

**PROJECT SPECIFIC PLAN FOR  
PREDESIGN INVESTIGATION IN AREA 7  
(SUPPLEMENT TO 20300-PSP-0011)**

**DEMOLITION, SOIL AND DISPOSAL PROJECT**

**FERNALD CLOSURE PROJECT  
FERNALD, OHIO**



**FEBRUARY 2005**

**U.S. DEPARTMENT OF ENERGY**

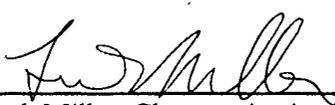
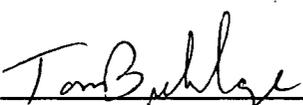
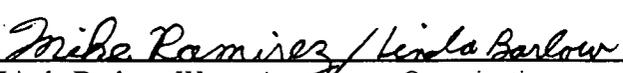
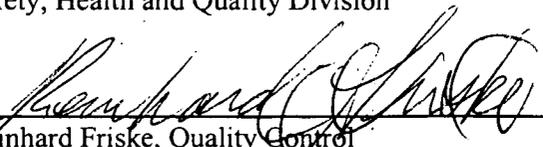
**20500-PSP-0005  
REVISION 1  
FINAL**

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(SUPPLEMENT TO 20300-PSP-0011)**

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**FERNALD CLOSURE PROJECT**

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## LIST OF ACRONYMS AND ABBREVIATIONS

A7PI	Area 7, Phase I
ALS	Analytical Laboratory Services
ASCOC	area-specific constituent of concern
ASL	analytical support level
AWWT	Advanced Wastewater Treatment (Facility)
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	constituent of concern
DOE	U.S. Department of Energy
DQO	Data Quality Objectives
EMS	Excavation Monitoring System
FCP	Fernald Closure Project
FRL	final remediation level
GC	gas chromatograph
GPC	gas proportional counting
HPGe	high-purity germanium (detector)
ICP-AES	inductively couple plasma-atomic electron spectrometry
ICP-MS	inductively coupled plasma-mass spectrometry
IMHR	Impacted Material Haul Road
LCS	liquid scintillation counting
µg/kg	micrograms per kilogram
MDL	minimum detection level
mg/kg	milligrams per kilogram
OSDF	On-Site Disposal Facility
OU5	Operable Unit 5
PCB	polychlorinated biphenyl
pCi/g	picoCuries per gram
ppm	parts per million
PSP	Project Specific Plan
QC	Quality Control
RI/FS	Remedial Investigation/Feasibility Study
RSS	Radiation Scanning System
RTRAK	Real-Time Radiation Tracking System
RWP	Radiological Work Permit
SCQ	Sitewide CERCLA Quality Assurance Project Plan
SED	Sitewide Environmental Database
SEP	Sitewide Excavation Plan
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
V/FCN	Variance/Field Change Notice
WAC	Waste Acceptance Criteria

## 1.0 INTRODUCTION

This Project Specific Plan (PSP) describes the data collection activities necessary to support predesign activities in Area 7. The format of this PSP differs from that of previously submitted PSPs as this PSP only presents the specific information regarding Area 7. The general information that is routinely addressed in a PSP can be found in 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*. While this PSP has section headings similar to a full-length PSP, where the information in the section is identical to the information in the General PSP (20300-PSP-0011), a reference to this General PSP is made, and the information is not repeated.

### 1.1 PURPOSE

The purpose of this PSP is to provide specific direction regarding the predesign sampling of Area 7. This detailed information includes reasons for sample collection, sample locations, number of borings, depth intervals, and constituents of concern.

### 1.2 SCOPE

The area included within the scope of this PSP is Area 7, which is shown on Figure 1-1. The area identified on the figure as Area 7, Phase I (A7PI) is not included in the scope of this PSP. A7PI predesign was performed under the *Project Specific Plan for WAC Attainment Sampling of Area 7 Soils* (20500-PSP-0001). The schedule for implementation of this PSP for the remainder of Area 7 is expected to begin Fall 2004.

