Tri-Party Agreement

**Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records***

| Change Number | Document Submitted Under Tri-Party Agreement Milestone | Date: |
|---|---|---|
| TPA-CN-285 | N/A | 10/06/2009 |

| Document Number and Title: | Date Document Last Issued: |
|---|---|
| DOE/RL-2006-50, *200-UR-1 Unplanned Release Waste Group Operable Unit Sampling and Analysis Plan* (Revision 0, Reissue). | February 2007 |

**Originator:** O.A. Farabee, RL **Phone:** 509-376-8089

**Description of Change:**

O.A. Farabee, RL and L.A. Fort, the Washington State Department of Ecology (Ecology), the lead regulatory agency, agree that the proposed change modifies an approved work plan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement.*

The following changes are made to the DOE/RL-2006-50, *200-UR-1 Unplanned Release Waste Group Operable Unit Sampling and Analysis Plan* (Revision 0, Reissue, February 2007):

Appendix A, *BC Controlled Area Post-Removal Action Verification Sampling and Analysis Plan*, is added, as a lower-tier sampling and analysis plan SAP to the 200-UR-1 Unplanned Release Waste Group OU SAP. (Note: Appendix A also includes its Attachment 1, *Analytical Data for the BC Controlled Area*).

**Justification and Impacts of Change:**

The 200-UR-1 OU includes the BC Controlled Area, an unplanned release waste site, UPR-200-E-83. The Appendix A to the DOE/RL-2006-50 SAP is a lower-tier SAP that provides a post-removal action verification sampling design for the BC Controlled Area, UPR-200-E-83. The radiological surveys and soil analytical data resulting from the implementation of this lower-tier SAP will be used to verify completeness of the removal actions in accordance with the unrestricted release provisions of DOE/RL-2006-50. These changes will be included in the next revision to DOE/RL-2006-50, *200-UR-1 Unplanned Release Waste Group Operable Unit Sampling and Analysis Plan* (Revision 0, Reissue, February, 2007). The addition of Appendix A and its Attachment 1, *Analytical Data for the BC Controlled Area*, were discussed in a meeting between RL, CHPRC, and Ecology on August 24, 2009. This CN is based on resolution and incorporation of Ecology comments received on August 26, 2009, comment incorporation discussions between Ecology and CHPRC on September 02-03, 2009, as well as follow-on comments received on September 17, 2009. Attachment 1 includes existing analytical data as a response to one of Ecology's comments.

**Approvals:**

| | | | | |
|---|---|---|---|---|
| OA Farabee<br>RL Project Manager | 10/6/09<br>Date | __ Approved | __ Disapproved | |
| LA Fort<br>Ecology Project Manager | 10/6/09<br>Date | ✓ Approved | __ Disapproved | |
| | Date | __ Approved | __ Disapproved | |

# Appendix A

# BC Controlled Area Post-Removal Action Verification Sampling and Analysis Plan

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# Terms

| | |
|---|---|
| BCCA | BC Controlled Area |
| BCG | biota concentration guideline |
| CERCLA | *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* |
| COC | chain of custody |
| COPC | contaminant of potential concern |
| Cs-137 | cesium-137 |
| DCGL | derived concentration guideline level |
| DOE | U.S. Department of Energy |
| DOE-RL | U.S. Department of Energy, Richland Operations Office |
| DQO | data quality objective |
| EPA | U.S. Environmental Protection Agency |
| NaI | sodium iodide |
| OU | operable unit |
| SAF | Sampling Authorization Form |
| SAP | sampling and analysis plan |
| Sr-90 | strontium-90 |

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# A1 Introduction

This appendix is a lower-tier sampling and analysis plan (SAP) that provides a post-removal action verification sampling design for the BC Controlled Area (BCCA), UPR-200-E-83. The radiological surveys and soil analytical data resulting from the implementation of this SAP will be used to verify completeness of the removal actions in accordance with the unrestricted release provisions of the main text, to ensure protection of potential human and ecological receptors.

## A1.1 Background

The Hanford Site is a U.S. Department of Energy (DOE) site located in southeastern Washington State near Richland, Washington (Figure A.1-1). The 200-UR-1 Operable Unit (OU) includes a waste site located outside the 200 Areas near the center of the Hanford Site, the BCCA. Most of this site, located south of the 200 East Area (in what is commonly called the 600 Area) is outside the 200 Area Core Zone boundary.

The BCCA is an unplanned release waste site that resulted from animal intrusion into the adjacent BC Cribs and Trenches. The BC Cribs and Trenches were constructed in 1955 and received radioactive discharges of liquid waste via underground pipeline from two general sources: the uranium recovery project and 300 Area wastes between 1956 and 1957 with the majority of the waste from the uranium recovery project. The 300 Area wastes were from the Plutonium Recycle Test Reactor and the laboratories. The primary radionuclides for the BC Cribs and Trenches were cesium-137 (Cs-137) and strontium-90 (Sr-90); others present in much less abundance were plutonium-239/240, europium-155, cobalt-60, and americium-241.

During the 1950s and 1960s, animal intrusion (burrowing) into the trenches was observed. The most likely mechanisms of contamination spread were uptake of contaminated salts by animals and resultant spread of fecal droppings and root uptake by tumbleweeds and resultant spread by breakup of those windblown weeds. In 1969, about 45,873 $m^3$ (60,000 $yd^3$) of sand and gravel were used to cover and stabilize the BC Trenches, thus halting most of the uptake of contamination from these source waste sites. At that time, the contaminated area covered approximately 10.3 $km^2$ (4 $mi^2$). Aerial surveys in 1973 and 1978 showed varying amounts of Cs-137 surface soil contamination, with the highest levels associated in areas immediately adjacent the BC Cribs and Trenches. By February 1997, surveys established the posted area to 34.7 $km^2$ (13.4 $mi^2$).

A soil removal action was initiated in the BCCA in 2008 to eliminate unacceptable risks to human health and ecological receptors from surface and near-surface Cs-137 and Sr-90 soil contamination at levels that range from approximately 0.32 to 3,420 pCi/g. The soil removal activities stopped temporarily in September 2008 and are planned to resume in the summer of 2009. The contaminated soil removal action was initiated in the northern part of the BCCA in Zone A (Figure A.1-2), but will extend into Zone B as well.

This SAP does not address the BC Cribs and Trenches, or BCCA Zones B or C. The BC Cribs and Trenches are separate waste sites being addressed in the 200-BC-1 OU. Zones B and C in the BCCA may be addressed in a later revision to this SAP, or in a separate document.

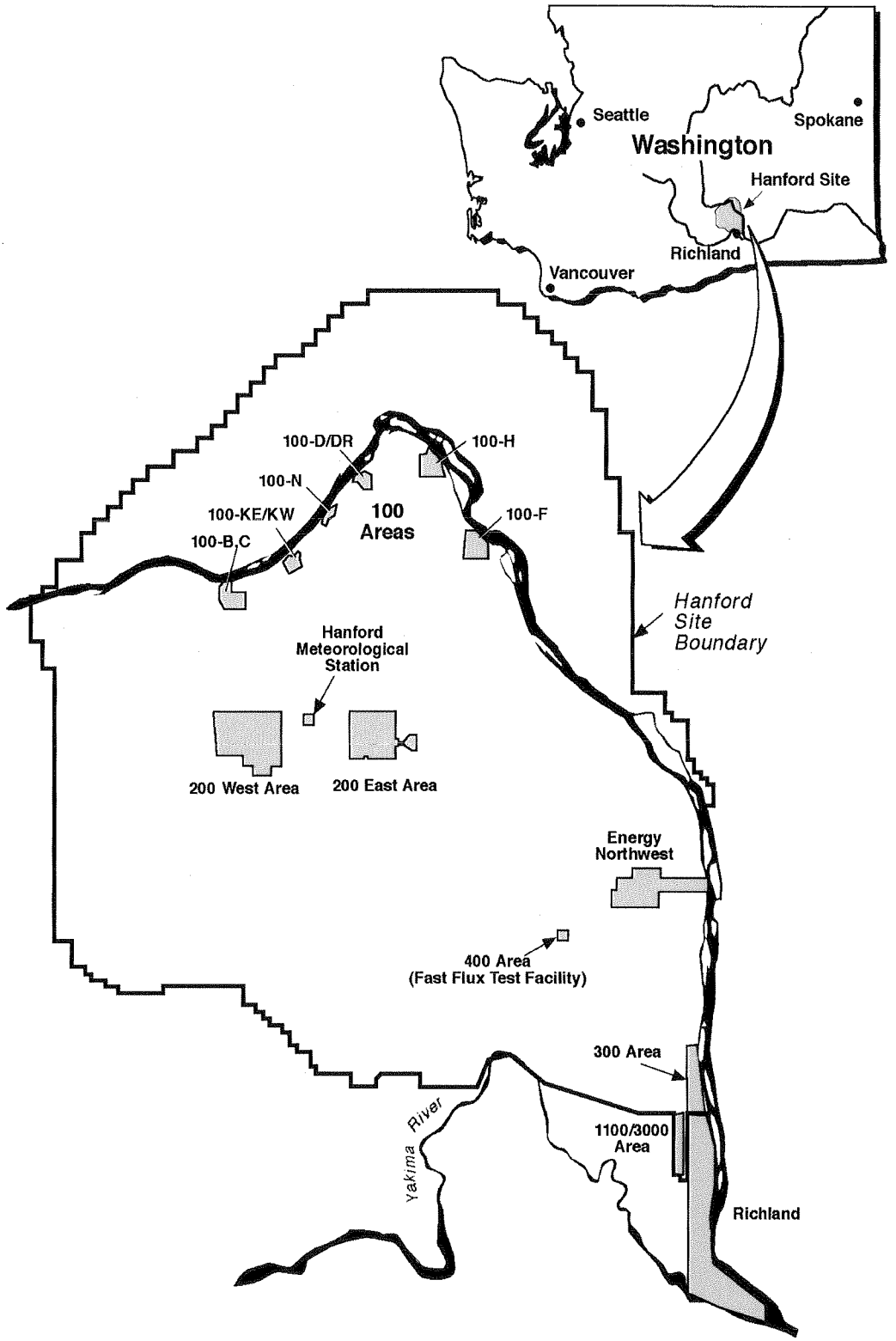


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Figure A.1-1. Hanford Site and Washington State

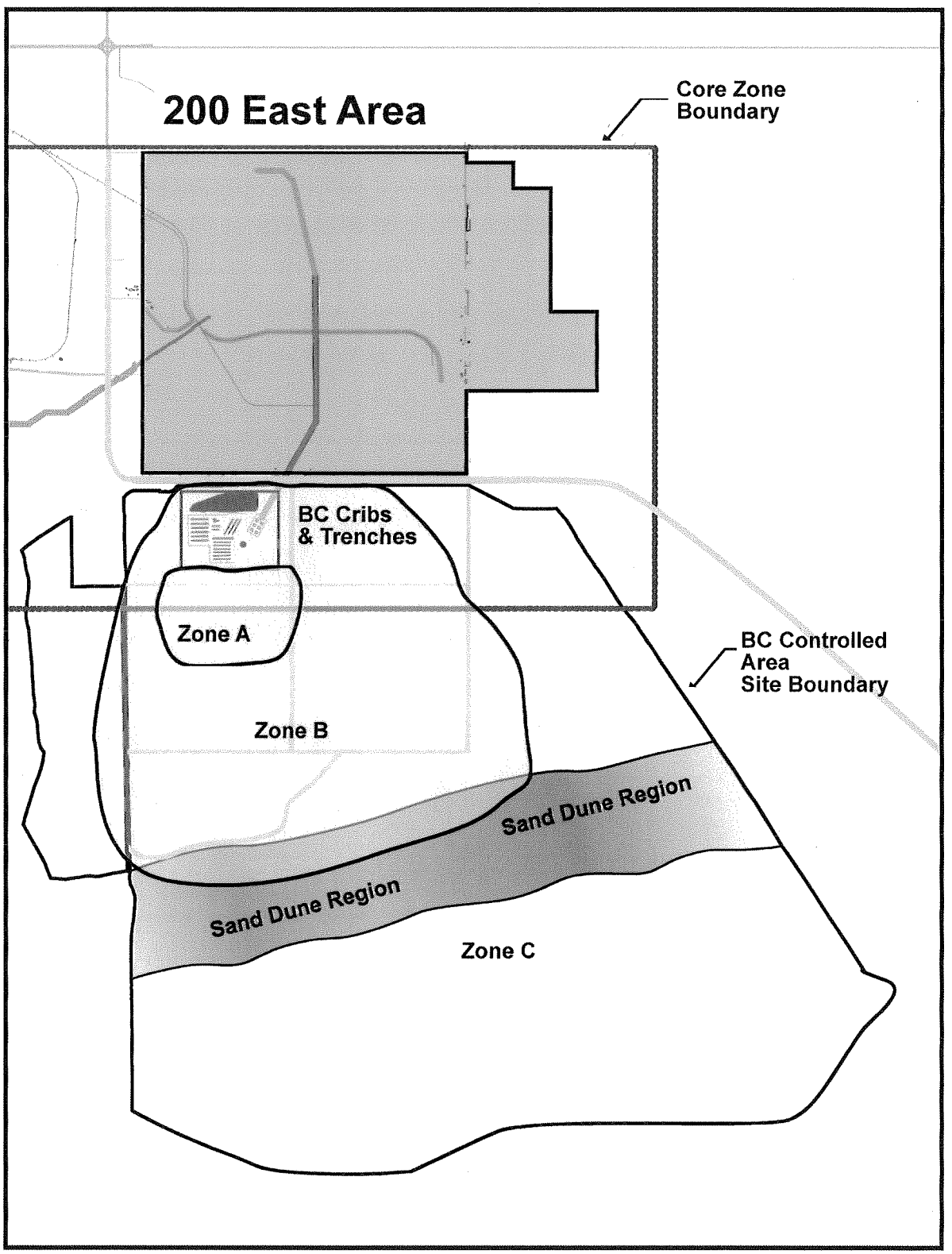


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Figure A.1-2. BCCA and Conceptual Site Model Zones

## A1.2 Regulatory History

In November 1989, the U.S. Environmental Protection Agency (EPA) placed the Hanford Site on the National Priorities List (40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan," Appendix B, "National Priorities List") pursuant to the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA), as amended by the *Superfund Amendments and Reauthorization Act of 1986*. Several CERCLA documents have been issued in support of the removal action, including DOE/RL-2008-22, *Removal Action Work Plan for the Northern Part of the BC Controlled Area (UPR-200-E-83) Located within the 200-UR-1 Operable Unit*; DOE/RL-2008-21, *Action Memorandum for the Non-Time-Critical Removal Action for the Northern Part of the BC Controlled Area (UPR-200-E-83)*; and DOE/RL-2007-51, *Engineering Evaluation/Cost Analysis for the Northern Part of the BC Controlled Area (UPR-200-E-83)*.

