Addendum No. 1 to

Master Work Plan/Field Sampling and Analysis Plan, Co-Located Chemical Sampling at Area IV Santa Susana Field Laboratory, Ventura County, California

EPA Subarea 5B Soil Sampling

Prepared for:

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Prepared under:

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CDM Task Order DE-AT30-08CC60021/ET17

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EPA Subarea 5B Soil Sampling

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Introduction

This document supports the field implementation of the soil sampling program addressed in the *Master Work Plan (WP)/Field Sampling and Analysis Plan (FSAP), Co-Located Chemical Sampling at Area IV, Santa Susana Field Laboratory* (Master WP/FSAP, CDM 2010). The Master WP/FSAP dictates the field sampling, analytical, quality control, and data review procedures for the collection and chemical analysis of soil samples within Area IV of the Santa Susana Field Laboratory (SSFL) and the Northern Buffer Zone (NBZ), collectively termed the Area IV study area. As part of a radiological characterization study, the United States Environmental Protection Agency (EPA) is collecting surface and subsurface soil samples throughout Area IV of SSFL and the NBZ for the presence of radioactive elements (radionuclides). The California Department of Toxic Substances Control (DTSC) and Department of Energy (DOE) requested that soil collected by EPA also be analyzed for chemical analytes. DTSC and DOE agreed that the initial chemical sampling be done by DOE's contractor, CDM Federal Programs Corporation (CDM).

Purpose of Addendum

This addendum documents the rationale for the location and depth of surface and subsurface soil samples to be collected during the first phase of soil sampling within Subarea 5B. The specific locations of samples are provided in EPA's *Subarea 5B FSP Addendum, Santa Susana Field Laboratory Site, Area IV Radiological Study*, (HGL 2010). Soil sampling by EPA has been divided into two phases. The first phase is based on EPA's Historical Site Assessment (HSA) of Subarea 5B (that also included a gamma survey, geophysical survey, and review of prior data) with sample locations selected by EPA to address concerns identified in the HSA. A second phase of sampling, which is not covered by this Addendum, will involve further radionuclide characterization "step-out" samples. The need for chemical "step-out" samples will be determined on a case-by-case basis following a review of all chemical data collected for Area IV.

Under the co-located soil sampling program, EPA and its consultant (HydroGeoLogic or HGL) will physically collect the soil material. CDM personnel will be responsible for the sample container preparation, sample handling and documentation, sample shipment, laboratory procurement, chemical analyses of the samples, and chemical data review. Co-located soil samples collected by CDM will be analyzed for chemical analytes as stipulated in Table 4-1 (Data Quality Objectives) and Table 6-1 (Analytical Methods, Containers, Preservatives, and Holding Times) of the Master WP/FSAP (CDM 2010).

Figure 1 is a layout of EPA's Subarea 5B. The proposed sample locations are shown on Figures 2 through 9, which were taken from EPA's FSP Addendum for Subarea 5B

(HGL 2010). The basic descriptions and rationale for the soil sample locations for Subarea 5B are summarized in Table 1.

EPA's identified sample locations are based on radiological sampling needs determined by EPA, not chemical sampling needs for the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of Area IV. The sampling protocol for the targeting the depths of soil sample for chemical analyses are illustrated in Figures 5-1 and 5-2 of the Master WP/FSAP.

Soil samples for chemical analyses will not be collected from all locations identified by EPA for radionuclide analyses. Portions of the Subarea 5B study area have been subject to prior investigations under the RFI. Some locations have adequate data for use in determining the need for a soil cleanup action. Locations with adequate data will be discussed with DTSC personnel. Upon DTSC acceptance of a data adequacy determination, soil samples from those locations will not be subject to additional chemical characterization analyses as part of the co-located chemical sampling efforts.

The logic for selection co-located sample locations and analytical suites for soil samples for Subarea 5B have been discussed with DTSC personnel (geologists and chemists). The rationale for the overall co-located sampling has also been discussed with the community during meetings on October 12 and again on December 9, 2010. Recommendations for co-located sampling activities have been incorporated into the Master WP/FSAP.

Schedule

EPA initiated soil sampling within Subarea 5B on December 8, 2010 with the collection of surface soil samples identified in Table 1. Collection of subsurface samples will initiate in January 2011 following completion of soil boring sampling within Subarea 5C.

References

CDM Federal Programs Corporation (CDM). 2010. *Master Work Plan/Field Sampling and Analysis Plan Co-Located Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California.* December.

HydroGeoLogic, Inc. 2010. *Subarea 5B FSP Addendum, Santa Susana Field Laboratory Site, Area IV Radiological Study, Santa Susana Field Laboratory.* December.

FIGURES

HGL—Subarea 5B Addendum to FSP for Soil Sampling for Area IV Radiological Study, SSFL—Ventura County, CA

Figure 1
Subarea 5B Base Map
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:

Demolished

Existing

1 - 8 Subarea 5B Groups

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(1)Subarea5B_BaseMap_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

0 50 100 200
Scale In Feet

N

HydroGeoLogic, Inc

Figure 2
Subarea 5B Group 1 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:

- Demolished
- Existing
- 1 - 8 Subarea 5B Groups
- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 20 40 80
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(2)Group1ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc.

