2005	--	--	--	--	--	--	--	1140	--	--	--	--	--
SWB-25	33	20	N	3/31/2005	--	--	--	--	--	--	--	1070	--	--	--	--	--
SWB-25	33	30	N	3/31/2005	--	--	--	--	--	--	--	367	--	--	--	--	--
SWB-25	33	40	N	3/31/2005	--	--	--	--	--	--	--	1370	--	--	--	--	--
SWB-26	33	0	N	4/4/2005	--	--	--	--	--	--	--	153	--	--	--	--	--
SWB-26	33	5	N	4/4/2005	--	--	--	--	--	--	--	714	--	--	--	--	--
SWB-26	33	10	N	4/4/2005	--	--	--	--	--	--	--	1880	--	--	--	--	--
SWB-26	33	20	N	4/4/2005	--	--	--	--	--	--	--	1110	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
SWB-26	33	30	N	4/4/2005	--	--	--	--	--	--	--	230	--	--	--	--	--
SWB-27	33	0	N	4/4/2005	--	--	--	--	--	--	--	72.9	--	--	--	--	--
SWB-27	33	5	N	4/4/2005	--	--	--	--	--	--	--	1680	--	--	--	--	--
SWB-27	33	10	N	4/4/2005	--	--	--	--	--	--	--	1930	--	--	--	--	--
SWB-27	33	20	N	4/4/2005	--	--	--	--	--	--	--	1110	--	--	--	--	--
SWB-27	33	30	N	4/4/2005	--	--	--	--	--	--	--	296	--	--	--	--	--
SWB-27	33	40	N	4/4/2005	--	--	--	--	--	--	--	101	--	--	--	--	--
SWB-28	33	0	N	4/5/2005	--	--	--	--	--	--	--	159	--	--	--	--	--
SWB-28	33	5	N	4/5/2005	--	--	--	--	--	--	--	841	--	--	--	--	--
SWB-28	33	10	N	4/5/2005	--	--	--	--	--	--	--	1400	--	--	--	--	--
SWB-28	33	20	N	4/5/2005	--	--	--	--	--	--	--	1680	--	--	--	--	--
SWB-28	33	30	N	4/5/2005	--	--	--	--	--	--	--	381	--	--	--	--	--
SWB-28	33	40	N	4/5/2005	--	--	--	--	--	--	--	110	--	--	--	--	--
SWB-29	33	0	N	4/4/2005	--	--	--	--	--	--	--	240 J+	--	--	--	--	--
SWB-29	33	5	N	4/4/2005	--	--	--	--	--	--	--	778 J+	--	--	--	--	--
SWB-29	33	10	N	4/4/2005	--	--	--	--	--	--	--	1650 J+	--	--	--	--	--
SWB-29	33	20	N	4/4/2005	--	--	--	--	--	--	--	56.7 J+	--	--	--	--	--
SWB-29	33	30	N	4/4/2005	--	--	--	--	--	--	--	60.8 J+	--	--	--	--	--
SWB-29	33	40	N	4/4/2005	--	--	--	--	--	--	--	47.9 J+	--	--	--	--	--
SWB-3	33	0	N	4/6/2005	--	--	--	--	--	--	--	277	--	--	--	--	--
SWB-3	33	5	N	4/5/2005	--	--	--	--	--	--	--	270	--	--	--	--	--
SWB-3	33	10	N	4/5/2005	--	--	--	--	--	--	--	438	--	--	--	--	--
SWB-3	33	20	N	4/5/2005	--	--	--	--	--	--	--	1330	--	--	--	--	--
SWB-3	33	30	N	4/5/2005	--	--	--	--	--	--	--	476	--	--	--	--	--
SWB-30	33	5	N	4/14/2005	--	--	--	--	--	--	--	53.9 J+	--	--	--	--	--
SWB-30	33	10	N	4/14/2005	--	--	--	--	--	--	--	70.2 J+	--	--	--	--	--
SWB-30	33	20	N	4/14/2005	--	--	--	--	--	--	--	52.9 J+	--	--	--	--	--
SWB-30	33	30	N	4/14/2005	--	--	--	--	--	--	--	70.7 J+	--	--	--	--	--
SWB-30	33	40	N	4/14/2005	--	--	--	--	--	--	--	63.2 J+	--	--	--	--	--
SWB-31	33	0	N	3/31/2005	--	--	--	--	--	--	--	27.4	--	--	--	--	--
SWB-31	33	5	N	3/31/2005	--	--	--	--	--	--	--	181	--	--	--	--	--
SWB-31	33	10	N	3/31/2005	--	--	--	--	--	--	--	769	--	--	--	--	--
SWB-31	33	20	N	3/31/2005	--	--	--	--	--	--	--	233	--	--	--	--	--
SWB-31	33	30	N	3/31/2005	--	--	--	--	--	--	--	147	--	--	--	--	--
SWB-32	33	0	N	3/30/2005	--	--	--	--	--	--	--	92.7	--	--	--	--	--
SWB-32	33	5	N	3/30/2005	--	--	--	--	--	--	--	455	--	--	--	--	--
SWB-32	33	10	N	3/30/2005	--	--	--	--	--	--	--	759	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
SWB-32	33	20	N	3/30/2005	--	--	--	--	--	--	--	1010	--	--	--	--	--
SWB-32	33	30	N	3/30/2005	--	--	--	--	--	--	--	246	--	--	--	--	--
SWB-32	33	40	N	3/30/2005	--	--	--	--	--	--	--	202	--	--	--	--	--
SWB-33	33	0	N	4/4/2005	--	--	--	--	--	--	--	176 J+	--	--	--	--	--
SWB-33	33	5	N	4/4/2005	--	--	--	--	--	--	--	604 J+	--	--	--	--	--
SWB-33	33	10	N	4/4/2005	--	--	--	--	--	--	--	1570 J+	--	--	--	--	--
SWB-33	33	20	N	4/4/2005	--	--	--	--	--	--	--	1360 J+	--	--	--	--	--
SWB-33	33	30	N	4/4/2005	--	--	--	--	--	--	--	288 J+	--	--	--	--	--
SWB-33	33	40	N	4/4/2005	--	--	--	--	--	--	--	89.5 J+	--	--	--	--	--
SWB-34	33	5	N	4/13/2005	--	--	--	--	--	--	--	151 J+	--	--	--	--	--
SWB-34	33	10	N	4/13/2005	--	--	--	--	--	--	--	114 J+	--	--	--	--	--
SWB-34	33	20	N	4/13/2005	--	--	--	--	--	--	--	100 J+	--	--	--	--	--
SWB-34	33	30	N	4/13/2005	--	--	--	--	--	--	--	75.6 J+	--	--	--	--	--
SWB-34	33	40	N	4/13/2005	--	--	--	--	--	--	--	90.7 J+	--	--	--	--	--
SWB-35	33	0	N	3/30/2005	--	--	--	--	--	--	--	36.2	--	--	--	--	--
SWB-35	33	5	N	3/30/2005	--	--	--	--	--	--	--	1000	--	--	--	--	--
SWB-35	33	10	N	3/30/2005	--	--	--	--	--	--	--	871	--	--	--	--	--
SWB-35	33	20	N	3/30/2005	--	--	--	--	--	--	--	152	--	--	--	--	--
SWB-35	33	30	N	3/30/2005	--	--	--	--	--	--	--	74.3	--	--	--	--	--
SWB-35	33	40	N	3/30/2005	--	--	--	--	--	--	--	84.2	--	--	--	--	--
SWB-4	33	0	N	4/7/2005	--	--	--	--	--	--	--	176	--	--	--	--	--
SWB-4	33	5	N	4/7/2005	--	--	--	--	--	--	--	1290	--	--	--	--	--
SWB-4	33	10	N	4/7/2005	--	--	--	--	--	--	--	1560	--	--	--	--	--
SWB-4	33	20	N	4/7/2005	--	--	--	--	--	--	--	1280	--	--	--	--	--
SWB-4	33	30	N	4/7/2005	--	--	--	--	--	--	--	317	--	--	--	--	--
SWB-4	33	40	N	4/7/2005	--	--	--	--	--	--	--	109	--	--	--	--	--
SWB-5	33	0	N	4/13/2005	--	--	--	--	--	--	--	203 J+	--	--	--	--	--
SWB-5	33	5	N	4/13/2005	--	--	--	--	--	--	--	772 J+	--	--	--	--	--
SWB-5	33	10	N	4/13/2005	--	--	--	--	--	--	--	1040 J+	--	--	--	--	--
SWB-5	33	20	N	4/13/2005	--	--	--	--	--	--	--	818 J+	--	--	--	--	--
SWB-5	33	30	N	4/13/2005	--	--	--	--	--	--	--	249 J+	--	--	--	--	--
SWB-5	33	40	N	4/13/2005	--	--	--	--	--	--	--	104 J+	--	--	--	--	--
SWB-6	33	0	N	4/1/2005	--	--	--	--	--	--	--	< 530 UJ+	--	--	--	--	--
SWB-6	33	5	N	4/1/2005	--	--	--	--	--	--	--	156 J+	--	--	--	--	--
SWB-6	33	10	N	4/1/2005	--	--	--	--	--	--	--	1350 J+	--	--	--	--	--
SWB-6	33	20	N	4/1/2005	--	--	--	--	--	--	--	491 J+	--	--	--	--	--
SWB-6	33	30	N	4/1/2005	--	--	--	--	--	--	--	578 J+	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (Total)	Chromium (VI)	Cobalt	Copper	Iron
SWB-7	33	0	N	4/6/2005	--	--	--	--	--	--	--	82.3	--	--	--	--	--
SWB-7	33	5	N	4/6/2005	--	--	--	--	--	--	--	845	--	--	--	--	--
SWB-7	33	10	N	4/6/2005	--	--	--	--	--	--	--	109	--	--	--	--	--
SWB-7	33	20	N	4/6/2005	--	--	--	--	--	--	--	877	--	--	--	--	--
SWB-7	33	30	N	4/6/2005	--	--	--	--	--	--	--	5970	--	--	--	--	--
SWB-8	33	0	N	4/7/2005	--	--	--	--	--	--	--	2830	--	--	--	--	--
SWB-8	33	5	N	4/7/2005	--	--	--	--	--	--	--	690	--	--	--	--	--
SWB-8	33	10	N	4/7/2005	--	--	--	--	--	--	--	1500	--	--	--	--	--
SWB-8	33	20	N	4/7/2005	--	--	--	--	--	--	--	1100	--	--	--	--	--
SWB-8	33	30	N	4/7/2005	--	--	--	--	--	--	--	228	--	--	--	--	--
SWB-9	33	0	N	4/7/2005	--	--	--	--	--	--	--	1700	--	--	--	--	--
SWB-9	33	5	N	4/7/2005	--	--	--	--	--	--	--	1140	--	--	--	--	--
SWB-9	33	10	N	4/7/2005	--	--	--	--	--	--	--	1260	--	--	--	--	--
SWB-9	33	20	N	4/7/2005	--	--	--	--	--	--	--	708	--	--	--	--	--
SWB-9	33	30	N	4/7/2005	--	--	--	--	--	--	--	150	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

					Metals												
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
B-11	12	2	N	5/18/2000	9.4	--	9500	500	< 0.1 U	15	--	--	--	--	--	1900	< 5 U
B-11	12	5	N	5/18/2000	5.3	--	14000	390	< 0.1 U	2.7	--	--	--	--	--	2100	< 5 U
B-11	12	10	N	5/18/2000	--	--	--	--	--	--	--	--	--	--	--	930	--
B-11	12	20	N	5/18/2000	--	--	--	--	--	--	--	--	--	--	--	1200	--
B-12	12	2	N	5/19/2000	18	--	11000	490	< 0.1 U	2.1	--	--	--	--	--	1900	< 5 U
B-12	12	5	N	5/19/2000	130	--	12000	1800	< 0.1 U	2.8	--	--	--	--	--	2100	< 5 U
B-12	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1100	--
B-12	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1000	--
B-13	12	2	N	5/19/2000	2400	--	14000	3700	0.3	20	--	--	--	--	--	1700	< 5 U
B-13	12	5	N	5/19/2000	6.8	--	12000	490	< 0.1 U	1.3	--	--	--	--	--	2400	< 5 U
B-13	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1900	--
B-13	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1500	--
B-14	12	2	N	5/19/2000	6	--	11000	600	< 0.1 U	1.6	--	--	--	--	--	2200	< 5 U
B-14	12	5	N	5/19/2000	5.8	--	12000	540	< 0.1 U	1.7	--	--	--	--	--	2200	< 5 U
B-14	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1300	--
B-14	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1500	--
B-15	12	2	N	5/19/2000	85	--	11000	790	0.27	2.9	--	--	--	--	--	1600	< 5 U
B-15	12	5	N	5/19/2000	7.5	--	11000	530	< 0.1 U	2.1	--	--	--	--	--	2200	< 5 U
B-15	12	10	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1600	--
B-15	12	20	N	5/19/2000	--	--	--	--	--	--	--	--	--	--	--	1500	--
BDB-16	1a	0	N	4/5/1996	42	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.6 U
BDB-16	1a	5	N	4/5/1996	11	--	--	--	< 0.1 U	--	--	--	--	--	--	--	< 0.62 U
BDB-17	1a	0	N	4/5/1996	95	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.62 U
BDB-17	1a	5	N	4/5/1996	11	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.61 U
BDB-18	1a	0	N	4/5/1996	9.1	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.6 U
BDB-18	1a	5	N	4/5/1996	18	--	--	--	< 0.11 U	--	--	--	--	--	--	--	< 0.64 U
PUF-07	1a	0	N	4/5/1996	410	--	--	--	0.43	--	--	--	--	--	--	--	4.7
PUF-07	1a	5	N	4/5/1996	14	--	--	--	< 0.088 U	--	--	--	--	--	--	--	< 1.1 U
PUF-07	1a	5	FD	4/5/1996	190	--	--	--	0.11	--	--	--	--	--	--	--	< 0.62 U
PUF-10	1a	0	N	4/8/1996	30	--	--	--	< 0.1 U	--	--	--	--	--	--	--	< 0.6 U
PUF-10	1a	5	N	4/8/1996	9.6	--	--	--	< 0.11 U	--	--	--	--	--	--	--	< 0.63 U
PUF-10	6d	0	N	10/27/1999	--	--	--	750	--	--	--	--	--	--	--	--	--
PUG-08	1a	0	N	4/5/1996	3000	--	--	--	1.2	--	--	--	--	--	--	--	9
PUG-08	1a	5	N	4/5/1996	12	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.62 U
PUG-09	6d	0	N	10/27/1999	42	--	--	600	--	--	--	--	--	--	--	--	--
PUH-07	6d	0	N	10/27/1999	31	--	--	600	--	--	--	--	--	--	--	--	--
PUH-08	1a	0	N	4/5/1996	410	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.6 U

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
PUH-08	1a	5	N	4/5/1996	11	--	--	--	< 0.08 U	--	--	--	--	--	--	--	< 0.63 U
PUH-09	6d	0	N	10/27/1999	12	--	--	650	--	--	--	--	--	--	--	--	--
PUH-11	1a	0	N	4/8/1996	11	--	--	--	< 0.1 U	--	--	--	--	--	--	--	< 0.59 U
PUH-11	1a	5	N	4/8/1996	8	--	--	--	< 0.1 U	--	--	--	--	--	--	--	< 0.62 U
PUH-11	6d	0	N	10/27/1999	--	--	--	690	--	--	--	--	--	--	--	--	--
PUI-08	6d	0	N	10/27/1999	35	--	--	400	--	--	--	--	--	--	--	--	--
PUI-09	6d	0	N	10/27/1999	32	--	--	590	--	--	--	--	--	--	--	--	--
PUJ-07	1a	0	N	4/5/1996	110	--	--	--	0.22	--	--	--	--	--	--	--	< 0.6 U
PUJ-07	1a	5	N	4/5/1996	9.8	--	--	--	< 0.09 U	--	--	--	--	--	--	--	< 0.63 U
PUJ-07	6d	0	N	10/27/1999	--	--	--	320	--	--	--	--	--	--	--	--	--
PUK-09	1a	0	N	4/8/1996	13	--	--	--	< 0.1 U	--	--	--	--	--	--	--	< 0.61 U
PUK-09	1a	5	N	4/8/1996	11	--	--	340	< 0.11 U	--	--	--	--	--	--	--	< 0.62 U
PUK-09	6d	0	N	10/27/1999	--	--	--	340	--	--	--	--	--	--	--	--	--
SB-14-A	27	0	N	6/15/2004	10.3	< 5.4 U	11000	535	0.032 J	< 1.1 U	16 J+	< 2.7 UJ-	0.86	1660 J+	< 0.11 U	1750 J-	< 0.54 U
SB-14-A	27	7	N	6/15/2004	10.5	< 5.3 U	10200	513	0.042	< 1.1 U	13 J+	< 2.6 UJ-	1	2840 J+	< 0.11 U	949 J-	< 0.53 U
SB-14-A	27	17	N	6/15/2004	51.6	11.7	11300	566	0.019 J	0.98 J	16.5 J+	< 2.7 UJ-	1.1	2330 J+	< 0.11 U	2000 J-	< 0.54 U
SB-14-A	27	27	N	6/15/2004	13.2	15.5	8230	364	0.02 J	0.62 J	12 J+	< 2.6 UJ-	0.66	1080 J+	< 0.1 U	958 J-	< 0.52 U
SB-14-A	27	77	N	6/15/2004	11.9	155	58600	265	< 0.05 U	2.4	23.2 J+	< 3.8 UJ-	0.52	923 J+	< 0.15 U	7240 J-	< 0.75 U
SB-14-A	27	87	N	6/15/2004	5.2	119	61400	302	< 0.052 U	1.6	12.7 J+	< 3.9 UJ-	0.58	440 J+	< 0.16 U	3860 J-	< 0.78 U
SB-14-A	27	107	N	6/15/2004	17.6	232	61100	302	< 0.047 U	0.95 J	21.8 J+	< 3.5 UJ-	1.8	963 J+	< 0.14 U	9070 J-	10.2
SWB-1	33	0	N	4/6/2005	--	--	90.6	--	--	--	--	--	--	--	--	19.9	--
SWB-1	33	5	N	4/6/2005	--	--	158	--	--	--	--	--	--	--	--	28.9	--
SWB-1	33	10	N	4/6/2005	--	--	1120	--	--	--	--	--	--	--	--	54.3	--
SWB-1	33	20	N	4/6/2005	--	--	469	--	--	--	--	--	--	--	--	< 530 U	--
SWB-1	33	30	N	4/6/2005	--	--	108	--	--	--	--	--	--	--	--	34.8	--
SWB-1	33	40	N	4/6/2005	--	--	360	--	--	--	--	--	--	--	--	99.2	--
SWB-10	33	0	N	4/13/2005	--	--	67.9 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-10	33	5	N	4/13/2005	--	--	96.8 J+	--	--	--	--	--	--	--	--	29	--
SWB-10	33	10	N	4/13/2005	--	--	374 J+	--	--	--	--	--	--	--	--	24.5	--
SWB-10	33	20	N	4/13/2005	--	--	1200 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-10	33	30	N	4/13/2005	--	--	929 J+	--	--	--	--	--	--	--	--	34.9	--
SWB-10	33	40	N	4/13/2005	--	--	61.2 J+	--	--	--	--	--	--	--	--	21.3	--
SWB-12	33	0	N	4/1/2005	--	--	124 J+	--	--	--	--	--	--	--	--	15.8	--
SWB-12	33	5	N	4/1/2005	--	--	160 J+	--	--	--	--	--	--	--	--	33.7	--
SWB-12	33	10	N	4/1/2005	--	--	1360 J+	--	--	--	--	--	--	--	--	29.1	--
SWB-12	33	20	N	4/1/2005	--	--	352 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-12	33	30	N	4/1/2005	--	--	114 J+	--	--	--	--	--	--	--	--	< 530 U	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
SWB-13	33	0	N	4/1/2005	--	--	32.8 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-13	33	5	N	4/1/2005	--	--	316 J+	--	--	--	--	--	--	--	--	66.9	--
SWB-13	33	10	N	4/1/2005	--	--	1100 J+	--	--	--	--	--	--	--	--	33.6	--
SWB-13	33	20	N	4/1/2005	--	--	824 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-13	33	30	N	4/1/2005	--	--	93.1 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-14	33	0	N	4/5/2005	--	--	64.2	--	--	--	--	--	--	--	--	26.2	--
SWB-14	33	5	N	4/5/2005	--	--	194	--	--	--	--	--	--	--	--	66.7	--
SWB-14	33	10	N	4/5/2005	--	--	346	--	--	--	--	--	--	--	--	101	--
SWB-14	33	20	N	4/5/2005	--	--	19.6	--	--	--	--	--	--	--	--	< 530 U	--
SWB-14	33	30	N	4/5/2005	--	--	40.4	--	--	--	--	--	--	--	--	< 530 U	--
SWB-15	33	0	N	4/5/2005	--	--	222	--	--	--	--	--	--	--	--	16.2	--
SWB-15	33	5	N	4/5/2005	--	--	291	--	--	--	--	--	--	--	--	81.8	--
SWB-15	33	10	N	4/5/2005	--	--	1360	--	--	--	--	--	--	--	--	63.3	--
SWB-15	33	20	N	4/5/2005	--	--	952	--	--	--	--	--	--	--	--	< 530 U	--
SWB-15	33	30	N	4/5/2005	--	--	342	--	--	--	--	--	--	--	--	12.9	--
SWB-15	33	40	N	4/5/2005	--	--	119	--	--	--	--	--	--	--	--	18.8	--
SWB-16	33	0	N	4/8/2005	--	--	387	--	--	--	--	--	--	--	--	38.7 J-	--
SWB-16	33	10	N	4/8/2005	--	--	1530	--	--	--	--	--	--	--	--	150 J-	--
SWB-16	33	20	N	4/8/2005	--	--	681	--	--	--	--	--	--	--	--	17.1 J-	--
SWB-16	33	30	N	4/8/2005	--	--	175	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-16	33	40	N	4/8/2005	--	--	71.9	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-17	33	5	N	4/14/2005	--	--	92.4 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-17	33	10	N	4/14/2005	--	--	131 J+	--	--	--	--	--	--	--	--	24.4	--
SWB-17	33	20	N	4/14/2005	--	--	208 J+	--	--	--	--	--	--	--	--	55.1	--
SWB-17	33	30	N	4/14/2005	--	--	859 J+	--	--	--	--	--	--	--	--	97.2	--
SWB-17	33	40	N	4/14/2005	--	--	331 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-18	33	0	N	3/31/2005	--	--	201	--	--	--	--	--	--	--	--	17.2	--
SWB-18	33	5	N	3/31/2005	--	--	719	--	--	--	--	--	--	--	--	35.5	--
SWB-18	33	10	N	3/31/2005	--	--	1820	--	--	--	--	--	--	--	--	51.6	--
SWB-18	33	20	N	3/31/2005	--	--	743	--	--	--	--	--	--	--	--	20.1	--
SWB-18	33	30	N	3/31/2005	--	--	64.6	--	--	--	--	--	--	--	--	< 530 U	--
SWB-19	33	0	N	4/12/2005	--	--	61.4	--	--	--	--	--	--	--	--	27	--
SWB-19	33	5	N	4/12/2005	--	--	66.1	--	--	--	--	--	--	--	--	16.7	--
SWB-19	33	10	N	4/12/2005	--	--	850	--	--	--	--	--	--	--	--	23.8	--
SWB-19	33	20	N	4/12/2005	--	--	227	--	--	--	--	--	--	--	--	< 50 U	--
SWB-19	33	30	N	4/12/2005	--	--	58.4	--	--	--	--	--	--	--	--	18.1	--
SWB-2	33	0	N	4/6/2005	--	--	139	--	--	--	--	--	--	--	--	36.8	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
SWB-2	33	5	N	4/6/2005	--	--	1630	--	--	--	--	--	--	--	--	37	--
SWB-2	33	10	N	4/6/2005	--	--	2150	--	--	--	--	--	--	--	--	29	--
SWB-2	33	20	N	4/6/2005	--	--	1200	--	--	--	--	--	--	--	--	23.5	--
SWB-2	33	30	N	4/6/2005	--	--	338	--	--	--	--	--	--	--	--	40.3	--
SWB-20	33	0	N	4/11/2005	--	--	19.3	--	--	--	--	--	--	--	--	< 50 U	--
SWB-20	33	5	N	4/11/2005	--	--	189	--	--	--	--	--	--	--	--	25.2	--
SWB-20	33	10	N	4/11/2005	--	--	686	--	--	--	--	--	--	--	--	26.5	--
SWB-20	33	20	N	4/11/2005	--	--	294	--	--	--	--	--	--	--	--	< 50 U	--
SWB-20	33	30	N	4/11/2005	--	--	83.9	--	--	--	--	--	--	--	--	< 50 U	--
SWB-21	33	0	N	4/5/2005	--	--	134	--	--	--	--	--	--	--	--	< 530 U	--
SWB-21	33	5	N	4/5/2005	--	--	136	--	--	--	--	--	--	--	--	32.6	--
SWB-21	33	10	N	4/5/2005	--	--	1130	--	--	--	--	--	--	--	--	30	--
SWB-21	33	20	N	4/5/2005	--	--	896	--	--	--	--	--	--	--	--	20.3	--
SWB-21	33	30	N	4/5/2005	--	--	138	--	--	--	--	--	--	--	--	< 530 U	--
SWB-21	33	40	N	4/5/2005	--	--	33.9	--	--	--	--	--	--	--	--	< 530 U	--
SWB-22	33	0	N	4/8/2005	--	--	73.8	--	--	--	--	--	--	--	--	22.3 J-	--
SWB-22	33	5	N	4/8/2005	--	--	621	--	--	--	--	--	--	--	--	31.2 J-	--
SWB-22	33	10	N	4/8/2005	--	--	2050	--	--	--	--	--	--	--	--	24.7 J-	--
SWB-22	33	20	N	4/8/2005	--	--	1410	--	--	--	--	--	--	--	--	16 J-	--
SWB-22	33	30	N	4/8/2005	--	--	438	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-22	33	40	N	4/8/2005	--	--	70	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-23	33	0	N	4/12/2005	--	--	26.2	--	--	--	--	--	--	--	--	17.5	--
SWB-23	33	5	N	4/12/2005	--	--	281	--	--	--	--	--	--	--	--	32.1	--
SWB-23	33	10	N	4/12/2005	--	--	550	--	--	--	--	--	--	--	--	52.6	--
SWB-23	33	20	N	4/12/2005	--	--	421	--	--	--	--	--	--	--	--	< 50 U	--
SWB-23	33	30	N	4/12/2005	--	--	155	--	--	--	--	--	--	--	--	< 50 U	--
SWB-23	33	40	N	4/12/2005	--	--	58.8	--	--	--	--	--	--	--	--	< 50 U	--
SWB-25	33	0	N	3/31/2005	--	--	148	--	--	--	--	--	--	--	--	19.5	--
SWB-25	33	5	N	3/31/2005	--	--	252	--	--	--	--	--	--	--	--	28.4	--
SWB-25	33	10	N	3/31/2005	--	--	1040	--	--	--	--	--	--	--	--	28.6	--
SWB-25	33	20	N	3/31/2005	--	--	560	--	--	--	--	--	--	--	--	14.9	--
SWB-25	33	30	N	3/31/2005	--	--	149	--	--	--	--	--	--	--	--	21.3	--
SWB-25	33	40	N	3/31/2005	--	--	278	--	--	--	--	--	--	--	--	40.5	--
SWB-26	33	0	N	4/4/2005	--	--	58.8	--	--	--	--	--	--	--	--	< 530 U	--
SWB-26	33	5	N	4/4/2005	--	--	655	--	--	--	--	--	--	--	--	26.6	--
SWB-26	33	10	N	4/4/2005	--	--	1570	--	--	--	--	--	--	--	--	27.7	--
SWB-26	33	20	N	4/4/2005	--	--	717	--	--	--	--	--	--	--	--	< 530 U	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
SWB-26	33	30	N	4/4/2005	--	--	95	--	--	--	--	--	--	--	--	< 530 U	--
SWB-27	33	0	N	4/4/2005	--	--	56.8	--	--	--	--	--	--	--	--	39.4	--
SWB-27	33	5	N	4/4/2005	--	--	1770	--	--	--	--	--	--	--	--	34.1	--
SWB-27	33	10	N	4/4/2005	--	--	1710	--	--	--	--	--	--	--	--	29.4	--
SWB-27	33	20	N	4/4/2005	--	--	398	--	--	--	--	--	--	--	--	< 530 U	--
SWB-27	33	30	N	4/4/2005	--	--	115	--	--	--	--	--	--	--	--	< 530 U	--
SWB-27	33	40	N	4/4/2005	--	--	38.3	--	--	--	--	--	--	--	--	< 530 U	--
SWB-28	33	0	N	4/5/2005	--	--	87.5	--	--	--	--	--	--	--	--	19.7	--
SWB-28	33	5	N	4/5/2005	--	--	565	--	--	--	--	--	--	--	--	44.4	--
SWB-28	33	10	N	4/5/2005	--	--	1400	--	--	--	--	--	--	--	--	29.2	--
SWB-28	33	20	N	4/5/2005	--	--	723	--	--	--	--	--	--	--	--	27.4	--
SWB-28	33	30	N	4/5/2005	--	--	175	--	--	--	--	--	--	--	--	< 530 U	--
SWB-28	33	40	N	4/5/2005	--	--	58.3	--	--	--	--	--	--	--	--	< 530 U	--
SWB-29	33	0	N	4/4/2005	--	--	111 J+	--	--	--	--	--	--	--	--	38.4	--
SWB-29	33	5	N	4/4/2005	--	--	647 J+	--	--	--	--	--	--	--	--	43.7	--
SWB-29	33	10	N	4/4/2005	--	--	495 J+	--	--	--	--	--	--	--	--	30	--
SWB-29	33	20	N	4/4/2005	--	--	21.9 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-29	33	30	N	4/4/2005	--	--	32 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-29	33	40	N	4/4/2005	--	--	19.9 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-3	33	0	N	4/6/2005	--	--	99.1	--	--	--	--	--	--	--	--	32	--
SWB-3	33	5	N	4/5/2005	--	--	184	--	--	--	--	--	--	--	--	23.4	--
SWB-3	33	10	N	4/5/2005	--	--	415	--	--	--	--	--	--	--	--	26.4	--
SWB-3	33	20	N	4/5/2005	--	--	885	--	--	--	--	--	--	--	--	< 530 U	--
SWB-3	33	30	N	4/5/2005	--	--	205	--	--	--	--	--	--	--	--	17.6	--
SWB-30	33	5	N	4/14/2005	--	--	39.2 J+	--	--	--	--	--	--	--	--	35.3	--
SWB-30	33	10	N	4/14/2005	--	--	65.2 J+	--	--	--	--	--	--	--	--	35.3	--
SWB-30	33	20	N	4/14/2005	--	--	27.3 J+	--	--	--	--	--	--	--	--	49.1	--
SWB-30	33	30	N	4/14/2005	--	--	61.3 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-30	33	40	N	4/14/2005	--	--	32.2 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-31	33	0	N	3/31/2005	--	--	15	--	--	--	--	--	--	--	--	< 530 U	--
SWB-31	33	5	N	3/31/2005	--	--	114	--	--	--	--	--	--	--	--	21.3	--
SWB-31	33	10	N	3/31/2005	--	--	392	--	--	--	--	--	--	--	--	27	--
SWB-31	33	20	N	3/31/2005	--	--	78.6	--	--	--	--	--	--	--	--	13.6	--
SWB-31	33	30	N	3/31/2005	--	--	50.6	--	--	--	--	--	--	--	--	14.2	--
SWB-32	33	0	N	3/30/2005	--	--	44.5	--	--	--	--	--	--	--	--	42.5	--
SWB-32	33	5	N	3/30/2005	--	--	210	--	--	--	--	--	--	--	--	29.2	--
SWB-32	33	10	N	3/30/2005	--	--	698	--	--	--	--	--	--	--	--	22.1	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
SWB-32	33	20	N	3/30/2005	--	--	839	--	--	--	--	--	--	--	--	20.9	--
SWB-32	33	30	N	3/30/2005	--	--	105	--	--	--	--	--	--	--	--	< 530 U	--
SWB-32	33	40	N	3/30/2005	--	--	75.9	--	--	--	--	--	--	--	--	16.7	--
SWB-33	33	0	N	4/4/2005	--	--	65.1 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-33	33	5	N	4/4/2005	--	--	333 J+	--	--	--	--	--	--	--	--	42.2	--
SWB-33	33	10	N	4/4/2005	--	--	1470 J+	--	--	--	--	--	--	--	--	29.6	--
SWB-33	33	20	N	4/4/2005	--	--	629 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-33	33	30	N	4/4/2005	--	--	130 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-33	33	40	N	4/4/2005	--	--	43.6 J+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-34	33	5	N	4/13/2005	--	--	83 J+	--	--	--	--	--	--	--	--	29.9	--
SWB-34	33	10	N	4/13/2005	--	--	52.5 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-34	33	20	N	4/13/2005	--	--	46.2 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-34	33	30	N	4/13/2005	--	--	36.1 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-34	33	40	N	4/13/2005	--	--	37.8 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-35	33	0	N	3/30/2005	--	--	16.8	--	--	--	--	--	--	--	--	46.1	--
SWB-35	33	5	N	3/30/2005	--	--	398	--	--	--	--	--	--	--	--	26	--
SWB-35	33	10	N	3/30/2005	--	--	299	--	--	--	--	--	--	--	--	26.5	--
SWB-35	33	20	N	3/30/2005	--	--	68.5	--	--	--	--	--	--	--	--	13.8	--
SWB-35	33	30	N	3/30/2005	--	--	28.3	--	--	--	--	--	--	--	--	< 530 U	--
SWB-35	33	40	N	3/30/2005	--	--	29.9	--	--	--	--	--	--	--	--	< 530 U	--
SWB-4	33	0	N	4/7/2005	--	--	56.5	--	--	--	--	--	--	--	--	20.3 J-	--
SWB-4	33	5	N	4/7/2005	--	--	782	--	--	--	--	--	--	--	--	52.3 J-	--
SWB-4	33	10	N	4/7/2005	--	--	1670	--	--	--	--	--	--	--	--	129 J-	--
SWB-4	33	20	N	4/7/2005	--	--	740	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-4	33	30	N	4/7/2005	--	--	142	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-4	33	40	N	4/7/2005	--	--	60.8	--	--	--	--	--	--	--	--	26.8 J-	--
SWB-5	33	0	N	4/13/2005	--	--	41.5 J+	--	--	--	--	--	--	--	--	28.8	--
SWB-5	33	5	N	4/13/2005	--	--	607 J+	--	--	--	--	--	--	--	--	24.2	--
SWB-5	33	10	N	4/13/2005	--	--	946 J+	--	--	--	--	--	--	--	--	13.7	--
SWB-5	33	20	N	4/13/2005	--	--	480 J+	--	--	--	--	--	--	--	--	< 50 U	--
SWB-5	33	30	N	4/13/2005	--	--	128 J+	--	--	--	--	--	--	--	--	13.9	--
SWB-5	33	40	N	4/13/2005	--	--	53.8 J+	--	--	--	--	--	--	--	--	20.7	--
SWB-6	33	0	N	4/1/2005	--	--	< 265 UJ+	--	--	--	--	--	--	--	--	< 530 U	--
SWB-6	33	5	N	4/1/2005	--	--	128 J+	--	--	--	--	--	--	--	--	40.4	--
SWB-6	33	10	N	4/1/2005	--	--	667 J+	--	--	--	--	--	--	--	--	49.6	--
SWB-6	33	20	N	4/1/2005	--	--	218 J+	--	--	--	--	--	--	--	--	8.38	--
SWB-6	33	30	N	4/1/2005	--	--	145 J+	--	--	--	--	--	--	--	--	13.8	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA
(Page 14 of 21)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals												
					Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Niobium	Palladium	Phosphorus (as P)	Platinum	Potassium	Selenium
SWB-7	33	0	N	4/6/2005	--	--	44.7	--	--	--	--	--	--	--	--	< 530 U	--
SWB-7	33	5	N	4/6/2005	--	--	241	--	--	--	--	--	--	--	--	23.8	--
SWB-7	33	10	N	4/6/2005	--	--	82.9	--	--	--	--	--	--	--	--	< 530 U	--
SWB-7	33	20	N	4/6/2005	--	--	707	--	--	--	--	--	--	--	--	15.6	--
SWB-7	33	30	N	4/6/2005	--	--	377	--	--	--	--	--	--	--	--	17.7	--
SWB-8	33	0	N	4/7/2005	--	--	318	--	--	--	--	--	--	--	--	18.9 J-	--
SWB-8	33	5	N	4/7/2005	--	--	626	--	--	--	--	--	--	--	--	59.6 J-	--
SWB-8	33	10	N	4/7/2005	--	--	1710	--	--	--	--	--	--	--	--	64.4 J-	--
SWB-8	33	20	N	4/7/2005	--	--	1150	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-8	33	30	N	4/7/2005	--	--	110	--	--	--	--	--	--	--	--	< 50 UJ-	--
SWB-9	33	0	N	4/7/2005	--	--	630	--	--	--	--	--	--	--	--	43 J-	--
SWB-9	33	5	N	4/7/2005	--	--	1240	--	--	--	--	--	--	--	--	147 J-	--
SWB-9	33	10	N	4/7/2005	--	--	1290	--	--	--	--	--	--	--	--	155 J-	--
SWB-9	33	20	N	4/7/2005	--	--	368	--	--	--	--	--	--	--	--	19.2 J-	--
SWB-9	33	30	N	4/7/2005	--	--	65.9	--	--	--	--	--	--	--	--	13.4 J-	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals											
					Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
B-11	12	2	N	5/18/2000	--	< 1 U	460	--	--	--	--	--	--	--	62	--
B-11	12	5	N	5/18/2000	--	< 1 U	1000	--	--	--	--	--	--	--	38	--
B-11	12	10	N	5/18/2000	--	--	1500	--	--	--	--	--	--	--	--	--
B-11	12	20	N	5/18/2000	--	--	1300	--	--	--	--	--	--	--	--	--
B-12	12	2	N	5/19/2000	--	< 1 U	1100	--	--	--	--	--	--	--	48	--
B-12	12	5	N	5/19/2000	--	< 1 U	1300	--	--	--	--	--	--	--	140	--
B-12	12	10	N	5/19/2000	--	--	1100	--	--	--	--	--	--	--	--	--
B-12	12	20	N	5/19/2000	--	--	440	--	--	--	--	--	--	--	--	--
B-13	12	2	N	5/19/2000	--	< 1 U	2000	--	--	--	--	--	--	--	220	--
B-13	12	5	N	5/19/2000	--	< 1 U	1300	--	--	--	--	--	--	--	58	--
B-13	12	10	N	5/19/2000	--	--	1600	--	--	--	--	--	--	--	--	--
B-13	12	20	N	5/19/2000	--	--	1700	--	--	--	--	--	--	--	--	--
B-14	12	2	N	5/19/2000	--	< 1 U	890	--	--	--	--	--	--	--	49	--
B-14	12	5	N	5/19/2000	--	< 1 U	1600	--	--	--	--	--	--	--	46	--
B-14	12	10	N	5/19/2000	--	--	1600	--	--	--	--	--	--	--	--	--
B-14	12	20	N	5/19/2000	--	--	1900	--	--	--	--	--	--	--	--	--
B-15	12	2	N	5/19/2000	--	< 1 U	650	--	--	--	--	--	--	--	57	--
B-15	12	5	N	5/19/2000	--	< 1 U	1100	--	--	--	--	--	--	--	41	--
B-15	12	10	N	5/19/2000	--	--	1400	--	--	--	--	--	--	--	--	--
B-15	12	20	N	5/19/2000	--	--	1400	--	--	--	--	--	--	--	--	--
BDB-16	1a	0	N	4/5/1996	--	< 0.2 U	--	--	--	--	--	--	--	96	--	--
BDB-16	1a	5	N	4/5/1996	--	< 0.21 U	--	--	--	--	--	--	--	34	--	--
BDB-17	1a	0	N	4/5/1996	--	< 0.21 U	--	--	--	--	--	--	--	440	--	--
BDB-17	1a	5	N	4/5/1996	--	< 0.2 U	--	--	--	--	--	--	--	29	--	--
BDB-18	1a	0	N	4/5/1996	--	< 0.2 U	--	--	--	--	--	--	--	32	--	--
BDB-18	1a	5	N	4/5/1996	--	< 0.21 U	--	--	--	--	--	--	--	340	--	--
PUF-07	1a	0	N	4/5/1996	--	6	--	--	--	--	--	--	--	1700	--	--
PUF-07	1a	5	N	4/5/1996	--	< 2.1 U	--	--	--	--	--	--	--	52	--	--
PUF-07	1a	5	FD	4/5/1996	--	1.4	--	--	--	--	--	--	--	310	--	--
PUF-10	1a	0	N	4/8/1996	--	< 0.2 U	--	--	--	--	--	--	--	990	--	--
PUF-10	1a	5	N	4/8/1996	--	< 0.21 U	--	--	--	--	--	--	--	42	--	--
PUF-10	6d	0	N	10/27/1999	--	--	--	--	< 0.5 U	--	--	--	--	--	--	--
PUG-08	1a	0	N	4/5/1996	--	11	--	--	--	--	--	--	--	2800	--	--
PUG-08	1a	5	N	4/5/1996	--	< 0.21 U	--	--	--	--	--	--	--	32	--	--
PUG-09	6d	0	N	10/27/1999	--	--	--	--	< 0.5 U	--	--	--	--	790	--	--
PUH-07	6d	0	N	10/27/1999	--	--	--	--	< 0.5 U	--	--	--	--	510	--	--
PUH-08	1a	0	N	4/5/1996	--	0.97	--	--	--	--	--	--	--	1000	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