## A1.3 BCCA Contamination

An assessment of the nature and extent of contamination of the BCCA is described in greater detail in DOE/RL-2004-39, *200-UR-1 Unplanned Release Waste Group Operable Unit Remedial Investigation/Feasibility Study Work Plan* and WMP-18647, *Historical Site Assessment of the Surface Radioactive Contamination at the BC Controlled Area*, along with identification of supporting sources of historical information. In addition, recent analytical sampling of this area was conducted under the provisions of the main text and D&D-24693, *Sampling and Analysis Instruction for BC Controlled Area Soil Characterization*.

Historical and recent characterization information shows that within the northern part of the BCCA is a zone of continuous radiological contamination, confirmed by both radiological screening and analytical measurements. This continuous contamination zone is known as "Zone A." The remainder of the northern part of the BCCA is non-continuous radiological contamination, generally being more dispersed to the south. This section is known as "Zone B;" this area contains differing levels of contamination than Zone A. Zone B contains what is sometimes referred to as "hot spots" of contamination. Zone C is noncontaminated, except for rare instances. Figure A.1-2 provides the orientation and relative sizes of Zones A, B, and C.

Contamination in the northern part of the BCCA is believed to be bound to the soil; Cs-137 and Sr-90 are the primary radiological contaminants. Sampling in 1999 showed that strontium surface soil concentrations range from 0.32 to 3,420 pCi/g across the northern part of the BCCA. Cesium-137 surface soil concentrations range from 0.35 to 2,290 pCi/g across the area. Thus, the surface soil concentrations of Cs-137 and Sr-90, the two radionuclides likely to deliver the greatest dose to a recipient, vary widely across the northern part of the BCCA.

According to WMP-18647, soil depth profiles of activity also are expected to vary. Analytical data from calendar years 2005 and 2007 (summarized in Attachment 1 to this SAP) has shown the bulk of activity in places with contamination due to biological transport mechanisms (i.e., spread from animals) is primarily in the top 15 cm (6 in.) of soil, but may be at greater depth in isolated cases. For areas contaminated due to nonbiological transport mechanisms (i.e., windblown contamination), primarily in Zone B, the radionuclides probably are in the top 2.5 cm (1 in.) of soil, except for Sr-90, which is distributed down about 15 cm (6-in.), based on sample results. The top inch is expected to contain about 40 percent of the Sr-90. Depth profiles are discussed in greater detail in WMP-18647, Section 3.5.

Figure A.1-3 shows previous sampling locations and the results of an aerial radiological survey performed over the BCCA in 1973. Gamma radiation surveys of Zone A were performed in 2007 using hand-held sodium iodide (NaI) detectors. An isopleth survey map of those survey results is shown in Figure A.1-4.

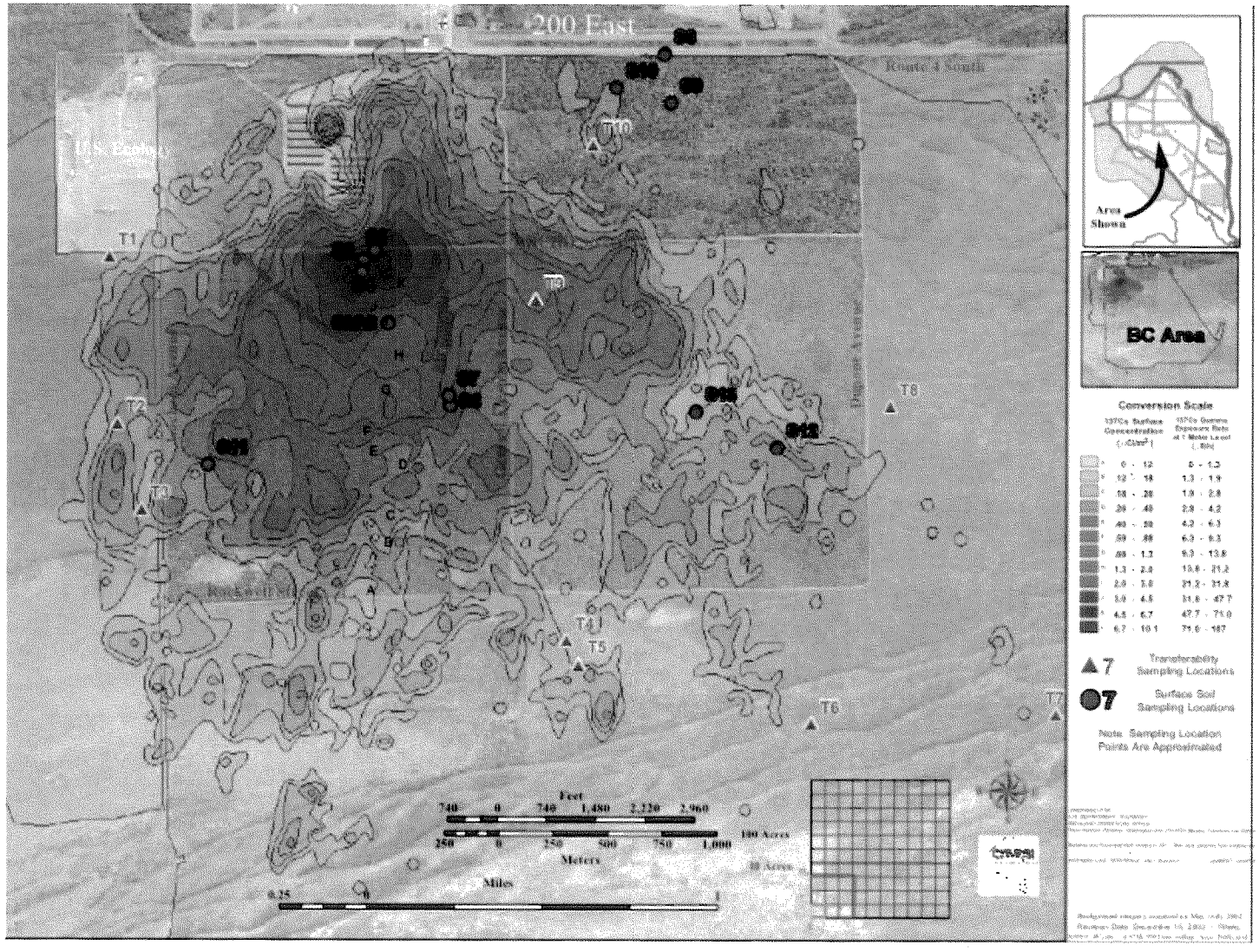
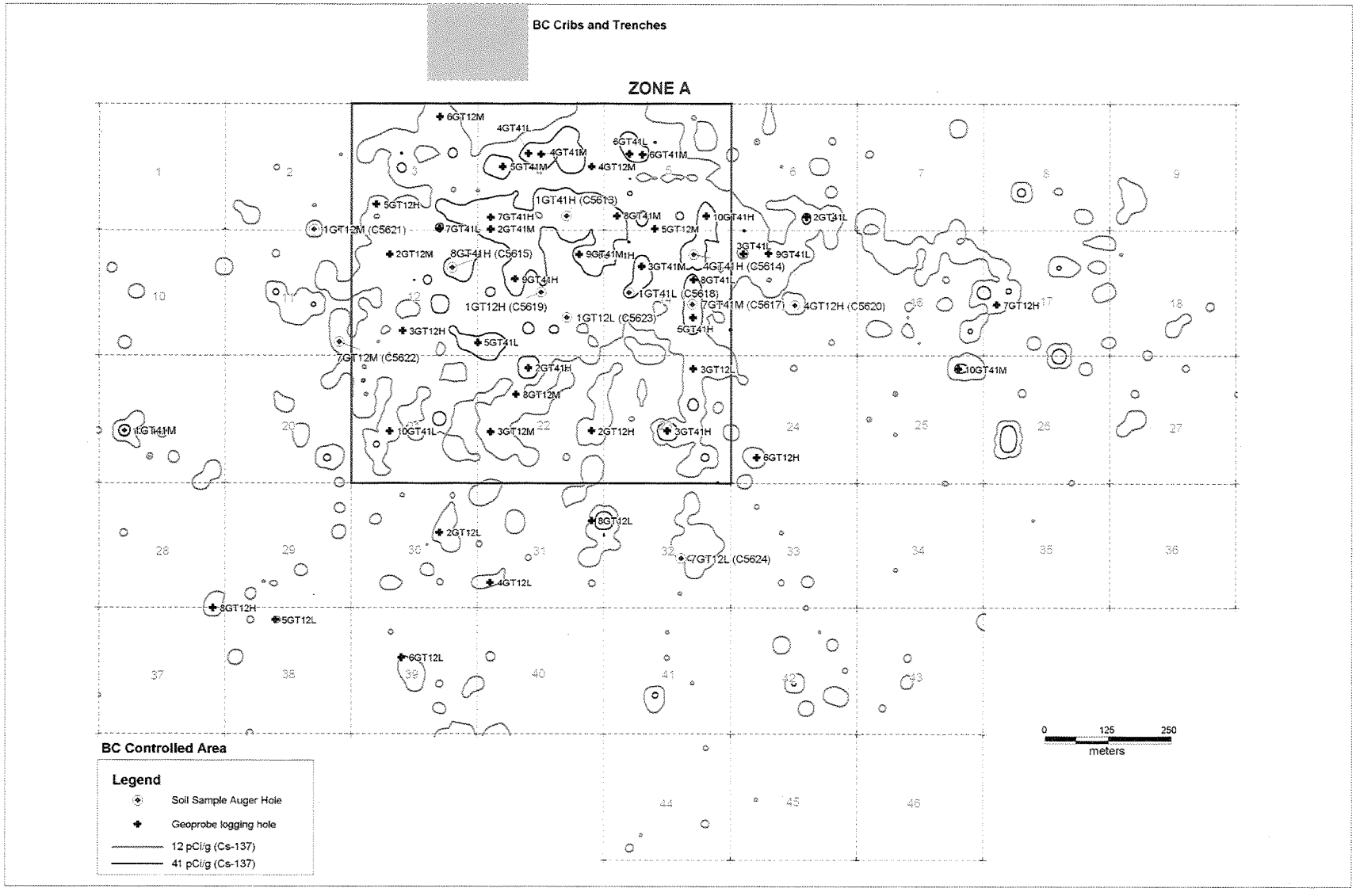



**Figure A.1-3. BCCA Surface Soil Radionuclide Sampling Locations and Iso-Exposure Contours from 1973 Aerial Survey for Cs-137**
(Source: WMP-18647)




Geoprobe is a registered trademark of Kejr, Inc., Salina, Kansas.

**Figure A.1-4. 2007 Map of Cs-137 Surface Contamination in BCCA Zone A**

## A1.4 Purpose

This SAP supports post-soil removal closeout survey and sampling activities in the northern part of the BCCA (Zone A) to ensure that residual contamination levels meet the established human-health and ecological cleanup levels.

## A1.5 Objectives

The objectives of this SAP include:

- Provide the methodology needed to guide contaminated soil removal operations in the northern part of the BCCA (Zone A).
- Provide a plan for obtaining environmental measurements after soil removal from the northern part of the BCCA (Zone A) to ensure that residual contamination levels meet established cleanup levels.

## A1.6 Scope

The scope of the BCCA surveys and sampling involve work activities in the northern part of the BCCA (Zone A) before and during soil removal actions. The specific activities include:

- Pre-excavation confirmation of the 2007 radiological surveys in BCCA Zone A
- BCCA Zone A post-excavation radiological surveys
- BCCA Zone A hot spot sampling
- BCCA Zone A verification radiological surveys.

## A1.7 Site Conditions

The BCCA is unused land described as a sagebrush-dominated shrub-steppe habitat. The plant community consists primarily of semiarid species, such as sagebrush, Sandberg's bluegrass, rabbitbrush, Indian ricegrass, and non-native species, especially cheatgrass. Fauna includes, but is not limited to, rabbits, mice, and coyotes. Further information on ecological resources is available in PNNL-6415, *Hanford Site National Environmental Policy Act (NEPA) Characterization*. Detailed information on the geology/hydrogeology is available in DOE/RL-2004-66, *Focused Feasibility Study for the BC Cribs and Trenches Area Waste Sites*. Extensive information on the contamination status of the BCCA is provided in WMP-18647.

## A1.8 Target Analytes

There are only two contaminants of potential concern (COPCs) in the BCCA. This was determined in DOE/RL-2005-30, *Central Plateau Terrestrial Ecological Sampling and Analysis Plan – Phase II*, based on evaluation of maximum soil concentrations of surface soil data from BHI-01319, *Data Assessment Report for the Sampling and Analysis Activities Conducted to Support Reposting the 200 B/C Contaminated Area*, Decisional Draft. The sum of fractions calculation for all radionuclides showed that Sr-90 represented 58 percent of the dose, and Cs-137 contributed 42 percent. All of the other radionuclides contributed less than 0.001 percent of the sum of the fractions and were therefore excluded from further consideration. The COPCs are listed in Table A.1-1.

**Table A.1-1. Target Analytes**

| Target Constituent/ Analyte/Technique | Justification/ Rationale |
|---|---|
| Cs-137 | COPC |
| Sr-90 | COPC |

## A1.9 Data Quality Features

A streamlined data quality objectives (DQOs) process was used to develop the sampling requirements for this SAP because prior agreements reached between the Washington State Department of Ecology and the U.S. Department of Energy, Richland Operations Office (DOE-RL) established a strong reliance on radiological surveys for post-removal action closeout of the BCCA. Through the streamlined approach, the detailed radiological survey and soil sampling protocols were finalized. This section summarizes the key features of the DQOs process.

### A1.9.1 Problem Definition

#### *A1.9.1.1 General Information*

The soil removal action in the BCCA that began in 2008 is scheduled to restart in the summer of 2009. The contaminated surface soils will be disposed in the Environmental Restoration Disposal Facility. Radiological surveys and soil samples will be performed after soil removal to verify attainment of the remedial action objectives.

#### *A1.9.1.2 Problem Statement*

To show that the removal action objectives are achieved during the contaminated soil removal action in the BCCA, data regarding radiological contamination levels in the residual soils are required.

