

**Industrial Area  
Sampling and Analysis Plan  
Addendum #IA-04-05  
IHSS Group 600-3, IHSS 600-120.1  
(Fiberglass Area North of Building 664)**

**December 2003**

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Approval received from the Colorado Department of Public Health and Environment  
December 11, 2003.

Approval letter is contained in the Administrative Record.

**December 2003**

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## **ACRONYMS**

BM+2SD	background means plus two standard deviations
DOE	U. S. Department of Energy
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol
FY	Fiscal Year
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
MDL	method detection limit
PAC	Potential Area of Concern
PCOC	Potential Contaminant of Concern
PDSR	Pre-Demolition Survey Report
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RSOP	RFCA Standard Operating Protocol
SAP	Sampling and Analysis Plan
SVOC	semivolatile organic compound
UBC	Under Building Contamination
VOC	volatile organic compound

## 1.0 INTRODUCTION

This Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) Addendum #IA-04-05 includes Individual Hazardous Substance Site (IHSS) Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for IHSS Group 600-3, proposed for characterization during Fiscal Year (FY) 04. This IASAP Addendum is a supplement to the IASAP (DOE 2001) and includes data and proposed sampling locations for IHSS 600-120.1, the only IHSS, Potential Area of Concern (PAC) or Under Building Contamination (UBC) in IHSS Group 600-3. The location of IHSS Group 600-3 is shown on Figure 1.

## 2.0 EXISTING UBC, IHSS, AND PAC INFORMATION

Existing information and data for the IHSS is available in Appendix C of the IASAP (DOE 2001), the IA Data Summary Report (DOE 2000), the Historical Release Reports (HRRs) for the Rocky Flats Plant (DOE 1992-2003), Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) (ER RSOP) Notification #04-01 (DOE 2003), and Pre-Demolition Survey Report (PDSR) for Building 668 (DOE 2003e). Existing concentrations greater than the background mean plus two standard deviations (BM+2SD) or method detection limits (MDLs) are presented on Figure 2. Table 1 presents the PCOCs for IHSS Group 600-3.

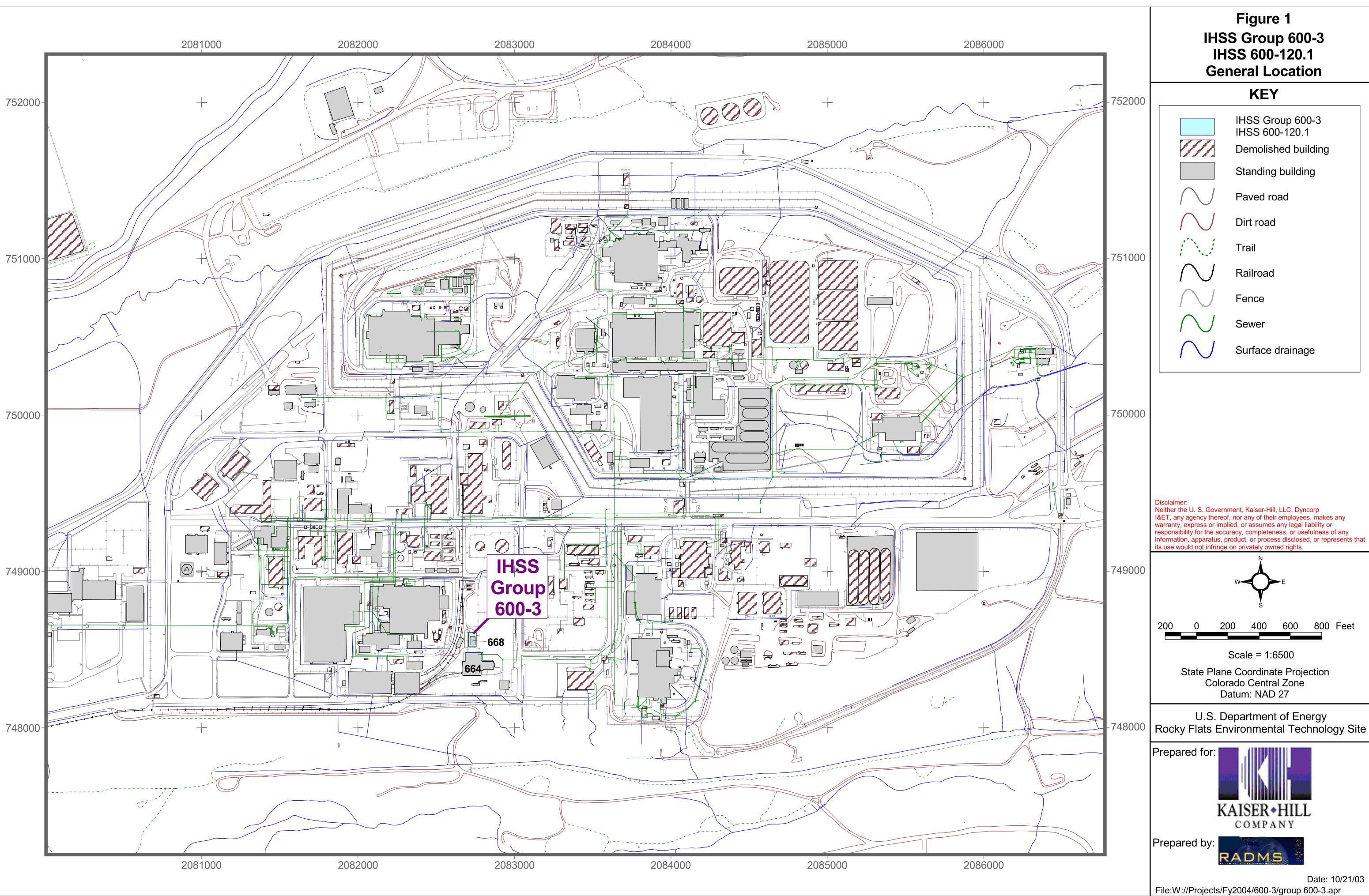
**Table 1**  
**Potential Contaminants of Concern**