					Metals											
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
PUH-08	1a	5	N	4/5/1996	--	< 0.21 U	--	--	--	--	--	--	--	35	--	--
PUH-09	6d	0	N	10/27/1999	--	--	--	--	< 0.5 U	--	--	--	--	550	--	--
PUH-11	1a	0	N	4/8/1996	--	< 0.2 U	--	--	--	--	--	--	--	44	--	--
PUH-11	1a	5	N	4/8/1996	--	< 0.21 U	--	--	--	--	--	--	--	51	--	--
PUH-11	6d	0	N	10/27/1999	--	--	--	--	< 0.51 U	--	--	--	--	--	--	--
PUI-08	6d	0	N	10/27/1999	--	--	--	--	< 0.51 U	--	--	--	--	2100	--	--
PUI-09	6d	0	N	10/27/1999	--	--	--	--	< 0.5 U	--	--	--	--	280	--	--
PUJ-07	1a	0	N	4/5/1996	--	0.42	--	--	--	--	--	--	--	940	--	--
PUJ-07	1a	5	N	4/5/1996	--	< 0.21 U	--	--	--	--	--	--	--	30	--	--
PUJ-07	6d	0	N	10/27/1999	--	--	--	--	< 0.51 U	--	--	--	--	--	--	--
PUK-09	1a	0	N	4/8/1996	--	< 0.2 U	--	--	--	--	--	--	--	1200	--	--
PUK-09	1a	5	N	4/8/1996	--	< 0.21 U	--	--	< 0.5 U	--	--	--	--	40	--	--
PUK-09	6d	0	N	10/27/1999	--	--	--	--	< 0.5 U	--	--	--	--	--	--	--
SB-14-A	27	0	N	6/15/2004	890	< 1.1 U	2130	280	< 1.1 U	1.3 J+	949 J-	< 0.54 U	0.71 J	51.7 J-	43.7 J+	12.4 J
SB-14-A	27	7	N	6/15/2004	246	< 1.1 U	751	121	< 1.1 U	0.24 J	565 J-	< 0.53 U	0.65 J	34.3 J-	43.8 J+	3.6 J
SB-14-A	27	17	N	6/15/2004	749	< 1.1 U	1280	313	< 1.1 U	0.25 J	826 J-	3.2	0.94 J	56.5 J-	59.2 J+	11.6 J
SB-14-A	27	27	N	6/15/2004	195	< 1 U	700	342	< 1 U	0.16 J	500 J-	< 0.52 U	1.1 J	42 J-	42.2 J+	7.1 J
SB-14-A	27	77	N	6/15/2004	147	< 1.5 U	1450	85.3	< 1.5 U	0.49 J	626 J-	< 0.75 U	4.8 J	47.9 J-	73.7 J+	34.1 J
SB-14-A	27	87	N	6/15/2004	225	< 1.6 U	1260	585	< 1.6 U	< 1.6 U	263 J-	< 0.78 U	6.7 J	29.9 J-	35.5 J+	14.7 J
SB-14-A	27	107	N	6/15/2004	153	< 1.4 U	1800	2120	< 1.4 U	--	678 J-	< 0.7 U	3.6 J	51.8 J-	97.2 J+	36.1 J
SWB-1	33	0	N	4/6/2005	--	--	65.7	--	--	--	--	--	--	--	--	--
SWB-1	33	5	N	4/6/2005	--	--	216	--	--	--	--	--	--	--	--	--
SWB-1	33	10	N	4/6/2005	--	--	696	--	--	--	--	--	--	--	--	--
SWB-1	33	20	N	4/6/2005	--	--	460	--	--	--	--	--	--	--	--	--
SWB-1	33	30	N	4/6/2005	--	--	241	--	--	--	--	--	--	--	--	--
SWB-1	33	40	N	4/6/2005	--	--	257	--	--	--	--	--	--	--	--	--
SWB-10	33	0	N	4/13/2005	--	--	93.8	--	--	--	--	--	--	--	--	--
SWB-10	33	5	N	4/13/2005	--	--	208	--	--	--	--	--	--	--	--	--
SWB-10	33	10	N	4/13/2005	--	--	454	--	--	--	--	--	--	--	--	--
SWB-10	33	20	N	4/13/2005	--	--	601	--	--	--	--	--	--	--	--	--
SWB-10	33	30	N	4/13/2005	--	--	713	--	--	--	--	--	--	--	--	--
SWB-10	33	40	N	4/13/2005	--	--	172	--	--	--	--	--	--	--	--	--
SWB-12	33	0	N	4/1/2005	--	--	39.2 J+	--	--	--	--	--	--	--	--	--
SWB-12	33	5	N	4/1/2005	--	--	187 J+	--	--	--	--	--	--	--	--	--
SWB-12	33	10	N	4/1/2005	--	--	966 J+	--	--	--	--	--	--	--	--	--
SWB-12	33	20	N	4/1/2005	--	--	314 J+	--	--	--	--	--	--	--	--	--
SWB-12	33	30	N	4/1/2005	--	--	200 J+	--	--	--	--	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA
(Page 17 of 21)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals: Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
SWB-13	33	0	N	4/1/2005	--	--	117 J+	--	--	--	--	--	--	--	--	--
SWB-13	33	5	N	4/1/2005	--	--	471 J+	--	--	--	--	--	--	--	--	--
SWB-13	33	10	N	4/1/2005	--	--	497 J+	--	--	--	--	--	--	--	--	--
SWB-13	33	20	N	4/1/2005	--	--	537 J+	--	--	--	--	--	--	--	--	--
SWB-13	33	30	N	4/1/2005	--	--	214 J+	--	--	--	--	--	--	--	--	--
SWB-14	33	0	N	4/5/2005	--	--	276	--	--	--	--	--	--	--	--	--
SWB-14	33	5	N	4/5/2005	--	--	666	--	--	--	--	--	--	--	--	--
SWB-14	33	10	N	4/5/2005	--	--	667	--	--	--	--	--	--	--	--	--
SWB-14	33	20	N	4/5/2005	--	--	333	--	--	--	--	--	--	--	--	--
SWB-14	33	30	N	4/5/2005	--	--	229	--	--	--	--	--	--	--	--	--
SWB-15	33	0	N	4/5/2005	--	--	171	--	--	--	--	--	--	--	--	--
SWB-15	33	5	N	4/5/2005	--	--	515	--	--	--	--	--	--	--	--	--
SWB-15	33	10	N	4/5/2005	--	--	680	--	--	--	--	--	--	--	--	--
SWB-15	33	20	N	4/5/2005	--	--	601	--	--	--	--	--	--	--	--	--
SWB-15	33	30	N	4/5/2005	--	--	505	--	--	--	--	--	--	--	--	--
SWB-15	33	40	N	4/5/2005	--	--	209	--	--	--	--	--	--	--	--	--
SWB-16	33	0	N	4/8/2005	--	--	320 J+	--	--	--	--	--	--	--	--	--
SWB-16	33	10	N	4/8/2005	--	--	943 J+	--	--	--	--	--	--	--	--	--
SWB-16	33	20	N	4/8/2005	--	--	612 J+	--	--	--	--	--	--	--	--	--
SWB-16	33	30	N	4/8/2005	--	--	467 J+	--	--	--	--	--	--	--	--	--
SWB-16	33	40	N	4/8/2005	--	--	166 J+	--	--	--	--	--	--	--	--	--
SWB-17	33	5	N	4/14/2005	--	--	161	--	--	--	--	--	--	--	--	--
SWB-17	33	10	N	4/14/2005	--	--	462	--	--	--	--	--	--	--	--	--
SWB-17	33	20	N	4/14/2005	--	--	805	--	--	--	--	--	--	--	--	--
SWB-17	33	30	N	4/14/2005	--	--	997	--	--	--	--	--	--	--	--	--
SWB-17	33	40	N	4/14/2005	--	--	830	--	--	--	--	--	--	--	--	--
SWB-18	33	0	N	3/31/2005	--	--	113	--	--	--	--	--	--	--	--	--
SWB-18	33	5	N	3/31/2005	--	--	308	--	--	--	--	--	--	--	--	--
SWB-18	33	10	N	3/31/2005	--	--	705	--	--	--	--	--	--	--	--	--
SWB-18	33	20	N	3/31/2005	--	--	576	--	--	--	--	--	--	--	--	--
SWB-18	33	30	N	3/31/2005	--	--	180	--	--	--	--	--	--	--	--	--
SWB-19	33	0	N	4/12/2005	--	--	61.3	--	--	--	--	--	--	--	--	--
SWB-19	33	5	N	4/12/2005	--	--	272	--	--	--	--	--	--	--	--	--
SWB-19	33	10	N	4/12/2005	--	--	616	--	--	--	--	--	--	--	--	--
SWB-19	33	20	N	4/12/2005	--	--	259	--	--	--	--	--	--	--	--	--
SWB-19	33	30	N	4/12/2005	--	--	178	--	--	--	--	--	--	--	--	--
SWB-2	33	0	N	4/6/2005	--	--	77.3	--	--	--	--	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals											
					Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
SWB-2	33	5	N	4/6/2005	--	--	725	--	--	--	--	--	--	--	--	--
SWB-2	33	10	N	4/6/2005	--	--	979	--	--	--	--	--	--	--	--	--
SWB-2	33	20	N	4/6/2005	--	--	885	--	--	--	--	--	--	--	--	--
SWB-2	33	30	N	4/6/2005	--	--	308	--	--	--	--	--	--	--	--	--
SWB-20	33	0	N	4/11/2005	--	--	221	--	--	--	--	--	--	--	--	--
SWB-20	33	5	N	4/11/2005	--	--	915	--	--	--	--	--	--	--	--	--
SWB-20	33	10	N	4/11/2005	--	--	1280	--	--	--	--	--	--	--	--	--
SWB-20	33	20	N	4/11/2005	--	--	288	--	--	--	--	--	--	--	--	--
SWB-20	33	30	N	4/11/2005	--	--	229	--	--	--	--	--	--	--	--	--
SWB-21	33	0	N	4/5/2005	--	--	72.6	--	--	--	--	--	--	--	--	--
SWB-21	33	5	N	4/5/2005	--	--	211	--	--	--	--	--	--	--	--	--
SWB-21	33	10	N	4/5/2005	--	--	495	--	--	--	--	--	--	--	--	--
SWB-21	33	20	N	4/5/2005	--	--	625	--	--	--	--	--	--	--	--	--
SWB-21	33	30	N	4/5/2005	--	--	347	--	--	--	--	--	--	--	--	--
SWB-21	33	40	N	4/5/2005	--	--	120	--	--	--	--	--	--	--	--	--
SWB-22	33	0	N	4/8/2005	--	--	192 J+	--	--	--	--	--	--	--	--	--
SWB-22	33	5	N	4/8/2005	--	--	604 J+	--	--	--	--	--	--	--	--	--
SWB-22	33	10	N	4/8/2005	--	--	848 J+	--	--	--	--	--	--	--	--	--
SWB-22	33	20	N	4/8/2005	--	--	1140 J+	--	--	--	--	--	--	--	--	--
SWB-22	33	30	N	4/8/2005	--	--	647 J+	--	--	--	--	--	--	--	--	--
SWB-22	33	40	N	4/8/2005	--	--	188 J+	--	--	--	--	--	--	--	--	--
SWB-23	33	0	N	4/12/2005	--	--	147	--	--	--	--	--	--	--	--	--
SWB-23	33	5	N	4/12/2005	--	--	332	--	--	--	--	--	--	--	--	--
SWB-23	33	10	N	4/12/2005	--	--	541	--	--	--	--	--	--	--	--	--
SWB-23	33	20	N	4/12/2005	--	--	746	--	--	--	--	--	--	--	--	--
SWB-23	33	30	N	4/12/2005	--	--	580	--	--	--	--	--	--	--	--	--
SWB-23	33	40	N	4/12/2005	--	--	259	--	--	--	--	--	--	--	--	--
SWB-25	33	0	N	3/31/2005	--	--	42.5	--	--	--	--	--	--	--	--	--
SWB-25	33	5	N	3/31/2005	--	--	173	--	--	--	--	--	--	--	--	--
SWB-25	33	10	N	3/31/2005	--	--	507	--	--	--	--	--	--	--	--	--
SWB-25	33	20	N	3/31/2005	--	--	579	--	--	--	--	--	--	--	--	--
SWB-25	33	30	N	3/31/2005	--	--	226	--	--	--	--	--	--	--	--	--
SWB-25	33	40	N	3/31/2005	--	--	320	--	--	--	--	--	--	--	--	--
SWB-26	33	0	N	4/4/2005	--	--	70.9	--	--	--	--	--	--	--	--	--
SWB-26	33	5	N	4/4/2005	--	--	437	--	--	--	--	--	--	--	--	--
SWB-26	33	10	N	4/4/2005	--	--	884	--	--	--	--	--	--	--	--	--
SWB-26	33	20	N	4/4/2005	--	--	686	--	--	--	--	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA
(Page 19 of 21)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals											
					Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
SWB-26	33	30	N	4/4/2005	--	--	206	--	--	--	--	--	--	--	--	--
SWB-27	33	0	N	4/4/2005	--	--	258	--	--	--	--	--	--	--	--	--
SWB-27	33	5	N	4/4/2005	--	--	628	--	--	--	--	--	--	--	--	--
SWB-27	33	10	N	4/4/2005	--	--	943	--	--	--	--	--	--	--	--	--
SWB-27	33	20	N	4/4/2005	--	--	489	--	--	--	--	--	--	--	--	--
SWB-27	33	30	N	4/4/2005	--	--	227	--	--	--	--	--	--	--	--	--
SWB-27	33	40	N	4/4/2005	--	--	140	--	--	--	--	--	--	--	--	--
SWB-28	33	0	N	4/5/2005	--	--	141	--	--	--	--	--	--	--	--	--
SWB-28	33	5	N	4/5/2005	--	--	480	--	--	--	--	--	--	--	--	--
SWB-28	33	10	N	4/5/2005	--	--	937	--	--	--	--	--	--	--	--	--
SWB-28	33	20	N	4/5/2005	--	--	674	--	--	--	--	--	--	--	--	--
SWB-28	33	30	N	4/5/2005	--	--	260	--	--	--	--	--	--	--	--	--
SWB-28	33	40	N	4/5/2005	--	--	169	--	--	--	--	--	--	--	--	--
SWB-29	33	0	N	4/4/2005	--	--	189 J+	--	--	--	--	--	--	--	--	--
SWB-29	33	5	N	4/4/2005	--	--	847 J+	--	--	--	--	--	--	--	--	--
SWB-29	33	10	N	4/4/2005	--	--	854 J+	--	--	--	--	--	--	--	--	--
SWB-29	33	20	N	4/4/2005	--	--	699 J+	--	--	--	--	--	--	--	--	--
SWB-29	33	30	N	4/4/2005	--	--	153 J+	--	--	--	--	--	--	--	--	--
SWB-29	33	40	N	4/4/2005	--	--	214 J+	--	--	--	--	--	--	--	--	--
SWB-3	33	0	N	4/6/2005	--	--	105	--	--	--	--	--	--	--	--	--
SWB-3	33	5	N	4/5/2005	--	--	233	--	--	--	--	--	--	--	--	--
SWB-3	33	10	N	4/5/2005	--	--	326	--	--	--	--	--	--	--	--	--
SWB-3	33	20	N	4/5/2005	--	--	645	--	--	--	--	--	--	--	--	--
SWB-3	33	30	N	4/5/2005	--	--	332	--	--	--	--	--	--	--	--	--
SWB-30	33	5	N	4/14/2005	--	--	242	--	--	--	--	--	--	--	--	--
SWB-30	33	10	N	4/14/2005	--	--	180	--	--	--	--	--	--	--	--	--
SWB-30	33	20	N	4/14/2005	--	--	228	--	--	--	--	--	--	--	--	--
SWB-30	33	30	N	4/14/2005	--	--	187	--	--	--	--	--	--	--	--	--
SWB-30	33	40	N	4/14/2005	--	--	153	--	--	--	--	--	--	--	--	--
SWB-31	33	0	N	3/31/2005	--	--	76	--	--	--	--	--	--	--	--	--
SWB-31	33	5	N	3/31/2005	--	--	271	--	--	--	--	--	--	--	--	--
SWB-31	33	10	N	3/31/2005	--	--	486	--	--	--	--	--	--	--	--	--
SWB-31	33	20	N	3/31/2005	--	--	225	--	--	--	--	--	--	--	--	--
SWB-31	33	30	N	3/31/2005	--	--	222	--	--	--	--	--	--	--	--	--
SWB-32	33	0	N	3/30/2005	--	--	72.2	--	--	--	--	--	--	--	--	--
SWB-32	33	5	N	3/30/2005	--	--	283	--	--	--	--	--	--	--	--	--
SWB-32	33	10	N	3/30/2005	--	--	648	--	--	--	--	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals											
					Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
SWB-32	33	20	N	3/30/2005	--	--	730	--	--	--	--	--	--	--	--	--
SWB-32	33	30	N	3/30/2005	--	--	209	--	--	--	--	--	--	--	--	--
SWB-32	33	40	N	3/30/2005	--	--	220	--	--	--	--	--	--	--	--	--
SWB-33	33	0	N	4/4/2005	--	--	71.4 J+	--	--	--	--	--	--	--	--	--
SWB-33	33	5	N	4/4/2005	--	--	290 J+	--	--	--	--	--	--	--	--	--
SWB-33	33	10	N	4/4/2005	--	--	629 J+	--	--	--	--	--	--	--	--	--
SWB-33	33	20	N	4/4/2005	--	--	591 J+	--	--	--	--	--	--	--	--	--
SWB-33	33	30	N	4/4/2005	--	--	196 J+	--	--	--	--	--	--	--	--	--
SWB-33	33	40	N	4/4/2005	--	--	144 J+	--	--	--	--	--	--	--	--	--
SWB-34	33	5	N	4/13/2005	--	--	235	--	--	--	--	--	--	--	--	--
SWB-34	33	10	N	4/13/2005	--	--	214	--	--	--	--	--	--	--	--	--
SWB-34	33	20	N	4/13/2005	--	--	237	--	--	--	--	--	--	--	--	--
SWB-34	33	30	N	4/13/2005	--	--	217	--	--	--	--	--	--	--	--	--
SWB-34	33	40	N	4/13/2005	--	--	190	--	--	--	--	--	--	--	--	--
SWB-35	33	0	N	3/30/2005	--	--	150	--	--	--	--	--	--	--	--	--
SWB-35	33	5	N	3/30/2005	--	--	387	--	--	--	--	--	--	--	--	--
SWB-35	33	10	N	3/30/2005	--	--	285	--	--	--	--	--	--	--	--	--
SWB-35	33	20	N	3/30/2005	--	--	192	--	--	--	--	--	--	--	--	--
SWB-35	33	30	N	3/30/2005	--	--	158	--	--	--	--	--	--	--	--	--
SWB-35	33	40	N	3/30/2005	--	--	159	--	--	--	--	--	--	--	--	--
SWB-4	33	0	N	4/7/2005	--	--	107 J+	--	--	--	--	--	--	--	--	--
SWB-4	33	5	N	4/7/2005	--	--	367 J+	--	--	--	--	--	--	--	--	--
SWB-4	33	10	N	4/7/2005	--	--	833 J+	--	--	--	--	--	--	--	--	--
SWB-4	33	20	N	4/7/2005	--	--	886 J+	--	--	--	--	--	--	--	--	--
SWB-4	33	30	N	4/7/2005	--	--	359 J+	--	--	--	--	--	--	--	--	--
SWB-4	33	40	N	4/7/2005	--	--	187 J+	--	--	--	--	--	--	--	--	--
SWB-5	33	0	N	4/13/2005	--	--	37.5	--	--	--	--	--	--	--	--	--
SWB-5	33	5	N	4/13/2005	--	--	331	--	--	--	--	--	--	--	--	--
SWB-5	33	10	N	4/13/2005	--	--	475	--	--	--	--	--	--	--	--	--
SWB-5	33	20	N	4/13/2005	--	--	325	--	--	--	--	--	--	--	--	--
SWB-5	33	30	N	4/13/2005	--	--	486	--	--	--	--	--	--	--	--	--
SWB-5	33	40	N	4/13/2005	--	--	207	--	--	--	--	--	--	--	--	--
SWB-6	33	0	N	4/1/2005	--	--	< 530 UJ+	--	--	--	--	--	--	--	--	--
SWB-6	33	5	N	4/1/2005	--	--	289 J+	--	--	--	--	--	--	--	--	--
SWB-6	33	10	N	4/1/2005	--	--	653 J+	--	--	--	--	--	--	--	--	--
SWB-6	33	20	N	4/1/2005	--	--	268 J+	--	--	--	--	--	--	--	--	--
SWB-6	33	30	N	4/1/2005	--	--	221 J+	--	--	--	--	--	--	--	--	--

TABLE B-1
SOIL METALS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Metals											
					Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Tungsten	Uranium	Vanadium	Zinc	Zirconium
SWB-7	33	0	N	4/6/2005	--	--	28.7	--	--	--	--	--	--	--	--	--
SWB-7	33	5	N	4/6/2005	--	--	145	--	--	--	--	--	--	--	--	--
SWB-7	33	10	N	4/6/2005	--	--	313	--	--	--	--	--	--	--	--	--
SWB-7	33	20	N	4/6/2005	--	--	737	--	--	--	--	--	--	--	--	--
SWB-7	33	30	N	4/6/2005	--	--	320	--	--	--	--	--	--	--	--	--
SWB-8	33	0	N	4/7/2005	--	--	120 J+	--	--	--	--	--	--	--	--	--
SWB-8	33	5	N	4/7/2005	--	--	459 J+	--	--	--	--	--	--	--	--	--
SWB-8	33	10	N	4/7/2005	--	--	636 J+	--	--	--	--	--	--	--	--	--
SWB-8	33	20	N	4/7/2005	--	--	626 J+	--	--	--	--	--	--	--	--	--
SWB-8	33	30	N	4/7/2005	--	--	272 J+	--	--	--	--	--	--	--	--	--
SWB-9	33	0	N	4/7/2005	--	--	311 J+	--	--	--	--	--	--	--	--	--
SWB-9	33	5	N	4/7/2005	--	--	668 J+	--	--	--	--	--	--	--	--	--
SWB-9	33	10	N	4/7/2005	--	--	990 J+	--	--	--	--	--	--	--	--	--
SWB-9	33	20	N	4/7/2005	--	--	472 J+	--	--	--	--	--	--	--	--	--
SWB-9	33	30	N	4/7/2005	--	--	204 J+	--	--	--	--	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.

All units in mg/kg.

-- = no sample data.