HGL—Subarea 5B Addendum to FSP for Soil Sampling for Area IV Radiological Study, SSFL—Ventura County, CA

Figure 3
Subarea 5B Group 2 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:

- Demolished
- Existing

1 - 8 Subarea 5B Groups

- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 15 30 60
Scale In Feet

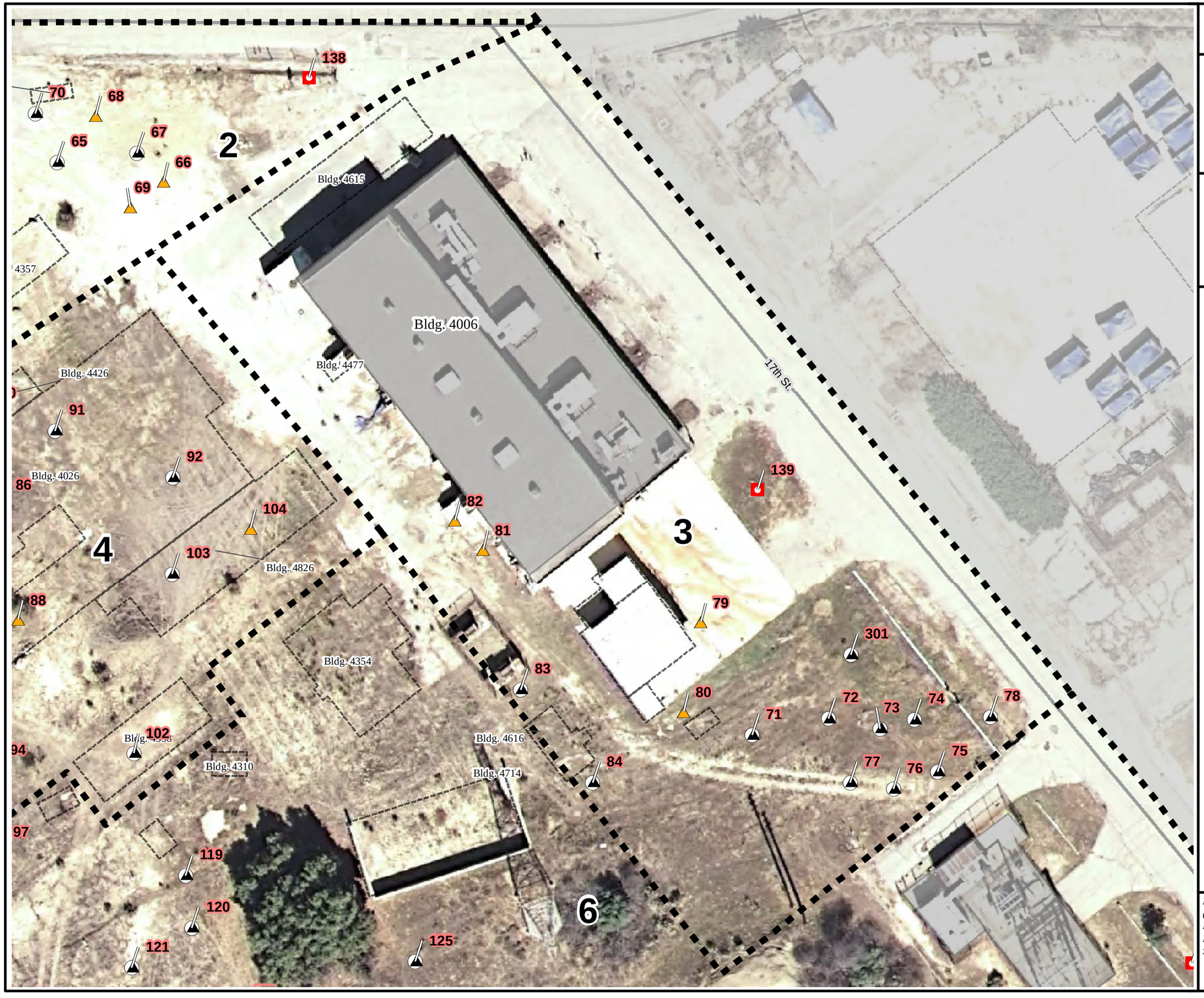
Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(3)Group2ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc

HGL—Subarea 5B Addendum to FSP for Soil Sampling for Area IV Radiological Study, SSFL—Ventura County, CA

Figure 4
Subarea 5B Group 3 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9



Legend

Buildings:

- Demolished
- Existing
- 1 - 8 Subarea 5B Groups
- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 12.5 25 50
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(4)Group3ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc

Figure 5
Subarea 5B Group 4 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:
- Demolished
- Existing

1 - 8 Subarea 5B Groups

- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 10 20 40
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(5)Group4ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc

HGL—Subarea 5B Addendum to FSP for Soil Sampling for Area IV Radiological Study, SSFL—Ventura County, CA

Figure 6
Subarea 5B Group 5 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:
- Demolished
- Existing

1 - 8 Subarea 5B Groups

- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 5 10 20
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(6)Group5ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc.

Figure 7
Subarea 5B Group 6 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:

- Demolished
- Existing

1 - 8 Subarea 5B Groups

- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 20 40 80
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(7)Group6ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc.