IHSS Group	IHSS/PAC/UBC Site	PCOCs	Media	Sources	Sampling Type
600-3	IHSS 600-120.1	Radionuclides Metals Volatile organic compounds (VOCs) Semivolatile organic compounds (SVOCs)	Surface and subsurface soil	HRRs (DOE 1992-2003), process knowledge, existing sampling data	Statistical and biased

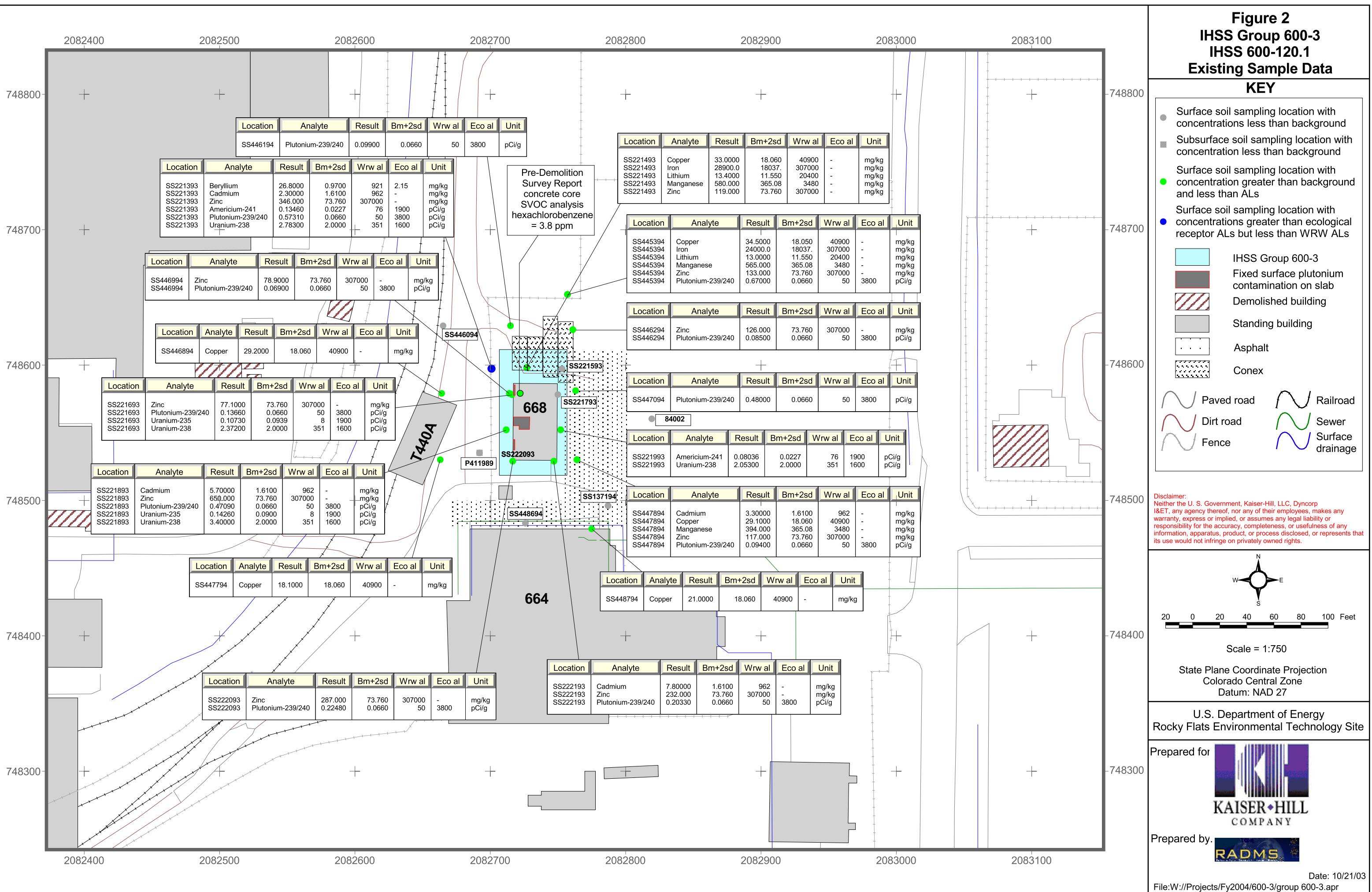
## 3.0 SAMPLING

The proposed sampling and analysis specifications for IHSS Group 600-3 are summarized in Table 2 and listed, by sampling location, in Table 3. The proposed sampling locations are shown on