TABLE B-2
SOIL ORGANOCHLORINE PESTICIDES DATA
SPRAY WHEEL SUB-AREA

					Organochlorine Pesticides											
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	2,4-DDD	2,4-DDE	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	delta-BHC	Dieldrin
BDB-16	1a	0	N	4/5/1996	--	--	< 0.0033 U	0.028	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.011	< 0.04 U	< 0.0017 U	< 0.0033 U
BDB-16	1a	5	N	4/5/1996	--	--	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
BDB-17	1a	0	N	4/5/1996	--	--	< 0.0033 U	0.015	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.012	< 0.04 U	< 0.0017 U	< 0.0033 U
BDB-17	1a	5	N	4/5/1996	--	--	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.0057	< 0.04 U	< 0.0017 U	< 0.0033 U
BDB-18	1a	0	N	4/5/1996	--	--	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.04 U	< 0.0017 U	< 0.0033 U
BDB-18	1a	5	N	4/5/1996	--	--	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
PUF-07	1a	0	N	4/5/1996	--	--	< 3.6 U	23	8.9	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 44 U	< 1.9 U	< 3.6 U
PUF-07	1a	5	N	4/5/1996	--	--	< 0.0036 U	0.023	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
PUF-10	1a	0	N	4/8/1996	--	--	< 0.0033 U	0.002	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.0041	< 0.04 U	< 0.0017 U	< 0.0033 U
PUF-10	1a	5	N	4/8/1996	--	--	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
PUG-08	1a	0	N	4/5/1996	--	--	< 4.3 U	31	49	< 2.2 U	< 2.2 U	< 2.2 U	< 2.2 U	< 52 U	< 2.2 U	< 4.3 U
PUG-08	1a	5	N	4/5/1996	--	--	< 0.0033 U	0.0082	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.04 U	< 0.0017 U	< 0.0033 U
PUG-09	6d	0	N	10/27/1999	--	--	< 0.005 U	0.038 J+	0.014 J+	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.02 U	< 0.005 U	< 0.005 U
PUH-07	6d	0	N	10/27/1999	--	--	< 0.005 U	0.045	0.021	< 0.005 U	< 0.005 U	0.0054	< 0.005 U	< 0.02 U	< 0.005 U	< 0.005 U
PUH-08	1a	0	N	4/5/1996	--	--	< 0.0033 U	0.028	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.04 U	< 0.0017 U	< 0.0033 U
PUH-08	1a	5	N	4/5/1996	--	--	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
PUH-09	6d	0	N	10/27/1999	--	--	< 0.005 U	0.0078	0.0053	< 0.005 U	< 0.005 U	< 0.005 U	0.0053	< 0.02 U	< 0.005 U	< 0.005 U
PUH-11	1a	0	N	4/8/1996	--	--	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.04 U	< 0.0017 U	< 0.0033 U
PUH-11	1a	5	N	4/8/1996	--	--	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
PUI-08	6d	0	N	10/27/1999	--	--	< 0.005 U	0.037	0.01	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.02 U	< 0.005 U	< 0.005 U
PUI-09	6d	0	N	10/27/1999	--	--	< 0.005 U	0.013	0.0068	< 0.005 U	< 0.005 U	< 0.005 U	0.01	< 0.02 U	< 0.005 U	< 0.005 U
PUJ-07	1a	0	N	4/5/1996	--	--	< 0.0033 U	0.072	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.022	< 0.04 U	< 0.0017 U	< 0.0033 U
PUJ-07	1a	5	N	4/5/1996	--	--	< 0.0036 U	0.067	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.044 U	< 0.0019 U	< 0.0036 U
PUK-09	1a	0	N	4/8/1996	--	--	< 0.0033 U	0.012	< 0.0033 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	0.0044	< 0.04 U	< 0.0017 U	< 0.0033 U
PUK-09	1a	5	N	4/8/1996	--	--	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.04 U	< 0.0019 U	< 0.0036 U
SB-14-A	27	0	N	6/15/2004	--	0.34 J+	< 0.0019 U	0.067 J+	R	< 0.0019 U	0.0023 J+	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.0019 U	< 0.0019 U
SB-14-A	27	7	N	6/15/2004	--	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.018 U	< 0.0018 U	< 0.0018 U
SB-14-A	27	17	N	6/15/2004	--	< 0.0018 U	0.0019 J	0.0021	0.0067 J-	< 0.0018 U	0.015 J-	< 0.0018 U	0.003	< 0.018 U	< 0.0018 U	< 0.0018 U
SB-14-A	27	27	N	6/15/2004	--	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.0018 U	< 0.018 U	< 0.0018 U	< 0.0018 U
SB-14-A	27	77	N	6/15/2004	--	< 0.0026 U	< 0.0026 U	< 0.0026 U	0.0049	< 0.0026 U	0.0095	< 0.0026 U	< 0.0026 U	< 0.026 U	< 0.0026 U	< 0.0026 U
SB-14-A	27	87	N	6/15/2004	--	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.026 U	< 0.0026 U	< 0.0026 U
SB-14-A	27	107	N	6/15/2004	--	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.024 U	< 0.0024 U	< 0.0024 U
WC-SW01	39	0	N	7/31/2006	< 0.0072 U	0.56	< 0.00096 U	0.12	< 0.002 U	< 0.001 U	< 0.0062 U	< 0.0012 U	0.042	--	< 0.0011 U	< 0.0028 U
WC-SW02	39	0	N	7/31/2006	0.37	14	< 0.012 U	7.9	3.8	< 0.012 U	< 0.075 U	< 0.015 U	< 0.014 U	--	< 0.014 U	< 0.034 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-2
SOIL ORGANOCHLORINE PESTICIDES DATA
SPRAY WHEEL SUB-AREA
(Page 2 of 2)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Organochlorine Pesticides											
					Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Lindane	Methoxychlor	Toxaphene
BDB-16	1a	0	N	4/5/1996	< 0.016 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	0.016	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
BDB-16	1a	5	N	4/5/1996	0.0022	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.016 U
BDB-17	1a	0	N	4/5/1996	0.0081	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
BDB-17	1a	5	N	4/5/1996	0.0032	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
BDB-18	1a	0	N	4/5/1996	< 0.0017 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
BDB-18	1a	5	N	4/5/1996	< 0.0019 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.016 U
PUF-07	1a	0	N	4/5/1996	26	< 3.6 U	< 3.6 U	< 3.6 U	< 3.6 U	--	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 19 U	< 0.016 U
PUF-07	1a	5	N	4/5/1996	0.026	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.016 U
PUF-10	1a	0	N	4/8/1996	0.0028	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
PUF-10	1a	5	N	4/8/1996	< 0.0019 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.016 U
PUG-08	1a	0	N	4/5/1996	51	< 4.3 U	< 4.3 U	< 4.3 U	< 4.3 U	--	< 2.2 U	< 2.2 U	< 2.2 U	< 2.2 U	< 22 U	< 0.016 U
PUG-08	1a	5	N	4/5/1996	0.023	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
PUG-09	6d	0	N	10/27/1999	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	0.022 J+	< 0.005 U	< 0.005 U	0.0078 J+	< 0.02 U	< 0.06 U
PUH-07	6d	0	N	10/27/1999	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.02 U	< 0.06 U
PUH-08	1a	0	N	4/5/1996	0.012	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
PUH-08	1a	5	N	4/5/1996	< 0.0019 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.016 U
PUH-09	6d	0	N	10/27/1999	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.02 U	< 0.06 U
PUH-11	1a	0	N	4/8/1996	< 0.0017 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
PUH-11	1a	5	N	4/8/1996	< 0.0019 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	0.0019	< 0.0019 U	< 0.019 U	< 0.016 U
PUI-08	6d	0	N	10/27/1999	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.02 U	< 0.06 U
PUI-09	6d	0	N	10/27/1999	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.02 U	< 0.06 U
PUJ-07	1a	0	N	4/5/1996	0.032	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
PUJ-07	1a	5	N	4/5/1996	0.041	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.019 U	< 0.016 U
PUK-09	1a	0	N	4/8/1996	0.0048	< 0.0033 U	< 0.0033 U	< 0.0033 U	< 0.0033 U	--	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.017 U	< 0.016 U
PUK-09	1a	5	N	4/8/1996	< 0.0019 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	< 0.0036 U	--	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.016 U
SB-14-A	27	0	N	6/15/2004	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0019 U	0.015 J+	< 0.0019 U	0.019 J+	< 0.0019 U	< 0.0019 U	< 0.0019 U	< 0.0036 U	< 0.073 U
SB-14-A	27	7	N	6/15/2004	< 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	< 0.0035 U	< 0.07 U
SB-14-A	27	17	N	6/15/2004	< 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	0.0061	0.076 J-	< 0.073 U
SB-14-A	27	27	N	6/15/2004	< 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	0.012	< 0.07 U
SB-14-A	27	77	N	6/15/2004	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	0.0041	0.047	< 0.1 U
SB-14-A	27	87	N	6/15/2004	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	< 0.0026 U	0.016	< 0.1 U
SB-14-A	27	107	N	6/15/2004	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0046 U	< 0.094 U
WC-SW01	39	0	N	7/31/2006	< 0.0013 U	< 0.00097 U	< 0.0024 U	< 0.002 U	< 0.0017 U	--	< 0.0009 U	< 0.001 U	< 0.0014 U	< 0.0026 U	< 0.0018 U	< 0.067 U
WC-SW02	39	0	N	7/31/2006	< 0.015 U	0.46 J	< 0.029 U	< 0.024 U	< 0.02 U	--	< 0.011 U	< 0.012 U	< 0.017 U	< 0.031 U	< 0.022 U	< 0.81 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-3
SOIL VOLATILE ORGANIC COMPOUNDS (VOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 6)

Sample ID	Dataset	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-Dichloroethylene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane (DBCP)
BDB-16	1a	0	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.68 U	--	--
BDB-16	1a	5	N	4/5/1996	--	< 0.0011 U	< 0.0011 U	< 0.0021 U	< 0.0011 U	< 0.0011 U	--	--	--	< 0.7 U	--	--
BDB-17	1a	0	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.68 U	--	--
BDB-17	1a	5	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.002 U	< 0.001 U	< 0.001 U	--	--	--	--	--	--
BDB-18	1a	0	N	4/5/1996	--	< 0.0011 U	< 0.0011 U	< 0.0021 U	< 0.0011 U	< 0.0011 U	--	--	--	< 0.67 U	--	--
BDB-18	1a	5	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	--	--	--
PUF-07	1a	0	N	4/5/1996	--	< 0.0011 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0011 U	--	--	--	< 1.5 U	--	--
PUF-07	1a	5	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.69 U	--	--
PUF-10	1a	0	N	4/8/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.69 U	--	--
PUF-10	1a	5	N	4/8/1996	--	< 0.0011 U	< 0.0011 U	< 0.0021 U	< 0.0011 U	< 0.0011 U	--	--	--	< 0.72 U	--	--
PUG-08	1a	0	N	4/5/1996	--	< 0.0011 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0011 U	--	--	--	< 1.7 U	--	--
PUG-08	1a	5	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.69 U	--	--
PUH-08	1a	0	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.67 U	--	--
PUH-08	1a	5	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.002 U	< 0.001 U	< 0.001 U	--	--	--	< 0.69 U	--	--
PUH-11	1a	0	N	4/8/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.66 U	--	--
PUH-11	1a	5	N	4/8/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	--	--	--
PUJ-07	1a	0	N	4/5/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	< 0.67 U	--	--
PUJ-07	1a	5	N	4/5/1996	--	< 0.0011 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0011 U	--	--	--	< 0.69 U	--	--
PUK-09	1a	0	N	4/8/1996	--	< 0.0011 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0011 U	--	--	--	< 0.67 U	--	--
PUK-09	1a	5	N	4/8/1996	--	< 0.001 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.001 U	--	--	--	--	--	--
SB-14-A	27	0	N	6/15/2004	< 0.0054 U	< 0.0054 U	< 0.0054 UJ+	< 0.0054 UJ+	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.011 U
SB-14-A	27	7	N	6/15/2004	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.011 U
SB-14-A	27	17	N	6/15/2004	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	0.0022 J	< 0.0056 U	< 0.011 U
SB-14-A	27	27	N	6/15/2004	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0098 U
SB-14-A	27	77	N	6/15/2004	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.014 U
SB-14-A	27	87	N	6/15/2004	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.015 U
SB-14-A	27	107	N	6/15/2004	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.013 U
WC-SW01	39	0	N	7/31/2006	< 0.00023 U	< 0.00015 U	< 0.00014 U	< 0.00029 U	< 0.00097 U	< 0.00056 U	--	--	< 0.00057 U	< 0.00075 U	--	< 0.00091 U
WC-SW02	39	0	N	7/31/2006	< 0.00028 U	< 0.00018 U	< 0.00017 U	< 0.00035 U	< 0.0012 U	< 0.00068 U	--	--	< 0.00069 U	0.0011 J	--	< 0.0011 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-3
SOIL VOLATILE ORGANIC COMPOUNDS (VOCs) DATA
SPRAY WHEEL SUB-AREA

					Volatile Organic Compounds (VOCs)											
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloroethylene	1,2-Dichloropropane	1,3,5-Trichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chloroethyl vinyl ether	2-Chlorotoluene
BDB-16	1a	0	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
BDB-16	1a	5	N	4/5/1996	< 0.0053 U	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0053 U	--	< 0.0053 U	--	< 0.0011 U	--
BDB-17	1a	0	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
BDB-17	1a	5	N	4/5/1996	< 0.005 U	< 0.001 U	--	< 0.001 U	--	--	< 0.005 U	--	< 0.005 U	--	< 0.001 U	--
BDB-18	1a	0	N	4/5/1996	< 0.0053 U	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0053 U	--	< 0.0053 U	--	< 0.0011 U	--
BDB-18	1a	5	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUF-07	1a	0	N	4/5/1996	0.0014	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0055 U	--	0.0013	--	< 0.0011 U	--
PUF-07	1a	5	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUF-10	1a	0	N	4/8/1996	< 0.0051 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0051 U	--	< 0.0051 U	--	< 0.001 U	--
PUF-10	1a	5	N	4/8/1996	< 0.0053 U	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0053 U	--	< 0.0053 U	--	< 0.0011 U	--
PUG-08	1a	0	N	4/5/1996	< 0.0054 U	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0054 U	--	< 0.0054 U	--	< 0.0011 U	--
PUG-08	1a	5	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUH-08	1a	0	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUH-08	1a	5	N	4/5/1996	< 0.005 U	< 0.001 U	--	< 0.001 U	--	--	< 0.005 U	--	< 0.005 U	--	< 0.001 U	--
PUH-11	1a	0	N	4/8/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUH-11	1a	5	N	4/8/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUJ-07	1a	0	N	4/5/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
PUJ-07	1a	5	N	4/5/1996	< 0.0055 U	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0055 U	--	< 0.0055 U	--	< 0.0011 U	--
PUK-09	1a	0	N	4/8/1996	< 0.0054 U	< 0.0011 U	--	< 0.0011 U	--	--	< 0.0054 U	--	< 0.0054 U	--	< 0.0011 U	--
PUK-09	1a	5	N	4/8/1996	< 0.0052 U	< 0.001 U	--	< 0.001 U	--	--	< 0.0052 U	--	< 0.0052 U	--	< 0.001 U	--
SB-14-A	27	0	N	6/15/2004	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	--	< 0.0054 U
SB-14-A	27	7	N	6/15/2004	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	--	< 0.0053 U
SB-14-A	27	17	N	6/15/2004	0.006	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	0.00089 J	< 0.0056 U	0.0055 J	< 0.0056 U	--	< 0.0056 U
SB-14-A	27	27	N	6/15/2004	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	--	< 0.0049 U
SB-14-A	27	77	N	6/15/2004	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	--	< 0.0072 U
SB-14-A	27	87	N	6/15/2004	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	--	< 0.0074 U
SB-14-A	27	107	N	6/15/2004	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	--	< 0.0063 U
WC-SW01	39	0	N	7/31/2006	< 0.00015 U	< 0.00045 U	--	< 0.00038 U	--	--	< 0.00013 U	--	< 0.00011 U	--	--	--
WC-SW02	39	0	N	7/31/2006	0.001 J	< 0.00054 U	--	< 0.00046 U	--	--	< 0.00016 U	--	0.0012 J	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-3
SOIL VOLATILE ORGANIC COMPOUNDS (VOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 3 of 6)

					Volatile Organic Compounds (VOCs)											
Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	2-Phenylbutane	4-Chlorotoluene	Acetone	Acetonitrile	Benzene	Bromobenzene	Bromodichloromethane	Bromomethane	Carbon disulfide	Carbon tetrachloride	CFC-11	CFC-12
BDB-16	1a	0	N	4/5/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
BDB-16	1a	5	N	4/5/1996	--	--	< 0.011 U	--	< 0.0053 U	--	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0053 U	< 0.0053 U	--
BDB-17	1a	0	N	4/5/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
BDB-17	1a	5	N	4/5/1996	--	--	< 0.01 U	--	< 0.005 U	--	< 0.001 U	< 0.005 U	< 0.001 U	< 0.005 U	< 0.005 U	--
BDB-18	1a	0	N	4/5/1996	--	--	< 0.011 U	--	< 0.0053 U	--	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0053 U	< 0.0053 U	--
BDB-18	1a	5	N	4/5/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUF-07	1a	0	N	4/5/1996	--	--	< 0.011 U	--	< 0.0055 U	--	< 0.0011 U	< 0.0055 U	< 0.0011 U	< 0.0055 U	< 0.0055 U	--
PUF-07	1a	5	N	4/5/1996	--	--	< 0.011 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUF-10	1a	0	N	4/8/1996	--	--	< 0.01 U	--	< 0.0051 U	--	< 0.001 U	< 0.0051 U	< 0.001 U	< 0.0051 U	< 0.0051 U	--
PUF-10	1a	5	N	4/8/1996	--	--	< 0.011 U	--	< 0.0053 U	--	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0053 U	< 0.0053 U	--
PUG-08	1a	0	N	4/5/1996	--	--	< 0.011 U	--	< 0.0054 U	--	< 0.0011 U	< 0.0054 U	< 0.0011 U	< 0.0054 U	< 0.0054 U	--
PUG-08	1a	5	N	4/5/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUH-08	1a	0	N	4/5/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUH-08	1a	5	N	4/5/1996	--	--	< 0.01 U	--	< 0.005 U	--	< 0.001 U	< 0.005 U	< 0.001 U	< 0.005 U	< 0.005 U	--
PUH-11	1a	0	N	4/8/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUH-11	1a	5	N	4/8/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUJ-07	1a	0	N	4/5/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
PUJ-07	1a	5	N	4/5/1996	--	--	< 0.011 U	--	< 0.0055 U	--	< 0.0011 U	< 0.0055 U	< 0.0011 U	< 0.0055 U	< 0.0055 U	--
PUK-09	1a	0	N	4/8/1996	--	--	< 0.011 U	--	< 0.0054 U	--	< 0.0011 U	< 0.0054 U	< 0.0011 U	< 0.0054 U	< 0.0054 U	--
PUK-09	1a	5	N	4/8/1996	--	--	< 0.01 U	--	< 0.0052 U	--	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0052 U	< 0.0052 U	--
SB-14-A	27	0	N	6/15/2004	< 0.0054 U	< 0.0054 U	< 0.022 UJ+	< 0.054 UJ+	0.00049 J	< 0.0054 U	< 0.0054 U	< 0.011 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.011 U
SB-14-A	27	7	N	6/15/2004	< 0.0053 U	< 0.0053 UJ	< 0.021 UJ	< 0.053 UJ	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.011 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.011 U
SB-14-A	27	17	N	6/15/2004	< 0.0056 U	< 0.0056 U	0.077 J+	< 0.056 UJ+	0.00085 J	< 0.0056 U	< 0.0056 U	< 0.011 U	< 0.0056 U	< 0.0056 U	< 0.0056 UJ	< 0.011 UJ
SB-14-A	27	27	N	6/15/2004	< 0.0049 U	< 0.0049 U	< 0.02 UJ+	< 0.049 UJ+	0.00026 J	< 0.0049 U	< 0.0049 U	< 0.0098 U	< 0.0049 U	< 0.0049 U	< 0.0049 UJ	< 0.0098 UJ
SB-14-A	27	77	N	6/15/2004	< 0.0072 U	< 0.0072 U	< 0.029 UJ+	< 0.072 UJ+	0.00038 J	< 0.0072 U	< 0.0072 U	< 0.014 U	< 0.0072 U	< 0.0072 U	< 0.0072 UJ	< 0.014 UJ
SB-14-A	27	87	N	6/15/2004	< 0.0074 U	< 0.0074 U	< 0.03 UJ+	< 0.074 UJ+	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.015 U	< 0.0074 U	< 0.0074 U	< 0.0074 UJ	< 0.015 UJ
SB-14-A	27	107	N	6/15/2004	< 0.0063 U	< 0.0063 U	< 0.025 UJ+	< 0.063 UJ+	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.013 U	< 0.0063 U	< 0.0063 U	< 0.0063 UJ	< 0.013 UJ
WC-SW01	39	0	N	7/31/2006	--	--	< 0.0039 UJ	< 0.002 UJ	< 0.00017 U	--	< 0.00034 U	< 0.00032 U	< 0.00056 U	< 0.00092 U	< 0.00051 U	< 0.00038 UJ
WC-SW02	39	0	N	7/31/2006	--	--	< 0.0047 UJ	< 0.0024 UJ	< 0.00021 U	--	< 0.00041 U	< 0.00039 U	< 0.00068 U	< 0.0011 U	< 0.00062 U	< 0.00046 UJ

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.

All units in mg/kg.

-- = no sample data.

TABLE B-3
SOIL VOLATILE ORGANIC COMPOUNDS (VOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 4 of 6)

					Volatile Organic Compounds (VOCs)											
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Chlorinated fluorocarbon (Freon 113)	Chlorobenzene	Chlorobromomethane	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethylene	cis-1,3-Dichloropropylene	Cymene	Dibromomethane	Dichloromethane
BDB-16	1a	0	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
BDB-16	1a	5	N	4/5/1996	--	< 0.0053 U	--	< 0.0011 U	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0011 U	< 0.0021 U	--	--	< 0.0053 U
BDB-17	1a	0	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
BDB-17	1a	5	N	4/5/1996	--	< 0.005 U	--	< 0.001 U	< 0.001 U	< 0.005 U	< 0.001 U	< 0.001 U	< 0.002 U	--	--	< 0.005 U
BDB-18	1a	0	N	4/5/1996	--	< 0.0053 U	--	< 0.0011 U	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0011 U	< 0.0021 U	--	--	< 0.0053 U
BDB-18	1a	5	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUF-07	1a	0	N	4/5/1996	--	0.0012	--	< 0.0011 U	< 0.0011 U	< 0.0055 U	< 0.0011 U	< 0.0011 U	< 0.0022 U	--	--	< 0.0055 U
PUF-07	1a	5	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUF-10	1a	0	N	4/8/1996	--	< 0.0051 U	--	< 0.001 U	< 0.001 U	< 0.0051 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0051 U
PUF-10	1a	5	N	4/8/1996	--	< 0.0053 U	--	< 0.0011 U	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0011 U	< 0.0021 U	--	--	< 0.0053 U
PUG-08	1a	0	N	4/5/1996	--	< 0.0054 U	--	< 0.0011 U	< 0.0011 U	< 0.0054 U	< 0.0011 U	< 0.0011 U	< 0.0022 U	--	--	< 0.0054 U
PUG-08	1a	5	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUH-08	1a	0	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUH-08	1a	5	N	4/5/1996	--	< 0.005 U	--	< 0.001 U	< 0.001 U	< 0.005 U	< 0.001 U	< 0.001 U	< 0.002 U	--	--	< 0.005 U
PUH-11	1a	0	N	4/8/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUH-11	1a	5	N	4/8/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUJ-07	1a	0	N	4/5/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
PUJ-07	1a	5	N	4/5/1996	--	< 0.0055 U	--	< 0.0011 U	< 0.0011 U	< 0.0055 U	< 0.0011 U	< 0.0011 U	< 0.0022 U	--	--	< 0.0055 U
PUK-09	1a	0	N	4/8/1996	--	< 0.0054 U	--	< 0.0011 U	< 0.0011 U	< 0.0054 U	< 0.0011 U	< 0.0011 U	< 0.0022 U	--	--	0.0012
PUK-09	1a	5	N	4/8/1996	--	< 0.0052 U	--	< 0.001 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.001 U	< 0.0021 U	--	--	< 0.0052 U
SB-14-A	27	0	N	6/15/2004	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.011 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 UJ+
SB-14-A	27	7	N	6/15/2004	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.011 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 UJ
SB-14-A	27	17	N	6/15/2004	< 0.0056 UJ	0.0039 J	< 0.0056 U	< 0.0056 UJ	< 0.0056 U	0.00085 J	0.00072 J	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 UJ+
SB-14-A	27	27	N	6/15/2004	< 0.0049 UJ	< 0.0049 U	< 0.0049 U	< 0.0049 UJ	< 0.0049 U	< 0.0049 U	< 0.0098 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 UJ+
SB-14-A	27	77	N	6/15/2004	< 0.0072 UJ	< 0.0072 U	< 0.0072 U	< 0.0072 UJ	< 0.0072 U	0.0021 J	< 0.014 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 UJ+
SB-14-A	27	87	N	6/15/2004	< 0.0074 UJ	< 0.0074 U	< 0.0074 U	< 0.0074 UJ	< 0.0074 U	< 0.0074 U	< 0.015 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 UJ+
SB-14-A	27	107	N	6/15/2004	< 0.0063 UJ	< 0.0063 U	< 0.0063 U	< 0.0063 UJ	< 0.0063 U	< 0.0063 U	< 0.013 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 UJ+
WC-SW01	39	0	N	7/31/2006	< 0.00055 U	< 0.00013 U	--	< 0.00029 U	< 0.00036 U	< 0.00015 U	< 0.00045 U	--	< 0.00074 U	--	< 0.00036 U	< 0.0026 UJ
WC-SW02	39	0	N	7/31/2006	< 0.00066 U	< 0.00015 U	--	< 0.00036 U	< 0.00043 U	< 0.00018 U	< 0.00055 U	--	< 0.0009 U	--	< 0.00043 U	< 0.0031 UJ

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-3
SOIL VOLATILE ORGANIC COMPOUNDS (VOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 5 of 6)

					Volatile Organic Compounds (VOCs)											
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methyl disulfide	Methyl ethyl ketone	Methyl iodide	Methyl isobutyl ketone	Methyl n-butyl ketone	MTBE (Methyl tert-butyl ether)	n-Butyl benzene	n-Propyl benzene	o-Xylene
BDB-16	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
BDB-16	1a	5	N	4/5/1996	< 0.0011 U	--	< 0.0021 U	--	< 0.011 U	--	< 0.0053 U	< 0.0032 U	--	--	--	< 0.0011 U
BDB-17	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
BDB-17	1a	5	N	4/5/1996	< 0.001 U	--	< 0.002 U	--	< 0.01 U	--	< 0.005 U	< 0.003 U	--	--	--	< 0.001 U
BDB-18	1a	0	N	4/5/1996	< 0.0011 U	--	< 0.0021 U	--	< 0.011 U	--	< 0.0053 U	< 0.0032 U	--	--	--	< 0.0011 U
BDB-18	1a	5	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUF-07	1a	0	N	4/5/1996	< 0.0011 U	--	< 0.0022 U	--	< 0.011 U	--	< 0.0055 U	< 0.0033 U	--	--	--	< 0.0011 U
PUF-07	1a	5	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUF-10	1a	0	N	4/8/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0051 U	< 0.0031 U	--	--	--	< 0.001 U
PUF-10	1a	5	N	4/8/1996	< 0.0011 U	--	< 0.0021 U	--	< 0.011 U	--	< 0.0053 U	< 0.0032 U	--	--	--	< 0.0011 U
PUG-08	1a	0	N	4/5/1996	< 0.0011 U	--	< 0.0022 U	--	< 0.011 U	--	< 0.0054 U	< 0.0032 U	--	--	--	< 0.0011 U
PUG-08	1a	5	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUH-08	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUH-08	1a	5	N	4/5/1996	< 0.001 U	--	< 0.002 U	--	< 0.01 U	--	< 0.005 U	< 0.003 U	--	--	--	< 0.001 U
PUH-11	1a	0	N	4/8/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUH-11	1a	5	N	4/8/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUJ-07	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
PUJ-07	1a	5	N	4/5/1996	< 0.0011 U	--	< 0.0022 U	--	< 0.011 U	--	< 0.0055 U	< 0.0033 U	--	--	--	< 0.0011 U
PUK-09	1a	0	N	4/8/1996	< 0.0011 U	--	< 0.0022 U	--	< 0.011 U	--	< 0.0054 U	< 0.0033 U	--	--	--	< 0.0011 U
PUK-09	1a	5	N	4/8/1996	< 0.001 U	--	< 0.0021 U	--	< 0.01 U	--	< 0.0052 U	< 0.0031 U	--	--	--	< 0.001 U
SB-14-A	27	0	N	6/15/2004	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.022 UJ	< 0.0054 U	< 0.022 UJ+	--	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 UJ
SB-14-A	27	7	N	6/15/2004	< 0.0053 U	0.00014 J	0.00069 J	< 0.0053 U	< 0.021 U	< 0.0053 U	< 0.021 UJ	--	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U
SB-14-A	27	17	N	6/15/2004	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	0.013 J	< 0.0056 U	< 0.022 UJ+	--	< 0.0056 UJ+	< 0.0056 U	< 0.0056 U	< 0.0056 U
SB-14-A	27	27	N	6/15/2004	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.02 U	< 0.0049 U	< 0.02 UJ+	--	< 0.0049 UJ+	< 0.0049 U	< 0.0049 U	< 0.0049 U
SB-14-A	27	77	N	6/15/2004	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.029 U	< 0.0072 U	< 0.029 UJ+	--	< 0.0072 UJ+	< 0.0072 U	< 0.0072 U	< 0.0072 U
SB-14-A	27	87	N	6/15/2004	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.03 U	< 0.0074 U	< 0.03 UJ+	--	< 0.0074 UJ+	< 0.0074 U	< 0.0074 U	< 0.0074 U
SB-14-A	27	107	N	6/15/2004	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.025 U	< 0.0063 U	< 0.025 UJ+	--	< 0.0063 UJ	< 0.0063 U	< 0.0063 U	< 0.0063 U
WC-SW01	39	0	N	7/31/2006	< 0.00019 U	--	--	--	< 0.0014 U	< 0.00026 U	< 0.0016 U	--	--	--	--	--
WC-SW02	39	0	N	7/31/2006	< 0.00023 U	--	--	--	< 0.0017 U	< 0.00032 U	< 0.002 U	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-3
SOIL VOLATILE ORGANIC COMPOUNDS (VOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 6 of 6)