Figure 8
Subarea 5B Group 7 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:

- Demolished
- Existing
- 1 - 8 Subarea 5B Groups
- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 20 40 80
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(8)Group7ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc

Figure 9
Subarea 5B Group 8 Sample Locations
Santa Susana Field Laboratory

U.S. EPA Region 9

Legend

Buildings:

- Demolished
- Existing
- 1 - 8 Subarea 5B Groups
- Drainage Sample
- Storm Drain or Sewer Sample
- Subsurface Sample
- Surface and Subsurface Sample

(Grayed Symbols Represent Soil Samples from Subarea 5C)

N

0 25 50 100
Scale In Feet

Filepath: Y:/Santa_Susana/EP9038/Soil_Sampling/SubArea5B/(9)Group8ProposedSampleLocations_11x17.mxd
Project: EP9038
Edited By: 11/22/2010 TJ
Source: HGL 2010, CIRGIS 2007

HGL HydroGeoLogic, Inc

TABLES

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 1	Surface	1	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process knowledge and past facility operation history described in HSA Tech Memo
Group 1	Subsurface	1	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process knowledge and past facility operation history described in HSA Tech Memo
Group 1	Surface	2	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Subsurface	2	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Surface	3	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of pipewell sump (Dwg 303-010-S3)
Group 1	Subsurface	3	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of pipewell sump (Dwg 303-010-S3)
Group 1	Surface	4	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of NaK storage tanks T1, T4, and T5 (Dwg 303-010 E18)
Group 1	Subsurface	4	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of NaK storage tanks T1, T4, and T5 (Dwg 303-010 E18)
Group 1	Surface	5	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	5	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	6	Southeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of NaK storage tanks T1, T4, and T5 (Dwg 303-010 E18)
Group 1	Subsurface	6	Southeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of NaK storage tanks T1, T4, and T5 (Dwg 303-010 E18)
Group 1	Surface	7	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	7	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	8	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	8	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	9	Northwest Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	9	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	10	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	10	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	11	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of abandoned septic tank discharge line
Group 1	Subsurface	11	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of abandoned septic tank discharge line
Group 1	Surface	12	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	12	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	13	Southeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of NaK storage tanks T1, T4, and T5 (Dwg 303-010 E18)
Group 1	Subsurface	13	Southeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of NaK storage tanks T1, T4, and T5 (Dwg 303-010 E18)
Group 1	Surface	14	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	14	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 1	Subsurface	15	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	16	Inside footprint of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Surface	17	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	17	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Surface	18	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	18	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	19	East of Building 4010 and along septic tank discharge line	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Surface	20	East of Building 4010 and along septic tank discharge line	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	20	East of Building 4010 and along septic tank discharge line	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Subsurface	21	Southeast of Building 4012 footprint (SNAP Critical Test Facility)	Past facility operation history in HSA Tech Memo; location of former Building 4010 septic tank and leach field
Group 1	Surface	22	Along group 1 north fence	Aerial photo analysis show possible WDA-6
Group 1	Subsurface	22	Along group 1 north fence	Aerial photo analysis show possible WDA-6
Group 1	Subsurface	23	Along group 1 north fence	Aerial photo analysis show possible WDA-6
Group 1	Surface	24	Along group 1 north fence	Aerial photo analysis show possible OS-7
Group 1	Subsurface	24	Along group 1 north fence	Aerial photo analysis show possible OS-7
Group 1	Subsurface	25	Along group 1 north fence	Aerial photo analysis show probable stain
Group 1	Surface	26	Along group 1 north fence	Aerial photo analysis show OS
Group 1	Subsurface	26	Along group 1 north fence	Aerial photo analysis show OS
Group 1	Subsurface	27	North of Building 4019	Aerial photo analysis show OS-10 and probable stain
Group 1	Surface	27	North of Building 4019	Aerial photo analysis show OS-10 and probable stain
Group 1	Subsurface	28	North of Building 4019	Aerial photo analysis show OS-10 and probable stain
Group 1	Surface	29	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Subsurface	29	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Subsurface	30	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Surface	31	North of Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Subsurface	31	North of Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Surface	32	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)
Group 1	Subsurface	32	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 1	Subsurface	33	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)
Group 1	Surface	34	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Subsurface	34	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Surface	35	Area between Buildings 4010 and 4012 footprints	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	35	Area between Buildings 4010 and 4012 footprints	Geophysical survey indicates potential underground anomalies
Group 1	Surface	36	Area between Buildings 4010 and 4012 footprints	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	36	Area between Buildings 4010 and 4012 footprints	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	37	Area between Buildings 4010 and 4012 footprints	Geophysical survey indicates potential underground anomalies; ground-penetrating radar shows potential buried metal
Group 1	Surface	39	Area north of Building 4013	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	39	Area north of Building 4013	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	40	Northeast of Building 4019 (SNAP Flight System Nuclear Qual. Test Building)	Geophysical survey indicates potential underground anomalies; staining noted in aerial photo analysis
Group 1	Subsurface	41	Northeast of Building 4019	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	42	Northeast of Building 4019	Along the length of a sanitary sewage line
Group 1	Subsurface	43	Northeast of Building 4019	Along the length of a sanitary sewage line
Group 1	Subsurface	44	South of Building 4019	Location of radioactive liquid waste hold tank outside of room 107
Group 1	Subsurface	45	South of Building 4013	Along the length of a sanitary sewage line
Group 1	Subsurface	46	South of Building 4013	Along the length of a sanitary sewage line
Group 1	Subsurface	47	South of Building 4012	Along the length of a sanitary sewage line
Group 1	Surface	48	East of Building 4025 (Remote Handling Mock-up Building)	Location of a ground scar shown in the aerial photo analysis
Group 1	Subsurface	48	East of Building 4025 (Remote Handling Mock-up Building)	Location of a ground scar shown in the aerial photo analysis
Group 1	Surface	49	Inside footprint of Building 4025	Location of a pit on the south end of the Building footprint
Group 1	Subsurface	49	Inside footprint of Building 4025	Location of a pit on the south end of the Building footprint
Group 2	Subsurface	50	South of Building 4355 footprint (Control Center for SCTI)	Location probable leakage noted in aerial photos
Group 2	Surface	51	South of Building 4355 footprint	Location probable leakage noted in aerial photos
Group 2	Subsurface	51	South of Building 4355 footprint	Location probable leakage noted in aerial photos
Group 2	Subsurface	52	Far lower west side of group 2 in area of Building 4335 footprint	Location of stain noted in aerial photos
Group 2	Subsurface	53	Far lower west side of group 2 in area of Building 4335 footprint	Location of stain noted in aerial photos
Group 5	Surface	54	Far lower west side of group 2 in area of Building 4335 footprint	Location of stain noted in aerial photos