#### *A1.9.1.3 Conceptual Site Model*

The conceptual site model for the BCCA is shown in Figure A.1-5. Details on BC Controlled Area source terms, pathways, and receptors are provided in WMP-25493, *Central Plateau Terrestrial Ecological Risk Assessment Data Quality Objectives Summary Report – Phase II.*

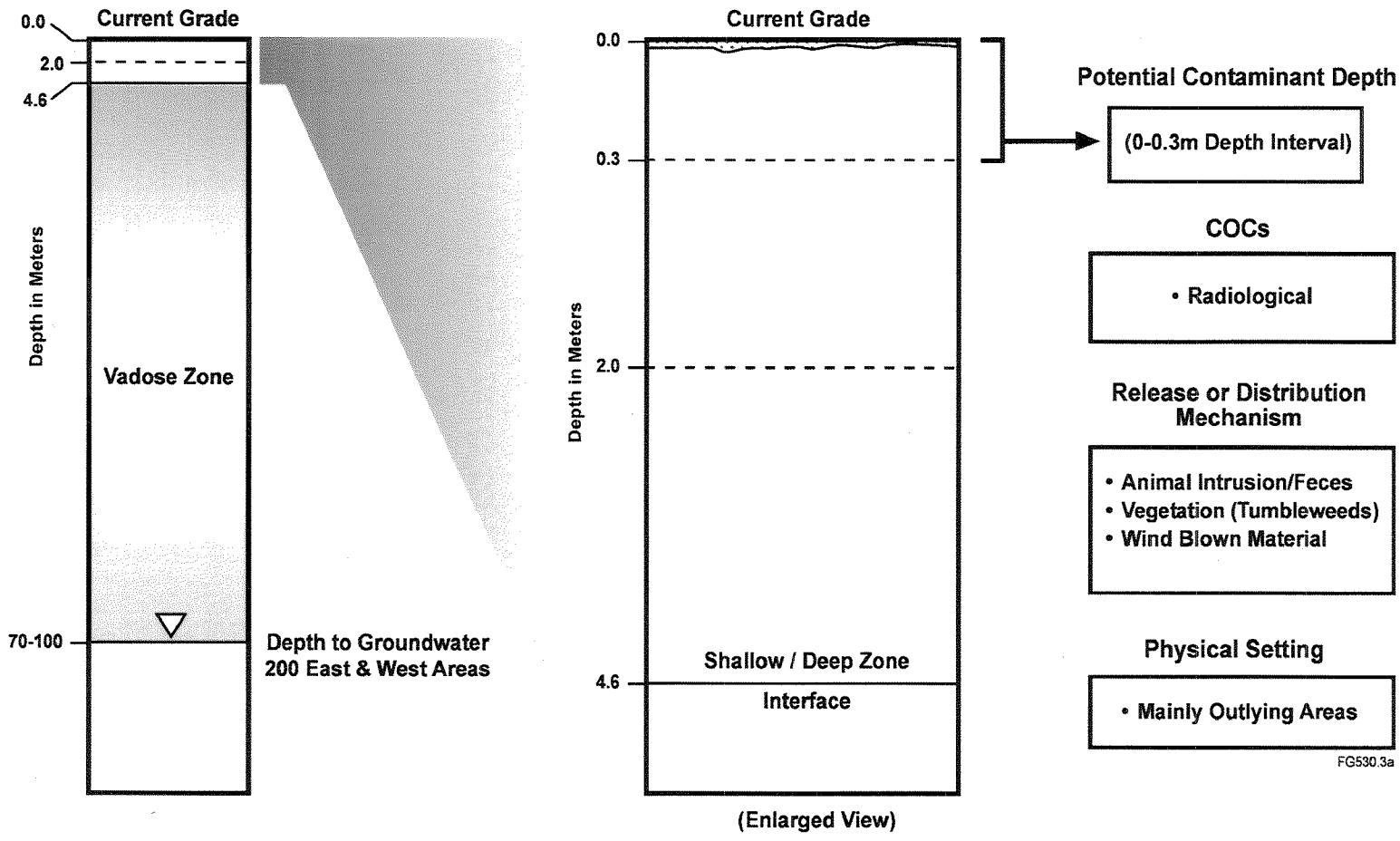
#### *A1.9.1.4 Decision Rules*

There is one decision rule for the post-soil removal BCCA closeout verification, presented in Table A.1-2.

**Table A.1-2. BCCA Decision Rule**

| Decision Rule |
|---|
| If the true mean (as estimated by the 95% upper confidence level on sample mean) activity of radionuclides within the shallow zone soil radiological surveys and/or samples results in a direct radiological exposure dose greater than or equal to 15 mrem/yr above background (based on the site contaminant distribution model and RESidual RADioactivity modeling), or the Tier 1 BCGs (based on RESRAD-Biota modeling) remove the radiologically contaminated soils. Otherwise, initiate waste site closeout. |

BCGs = biota concentration guidelines




COC = contaminant of concern

Figure A.1-5. BCCA Conceptual Site Model

# A2 Quality Assurance Project Plan

This SAP complies with the quality assurance provisions of the main text. Details are provided in the quality assurance project plan (Chapter 2 in the main text). Where discrepancies exist between this appendix and the quality assurance project plan in the main text, the default position is to use the information in this appendix.

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# A3 Field Sampling Plan

## A3.1 Sampling Objectives

This field sampling plan identifies and describes the sampling and analysis activities being conducted to support post-soil removal verification surveys and sampling of the BCCA. Table A.3-1 presents a summary of the Zone A survey and sampling design.

**Table A.3-1. Key Features of Zone A Survey and Sampling Design**

| Sampling Collection Methodology | Key Features of Design | Basis for Sampling Design | Sample Frequency | Depth Interval (ft) | QC | Analytes |
|---|---|---|---|---|---|---|
| **Pre-Excavation Confirmation of 2007 Radiological Survey Results** | | | | | | |
| Radiological survey | Survey before soil removal in 2 of the perimeter grids surveyed in 2007. | Confirm radiological contamination status since the 2007 survey. | Continuous survey in 2 of the 2007 survey grids | Surface | Pre- and post-survey instrument response checks | Cs-137 |
| *Zone A Soil Removal – Remove and Dispose of Zone A Radiologically Contaminated Soil* | | | | | | |
| **Post-Excavation Radiological Survey** | | | | | | |
| Gator radiological survey | Radiological survey all grids after soil removal | Radiological status of soil surface after soil removal lifts; identify hot spots. | Continuous survey using 2007 survey grids | Excavated Surface | Pre- and post-survey instrument response checks | Cs-137 |
| **Soil Sampling of Residual Hot Spots to Confirm Cs-137/Sr-90 Ratios** | | | | | | |
| Collect soil samples from excavated soil zone | Collect surface soil samples from post-excavation radiological survey hot spots. Use hand-held detectors to direct sampling. | Hot spots locations will confirm Sr/Cs ratios and Sr-90 activity. | 30 biased samples (10 high, 10 moderate, 10 low contami-nation, all >Cs-137 DCGL) | Excavated Surface | NA | Cs-137, Sr-90 |
| *Zone A Hot Spot Removal – Remove and Dispose of Residual Hot Spots in Zone A (radiological contaminated soil removal)* | | | | | | |
| **Verification Radiological Survey** | | | | | | |
| Radiological survey | Radiological survey hot spot locations after soil removal | Verify attainment of Cs-137 DCGLs. | 100% survey of excavated hot spots | Excavated Surface | NA | Cs-137 |
| Radiological survey | Static 100 $cm^2$ beta measurements | Confirm the absence of radiological contamination. | 95% confidence survey of selected locations[a] | Excavated Surface | NA | Cs-137 & Sr-90 |

**Table A.3-1. Key Features of Zone A Survey and Sampling Design**

| Sampling Collection Methodology | Key Features of Design | Basis for Sampling Design | Sample Frequency | Depth Interval (ft) | QC | Analytes |
|---|---|---|---|---|---|---|

a. Based on Visual Sampling Plan, using MARSSIM methodology to calculate the number of survey points with a 95% confidence level.

Gator Utility Vehicles is a trademark of John Deere & Company, Moline, Illinois.

NA = not applicable

QC= quality control

## A3.2 Documentation of Field Activities

Logbooks or data forms are required for field activities. Requirements for the logbook are provided in Section 2.9.2 of the main text. Data forms may be used to collect field information; however, the forms must follow the same requirements as the logbooks and must be referenced in the logbooks.

## A3.3 Survey and Sampling Design

Closure of Zone A will be accomplished via a combination of radiological surveys and soil sampling. Zone A is a documented surface contamination area with extensive areas exceeding established derived concentration guideline levels (DCGLs).

Because BCCA Zone A has widespread contamination, the surveys will be performed by a mobile radiological survey system that consists of NaI detectors, a laptop, and a Global Positioning System mounted on a six-wheel drive Gator. The surveys will be conducted in the roving mode, yielding continuous survey data. In addition, 30 samples will be collected from identified hot spots in the first remediated area. The samples will be collected using a judgmental survey design based on Cs-137 concentrations exceeding the DCGL. Ten samples will be collected from areas of elevated activity that are within 10 pCi of the Cs-137 DCGL, 10 samples from areas of elevated activity that exceed the Cs-137 DCGL by 10 to 20 pCi, and 10 samples from areas of elevated activity that exceed the Cs-137 DCGL by greater than 20 pCi. Samples will be analyzed for Cs-137 and Sr-90 concentrations. Results will be used to supplement the database used to calculate the Cs-137/Sr-90 ratio.

The NaI detectors effectively monitor the presence of gamma-emitting isotopes, the principal one being Cs-137. The detected Cs-137 activity will be used as a surrogate isotope to determine the residual Sr-90 activity present, based on the ratio of Sr-90/Cs-137 observed in characterization efforts (the main text and DOE/RL-2007-51). This approach, allowed in MARSSIM simplifies the closeout survey methodology and reduces costs. Through the DQOs process, it was determined that the radiological surveys would suffice for closure of the northern portion of the BCCA to the 15 mrem/yr above-background remedial action objective and the ecological protection biota concentration guidelines (BCG), given institutional controls of the area for at least 30 years. The institutional control period provides one half-life of radiological decay, which effectively doubles the established DCGLs.

Detailed information on the survey and soil sampling designs is provided in Section 3.5.

## A3.4 Calibration of Field Equipment

The field work supervisor is responsible for ensuring that all field equipment is calibrated appropriately. All onsite environmental instruments are calibrated in accordance with the manufacturer's operating

instructions, internal work requirements and processes, and/or work packages that provide direction for equipment calibration or verification of accuracy by analytical methods. The results from all instrument calibration activities are recorded in logbooks and/or work packages; either hard copy or electronic are acceptable.

Calibrations must be performed as follows:

- Before initial use of a field analytical measurement system
- At the frequency recommended by the manufacturer or procedure, or as required by regulations
- Upon failure to meet specified quality control (QC) criteria.

Field instrumentation, calibration, and quality assurance checks will be performed in accordance with the following:

- Calibration of radiological field instruments on the Hanford Site is performed under contract by Pacific Northwest National Laboratory, as specified in their its documentation.
- Daily source checks will be performed and documented for each instrument used to characterize areas that are under investigation. They will also be performed at the completion of the field activities. These checks will be made on standard materials, sufficiently similar to the matrix under consideration, that direct comparison of data can be made. Analysis times will be sufficient to establish detection efficiency and resolution.
- Standards used for calibration will be traceable to a nationally or internationally recognized standard agency source or measurement system, if available.

## A3.5 Sampling Locations and Frequency

The key features of the survey and sampling design are summarized in Table A.3-1.

### A3.5.1 Zone A

Gamma radiological surveys will be performed by a Mobile Gamma Assay System that consists of a 10 by 10 by 41 cm (4- by 4- by 16-in.) NaI detector, laptop, and Global Positioning System unit mounted on a six-wheel drive Gator. The surveys will be performed in a roving mode at a travel speed of ~1 m/s (3 ft/s), yielding continuous gamma spectral data, and providing 100 percent coverage of each of the 2,000 $m^2$ survey units.

Table A.3-2 lists the 15 mrem/yr cleanup levels for each isotope, the DCGLs established based on a institutional control period of 30 years, (approximately equal to 1 half-life of Cs-137 and Sr-90), surrogate DCGLs based on 2 isotopes and surrogate methodology described in MARSSIM, and detector minimum detectable concentration (MDC) values for the detection systems that will be used in the BCCA. The cleanup levels are reference values in pCi/g that result in an annual dose of 15 mrem/yr to a rural resident for each isotope calculated individually. The DCGLs are similar to cleanup levels, but adjusted by the sum-of-the-fractions methodology to account for the presence of multiple isotopes in the soil.

Characterization activities performed under the provisions of the main text and DOE/RL-2007-51 revealed a range of ratios of Sr-90 to Cs-137 activity in the northern BCCA. From this range of values, the 84th percentile ratio of 4:1 was selected for initial calculations of DCGLs. The DCGLs for Cs-137 and Sr-90 were developed using this ratio and adjusted to account for an institutional control period of 30 years (Table A.3-2).

The MDCs shown in Table A.3-2 are the MDC levels for the NaI detectors that will be used to support closeout verification. At the MDC value, and the 4:1 ratio of Sr-90/Cs-137, the estimated surrogate activity for Cs-137 is 1.9 pCi/g. Assuming the ratio of 4:1 for Sr:Cs, measured Cs-137 values greater than the surrogate DCGL result in residual Sr-90 concentrations greater than the adjusted DCGL for Sr-90. The derivation of the surrogate DCGL values is documented in SGRP-42635, *Data Quality Objectives Summary Report for the BC Controlled Area Closure Surveys*.

As shown in Table A.3-2, soil sampling will be conducted after the post-excavation radiological survey results have been determined. Thirty soil samples will be collected from detected hot spots with activity that exceeds the Cs-137 DCGL. The samples will be analyzed for Cs-137 and Sr-90 to confirm the Sr-90/Cs-137 ratios and to determine Sr-90 activity. Reported Cs-137 concentrations will be compared to Cs-137 concentrations determined by NaI field measurements.