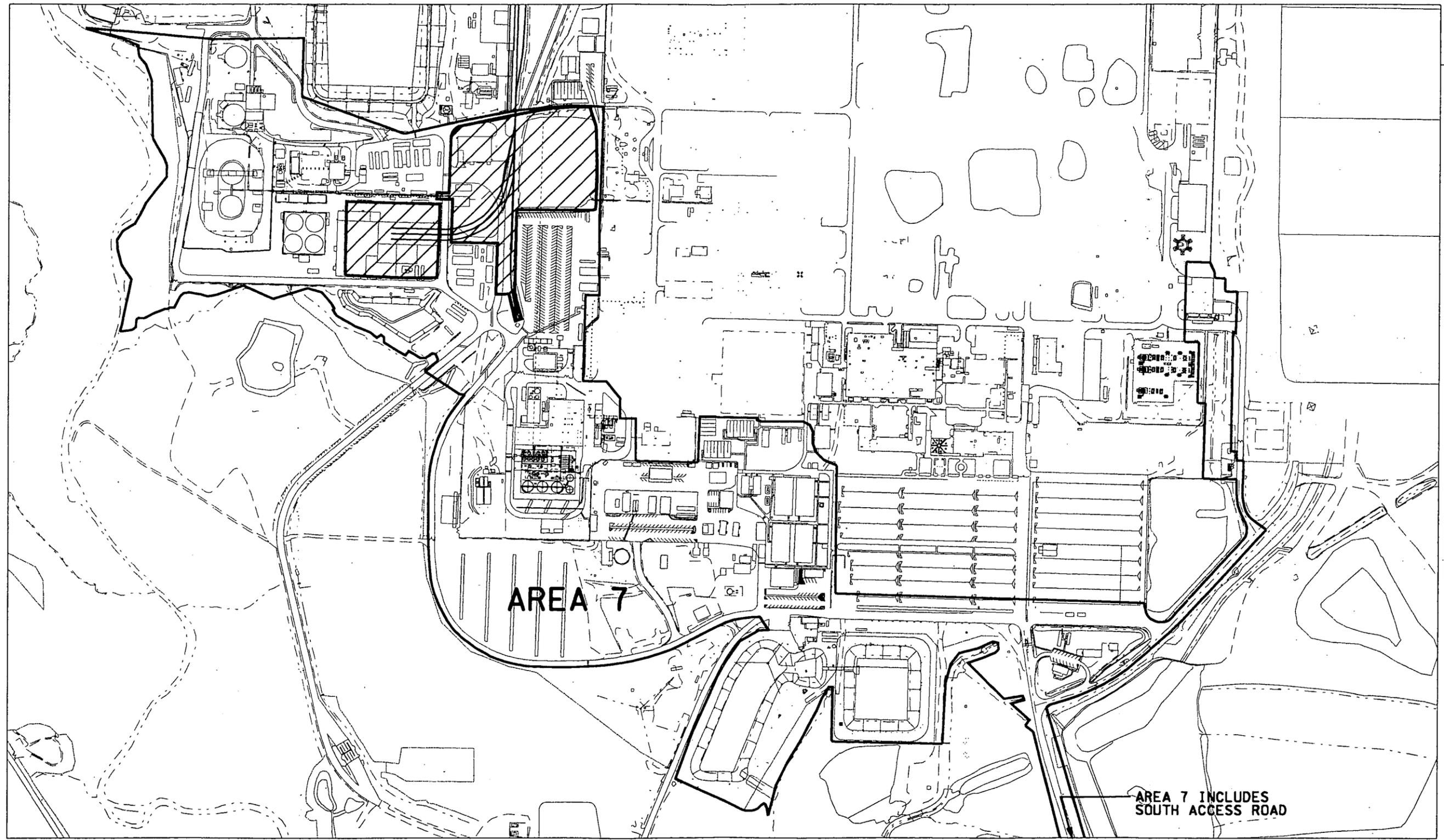
This PSP is not considered a work authorization document (for implementation of fieldwork) per SH-0021, Work Permits. Work authorization documents directing the implementation of fieldwork, per SH-0021, may include applicable Environmental Services procedures, Fluor Fernald work permits, Radiological Work Permit (RWP), penetration permits, and other applicable permits.

### 1.3 VARIANCE/FIELD CHANGE NOTICE (V/FCN) DOCUMENTATION

Refer to Section 7.5 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*.

### 1.4 KEY PERSONNEL

Refer to Section 1.4 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*.



AREA 7

AREA 7 INCLUDES SOUTH ACCESS ROAD

LEGEND:

 AREA 7 PHASE I

SCALE  
  
 350 175 0 350 FEET

FIGURE 1-1. AREA 7 LOCATION MAP

## 2.0 AREA-SPECIFIC WORK REMAINING STATUS

### 2.1 AREA 7

#### 2.1.1 History

Remediation Area 7 encompasses approximately 85 acres of the Fernald Closure Project (FCP). As shown on Figure 1-1, the majority of Area 7 is located to the west and south of the former production area, with a portion located south of the main parking lot and just east of Area 5. Area 7 is bordered by Paddys Run to the west and Area 1 to the east. Areas 1 and 2 serve as a southern border while the Waste Pits, Areas 4B and 5 are to the north.

As shown on Figure 2-1, Area 7 has been broken up into five subareas to better manage pre-design and data management activities. A description of predominant features and facilities located within each subarea is described below:

#### **Subarea 1**

- Silos 1, 2, 3 and 4
- Area between the Silos and Paddys Run
- Basin due south of the Silos Treatment Facility
- Silos support trailers, parking lots, and perimeter road

Also included in Subarea 1 is A7PI. Remedial soil excavation was completed in A7PI during the summer and fall of 2002 in order to prepare a remediated footprint for construction of the Silos Project Remediation Facility as well as the Treatment Facility Warehouse.

A7PI, as shown on Figure 1-1, included the following distinct areas for remedial excavation:

- Remediation Facility Footprint
- High Nitrate Tank (18M) Footprint
- Warehouse Footprint
- Impacted Material Haul Road (IMHR)
- Railroad Spur Area
- K-65 Trench
- Lime Sludge Pond

The goal for remedial excavation in A7PI was to remove all soil exceeding the established final remediation levels (FRLs), and this was demonstrated through soil characterization activities. Additional information related to A7PI remedial excavation is discussed in the *Post-Excavation As-Built Report for Area 7, Phase I* (20501-RP-0001).

**Subarea 2**

- Building 30/45 Parking Lot
- West Access Road
- Advanced Wastewater Treatment (AWWT) Facility
- Trailers associated with laboratory functions

**Subarea 3**

- Construction Overflow Parking Lot and associated trailers
- Trailer complex and green space south of the laboratory building
- Silos Truck Staging Area

**Subarea 4**

- Storm Water Retention Basins

**Subarea 5**

- South Access Road
- North Access Road leading to Building 82 and support area parking

Also included in Subarea 5 are some areas that were previously considered to be a part of Remediation Area 5, and predesign was completed during the fall of 2002 under the *Project Specific Plan for Predesign Investigation in Area 5* (20810-PSP-0005). These areas include the Security Complex Trailers and adjacent area just west of the South Access Road, and the area south of Building 82 and east of the electrical substation.

**High Leachability Area**

A portion of Area 7 has been identified as a high leachability area. This area is shown on Figure 2-1. The FRL of total uranium for the soil in this area is 20 milligrams per kilogram (mg/kg).

**2.1.2 Predesign**

Predesign will be performed under the guidelines of Section 4.0 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*.