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 5	Subsurface	54	Far lower west side of group 2 in area of Building 4335 footprint	Location of stain noted in aerial photos
Group 2	Subsurface	55	Area over Building 4356 (Sodium Component Test Ins. High Bay) footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	56	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Surface	57	Area of northwest corner of Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	57	Area of northwest corner of Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	58	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Surface	59	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	59	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	60	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Surface	61	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	61	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Surface	62	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	62	Area over Building 4356 footprint	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	63	Area northwest of Building 4457 footprint	Geophysical survey indicates potential buried metal
Group 2	Surface	64	Area northwest of Building 4457 footprint	Geophysical survey indicates potential buried metal
Group 2	Subsurface	64	Area northwest of Building 4457 footprint	Geophysical survey indicates potential buried metal
Group 2	Surface	65	Area between Buildings 4457 and 4357 footprints	Aerial photos indicate presence of a possible stain
Group 2	Subsurface	65	Area between Buildings 4457 and 4357 footprints	Aerial photos indicate presence of a possible stain
Group 2	Subsurface	66	Area between northwest of Building 4006	Aerial photos indicate presence of a possible stain
Group 2	Surface	67	Area between northwest of Building 4006	Aerial photos indicate presence of an area of dark toned material
Group 2	Subsurface	67	Area between northwest of Building 4006	Aerial photos indicate presence of an area of dark toned material
Group 2	Subsurface	68	Area between northwest of Building 4006	Aerial photos indicate presence of an area of dark toned material
Group 2	Subsurface	69	Area east of Building 4357 footprint	Past facility operation history in HSA Tech Memo; location of sodium tank pit containment sump
Group 2	Surface	70	Area east of Building 4457 footprint	Past facility operation history in HSA Tech Memo; location of sodium tank pit and trench
Group 2	Subsurface	70	Area east of Building 4457 footprint	Past facility operation history in HSA Tech Memo; location of sodium tank pit and trench
Group 3	Surface	71	Area south of Building 4006 (Sodium Laboratory)	Geophysical survey indicates potential buried metal; location of potential gamma anomaly
Group 3	Subsurface	71	Area south of Building 4006	Geophysical survey indicates potential buried metal; location of potential gamma anomaly
Group 3	Surface	72	Area south of Building 4006	Geophysical survey indicates potential buried metal; location of potential gamma anomaly

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 3	Subsurface	72	Area south of Building 4006	Geophysical survey indicates potential buried metal; location of potential gamma anomaly
Group 3	Surface	73	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	73	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Surface	74	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	74	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Surface	75	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	75	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Surface	76	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	76	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Surface	77	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	77	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Surface	78	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	78	Area north of Building 4704 footprint	Location of potential gamma anomaly; location of stain noted in aerial photos
Group 3	Subsurface	79	Area east of Building 4816 footprint	Location of stain noted in aerial photos
Group 3	Subsurface	80	Area south of Building 4816 footprint	Location of possible leakage noted in aerial photos and horizontal tank
Group 3	Subsurface	81	Area southwest of Building 4006	Location of abandoned septic tank
Group 3	Subsurface	82	Area southwest of Building 4006	Location of abandoned septic tank
Group 3	Surface	83	Area north of Building 4616 footprint	Location of potential gamma anomaly
Group 3	Subsurface	83	Area north of Building 4616 footprint	Location of potential gamma anomaly
Group 3	Surface	84	Area south of Building 4616 footprint	Location of potential gamma anomaly
Group 3	Subsurface	84	Area south of Building 4616 footprint	Location of potential gamma anomaly
Group 4	Surface	85	Area south of Building 4226 footprint	Past facility operation history in HSA Tech Memo; location of former sump
Group 4	Subsurface	85	Area south of Building 4226 footprint	Past facility operation history in HSA Tech Memo; location of former sump
Group 4	Surface	86	Area inside Building 4026 (Large Component Test Loop Complex) footprint	Location of potential gamma anomaly
Group 4	Subsurface	86	Area inside Building 4026 footprint	Location of potential gamma anomaly
Group 4	Surface	87	Area inside Building 4026 footprint	Geophysical survey indicates potential underground anomalies and buried metal
Group 4	Subsurface	87	Area inside Building 4026 footprint	Geophysical survey indicates potential underground anomalies and buried metal
Group 4	Subsurface	88	Area inside Building 4026 footprint	Geophysical survey indicates potential underground anomalies and buried metal