Figure 3. Statistical grid surface and subsurface soil samples will be collected from IHSS Group 600-3 at four locations. At four locations, biased surface and subsurface samples will be collected. After characterization starts, the number and type of samples may change based on field conditions and/or sampling results. Changes to sampling specifications will be considered in consultation with the regulatory agencies.

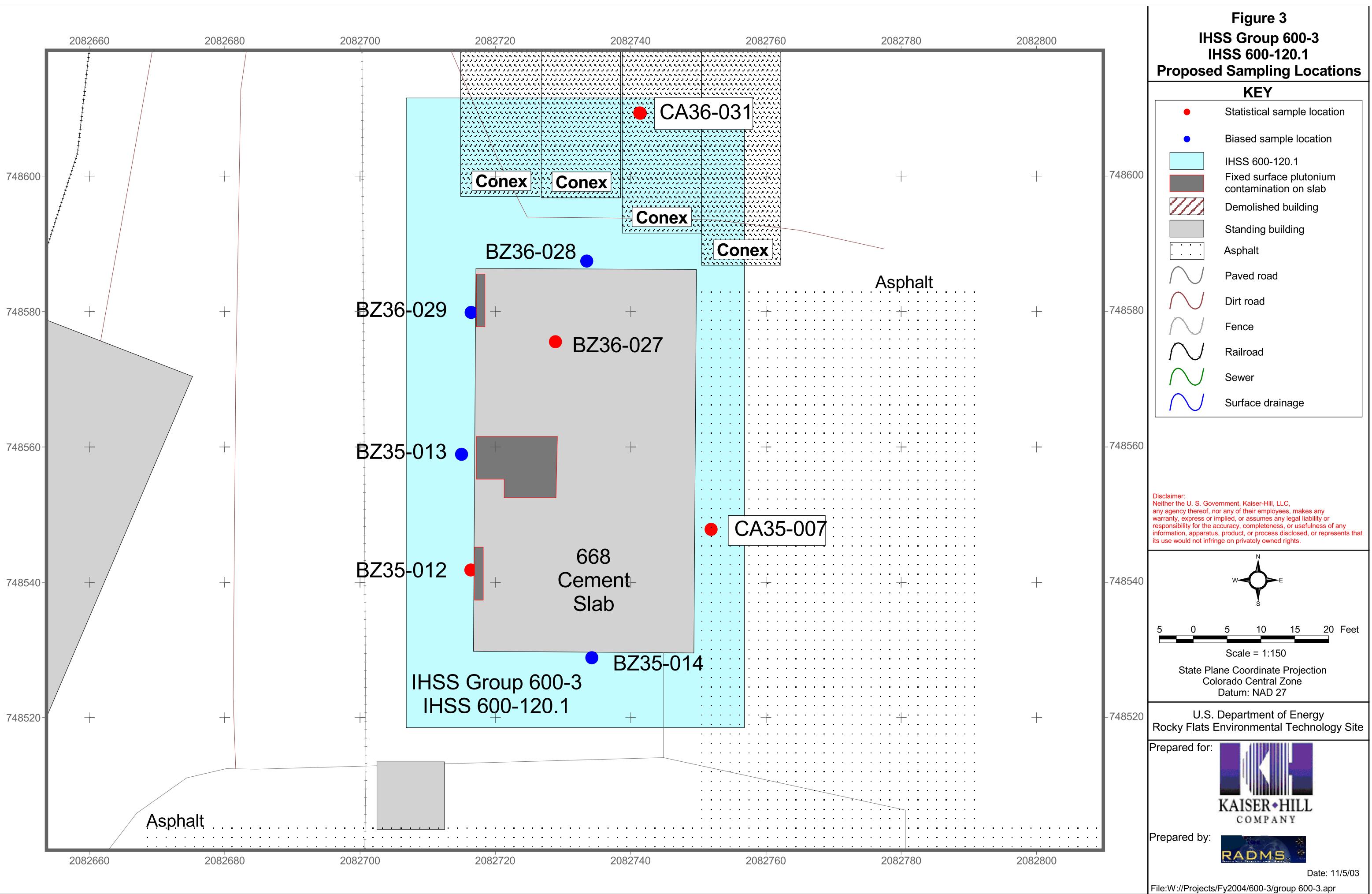
**Figure 1**  
**IHSS Group 600-3**  
**IHSS 600-120.1**  
**General Location**