**2.1.2.1 Scope**

This PSP covers all data collection activities associated with predesign in Area 7. This PSP supplements previous investigations for Area 7 and does not cover any certification sampling. A total of 119 boring locations have initially been selected within this investigation area for radiological field frisking and submittal for analysis. If anomalous material, including evidence of fill, is found in the boring, then a geologist will be notified to further define the material's characteristics. Full lithological characterization

by a geologist will not be performed. Refer to Section 4.3 for a detailed description of physical sample identification. As much of the investigation area as possible will be scanned with real-time *in situ* Radiation Scanning System (RSS) and high-purity germanium (HPGe) detectors.

All data collection activities will be consistent with the Sitewide Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Quality Assurance Plan (SCQ) and Section 3.1 of the Sitewide Excavation Plan (SEP). Physical samples will be collected in accordance with the Data Quality Objectives (DQO) SL-048. Real-time data collection activities will be in accordance with DQOs SL-054 and SL-055. These DQOs are provided in Appendix A of the General PSP (20300-PSP-0011). The data obtained will be utilized to assess whether constituent of concern (COC) concentrations in these areas are lower than the FRLs outlined in the Operable Unit 5 (OU5) Record of Decision. In addition to FRL assessment, the data will also be used to determine whether soil and soil-like material from the area meet the On-Site Disposal Facility (OSDF) waste acceptance criteria (WAC), as defined in the SEP, the OSDF WAC Attainment Plan, and the Impacted Materials Placement Plan.

#### 2.1.2.2 Determination of FRL COCs and WAC COCs

Using the OU5 Remedial Investigation/Feasibility Study (RI/FS) data for Area 7 and Table 2-7 of the SEP, a list of FRL and WAC COCs was determined. The WAC and FRL COCs for Area 7 are listed in Sections 2.1.2.2.1 and 2.1.2.2.2 of this document, respectively.

##### 2.1.2.2.1 WAC COCs

The Area 7 data from the RI/FS were compared to the OSDF WAC to identify areas that exceed the OSDF WAC. A list of these constituents is given below as the WAC COCs for Area 7.

- Uranium
- Technetium-99

##### 2.1.2.2.2 FRL COCs

The FRL area-specific constituents of concern (ASCOCs) for Area 7 are as follows:

##### **Primary COCs**

- Radium-226
- Radium-228
- Thorium-228
- Thorium-232
- Total Uranium

### Secondary COCs

- Aroclor-1254
- Aroclor-1260
- Arsenic
- Beryllium
- Cesium-137
- Dieldrin
- Lead
- Lead-210
- Manganese
- Technetium-99
- Thorium-230

#### 2.1.2.3 Sampling Strategy

The physical sampling strategy is based upon existing data within Area 7 as well as process knowledge. All historical boring locations that exist in Area 7 were plotted on a map and the corresponding ASCOC data was evaluated for above-FRL conditions. Areas where “data gaps” exist were also identified. Figure 2-2 shows the numerous historical boring locations for Area 7.

##### 2.1.2.3.1 WAC Sampling Strategy

Prior to Silos Project construction activities, existing data from the areas targeted for construction or excavation were evaluated for above-WAC conditions. One boring, CIS\_SYSGEN\_286, was identified as above-WAC for technetium-99, and was bound by physical samples collected under the *Project Specific Plan for WAC Attainment Sampling of Area 7 Soils* (20500-PSP-0001). The location of boring CIS\_SYSGEN\_286 is shown on Figure 2-2. Additional physical samples were collected from the areas targeted for construction or excavation and no other above-WAC conditions were identified.

As part of planning for predesign sampling under this PSP, the existing data for the entire Area 7 has been evaluated for above-WAC conditions. No additional locations have been identified within Area 7, therefore predesign samples are not being collected specifically for WAC bounding.

##### 2.1.2.3.2 FRL Sampling Strategy

Figures 2-3, 2-4, 2-7, 2-8, 2-9, 2-11, and 2-13 show all above-FRL boring locations for each subarea. Physical samples will be collected to bound above-FRL locations, both horizontally and at depth, where results are greater than the FRL and are not currently bound by other physical samples. Physical sampling will follow one of the strategies outlined below:

- Areas where multiple above-FRL borings have been identified and are in close proximity to one another, the borings may be bound together as a group, either by new borings or existing physical sample locations. Confirmatory borings will be located near (within 1 foot of, but not at the exact location as) some or all of the original above-FRL borings. Adjustments will be made to boring locations to account for factors such as structures, utilities, drainage, and existing data.
- In cases where an above-FRL boring has been identified, and is not located near other above-FRL borings, a confirmatory boring will be located near (within 1 foot of, but not at the exact location as) the original above-FRL boring, and a ring of borings will be located 5 feet in radius from the original boring in each of the four cardinal directions. This will be referred to as the “5-foot pattern”. Adjustments will be made to boring locations to account for factors such as structures, utilities, drainage, and existing data.
- If an above-FRL boring is bound at depth, and is not located near other borings, a ring of lateral bounding borings will be placed 5 feet in radius from the original boring in each of the four cardinal directions. Adjustments will be made to boring locations to account for factors such as structures, utilities, drainage, and existing data.

New investigational borings will also be sampled to fill in “data gaps” and better define the extent of contamination.

The Sampling and Analytical Requirements are listed in Table 2-1. Appendix A contains the Target Analyte Lists (TALs) and the Boring Table and Sample Identifiers are provided in Appendix B. A description of sampling that will occur in each Subarea is discussed below.

### Subarea 1

Within Subarea 1, ten new investigational borings have been targeted to fill in data gaps. The new borings, A7-SA1-1 through A7-SA1-10, as shown on Figure 2-5, will be extended to a depth of 3 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The samples collected from borings A7-SA1-1 through A7-SA1-5 will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), cesium-137, lead-210, technetium-99, thorium-230 (TAL C), arsenic, beryllium (TAL D), lead, manganese (TAL G), aroclor-1254, and aroclor-1260 (TAL E). The samples collected from borings A7-SA1-6 through A7-SA1-10 will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), arsenic, beryllium (TAL D), aroclor-1254, and aroclor-1260 (TAL E).