					Volatile Organic Compounds (VOCs)										
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Styrene (monomer)	tert-Butyl benzene	Tetrachloroethylene	Toluene	trans-1,2-Dichloro-ethylene	trans-1,3-Dichloro-propylene	Tribromomethane	Trichloroethylene	Vinyl acetate	Vinyl chloride	Xylenes (total)
BDB-16	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
BDB-16	1a	5	N	4/5/1996	< 0.0011 U	--	< 0.0053 U	< 0.0053 U	< 0.0011 U	< 0.0021 U	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0021 U	--
BDB-17	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
BDB-17	1a	5	N	4/5/1996	< 0.001 U	--	< 0.005 U	< 0.005 U	< 0.001 U	< 0.002 U	< 0.001 U	< 0.005 U	< 0.001 U	< 0.002 U	--
BDB-18	1a	0	N	4/5/1996	< 0.0011 U	--	< 0.0053 U	< 0.0053 U	< 0.0011 U	< 0.0021 U	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0021 U	--
BDB-18	1a	5	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUF-07	1a	0	N	4/5/1996	< 0.0011 U	--	< 0.0055 U	< 0.0055 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0055 U	< 0.0011 U	< 0.0022 U	--
PUF-07	1a	5	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUF-10	1a	0	N	4/8/1996	< 0.001 U	--	< 0.0051 U	< 0.0051 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0051 U	< 0.001 U	< 0.0021 U	--
PUF-10	1a	5	N	4/8/1996	< 0.0011 U	--	< 0.0053 U	< 0.0053 U	< 0.0011 U	< 0.0021 U	< 0.0011 U	< 0.0053 U	< 0.0011 U	< 0.0021 U	--
PUG-08	1a	0	N	4/5/1996	< 0.0011 U	--	< 0.0054 U	< 0.0054 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0054 U	< 0.0011 U	< 0.0022 U	--
PUG-08	1a	5	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUH-08	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUH-08	1a	5	N	4/5/1996	< 0.001 U	--	< 0.005 U	< 0.005 U	< 0.001 U	< 0.002 U	< 0.001 U	< 0.005 U	< 0.001 U	< 0.002 U	--
PUH-11	1a	0	N	4/8/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUH-11	1a	5	N	4/8/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUJ-07	1a	0	N	4/5/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
PUJ-07	1a	5	N	4/5/1996	< 0.0011 U	--	< 0.0055 U	< 0.0055 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0055 U	< 0.0011 U	< 0.0022 U	--
PUK-09	1a	0	N	4/8/1996	< 0.0011 U	--	< 0.0054 U	< 0.0054 U	< 0.0011 U	< 0.0022 U	< 0.0011 U	< 0.0054 U	< 0.0011 U	< 0.0022 U	--
PUK-09	1a	5	N	4/8/1996	< 0.001 U	--	< 0.0052 U	< 0.0052 U	< 0.001 U	< 0.0021 U	< 0.001 U	< 0.0052 U	< 0.001 U	< 0.0021 U	--
SB-14-A	27	0	N	6/15/2004	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.0054 UJ+	< 0.0054 UJ	< 0.0054 U	< 0.0054 U	< 0.0054 U	< 0.011 U
SB-14-A	27	7	N	6/15/2004	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.0053 U	< 0.011 U
SB-14-A	27	17	N	6/15/2004	< 0.0056 U	< 0.0056 U	0.00031 J	< 0.0056 U	< 0.0056 U	< 0.0056 UJ+	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.0056 U	< 0.011 U
SB-14-A	27	27	N	6/15/2004	< 0.0049 U	< 0.0049 U	< 0.0049 UJ	< 0.0049 U	< 0.0049 U	< 0.0049 UJ+	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0049 U	< 0.0098 U
SB-14-A	27	77	N	6/15/2004	< 0.0072 U	< 0.0072 U	< 0.0072 UJ	< 0.0072 U	< 0.0072 U	< 0.0072 UJ+	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.0072 U	< 0.014 U
SB-14-A	27	87	N	6/15/2004	< 0.0074 U	< 0.0074 U	< 0.0074 UJ	< 0.0074 U	< 0.0074 U	< 0.0074 UJ+	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.0074 U	< 0.015 U
SB-14-A	27	107	N	6/15/2004	< 0.0063 U	< 0.0063 U	< 0.0063 UJ	< 0.0063 U	< 0.0063 U	< 0.0063 UJ	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.0063 U	< 0.013 U
WC-SW01	39	0	N	7/31/2006	--	--	< 0.00028 U	< 0.00013 U	< 0.00023 U	< 0.00021 U	< 0.00025 U	< 0.00037 U	--	< 0.00024 U	< 0.00088 U
WC-SW02	39	0	N	7/31/2006	--	--	< 0.00034 U	< 0.00016 U	< 0.00027 U	< 0.00025 U	< 0.0003 U	< 0.00044 U	--	< 0.00029 U	< 0.0011 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 7)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
					1,2,4,5-Tetrachloro-benzene	1,2-Diphenylhydrazine	1,4-Dioxane	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene
BDB-16	1a	0	N	4/5/1996	--	--	--	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 3.4 U	< 0.68 U	< 0.68 U
BDB-16	1a	5	N	4/5/1996	--	--	--	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 3.5 U	< 0.7 U	< 0.7 U
BDB-17	1a	0	N	4/5/1996	--	--	--	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 3.4 U	< 0.68 U	< 0.68 U
BDB-18	1a	0	N	4/5/1996	--	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 3.3 U	< 0.67 U	< 0.67 U
PUF-07	1a	0	N	4/5/1996	--	--	--	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 7.3 U	< 1.5 U	< 1.5 U
PUF-07	1a	5	N	4/5/1996	--	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 0.69 U
PUF-10	1a	0	N	4/8/1996	--	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 3.4 U	< 0.69 U	< 0.69 U
PUF-10	1a	5	N	4/8/1996	--	--	--	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 3.6 U	< 0.72 U	< 0.72 U
PUG-08	1a	0	N	4/5/1996	--	--	--	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 8.6 U	< 1.7 U	< 1.7 U
PUG-08	1a	5	N	4/5/1996	--	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 0.69 U
PUH-08	1a	0	N	4/5/1996	--	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 3.4 U	< 0.67 U	< 0.67 U
PUH-08	1a	5	N	4/5/1996	--	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 0.69 U
PUH-11	1a	0	N	4/8/1996	--	--	--	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 3.3 U	< 0.66 U	< 0.66 U
PUJ-07	1a	0	N	4/5/1996	--	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 3.3 U	< 0.67 U	< 0.67 U
PUJ-07	1a	5	N	4/5/1996	--	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 0.69 U
PUK-09	1a	0	N	4/8/1996	--	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 3.3 U	< 0.67 U	< 0.67 U
SB-14-A	27	0	N	6/15/2004	< 0.36 U	--	--	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 0.36 U
SB-14-A	27	7	N	6/15/2004	< 0.35 U	--	--	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 1.7 U	< 0.35 U	< 0.35 U
SB-14-A	27	17	N	6/15/2004	< 0.36 U	--	--	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 0.36 U
SB-14-A	27	27	N	6/15/2004	< 0.34 U	--	--	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 1.7 U	< 0.34 U	< 0.34 U
SB-14-A	27	77	N	6/15/2004	< 0.5 U	--	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.4 U	< 0.5 U	< 0.5 U
SB-14-A	27	87	N	6/15/2004	< 0.51 U	--	--	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 2.5 U	< 0.51 U	< 0.51 U
SB-14-A	27	107	N	6/15/2004	< 0.46 U	--	--	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 2.2 U	< 0.46 U	< 0.46 U
WC-SW01	39	0	N	7/31/2006	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.34 UJ	< 0.034 U	< 0.034 U
WC-SW02	39	0	N	7/31/2006	0.066 J	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 U	< 0.41 UJ	< 0.041 U	< 0.041 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 2 of 7)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
					2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine	3-Methylphenol & 4-Methylphenol	3-Nitroaniline	4,6-Dinitro-o-cresol	4-Bromophenyl phenyl ether
BDB-16	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 3.4 U	< 0.68 U	< 1.3 U	--	< 3.4 U	< 3.4 U	< 0.68 U
BDB-16	1a	5	N	4/5/1996	< 0.7 U	< 0.7 U	< 0.7 U	< 3.5 U	< 0.7 U	< 1.4 U	--	< 3.5 U	< 3.5 U	0.24
BDB-17	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 3.4 U	< 0.68 U	< 1.3 U	--	< 3.4 U	< 3.4 U	< 0.68 U
BDB-18	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 3.3 U	< 0.67 U	< 1.3 U	--	< 3.3 U	< 3.3 U	< 0.67 U
PUF-07	1a	0	N	4/5/1996	< 1.5 U	< 1.5 U	< 1.5 U	< 7.3 U	< 1.5 U	< 2.9 U	--	< 7.3 U	< 7.3 U	< 1.5 U
PUF-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 1.4 U	--	< 3.5 U	< 3.5 U	< 0.69 U
PUF-10	1a	0	N	4/8/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 3.4 U	< 0.69 U	< 1.4 U	--	< 3.4 U	< 3.4 U	< 0.69 U
PUF-10	1a	5	N	4/8/1996	< 0.72 U	< 0.72 U	< 0.72 U	< 3.6 U	< 0.72 U	< 1.4 U	--	< 3.6 U	< 3.6 U	< 0.72 U
PUG-08	1a	0	N	4/5/1996	< 1.7 U	< 1.7 U	< 1.7 U	< 8.6 U	< 1.7 U	< 3.4 U	--	< 8.6 U	< 8.6 U	< 1.7 U
PUG-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 1.4 U	--	< 3.5 U	< 3.5 U	< 0.69 U
PUH-08	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 3.4 U	< 0.67 U	< 1.3 U	--	< 3.4 U	< 3.4 U	< 0.67 U
PUH-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 1.4 U	--	< 3.5 U	< 3.5 U	< 0.69 U
PUH-11	1a	0	N	4/8/1996	< 0.66 U	< 0.66 U	< 0.66 U	< 3.3 U	< 0.66 U	< 1.3 U	--	< 3.3 U	< 3.3 U	< 0.66 U
PUJ-07	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 3.3 U	< 0.67 U	< 1.3 U	--	< 3.3 U	< 3.3 U	< 0.67 U
PUJ-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 3.5 U	< 0.69 U	< 1.4 U	--	< 3.5 U	< 3.5 U	< 0.69 U
PUK-09	1a	0	N	4/8/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 3.3 U	< 0.67 U	< 1.3 U	--	< 3.3 U	< 3.3 U	< 0.67 U
SB-14-A	27	0	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 1.7 U	< 0.72 U	< 1.7 U	--	< 0.36 U
SB-14-A	27	7	N	6/15/2004	< 0.35 U	< 0.35 U	< 0.35 U	< 1.7 U	< 0.35 U	< 1.7 U	< 0.69 U	< 1.7 U	--	< 0.35 U
SB-14-A	27	17	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 1.7 U	< 0.72 U	< 1.7 U	--	< 0.36 U
SB-14-A	27	27	N	6/15/2004	< 0.34 U	< 0.34 U	< 0.34 U	< 1.7 U	< 0.34 U	< 1.7 U	< 0.69 U	< 1.7 U	--	< 0.34 U
SB-14-A	27	77	N	6/15/2004	< 0.5 U	< 0.5 U	< 0.5 U	< 2.4 U	< 0.5 U	< 2.4 U	< 0.99 U	< 2.4 U	--	< 0.5 U
SB-14-A	27	87	N	6/15/2004	< 0.51 U	< 0.51 U	< 0.51 U	< 2.5 U	< 0.51 U	< 2.5 U	< 1 U	< 2.5 U	--	< 0.51 U
SB-14-A	27	107	N	6/15/2004	< 0.46 U	< 0.46 U	< 0.46 U	< 2.2 U	< 0.46 U	< 2.2 U	< 0.93 U	< 2.2 U	--	< 0.46 U
WC-SW01	39	0	N	7/31/2006	< 0.034 U	< 0.034 U	--	< 0.034 U	< 0.034 U	--	< 0.068 U	--	--	< 0.034 U
WC-SW02	39	0	N	7/31/2006	< 0.041 U	< 0.041 U	--	< 0.041 U	< 0.041 U	--	< 0.082 U	--	--	< 0.041 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA
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					Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	4-Chloro-3-Methylphenol	4-Chlorophenyl phenyl ether	4-Nitrophenol	Acetophenone	Aniline	Azobenzene	Benzenethiol	Benzoic acid	Benzyl alcohol	Benzyl butyl phthalate
BDB-16	1a	0	N	4/5/1996	< 1.3 U	< 0.68 U	< 3.4 U	--	--	--	--	< 3.4 U	< 1.3 U	< 0.68 U
BDB-16	1a	5	N	4/5/1996	< 1.4 U	< 0.7 U	< 3.5 U	--	--	--	--	< 3.5 U	< 1.4 U	< 0.7 U
BDB-17	1a	0	N	4/5/1996	< 1.3 U	< 0.68 U	< 3.4 U	--	--	--	--	< 3.4 U	< 1.3 U	< 0.68 U
BDB-18	1a	0	N	4/5/1996	< 1.3 U	< 0.67 U	< 3.3 U	--	--	--	--	< 3.3 U	< 1.3 U	< 0.67 U
PUF-07	1a	0	N	4/5/1996	< 2.9 U	< 1.5 U	< 7.3 U	--	--	--	--	< 7.3 U	< 2.9 U	< 1.5 U
PUF-07	1a	5	N	4/5/1996	< 1.4 U	< 0.69 U	< 3.5 U	--	--	--	--	< 3.5 U	< 1.4 U	< 0.69 U
PUF-10	1a	0	N	4/8/1996	< 1.4 U	< 0.69 U	< 3.4 U	--	--	--	--	< 3.4 U	< 1.4 U	< 0.69 U
PUF-10	1a	5	N	4/8/1996	< 1.4 U	< 0.72 U	< 3.6 U	--	--	--	--	< 3.6 U	< 1.4 U	< 0.72 U
PUG-08	1a	0	N	4/5/1996	< 3.4 U	< 1.7 U	< 8.6 U	--	--	--	--	2.2	< 3.4 U	< 1.7 U
PUG-08	1a	5	N	4/5/1996	< 1.4 U	< 0.69 U	< 3.5 U	--	--	--	--	< 3.5 U	< 1.4 U	< 0.69 U
PUH-08	1a	0	N	4/5/1996	< 1.3 U	< 0.67 U	< 3.4 U	--	--	--	--	< 3.4 U	< 1.3 U	< 0.67 U
PUH-08	1a	5	N	4/5/1996	< 1.4 U	< 0.69 U	< 3.5 U	--	--	--	--	< 3.5 U	< 1.4 U	< 0.69 U
PUH-11	1a	0	N	4/8/1996	< 1.3 U	< 0.66 U	< 3.3 U	--	--	--	--	< 3.3 U	< 1.3 U	< 0.66 U
PUJ-07	1a	0	N	4/5/1996	< 1.3 U	< 0.67 U	< 3.3 U	--	--	--	--	< 3.3 U	< 1.3 U	< 0.67 U
PUJ-07	1a	5	N	4/5/1996	< 1.4 U	< 0.69 U	< 3.5 U	--	--	--	--	< 3.5 U	< 1.4 U	< 0.69 U
PUK-09	1a	0	N	4/8/1996	< 1.3 U	< 0.67 U	< 3.3 U	--	--	--	--	< 3.3 U	< 1.3 U	< 0.67 U
SB-14-A	27	0	N	6/15/2004	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	0.22 J	< 0.36 U	< 0.36 U
SB-14-A	27	7	N	6/15/2004	< 0.35 U	< 0.35 U	< 1.7 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 1.7 U	< 0.35 U	< 0.35 U
SB-14-A	27	17	N	6/15/2004	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 0.36 U
SB-14-A	27	27	N	6/15/2004	< 0.34 U	< 0.34 U	< 1.7 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 1.7 U	< 0.34 U	< 0.34 U
SB-14-A	27	77	N	6/15/2004	< 0.5 U	< 0.5 U	< 2.4 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.4 U	< 0.5 U	< 0.5 U
SB-14-A	27	87	N	6/15/2004	< 0.51 U	< 0.51 U	< 2.5 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 2.5 U	< 0.51 U	< 0.51 U
SB-14-A	27	107	N	6/15/2004	< 0.46 U	< 0.46 U	< 2.2 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 2.2 U	< 0.46 U	< 0.46 U
WC-SW01	39	0	N	7/31/2006	< 0.034 U	--	< 0.34 U	< 0.034 U	< 0.034 U	--	--	--	--	< 0.034 U
WC-SW02	39	0	N	7/31/2006	< 0.041 U	--	< 0.41 U	< 0.041 U	< 0.041 U	--	--	--	--	< 0.041 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA
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					Semi-Volatile Organic Compounds (SVOCs)									
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	bis(p-Chlorophenyl) disulfide	bis(p-Chlorophenyl) sulfone	Carbazole	Dibenzofuran	Dibutyl phthalate	Diethyl phthalate
BDB-16	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	--	--	< 0.68 U	< 0.68 U	1.7	< 0.68 U
BDB-16	1a	5	N	4/5/1996	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--	--	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U
BDB-17	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	--	--	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U
BDB-18	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
PUF-07	1a	0	N	4/5/1996	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	--	--	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U
PUF-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUF-10	1a	0	N	4/8/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUF-10	1a	5	N	4/8/1996	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	--	--	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U
PUG-08	1a	0	N	4/5/1996	< 1.7 U	< 1.7 U	< 1.7 U	1.5	--	--	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
PUG-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUH-08	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
PUH-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUH-11	1a	0	N	4/8/1996	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	--	--	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U
PUJ-07	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
PUJ-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUK-09	1a	0	N	4/8/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
SB-14-A	27	0	N	6/15/2004	< 0.36 U	< 0.36 UJ+	< 0.36 U	< 0.36 U	< 0.36 UJ+	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U
SB-14-A	27	7	N	6/15/2004	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 UJ+	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U
SB-14-A	27	17	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 UJ+	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U
SB-14-A	27	27	N	6/15/2004	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 UJ+	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U
SB-14-A	27	77	N	6/15/2004	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 UJ+	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
SB-14-A	27	87	N	6/15/2004	< 0.51 U	< 0.51 U	< 0.51 U	0.37 J	< 0.51 UJ+	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U
SB-14-A	27	107	N	6/15/2004	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 UJ+	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U
WC-SW01	39	0	N	7/31/2006	< 0.034 U	< 0.034 U	< 0.034 U	--	--	--	--	--	< 0.034 U	< 0.034 U
WC-SW02	39	0	N	7/31/2006	< 0.041 U	< 0.041 U	< 0.041 U	--	--	--	--	--	< 0.041 U	< 0.041 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
					Dimethyl phthalate	Di-n-octyl phthalate	Diphenyl sulfone	Fluoranthene	Fluorene	Hexachloro-1,3-butadiene	Hexachlorobenzene	Hexachlorocyclo-pentadiene	Hexachloroethane	Hydroxymethyl phthalimide
BDB-16	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	--	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	--
BDB-16	1a	5	N	4/5/1996	< 0.7 U	< 0.7 U	--	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
BDB-17	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	--	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	--
BDB-18	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--
PUF-07	1a	0	N	4/5/1996	< 1.5 U	< 1.5 U	--	0.56	< 1.5 U	< 1.5 U	0.99	< 1.5 U	< 1.5 U	--
PUF-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--
PUF-10	1a	0	N	4/8/1996	< 0.69 U	< 0.69 U	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--
PUF-10	1a	5	N	4/8/1996	< 0.72 U	< 0.72 U	--	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	--
PUG-08	1a	0	N	4/5/1996	< 1.7 U	< 1.7 U	--	< 1.7 U	< 1.7 U	< 1.7 U	1.9	< 1.7 U	< 1.7 U	--
PUG-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--
PUH-08	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	--	< 0.67 U	< 0.67 U	< 0.67 U	0.39	< 0.67 U	< 0.67 U	--
PUH-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--
PUH-11	1a	0	N	4/8/1996	< 0.66 U	< 0.66 U	--	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	--
PUJ-07	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--
PUJ-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	--	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	--
PUK-09	1a	0	N	4/8/1996	< 0.67 U	< 0.67 U	--	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	--
SB-14-A	27	0	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	1.2 J+	< 1.7 UJ+	< 0.36 U	< 0.36 UJ+
SB-14-A	27	7	N	6/15/2004	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 1.7 U	< 0.35 U	< 0.35 UJ+
SB-14-A	27	17	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 1.7 U	< 0.36 U	< 0.36 UJ+
SB-14-A	27	27	N	6/15/2004	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 1.7 U	< 0.34 U	< 0.34 UJ+
SB-14-A	27	77	N	6/15/2004	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.4 U	< 0.5 U	< 0.5 UJ
SB-14-A	27	87	N	6/15/2004	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 2.5 U	< 0.51 U	< 0.51 UJ
SB-14-A	27	107	N	6/15/2004	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 2.2 U	< 0.46 U	< 0.46 UJ+
WC-SW01	39	0	N	7/31/2006	< 0.034 U	< 0.015 U	--	< 0.034 U	< 0.034 U	< 0.034 U	0.54	< 0.34 U	< 0.034 U	--
WC-SW02	39	0	N	7/31/2006	< 0.041 U	< 0.018 U	--	0.11 J	< 0.041 U	< 0.041 U	0.66	< 0.41 U	< 0.041 U	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA
(Page 6 of 7)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Semi-Volatile Organic Compounds (SVOCs)									
					Isophorone	Naphthalene	Nitrobenzene	N-nitrosodi-n-propylamin	N-nitrosodiphenylamine	o-Cresol	p-Chloroaniline	p-Chlorothiophenol	p-Cresol	Pentachlorobenzene
BDB-16	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 1.3 U	--	< 0.68 U	--
BDB-16	1a	5	N	4/5/1996	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 1.4 U	--	< 0.7 U	--
BDB-17	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 1.3 U	--	< 0.68 U	--
BDB-18	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 1.3 U	--	< 0.67 U	--
PUF-07	1a	0	N	4/5/1996	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 2.9 U	--	< 1.5 U	--
PUF-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 1.4 U	--	< 0.69 U	--
PUF-10	1a	0	N	4/8/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 1.4 U	--	< 0.69 U	--
PUF-10	1a	5	N	4/8/1996	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 1.4 U	--	< 0.72 U	--
PUG-08	1a	0	N	4/5/1996	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 3.4 U	--	< 1.7 U	--
PUG-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 1.4 U	--	< 0.69 U	--
PUH-08	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 1.3 U	--	< 0.67 U	--
PUH-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 1.4 U	--	< 0.69 U	--
PUH-11	1a	0	N	4/8/1996	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 1.3 U	--	< 0.66 U	--
PUJ-07	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 1.3 U	--	< 0.67 U	--
PUJ-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 1.4 U	--	< 0.69 U	--
PUK-09	1a	0	N	4/8/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 1.3 U	--	< 0.67 U	--
SB-14-A	27	0	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	--	0.087 J
SB-14-A	27	7	N	6/15/2004	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	--	< 0.35 U
SB-14-A	27	17	N	6/15/2004	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 U	--	< 0.36 U
SB-14-A	27	27	N	6/15/2004	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	--	< 0.34 U
SB-14-A	27	77	N	6/15/2004	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	--	< 0.5 U
SB-14-A	27	87	N	6/15/2004	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 U	--	< 0.51 U
SB-14-A	27	107	N	6/15/2004	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 U	--	< 0.46 U
WC-SW01	39	0	N	7/31/2006	--	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 UJ	--	--	< 0.034 U
WC-SW02	39	0	N	7/31/2006	--	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 UJ	--	--	0.24 J

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-4
SOIL SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs) DATA
SPRAY WHEEL SUB-AREA

					Semi-Volatile Organic Compounds (SVOCs)						
Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Pentachlorophenol	Phenol	Phenyl Disulfide	Phenyl Sulfide	Phthalic acid	p-Nitroaniline	Pyridine
BDB-16	1a	0	N	4/5/1996	< 3.4 U	< 0.68 U	--	--	--	< 3.4 U	--
BDB-16	1a	5	N	4/5/1996	< 3.5 U	< 0.7 U	--	--	--	< 3.5 U	--
BDB-17	1a	0	N	4/5/1996	< 3.4 U	< 0.68 U	--	--	--	< 3.4 U	--
BDB-18	1a	0	N	4/5/1996	< 3.3 U	< 0.67 U	--	--	--	< 3.3 U	--
PUF-07	1a	0	N	4/5/1996	< 7.3 U	< 1.5 U	--	--	--	< 7.3 U	--
PUF-07	1a	5	N	4/5/1996	< 3.5 U	< 0.69 U	--	--	--	< 3.5 U	--
PUF-10	1a	0	N	4/8/1996	< 3.4 U	< 0.69 U	--	--	--	< 3.4 U	--
PUF-10	1a	5	N	4/8/1996	< 3.6 U	< 0.72 U	--	--	--	< 3.6 U	--
PUG-08	1a	0	N	4/5/1996	< 8.6 U	< 1.7 U	--	--	--	< 8.6 U	--
PUG-08	1a	5	N	4/5/1996	< 3.5 U	< 0.69 U	--	--	--	< 3.5 U	--
PUH-08	1a	0	N	4/5/1996	< 3.4 U	< 0.67 U	--	--	--	< 3.4 U	--
PUH-08	1a	5	N	4/5/1996	< 3.5 U	< 0.69 U	--	--	--	< 3.5 U	--
PUH-11	1a	0	N	4/8/1996	< 3.3 U	< 0.66 U	--	--	--	< 3.3 U	--
PUJ-07	1a	0	N	4/5/1996	< 3.3 U	< 0.67 U	--	--	--	< 3.3 U	--
PUJ-07	1a	5	N	4/5/1996	< 3.5 U	< 0.69 U	--	--	--	< 3.5 U	--
PUK-09	1a	0	N	4/8/1996	< 3.3 U	< 0.67 U	--	--	--	< 3.3 U	--
SB-14-A	27	0	N	6/15/2004	< 1.7 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 UJ+	< 1.7 U	< 0.72 U
SB-14-A	27	7	N	6/15/2004	< 1.7 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 UJ+	< 1.7 U	< 0.69 U
SB-14-A	27	17	N	6/15/2004	< 1.7 U	< 0.36 U	< 0.36 U	< 0.36 U	< 0.36 UJ+	< 1.7 U	< 0.72 U
SB-14-A	27	27	N	6/15/2004	< 1.7 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 UJ+	< 1.7 U	< 0.69 U
SB-14-A	27	77	N	6/15/2004	< 2.4 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 UJ+	< 2.4 U	< 0.99 U
SB-14-A	27	87	N	6/15/2004	< 2.5 U	< 0.51 U	< 0.51 U	< 0.51 U	< 0.51 UJ+	< 2.5 U	< 1 U
SB-14-A	27	107	N	6/15/2004	< 2.2 U	< 0.46 U	< 0.46 U	< 0.46 U	< 0.46 UJ+	< 2.2 U	< 0.93 U
WC-SW01	39	0	N	7/31/2006	< 0.34 U	< 0.034 U	--	--	0.082 J	< 0.34 U	< 0.34 U
WC-SW02	39	0	N	7/31/2006	< 0.41 U	< 0.041 U	--	--	< 2 U	< 0.41 U	< 0.41 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-5
SOIL DIOXINS/FURANS DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 2)

Sample ID	Dataset	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-HxCDF	1,2,3,7,8,9-HxCDD
SB-14-A	27	0	N	6/15/2004	< 1.4 U	< 0.33 U	< 0.55 U	< 0.83 U	< 0.085 U	< 0.41 U	< 0.13 U	< 0.12 U	< 0.14 U
SB-14-A	27	7	N	6/15/2004	350	36	120	120	5.2	82	9.2	13	8.8
SB-14-A	27	17	N	6/15/2004	4000 J	420	1600	1600	63	1100	120	180	100
SB-14-A	27	27	N	6/15/2004	< 0.61 U	< 0.7 U	< 0.23 U	< 0.39 U	< 0.24 U	< 0.26 U	< 0.22 U	< 0.24 U	< 0.21 U
WC-SW01	39	0	N	7/31/2006	39000	3600	18000	--	--	--	--	--	--
WC-SW02	39	0	N	7/31/2006	3600	1200	1100	--	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.

All units in pg/g.

-- = no sample data.

TABLE B-5
SOIL DIOXINS/FURANS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Dioxins/Furans								
					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	OCDD	OCDF	TCDD TEQ
SB-14-A	27	0	N	6/15/2004	< 0.37 U	< 0.065 U	< 0.15 U	< 0.21 U	< 0.37 U	< 0.042 U	< 1 U	< 5 U	0.24
SB-14-A	27	7	N	6/15/2004	72	6.3	21	38	28	1.7	33	1000	64.5
SB-14-A	27	17	N	6/15/2004	890	81	280	480	470 J	21	400	14000 J	839
SB-14-A	27	27	N	6/15/2004	< 0.32 U	< 0.33 U	< 0.21 U	< 0.32 U	< 0.19 U	< 0.19 U	< 0.52 U	< 1.5 U	0.5
WC-SW01	39	0	N	7/31/2006	--	--	--	--	--	--	3700	140000	620
WC-SW02	39	0	N	7/31/2006	--	--	--	--	--	--	5100	33000	62.8

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in pg/g.
-- = no sample data.

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 12)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions								
					Ammonia	Bicarbonate alkalinity	Bromide	Carbonate alkalinity	Chlorate	Chloride	Cyanide (Total)	Fluoride	Iodide
B-11	12	2	N	5/18/2000	--	--	--	--	--	--	--	--	--
B-11	12	5	N	5/18/2000	--	--	--	--	--	--	--	--	--
B-12	12	2	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-12	12	5	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-13	12	2	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-13	12	5	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-14	12	2	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-14	12	5	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-15	12	2	N	5/19/2000	--	--	--	--	--	--	--	--	--
B-15	12	5	N	5/19/2000	--	--	--	--	--	--	--	--	--
BDB-16	1a	0	N	4/5/1996	--	--	--	--	0.69	--	< 1 U	--	--
BDB-16	1a	5	N	4/5/1996	--	--	--	--	3.3	--	< 1.1 U	--	--
BDB-17	1a	0	N	4/5/1996	--	--	--	--	6.7	--	< 1 U	--	--
BDB-17	1a	5	N	4/5/1996	--	--	--	--	42	--	< 1 U	--	--
BDB-18	1a	0	N	4/5/1996	--	--	--	--	< 0.5 U	--	< 1 U	--	--
BDB-18	1a	5	N	4/5/1996	--	--	--	--	43	--	< 1 U	--	--
PUF-07	1a	0	N	4/5/1996	--	--	--	--	< 5.5 U	--	0.99	--	--
PUF-07	1a	5	N	4/5/1996	--	--	--	--	0.053	--	< 1.1 U	--	--
PUF-10	1a	0	N	4/8/1996	--	--	--	--	0.021 J+	--	< 1 U	--	--
PUF-10	1a	5	N	4/8/1996	--	--	--	--	15 J+	--	< 1.1 U	--	--
PUF-10	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUG-08	1a	0	N	4/5/1996	--	--	--	--	14	--	1.8	--	--
PUG-08	1a	5	N	4/5/1996	--	--	--	--	0.021	--	< 1 U	--	--
PUG-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUH-07	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUH-08	1a	0	N	4/5/1996	--	--	--	--	1.2	--	< 1 U	--	--
PUH-08	1a	5	N	4/5/1996	--	--	--	--	4.4	--	< 1 U	--	--
PUH-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUH-11	1a	0	N	4/8/1996	--	--	--	--	0.04 J+	--	< 1 U	--	--
PUH-11	1a	5	N	4/8/1996	--	--	--	--	19 J+	--	< 1.1 U	--	--
PUH-11	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUI-08	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUI-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUJ-07	1a	0	N	4/5/1996	--	--	--	--	0.33	--	< 1 U	--	--
PUJ-07	1a	5	N	4/5/1996	--	--	--	--	4.6	--	< 1 U	--	--
PUJ-07	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--
PUK-09	1a	0	N	4/8/1996	--	--	--	--	1.4 J+	--	< 1 U	--	--
PUK-09	1a	5	N	4/8/1996	--	--	--	--	76 J+	--	< 1.1 U	--	--
PUK-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions								
					Ammonia	Bicarbonate alkalinity	Bromide	Carbonate alkalinity	Chlorate	Chloride	Cyanide (Total)	Fluoride	Iodide
SB-14-A	27	0	N	6/15/2004	1.7	--	< 2.7 U	--	< 2.2 U	8430	< 0.54 U	6.4	< 5.4 U
SB-14-A	27	7	N	6/15/2004	< 0.53 U	--	< 2.6 U	--	3.2	486	< 0.53 U	1.9	< 5.3 U
SB-14-A	27	17	N	6/15/2004	0.58	--	< 2.7 U	--	< 2.2 U	307	< 0.54 U	6.9	< 5.4 U
SB-14-A	27	27	N	6/15/2004	< 0.52 U	--	< 2.6 U	--	< 2.1 U	55.1	< 0.52 U	6.8	< 5.2 U
SB-14-A	27	38.5	N	6/15/2004	--	--	--	--	--	--	--	--	--
SB-14-A	27	57	N	6/15/2004	--	--	--	--	--	--	--	--	--
SB-14-A	27	77	N	6/15/2004	< 0.75 U	--	< 3.8 U	--	< 3 U	607	< 0.75 U	8.4	< 7.5 U
SB-14-A	27	87	N	6/15/2004	< 0.78 U	--	< 3.9 U	--	< 3.1 U	328	< 0.78 U	5	< 7.8 U
SB-14-A	27	107	N	6/15/2004	< 0.7 U	--	< 3.5 U	--	< 2.8 U	509	< 0.7 U	3.5	< 7 U
SWB-1	33	0	N	4/6/2005	--	201	--	< 25 U	--	13	--	--	--
SWB-1	33	5	N	4/6/2005	--	207	--	< 25 U	--	218	--	--	--
SWB-1	33	10	N	4/6/2005	--	183	--	< 25 U	--	6060	--	--	--
SWB-1	33	20	N	4/6/2005	--	159	--	< 25 U	--	3980	--	--	--
SWB-1	33	30	N	4/6/2005	--	220	--	< 25 U	--	889	--	--	--
SWB-1	33	40	N	4/6/2005	--	140	--	< 25 U	--	325	--	--	--
SWB-10	33	0	N	4/13/2005	--	170	--	< 25 U	--	168	--	--	--
SWB-10	33	5	N	4/13/2005	--	300	--	< 25 U	--	319	--	--	--
SWB-10	33	10	N	4/13/2005	--	260	--	< 25 U	--	1460	--	--	--
SWB-10	33	20	N	4/13/2005	--	180	--	< 25 U	--	5120	--	--	--
SWB-10	33	30	N	4/13/2005	--	140	--	< 25 U	--	4870	--	--	--
SWB-10	33	40	N	4/13/2005	--	250	--	< 25 U	--	244	--	--	--
SWB-12	33	0	N	4/1/2005	--	200	--	< 25 U	--	< 10 U	--	--	--
SWB-12	33	5	N	4/1/2005	--	260	--	< 25 U	--	426	--	--	--
SWB-12	33	10	N	4/1/2005	--	130	--	< 25 U	--	7530	--	--	--
SWB-12	33	20	N	4/1/2005	--	130	--	< 25 U	--	2960	--	--	--
SWB-12	33	30	N	4/1/2005	--	200	--	< 25 U	--	513	--	--	--
SWB-13	33	0	N	4/1/2005	--	240	--	< 25 U	--	16	--	--	--
SWB-13	33	5	N	4/1/2005	--	270	--	< 25 U	--	1150	--	--	--
SWB-13	33	10	N	4/1/2005	--	200	--	< 25 U	--	5680	--	--	--
SWB-13	33	20	N	4/1/2005	--	180	--	< 25 U	--	4520	--	--	--
SWB-13	33	30	N	4/1/2005	--	230	--	< 25 U	--	757	--	--	--
SWB-14	33	0	N	4/5/2005	--	201	--	< 25 U	--	212	--	--	--
SWB-14	33	5	N	4/5/2005	--	165	--	< 25 U	--	1880	--	--	--
SWB-14	33	10	N	4/5/2005	--	189	--	< 25 U	--	3260	--	--	--
SWB-14	33	20	N	4/5/2005	--	336	--	< 25 U	--	370	--	--	--
SWB-14	33	30	N	4/5/2005	--	311	--	24	--	327	--	--	--
SWB-15	33	0	N	4/5/2005	--	104	--	< 25 U	--	507	--	--	--
SWB-15	33	5	N	4/5/2005	--	262	--	< 25 U	--	1700	--	--	--
SWB-15	33	10	N	4/5/2005	--	189	--	< 25 U	--	7250	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions								
					Ammonia	Bicarbonate alkalinity	Bromide	Carbonate alkalinity	Chlorate	Chloride	Cyanide (Total)	Fluoride	Iodide
SWB-15	33	20	N	4/5/2005	--	146	--	< 25 U	--	5190	--	--	--
SWB-15	33	30	N	4/5/2005	--	183	--	< 25 U	--	2300	--	--	--
SWB-15	33	40	N	4/5/2005	--	214	--	< 25 U	--	828	--	--	--
SWB-16	33	0	N	4/8/2005	--	210	--	< 25 U	--	1930	--	--	--
SWB-16	33	10	N	4/8/2005	--	200	--	< 25 U	--	6810	--	--	--
SWB-16	33	20	N	4/8/2005	--	190	--	< 25 U	--	3320	--	--	--
SWB-16	33	30	N	4/8/2005	--	230	--	< 25 U	--	1260	--	--	--
SWB-16	33	40	N	4/8/2005	--	310	--	24	--	199	--	--	--
SWB-17	33	5	N	4/14/2005	--	300	--	< 25 U	--	324	--	--	--
SWB-17	33	10	N	4/14/2005	--	410	--	< 25 U	--	716	--	--	--
SWB-17	33	20	N	4/14/2005	--	290	--	< 25 U	--	1590	--	--	--
SWB-17	33	30	N	4/14/2005	--	200	--	< 25 U	--	4050	--	--	--
SWB-17	33	40	N	4/14/2005	--	270	--	< 25 U	--	2000	--	--	--
SWB-18	33	0	N	3/31/2005	--	198	--	< 25 U	--	683	--	--	--
SWB-18	33	5	N	3/31/2005	--	195	--	< 25 U	--	2490	--	--	--
SWB-18	33	10	N	3/31/2005	--	140	--	< 25 U	--	8030	--	--	--
SWB-18	33	20	N	3/31/2005	--	116	--	< 25 U	--	4860	--	--	--
SWB-18	33	30	N	3/31/2005	--	207	--	24	--	418	--	--	--
SWB-19	33	0	N	4/12/2005	--	240	--	< 25 U	--	12	--	--	--
SWB-19	33	5	N	4/12/2005	--	360	--	< 25 U	--	78	--	--	--
SWB-19	33	10	N	4/12/2005	--	190	--	< 25 U	--	4380	--	--	--
SWB-19	33	20	N	4/12/2005	--	170	--	< 25 U	--	1660	--	--	--
SWB-19	33	30	N	4/12/2005	--	280	--	< 25 U	--	3230	--	--	--
SWB-2	33	0	N	4/6/2005	--	183	--	< 25 U	--	18	--	--	--
SWB-2	33	5	N	4/6/2005	--	165	--	< 25 U	--	7220	--	--	--
SWB-2	33	10	N	4/6/2005	--	146	--	< 25 U	--	10700	--	--	--
SWB-2	33	20	N	4/6/2005	--	159	--	< 25 U	--	5750	--	--	--
SWB-2	33	30	N	4/6/2005	--	122	--	< 25 U	--	1110	--	--	--
SWB-20	33	0	N	4/11/2005	--	460	--	< 25 U	--	18	--	--	--
SWB-20	33	5	N	4/11/2005	--	290	--	< 25 U	--	1560	--	--	--
SWB-20	33	10	N	4/11/2005	--	150	--	< 25 U	--	5850	--	--	--
SWB-20	33	20	N	4/11/2005	--	160	--	< 25 U	--	2480	--	--	--
SWB-20	33	30	N	4/11/2005	--	210	--	< 25 U	--	330	--	--	--
SWB-21	33	0	N	4/5/2005	--	159	--	< 25 U	--	< 10 U	--	--	--
SWB-21	33	5	N	4/5/2005	--	189	--	< 25 U	--	295	--	--	--
SWB-21	33	10	N	4/5/2005	--	177	--	< 25 U	--	5950	--	--	--
SWB-21	33	20	N	4/5/2005	--	177	--	< 25 U	--	4980	--	--	--
SWB-21	33	30	N	4/5/2005	--	207	--	< 25 U	--	1120	--	--	--
SWB-21	33	40	N	4/5/2005	--	281	--	< 25 U	--	128	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA