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 4	Surface	89	Area north Building 4026 footprint	Past facility operation history in HSA Tech Memo; location of former catch basin
Group 4	Subsurface	89	Area north Building 4026 footprint	Past facility operation history in HSA Tech Memo; location of former catch basin
Group 4	Subsurface	90	Area inside Building 4026 footprint	Past facility operation history in HSA Tech Memo; location of former catch basin
Group 4	Surface	91	Area inside Building 4026 footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks
Group 4	Subsurface	91	Area inside Building 4026 footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks
Group 4	Surface	92	Area inside Building 4026 footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks
Group 4	Subsurface	92	Area inside Building 4026 footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks
Group 4	Subsurface	93	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 4	Subsurface	94	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 4	Surface	95	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 4	Subsurface	95	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 4	Subsurface	96	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 6	Subsurface	97	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 6	Surface	98	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 6	Subsurface	98	Area south Building 4226 and east 4358 footprints	Location of stain noted in aerial photos
Group 6	Subsurface	99	Area south of Building 4334 footprint	Location of "possible saturated material" noted in aerial photos
Group 6	Surface	100	Area south of Building 4334 footprint	Location of "possible saturated material" noted in aerial photos
Group 6	Subsurface	100	Area south of Building 4334 footprint	Location of "possible saturated material" noted in aerial photos
Group 6	Surface	101	Area south of Building 4334 footprint	Location of "possible saturated material" noted in aerial photos
Group 6	Subsurface	101	Area south of Building 4334 footprint	Location of "possible saturated material" noted in aerial photos
Group 4	Surface	102	Inside Building 4358 footprint	Location of "possible saturated material" noted in aerial photos
Group 4	Subsurface	102	Inside Building 4358 footprint	Location of "possible saturated material" noted in aerial photos
Group 4	Surface	103	Inside Building 4826 (Sodium Component Test Loop Test Facility) footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks and drains
Group 4	Subsurface	103	Inside Building 4826 (Sodium Component Test Loop Test Facility) footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks and drains
Group 4	Subsurface	104	Inside Building 4826 (Sodium Component Test Loop Test Facility) footprint	Past facility operation history in HSA Tech Memo; potential location of former sodium tanks and drains
Group 5	Surface	105	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 5	Subsurface	105	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 5	Subsurface	106	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 5	Subsurface	107	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 5	Surface	108	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies and buried metal
Group 5	Subsurface	108	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies and buried metal
Group 5	Surface	109	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 5	Subsurface	109	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 5	Subsurface	110	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 5	Subsurface	111	Area north of Building 4334 footprint	Geophysical survey indicates potential underground anomalies
Group 6	Subsurface	112	Area south of Building 4334 footprint	Potential leach field location
Group 6	Subsurface	113	Area south of Building 4334 footprint	Potential leach field location
Group 6	Surface	114	Area south of Building 4334 footprint	Potential leach field location
Group 6	Subsurface	114	Area south of Building 4334 footprint	Potential leach field location
Group 6	Subsurface	115	Area south of Building 4334 footprint	Potential leach field location
Group 6	Subsurface	116	Area south of Building 4334 footprint	Potential leach field location
Group 6	Surface	117	Area south of Building 4334 footprint	Potential leach field location
Group 6	Subsurface	117	Area south of Building 4334 footprint	Potential leach field location
Group 6	Surface	118	Area south of Building 4334 footprint	Potential leach field location
Group 6	Subsurface	118	Area south of Building 4334 footprint	Potential leach field location
Group 6	Surface	119	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	119	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	120	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	120	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	121	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	121	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	122	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	122	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	123	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	123	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	124	Central area of group 6	Location of potential gamma anomaly

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 6	Subsurface	124	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	125	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	125	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	126	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	126	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	128	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	128	Central area of group 6	Location of potential gamma anomaly
Group 6	Surface	129	Central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	129	Central area of group 6	Location of potential gamma anomaly
Group 6	Drainage	131	Storm drainage channel along 18th street	Potential surface migration through storm water runoff
Group 6	Drainage	132	Storm drainage channel along 18th street	Potential surface migration through storm water runoff
Group 6	Drainage	133	Storm drainage channel along 18th street	Potential surface migration through storm water runoff
Group 6	Drainage	134	Storm drainage channel along 18th street	Potential surface migration through storm water runoff
Group 6	Drainage	135	Storm drainage channel along 18th street	Potential surface migration through storm water runoff
Group 6	Drainage	136	Storm drainage channel at corner of 17th and 18th streets	Potential surface migration through storm water runoff
Group 1	Drainage	137	Storm grate along 17th street and southeast of PZ-121	Potential surface migration through storm water runoff
Group 2	Drainage	138	Storm drainage channel along 17th street and north of Building 4006	Potential surface migration through storm water runoff
Group 3	Drainage	139	Drainage sample along 17th street and near west corner of Building 4006	Potential surface migration through storm water runoff
Group 6	Drainage	140	Culvert along 20th street and near upper west corner of group 6	Potential surface migration through storm water runoff
Group 6	Drainage	141	Storm drainage channel and culvert at corner of 18th and 20th street	Potential surface migration through storm water runoff
Group 6	Surface	142	Lower central area of group 6	Past facility operation history in HSA Tech Memo; location of "vertical tank" noted in aerial photo
Group 6	Subsurface	142	Lower central area of group 6	Past facility operation history in HSA Tech Memo; location of "vertical tank" noted in aerial photo
Group 6	Surface	143	Lower central area of group 6	Location of potential gamma anomaly
Group 6	Subsurface	143	Lower central area of group 6	Location of potential gamma anomaly
Group 7	Drainage	144	Storm drainage channel at corner of 17th and G streets	Potential surface migration through storm water runoff
Group 7	Subsurface	145	Northest corner of Building 4011	Past facility operation history in HSA Tech Memo; potential location of septic tank noted in aerial photos
Group 7	Subsurface	146	Northest corner of Building 4011	Past facility operation history in HSA Tech Memo; potential location of septic tank noted in aerial photos
Group 7	Drainage	147	Drainage sample along G street and south of Building 4011	Potential surface migration through storm water runoff