**Table A.3-2. Cleanup Levels and DCGLs for BCCA Closeout Verification**

| COPC | Hanford Site Background[a] (pCi/g) | BCG (pCi/g) | 15 Mrem/yr Cleanup Level (pCi/g) | DCGLs (adjusted for institutional controls) (pCi/g) | Surrogate DCGL for Verification Survey[b] (pCi/g) | 4-by 4- by 16-in. NaI MDC (pCi/g) | 2- by 2-in. NaI MDC (pCi/g) |
|---|---|---|---|---|---|---|---|
| Cs-137 | 1.05 | 21 | 6.2 | 12.4 | 1.9 | 0.75 | 1.1 |
| Sr-90 | 0.178 | 23 | 4.5 | 9.0 | 7.6 | NA | NA |

a. Background values based on DOE/RL-96-12, *Hanford Site Background: Part 2, Soil Background for Radionuclides*, Table 5-1, with lognormal distribution of 90%.

b. Calculated based on MARSSIM (NUREG-1575, EPA/402/R-97/016, DOE/EH-0624, *Multi-Agency Radiation Survey and Site Investigation Manual*, Section 4.3.2).

BCG = biota concentration guideline

NA = not applicable

### A3.5.2 QC Sampling

Field and laboratory QC sampling requirements are summarized in Table A.3-3.

**Table A.3-3. Project QC Sampling Summary**

| QC Sample Type | Purpose | Frequency |
|---|---|---|
| | **Field QC** | |
| Equipment blanks | Evaluate potential for cross contamination[a] | 1 sample |
| Field duplicates | Precision of all steps after acquisition | 5%, with a minimum of one sample |
| Field splits | Indicates inter-laboratory variability | 5%, with a minimum of one sample |
| | **Laboratory QC** | |
| Method blank | Laboratory contamination | 1 per batch |

**Table A.3-3. Project QC Sampling Summary**

| QC Sample Type | Purpose | Frequency |
|---|---|---|
| Matrix duplicates | Laboratory reproducibility | b |
| Matrix spikes | Matrix effect and Laboratory accuracy | b |
| Matrix spike duplicates | Laboratory reproducibility/accuracy | b |
| Laboratory control samples | Method accuracy | 1 per batch |
| Surrogates | Recovery/yield | b |

a. Only applies for reusable sampling equipment.

b. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

### A3.5.3 Corrective Actions and Deviations for Sampling Activities

The project manager or analytical lead must document all deviations from procedures or other problems pertaining to sample collection, chain-of-custody (COC) forms, target analytes, sample transport, or noncompliant monitoring. Examples of deviations include samples that cannot be collected because of field conditions, changes in sample locations because of physical obstructions, or additions of sample depth(s).

As appropriate, such deviations or problems will be documented in the field logbook or on nonconformance report forms in accordance with internal corrective action procedures. The project manager or field technical representative (or designee) will be responsible for communicating field corrective-action requirements and ensuring immediate corrective actions are applied to field activities.

More significant changes in sample locations that do not affect DQOs will require notification and approval of the project manager. Changes to sample locations that could result in impacts to meeting the DQOs will require concurrence with DOE-RL and regulatory project managers. Changes to the SAP will be handled as described in Section 2.6.1 of the main text.

### A3.5.4 Decontamination of Sampling Equipment

To prevent contamination of the samples, care should be taken to use clean equipment for each sampling activity.

Special care should be taken to avoid the following common ways in which cross contamination or background contamination may compromise the samples:

- Improperly storing or transporting sampling equipment and sample containers
- Contaminating the equipment or sample bottles by setting the equipment/sample bottle on or near potential contamination sources (e.g., uncovered ground)
- Handling bottles or equipment with dirty hands or gloves
- Improperly decontaminating equipment before sampling or between sampling events.

## A3.6 Sampling Procedures

Samples will be collected in accordance with standard procedures. Sample preservation, containers, and holding times are presented in Table A.3-4.

**Table A.3-4. Sample Preservation, Container, and Holding Time Guidelines**

| Analytes | Analytical Priority | Matrix | Container | Volume* | Preservation | Packing Requirement | Holding Time |
|---|---|---|---|---|---|---|---|
| Cs-137 | 1 | Soil | Square poly | 500 mL | None | None | 6 months |
| Sr-89/90—total rad. Sr | 1 | Soil | G/P | 10 g | None | None | 6 months |

*Based on minimum QC requirements.

G = glass

P = plastic

## A3.7 Sample Handling

### A3.7.1 Packaging

All field sample handling, shipping, and custody requirements will be consistent with established procedures. Soil sample containers used for Cs-137 in this SAP include 500 mL food grade (Food and Drug Administration) poly bottles. The soils for Sr-90 analysis will use 10 g glass/poly bottles, which are cleaned to EPA specifications before use in sample collection. The Radiological Engineering organization will screen samples for radiological levels. This information and other data will be used to select proper packaging, marking, labeling, and shipping paperwork and verify the sample can be received by the analytical laboratory in accordance with the laboratory's acceptance criteria. If the sample dose rate exceeds laboratory acceptance criteria, options will be evaluated with the field work supervisor. Container types and volumes are identified in Table A.3-4. The final types and volumes will be indicated on the field task instruction prepared by the sampling coordinator.

### A3.7.2 Container Labeling and Sample Documentation

A sampling and data tracking database is used to track the samples from the point of collection through the laboratory analysis process. When a project plans sampling and generates a SAP, the Sample and Data Management team generates a Sampling Authorization Form (SAF) to allow for samples to be collected and analyzed. Each SAF has a unique number and is associated with a project's SAP. The sampling and data tracking database generates several forms for tracking sampling documentation. These include a soil/other solids sampling report for each set of samples and accompanying COC forms. The sample location, depth, and corresponding sample numbers also are documented in the sampler's controlled field logbook. A custody seal (e.g., evidence tape) is affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering as required by procedure.

Each sample container will be labeled with the following information on firmly affixed, water-resistant labels (generated by the sampling and data tracking database for most samples):

- SAF number
- Sample collection date/time, well identification, and interval sampled
- Analysis required

- Preservation method (if applicable).

In addition to the information requirements stated above, sample records also must include the following information:

- COC (each COC has a unique number associated with the SAF under which it was generated)
  - Analysis(ses) required
  - Number and size of bottles for each analysis
  - Preservation methods for each analysis
  - Source of sample (well number, sample collection depth [feet below ground surface], etc.)
  - Matrix (sediment or water)
  - Any special instructions or hazards related to the samples.
- Solids sampling report (each solids sampling report has a unique number associated with the SAF under which it was generated)
  - Radiological readings
  - Industrial hygiene readings
  - Sampling conditions (weather, etc.)
  - Any other relevant comments pertaining to sample collection activities.

### A3.7.3 Sample Custody

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure sample integrity throughout the analytical process. The custody of samples will be maintained from the time the samples are collected until the ultimate disposal of the samples, as appropriate. A custody seal (e.g., evidence tape) is affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering. A COC record will be initiated in the field at the time of sampling and will accompany each set of samples shipped to any laboratory.

Shipping requirements will determine how sample containers are prepared for shipment. The analyses requested for each sample will be indicated on the accompanying COC form. Chain-of-custody procedures will be followed throughout sample collection, transfer, analysis, and disposal to ensure sample integrity is maintained. Each time the responsibility changes for the sample custody, the new and previous custodians will sign the record and note the date and time. The sampler will make a copy of the signed record before sample shipment and will transmit the copy to the Sample and Data Management organization within 48 hours of shipping.

The following information is required on a completed COC form:

- Project name
- Signature of sampler
- Unique sample number
- Well identification and sample depth
- Date and time of collection
- Matrix
- Preservatives
- Signatures of individual involved in sample transfer
- Requested analyses (or references thereto).

### A3.7.4 Sample Transportation

Sample transportation will be in compliance with applicable regulations for packaging, marking, labeling, and shipping hazardous materials, hazardous substances, and hazardous waste as mandated by the U.S. Department of Transportation (49 CFR, "Transportation"), in association with the International Air Transportation Authority, DOE requirements, and applicable program-specific implementing procedures.

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# A4 Health and Safety

All field operations will be performed in accordance with CH2M HILL Hanford Group, Inc., health and safety requirements, outlined in an approved project-specific health and safety plan. In addition, a work control package will be prepared to further control site operations. This work package will include an activity hazard analysis and reference applicable radiological control requirements, if required. Radiological contamination is expected to be encountered during performance of the well drilling and sampling activities.

The sampling processes and associated activities will take into consideration exposure reduction and contamination control techniques (e.g., as low as reasonably achievable and Integrated Safety Management System) that will minimize chemical exposure to the sampling team.

Health and safety personnel will use data collected during the activities addressed in this SAP as input to determine exposure levels to workers, and to conduct health and safety assessments during all field activities, in accordance with the health and safety plan.

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# A5 Management of Waste

All waste generated by well drilling, well construction, sampling activities, and well development will be managed in accordance with the approved waste management plan (DOE/RL-2008-22). Disposition of drill cutting, purge water, and miscellaneous solid waste will be conducted in accordance with the project-specific waste DQOs.

Unused samples and associated laboratory waste for the analysis will be dispositioned in accordance with the laboratory contract and agreements for return to the project site. Pursuant to 40 CFR 300.440, "Procedures for Planning and Implementing Off-Site Response Actions," DOE-RL project manager approval is required before returning unused samples or waste from offsite laboratories (as applicable).

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# A6 References

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# Attachment 1

## Analytical Data for the BC Controlled Area

### Radionuclide Analytical Data

The radionuclide data that follows was obtained from sampling and analysis of soil samples from the BC Controlled Area (UPR-200-E-83) during fiscal year (FY) 2007. Sampling and analysis requirements are described in DOE/RL-2006-50, *200-UR-1 Unplanned Release Waste Group Operable Unit Sampling and Analysis Plan,* Rev 0 Reissue. The analytical results associated with the samples taken from direct push boreholes (C5613, C5614, C5615, C5616, C5617, C5618, C5619, C5620, C5621, C5622, C5623, and C5624).