					General Chemistry / Ions								
Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Ammonia	Bicarbonate alkalinity	Bromide	Carbonate alkalinity	Chlorate	Chloride	Cyanide (Total)	Fluoride	Iodide
SWB-22	33	0	N	4/8/2005	--	210	--	< 25 U	--	52	--	--	--
SWB-22	33	5	N	4/8/2005	--	190	--	< 25 U	--	2030	--	--	--
SWB-22	33	10	N	4/8/2005	--	180	--	< 25 U	--	9320	--	--	--
SWB-22	33	20	N	4/8/2005	--	180	--	< 25 U	--	7190	--	--	--
SWB-22	33	30	N	4/8/2005	--	140	--	< 25 U	--	3350	--	--	--
SWB-22	33	40	N	4/8/2005	--	290	--	< 25 U	--	271	--	--	--
SWB-23	33	0	N	4/12/2005	--	290	--	< 25 U	--	20	--	--	--
SWB-23	33	5	N	4/12/2005	--	230	--	< 25 U	--	1130	--	--	--
SWB-23	33	10	N	4/12/2005	--	210	--	< 25 U	--	2840	--	--	--
SWB-23	33	20	N	4/12/2005	--	190	--	< 25 U	--	3150	--	--	--
SWB-23	33	30	N	4/12/2005	--	210	--	< 25 U	--	1500	--	--	--
SWB-23	33	40	N	4/12/2005	--	390	--	< 25 U	--	340	--	--	--
SWB-25	33	0	N	3/31/2005	--	134	--	< 25 U	--	< 10 U	--	--	--
SWB-25	33	5	N	3/31/2005	--	170	--	< 25 U	--	138	--	--	--
SWB-25	33	10	N	3/31/2005	--	134	--	< 25 U	--	5190	--	--	--
SWB-25	33	20	N	3/31/2005	--	134	--	< 25 U	--	4000	--	--	--
SWB-25	33	30	N	3/31/2005	--	159	--	< 25 U	--	2860	--	--	--
SWB-25	33	40	N	3/31/2005	--	128	--	< 25 U	--	91	--	--	--
SWB-26	33	0	N	4/4/2005	--	250	--	< 25 U	--	14	--	--	--
SWB-26	33	5	N	4/4/2005	--	177	--	< 25 U	--	2780	--	--	--
SWB-26	33	10	N	4/4/2005	--	189	--	< 25 U	--	7550	--	--	--
SWB-26	33	20	N	4/4/2005	--	140	--	< 25 U	--	4550	--	--	--
SWB-26	33	30	N	4/4/2005	--	201	--	< 25 U	--	618	--	--	--
SWB-27	33	0	N	4/4/2005	--	415	--	36	--	82	--	--	--
SWB-27	33	5	N	4/4/2005	--	116	--	< 25 U	--	7290	--	--	--
SWB-27	33	10	N	4/4/2005	--	189	--	< 25 U	--	8110	--	--	--
SWB-27	33	20	N	4/4/2005	--	159	--	< 25 U	--	3240	--	--	--
SWB-27	33	30	N	4/4/2005	--	220	--	< 25 U	--	818	--	--	--
SWB-27	33	40	N	4/4/2005	--	165	--	< 25 U	--	140	--	--	--
SWB-28	33	0	N	4/5/2005	--	183	--	< 25 U	--	15	--	--	--
SWB-28	33	5	N	4/5/2005	--	220	--	< 25 U	--	2680	--	--	--
SWB-28	33	10	N	4/5/2005	--	214	--	< 25 U	--	6700	--	--	--
SWB-28	33	20	N	4/5/2005	--	146	--	< 25 U	--	5410	--	--	--
SWB-28	33	30	N	4/5/2005	--	201	--	< 25 U	--	1200	--	--	--
SWB-28	33	40	N	4/5/2005	--	342	--	12	--	237	--	--	--
SWB-29	33	0	N	4/4/2005	--	160	--	< 25 U	--	154	--	--	--
SWB-29	33	5	N	4/4/2005	--	200	--	< 25 U	--	4150	--	--	--
SWB-29	33	10	N	4/4/2005	--	160	--	< 25 U	--	5930	--	--	--
SWB-29	33	20	N	4/4/2005	--	360	--	50	--	978	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions								
					Ammonia	Bicarbonate alkalinity	Bromide	Carbonate alkalinity	Chlorate	Chloride	Cyanide (Total)	Fluoride	Iodide
SWB-29	33	30	N	4/4/2005	--	350	--	< 25 U	--	126	--	--	--
SWB-29	33	40	N	4/4/2005	--	370	--	< 25 U	--	202	--	--	--
SWB-3	33	0	N	4/6/2005	--	177	--	< 25 U	--	27	--	--	--
SWB-3	33	5	N	4/5/2005	--	232	--	< 25 U	--	463	--	--	--
SWB-3	33	10	N	4/5/2005	--	232	--	< 25 U	--	1600	--	--	--
SWB-3	33	20	N	4/5/2005	--	165	--	< 25 U	--	5690	--	--	--
SWB-3	33	30	N	4/5/2005	--	183	--	< 25 U	--	1670	--	--	--
SWB-30	33	5	N	4/14/2005	--	320	--	< 25 U	--	178	--	--	--
SWB-30	33	10	N	4/14/2005	--	300	--	96	--	104	--	--	--
SWB-30	33	20	N	4/14/2005	--	490	--	30	--	76	--	--	--
SWB-30	33	30	N	4/14/2005	--	460	--	36	--	64	--	--	--
SWB-30	33	40	N	4/14/2005	--	400	--	< 25 U	--	54	--	--	--
SWB-31	33	0	N	3/31/2005	--	360	--	< 25 U	--	< 10 U	--	--	--
SWB-31	33	5	N	3/31/2005	--	281	--	< 25 U	--	770	--	--	--
SWB-31	33	10	N	3/31/2005	--	159	--	< 25 U	--	3000	--	--	--
SWB-31	33	20	N	3/31/2005	--	244	--	< 25 U	--	595	--	--	--
SWB-31	33	30	N	3/31/2005	--	305	--	< 25 U	--	392	--	--	--
SWB-32	33	0	N	3/30/2005	--	464	--	< 25 U	--	15	--	--	--
SWB-32	33	5	N	3/30/2005	--	256	--	< 25 U	--	234	--	--	--
SWB-32	33	10	N	3/30/2005	--	256	--	< 25 U	--	7490	--	--	--
SWB-32	33	20	N	3/30/2005	--	189	--	< 25 U	--	4700	--	--	--
SWB-32	33	30	N	3/30/2005	--	305	--	< 25 U	--	700	--	--	--
SWB-32	33	40	N	3/30/2005	--	280	--	12	--	515	--	--	--
SWB-33	33	0	N	4/4/2005	--	240	--	< 25 U	--	32	--	--	--
SWB-33	33	5	N	4/4/2005	--	220	--	< 25 U	--	869	--	--	--
SWB-33	33	10	N	4/4/2005	--	210	--	< 25 U	--	6580	--	--	--
SWB-33	33	20	N	4/4/2005	--	129	--	< 25 U	--	4450	--	--	--
SWB-33	33	30	N	4/4/2005	--	220	--	< 25 U	--	859	--	--	--
SWB-33	33	40	N	4/4/2005	--	350	--	< 25 U	--	133	--	--	--
SWB-34	33	5	N	4/13/2005	--	290	--	< 25 U	--	415	--	--	--
SWB-34	33	10	N	4/13/2005	--	430	--	< 25 U	--	151	--	--	--
SWB-34	33	20	N	4/13/2005	--	480	--	< 25 U	--	91	--	--	--
SWB-34	33	30	N	4/13/2005	--	450	--	36	--	82	--	--	--
SWB-34	33	40	N	4/13/2005	--	420	--	36	--	73	--	--	--
SWB-35	33	0	N	3/30/2005	--	336	--	< 25 U	--	71	--	--	--
SWB-35	33	5	N	3/30/2005	--	116	--	< 25 U	--	2440	--	--	--
SWB-35	33	10	N	3/30/2005	--	134	--	< 25 U	--	3050	--	--	--
SWB-35	33	20	N	3/30/2005	--	311	--	< 25 U	--	361	--	--	--
SWB-35	33	30	N	3/30/2005	--	311	--	< 25 U	--	102	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions								
					Ammonia	Bicarbonate alkalinity	Bromide	Carbonate alkalinity	Chlorate	Chloride	Cyanide (Total)	Fluoride	Iodide
SWB-35	33	40	N	3/30/2005	--	360	--	< 25 U	--	101	--	--	--
SWB-4	33	0	N	4/7/2005	--	450	--	< 25 U	--	16	--	--	--
SWB-4	33	5	N	4/7/2005	--	170	--	< 25 U	--	2620	--	--	--
SWB-4	33	10	N	4/7/2005	--	180	--	< 25 U	--	7760	--	--	--
SWB-4	33	20	N	4/7/2005	--	190	--	< 25 U	--	4010	--	--	--
SWB-4	33	30	N	4/7/2005	--	200	--	< 25 U	--	548	--	--	--
SWB-4	33	40	N	4/7/2005	--	290	--	< 25 U	--	207	--	--	--
SWB-5	33	0	N	4/13/2005	--	330	--	< 25 U	--	< 10 U	--	--	--
SWB-5	33	5	N	4/13/2005	--	170	--	< 25 U	--	2800	--	--	--
SWB-5	33	10	N	4/13/2005	--	160	--	< 25 U	--	4020	--	--	--
SWB-5	33	20	N	4/13/2005	--	130	--	< 25 U	--	2810	--	--	--
SWB-5	33	30	N	4/13/2005	--	180	--	< 25 U	--	1140	--	--	--
SWB-5	33	40	N	4/13/2005	--	270	--	< 25 U	--	269	--	--	--
SWB-6	33	0	N	4/1/2005	--	280	--	< 25 U	--	22	--	--	--
SWB-6	33	5	N	4/1/2005	--	290	--	< 25 U	--	616	--	--	--
SWB-6	33	10	N	4/1/2005	--	180	--	< 25 U	--	5380	--	--	--
SWB-6	33	20	N	4/1/2005	--	210	--	< 25 U	--	1750	--	--	--
SWB-6	33	30	N	4/1/2005	--	200	--	< 25 U	--	527	--	--	--
SWB-7	33	0	N	4/6/2005	--	262	--	18	--	13	--	--	--
SWB-7	33	5	N	4/6/2005	--	207	--	< 25 U	--	10	--	--	--
SWB-7	33	10	N	4/6/2005	--	336	--	12	--	402	--	--	--
SWB-7	33	20	N	4/6/2005	--	153	--	< 25 U	--	4150	--	--	--
SWB-7	33	30	N	4/6/2005	--	134	--	< 25 U	--	1320	--	--	--
SWB-8	33	0	N	4/7/2005	--	240	--	< 25 U	--	177	--	--	--
SWB-8	33	5	N	4/7/2005	--	190	--	< 25 U	--	2560	--	--	--
SWB-8	33	10	N	4/7/2005	--	180	--	< 25 U	--	6170	--	--	--
SWB-8	33	20	N	4/7/2005	--	180	--	< 25 U	--	5200	--	--	--
SWB-8	33	30	N	4/7/2005	--	220	--	< 25 U	--	729	--	--	--
SWB-9	33	0	N	4/7/2005	--	310	--	< 25 U	--	2210	--	--	--
SWB-9	33	5	N	4/7/2005	--	210	--	< 25 U	--	5260	--	--	--
SWB-9	33	10	N	4/7/2005	--	190	--	< 25 U	--	6400	--	--	--
SWB-9	33	20	N	4/7/2005	--	160	--	< 25 U	--	2490	--	--	--
SWB-9	33	30	N	4/7/2005	--	400	--	< 25 U	--	371	--	--	--
WC-SW01	39	0	N	7/31/2006	--	--	--	--	--	--	0.36 J	--	--
WC-SW02	39	0	N	7/31/2006	--	--	--	--	--	--	0.87	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions							Aldehydes	
					Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)	Acetaldehyde	Formaldehyde
B-11	12	2	N	5/18/2000	--	--	--	< 0.04 U	--	--	--	--	--
B-11	12	5	N	5/18/2000	--	--	--	0.17	--	--	--	--	--
B-12	12	2	N	5/19/2000	--	--	--	0.57	--	--	--	--	--
B-12	12	5	N	5/19/2000	--	--	--	0.9	--	--	--	--	--
B-13	12	2	N	5/19/2000	--	--	--	2.4	--	--	--	--	--
B-13	12	5	N	5/19/2000	--	--	--	1.2	--	--	--	--	--
B-14	12	2	N	5/19/2000	--	--	--	0.045	--	--	--	--	--
B-14	12	5	N	5/19/2000	--	--	--	0.14	--	--	--	--	--
B-15	12	2	N	5/19/2000	--	--	--	0.13	--	--	--	--	--
B-15	12	5	N	5/19/2000	--	--	--	0.098	--	--	--	--	--
BDB-16	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
BDB-16	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
BDB-17	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
BDB-17	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
BDB-18	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
BDB-18	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUF-07	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUF-07	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUF-10	1a	0	N	4/8/1996	--	--	--	--	--	--	--	--	--
PUF-10	1a	5	N	4/8/1996	--	--	--	--	--	--	--	--	--
PUF-10	6d	0	N	10/27/1999	--	--	--	0.5	--	--	--	--	--
PUG-08	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUG-08	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUG-09	6d	0	N	10/27/1999	--	--	--	0.23	--	--	--	--	--
PUH-07	6d	0	N	10/27/1999	--	--	--	0.18	--	--	--	--	--
PUH-08	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUH-08	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUH-09	6d	0	N	10/27/1999	--	--	--	0.069	--	--	--	--	--
PUH-11	1a	0	N	4/8/1996	--	--	--	--	--	--	--	--	--
PUH-11	1a	5	N	4/8/1996	--	--	--	--	--	--	--	--	--
PUH-11	6d	0	N	10/27/1999	--	--	--	0.05	--	--	--	--	--
PUI-08	6d	0	N	10/27/1999	--	--	--	0.067	--	--	--	--	--
PUI-09	6d	0	N	10/27/1999	--	--	--	0.31	--	--	--	--	--
PUJ-07	1a	0	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUJ-07	1a	5	N	4/5/1996	--	--	--	--	--	--	--	--	--
PUJ-07	6d	0	N	10/27/1999	--	--	--	0.047	--	--	--	--	--
PUK-09	1a	0	N	4/8/1996	--	--	--	--	--	--	--	--	--
PUK-09	1a	5	N	4/8/1996	--	--	--	--	--	--	--	--	--
PUK-09	6d	0	N	10/27/1999	--	--	--	0.073	--	--	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions							Aldehydes	
					Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)	Acetaldehyde	Formaldehyde
SB-14-A	27	0	N	6/15/2004	259	< 0.22 U	< 5.4 U	7.1	374	< 10.9 U	< 2.7 U	< 0.21 U	< 0.1 U
SB-14-A	27	7	N	6/15/2004	20	< 0.21 U	< 5.3 U	5.63	168	< 10.5 U	< 2.6 U	< 0.21 U	0.14
SB-14-A	27	17	N	6/15/2004	5.7	0.61	< 5.4 U	1.57	214	< 10.9 U	< 2.7 U	< 0.21 U	< 0.11 U
SB-14-A	27	27	N	6/15/2004	1.4	0.39	< 5.2 U	0.447	149	< 10.4 U	< 2.6 U	< 0.21 U	< 0.1 U
SB-14-A	27	38.5	N	6/15/2004	--	--	--	< 0.02 U	--	--	--	--	--
SB-14-A	27	57	N	6/15/2004	--	--	--	< 0.02 U	--	--	--	--	--
SB-14-A	27	77	N	6/15/2004	2.7	< 0.3 U	< 7.5 U	0.924	2300	< 15 U	< 3.8 U	< 0.33 U	< 0.17 U
SB-14-A	27	87	N	6/15/2004	1.2	1.1	< 7.8 U	0.0412 J	17800	< 15.5 U	< 3.9 U	< 0.29 U	< 0.15 U
SB-14-A	27	107	N	6/15/2004	0.29	< 0.28 U	< 7 U	< 0.0562 U	10200	< 14 U	< 3.5 U	< 0.28 U	< 0.14 U
SWB-1	33	0	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-1	33	5	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-1	33	10	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-1	33	20	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-1	33	30	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-1	33	40	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-10	33	0	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-10	33	5	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-10	33	10	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-10	33	20	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-10	33	30	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-10	33	40	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-12	33	0	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-12	33	5	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-12	33	10	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-12	33	20	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-12	33	30	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-13	33	0	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-13	33	5	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-13	33	10	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-13	33	20	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-13	33	30	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-14	33	0	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-14	33	5	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-14	33	10	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-14	33	20	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-14	33	30	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-15	33	0	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-15	33	5	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-15	33	10	N	4/5/2005	--	--	--	--	--	--	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions							Aldehydes	
					Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)	Acetaldehyde	Formaldehyde
SWB-15	33	20	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-15	33	30	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-15	33	40	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-16	33	0	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-16	33	10	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-16	33	20	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-16	33	30	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-16	33	40	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-17	33	5	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-17	33	10	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-17	33	20	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-17	33	30	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-17	33	40	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-18	33	0	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-18	33	5	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-18	33	10	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-18	33	20	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-18	33	30	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-19	33	0	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-19	33	5	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-19	33	10	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-19	33	20	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-19	33	30	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-2	33	0	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-2	33	5	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-2	33	10	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-2	33	20	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-2	33	30	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-20	33	0	N	4/11/2005	--	--	--	--	--	--	--	--	--
SWB-20	33	5	N	4/11/2005	--	--	--	--	--	--	--	--	--
SWB-20	33	10	N	4/11/2005	--	--	--	--	--	--	--	--	--
SWB-20	33	20	N	4/11/2005	--	--	--	--	--	--	--	--	--
SWB-20	33	30	N	4/11/2005	--	--	--	--	--	--	--	--	--
SWB-21	33	0	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-21	33	5	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-21	33	10	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-21	33	20	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-21	33	30	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-21	33	40	N	4/5/2005	--	--	--	--	--	--	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions							Aldehydes	
					Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)	Acetaldehyde	Formaldehyde
SWB-22	33	0	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-22	33	5	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-22	33	10	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-22	33	20	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-22	33	30	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-22	33	40	N	4/8/2005	--	--	--	--	--	--	--	--	--
SWB-23	33	0	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-23	33	5	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-23	33	10	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-23	33	20	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-23	33	30	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-23	33	40	N	4/12/2005	--	--	--	--	--	--	--	--	--
SWB-25	33	0	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-25	33	5	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-25	33	10	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-25	33	20	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-25	33	30	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-25	33	40	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-26	33	0	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-26	33	5	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-26	33	10	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-26	33	20	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-26	33	30	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-27	33	0	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-27	33	5	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-27	33	10	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-27	33	20	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-27	33	30	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-27	33	40	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-28	33	0	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-28	33	5	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-28	33	10	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-28	33	20	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-28	33	30	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-28	33	40	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-29	33	0	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-29	33	5	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-29	33	10	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-29	33	20	N	4/4/2005	--	--	--	--	--	--	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions							Aldehydes	
					Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)	Acetaldehyde	Formaldehyde
SWB-29	33	30	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-29	33	40	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-3	33	0	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-3	33	5	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-3	33	10	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-3	33	20	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-3	33	30	N	4/5/2005	--	--	--	--	--	--	--	--	--
SWB-30	33	5	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-30	33	10	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-30	33	20	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-30	33	30	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-30	33	40	N	4/14/2005	--	--	--	--	--	--	--	--	--
SWB-31	33	0	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-31	33	5	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-31	33	10	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-31	33	20	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-31	33	30	N	3/31/2005	--	--	--	--	--	--	--	--	--
SWB-32	33	0	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-32	33	5	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-32	33	10	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-32	33	20	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-32	33	30	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-32	33	40	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-33	33	0	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-33	33	5	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-33	33	10	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-33	33	20	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-33	33	30	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-33	33	40	N	4/4/2005	--	--	--	--	--	--	--	--	--
SWB-34	33	5	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-34	33	10	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-34	33	20	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-34	33	30	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-34	33	40	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-35	33	0	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-35	33	5	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-35	33	10	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-35	33	20	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-35	33	30	N	3/30/2005	--	--	--	--	--	--	--	--	--

TABLE B-6
SOIL ALDEHYDES, GENERAL CHEMISTRY AND IONS DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	General Chemistry / Ions							Aldehydes	
					Nitrate (as N)	Nitrite (as N)	Orthophosphate as P	Perchlorate	Sulfate	Sulfide	Total Kjeldahl Nitrogen (TKN)	Acetaldehyde	Formaldehyde
SWB-35	33	40	N	3/30/2005	--	--	--	--	--	--	--	--	--
SWB-4	33	0	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-4	33	5	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-4	33	10	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-4	33	20	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-4	33	30	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-4	33	40	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-5	33	0	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-5	33	5	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-5	33	10	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-5	33	20	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-5	33	30	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-5	33	40	N	4/13/2005	--	--	--	--	--	--	--	--	--
SWB-6	33	0	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-6	33	5	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-6	33	10	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-6	33	20	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-6	33	30	N	4/1/2005	--	--	--	--	--	--	--	--	--
SWB-7	33	0	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-7	33	5	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-7	33	10	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-7	33	20	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-7	33	30	N	4/6/2005	--	--	--	--	--	--	--	--	--
SWB-8	33	0	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-8	33	5	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-8	33	10	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-8	33	20	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-8	33	30	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-9	33	0	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-9	33	5	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-9	33	10	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-9	33	20	N	4/7/2005	--	--	--	--	--	--	--	--	--
SWB-9	33	30	N	4/7/2005	--	--	--	--	--	--	--	--	--
WC-SW01	39	0	N	7/31/2006	--	--	--	--	--	--	--	--	--
WC-SW02	39	0	N	7/31/2006	--	--	--	--	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-7
SOIL ORGANOPHOSPHORUS PESTICIDES DATA
SPRAY WHEEL SUB-AREA
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Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Organophosphorus Pesticides								
					Azinphos-ethyl	Azinphos-methyl	Carbophenothion	Carbophenothion-methyl	Chlorpyrifos	Coumaphos	Demeton-O	Demeton-S	Diazinon
SB-14-A	27	0	N	6/15/2004	--	--	--	--	--	--	--	--	--
SB-14-A	27	7	N	6/15/2004	< 0.035 U	< 0.014 U	< 0.035 U	< 0.035 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
SB-14-A	27	17	N	6/15/2004	< 0.036 U	< 0.014 U	< 0.036 U	< 0.036 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
SB-14-A	27	27	N	6/15/2004	< 0.034 U	< 0.014 U	< 0.034 U	< 0.034 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 UJ-/+	< 0.014 U
SB-14-A	27	77	N	6/15/2004	< 0.05 U	< 0.02 U	< 0.05 U	< 0.05 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 UJ-/+	< 0.02 U
SB-14-A	27	87	N	6/15/2004	< 0.051 U	< 0.02 U	< 0.051 U	< 0.051 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 UJ-/+	< 0.02 U
SB-14-A	27	107	N	6/15/2004	< 0.046 U	< 0.018 U	< 0.046 U	< 0.046 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U
WC-SW01	39	0	N	7/31/2006	--	--	--	--	--	--	--	--	--
WC-SW02	39	0	N	7/31/2006	--	--	--	--	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-7
SOIL ORGANOPHOSPHORUS PESTICIDES DATA
SPRAY WHEEL SUB-AREA
(Page 2 of 3)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Organophosphorus Pesticides								
					Dichlorvos	Dimethoate	Disulfoton	Ethoprophos	Ethyl p-nitrophenyl phenylphosphorothioate	Famphur	Fenthion	Malathion	Methyl parathion
SB-14-A	27	0	N	6/15/2004	--	--	--	--	--	--	--	--	0.003 J-/+
SB-14-A	27	7	N	6/15/2004	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
SB-14-A	27	17	N	6/15/2004	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
SB-14-A	27	27	N	6/15/2004	< 0.014 U	< 0.014 UJ-/+	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
SB-14-A	27	77	N	6/15/2004	< 0.02 U	< 0.02 UJ-/+	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
SB-14-A	27	87	N	6/15/2004	< 0.02 U	0.13 J-/+	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
SB-14-A	27	107	N	6/15/2004	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.018 U
WC-SW01	39	0	N	7/31/2006	--	--	< 0.0079 U	--	--	< 0.0033 U	--	--	< 0.0065 U
WC-SW02	39	0	N	7/31/2006	--	--	< 0.0096 U	--	--	< 0.004 UJ	--	--	< 0.0079 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-7
SOIL ORGANOPHOSPHORUS PESTICIDES DATA
SPRAY WHEEL SUB-AREA
(Page 3 of 3)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Organophosphorus Pesticides								
					Mevinphos	Naled	O,O,O-Triethyl phosphorothioate	Parathion	Phorate	Phosmet	Ronnel	Sulfotep	Tetrachlorvinphos (Stirophos)
SB-14-A	27	0	N	6/15/2004	--	--	--	--	--	--	--	--	--
SB-14-A	27	7	N	6/15/2004	< 0.014 U	< 0.035 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.07 U	< 0.07 U	< 0.014 U	< 0.014 U
SB-14-A	27	17	N	6/15/2004	< 0.014 U	< 0.036 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.073 U	< 0.073 U	< 0.014 U	< 0.014 U
SB-14-A	27	27	N	6/15/2004	< 0.014 U	< 0.034 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.07 U	< 0.07 U	< 0.014 U	< 0.014 U
SB-14-A	27	77	N	6/15/2004	< 0.02 U	< 0.05 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.1 U	< 0.1 U	< 0.02 U	< 0.02 U
SB-14-A	27	87	N	6/15/2004	< 0.02 U	< 0.051 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.1 U	< 0.1 U	< 0.02 U	< 0.02 U
SB-14-A	27	107	N	6/15/2004	< 0.018 U	< 0.046 U	< 0.018 U	< 0.018 U	< 0.018 U	< 0.094 U	< 0.094 U	< 0.018 U	< 0.018 U
WC-SW01	39	0	N	7/31/2006	--	--	--	< 0.0054 U	< 0.0058 U	--	--	--	--
WC-SW02	39	0	N	7/31/2006	--	--	--	< 0.0065 U	< 0.007 U	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.

All units in mg/kg.

-- = no sample data.

TABLE B-8
SOIL POLYCHLORINATED BIPHENYLS (PCBs) DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 1)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Polychlorinated Biphenyls (PCBs)						
					Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
BDB-16	1a	0	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
BDB-16	1a	5	N	4/5/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
BDB-17	1a	0	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
BDB-17	1a	5	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
BDB-18	1a	0	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
BDB-18	1a	5	N	4/5/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
PUF-07	1a	0	N	4/5/1996	< 14 U	< 14 U	< 14 U	< 14 U	< 14 U	< 14 U	< 14 U
PUF-07	1a	5	N	4/5/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
PUF-10	1a	0	N	4/8/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
PUF-10	1a	5	N	4/8/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
PUG-08	1a	0	N	4/5/1996	< 17 U	< 17 U	< 17 U	< 17 U	< 17 U	< 17 U	< 17 U
PUG-08	1a	5	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
PUH-08	1a	0	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
PUH-08	1a	5	N	4/5/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
PUH-11	1a	0	N	4/8/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
PUH-11	1a	5	N	4/8/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
PUJ-07	1a	0	N	4/5/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
PUJ-07	1a	5	N	4/5/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
PUK-09	1a	0	N	4/8/1996	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U	< 0.013 U
PUK-09	1a	5	N	4/8/1996	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U	< 0.014 U
SB-14-A	27	0	N	6/15/2004	< 0.14 UJ+	< 0.14 U	< 0.14 U	< 0.14 UJ+	< 0.14 UJ+	< 0.14 UJ+	< 0.14 UJ+
SB-14-A	27	7	N	6/15/2004	< 0.035 U	< 0.035 U	< 0.035 U	< 0.035 U	< 0.035 U	< 0.035 U	< 0.035 U
SB-14-A	27	17	N	6/15/2004	< 0.036 U	< 0.036 U	< 0.036 U	< 0.036 U	< 0.036 U	< 0.036 U	< 0.036 U
SB-14-A	27	27	N	6/15/2004	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U
SB-14-A	27	77	N	6/15/2004	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
SB-14-A	27	87	N	6/15/2004	< 0.051 U	< 0.051 U	< 0.051 U	< 0.051 U	< 0.051 U	< 0.051 U	< 0.051 U
SB-14-A	27	107	N	6/15/2004	< 0.046 U	< 0.046 U	< 0.046 U	< 0.046 U	< 0.046 U	< 0.046 U	< 0.046 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-9
SOIL RADIONUCLIDES DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 3)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Radionuclides									
					Actinium-228	Bismuth-210	Bismuth-212	Bismuth-214	Cobalt-57	Cobalt-60	Gross alpha	Gross beta	Lead-210	Lead-212
PUH-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--	--
PUK-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--	--
PUL-07	6d	0	N	10/13/1999	--	--	--	--	--	--	--	--	--	--
SB-14-A	27	0	N	6/15/2004	1.72	0.43 U	0.72 U	1.44	0.022 U	0.038 U	59 J+	44.1	0.43 U	1.6
SB-14-A	27	7	N	6/15/2004	1.43	0.86	0.7 U	0.86	0.003 U	0.053 U	23.9	37.6	0.86	1.3
SB-14-A	27	17	N	6/15/2004	1.36	0.25 U	1.1	0.85	0.008 U	-0.034 U	30.5	43.4	0.25 U	1.11
SB-14-A	27	27	N	6/15/2004	0.99	0.74 U	0.75	0.89	0.0007 U	0.005 U	29.1	42 J+	0.74 U	1.33
SB-14-A	27	77	N	6/15/2004	1.34	2.27	0.8 U	1.29	-0.019 U	0.049 U	22.5	47.1	2.27	1.27
SB-14-A	27	87	N	6/15/2004	0.38 U	1.12 U	0.4 U	0.92	0.009 U	-0.042 U	17.6	18.9	1.12 U	0.25
SB-14-A	27	107	N	6/15/2004	1.41	0.6 U	1.21 U	0.96	0.006 U	-0.02 U	21.9	41.9 U	0.6 U	0.96

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in pCi/g.
-- = no sample data.

TABLE B-9
SOIL RADIONUCLIDES DATA
SPRAY WHEEL SUB-AREA
(Page 2 of 3)

					Radionuclides									
Sample ID	**Dataset**	**Depth (ft bgs)**	**Sample Type**	**Sample Date**	Lead-214	Polonium-210	Polonium-212	Polonium-214	Polonium-216	Polonium-218	Potassium-40	Protactinium-234	Radium-223	Radium-224
PUH-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--	--
PUK-09	6d	0	N	10/27/1999	--	--	--	--	--	--	--	--	--	--
PUL-07	6d	0	N	10/13/1999	--	--	--	--	--	--	--	--	--	--
SB-14-A	27	0	N	6/15/2004	1.34	0.43 U	0.46 U	1.44	4.02	0 U	24.4	-0.08 U	0.49 U	4
SB-14-A	27	7	N	6/15/2004	0.78	0.86	0.45 U	0.86	3.6	0 U	26.8	0.05 U	0.03 U	3.6
SB-14-A	27	17	N	6/15/2004	0.98	0.25 U	0.71	0.85	2.48	0 U	20.4	-0.03 U	0.47 U	2.5
SB-14-A	27	27	N	6/15/2004	0.85	0.74 U	0.48	0.89	2.38	0 U	29.5	-0.11 U	0.13 U	2.4
SB-14-A	27	77	N	6/15/2004	1.48	2.27	0.51 U	1.29	4	0 U	26.4	-0.08 U	0.29 U	4
SB-14-A	27	87	N	6/15/2004	1.08	1.12 U	0.26 U	0.92	1.6 U	0 U	6.3	0.1 U	-0.22 U	1.6 U
SB-14-A	27	107	N	6/15/2004	1.06	0.6 U	0.78 U	0.96	2.8	0 U	26	-0.3 U	0.77 U	2.8

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in pCi/g.
-- = no sample data.

TABLE B-9
SOIL RADIONUCLIDES DATA
SPRAY WHEEL SUB-AREA
(Page 3 of 3)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Radionuclides									
					Radium-226	Radium-228	Thallium-208	Thorium-228	Thorium-230	Thorium-232	Thorium-234	Uranium-233/234	Uranium-235/236	Uranium-238
PUH-09	6d	0	N	10/27/1999	5.91	1.26	--	1.51	1.44	1.44	--	1.78	0.03	1.73
PUK-09	6d	0	N	10/27/1999	14.6	1.37	--	3.41	4.51	2.84	--	5.73	0.3	5.71
PUL-07	6d	0	N	10/13/1999	0.98	1.32	--	1.86	1.34	1.8	--	0.61	0.02	0.75
SB-14-A	27	0	N	6/15/2004	2.13	1.45	0.48	1.42	1.97	1.47	1.96	1.33	0.042 U	1.23
SB-14-A	27	7	N	6/15/2004	1.28	1.37	0.42	1.36	1.14	1.36	1.65	1.04	0.03 U	0.77
SB-14-A	27	17	N	6/15/2004	1.11	1.92	0.37	1.49	0.9 U	1.37	1.08	1.44	0.015 U	1.08
SB-14-A	27	27	N	6/15/2004	1.55	1.22	0.47	1.24	1.25	1.12	1.63	0.75	0.047 U	0.56
SB-14-A	27	77	N	6/15/2004	2.38	--	0.41	1.4	1.86	1.23	2.6	1.98	0.064 U	1.75
SB-14-A	27	87	N	6/15/2004	1.48	0.82	0.114 U	0.43	1.32	0.48	1.17	0.95	0.091 U	0.9
SB-14-A	27	107	N	6/15/2004	2.27	1.52	0.35	1.12 U	1.7 U	1.08 U	0.92 U	1.55 U	0.056 U	1.54 U

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in pCi/g.
-- = no sample data.

TABLE B-10
SOIL GLYCOL/ALCOHOLS, ORGANIC ACIDS, TPH, AND CHLORINATED HERBICIDES DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 2)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Alcohols/Glycols				Organic Acids			
					Ethanol	Ethylene glycol	Methanol	Propylene glycol	4-Chlorobenzene-sulfonic acid	Benzenesulfonic acid	Diethyl phosphoro-dithioic acid	Dimethyl phosphorodithioic acid
SB-14-A	27	0	N	6/15/2004	< 54 U	< 54 UJ+	< 54 U	< 54 UJ+	< 1 U	< 1 U	< 1 U	< 5 U
SB-14-A	27	7	N	6/15/2004	< 53 U	< 53 UJ+	< 53 U	< 53 UJ+	< 1 U	< 1 U	< 1 U	< 5 U
SB-14-A	27	17	N	6/15/2004	< 54 U	< 54 UJ+	< 54 U	< 54 UJ+	< 1 U	< 1 U	< 1 U	< 1 U
SB-14-A	27	27	N	6/15/2004	< 52 U	< 52 UJ+	< 52 U	< 52 UJ+	< 1 U	< 1 U	< 1 U	< 1 U
SB-14-A	27	77	N	6/15/2004	< 75 U	< 75 UJ+	< 75 U	< 75 UJ+	< 1 U	< 1 U	< 1 U	< 1 U
SB-14-A	27	87	N	6/15/2004	< 78 U	< 78 UJ+	< 78 U	< 78 UJ+	< 1 U	< 1 U	< 1 U	< 1 U
SB-14-A	27	107	N	6/15/2004	< 70 U	< 70 UJ+	< 70 U	< 70 UJ+	< 1 U	< 1 U	< 1 U	< 1 U
WC-SW01	39	0	N	7/31/2006	--	--	--	--	--	--	--	--
WC-SW02	39	0	N	7/31/2006	--	--	--	--	--	--	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

TABLE B-10
SOIL GLYCOL/ALCOHOLS, ORGANIC ACIDS, TPH, AND CHLORINATED HERBICIDES DATA
SPRAY WHEEL SUB-AREA
(Page 2 of 2)

Sample ID	Dataset	Depth (ft bgs)	Sample Type	Sample Date	Chlorinated Herbicides									
					2,2-Dichloro-propionic acid	2,4,5-T	2,4,5-TP	2,4-D	4-(2,4-Dichlorophenoxy) butyric acid	Dicamba	Dichlorprop	Dinitrobutyl phenol	MCPA (2-Methyl-4-chlorophenoxyacetic acid)	Mecoprop
SB-14-A	27	0	N	6/15/2004	< 0.044 U	< 0.022 U	< 0.022 UJ+	< 0.087 U	< 0.087 U	< 0.044 U	< 0.087 UJ	< 0.027 U	< 8.7 U	< 8.7 UJ
SB-14-A	27	7	N	6/15/2004	< 0.042 U	< 0.021 U	< 0.021 UJ+	< 0.084 U	< 0.084 U	< 0.042 U	< 0.084 UJ	< 0.026 U	< 8.4 U	< 8.4 UJ
SB-14-A	27	17	N	6/15/2004	< 0.043 U	< 0.022 U	< 0.022 UJ+	< 0.087 U	< 0.087 U	< 0.043 U	< 0.087 UJ	< 0.027 U	< 8.7 U	< 8.7 UJ
SB-14-A	27	27	N	6/15/2004	< 0.042 U	< 0.021 U	< 0.021 UJ+	< 0.083 U	< 0.083 U	< 0.042 U	< 0.083 UJ	< 0.026 U	< 8.3 U	< 8.3 UJ
SB-14-A	27	77	N	6/15/2004	< 0.06 U	< 0.03 U	< 0.03 UJ+	< 0.12 U	< 0.12 U	< 0.06 U	< 0.12 UJ	< 0.038 U	< 12 U	< 12 UJ
SB-14-A	27	87	N	6/15/2004	< 0.062 U	< 0.031 U	< 0.031 UJ+	< 0.12 U	< 0.12 U	< 0.062 U	< 0.12 UJ	< 0.039 U	< 12 U	< 12 UJ
SB-14-A	27	107	N	6/15/2004	< 0.056 U	< 0.028 U	< 0.028 UJ+	< 0.11 U	< 0.11 U	< 0.056 U	< 0.11 UJ	< 0.035 U	< 11 U	< 11 UJ
WC-SW01	39	0	N	7/31/2006	--	< 0.0051 U	< 0.0033 U	< 0.03 U	--	--	--	< 0.0061 U	--	--
WC-SW02	39	0	N	7/31/2006	--	< 0.0062 U	< 0.004 U	< 0.036 U	--	--	--	< 0.0073 U	--	--

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.