The remaining borings to be sampled within Subarea 1 are shown on Figure 2-5, and are being targeted for bounding of above-FRL locations as described below.

- Four new bounding borings will be placed around the area where Silos 1 and 2 are now situated. See Figure 2-5 to see the placement of borings A7-SA1-11 through A7-SA1-14. The four borings will bound the following above-FRL borings, shown on Figure 2-3: WPA29, WPA33, ZONE 3-250, ZONE 3-208, A7-B16, 1615, 1617, 1618, 1620, 1621, 1622, and 1623. The four new borings will be extended to a depth of 8 feet and samples will be collected from the 0 to 0.5, 1.5 to 2, 2.5 to 3, 3.5 to 4, 4.5 to 5, 5.5 to 6, 6.5 to 7, 7.5 to 8-foot intervals. The samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), cesium-137, lead-210, technetium-99, thorium-230 (TAL C), arsenic, beryllium (TAL D), lead, manganese (TAL G), aroclor-1254, and aroclor-1260 (TAL E).
  - Radium-226 was detected at 2.3 picoCuries per gram (pCi/g) in the 0.17 to 0.33-foot interval of boring ZONE 3-250. The next sample interval, 0.33 to 0.5 feet, was not analyzed for radium-226.
  - Borings A7-B16 and ZONE 3-208 will be bound together. A7-B16 is above-FRL for total uranium with a result of 94.2 mg/kg at the 0 to 0.5-foot interval. ZONE 3-208 is above-FRL for thorium-232 with a result of 1.7 pCi/g at the 0.17 to 0.33-foot interval.
  - Boring WPA33 is above-FRL for aroclor-1254 with a result of 1700 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) at the 0 to 0.5-foot interval, and it is not bound at depth.
  - Slant borings 1615, 1617, 1618, 1620, 1621, 1622, and 1623, sampled in 1991, were placed around Silos 1 and 2 to characterize the soil beneath the Silos, and above-FRL concentrations of uranium, radium-226, thorium-228, and lead-210 were identified at 4.5 feet beneath Silos 1 and 2. The uranium concentrations ranged from 101 to 160 mg/kg; radium-226 from 3.67 to 876 pCi/g; thorium-228 from 1.84 to 14.9 pCi/g; and lead-210 from 97.9 to 417 pCi/g.
  - Borings A7-WTTA1, A7-WTTA2, and A7-WTTA3, located just west of the Transfer Tank Area Building, were extended to a depth of 5.5 feet and samples were collected from the 0 to 0.5-foot, 2 to 2.5-foot, and 5 to 5.5-foot intervals. Above-FRL concentrations of arsenic and radium-226 were identified in borings A7-WTTA1 and A7-WTTA2. Arsenic was bound at the 5 to 5.5-foot interval but radium-226 is not bound at depth. A7-WTTA3 contained above-FRL concentrations of radium-226 as well but was bound at the 5 to 5.5-foot interval.
- Boring WPA34, on Figure 2-3, is above-FRL for arsenic with a result of 32.5 mg/kg at the 0 to 0.5-foot interval. The next sample interval was not analyzed for arsenic. Boring CIS\_SYSGEN\_317, on Figure 2-3, is above-FRL for total uranium, radium-226, and thorium-228 with results of 427 mg/kg, 3.8 pCi/g, and 8.3 pCi/g, respectively, at the 0 to 0.16-foot interval. Samples were not collected from a deeper interval. Both WPA34 and CIS\_SYSGEN\_317 will be bound together by four new borings, A7-SA1-15 through A7-SA1-18, shown on Figure 2-5. The new borings will each be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. Each sample will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), and arsenic (TAL J).
- Borings CIS\_SYSGEN\_320, CIS\_SYSGEN\_333, LSP-SS-13, and LSP-SS-14, shown on Figure 2-3, will be bound together by borings A7-SA1-19 through A7-SA1-24, shown on Figure 2-5. Boring CIS\_SYSGEN\_320, sampled at the 0 to 0.17-foot and 0.17 to 0.5-foot intervals, is above-FRL for total uranium, radium-226, and thorium-232 at both intervals. CIS\_SYSGEN\_333, sampled to a depth of 0.76 feet, is above-FRL at the 0 to 0.5-foot interval for total uranium, radium-226, and thorium-232 with results of 82.8 mg/kg, 1.8 pCi/g, and 2.0 pCi/g,

respectively. Total uranium, radium-226, radium-228, thorium-228, thorium-232, aroclor-1254, and beryllium were detected in boring LSP-SS-13 at the 0 to 0.5-foot depth. Total uranium, beryllium, radium-226, radium-228, thorium-228, and total thorium (13.6 mg/kg calculated from the thorium-232 isotope), are above-FRL in boring LSP-SS-14 at the 0 to 0.5-foot interval. The bounding borings will be placed as shown on Figure 2-5. Each boring will be extended to a depth of 3.5 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 3 to 3.5-foot intervals. The samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), beryllium (TAL K), and aroclor-1254 (TAL L).