**Figure 2**  
**IHSS Group 600-3**  
**IHSS 600-120.1**  
**Existing Sample Data**



**Figure 3**  
**IHSS Group 600-3**  
**IHSS 600-120.1**  
**Proposed Sampling Locations**



**Table 3**  
**Sampling Specifications for IHSS Group 600-3**

IHSS Group	IHSS/PAC/UBC Site	Location	Easting	Northing	Media	Depth Interval	Analyte	On-Site Laboratory Method	Off-Site Laboratory Method	Comments
600-3	600-120.1	CA36-031	2082741.389	748609.248	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		CA36-031	2082741.389	748609.248	Surface Soil	0-0.5'	Metals	6200	6010	Statistical
		CA36-031	2082741.389	748609.248	Surface Soil	0-0.5'	SVOCs	N/A	8270	Statistical
		CA36-031	2082741.389	748609.248	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		CA36-031	2082741.389	748609.248	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Statistical
		CA36-031	2082741.389	748609.248	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Statistical
		CA36-031	2082741.389	748609.248	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Statistical
		BZ36-027	2082728.872	748575.494	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		BZ36-027	2082728.872	748575.494	Surface Soil	0-0.5'	Metals	6200	6010	Statistical
		BZ36-027	2082728.872	748575.494	Surface Soil	0-0.5'	VOCs	8260	8260	Statistical
		BZ36-027	2082728.872	748575.494	Surface Soil	0-0.5'	SVOCs	N/A	8270	Statistical
		BZ36-027	2082728.872	748575.494	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		BZ36-027	2082728.872	748575.494	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Statistical
		BZ36-027	2082728.872	748575.494	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Statistical
		BZ36-027	2082728.872	748575.494	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Statistical

IHSS Group	IHSS/PAC/UBC Site	Location	Easting	Northing	Media	Depth Interval	Analyte	On-Site Laboratory Method	Off-Site Laboratory Method	Comments
		BZ36-028	2082733.467	748587.376	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ36-028	2082733.467	748587.376	Surface Soil	0-0.5'	Metals	6200	6010	Bias
		BZ36-028	2082733.467	748587.376	Surface Soil	0-0.5'	SVOCs	N/A	8270	Bias
	600-3	BZ36-028	2082733.467	748587.376	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ36-028	2082733.467	748587.376	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Bias
		BZ36-028	2082733.467	748587.376	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Bias
		BZ36-028	2082733.467	748587.376	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Bias
		BZ36-029	2082716.410	748579.824	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ36-029	2082716.410	748579.824	Surface Soil	0-0.5'	Metals	6200	6010	Bias
		BZ36-029	2082716.410	748579.824	Surface Soil	0-0.5'	SVOCs	N/A	8270	Bias
		BZ36-029	2082716.410	748579.824	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ36-029	2082716.410	748579.824	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Bias
		BZ36-029	2082716.410	748579.824	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Bias
		BZ36-029	2082716.410	748579.824	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Bias
	BZ35-012	2082716.355	748541.74	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Statistical	
	BZ35-012	2082716.355	748541.74	Surface Soil	0-0.5'	Metals	6200	6010	Statistical	
	BZ35-012	2082716.355	748541.74	Surface Soil	0-0.5'	SVOCs	N/A	8270	Statistical	