All units in mg/kg.

-- = no sample data.

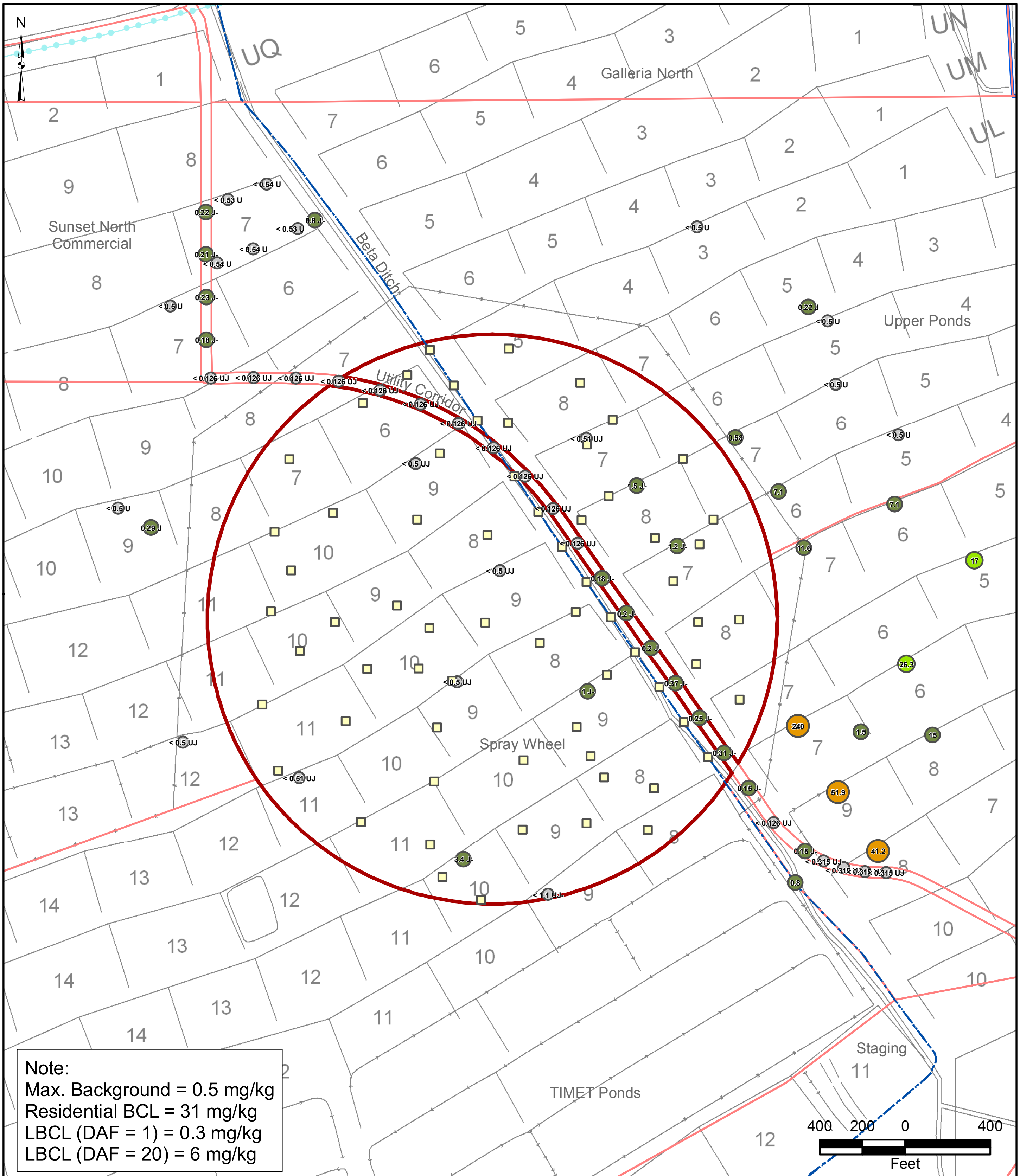
TABLE B-11
SOIL POLYAROMATIC HYDROCARBON DATA
SPRAY WHEEL SUB-AREA
(Page 1 of 1)

					Polynuclear Aromatic Hydrocarbons (PAHs)												
Sample ID	Dataset	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
BDB-16	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U
BDB-16	1a	5	N	4/5/1996	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U
BDB-17	1a	0	N	4/5/1996	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U	< 0.68 U
BDB-18	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
PUF-07	1a	0	N	4/5/1996	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 UJ	< 1.5 UJ	< 1.5 UJ	< 1.5 UJ	0.29	< 1.5 UJ	< 1.5 U	0.45	< 1.5 U
PUF-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUF-10	1a	0	N	4/8/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUF-10	1a	5	N	4/8/1996	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U	< 0.72 U
PUG-08	1a	0	N	4/5/1996	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	0.58	< 1.7 U
PUG-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUH-08	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 UJ	< 0.67 UJ	< 0.67 UJ	< 0.67 UJ	< 0.67 U	< 0.67 UJ	< 0.67 U	< 0.67 U	< 0.67 U
PUH-08	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUH-11	1a	0	N	4/8/1996	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U	< 0.66 U
PUJ-07	1a	0	N	4/5/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
PUJ-07	1a	5	N	4/5/1996	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U	< 0.69 U
PUK-09	1a	0	N	4/8/1996	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U	< 0.67 U
SB-14-A	27	0	N	6/15/2004	< 0.054 U	< 0.11 U	< 0.033 U	< 0.016 U	< 0.016 U	< 0.016 U	< 0.033 UJ+	< 0.016 U	< 0.016 U	< 0.033 UJ+	< 0.016 U	< 0.033 U	< 0.033 UJ+
SB-14-A	27	7	N	6/15/2004	< 0.053 U	< 0.11 U	< 0.032 U	< 0.016 U	< 0.016 U	< 0.016 U	< 0.032 UJ+	< 0.016 U	< 0.016 U	< 0.032 UJ+	< 0.016 U	< 0.032 U	< 0.032 UJ+
SB-14-A	27	17	N	6/15/2004	< 0.054 U	< 0.11 U	< 0.033 U	< 0.016 U	< 0.016 U	< 0.016 U	< 0.033 UJ+	< 0.016 U	< 0.016 U	< 0.033 UJ+	< 0.016 U	< 0.033 U	< 0.033 UJ+
SB-14-A	27	27	N	6/15/2004	< 0.052 U	< 0.1 U	< 0.031 U	< 0.016 U	< 0.016 U	< 0.016 U	< 0.031 UJ+	< 0.016 U	< 0.016 U	< 0.031 UJ+	< 0.016 U	< 0.031 U	< 0.031 UJ+
SB-14-A	27	77	N	6/15/2004	< 0.075 U	< 0.15 U	< 0.045 U	< 0.023 U	< 0.023 U	< 0.023 U	< 0.045 UJ+	< 0.023 U	< 0.023 U	< 0.045 UJ+	< 0.023 U	< 0.045 U	< 0.045 UJ+
SB-14-A	27	87	N	6/15/2004	< 0.078 U	< 0.16 U	< 0.047 U	< 0.023 U	< 0.023 U	< 0.023 U	< 0.047 UJ+	< 0.023 U	< 0.023 U	< 0.047 UJ+	< 0.023 U	< 0.047 U	< 0.047 UJ+
SB-14-A	27	107	N	6/15/2004	< 0.07 U	< 0.14 U	< 0.042 U	< 0.021 U	< 0.021 U	< 0.021 U	< 0.042 UJ+	< 0.021 U	< 0.021 U	< 0.042 UJ+	< 0.021 U	< 0.042 U	< 0.042 UJ+
WC-SW01	39	0	N	7/31/2006	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U	< 0.034 U
WC-SW02	39	0	N	7/31/2006	< 0.041 U	< 0.041 U	< 0.041 U	0.049 J	< 0.041 U	< 0.041 U	< 0.041 U	< 0.041 U	0.096 J	< 0.041 U	< 0.041 U	0.1 J	0.062 J

Note: This table includes all data, regardless of depth. Because of this, the total number of analyses does not always coincide with the total number of analyses reported in Table 1, which includes data only to 10 feet bgs.
All units in mg/kg.
-- = no sample data.

APPENDIX C

SOIL CONCENTRATION DISTRIBUTION FIGURES



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

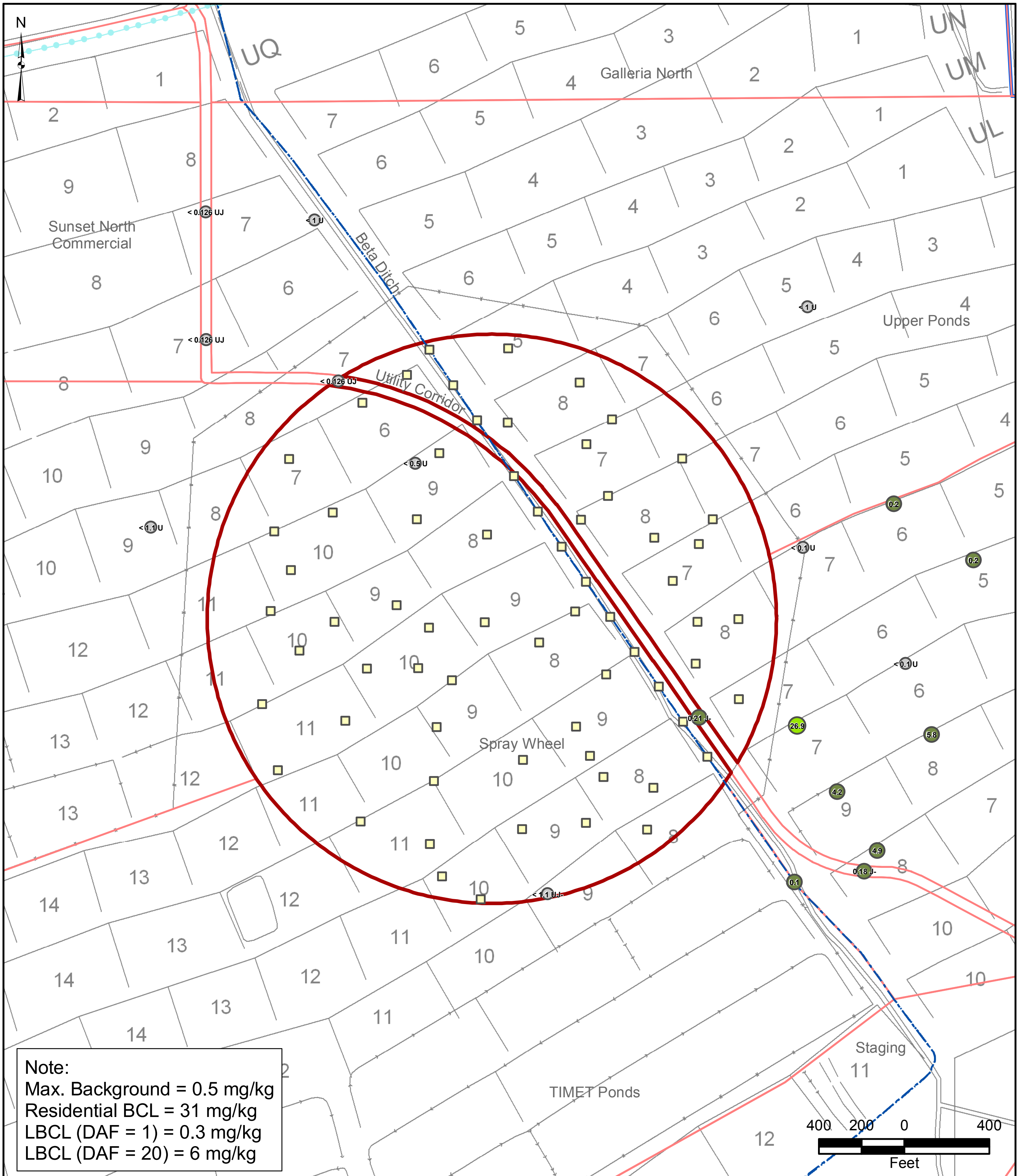
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-1

ANTIMONY RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation COMPANY

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 0.5 mg/kg
Residential BCL = 31 mg/kg
LBCL (DAF = 1) = 0.3 mg/kg
LBCL (DAF = 20) = 6 mg/kg

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

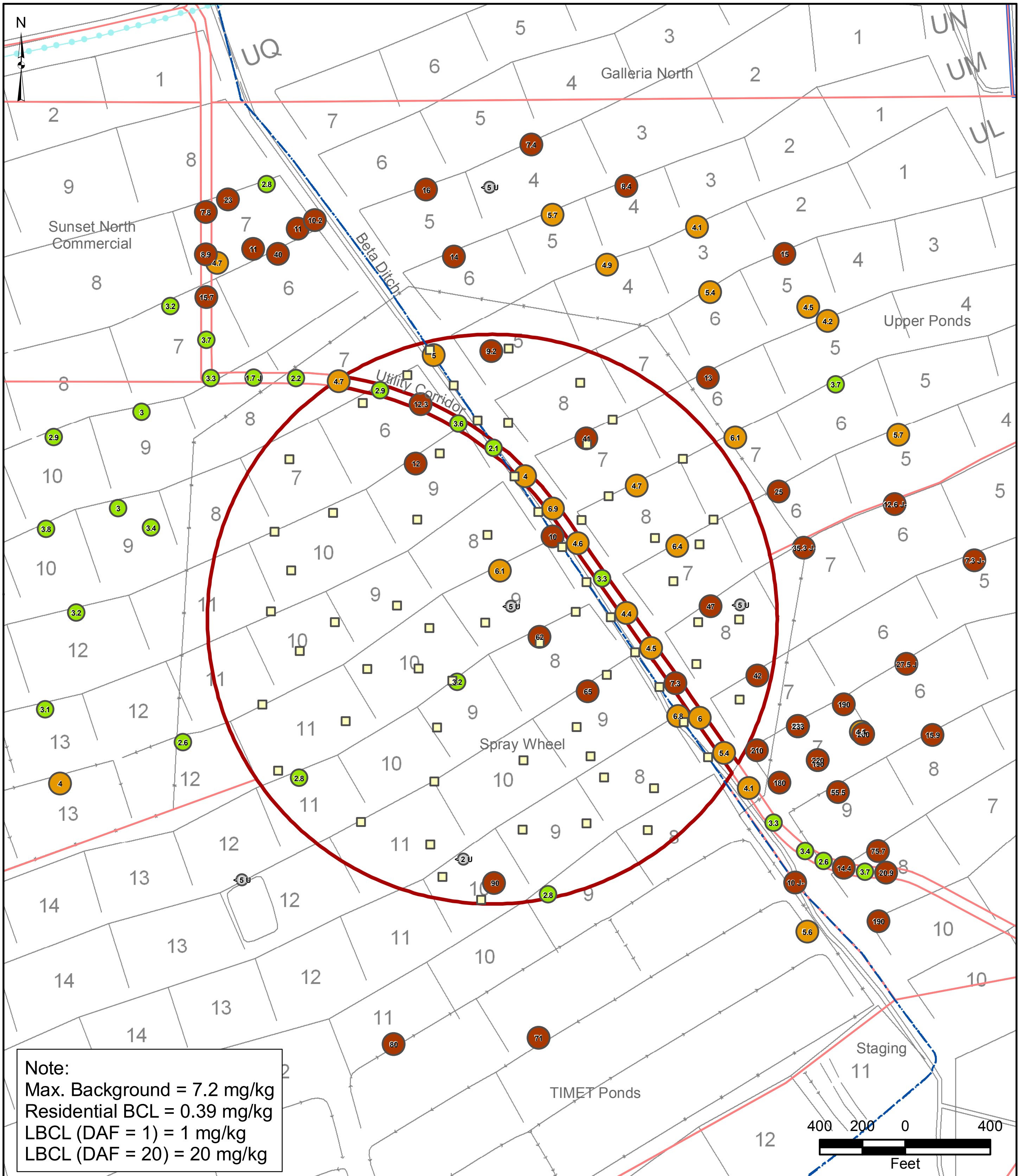
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-2

ANTIMONY RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation Company

Prepared by		Date	JOB No. 0064276
MKJ (ERM)	ERM	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < Residential BCL
>= BCL and < 10x BCL
>= 10x BCL and < Max. Background
>= Max. Background

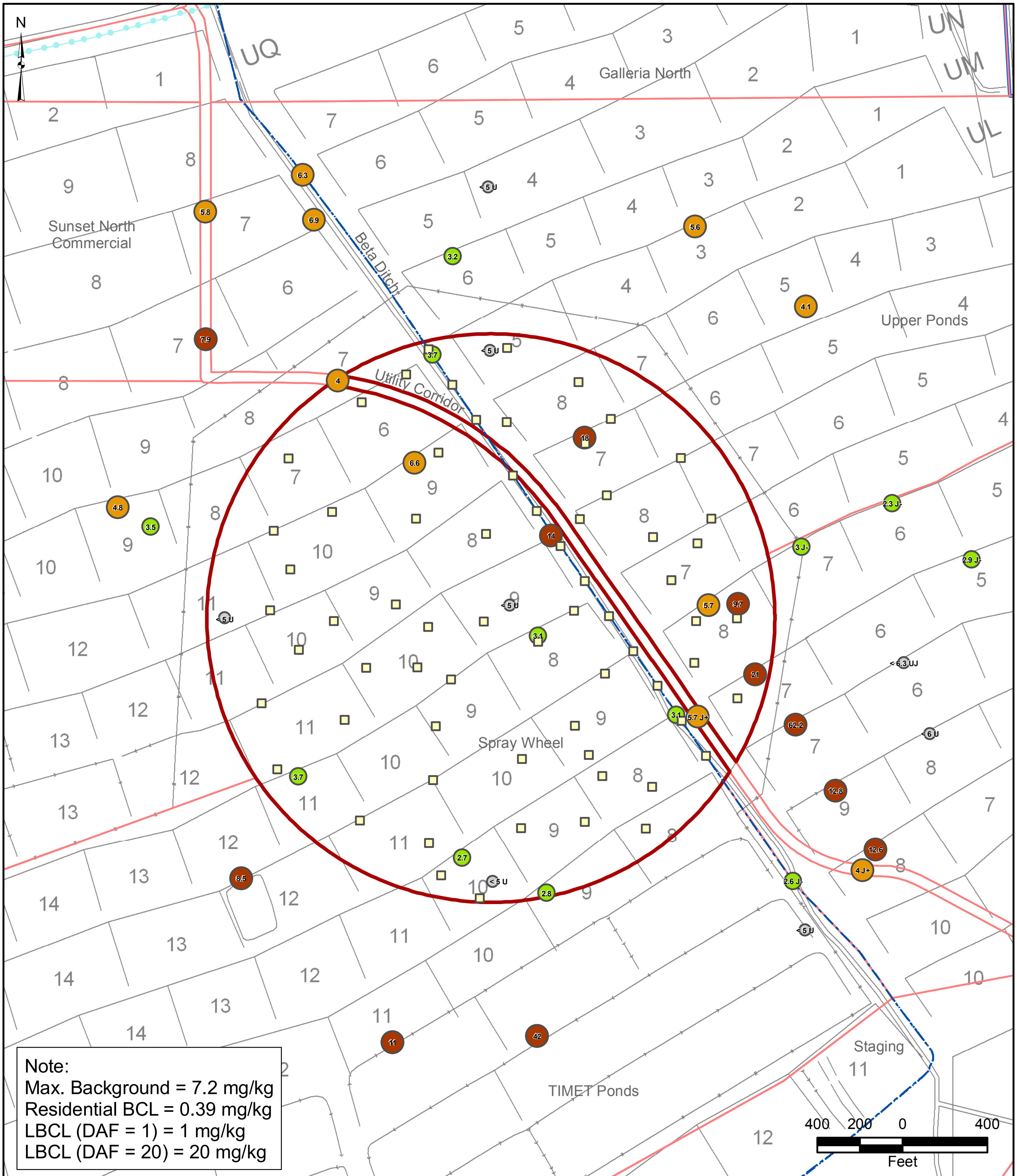
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-3

ARSENIC RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation COMPANY

Prepared by		Date	JOB No. 0064276
MKJ (ERM)	ERM	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < Residential BCL
>= BCL and < 10x BCL
>= 10x BCL and < Max. Background
>= Max. Background

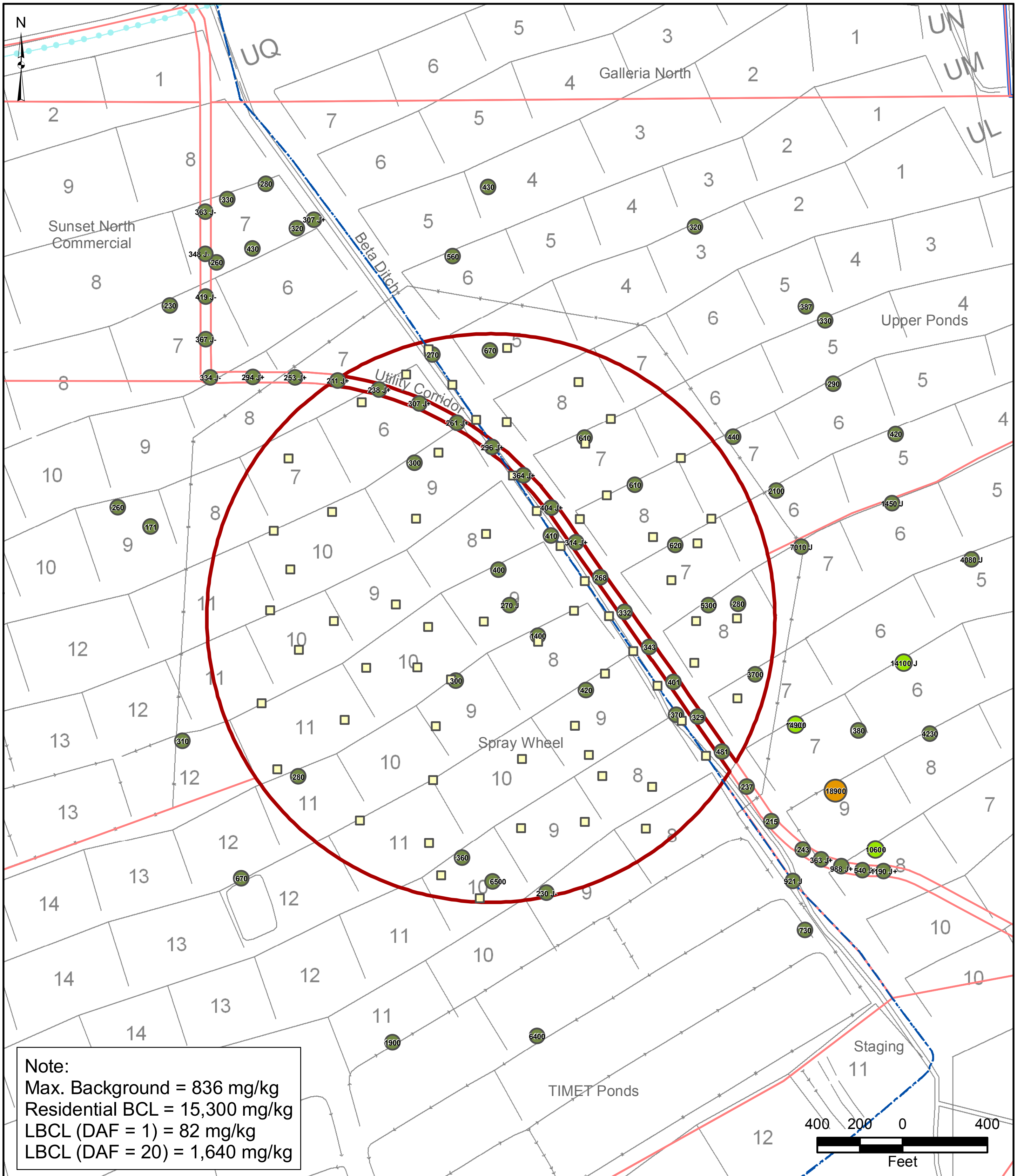
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-4

ARSENIC RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM) | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



- Spray Wheel Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas
- SAP Proposed Soil Sample Location
- Non-Detect
- Detect < 1/2-Residential BCL
- >= 1/2-BCL and < BCL
- >= BCL and < 10x BCL
- >= 10x BCL

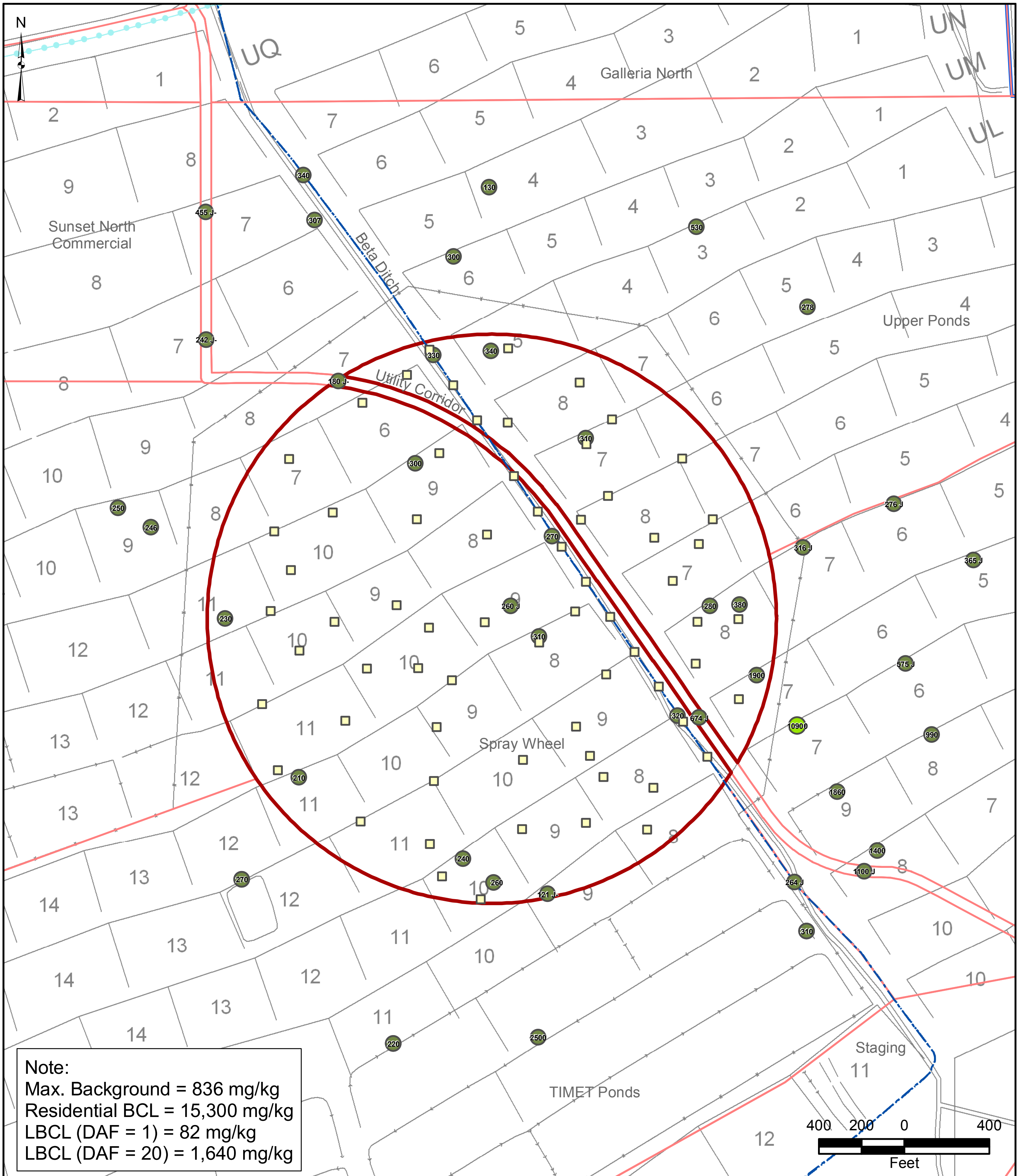
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-5

BARIUM RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT
0 to 2 FT BGS

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 836 mg/kg
Residential BCL = 15,300 mg/kg
LBCL (DAF = 1) = 82 mg/kg
LBCL (DAF = 20) = 1,640 mg/kg

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

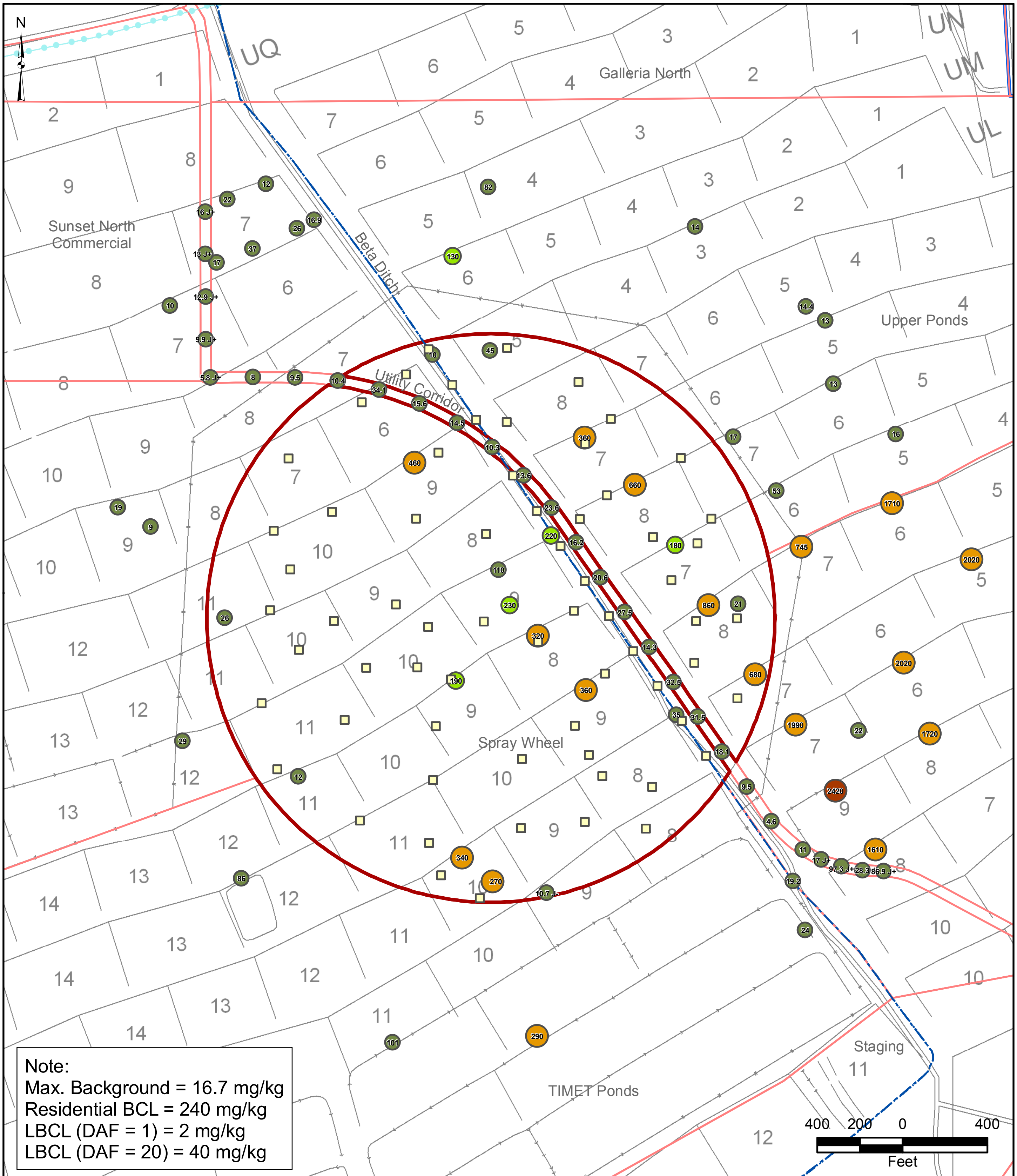
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-6

BARIUM RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 16.7 mg/kg
Residential BCL = 240 mg/kg
LBCL (DAF = 1) = 2 mg/kg
LBCL (DAF = 20) = 40 mg/kg