- Boring 11070 (see Figure 2-3), sampled during the RI/FS, was extended to a depth of 15.5 feet and samples were collected from various intervals (0 to 0.5 feet, 2 to 2.5 feet, 5 to 5.5 feet, 10 to 10.5, and 15 to 15.5 feet) and analyzed for total uranium and total thorium. Each interval was greater than the FRL for total thorium (13.6 mg/kg calculated from the thorium-232 isotope) at 18 mg/kg each, except for the 2 to 2.5-foot interval which was 19 mg/kg. These levels are suspect since the detection limit for thorium for similar borings in this series was between 18 mg/kg and 23 mg/kg, therefore, a confirmatory boring, A7-SA1-25 (see Figure 2-5), will be placed near the original boring and extended to a depth of 16 feet. Samples will be collected from the same depths as the original boring as well as the 15.5 to 16-foot interval, and the samples will be analyzed for thorium-232 (TAL N).
- Boring ZONE 1-130 (see Figure 2-3) sampled to a depth of 0.5 feet, is above-FRL for radium-226 with a result of 4.4 pCi/g. Since this area was scraped to build the Silos perimeter road, a confirmatory boring, A7-SA1-26 (see Figure 2-5), will be placed within 1 foot of boring ZONE 1-130. The boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The new samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, and thorium-232 (TAL A).
- Shown on Figure 2-3, boring ZONE 3-149, which is located on the berm of a detention basin, was sampled from the 0 to 0.17-foot interval, and was analyzed for various radiological constituents. The location is above-FRL for thorium-232 with a result of 5.2 pCi/g. A confirmatory boring, A7-SA1-27 (see Figure 2-5), will be placed within 1 foot of boring ZONE 3-149. The boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The new samples will be analyzed for thorium-232 (TAL N).
- Two new borings, A7-SA1-28 and A7-SA1-29, shown on Figure 2-5, will be placed 10 feet north of the K-65 Trench, north of CIS\_SYSGEN\_243 and CIS\_SYSGEN\_289 (see Figure 2-3), respectively. Both borings were above-FRL for radium-226 in the 0 to 0.5-foot interval. The new borings will be extended to a depth of 6.5 feet and samples will be collected at the 0 to 0.5 and 6 to 6.5-foot intervals. The samples will be analyzed for total uranium (TAL H), technetium-99 (TAL I), and radium-226 (TAL M).
- Following removal of the Silos 1 and 2 berm, borings A7-SA1-30 through A7-SA1-32, shown on Figure 2-6, will be placed 5 feet to the north, west and south, respectively, of the K-65 decant sump. Samples will be collected at the 0 to 0.5, 1 to 1.5, 2 to 2.5, 3 to 3.5, 4 to 4.5, and 4.5 to 5-foot intervals. The samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), cesium-137, lead-210, technetium-99, thorium-230 (TAL C), arsenic, beryllium (TAL D), lead, and manganese (TAL G).

- In 1993, borings collected in the area between Silos 1 and 2 and Paddys Run identified radium-226, arsenic, and beryllium contamination. The contamination ranged in depth from surface to 8.5 feet. In 1997, following the collapse of soil into the streambed, samples were collected from the collapsed soil to ensure the soil met WAC. Sample results indicated that the soil was below-WAC, however, above-FRL radium-226 was identified. Above-FRL borings collected in 1993 and 1997 are identified on Figure 2-4. Borings A7-SA1-33 through A7-SA1-36, shown on Figure 2-6, will bound this area. The borings will be extended to a depth of 10 feet and samples will be collected from the following intervals: 0 to 0.5, 1 to 1.5, 2 to 2.5, 3 to 3.5, 4 to 4.5, 5 to 5.5, 6 to 6.5, 7 to 7.5, 8 to 8.5, 9 to 9.5, and 9.5 to 10. The samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), cesium-137, lead-210, technetium-99, thorium-230 (TAL C), arsenic, beryllium (TAL D), lead, and manganese (TAL G).
- Boring WPA18, shown on Figure 2-3, is above-FRL for the following constituents: benzo(a)anthracene in the 1.3 to 1.8-foot interval; benzo(b)fluoranthene in the 1.5 to 1.9-foot interval; and benzo(a)pyrene in the 1.5 to 2-foot interval. The constituents are area specific ecological constituents of concern but a confirmatory boring, A7-SA1-37, shown on Figure 2-5, will be placed within 1 foot of WPA18, and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The samples will be analyzed for benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene (TAL P).
- The following borings, shown on Figure 2-3, are located in the area surrounding Silo 3: CIS\_SYSGEN\_323, CIS\_SYSGEN\_326, CIS\_SYSGEN\_335, CIS\_SYSGEN\_336, CIS\_SYSGEN\_337, CIS\_SYSGEN\_339, CIS\_SYSGEN\_342, CIS\_SYSGEN\_346, CIS\_SYSGEN\_347, CIS\_SYSGEN\_349, CIS\_SYSGEN\_351, CIS\_SYSGEN\_352, and CIS\_SYSGEN\_360. One boring, CIS\_SYSGEN\_323, was sampled to a depth of 1 foot, while the remaining borings ranged in depths of 0 to 0.16 to 0 to 0.5 feet. The samples were above-FRL for various radiological constituents. The area surrounding Silo 3 was excavated prior to the construction of the support structures currently in the area, however, two borings, A7-SA1-38 and A7-SA1-39, will be placed, as shown on Figure 2-5. These new borings will be sampled near historical borings CIS\_SYSGEN\_323 and CIS\_SYSGEN\_351, respectively. Two samples are to be collected from each boring, one from the first 6 inches of any fill soil that may exist as well as the first 6 inches of native soil. The samples will be submitted for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), cesium-137, lead-210, technetium-99, thorium-230 (TAL C), arsenic, beryllium (TAL D), lead, manganese (TAL G), aroclor-1254, and aroclor-1260 (TAL E).

## Subarea 2

To fill data gaps within Subarea 2, five investigational borings have been planned, and are identified as A7-SA2-1 through A7-SA2-5, as shown on Figure 2-8. Each boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. Each sample will be analyzed for total uranium, radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), and polychlorinated biphenyls (PCBs, TAL E).

The remaining borings to be sampled within Subarea 2 are shown on Figure 2-8 and are being targeted for bounding of above-FRL locations as described below.