IHSS Group	IHSS/PAC/UBC Site	Location	Easting	Northing	Media	Depth Interval	Analyte	On-Site Laboratory Method	Off-Site Laboratory Method	Comments
		BZ35-012	2082716.355	748541.74	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		BZ35-012	2082716.355	748541.74	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Statistical
		BZ35-012	2082716.355	748541.74	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Statistical
		BZ35-012	2082716.355	748541.74	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Statistical
		CA35-007	2082751.845	748547.777	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		CA35-007	2082751.845	748547.777	Surface Soil	0-0.5'	Metals	6200	6010	Statistical
600-3	600-120.1	CA35-007	2082751.845	748547.777	Surface Soil	0-0.5'	SVOCs	N/A	8270	Statistical
		CA35-007	2082751.845	748547.777	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Statistical
		CA35-007	2082751.845	748547.777	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Statistical
		CA35-007	2082751.845	748547.777	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Statistical
		CA35-007	2082751.845	748547.777	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Statistical
		BZ35-013	2082714.978	748558.861	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ35-013	2082714.978	748558.861	Surface Soil	0-0.5'	Metals	6200	6010	Bias
		BZ35-013	2082714.978	748558.861	Surface Soil	0-0.5'	SVOCs	N/A	8270	Bias
		BZ35-013	2082714.978	748558.861	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ35-013	2082714.978	748558.861	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Bias
		BZ35-013	2082714.978	748558.861	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Bias

<b>IHSS Group</b>	<b>IHSS/PAC/UBC Site</b>	<b>Location</b>	<b>Easting</b>	<b>Northing</b>	<b>Media</b>	<b>Depth Interval</b>	<b>Analyte</b>	<b>On-Site Laboratory Method</b>	<b>Off-Site Laboratory Method</b>	<b>Comments</b>
		BZ35-013	2082714.978	748558.861	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Bias
		BZ35-014	2082734.249	748528.783	Surface Soil	0-0.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ35-014	2082734.249	748528.783	Surface Soil	0-0.5'	Metals	6200	6010	Bias
		BZ35-014	2082734.249	748528.783	Surface Soil	0-0.5'	SVOCs	N/A	8270	Bias
		BZ35-014	2082734.249	748528.783	Subsurface Soil	0.5-2.5'	Radionuclides	HPGe	Alpha Spec	Bias
		BZ35-014	2082734.249	748528.783	Subsurface Soil	0.5-2.5'	Metals	6200	6010	Bias
		BZ35-014	2082734.249	748528.783	Subsurface Soil	0.5-2.5'	VOCs	8260	8260	Bias
		BZ35-014	2082734.249	748528.783	Subsurface Soil	0.5-2.5'	SVOCs	N/A	8270	Bias

Three types of sampling strategies are used to determine sampling locations: statistical, biased, and geostatistical. Statistical grids have computer-generated random start points and orientations. The standard statistical grid size used here (i.e., the length between grid points) is 36 feet. Geostatistical samples supplement the statistical grid locations but will not be used at IHSS Group 600-3.

Samples will be analyzed in accordance with the IASAP (DOE 2001). The on-site laboratory will be used to analyze for radionuclides and metals.

**Table 2**  
**IHSS Group 600-3 Sampling Analysis Summary**

<b>Category</b>	<b>Total</b>
Number of Sampling Locations	8
Number of Samples	16
Number of Radionuclide Analyses	16
Number of Metal Analyses	16
Number of VOC Analyses	9
Number of SVOC Analyses	16

#### **4.0 REFERENCES**

DOE, 1992-2003, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado.

DOE, 2000, Industrial Area Data Summary Report, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2001, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

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