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| C5613 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 16-May-07 | B1MRT8 | Cesium-137 | 1820 | pCi/g | | | 1 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 16-May-07 | B1MRT8 | Strontium-90 | 4700 | pCi/g | | | 11 |
| | QC Sample (Field Duplicate) Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 24-Apr-07 | B1MRT9 | Cesium-137 | 600 | pCi/g | | | 0.27 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 26-Apr-07 | B1MRT9 | Strontium-90 | 1100 | pCi/g | | | 0.34 |
| | Primary Sample Results | 0.5 | 1.0 | F07-029 | WSCF20070677 | 22-Mar-07 | 24-Apr-07 | B1MRV0 | Cesium-137 | 58.5 | pCi/g | | | 0.15 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070677 | 22-Mar-07 | 26-Apr-07 | B1MRV0 | Strontium-90 | 160 | pCi/g | | | 0.31 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 24-Apr-07 | B1MRV1 | Cesium-137 | 52.4 | pCi/g | | | 0.13 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 26-Apr-07 | B1MRV1 | Strontium-90 | 57 | pCi/g | | | 0.32 |
| | | 6 | 8 | F07-029 | WSCF20071942 | 22-Mar-07 | 1-Nov-07 | B1MRV2 | Cesium-137 | 0.562 | pCi/g | | | 0.009 |
| | | 6 | 8 | F07-029 | WSCF20071942 | 22-Mar-07 | 9-Nov-07 | B1MRV2 | Strontium-90 | 0.61 | pCi/g | | J | 0.32 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 22-Mar-07 | 12-Feb-08 | B1MRV3 | Cesium-137 | 0.0994 | pCi/g | | J | 0.0093 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 22-Mar-07 | 14-Feb-08 | B1MRV3 | Strontium-90 | 0.19 | pCi/g | U | | 0.36 |
| | | | | | | | | | | | | | | |
| | Primary | 0.0 | 0.5 | F07-029 | WSCF20071942 | 26-Mar-07 | 1-Nov-07 | B1MRV4 | Cesium-137 | 74.1 | pCi/g | | J | 0.076 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| C5614 | Sample Results | | | | | | | | | | | | | |
| | | 0.0 | 0.5 | F07-029 | WSCF20071942 | 26-Mar-07 | 6-Nov-07 | B1MRV4 | Strontium-90 | 37 | pCi/g | | J | 0.29 |
| | QC Sample (Field Duplicate) Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 26-Mar-07 | 24-Apr-07 | B1MRV5 | Cesium-137 | 916 | pCi/g | | | 0.61 |
| C5614 | QC Sample (Field Duplicate) Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 26-Mar-07 | 26-Apr-07 | B1MRV5 | Strontium-90 | 510 | pCi/g | | | 0.36 |
| | Primary Sample Results | 0.5 | 1.0 | F07-029 | WSCF20070613 | 26-Mar-07 | 18-Apr-07 | B1MRV6 | Cesium-137 | 3.64 | pCi/g | | | 0.011 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 26-Mar-07 | 19-Apr-07 | B1MRV6 | Strontium-90 | 10 | pCi/g | | | 0.37 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 26-Mar-07 | 19-Apr-07 | B1MRV7 | Cesium-137 | 0.0906 | pCi/g | | | 0.012 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 26-Mar-07 | 23-Apr-07 | B1MRV7 | Strontium-90 | 0.46 | pCi/g | | | 0.39 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 26-Mar-07 | 18-Apr-07 | B1MRV8 | Cesium-137 | 0.0129 | pCi/g | | | 0.0097 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 26-Mar-07 | 19-Apr-07 | B1MRV8 | Strontium-90 | -0.88 | pCi/g | U | | 0.38 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 26-Mar-07 | 1-Nov-07 | B1MRV9 | Cesium-137 | 0.0158 | pCi/g | | J | 0.015 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 26-Mar-07 | 7-Nov-07 | B1MRV9 | Strontium-90 | 0.35 | pCi/g | | J | 0.34 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| C5615 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 20-Mar-07 | 24-Apr-07 | B1MRW2 | Cesium-137 | 54.1 | pCi/g | | | 0.16 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 20-Mar-07 | 26-Apr-07 | B1MRW2 | Strontium-90 | 68 | pCi/g | | | 0.32 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 17-Apr-07 | B1MRW3 | Cesium-137 | 7.22 | pCi/g | | | 0.013 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 18-Apr-07 | B1MRW3 | Strontium-90 | 15 | pCi/g | | | 0.38 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 17-Apr-07 | B1MRW4 | Cesium-137 | 0.78 | pCi/g | | | 0.011 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 18-Apr-07 | B1MRW4 | Strontium-90 | 0.68 | pCi/g | | | 0.38 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MRW5 | Cesium-137 | 0.000155 | pCi/g | U | | 0.011 |
| C5615 | Primary Sample Results | 6.0 | 7.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 18-Apr-07 | B1MRW5 | Strontium-90 | 0.28 | pCi/g | U | | 0.38 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071941 | 21-Mar-07 | 1-Nov-07 | B1MRW6 | Strontium-90 | -0.35 | pCi/g | U | J | 0.29 |
| | | | | | | | | | | | | | | |
| | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 15-Mar-07 | 24-Apr-07 | B1MRW7 | Cesium-137 | 108 | pCi/g | | | 0.23 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 15-Mar-07 | 10-May-07 | B1MRW7 | Strontium-90 | 280 | pCi/g | | | 0.47 |
| | QC Sample (Field Duplicate) | 0.0 | 0.5 | F07-029 | WSCF20070677 | 15-Mar-07 | 24-Apr-07 | B1MRW8 | Cesium-137 | 115 | pCi/g | | | 0.23 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| | Results | | | | | | | | | | | | | |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 15-Mar-07 | 26-Apr-07 | B1MRW8 | Strontium-90 | 220 | pCi/g | | | 0.35 |
| C5616 | Primary Sample Results | 0.5 | 1.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 30-Mar-07 | B1MRW9 | Cesium-137 | 4.79 | pCi/g | | | 0.012 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 3-Apr-07 | B1MRW9 | Strontium-90 | 32 | pCi/g | | | 0.34 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 29-Mar-07 | B1MRX0 | Cesium-137 | 1.31 | pCi/g | | | 0.0089 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 3-Apr-07 | B1MRX0 | Strontium-90 | 0.84 | pCi/g | | | 0.37 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 2-Apr-07 | B1MRX1 | Cesium-137 | 0.879 | pCi/g | | | 0.01 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 3-Apr-07 | B1MRX1 | Strontium-90 | 1.7 | pCi/g | | | 0.33 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 19-Mar-07 | 14-Feb-08 | B1MRX2 | Cesium-137 | 0.00487 | pCi/g | U | | 0.012 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 19-Mar-07 | 12-Feb-08 | B1MRX2 | Strontium-90 | -0.004 | pCi/g | U | | 0.36 |
| | | | | | | | | | | | | | | |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 26-Mar-07 | 24-Apr-07 | B1MRX6 | Cesium-137 | 136 | pCi/g | | | 0.21 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 26-Mar-07 | 26-Apr-07 | B1MRX6 | Strontium-90 | 160 | pCi/g | | | 0.39 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| C5617 | Primary Sample Results | 0.5 | 1.0 | F07-029 | WSCF20070677 | 26-Mar-07 | 24-Apr-07 | B1MRX7 | Cesium-137 | 20.3 | pCi/g | | | 0.12 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070677 | 26-Mar-07 | 26-Apr-07 | B1MRX7 | Strontium-90 | 76 | pCi/g | | | 0.34 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 26-Mar-07 | 18-Apr-07 | B1MRX8 | Cesium-137 | 1.52 | pCi/g | | | 0.011 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 26-Mar-07 | 19-Apr-07 | B1MRX8 | Strontium-90 | -0.16 | pCi/g | U | | 0.37 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 26-Mar-07 | 18-Apr-07 | B1MRX9 | Cesium-137 | 0.676 | pCi/g | | | 0.01 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 26-Mar-07 | 19-Apr-07 | B1MRX9 | Strontium-90 | -0.72 | pCi/g | U | | 0.38 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 26-Mar-07 | 7-Nov-07 | B1MRY0 | Cesium-137 | 0.0268 | pCi/g | | J | 0.01 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 26-Mar-07 | 1-Nov-07 | B1MRY0 | Strontium-90 | -0.77 | pCi/g | U | J | 0.29 |
| | | | | | | | | | | | | | | |
| C5618 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 24-Apr-07 | B1MRY1 | Cesium-137 | 118 | pCi/g | | | 0.19 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 10-May-07 | B1MRY1 | Strontium-90 | 540 | pCi/g | | | 0.55 |
| | QC Sample (Field Duplicate) Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 24-Apr-07 | B1MRY2 | Cesium-137 | 32.6 | pCi/g | | | 0.13 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 22-Mar-07 | 14-May-07 | B1MRY2 | Strontium-90 | 540 | pCi/g | | | 0.32 |
| C5618 | Primary Sample Results | 0.5 | 1.0 | F07-029 | WSCF20070677 | 22-Mar-07 | 24-Apr-07 | B1MRY3 | Cesium-137 | 6.29 | pCi/g | | | 0.094 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070677 | 22-Mar-07 | 14-May-07 | B1MRY3 | Strontium-90 | 41 | pCi/g | | | 0.34 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 22-Mar-07 | 19-Apr-07 | B1MRY4 | Cesium-137 | 12 | pCi/g | | | 0.016 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 22-Mar-07 | 23-Apr-07 | B1MRY4 | Strontium-90 | 12 | pCi/g | | | 0.41 |
| | | 6 | 8 | F07-029 | WSCF20070613 | 22-Mar-07 | 19-Apr-07 | B1MRY5 | Cesium-137 | 3.45 | pCi/g | | | 0.01 |
| | | 6 | 8 | F07-029 | WSCF20070613 | 22-Mar-07 | 23-Apr-07 | B1MRY5 | Strontium-90 | 0.35 | pCi/g | | | 0.34 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 22-Mar-07 | 8-Nov-07 | B1MRY6 | Cesium-137 | 0.119 | pCi/g | | J | 0.009 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 22-Mar-07 | 1-Nov-07 | B1MRY6 | Strontium-90 | -1.1 | pCi/g | U | J | 0.3 |
| | | | | | | | | | | | | | | |
| C5619 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 21-Mar-07 | 24-Apr-07 | B1MTH9 | Cesium-137 | 8.88 | pCi/g | | | 0.013 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 21-Mar-07 | 14-May-07 | B1MTH9 | Strontium-90 | 23 | pCi/g | | | 0.37 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 13-Apr-07 | B1MTJ0 | Cesium-137 | 0.339 | pCi/g | | | 0.01 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTJ0 | Strontium-90 | 2.8 | pCi/g | | | 0.35 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 21-Mar-07 | 16-Apr-07 | B1MTJ1 | Cesium-137 | 0.438 | pCi/g | | | 0.01 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTJ1 | Strontium-90 | 1.9 | pCi/g | | | 0.37 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 13-Apr-07 | B1MTJ2 | Cesium-137 | 0.0339 | pCi/g | | | 0.01 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTJ2 | Strontium-90 | -0.21 | pCi/g | U | | 0.32 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 21-Mar-07 | 1-Nov-07 | B1MTJ3 | Cesium-137 | 0.00827 | pCi/g | U | UJ | 0.0098 |
| C5619 | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 21-Mar-07 | 9-Nov-07 | B1MTJ3 | Strontium-90 | -0.015 | pCi/g | U | J | 0.35 |
| | | | | | | | | | | | | | | |
| C5620 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070677 | 27-Mar-07 | 24-Apr-07 | B1MTJ4 | Cesium-137 | 224 | pCi/g | | | 0.27 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070677 | 27-Mar-07 | 14-May-07 | B1MTJ4 | Strontium-90 | 200 | pCi/g | | | 0.32 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070677 | 20-Mar-07 | 24-Apr-07 | B1MTJ5 | Cesium-137 | 10.2 | pCi/g | | | 0.098 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070677 | 20-Mar-07 | 10-May-07 | B1MTJ5 | Strontium-90 | 8.2 | pCi/g | | | 0.48 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070677 | 27-Mar-07 | 24-Apr-07 | B1MTJ6 | Cesium-137 | 0.1 | pCi/g | | | 0.0088 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070677 | 27-Mar-07 | 14-May-07 | B1MTJ6 | Strontium-90 | 0.16 | pCi/g | U | | 0.38 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070677 | 27-Mar-07 | 25-Apr-07 | B1MTJ7 | Cesium-137 | 12.2 | pCi/g | | | 0.013 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070677 | 27-Mar-07 | 1-May-07 | B1MTJ7 | Strontium-90 | 2.7 | pCi/g | | | 0.47 |
| | Contingent Sample | 9.0 | 10.0 | F07-029 | WSCF20071942 | 27-Mar-07 | 9-Nov-07 | B1MTJ8 | Cesium-137 | 1.22 | pCi/g | | J | 0.013 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Results[a] | Top | Btm | | | | | | | | | | | |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 27-Mar-07 | 1-Nov-07 | B1MTJ8 | Strontium-90 | -0.24 | pCi/g | U | J | 0.35 |
| | | | | | | | | | | | | | | |
| C5621 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070613 | 20-Mar-07 | 17-Apr-07 | B1MTJ9 | Cesium-137 | 11.6 | pCi/g | | | 0.015 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070613 | 20-Mar-07 | 18-Apr-07 | B1MTJ9 | Strontium-90 | 5.6 | pCi/g | | | 0.36 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTK0 | Cesium-137 | 0.546 | pCi/g | | | 0.012 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 18-Apr-07 | B1MTK0 | Strontium-90 | 1.5 | pCi/g | | | 0.36 |
| C5621 | Primary Sample Results | 3.0 | 4.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 17-Apr-07 | B1MTK1 | Cesium-137 | 0.197 | pCi/g | | | 0.01 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 19-Apr-07 | B1MTK1 | Strontium-90 | 0.21 | pCi/g | | | 0.39 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 18-Apr-07 | B1MTK2 | Cesium-137 | 0.000454 | pCi/g | U | | 0.008 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 20-Mar-07 | 19-Apr-07 | B1MTK2 | Strontium-90 | -0.044 | pCi/g | U | | 0.37 |
| | | | | | | | | | | | | | | |
| | | 0.0 | 0.5 | F07-029 | WSCF20070491 | 19-Mar-07 | 30-Mar-07 | B1MTK4 | Cesium-137 | 0.812 | pCi/g | | | 0.012 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070491 | 19-Mar-07 | 3-Apr-07 | B1MTK4 | Strontium-90 | 3.3 | pCi/g | | | 0.36 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070491 | 19-Mar-07 | 2-Apr-07 | B1MTK5 | Cesium-137 | 3.13 | pCi/g | | | 0.019 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| C5622 | Primary Sample Results | 0.5 | 1.0 | F07-029 | WSCF20070491 | 19-Mar-07 | 3-Apr-07 | B1MTK5 | Strontium-90 | 19 | pCi/g | | | 0.35 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070491 | 19-Mar-07 | 30-Mar-07 | B1MTK6 | Cesium-137 | 0.104 | pCi/g | | | 0.01 |
| | | 3.0 | 4.0 | F07-029 | WSCF20070491 | 19-Mar-07 | 3-Apr-07 | B1MTK6 | Strontium-90 | 0.89 | pCi/g | | | 0.34 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070491 | 20-Mar-07 | 30-Mar-07 | B1MTK7 | Cesium-137 | 0.0115 | pCi/g | | | 0.0087 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070491 | 20-Mar-07 | 3-Apr-07 | B1MTK7 | Strontium-90 | 0.3 | pCi/g | U | | 0.34 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 20-Mar-07 | 12-Feb-08 | B1MTK8 | Cesium-137 | 0.00987 | pCi/g | U | | 0.012 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 20-Mar-07 | 14-Feb-08 | B1MTK8 | Strontium-90 | 0.930 | pCi/g | | | 0.44 |
| C5623 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070613 | 21-Mar-07 | 16-Apr-07 | B1MTK9 | Cesium-137 | 2.39 | pCi/g | | | 0.011 |
| C5623 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTK9 | Strontium-90 | 2.4 | pCi/g | | | 0.36 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTL0 | Cesium-137 | 0.324 | pCi/g | | | 0.0092 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070613 | 21-Mar-07 | 20-Apr-07 | B1MTL0 | Strontium-90 | 0.72 | pCi/g | | | 0.37 |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 21-Mar-07 | 16-Apr-07 | B1MTL1 | Cesium-137 | 0.168 | pCi/g | | | 0.011 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| | | 2.5 | 3.5 | F07-029 | WSCF20070613 | 21-Mar-07 | 17-Apr-07 | B1MTL1 | Strontium-90 | 0.24 | pCi/g | U | | 0.36 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 22-Mar-07 | 16-Apr-07 | B1MTL2 | Cesium-137 | 0.02 | pCi/g | | | 0.0085 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070613 | 22-Mar-07 | 18-Apr-07 | B1MTL2 | Strontium-90 | -0.12 | pCi/g | U | | 0.37 |
| | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 22-Mar-07 | 8-Nov-07 | B1MTL3 | Cesium-137 | -0.00714 | pCi/g | U | J | 0.0084 |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 22-Mar-07 | 1-Nov-07 | B1MTL3 | Strontium-90 | -0.58 | pCi/g | U | J | 0.34 |
| | | | | | | | | | | | | | | |
| C5624 | Primary Sample Results | 0.0 | 0.5 | F07-029 | WSCF20070491 | 14-Mar-07 | 29-Mar-07 | B1MTL4 | Cesium-137 | 0.236 | pCi/g | | | 0.0089 |
| | | 0.0 | 0.5 | F07-029 | WSCF20070491 | 14-Mar-07 | 3-Apr-07 | B1MTL4 | Strontium-90 | 0.73 | pCi/g | | | 0.35 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070491 | 14-Mar-07 | 29-Mar-07 | B1MTL5 | Cesium-137 | 0.0299 | pCi/g | | | 0.01 |
| | | 0.5 | 1.0 | F07-029 | WSCF20070491 | 14-Mar-07 | 3-Apr-07 | B1MTL5 | Strontium-90 | -0.32 | pCi/g | U | | 0.35 |
| | | 3.5 | 4 | F07-029 | WSCF20070491 | 15-Mar-07 | 29-Mar-07 | B1MTL6 | Cesium-137 | 0.0653 | pCi/g | | | 0.0088 |
| | | 3.5 | 4 | F07-029 | WSCF20070491 | 15-Mar-07 | 3-Apr-07 | B1MTL6 | Strontium-90 | -0.35 | pCi/g | U | | 0.35 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 29-Mar-07 | B1MTL7 | Cesium-137 | 0.011 | pCi/g | | | 0.011 |
| | | 6.0 | 7.0 | F07-029 | WSCF20070491 | 15-Mar-07 | 3-Apr-07 | B1MTL7 | Strontium-90 | 0.08 | pCi/g | U | | 0.36 |
| C5624 | Contingent Sample Results[a] | 9.0 | 10.0 | F07-029 | WSCF20071942 | 15-Mar-07 | 9-Nov-07 | B1MTL8 | Cesium-137 | 0.00106 | pCi/g | U | J | 0.0098 |

Table 1. Sample Type and Analytical Results Summary. (11 Pages)

| Borehole ID | Sample Type | Depth Interval Recorded in HEIS (ft) | | SAF Number | SDG Number | Sample Date | Analysis Date | Sample Number | Analysis | Value Reported | Units | Lab Qual | Val Qual | Min Detectable Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Top | Btm | | | | | | | | | | | |
| | | 9.0 | 10.0 | F07-029 | WSCF20071942 | 15-Mar-07 | 1-Nov-07 | B1MTL8 | Strontium-90 | 0.59 | pCi/g | | J | 0.38 |
| | | | | | | | | | | | | | | |
| C5614 | QC Sample (Field Equipment Rinsate) Results | Not Applicable | | F07-031 | WSCF20070503 | 26-Mar-07 | 10-Apr-07 | B1MW24 | Cesium-137 | -4.02 | pCi/L | U | | 7.2 |
| | | | | F07-031 | WSCF20070503 | 26-Mar-07 | 29-Mar-07 | B1MW24 | Strontium-90 | -1.4 | pCi/L | U | | 2.6 |
| C5617 | | | | F07-031 | WSCF20070503 | 26-Mar-07 | 4-Apr-07 | B1MW25 | Cesium-137 | -3.29 | pCi/L | U | | 9.4 |
| | | | | F07-031 | WSCF20070503 | 26-Mar-07 | 29-Mar-07 | B1MW25 | Strontium-90 | 1.3 | pCi/L | U | | 2.8 |
| C5620 | | | | F07-031 | WSCF20070517 | 27-Mar-07 | 2-Apr-07 | B1MW26 | Cesium-137 | -5.56 | pCi/L | U | | 6.8 |
| | | | | F07-031 | WSCF20070517 | 27-Mar-07 | 4-Apr-07 | B1MW26 | Strontium-90 | -4.6 | pCi/L | U | | 3 |

a. Contingent samples were collected from the 2.7 to 3 in to 10 ft) depth interval at all locations. Laboratory analysis for the contingent samples were only performed if detections for Cs-137 or Sr-90 occurred within the 1.8 to 2.1 in to 7 ft) sample interval.