- Shown on Figure 2-7, the following borings are not bound at depth and will be bound together: CIS\_SYSGEN\_180, PA-SS-14, CIS\_SYSGEN\_140, CIS\_SYSGEN\_147, CIS\_SYSGEN\_148, CIS\_SYSGEN\_156, CIS\_SYSGEN\_157, PA-SS-14, and ZONE 2-141. Boring CIS\_SYSGEN\_180 is above-FRL in the 0.16-0.5-foot interval for radium-226 (4.1 pCi/g) and thorium-232 (7.8 pCi/g); in the 1 to 1.5-foot sample interval, boring PA-SS-14 contains a beryllium FRL exceedance of 2.1 mg/kg; boring ZONE 2-141 is above-FRL at the 0 to 0.5-foot interval, with FRL exceedances of uranium, radium-228 and thorium-228; and the remaining borings are above-FRL for thorium-232 at the 0 to 0.5-foot interval, with results ranging from 1.8 pCi/g to 2.5 pCi/g. Four new borings, A7-SA2-6 through A7-SA2-9, shown on Figure 2-8, will be placed to laterally bound all of the above-FRL borings. The new borings will be extended to a depth of 3 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), and beryllium (TAL K). New borings will also be placed within 1 foot of borings CIS\_SYSGEN\_180, PA-SS-14, CIS\_SYSGEN\_157, and ZONE 2-141 to provide bounding at depth. The new borings (on Figure 2-8), A7-SA2-10, A7-SA2-11, A7-SA2-12, and A7-SA2-13, respectively, will be extended to a depth of 4.5 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, 2.5 to 3, and 4 to 4.5-foot intervals. The samples will be analyzed for total uranium, radium-226, radium-228, thorium-228, thorium-232 (TAL A), and beryllium (TAL K).
- Boring PA-SS-15 (see Figure 2-7), which is located in the high leachability area, is above-FRL for uranium at the 0 to 0.5-foot interval with a result of 74 mg/kg. Uranium is bound at the 1 to 1.5-foot interval. New borings, A7-SA2-14 through A7-SA2-17 (see Figure 2-8), will be placed in the four cardinal directions from the center of boring PA-SS-15. The borings will be extended to a depth of 3 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The samples will be analyzed for uranium (TAL H).
- In an effort to laterally bound A2P2-PP-16 for total uranium, borings A7P3-AWWT7 through A7P3-AWWT10 were placed around boring A2P2-PP-16 and samples were collected from the 1.5 to 2-foot and 3.5 to 4.0-foot intervals (see Figure 2-7). The southern bounding borings, A7P3-AWWT8 and A7P3-AWWT9 were below FRL for both sample intervals. Boring A7P3-AWWT7, situated northeast of A2P2-PP-16, was above-FRL at the 1.5 to 2-foot interval but below the FRL at the 3.5 to 4.0-foot interval. Northwest boring A7P3-AWWT10 was above-FRL at both sample intervals. To bound A7P3-AWWT10 at depth, boring A7-SA2-20 will be placed within 1 foot of it and samples will be collected from the 4.0 to 4.5, 5.5 to 6.0, and 6.5 to 7.0-foot intervals. For additional bounding, boring A7-SA2-18 will be placed to the 5 feet northeast of A7P3-AWWT7 and A7-SA2-19 will be placed 5 feet north west of A7P3-AWWT10. Samples will be collected from the 1.5 to 2-foot and 3.5 to 4.0-foot intervals. All samples will be analyzed for total uranium (TAL H). The three bounding borings are shown on Figure 2-8.
- Boring A7P3-AWWT14 (see Figure 2-7), located in the high leachability zone, has a total uranium FRL exceedance of 37 parts per million (ppm) at the 1 to 1.5-foot interval. The boring is bound at 2 to 2.5 feet. Borings A7-SA2-21 through A7-SA2-24 (see Figure 2-8) will be placed in the four cardinal directions from the center of boring A7P3-AWWT14. The borings will be extended to a depth of 4.5 feet and samples will be collected at the 0 to 0.5-foot, 1 to 1.5-foot, 3 to 3.5-foot, and 4 to 4.5-foot intervals. Samples will be analyzed for total uranium (TAL H).
- An above-FRL concentration of beryllium has been identified (1.85 mg/kg) at the 0 to 0.5-foot interval of boring A7P3-AWWT12, shown on Figure 2-7. The boring is bound at depth in the 1 to 1.5-foot interval. Borings A7-SA2-25 through A7-SA2-28, shown on Figure 2-8, will be placed in the four cardinal directions from the center of boring A7P3-AWWT12. The borings

will be extended to a depth of 3.5 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 3 to 3.5-foot intervals. Samples will be analyzed for beryllium (TAL K).