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

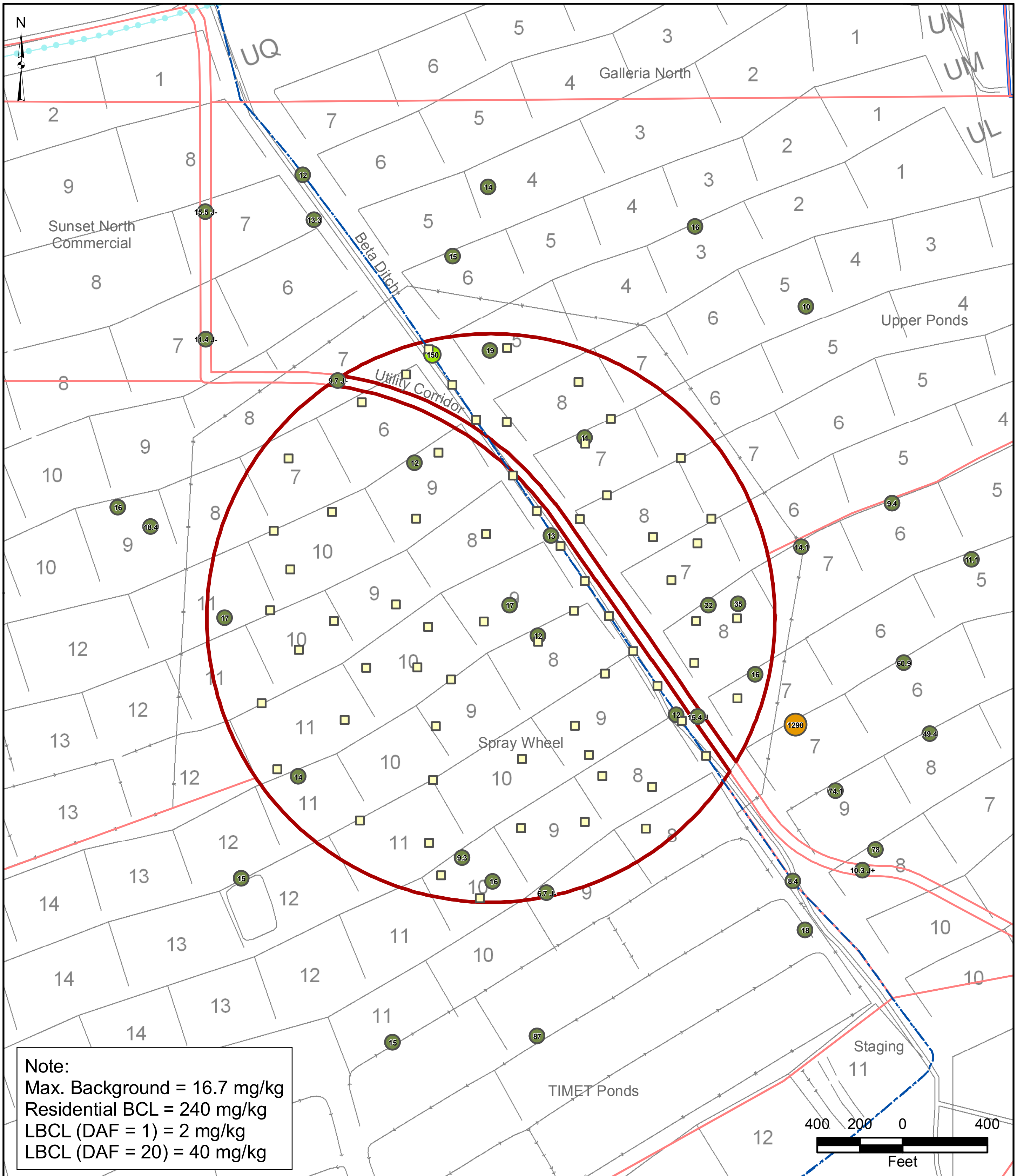
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-7

TOTAL CHROMIUM RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT
0 to 2 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

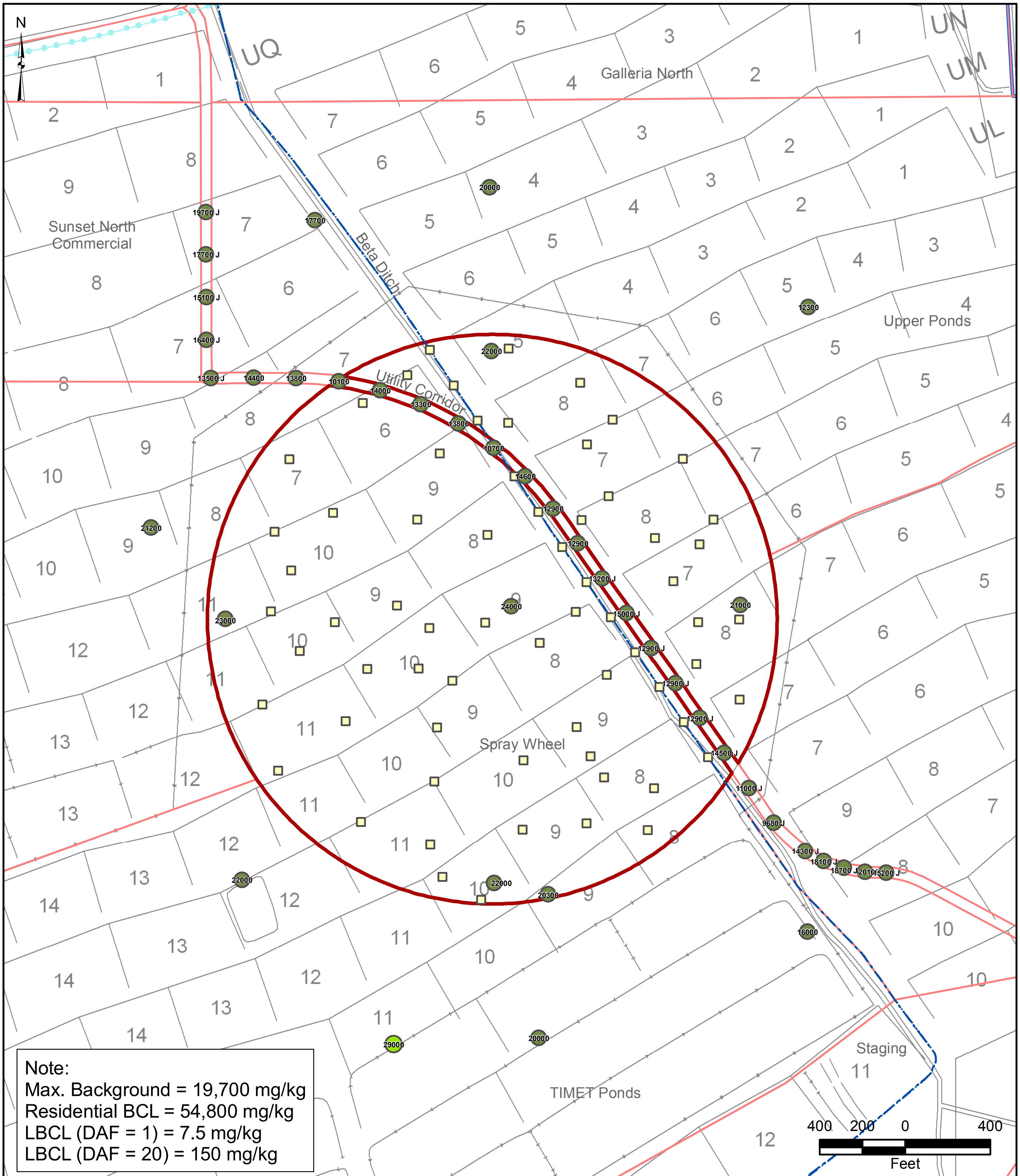
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-8

TOTAL CHROMIUM RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT
3 to 10 FT BGS

Basic Remediation Company

Prepared by		Date	JOB No. 0064276
MKJ (ERM)	ERM	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 19,700 mg/kg
Residential BCL = 54,800 mg/kg
LBCL (DAF = 1) = 7.5 mg/kg
LBCL (DAF = 20) = 150 mg/kg

- Spray Wheel Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas
- SAP Proposed Soil Sample Location
- Non-Detect
- Detect < 1/2-Residential BCL
- >= 1/2-BCL and < BCL
- >= BCL and < 10x BCL
- >= 10x BCL

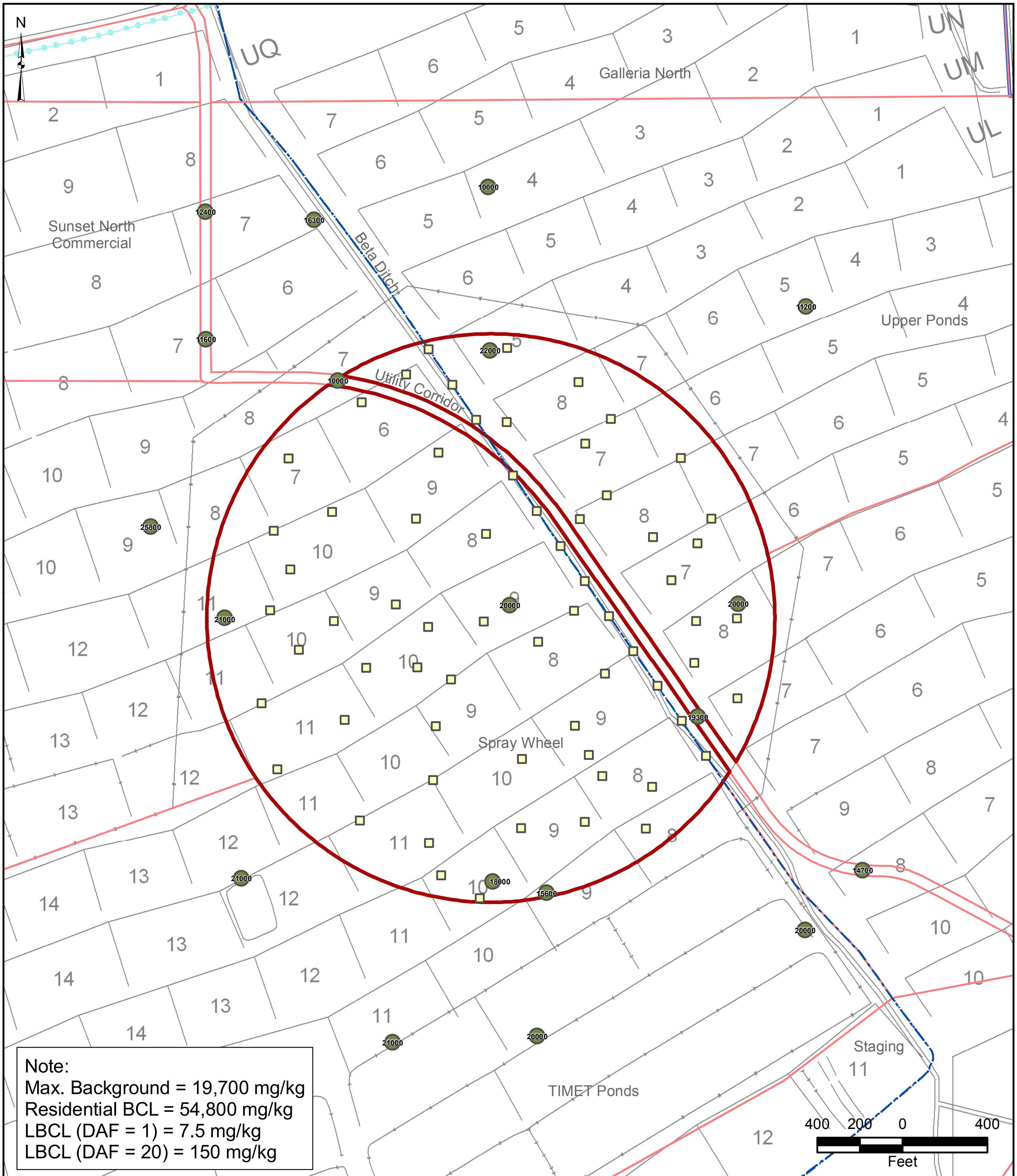
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-9

IRON RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 19,700 mg/kg
Residential BCL = 54,800 mg/kg
LBCL (DAF = 1) = 7.5 mg/kg
LBCL (DAF = 20) = 150 mg/kg

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

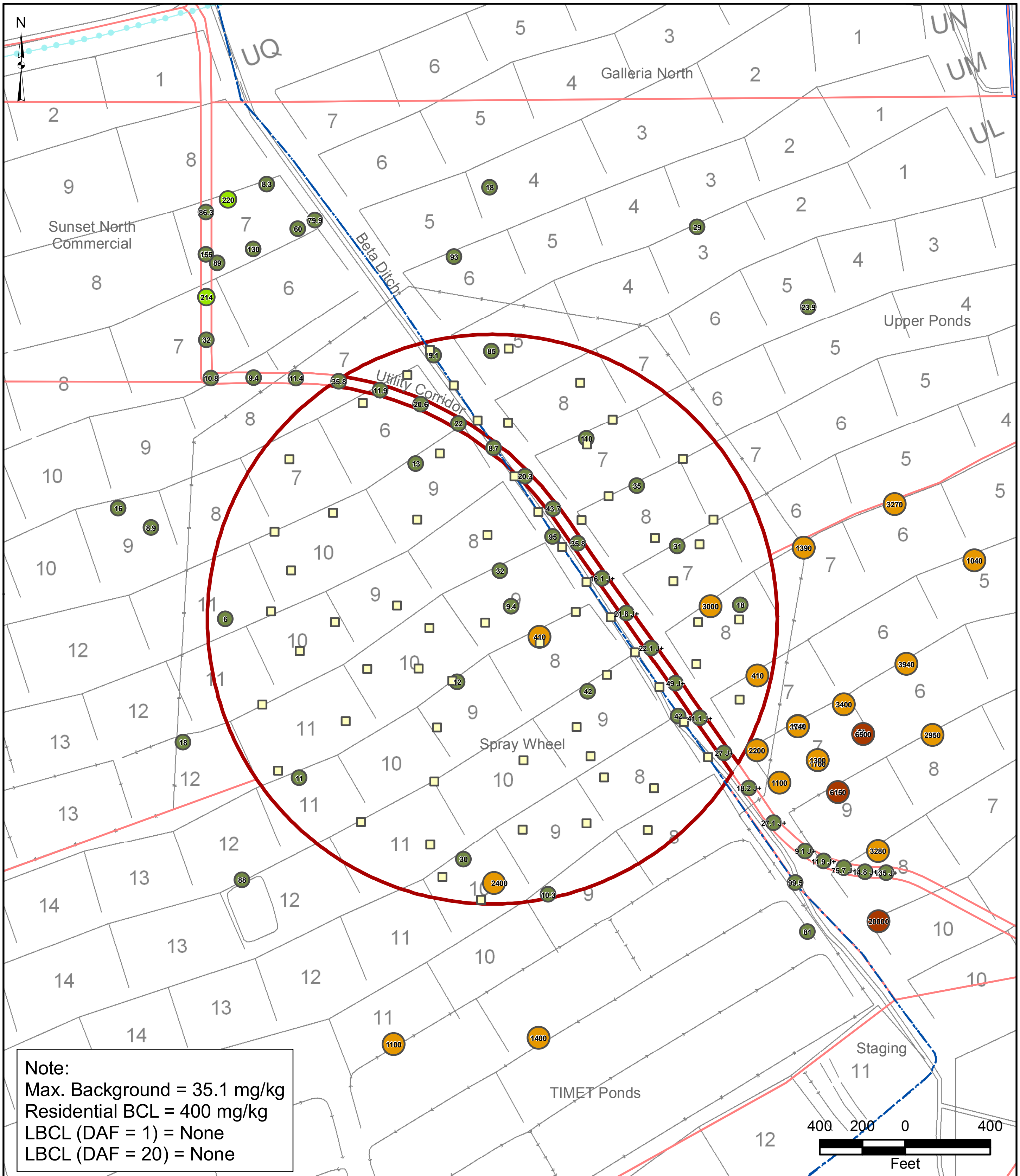
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-10

IRON RESULTS IN
SPRAY WHEEL SUB-AREA
AND ADJACENT 1,000 FT
3 to 10 FT BGS

Basic Remediation
COMPANY

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

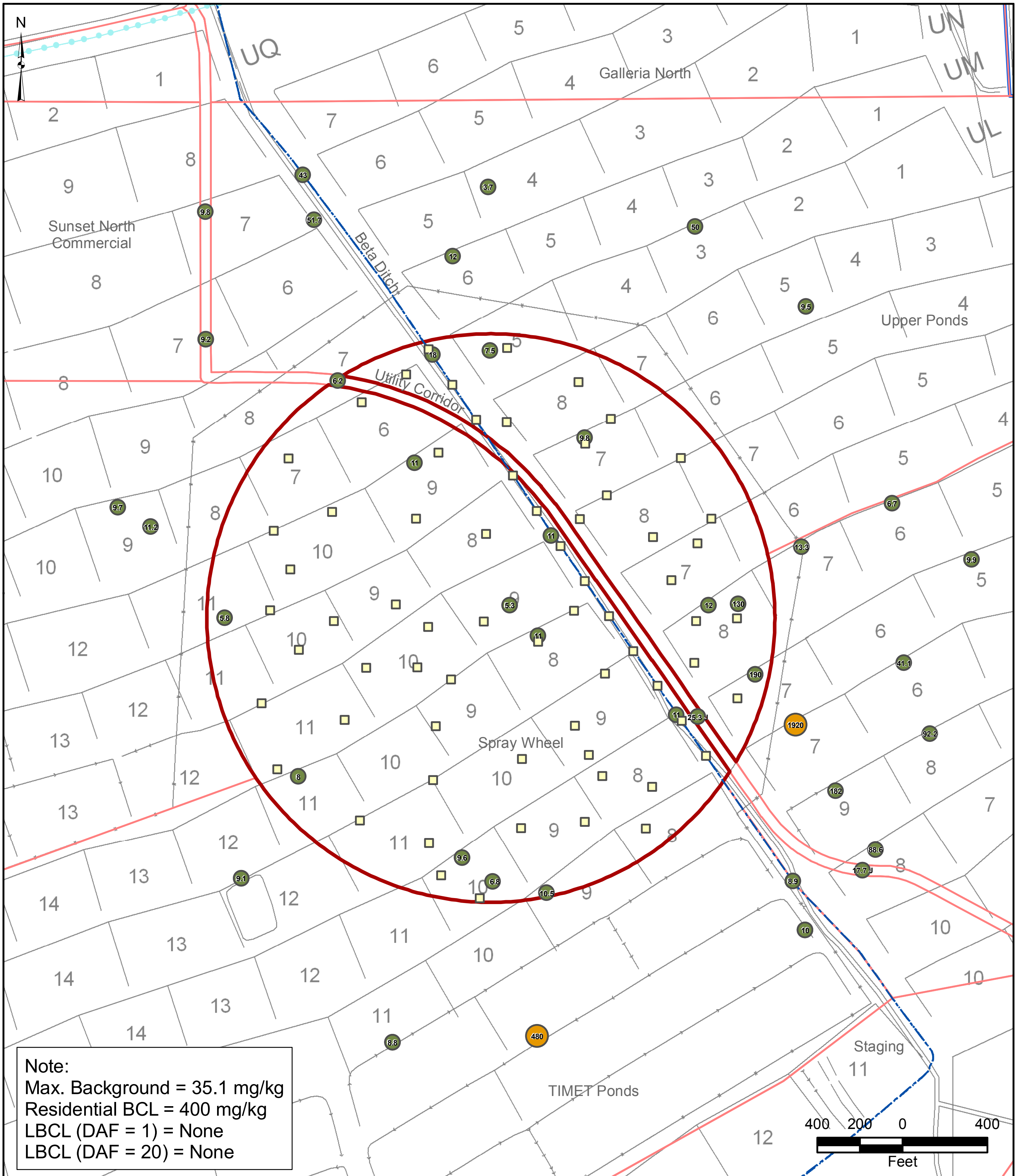
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-11

LEAD RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



- Spray Wheel Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas
- SAP Proposed Soil Sample Location
- Non-Detect
- Detect < 1/2-Residential BCL
- >= 1/2-BCL and < BCL
- >= BCL and < 10x BCL
- >= 10x BCL

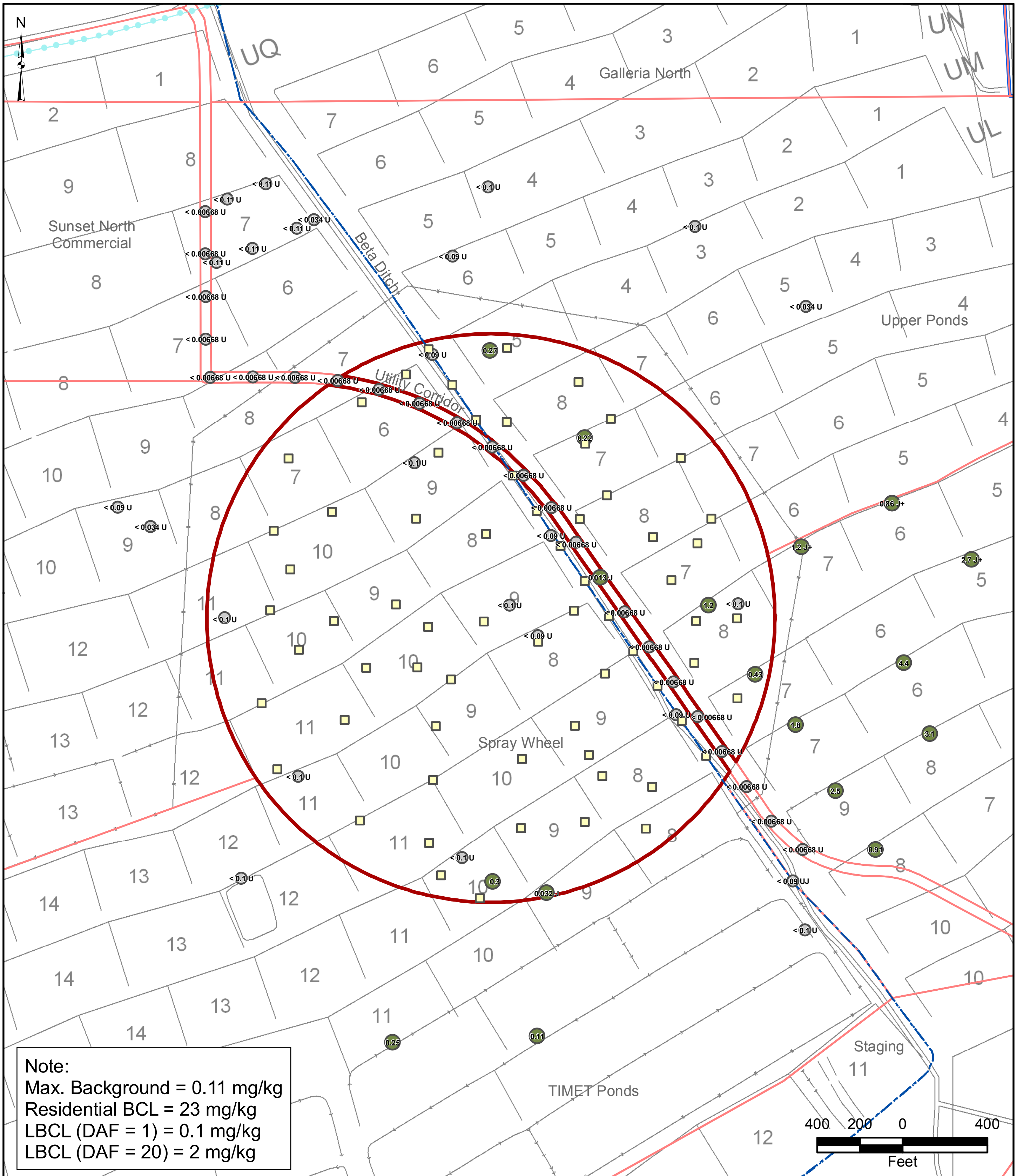
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-12

LEAD RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation COMPANY

Prepared by		Date	
MKJ (ERM)	ERM	11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-13

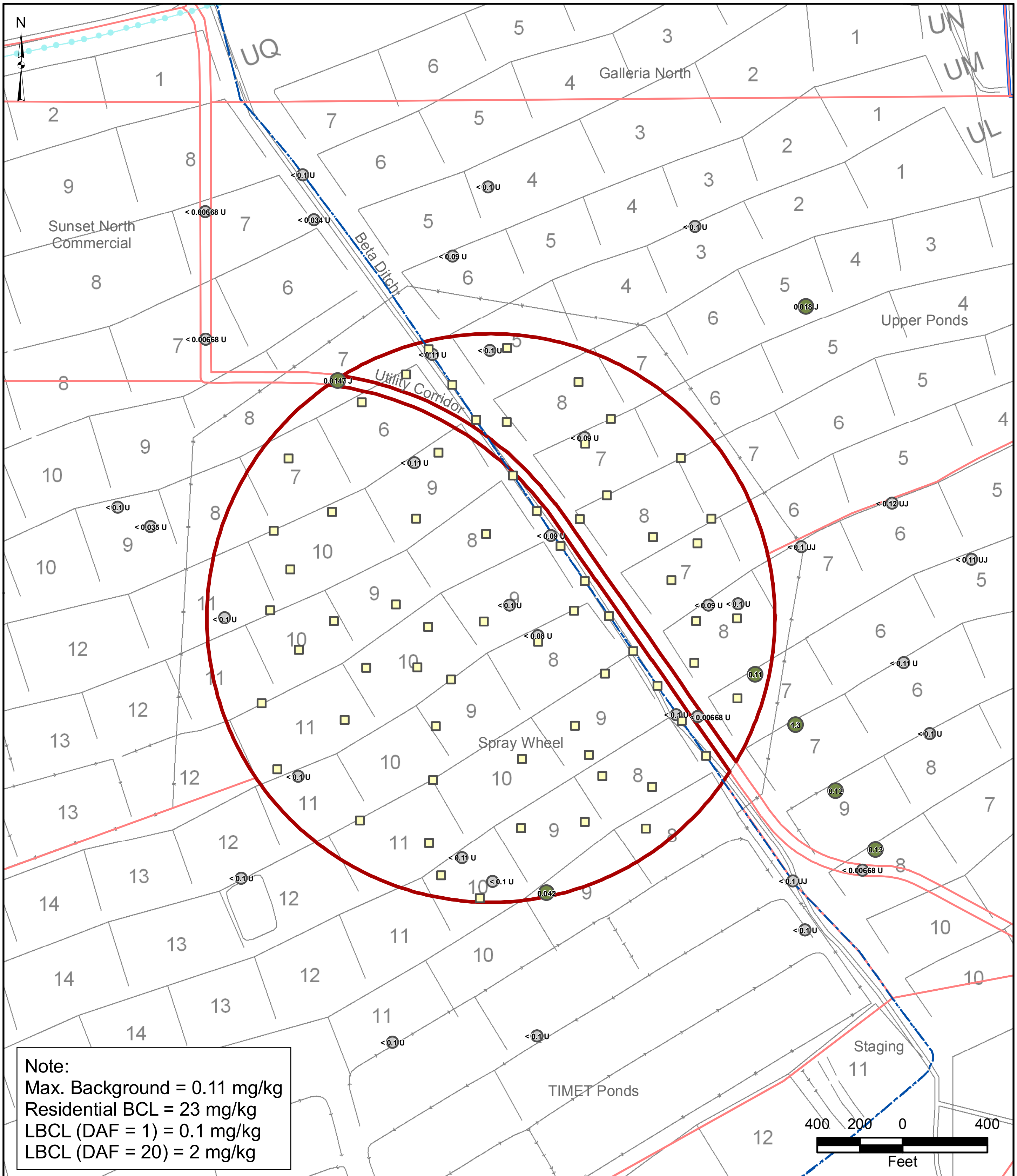
MERCURY RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM)

Date 11/17/09

JOB No. 0064276
FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

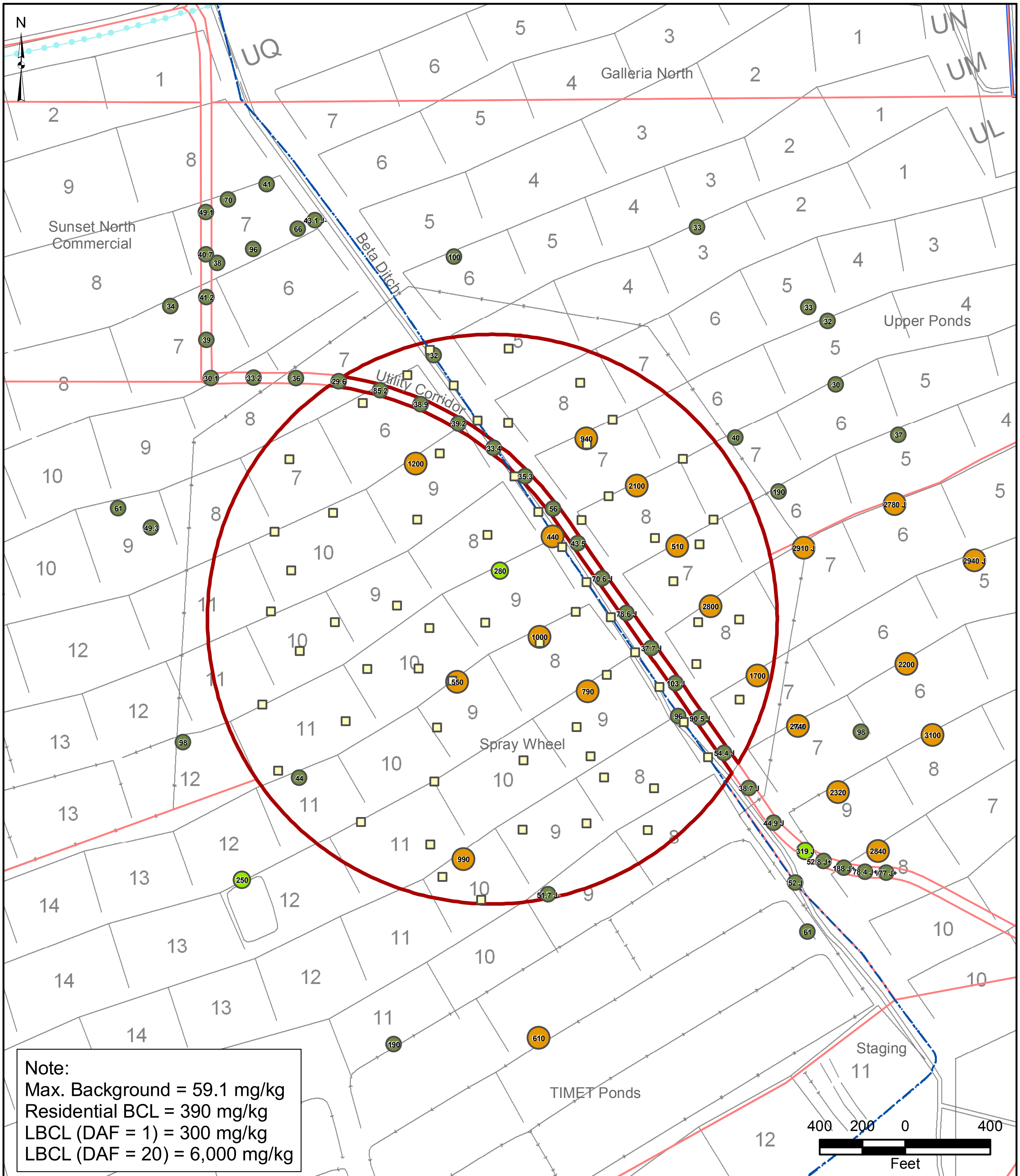
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-14

MERCURY RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 59.1 mg/kg
Residential BCL = 390 mg/kg
LBCL (DAF = 1) = 300 mg/kg
LBCL (DAF = 20) = 6,000 mg/kg

- Spray Wheel Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas
- SAP Proposed Soil Sample Location
- Non-Detect
- Detect < 1/2-Residential BCL
- >= 1/2-BCL and < BCL
- >= BCL and < 10x BCL
- >= 10x BCL

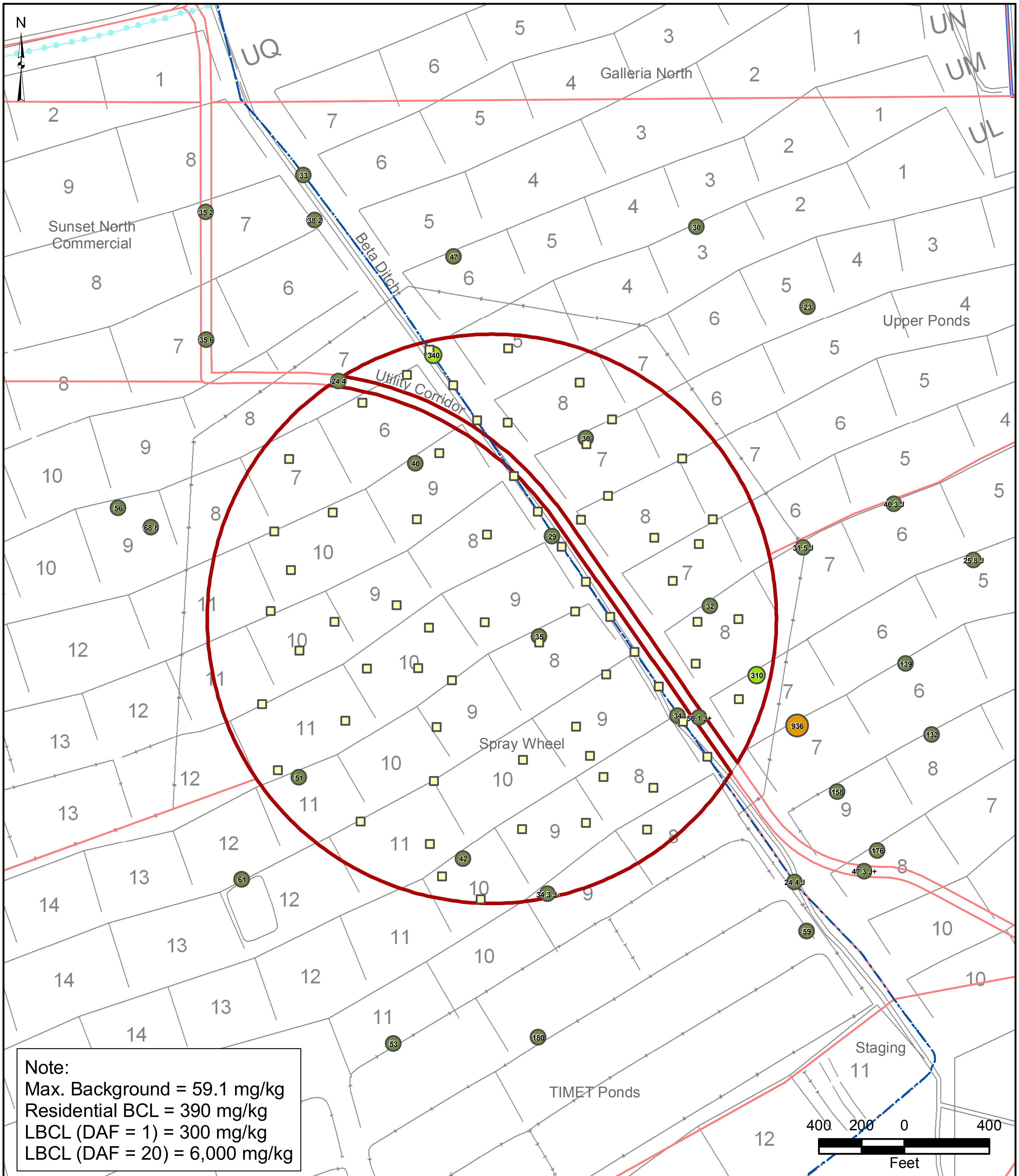
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-15