HEIS = *Hanford Environmental Information System* database.
ID = identification number.
SAF = Sampling and Analysis Form
SDG = Sample Delivery Group
QC = Quality Control
Qual = Qualifier
VAL. = Validation
WSCF = Waste Sampling and Characterization Facility.

**Non-Radionuclide Analytical Data**

The samples collected in 2005 are listed first, and are followed by the samples collected in 2007. The second column of this table shows sample location codes identifying how the samples fit into the sample scheme. The first letter of the code indicates the BC Controlled Area zone (A or B). The second letter is F for focused sample location, or R for random sample location. The final character is a sequence number to differentiate among the different sample locations of a given type. The fact that samples taken during 2005 and 2007 have the same location designators does not infer that they were taken at the same locations.

The horizontal location coordinates, easting and northing, are in meters using the Washington Coordinate System of 1983, South Zone 1991, which conforms to the North American Datum of 1983. The Interval Top and Interval Bottom columns in these tables indicate the depth in feet below ground surface (bgs) at which each sample was taken. The QC column indicates field quality control (QC) samples. The R in the column indicates the field duplicate sample.

Table 2. Analytical Sample Locations and Collection Dates. (2 Pages)

| Sample | Location | Easting (m) | Northing (m) | Interval Top (ft) | Interval Bottom (ft) | QC | Sample Date |
|---|---|---|---|---|---|---|---|
| B1CHD5 | AF-1 | 573493.14 | 133833.364 | 1 | 1 | | 3/11/2005 |
| B1CHH3 | AF-1 | 573493.14 | 133833.364 | 3 | 3 | | 3/11/2005 |
| B1CHD6 | AF-2 | 573480.8 | 133796.161 | 1 | 1 | | 3/11/2005 |
| B1CHH4 | AF-2 | 573480.8 | 133796.161 | 3 | 3 | | 3/11/2005 |
| B1CHD7 | AF-3 | 573409.3 | 133787.881 | 1 | 1 | | 3/11/2005 |
| B1CHH5 | AF-3 | 573409.3 | 133787.881 | 3 | 3 | | 3/11/2005 |
| B1CHC6 | AR-1 | 573639.42 | 133790.678 | 1 | 1 | | 3/11/2005 |
| B1CHH7 | AR-1 | 573639.42 | 133790.678 | 1 | 1 | | 3/11/2005 |
| B1CHC7 | AR-2 | 573409.3 | 133787.881 | 1 | 1 | | 3/11/2005 |
| B1CHH8 | AR-2 | 573561.36 | 133900.889 | 1 | 1 | | 3/11/2005 |
| B1CHC8 | AR-3 | 573254.55 | 133897.166 | 1 | 1 | | 3/11/2005 |
| B1CHD4 | AR-4 | 573255.9 | 133786.022 | 1 | 1 | | 3/11/2005 |
| B1CHC9 | BR-1 | 572275.82 | 132986.887 | 1 | 1 | | 3/18/2005 |
| B1CHD3 | BR-2 | 572720.72 | 132356.715 | 1 | 1 | | 3/18/2005 |
| B1CHD1 | BR-3 | 573941.79 | 132167.755 | 1 | 1 | | 3/18/2005 |
| B1CHD0 | BR-4 | 573864.1 | 132874.453 | 1 | 1 | | 3/18/2005 |
| B1CHD2 | BR-5 | 575417.13 | 134062.689 | 1 | 1 | | 3/18/2005 |
| B1CHC5 | BR-6 | 573486.01 | 133788.813 | 1 | 1 | | 3/11/2005 |
| B1CHH6 | BR-6 | 574888.69 | 133161.28 | 1 | 1 | | 3/18/2005 |
| B1MRV4 | AF-1 | 573715 | 133728 | 0 | 0.5 | | 3/26/2007 |
| B1MW27 | AF-1 | 573715 | 133728 | 0 | 0.5 | R | 3/26/2007 |
| B1MRV7 | AF-1 | 573715 | 133728 | 2.5 | 3.5 | | 3/26/2007 |
| B1MRW7 | AF-2 | 572590 | 133379 | 0 | 0.5 | | 3/15/2007 |
| B1MRX3 | AF-2 | 572590 | 133379 | 0 | 0.5 | | 3/15/2007 |

Table 2. Analytical Sample Locations and Collection Dates. (2 Pages)

| Sample | Location | Easting (m) | Northing (m) | Interval Top (ft) | Interval Bottom (ft) | QC | Sample Date |
|---|---|---|---|---|---|---|---|
| B1MRX0 | AF-2 | 572590 | 133379 | 3 | 4 | | 3/15/2007 |
| B1MRY1 | AF-3 | 573588 | 133652 | 0 | 0.5 | | 3/22/2007 |
| B1MRY4 | AF-3 | 573588 | 133652 | 2.5 | 3.5 | | 3/22/2007 |
| B1MTM2 | AR-1 | 574047 | 133450 | 0 | 0.5 | | 3/28/2007 |
| B1MTM8 | AR-2 | 573534 | 133970 | 0 | 0.5 | | 3/28/2007 |
| B1MTN5 | AR-3 | 573047 | 133471 | 0 | 0.5 | | 3/28/2007 |
| B1MTM0 | BR-1 | 575125 | 133806 | 0 | 0.5 | | 3/28/2007 |
| B1MTM4 | BR-2 | 574610 | 133004 | 0 | 0.5 | | 3/28/2007 |
| B1MTM6 | BR-3 | 575460 | 133606 | 0 | 0.5 | | 3/28/2007 |
| B1MTN1 | BR-4 | 572159 | 132167 | 0 | 0.5 | | 3/28/2007 |
| B1MTN3 | BR-5 | 574051 | 132390 | 0 | 0.5 | | 3/28/2007 |
| B1MTN7 | BR-6 | 575272 | 134140 | 0 | 0.5 | | 3/28/2007 |
| B1MTN9 | BR-7 | 574586 | 133700 | 0 | 0.5 | | 3/28/2007 |

QC = quality control.
R = duplicate sample.

## ABOUT TABLES 3 TO 5

The other tables in this section list the chemical and radiochemical results obtained in response to D&D-24693, Rev. 0. In these tables, the Location, Interval, and QC columns are as described above for Table 2. The Lab column indicates the laboratory that performed the analysis. Laboratory codes are as follows:

- E: Eberline Services, Richland, Washington
- L: Lionville Laboratory, Lionville, Pennsylvania
- W: Waste Sampling and Characterization Facility, operated by Fluor Hanford, Inc., on the Hanford Site.

Analyte names and corresponding Chemical Abstract Service numbers are given in the top row of each table. Below each analyte name is shown the U.S. Environmental Protection Agency method number(s) or abbreviated name of the analytical method(s) used for the analyte.

Table 3. Environmental Protection Agency Methods.

| Term | Definition | Reference |
|---|---|---|
| 300.0 | Ion chromatography method for anions | EPA/600/4-79/020, *Methods of Chemical Analysis of Water and Wastes* |
| 353.2 | Spectrophotometric method for nitrogen in nitrate and nitrite | EPA/600/4-79/020, *Methods of Chemical Analysis of Water and Wastes* |
| 200.8 | Inductively coupled plasma mass spectrometry | EPA/600/4-79/020, *Methods of Chemical Analysis of Water and Wastes* |
| 6010 | Inductively coupled plasma emission spectrometry | SW-846, 1999, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update III-A* |
| 8082 | 8082 gas chromatography method for polychlorinated biphenyls | SW-846, 1999, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update III-A* |
| KPA | Kinetic phosphorimetric analysis | |

The columns labeled Q indicate the qualification flags assigned by the laboratory. Where qualifier flags were assigned by the validators, they are entered in a separate column labeled V, and where flags were assigned during this data assessment, they are entered in a separate column labeled R (review). The flags in these columns have the following meanings.

B: The analyte was detected in the sample at a level below the practical quantitation limits (PQL).

C: The analyte was detected in both the sample and the associated QC blank, and the sample concentration was less than or equal to five times the blank concentration.

D: The analyte was identified at a secondary dilution factor.

E: The value is estimated because of interference.

J: Result is an estimate.

N: The matrix spike and/or matrix spike duplicate is outside control limits.

R: Result is rejected for decision making.

U: Analyte was undetected, with the indicated reporting limit.

X: The relative percent difference exceeded established limit.

Where more than one letter is applied to a result, the meanings of the individual letters are combined.

The bottom rows of each table give the PQLs and environmental soil background concentrations. The background concentrations were taken from DOE/RL-92-24, *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes*, Summary Table 2, 90th percentile, lognormal distribution. A background concentration for uranium is not found in this source; this background value was taken from DOE/RL-2003-23, *Focused Feasibility Study for the 200-UW-1 Operable Unit*, Appendix C. Other values not found in DOE/RL-92-24 were taken from national average concentrations compiled in Kabata-Pendias and Pendias, *Trace Elements in Soils and Plants*. A table of background soil concentrations excerpted from this source is available at http://rais.ornl.gov/cgi-bin/background/generic.

N/A in these rows indicates that no limit applies to the measurement or, in the case of the background values, no value was found in the sources.