- Boring ZONE 2-37, as shown on Figure 2-7, is located in the high leachability area, and has a historical FRL exceedance for total uranium at the 0 to 0.5-foot interval. This area has been scraped since boring ZONE 2-37 was collected. Therefore, a confirmatory boring, A7-SA2-29, shown on Figure 2-8, will be placed near ZONE 2-37 to verify if above-FRL uranium remains. The new boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. Samples will be analyzed for total uranium (TAL H).
- Boring 1267 is above-FRL at the 0 to 0.5-foot interval for total uranium and total thorium (13.6 mg/kg calculated from the thorium-232 isotope) but it is bound at the 3.5-foot interval. A7P3-AWWT16 is above the thorium-232 FRL with a result of 1.56 pCi/g at the 0 to 0.5-foot interval but it is bound at the 1 to 1.5-foot interval with a result of 1.23 pCi/g. Borings 1267 and A7P3-AWWT16, shown on Figure 2-7, will be bound together with four new borings, A7-SA2-30 through A7-SA2-33, as shown on Figure 2-8. The borings will be extended to a depth of 3 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The samples will be analyzed for total uranium (TAL H) and thorium-232 (TAL N).
- Borings P34-1 and P34-6 contained above-FRL uranium and thorium results while P34-2 contained above-FRL total thorium results. Borings P34-1 and P34-2 also contained selenium results that exceeded 20 times the toxicity characteristic leaching procedure (TCLP) limit, with results ranging from 60.2 mg/kg to 154 mg/kg. Confirmatory borings A7-SA2-34, A7-SA2-35, and A7-SA2-36 (shown on Figure 2-8) will be placed within 1 foot of borings P34-1, P34-2, and P34-6, respectively (shown on Figure 2-7). Boring A7-SA2-34 will be extended to a depth of 6 feet, and samples will be collected at the 0 to 0.5, 1.5 to 2, 2.5 to 3, 3.5 to 4, 4.5 to 5, and 5.5 to 6-foot intervals. The samples will be analyzed for total uranium (TAL H), thorium-228 (TAL O), thorium-232 (TAL N), and total selenium (TAL Q) to confirm its persistence in the environment. Boring A7-SA2-35 will be extended to a depth of 4 feet, and samples will be collected at the 0 to 0.5, 1.5 to 2, 2.5 to 3, and 3.5 to 4-foot intervals. The samples will be analyzed for thorium-228 (TAL O), thorium-232 (TAL N), and total selenium (TAL Q). Boring A7-SA2-36 will be extended to a depth of 4 feet, and samples will be collected at the 0 to 0.5, 1.5 to 2, 2.5 to 3, and 3.5 to 4-foot intervals. The samples will be analyzed for thorium-228 (TAL O) and thorium-232 (TAL N). Borings P34-1, P34-2, P34-3, P34-4, P34-5, and P34-6 will be bound with four new borings, A7-SA2-37 through A7-SA2-40, as shown on Figure 2-8. The borings will be extended to a depth of 6 feet, and samples will be collected at the 0 to 0.5, 1.5 to 2, 2.5 to 3, 3.5 to 4, 4.5 to 5, and 5.5 to 6-foot intervals. The samples will be analyzed for total uranium, radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), and total selenium (TAL Q). If any sample submitted for total selenium analysis exceeds the "20 times" TCLP limit rule, then a V/FCN will be generated to submit the sample for TCLP selenium analysis.

A confirmatory boring, A7P3-AWWT1, was placed near boring 11069 to evaluate elevated total uranium and total thorium (13.6 mg/kg calculated from the thorium-232 isotope) results. Samples were collected from the same intervals as boring 11069 and were analyzed for total uranium and thorium-232. All samples were below the FRLs, therefore this boring will not be evaluated further under this PSP.

### Subarea 3

New borings within Subarea 3 are shown on Figure 2-10. There are 12 investigational borings that have been planned to fill data gaps, and the borings are identified as A7-SA3-1 through A7-SA3-12. Borings A7-SA3-1 and A7-SA3-8 through A7-SA3-12 will each be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. Each sample will be analyzed for total uranium, radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), and PCBs (TAL E). Borings A7-SA3-2 through A7-SA3-7 will each be extended to a depth of 8 feet and samples will be collected from the 0 to 0.5, 1.5 to 2, 2.5 to 3, 3.5 to 4, 4.5 to 5, 5.5 to 6, 6.5 to 7, and 7.5 to 8-foot intervals. Each sample will be analyzed for total uranium, radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), and PCBs (TAL E). As shown on Figure 2-10, borings A7-SA3-2 through A7-SA3-5 are placed around an area that has been identified, through historical photographs as well as a magnetometer scan completed in April 2004, to contain five shallow trenches (4 to 5 feet deep) of buried laboratory equipment. The borings are not being placed directly in the trenches as the historical photographs show that the trenches contain pieces of laboratory equipment that are considered shock sensitive (perchloric acid hoods). The borings are placed around the trenches to bound the area that will be excavated to remove the buried debris. Borings A7-SA3-6 and A7-SA3-8 are placed to investigate an area that, based on historical documents, is suspected to contain buried drummed waste.

The remaining borings to be sampled within Subarea 4 are shown on Figure 2-10, and are being targeted for bounding of above-FRL locations as described below.

- RI/FS boring ZONE 2-38, shown on Figure 2-9, falls in the high leachability area and contains a total uranium concentration of 26.09 mg/kg at the 0 to 0.5-foot interval, which is greater than the 20 ppm total uranium FRL. The boring is not bound laterally or at depth. New borings, A7-SA3-13 through A7-SA3-17, shown on Figure 2-10, will be placed in the 5-foot pattern around boring ZONE 2-38. The borings will be extended to a depth of 3.5 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 3 to 3.5-foot intervals. Each sample collected will be analyzed for total uranium (TAL H).
- Boring 11100, shown on Figure 2-9, was originally sampled at various intervals to a depth of 15.5 feet, and contains above-FRL concentrations of aroclor-1254 in the 0 to 0.5-foot and 1 to 1.5-foot intervals (2200 µg/kg and 2400 µg/kg, respectively). Beryllium is also above-FRL in the 2.5 to 3-foot and 15 to 15.5-foot intervals (1.6 mg/kg and 2.8 mg/kg, respectively). A confirmatory boring, A7-SA3-18, shown on Figure 2-10, will be placed within 1 foot of boring 11100, and extended to a depth of 16 feet. Samples will be taken at the 0 to 0.5, 1 to 1.5, 2.5 to 3, 6 to 6.5, 9 to 9.5, 12 to 12.5, 15 to 15.5 and 15.5 to 16-foot intervals and will be analyzed for total uranium (TAL H), beryllium (TAL K), and aroclor-1254 (TAL L). The samples will also be analyzed for technetium-99 (TAL I) due to the proximity to an above-WAC technetium-99 boring that was near the lab building in Area 4B.