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 7	Subsurface	148	Area between G street and Building 4011	Past facility operation history in HSA Tech Memo; location of OS-20 and possible stain noted in aerial photos
Group 7	Surface	149	Area between G street and Building 4011	Location of potential gamma anomaly
Group 7	Subsurface	149	Area between G street and Building 4011	Location of potential gamma anomaly
Group 7	Surface	150	Area between G street and Building 4011	Location of potential gamma anomaly
Group 7	Subsurface	150	Area between G street and Building 4011	Location of potential gamma anomaly
Group 7	Subsurface	151	Intersection of G street and 20th street	Geophysical survey indicates potential underground anomalies and probable stain noted in aerial photos
Group 7	Subsurface	152	Intersection of G street and 20th street	Geophysical survey indicates potential underground anomalies and probable stain noted in aerial photos
Group 7	Surface	153	Intersection of G street and 20th street	Geophysical survey indicates potential underground anomalies and probable stain noted in aerial photos
Group 7	Subsurface	153	Intersection of G street and 20th street	Geophysical survey indicates potential underground anomalies and probable stain noted in aerial photos
Group 7	Subsurface	154	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 7	Surface	155	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 7	Subsurface	155	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 7	Surface	156	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 7	Subsurface	156	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 7	Subsurface	157	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 7	Subsurface	158	Area between 20th street and Building 4011	Past facility operation history in HSA Tech Memo; probable stain and OS-15 noted in aerial photos
Group 8	Surface	159	North of control road IV and south of group 8	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	159	North of control road IV and south of group 8	Geophysical survey indicates potential underground anomaly
Group 8	Surface	160	Bottom of group 8 and east of PZ-051	Location of potential gamma and geophysical anomalies
Group 8	Subsurface	160	Bottom of group 8 and east of PZ-051	Location of potential gamma and geophysical anomalies
Group 8	Surface	161	Bottom of group 8 and east of PZ-051	Location of potential gamma and geophysical anomalies
Group 8	Subsurface	161	Bottom of group 8 and east of PZ-051	Location of potential gamma and geophysical anomalies
Group 8	Surface	162	Bottom of group 8 and east of PZ-051	Location of potential gamma and geophysical anomalies
Group 8	Subsurface	162	Bottom of group 8 and east of PZ-051	Location of potential gamma and geophysical anomalies
Group 8	Subsurface	163	Bottom of group 8 and east of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	164	Bottom of group 8 and east of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	165	Bottom of group 8 and east of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Surface	166	Bottom center of group 8 and east of PZ-051	Past facility operation history in HSA Tech Memo; "light toned mounded material" noted in aerial photos

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 8	Subsurface	166	Bottom center of group 8 and east of PZ-051	Past facility operation history in HSA Tech Memo; "light toned mounded material" noted in aerial photos
Group 8	Subsurface	167	Bottom center of group 8 and east of PZ-051	Past facility operation history in HSA Tech Memo; "light toned mounded material" noted in aerial photos
Group 8	Subsurface	168	Bottom center of group 8 and east of PZ-051	Past facility operation history in HSA Tech Memo; "light toned mounded material" noted in aerial photos
Group 8	Surface	169	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	169	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	170	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	171	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Surface	172	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	172	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Surface	173	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	173	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	174	Bottom of group 8 and west of PZ-051	Geophysical survey indicates potential underground anomaly
Group 8	Subsurface	175	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	176	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	176	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	177	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	178	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	178	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	179	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	180	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Surface	181	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	181	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	182	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	183	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	184	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	185	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Surface	186	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	186	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 8	Surface	187	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	187	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	188	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	189	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	189	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	190	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	191	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	192	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	192	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	193	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	194	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	194	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	195	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	196	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	196	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	197	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	198	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	198	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	199	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	199	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	200	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	201	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	202	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Subsurface	202	Southwest portion of group 8	Geophysical survey indicates potential underground anomaly and FA-11 aerial photo feature
Group 8	Surface	203	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	203	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Surface	204	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field
Group 8	Subsurface	204	Southwest portion of group 8	Geophysical survey indicates potential anomaly co-located with FA-11 aerial photo feature and leach field