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Antimony (7440-36-0) | | | | | | Arsenic (7440-38-2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 1050 | U | | | | | 1820 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 1050 | U | | | | | 1840 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 1030 | U | | | | | 881 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 1020 | U | | | | | 1720 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 1040 | U | | | | | 1690 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 1040 | U | | | | | 1730 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 1050 | U | | | | | 1760 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 1040 | U | | | | | 2390 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 1050 | U | | | | | 1410 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 1030 | U | | | | | 2440 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 1000 | U | | | | | 2860 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 1050 | U | | | | | 2860 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 1030 | U | | | | | 2240 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 1050 | U | | | | | 2980 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 1030 | U | | | | | 1570 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 1040 | U | | | | | 2100 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 300 | U | | | | | 2320 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 320 | U | | | | | 2600 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 300 | U | | | | | 2420 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 310 | | | | | | 2570 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 302 | U | UJ | | | | 3200 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 304 | U | | | | | 3790 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 302 | U | | | | | 1990 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 304 | U | | | | | 1580 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 302 | U | | | | | 1680 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 301 | U | | | | | 2410 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 300 | U | | | | | 1660 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 305 | U | | | | | 2400 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 300 | U | | | | | 1920 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 304 | U | | | | | 1900 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 302 | U | | | | | 1960 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 300 | U | | | | | 1900 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 301 | U | | | | | 2070 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 5,000 | | | 5,000 | | | 1,000 | | | 10,000 | | |
| Background (ug/kg) | | | | | | N/A | | | N/A | | | 6,470 | | | 6,470 | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Barium (7440-39-3) | | | | | | Beryllium (7440-41-7) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 77400 | | | | | | 268 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 74600 | | | | | | 234 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 74000 | | | | | | 261 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 66200 | | | | | | 216 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 94200 | | | | | | 268 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 81800 | | | | | | 340 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 69100 | | | | | | 246 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 79700 | | | | | | 262 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 77600 | | | | | | 273 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 90600 | | | | | | 310 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 97800 | | | | | | 319 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 95000 | | | | | | 288 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 77800 | | | | | | 243 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 108000 | | | | | | 327 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 69400 | | | | | | 245 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 82400 | | | | | | 266 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 78800 | | | | | | 290 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 75900 | | | | | | 410 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 81300 | | | | | | 257 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 109000 | | | | | | 550 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 82800 | | | | | | 276 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 97800 | | | | | | 330 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 77200 | | | | | | 329 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 71500 | | | | | | 244 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 74400 | | | | | | 256 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 91000 | | | | | | 303 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 71000 | | | | | | 226 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 94000 | | | | | | 298 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 77600 | | | | | | 242 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 65200 | | | | | | 212 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 73600 | | | | | | 217 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 76900 | | | | | | 238 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 101000 | | | | | | 289 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 1,000 | | | 1,000 | | | 1,000 | | | 500 | | |
| Background (ug/kg) | | | | | | 132,000 | | | 132,000 | | | 132,000 | | | 1,510 | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Boron (7440-42-8) | | | Cadmium (7440-43-9) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 2570 | U | | 120 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 2580 | U | | 105 | U | | | | |
| AF-1 | 1 | 3 | B1CHH3 | | L | 2300 | C | | | | | | | |
| AF-2 | 3 | 1 | B1CHD6 | | W | 2490 | U | | 113 | | | | | |
| AF-2 | 1 | 3 | B1CHH4 | | L | 2100 | C | | | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 2590 | U | | 102 | U | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 2510 | U | | 104 | U | | | | |
| AF-3 | 1 | 3 | B1CHH5 | | L | 1700 | C | | | | | | | |
| AF-3 | 1 | 3 | B1CHH5 | | W | 2530 | U | | 209 | | | | | |
| AR-1 | 1 | 1 | B1CHC6 | | L | 1300 | C | | | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 2530 | U | | 173 | | | | | |
| AR-2 | 1 | 1 | B1CHC7 | | L | 2100 | C | | | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 2590 | U | | 152 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 2540 | U | | 155 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 2490 | U | | 119 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 2580 | U | | 153 | | | | | |
| BR-2 | 0.5 | 1 | B1CHD3 | | W | 2510 | U | | 141 | | | | | |
| BR-3 | 0.5 | 1 | B1CHD1 | | W | 2560 | U | | 103 | U | | | | |
| BR-4 | 2.5 | 1 | B1CHD0 | | W | 2500 | U | | 113 | | | | | |
| BR-5 | 0.5 | 1 | B1CHD2 | | W | 2580 | U | | 109 | | | | | |
| BR-6 | 3 | 1 | B1CHC5 | | L | 3900 | C | | | | | | | |
| BR-6 | 0.5 | 1 | B1CHH6 | | W | 2530 | U | | 123 | | | | | |
| AF-1 | 2.5 | 0.5 | B1MRV4 | | W | 9110 | | | 140 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | 1700 | | | | | | 60 | | |
| AF-1 | 0.5 | 3.5 | B1MRV7 | | W | 7510 | E | | 102 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 8480 | | | 290 | | | | | |
| AF-2 | 0.5 | 4 | B1MRX0 | | W | 11200 | E | | 120 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 8830 | | | 140 | | | | | |
| AF-3 | 0.5 | 3.5 | B1MRY4 | | W | 6100 | E | | 189 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 7480 | E | | 106 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 7500 | E | | 107 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 11000 | E | | 120 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 6140 | E | | 149 | | | | | |
| BR-2 | 1 | 0.5 | B1MTM4 | | W | 7630 | E | | 186 | | | | | |
| BR-3 | 3 | 0.5 | B1MTM6 | | W | 8120 | E | | 114 | | | | | |
| BR-4 | 1 | 0.5 | B1MTN1 | | W | 6550 | E | | 101 | U | | | | |
| BR-5 | 3 | 0.5 | B1MTN3 | | W | 7790 | E | | 101 | U | | | | |
| BR-6 | 1 | 0.5 | B1MTN7 | | W | 9000 | E | | 100 | | | | | |
| BR-7 | 3 | 0.5 | B1MTN9 | | W | 8270 | E | | 205 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 2,000 | | | 40 | | | 800 | | |
| Background (ug/kg) | | | | | | N/A | | | N/A | | | N/A | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Chromium (7440-47-3) | | | | | | Cobalt (7440-48-4) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 8420 | | | | | | 7010 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 5760 | | | | | | 7160 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 6220 | | | | | | 7660 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 5840 | | | | | | 7120 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 7490 | | | | | | 7400 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 6790 | | | | | | 7410 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 7170 | | | | | | 7510 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 7030 | | | | | | 7460 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 7730 | | | | | | 7660 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 8070 | | | | | | 10100 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 6940 | | | | | | 9990 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 7400 | | | | | | 8640 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 8170 | | | | | | 8560 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 7920 | | | | | | 8970 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 7640 | | | | | | 6640 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 7200 | | | | | | 7210 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 7230 | | | | | | 7590 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 7700 | | | | | | 8100 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 6680 | | | | | | 7120 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 6460 | | | | | | 8210 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 5950 | | | | | | 8830 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 8460 | | | | | | 8340 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 6120 | | | | | | 7110 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 7340 | | | | | | 7120 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 6400 | | | | | | 6080 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 6110 | | | | | | 8280 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 5360 | | | | | | 6360 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 6850 | | | | | | 6970 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 5980 | | | | | | 6310 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 6240 | | | | | | 5520 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 5760 | | | | | | 5880 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 6640 | | | | | | 6120 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 6360 | | | | | | 6160 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 1,000 | | | 1,000 | | | 2,000 | | | 2,000 | | |
| Background (ug/kg) | | | | | | 18,500 | | | 18,500 | | | 15,700 | | | 15,700 | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Copper (7440-50-8) | | | | | | Lead (7439-92-1) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 9740 | | | | | | 4530 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 9310 | | | | | | 3500 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 9480 | | | | | | 3500 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 9660 | | | | | | 3510 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 9550 | | | | | | 3900 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 11000 | | | | | | 4060 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 10900 | | | | | | 3780 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 10700 | | | | | | 3980 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 9510 | | | | | | 3850 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 11600 | | | | | | 4850 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 13700 | | | | | | 5140 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 11600 | | | | | | 4190 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 9200 | | | | | | 3630 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 12600 | | | | | | 5220 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 8370 | | | | | | 3720 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 9660 | | | | | | 4430 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 9190 | | | | | | 4510 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 10500 | | | | | | 3800 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 10100 | | | | | | 3850 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 11500 | | | | | | 5250 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 17500 | | | | | | 4300 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 11300 | | | | | | 6860 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 9980 | | | | | | 4010 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 10100 | | | | | | 3750 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 9560 | | | | | | 5470 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 12700 | | | | | | 5510 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 8530 | | | | | | 4340 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 11300 | | | | | | 8020 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 9470 | | | | | | 4770 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 8420 | | | | | | 3910 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 8570 | | | | | | 3840 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 8270 | | | | | | 4470 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 15500 | | | | | | 11300 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 2,500 | | | 2,500 | | | 1,000 | | | 10,000 | | |
| Background (ug/kg) | | | | | | 22,000 | | | 22,000 | | | 10,200 | | | 10,200 | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Lithium (7439-93-2) | | | Manganese (7439-96-5) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 6340 | | | | | | 430000 | | J |
| AF-1 | 3 | 3 | B1CHH3 | | W | 5120 | | | | | | 338000 | | J |
| AF-2 | 1 | 1 | B1CHD6 | | W | 5470 | | | | | | 429000 | | J |
| AF-2 | 3 | 3 | B1CHH4 | | W | 5000 | | | | | | 334000 | | J |
| AF-3 | 1 | 1 | B1CHD7 | | W | 6100 | | | | | | 389000 | | J |
| AF-3 | 3 | 3 | B1CHH5 | | W | 6240 | | | | | | 349000 | | J |
| AR-1 | 1 | 1 | B1CHH7 | | W | 5370 | | | | | | 374000 | | J |
| AR-2 | 1 | 1 | B1CHH8 | | W | 5870 | | | | | | 366000 | | J |
| AR-3 | 1 | 1 | B1CHC8 | | W | 6170 | | | | | | 380000 | | J |
| AR-4 | 1 | 1 | B1CHD4 | | W | 6780 | | | | | | 390000 | | J |
| BR-1 | 1 | 1 | B1CHC9 | | W | 6960 | | | | | | 434000 | | J |
| BR-2 | 1 | 1 | B1CHD3 | | W | 7330 | | | | | | 391000 | | J |
| BR-3 | 1 | 1 | B1CHD1 | | W | 7510 | | | | | | 312000 | | J |
| BR-4 | 1 | 1 | B1CHD0 | | W | 7370 | | | | | | 407000 | | J |
| BR-5 | 1 | 1 | B1CHD2 | | W | 6100 | | | | | | 377000 | | J |
| BR-6 | 1 | 1 | B1CHH6 | | W | 6230 | | | | | | 324000 | | J |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 6150 | | | 342000 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | 5700 | | | | | | 380000 | | J |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 6990 | | | 312000 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 6140 | | | 329000 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 7090 | | | 348000 | X | J | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 6180 | | | 390000 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 7440 | | | 292000 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 6340 | | | 304000 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 7020 | | | 270000 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 6920 | | | 362000 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 6590 | | | 273000 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 7040 | | | 316000 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 6880 | | | 310000 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 6920 | | | 267000 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 7160 | | | 274000 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 7140 | | | 293000 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 6150 | | | 307000 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 3,000 | | | 1,500 | | | 1,500 | | |
| Background (ug/kg) | | | | | | 33,500 | | | 512,000 | | | 512,000 | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Mercury (7439-97-6) | | | | | | Molybdenum (7439-98-7) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 105 | U | UR | | | | 324 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 105 | U | UR | | | | 315 | U | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 103 | U | UR | | | | 309 | U | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 102 | U | UR | | | | 306 | U | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 104 | U | UR | | | | 312 | U | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 104 | U | UR | | | | 378 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 105 | U | UR | | | | 586 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 104 | U | UR | | | | 693 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 105 | U | UR | | | | 406 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 103 | U | UR | | | | 309 | U | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 100 | U | UR | | | | 391 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 105 | U | UR | | | | 315 | U | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 103 | U | UR | | | | 309 | U | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 105 | U | UR | | | | 315 | U | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 103 | U | UR | | | | 309 | U | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 106 | | J | | | | 363 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 60 | | | | | | 410 | C | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 20 | U | | | | | 350 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 50 | U | | | | | 249 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 51 | U | | | | | 870 | C | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 50 | U | | | | | 352 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 51 | U | | | | | 470 | C | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 50 | U | | | | | 532 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 51 | U | | | | | 288 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 50 | U | | | | | 254 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 50 | U | | | | | 305 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 50 | U | | | | | 333 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 51 | U | | | | | 327 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 50 | U | | | | | 287 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 51 | U | | | | | 229 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 50 | U | | | | | 239 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 50 | U | | | | | 235 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 50 | U | | | | | 316 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 50 | | | 50 | | | 2,000 | | | 2,000 | | |
| Background (ug/kg) | | | | | | 330 | | | 330 | | | N/A | | | N/A | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Nickel (7440-02-0) | | | | | | Selenium (7782-49-2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 8430 | | | | | | 420 | U | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 7280 | | | | | | 420 | U | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 7580 | | | | | | 412 | U | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 9770 | | | | | | 408 | U | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 8120 | | | | | | 416 | U | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 8640 | | | | | | 16 | U | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 8740 | | | | | | 420 | U | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 8500 | | | | | | 416 | U | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 8440 | | | | | | 420 | U | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 9520 | | | | | | 412 | U | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 9870 | | | | | | 400 | U | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 10100 | | | | | | 420 | U | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 8690 | | | | | | 412 | U | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 9570 | | | | | | 420 | U | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 8180 | | | | | | 412 | U | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 8460 | | | | | | 416 | U | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 8720 | | | | | | 390 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 9000 | | | | | | 360 | U | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 8600 | | | | | | 300 | U | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 11000 | | | | | | 520 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 9080 | | | | | | 812 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 9000 | | | | | | 304 | U | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 8070 | | | | | | 302 | U | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 7790 | | | | | | 304 | U | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 7970 | | | | | | 302 | U | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 9020 | | | | | | 300 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 6420 | | | | | | 300 | U | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 7850 | | | | | | 305 | U | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 8780 | | | | | | 300 | U | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 6570 | | | | | | 304 | U | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 6780 | | | | | | 302 | U | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 7250 | | | | | | 300 | U | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 7050 | | | | | | 301 | U | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 4,000 | | | 4,000 | | | 1,000 | | | 1,000 | | |
| Background (ug/kg) | | | | | | 19,100 | | | 19,100 | | | N/A | | | N/A | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Silver (7440-22-4) | | | | | | Thallium (7440-28-0) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 105 | U | | | | | 105 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 105 | U | | | | | 86 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 103 | U | | | | | 95 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 102 | U | | | | | 79 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 104 | U | | | | | 108 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 148 | | | | | | 198 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 105 | U | | | | | 372 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 104 | U | | | | | 275 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 105 | U | | | | | 217 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 103 | U | | | | | 130 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 100 | U | | | | | 158 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 105 | U | | | | | 135 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 103 | U | | | | | 136 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 105 | U | | | | | 155 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 103 | U | | | | | 118 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 104 | U | | | | | 179 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 100 | U | | | | | 100 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 90 | U | | | | | 560 | U | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 100 | U | | | | | 100 | U | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 220 | | | | | | 630 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 100 | U | | | | | 100 | U | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 101 | U | | | | | 260 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 100 | U | | | | | 592 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 101 | U | | | | | 154 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 101 | U | | | | | 101 | U | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 100 | U | | | | | 100 | U | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 100 | U | | | | | 213 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 102 | U | | | | | 149 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 100 | U | | | | | 101 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 101 | U | | | | | 101 | U | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 101 | U | | | | | 101 | U | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 100 | U | | | | | 100 | U | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 100 | U | | | | | 100 | U | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 500 | | | 2,000 | | | 500 | | | 1,000 | | |
| Background (ug/kg) | | | | | | 730 | | | 730 | | | N/A | | | N/A | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Tin (7440-31-5) | | | | | | Uranium (7440-61-1) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 1050 | U | | | | | 549 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 1050 | U | | | | | 444 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 1030 | U | | | | | 403 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 1020 | U | | | | | 391 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 1040 | U | | | | | 365 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 1040 | U | | | | | 491 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 1050 | U | | | | | 377 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 1040 | U | | | | | 387 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 1050 | U | | | | | 687 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 1030 | U | | | | | 690 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 1000 | U | | | | | 863 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 1050 | U | | | | | 442 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 1030 | U | | | | | 356 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 1050 | U | | | | | 414 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 1030 | U | | | | | 340 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 1040 | U | | | | | 443 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 400 | | | | | | 670 | C | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 340 | U | | | | | 1270 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 300 | | | | | | 285 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 640 | | | | | | 990 | C | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 670 | | | | | | 442 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 440 | | | | | | 460 | C | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 380 | | | | | | 380 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 360 | | | | | | 284 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 290 | | | | | | 297 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 370 | | | | | | 316 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 310 | | | | | | 305 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 370 | | | | | | 377 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 340 | | | | | | 309 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 260 | | | | | | 267 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 270 | | | | | | 262 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 290 | | | | | | 295 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 380 | | | | | | 395 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 10,000 | | | 10,000 | | | 1,000 | | | 1,000 | | |
| Background (ug/kg) | | | | | | N/A | | | N/A | | | N/A | | | N/A | | |

Table 4. Metal Results for BC Controlled Area Samples. (11 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Vanadium (7440-62-2) | | | | | | Zinc (7440-66-6) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200.8 | | | 6010 | | | 200.8 | | | 6010 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 46600 | | | | | | 45900 | | | | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 46500 | | | | | | 36800 | | | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 46500 | | | | | | 41200 | | | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 41300 | | | | | | 36500 | | | | | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 45100 | | | | | | 41200 | | | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 46000 | | | | | | 37900 | | | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 50000 | | | | | | 41900 | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 49200 | | | | | | 40100 | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 51000 | | | | | | 42400 | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 47600 | | | | | | 42200 | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 58100 | | | | | | 45900 | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 50400 | | | | | | 40800 | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 36700 | | | | | | 34100 | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 48600 | | | | | | 43900 | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 44500 | | | | | | 41400 | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 41900 | | | | | | 36500 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 61500 | | | | | | 46300 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | 67100 | | | | | | 48300 | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 42800 | | | | | | 38100 | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 55600 | | | | | | 45400 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 47600 | | | | | | 44500 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 60800 | | | | | | 51400 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 45000 | | | | | | 38300 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 43400 | | | | | | 40500 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 33600 | | | | | | 39200 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 47800 | | | | | | 44900 | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 41600 | | | | | | 38000 | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 41900 | | | | | | 43600 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 38500 | | | | | | 40000 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 37300 | | | | | | 35000 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 36700 | | | | | | 36600 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 35300 | | | | | | 39200 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 36600 | | | | | | 47400 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 3,000 | | | 3,000 | | | 2,000 | | | 2,000 | | |
| Background (ug/kg) | | | | | | 85,100 | | | 85,100 | | | 67,800 | | | 67,800 | | |

Q = laboratory qualification.
QC = quality control.
R = duplicate sample (QC column).
V = validator qualification.