VANADIUM RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation Company

Prepared by	Date	JOB No. 0064276
MKJ (ERM)	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 59.1 mg/kg
Residential BCL = 390 mg/kg
LBCL (DAF = 1) = 300 mg/kg
LBCL (DAF = 20) = 6,000 mg/kg

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

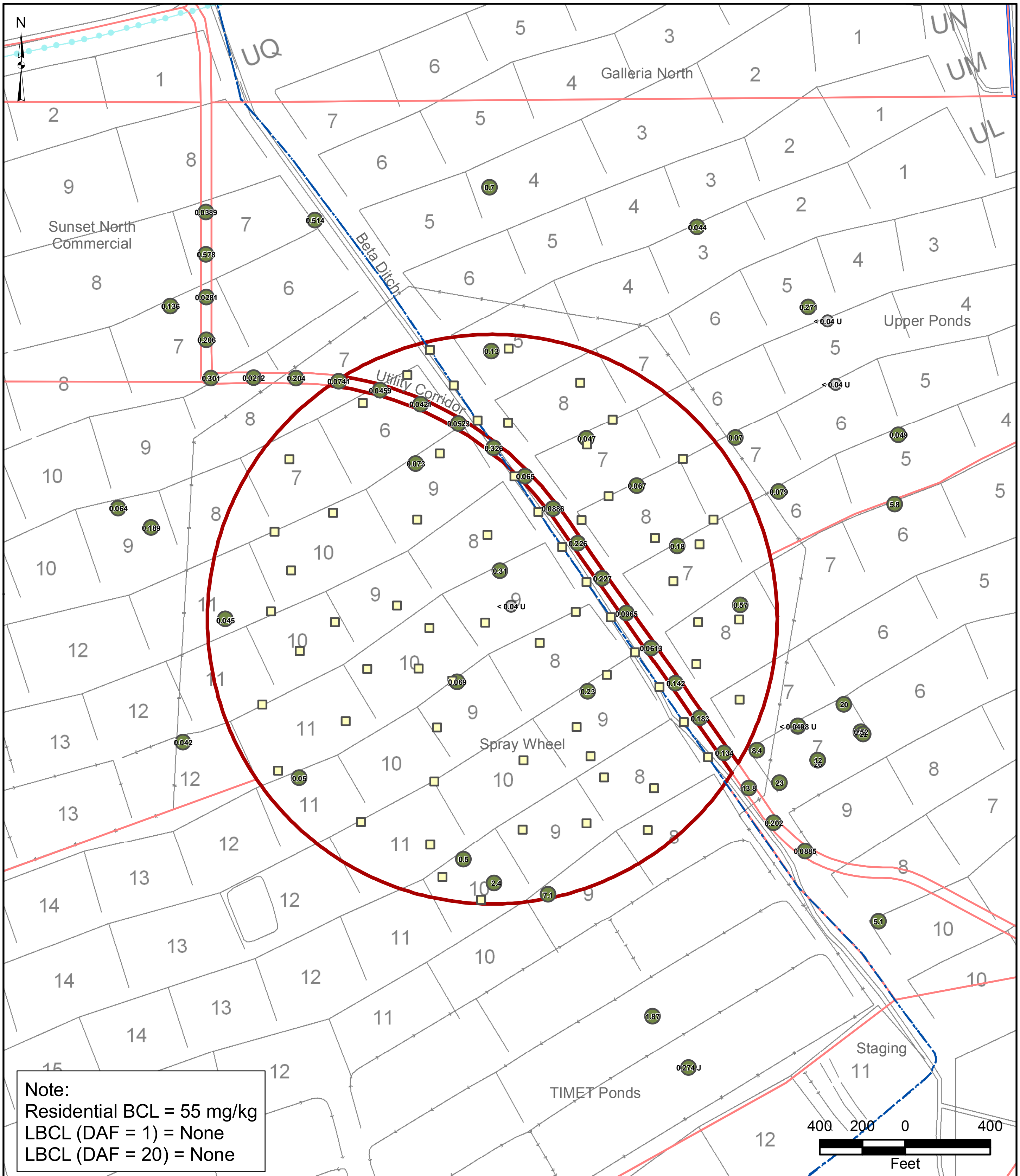
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-16

VANADIUM RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation COMPANY

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



- Spray Wheel Sub-Area
- Site AOC3 Boundary
- Eastside Soil Sub-Areas
- SAP Proposed Soil Sample Location
- Non-Detect
- Detect < 1/2-Residential BCL
- >= 1/2-BCL and < BCL
- >= BCL and < 10x BCL
- >= 10x BCL

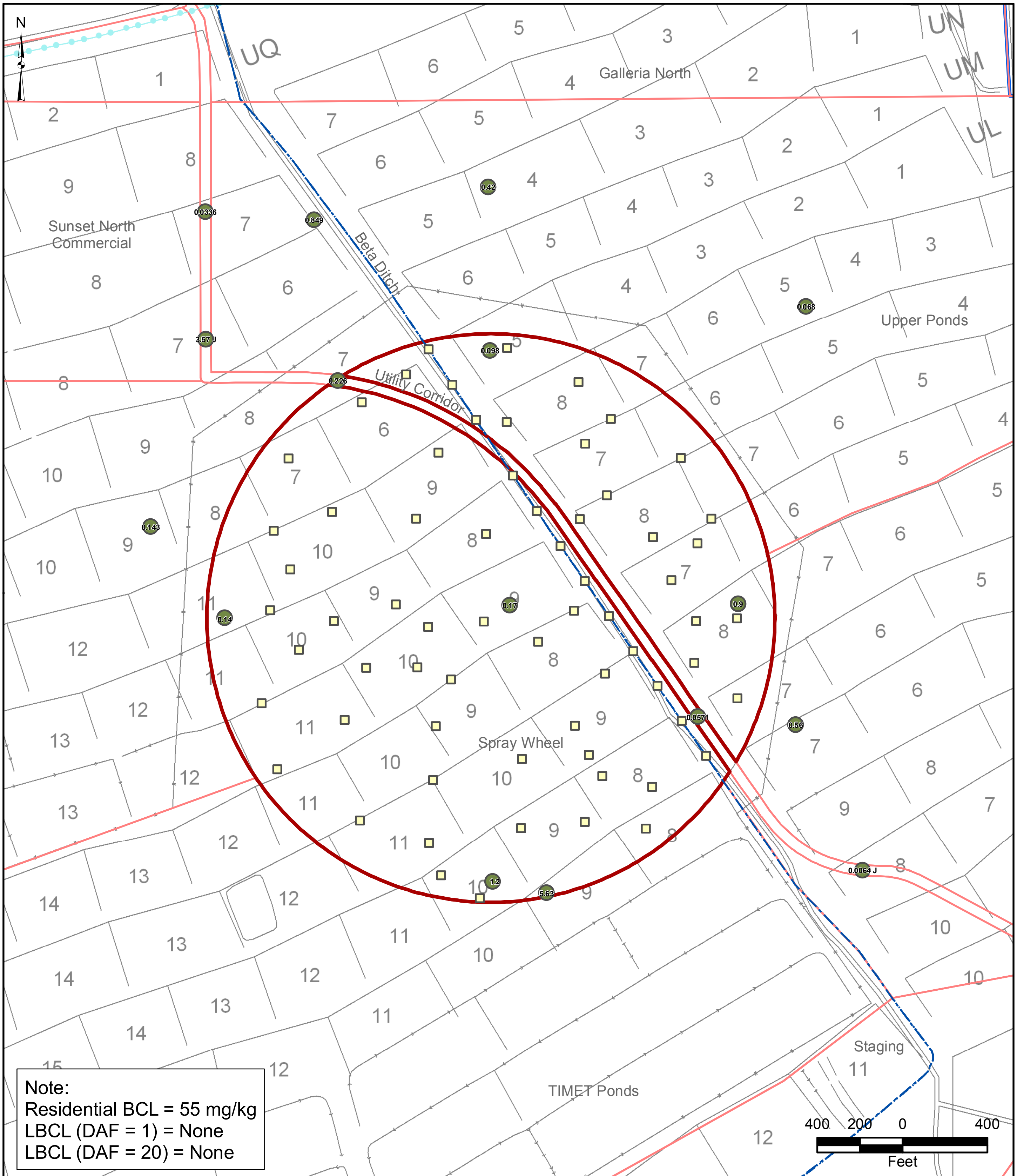
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-17

PERCHLORATE RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation Company

Prepared by		Date	JOB No. 0064276
MKJ (ERM)	ERM	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

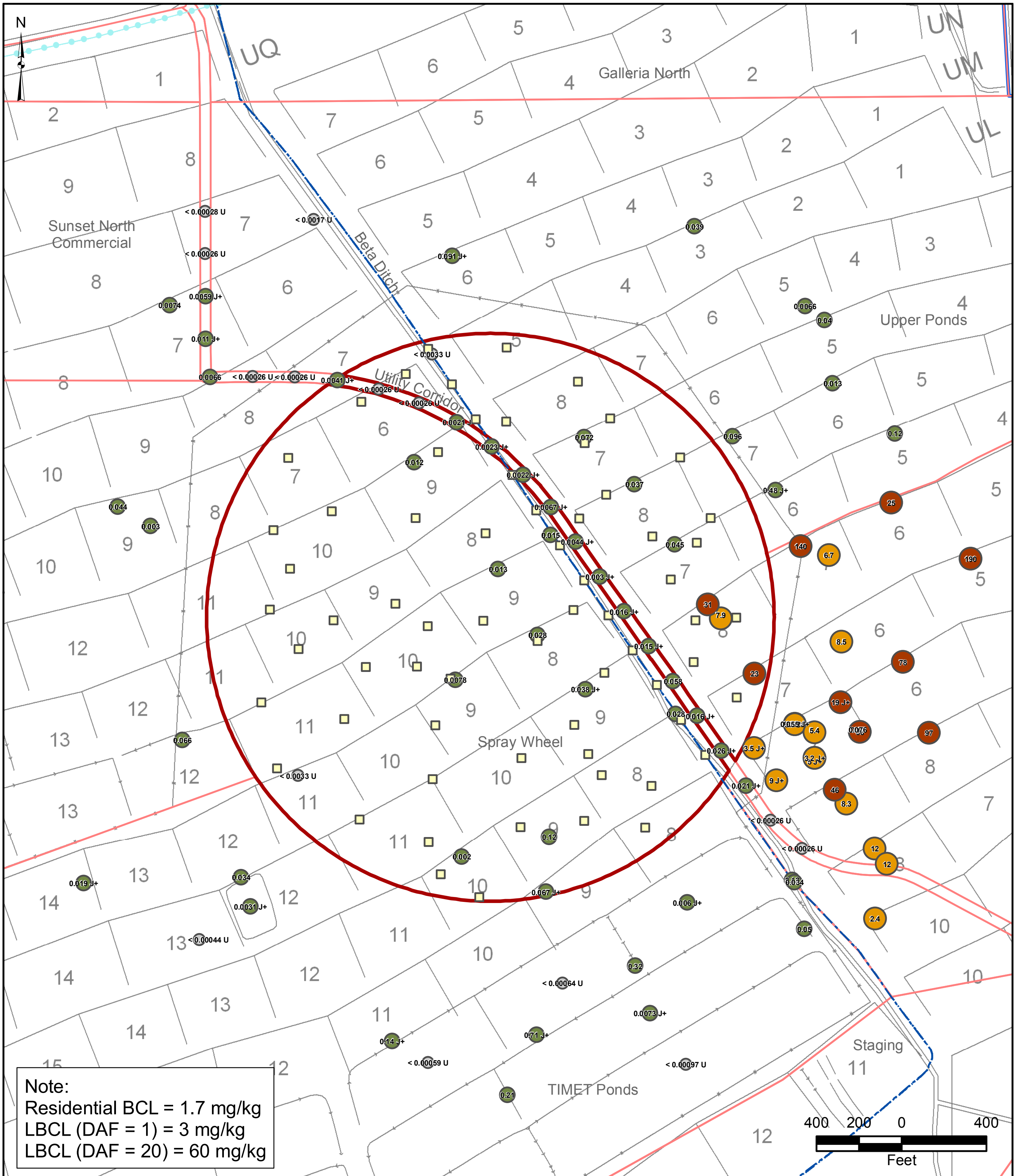
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-18

PERCHLORATE RESULTS
IN SPRAY WHEEL SUB-AREA
AND ADJACENT 1,000 FT
3 to 10 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

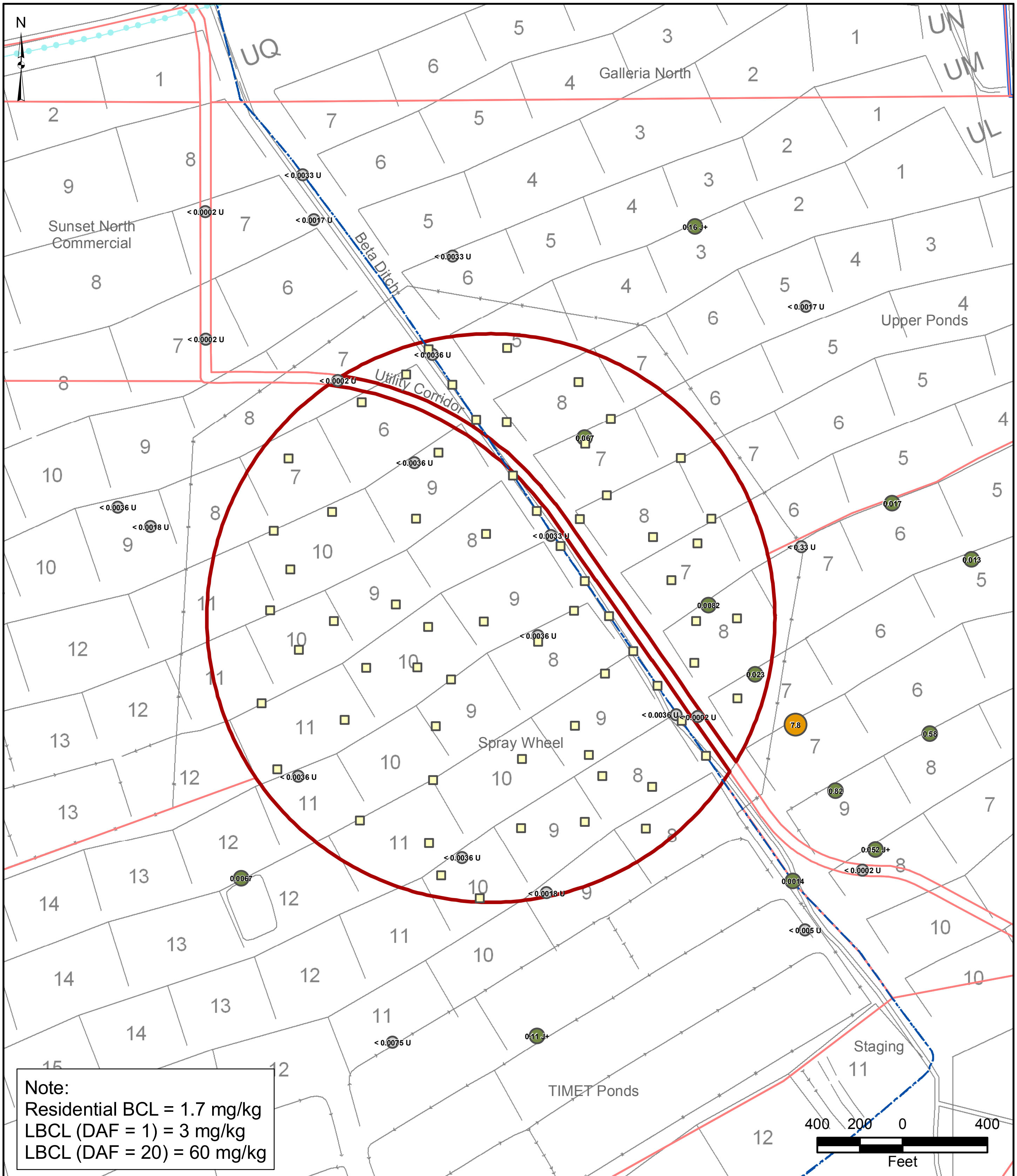
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-19

4,4-DDE RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Residential BCL = 1.7 mg/kg
LBCL (DAF = 1) = 3 mg/kg
LBCL (DAF = 20) = 60 mg/kg

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

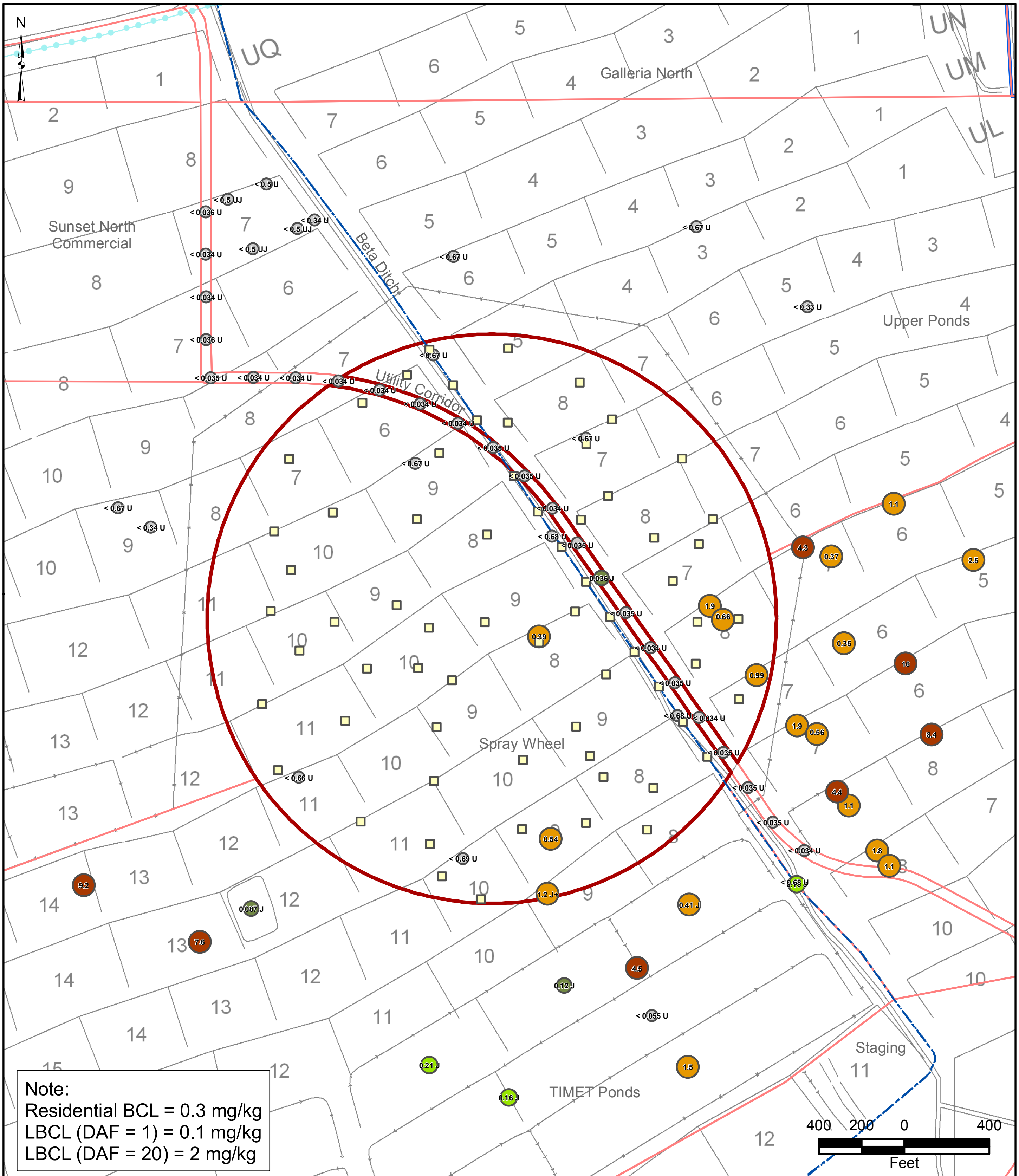
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-20

4,4-DDE RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT
3 to 10 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM) | Date 11/17/09 | JOB No. 0064276
FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Legend	
Spray Wheel Sub-Area	Non-Detect
Site AOC3 Boundary	Detect < 1/2-Residential BCL
Eastside Soil Sub-Areas	>= 1/2-BCL and < BCL
SAP Proposed Soil Sample Location	>= BCL and < 10x BCL
	>= 10x BCL

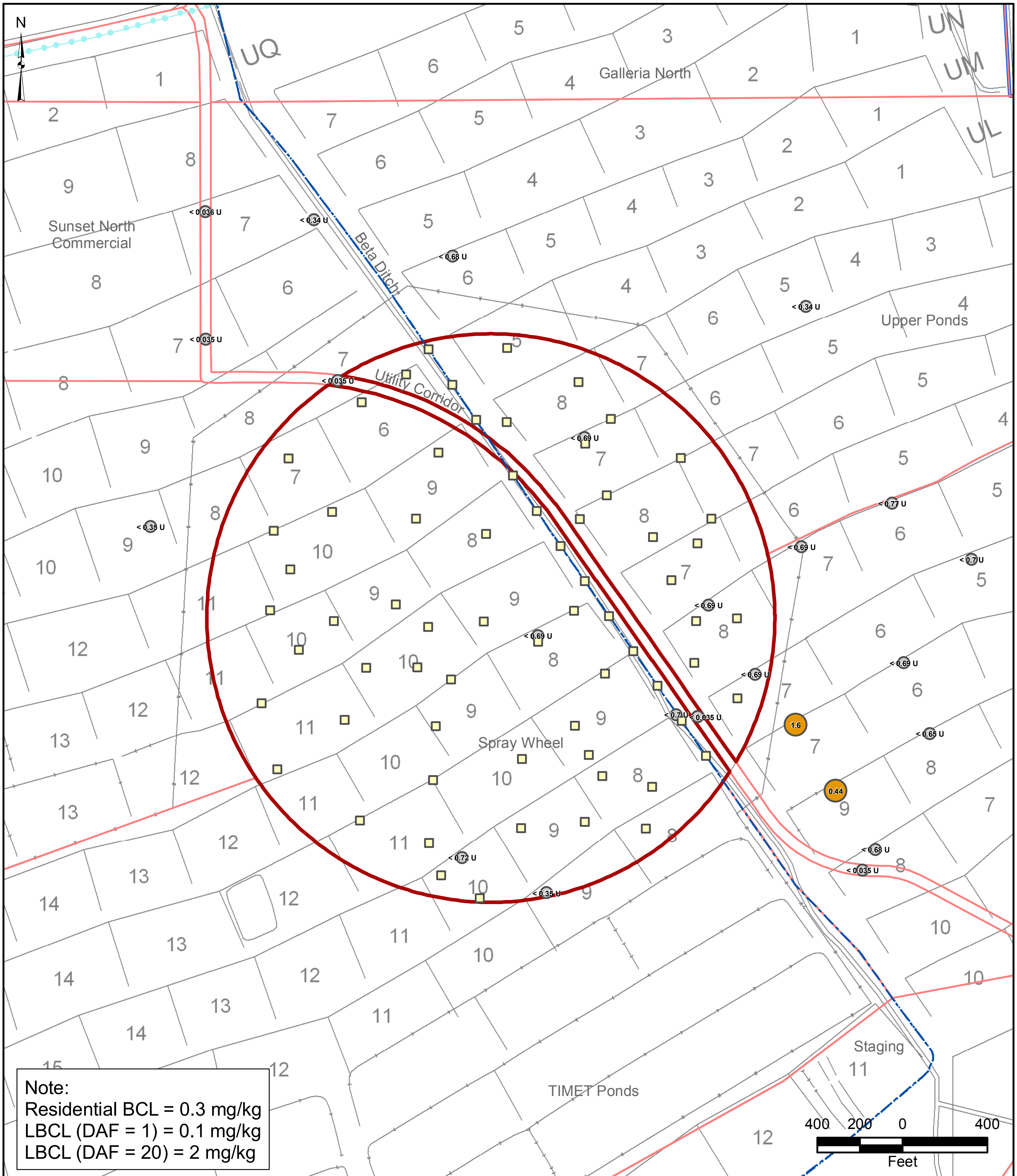
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-21

HEXACHLOROBENZENE RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT - 0 to 2 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < 1/2-Residential BCL
>= 1/2-BCL and < BCL
>= BCL and < 10x BCL
>= 10x BCL

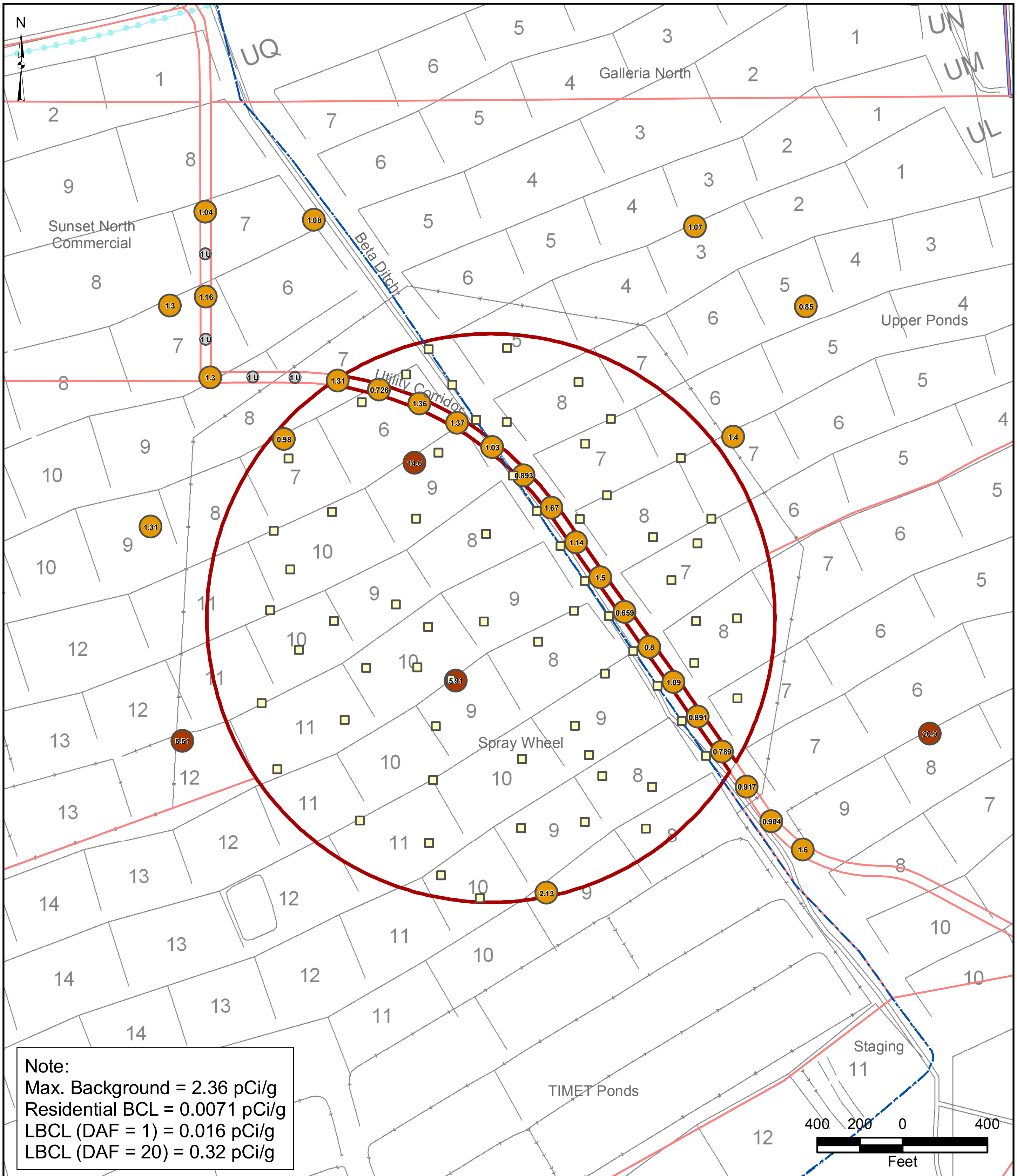
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-22

HEXACHLOROBENZENE RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT - 3 to 10 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM) | ERM | Date 11/17/09 | JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location
Non-Detect
Detect < Residential BCL
>= BCL and < 10x BCL
>= 10x BCL and < Max. Background
>= Max. Background

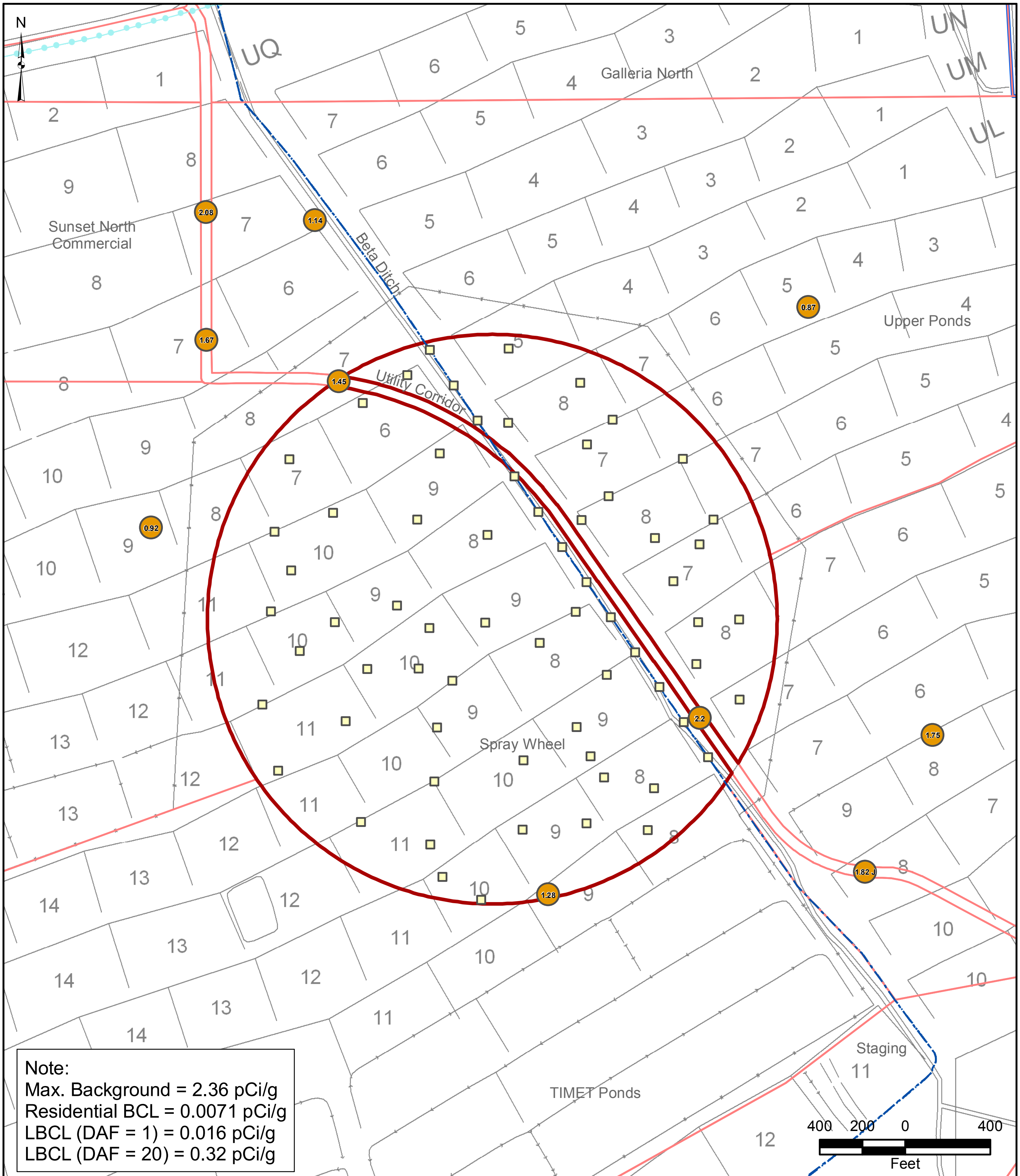
BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-23

RADIUM-226 RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 0 to 2 FT BGS

Basic Remediation COMPANY

Prepared by		Date	JOB No. 0064276
MKJ (ERM)	ERM	11/17/09	FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD



Note:
Max. Background = 2.36 pCi/g
Residential BCL = 0.0071 pCi/g
LBCL (DAF = 1) = 0.016 pCi/g
LBCL (DAF = 20) = 0.32 pCi/g

Spray Wheel Sub-Area
Site AOC3 Boundary
Eastside Soil Sub-Areas
SAP Proposed Soil Sample Location

Non-Detect
Detect < Residential BCL
>= BCL and < 10x BCL
>= 10x BCL and < Max. Background
>= Max. Background

BMI Common Areas (Eastside)
Clark County, Nevada

FIGURE C-24

RADIUM-226 RESULTS IN SPRAY WHEEL SUB-AREA AND ADJACENT 1,000 FT 3 to 10 FT BGS

Basic Remediation Company

Prepared by MKJ (ERM)	ERM	Date 11/17/09	JOB No. 0064276 FILE: GIS/BRC/SPRAY-WHEEL_SAP/APPENDIX_C.MXD