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 8	Surface	205	Southwest portion of group 8	Aerial photos indicate a ground scar
Group 8	Subsurface	205	Southwest portion of group 8	Aerial photos indicate a ground scar
Group 8	Surface	206	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Subsurface	206	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Surface	207	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Subsurface	207	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Surface	208	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Subsurface	208	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Surface	209	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Subsurface	209	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Surface	210	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Subsurface	210	Eastern portion of group 8 and north and west of PZ-052	Location of potential gamma anomaly
Group 8	Surface	211	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Subsurface	211	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Drainage	212	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	213	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	214	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	215	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	216	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	217	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Surface	218	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	218	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	219	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Surface	220	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	220	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Drainage	221	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Surface	222	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	222	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 8	Surface	223	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	223	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Surface	224	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	224	Channel that drains into 17th street drainage area (north of berm)	Potential surface migration through storm water runoff
Group 8	Surface	225	Channel that drains into 17th street drainage area (south of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	225	Channel that drains into 17th street drainage area (south of berm)	Potential surface migration through storm water runoff
Group 8	Surface	226	Channel that drains into 17th street drainage area (south of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	226	Channel that drains into 17th street drainage area (south of berm)	Potential surface migration through storm water runoff
Group 8	Surface	227	Channel that drains into 17th street drainage area (south of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	227	Channel that drains into 17th street drainage area (south of berm)	Potential surface migration through storm water runoff
Group 1	Surface	229	East of Building 4010	Past facility operation history in HSA Tech Memo; location of SNAP 8 ER experimental reactor test
Group 1	Subsurface	229	East of Building 4010	Past facility operation history in HSA Tech Memo; location of SNAP 8 ER experimental reactor test
Group 1	Surface	230	East of Building 4010	Past facility operation history in HSA Tech Memo; location of SNAP 8 ER experimental reactor test
Group 1	Subsurface	230	East of Building 4010	Past facility operation history in HSA Tech Memo; location of SNAP 8 ER experimental reactor test
Group 1	Surface	231	East of Building 4010	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Subsurface	231	East of Building 4010	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 2	Surface	234	West of Building 4356	Improve general coverage of round 1 sampling
Group 2	Subsurface	234	West of Building 4356	Improve general coverage of round 1 sampling
Group 2	Surface	235	Area between 20th street and Building 4356	Improve general coverage of round 1 sampling
Group 2	Subsurface	235	Area between 20th street and Building 4356	Improve general coverage of round 1 sampling
Group 5	Surface	240	Far west side of group 5	Improve general coverage of round 1 sampling
Group 5	Subsurface	240	Far west side of group 5	Improve general coverage of round 1 sampling
Group 6	Surface	253	Open area on lower southwest corner of group 6	Improve general coverage of round 1 sampling
Group 6	Subsurface	253	Open area on lower southwest corner of group 6	Improve general coverage of round 1 sampling
Group 6	Surface	254	Open area on lower southwest corner of group 6	Improve general coverage of round 1 sampling
Group 6	Subsurface	254	Open area on lower southwest corner of group 6	Improve general coverage of round 1 sampling
Group 8	Surface	255	Channel that drains into 17th street drainage area (west of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	255	Channel that drains into 17th street drainage area (west of berm)	Potential surface migration through storm water runoff

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 6	Drainage	257	Storm drainage channel at corner of 17th and 18th streets	Potential surface migration through storm water runoff
Group 7	Drainage	258	Area north of Building 4500	Past facility operation history in HSA Tech Memo; location of OS-20 and possible stain noted in aerial photos
Group 7	Drainage	259	Area north of Building 4500	Past facility operation history in HSA Tech Memo; location of OS-20 and possible stain noted in aerial photos
Group 7	Surface	262	Area south of Building 4007 footprint	Location of potential gamma anomaly
Group 7	Subsurface	262	Area south of Building 4007 footprint	Location of potential gamma anomaly
Group 7	Surface	263	Area between Buildings 4007 and 4008 footprints	Improve general coverage of round 1 sampling
Group 7	Subsurface	263	Area between Buildings 4007 and 4008 footprints	Improve general coverage of round 1 sampling
Group 7	Surface	264	Area south of Building 4007 footprint	Location of potential gamma anomaly
Group 7	Subsurface	264	Area south of Building 4007 footprint	Location of potential gamma anomaly
Group 8	Surface	269	Area of southeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	269	Area of southeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	270	Area of southeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	270	Area of southeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	271	Area of southeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	271	Area of southeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	272	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Subsurface	272	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Surface	273	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Subsurface	273	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Surface	274	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Subsurface	274	Eastern portion of group 8	Location of potential gamma anomaly
Group 8	Surface	275	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	275	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	276	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	276	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	277	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	277	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	278	Northeast corner of group 8	Location of potential gamma anomaly