Table 5. Anion Results for BC Controlled Area Samples. (3 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Chloride (16887-00-6) 300.0 | | | Fluoride (16984-48-8) 300.0 | | | Nitrate (14797-55-8) 300.0 | | | Nitrogen in Nitrate (NO3-N) Calculation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 2600 | U | | 1150 | U | | 32500 | | | 7340 | | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 2600 | U | | 1150 | U | | 1800 | B | | 406 | B | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 2600 | U | | 1150 | U | | 12100 | B | | 2730 | B | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 2600 | U | | 1150 | U | | 2880 | U | | 650 | U | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 2600 | U | | 1150 | U | | 7480 | B | | 1690 | B | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 2600 | U | | 1150 | U | | 4650 | B | | 1050 | B | |
| AR-1 | 1 | 1 | B1CHH7 | | W | 2600 | U | | 1150 | U | | | | | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | 2600 | U | | 1150 | U | | | | | | | |
| AR-3 | 1 | 1 | B1CHC8 | | W | 2600 | U | | 1150 | U | | | | | | | |
| AR-4 | 1 | 1 | B1CHD4 | | W | 2600 | U | | 1150 | U | | | | | | | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 2600 | U | | 1150 | U | | | | | | | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 2600 | U | | 1150 | U | | | | | | | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 2600 | U | | 1150 | U | | | | | | | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 3120 | U | | 1150 | U | | | | | | | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 2600 | U | | 1150 | U | | | | | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | 2550 | U | | 1130 | U | | | | | | | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 1700 | DU | | 2000 | DNU | | | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | 2200 | U | | 2200 | U | | | | | | | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | 2060 | BD | | 2000 | DNU | | | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 1710 | BD | | 2000 | DNU | | | | | | | |
| AF-3 | 2.5 | 3.5 | B1MTY4 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 1670 | DU | | 1960 | DU | | | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 1670 | DU | | 1960 | DU | | | | | | | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 1670 | DU | | 1960 | DU | | | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 1670 | DU | | 1960 | DU | | | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 1700 | DU | | 2000 | DU | | | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 2,000 | | | 5,000 | | | 11,071 | | | 2,500 | | |
| Background (ug/kg) | | | | | | 100,000 | | | 2,810 | | | 52,000 | | | 11,742 | | |

Table 5. Anion Results for BC Controlled Area Samples. (3 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Nitrite (14797-65-0) | | | Nitrogen in Nitrite NO2-N) | | | Nitrogen in Nitrite and Nitrate (NO2+NO3-N) | | | Sulfate (14808-79-8) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Calculation | | | Calculation | | | 352.3 | | | 300.0 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 3120 | U | | 950 | U | | | | | 5000 | U | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 312 | U | | 95 | U | | | | | 38000 | | |
| AF-1 | 3 | 3 | B1CHH3 | | L | | | | | | | 3800 | | R | | | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 3120 | U | | 950 | U | | | | | 5000 | U | |
| AF-2 | 3 | 3 | B1CHH4 | | L | | | | | | | 1800 | | R | | | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 3120 | U | | 950 | U | | | | | 5000 | U | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 3120 | U | | 950 | U | | | | | 5000 | U | |
| AF-3 | 3 | 3 | B1CHH5 | | L | | | | | | | 2600 | | R | | | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 3120 | U | | 950 | U | | | | | 5000 | U | |
| AR-1 | 1 | 1 | B1CHC6 | | L | | | | | | | 2400 | | R | | | |
| AR-1 | 1 | 1 | B1CHH7 | | W | | | | | | | | | | 5000 | U | |
| AR-2 | 1 | 1 | B1CHC7 | | L | | | | | | | 3000 | | R | | | |
| AR-2 | 1 | 1 | B1CHH8 | | W | | | | | | | | | | 5000 | U | |
| AR-3 | 1 | 1 | B1CHC8 | | W | | | | | | | | | | 5000 | U | |
| AR-4 | 1 | 1 | B1CHD4 | | W | | | | | | | | | | 5000 | U | |
| BR-1 | 1 | 1 | B1CHC9 | | W | | | | | | | | | | 5000 | U | |
| BR-2 | 1 | 1 | B1CHD3 | | W | | | | | | | | | | 5000 | U | |
| BR-3 | 1 | 1 | B1CHD1 | | W | | | | | | | | | | 5000 | U | |
| BR-4 | 1 | 1 | B1CHD0 | | W | | | | | | | | | | 10500 | B | |
| BR-5 | 1 | 1 | B1CHD2 | | W | | | | | | | | | | 18500 | B | |
| BR-6 | 1 | 1 | B1CHC5 | | L | | | | | | | 9500 | | R | | | |
| BR-6 | 1 | 1 | B1CHH6 | | W | | | | | | | | | | 4900 | U | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | | | | | | | | | | 6500 | DU | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | L | | | | | | | 1100 | | | | | |
| AF-1 | 0.5 | 0.5 | B1MW27 | R | L | | | | | | | | | | 2200 | DU | |
| AF-1 | 2.5 | 3.5 | B1MRV7 | | W | | | | | | | | | | 6500 | DU | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | W | | | | | | | | | | 6500 | DU | |
| AF-2 | 0.5 | 0.5 | B1MRW7 | | L | | | | | | | 290 | | | | | |
| AF-2 | 3 | 4 | B1MRX0 | | W | | | | | | | | | | 6500 | DU | |
| AF-2 | 3 | 4 | B1MRX0 | | L | | | | | | | 430 | | | | | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | | | | | | | | | | 6500 | DU | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | L | | | | | | | 1500 | | | | | |
| AF-3 | 2.5 | 3.5 | B1MTY4 | | W | | | | | | | | | | 6500 | DU | |
| AF-3 | 2.5 | 3.5 | B1MTY4 | | L | | | | | | | 460 | | | | | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | | | | | | | | | | 6500 | DU | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | L | | | | | | | 770 | | | | | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | | | | | | | | | | 6370 | DU | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | L | | | | | | | 210 | | | | | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | | | | | | | | | | 6370 | DU | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | L | | | | | | | 360 | | | | | |

Table 5. Anion Results for BC Controlled Area Samples. (3 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Nitrite (14797-65-0) | | | Nitrogen in Nitrite NO2-N) | | | Nitrogen in Nitrite and Nitrate (NO2+NO3-N) | | | Sulfate (14808-79-8) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Calculation | | | Calculation | | | 352.3 | | | 300.0 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | | | | | | | | | | 6500 | DU | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | L | | | | | | | 90 | U | | | | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | | | | | | | | | | 6500 | DU | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | L | | | | | | | 1600 | | | | | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | | | | | | | | | | 6370 | DU | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | L | | | | | | | 2500 | | | | | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | | | | | | | | | | 6500 | DU | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | L | | | | | | | 2500 | | | | | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | | | | | | | | | | 6500 | DU | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | L | | | | | | | 3300 | | | | | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | | | | | | | | | | 6370 | DU | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | L | | | | | | | 610 | | | | | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | | | | | | | | | | 6500 | DU | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | L | | | | | | | 1700 | | | | | |
| Practical Quantitation Limit (ug/kg) | | | | | | 8,214 | | | 2,500 | | | 2,500 | | | 5,000 | | |
| Background (ug/kg) | | | | | | N/A | | | N/A | | | N/A | | | 237,000 | | |

Q = laboratory qualification.
QC = quality control.
R = duplicate sample (QC column).
V = validator qualification.

Table 6. Polychlorinated Biphenyl Results for BC Controlled Area Samples. (3 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Aroclor-1242 (53469-21-9) | | | Aroclor-1248 (12672-29-6) | | | Aroclor-1254 (11097-69-1) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 8082 | | | 8082 | | | 8082 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 52 | U | | 52 | U | | 52 | U | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 51 | U | | 51 | U | | 51 | U | |
| AR-4 | 1 | 1 | B1CHH7 | | W | 51 | U | | 51 | U | | 51 | U | |
| AR-5 | 1 | 1 | B1CHH8 | | W | 50 | U | | 50 | U | | 50 | U | |
| AR-6 | 1 | 1 | B1CHC8 | | W | 52 | U | | 52 | U | | 52 | U | |
| AR-7 | 1 | 1 | B1CHD4 | | W | 53 | U | | 53 | U | | 53 | U | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 52 | U | | 52 | U | | 52 | U | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 52 | U | | 52 | U | | 52 | U | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 51 | U | | 51 | U | | 51 | U | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 51 | U | | 51 | U | | 51 | U | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 52 | U | J | 52 | UJ | J | 52 | U | J |
| BR-6 | 1 | 1 | B1CHH6 | | W | 52 | U | | 52 | U | | 52 | U | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-2 | 2.5 | 3.5 | B1MRV7 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 10 | U | | 10 | U | | 10 | U | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 10 | U | | 10 | U | | 10 | U | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 11 | U | | 11 | U | | 11 | U | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 11 | U | | 11 | U | | 11 | U | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 11 | U | | 11 | U | | 11 | U | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 11 | U | | 11 | U | | 11 | U | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 12 | U | | 12 | U | | 12 | U | |
| Practical Quantitation Limit (ug/kg) | | | | | | 16.5 | | | 16.5 | | | 16.5 | | |
| Background (ug/kg) | | | | | | N/A | | | N/A | | | N/A | | |

Table 6. Polychlorinated Biphenyl Results for BC Controlled Area Samples. (3 Pages)

| Location | Interval Top (ft) | Interval Bottom (ft) | Sample | QC | Lab | Aroclor-1260 (11096-82-5) | | | Aroclor-1262 (37324-23-5) | | | Aroclor-1268 (11100-14-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 8082 | | | 8082 | | | 8082 | | |
| | | | | | | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V | Concentration (ug/kg) | Q | V |
| AF-1 | 1 | 1 | B1CHD5 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-1 | 3 | 3 | B1CHH3 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-2 | 1 | 1 | B1CHD6 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-2 | 3 | 3 | B1CHH4 | | W | 51 | U | | 51 | U | | 51 | U | |
| AF-3 | 1 | 1 | B1CHD7 | | W | 52 | U | | 52 | U | | 52 | U | |
| AF-3 | 3 | 3 | B1CHH5 | | W | 51 | U | | 51 | U | | 51 | U | |
| AR-4 | 1 | 1 | B1CHH7 | | W | 51 | U | | 51 | U | | 51 | U | |
| AR-5 | 1 | 1 | B1CHH8 | | W | 50 | U | | 50 | U | | 50 | U | |
| AR-6 | 1 | 1 | B1CHC8 | | W | 52 | U | | 52 | U | | 52 | U | |
| AR-7 | 1 | 1 | B1CHD4 | | W | 53 | U | | 53 | U | | 53 | U | |
| BR-1 | 1 | 1 | B1CHC9 | | W | 52 | U | | 52 | U | | 52 | U | |
| BR-2 | 1 | 1 | B1CHD3 | | W | 52 | U | | 52 | U | | 52 | U | |
| BR-3 | 1 | 1 | B1CHD1 | | W | 51 | U | | 51 | U | | 51 | U | |
| BR-4 | 1 | 1 | B1CHD0 | | W | 51 | U | | 51 | U | | 51 | U | |
| BR-5 | 1 | 1 | B1CHD2 | | W | 52 | U | J | 52 | UJ | J | 52 | U | J |
| BR-6 | 1 | 1 | B1CHH6 | | W | 52 | U | | 52 | U | | 52 | U | |
| AF-1 | 0.5 | 0.5 | B1MRV4 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-2 | 2.5 | 3.5 | B1MRV7 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-2 | 3 | 4 | B1MRX0 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-3 | 0.5 | 0.5 | B1MRY1 | | W | 10 | U | | 10 | U | | 10 | U | |
| AF-3 | 2.5 | 3.5 | B1MRY4 | | W | 10 | U | | 10 | U | | 10 | U | |
| AR-1 | 0.5 | 0.5 | B1MTM2 | | W | 10 | U | | 10 | U | | 10 | U | |
| AR-2 | 0.5 | 0.5 | B1MTM8 | | W | 11 | U | | 11 | U | | 11 | U | |
| AR-3 | 0.5 | 0.5 | B1MTN5 | | W | 11 | U | | 11 | U | | 11 | U | |
| BR-1 | 0.5 | 0.5 | B1MTM0 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-2 | 0.5 | 0.5 | B1MTM4 | | W | 11 | U | | 11 | U | | 11 | U | |
| BR-3 | 0.5 | 0.5 | B1MTM6 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-4 | 0.5 | 0.5 | B1MTN1 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-5 | 0.5 | 0.5 | B1MTN3 | | W | 10 | U | | 10 | U | | 10 | U | |
| BR-6 | 0.5 | 0.5 | B1MTN7 | | W | 11 | U | | 11 | U | | 11 | U | |
| BR-7 | 0.5 | 0.5 | B1MTN9 | | W | 12 | U | | 12 | U | | 12 | U | |
| Practical Quantitation Limit (ug/kg) | | | | | | 16.5 | | | 16.5 | | | 16.5 | | |
| Background (ug/kg) | | | | | | N/A | | | N/A | | | N/A | | |

Aroclor is an expired trademark.

Q = laboratory qualification.
QC = quality control.
R = duplicate sample (QC column).
V = validator qualification.