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 8	Subsurface	278	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Surface	279	Northeast corner of group 8	Location of potential gamma anomaly
Group 8	Subsurface	279	Northeast corner of group 8	Location of potential gamma anomaly
Group 1	Surface	280	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Subsurface	280	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Surface	281	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Subsurface	281	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Surface	282	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Subsurface	282	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Surface	283	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Subsurface	283	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 8	Drainage	284	Lower central area of group 8	Channel that drains into 17th street drainage area (south of berm)
Group 8	Drainage	285	Lower area of group 8 at 20th Street and G Street	Channel that drains south into subarea 5C
Group 8	Drainage	286	Lower area of group 8 at 20th Street and G Street	Channel that drains south into subarea 5C
Group 1	Surface	287	Immediately east of Building 4025	Area south of location of a ground scar shown in the aerial photo analysis
Group 1	Subsurface	287	Immediately east of Building 4025	Area south of location of a ground scar shown in the aerial photo analysis
Group 1	Drainage	289	Storm channel along 17th street and south of PZ-121	Potential surface migration through storm water runoff
Group 1	Drainage	290	Storm channel along 17th street and southwest of PZ-121	Potential surface migration through storm water runoff
Group 1	Surface	291	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	291	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	292	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Subsurface	292	Inside Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history described in HSA Tech Memo; location of reactor pit; elevated Co-60 soil concentration.
Group 1	Surface	294	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Subsurface	294	Inside Building 4012 footprint in area of critical cell (room 110)	Past facility operation history in HSA Tech Memo; location of SNAP critical cell and assembly
Group 1	Surface	295	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Subsurface	295	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Surface	296	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly
Group 1	Subsurface	296	Within footprint of Building 4013	Location of potential gamma anomaly and geophysical anomaly

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification
Group 1	Surface	297	Area north of Building 4013	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	297	Area north of Building 4013	Geophysical survey indicates potential underground anomalies
Group 1	Subsurface	298	Area north of Building 4013	Geophysical survey indicates potential underground anomalies
Group 1	Surface	298	Area north of Building 4013	Geophysical survey indicates potential underground anomalies
Group 2	Surface	299	Area east of concrete pad	Geophysical survey indicates potential underground anomalies
Group 2	Subsurface	299	Area east of concrete pad	Geophysical survey indicates potential underground anomalies
Group 3	Surface	301	Area east of Building 4816 footprint	Improve general coverage of round 1 sampling
Group 3	Subsurface	301	Area east of Building 4816 footprint	Improve general coverage of round 1 sampling
Group 7	Drainage	302	Culvert along 17th street between transformer yard and 17th street	Potential surface migration through storm water runoff
Group 7	Drainage	303	Culvert along 17th street between transformer yard and 17th street	Potential surface migration through storm water runoff
Group 8	Surface	304	Channel that drains into 17th street drainage area (west of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	304	Channel that drains into 17th street drainage area (west of berm)	Potential surface migration through storm water runoff
Group 8	Surface	305	Channel that drains into 17th street drainage area (west of berm)	Potential surface migration through storm water runoff
Group 8	Subsurface	305	Channel that drains into 17th street drainage area (west of berm)	Potential surface migration through storm water runoff
Group 1	Surface	306	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of abandoned septic tank discharge line
Group 1	Subsurface	306	Northwest of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Past facility operation history in HSA Tech Memo; location of abandoned septic tank discharge line
Group 1	Surface	307	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)
Group 1	Subsurface	307	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)
Group 1	Surface	308	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)
Group 1	Subsurface	308	Southwest of Building 4012 footprint (outside of room 104)	Past facility operation history in HSA Tech Memo; location of rad. liq. waste tank aka "survey tank" (Dwg 303-012-A1)
Group 1	Surface	309	East of Building 4010	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Subsurface	309	East of Building 4010	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Surface	310	East of Building 4010	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Subsurface	310	East of Building 4010	Process and past facility operation history described in HSA Tech Memo; location of gas hold-up tank (Dwg 303-010-M6)
Group 1	Surface	311	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of pipewell sump (Dwg 303-010-S3)
Group 1	Subsurface	311	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of pipewell sump (Dwg 303-010-S3)
Group 1	Surface	312	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of pipewell sump (Dwg 303-010-S3)
Group 1	Subsurface	312	Northeast of Building 4010 footprint (SNAP 2 Experimental Reactor Building)	Process and past facility operation history described in HSA Tech Memo; location of pipewell sump (Dwg 303-010-S3)

Table 1
Summary of Soil Sample Locations in Subarea 5B

Group	Sample Type	Location ID	Location Description	Technical Justification

Notes:

All surface and subsurface soil samples are collected following decision rules in the master document except in unique locations such as in area of Building 4010. Within the footprint and outside perimeter of Building 4010, the target sample collection interval is 15 - 20 feet bgs based on the 17 foot reported depth of the reactor vault.

Samples in shallower depth intervals will be collected only if gamma scan results indicate it necessary. This decision rationale will also apply to the sampling locations at the gas hold tank since the reported depth of the vault bottom is 14 feet bgs. The same rationale will apply to the pipewell sump location since the bottom of this tank is at an approximate depth of 16 feet bgs. This decision rationale will also apply to the sampling locations at the survey tank location west of Building 4012 since the reported depth of the vault bottom is 14 feet bgs. Soil samples from shallower depth intervals will be collected only if gamma anomalies are identified.

At the three leach field locations within Subarea 5B, the target depth interval will be 3 - 5 feet bgs based on typical design details for the leach field that serves Building 4010 that indicates the depth of the leach field piping at approximately 36 inches bgs. Samples in the 5 - 10 feet depth interval will be collected only if gamma anomalies are identified.

Removed from sampling plan by DOE/DTSC

AST - abovegound storage tank

bgs - below ground surface

D&D - decontamination and decommissioning

HSA - Historical Site Assessment

IM - impoundment

OS - open storage

MTMM - medium toned mounded material

SS - site-specific

SSFL - Santa Susana Field Laboratory

WDA - waste disposal area