- Shown on Figure 2-9, borings 1269 and 1270 are in the high leachability zone, and are both above-FRL for total uranium at the 0 to 0.5-foot interval with results of 27 ppm and 64 ppm, respectively. Both borings are bound at the 2 to 2.5-foot interval. Boring 11200 will bound the borings to the north. A new boring, A7-SA3-8, will bound boring 1269 to the southwest, and another one, A7-SA3-19, will bound boring 1270 to the southeast. Both new borings, shown on Figure 2-10, will be extended to a depth of 3 feet. Samples will be collected at the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The southwest boring, A7-SA3-8, will be analyzed for total uranium radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), aroclor-1254, and aroclor-1260 (TAL E). The boring to the southeast, A7-SA3-19, will be analyzed for total uranium (TAL H).

#### Subarea 4

As shown on Figure 2-12, nine investigational borings have been planned for Subarea 4 to fill data gaps. Each boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. Each sample will be analyzed for total uranium, radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), and PCBs (TAL E).

Confirmatory borings were sampled in February 2004 on RI/FS borings 11080 and 11081, shown on Figure 2-11, which exhibited greater than FRL results for total thorium (13.6 mg/kg calculated from the thorium-232 isotope). The confirmatory borings were sampled at the same depth and intervals as the RI/FS borings and all samples were confirmed to be below the thorium-232 FRL.

#### Subarea 5

To fill data gaps in Subarea 5, ten investigational borings, A7-SA5-1 through A7-SA5-10, and are shown on Figures 2-14 and 2-15. Each boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. Each sample will be analyzed for total uranium, radium-228, thorium-228, thorium-232 (TAL B), arsenic, beryllium (TAL D), PCBs (TAL E), and dieldrin (TAL F).

The remaining borings to be sampled within Subarea 5 are shown on Figure 2-14, and are being targeted for bounding of above-FRL locations as described below.

- Locations A5P-14 and ESA-10, shown on Figure 2-13, are both above-FRL for aroclor-1254 (292 µg/kg and 200 µg/kg, respectively) at the 0 to 0.5-foot interval. As shown on Figure 2-14, boring A7-SA5-11 will be placed 5 feet north of A5P-14, boring A7-SA5-12 will be placed 5 feet south of ESA-10, and boring A7-SA5-13 will be placed to the east of both borings. The borings will be extended to a depth of 3 feet and samples will be collected at the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. All samples will be analyzed for aroclor-1254 (TAL L).

- Shown on Figure 2-13, boring A7P3-SWC-1 was sampled to a depth of 6 inches and was above-FRL for aroclor-1254 with a result of 152  $\mu\text{g}/\text{kg}$ . The boring is bound for aroclor-1254 to the northwest by boring A7P3-SWC-2. Since a 6-inch scrape was completed in this area, a new boring, A7-SA5-14, shown on Figure 2-14, will be placed within 1 foot of A7P3-SWC-1 to determine if above-FRL aroclor-1254 remains. The boring will be extended to a depth of 3 feet and samples will be collected from the 0 to 0.5, 1 to 1.5, and 2.5 to 3-foot intervals. The samples will be analyzed for aroclor-1254 (TAL L).

In the 0 to 0.5-foot interval, boring A7EAST9 was above-FRL for aroclor-1254 and aroclor-1260; and boring A7EAST10 was above-FRL for dieldrin, aroclor-1254, and aroclor-1260. Both borings, shown on Figure 2-13, were bound in the 0.5 to 1-foot intervals. Following sample analysis, a 6-inch scrape was completed in this area to capture the contamination; therefore, additional samples will not be collected. This remediation was performed during the Area 1, Phase IV remediation effort in preparation of the OSDF Valve House 8 construction.

### 2.1.3 Excavation Control

Section 2.1.3 is not applicable to this PSP.

**TABLE 2-1  
SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte <sup>a, c</sup>	Method	Hold Time	Preservative	Container <sup>b</sup>	Minimum Mass <sup>c</sup>
TAL A or H or HI or N or HN or NO (rads only)	Gamma Spec, Alpha Spec, GPC, or LSC	12 mos	None	Appropriate size glass or plastic with Teflon lined lid	300 g
TAL AJ or ACDG or AK or HNOQ or NOQ or BDQ (rads/metals)	Gamma Spec, Alpha Spec, GPC, or LSC	12 mos	Cool 4° C (due to metals)	Appropriate size glass or plastic with Teflon lined lid	350 g
	ICP-AES or ICP-MS	6 mos			
TAL ACDE or ADE or AKL or BDE or HKLI or BDEF (rads/metals/pest/pcbs)	Gamma Spec, Alpha Spec, GPC, or LSC	12 mos	Cool 4° C (due to metals and pest/pcbs)	Appropriate size glass with Teflon lined lid	500 g
	ICP-AES or ICP-MS	6 mos			
	GC	14 days			
TAL K (metals only)	ICP-AES or ICP-MS	6 mos	Cool 4° C	Appropriate size glass or plastic with Teflon lined lid	50 g
TAL P (polyaromatic hydrocarbon)	GC	14 days	Cool 4° C	Appropriate size glass with Teflon lined lid	100 g
TAL L (pcbs)	GC	14 days	Cool 4° C	Appropriate size glass with Teflon lined lid	100 g

<sup>a</sup> Samples will be analyzed according to Analytical Support Level (ASL) B requirements but the minimum detection level may cause some analyses to be considered ASL E.

<sup>b</sup> Sample container types may be changed at the direction of the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, and SCQ requirements are met.

<sup>c</sup> At the direction of the Field Sampling Lead, one sample per Chain of Custody/Request for Analysis form shall be identified as "designated for laboratory Quality Control (QC)". One sample for each TAL combination shall be identified as "designated for lab QC" if samples requesting different analyses are included on the same Chain of Custody/Request for Analysis form.

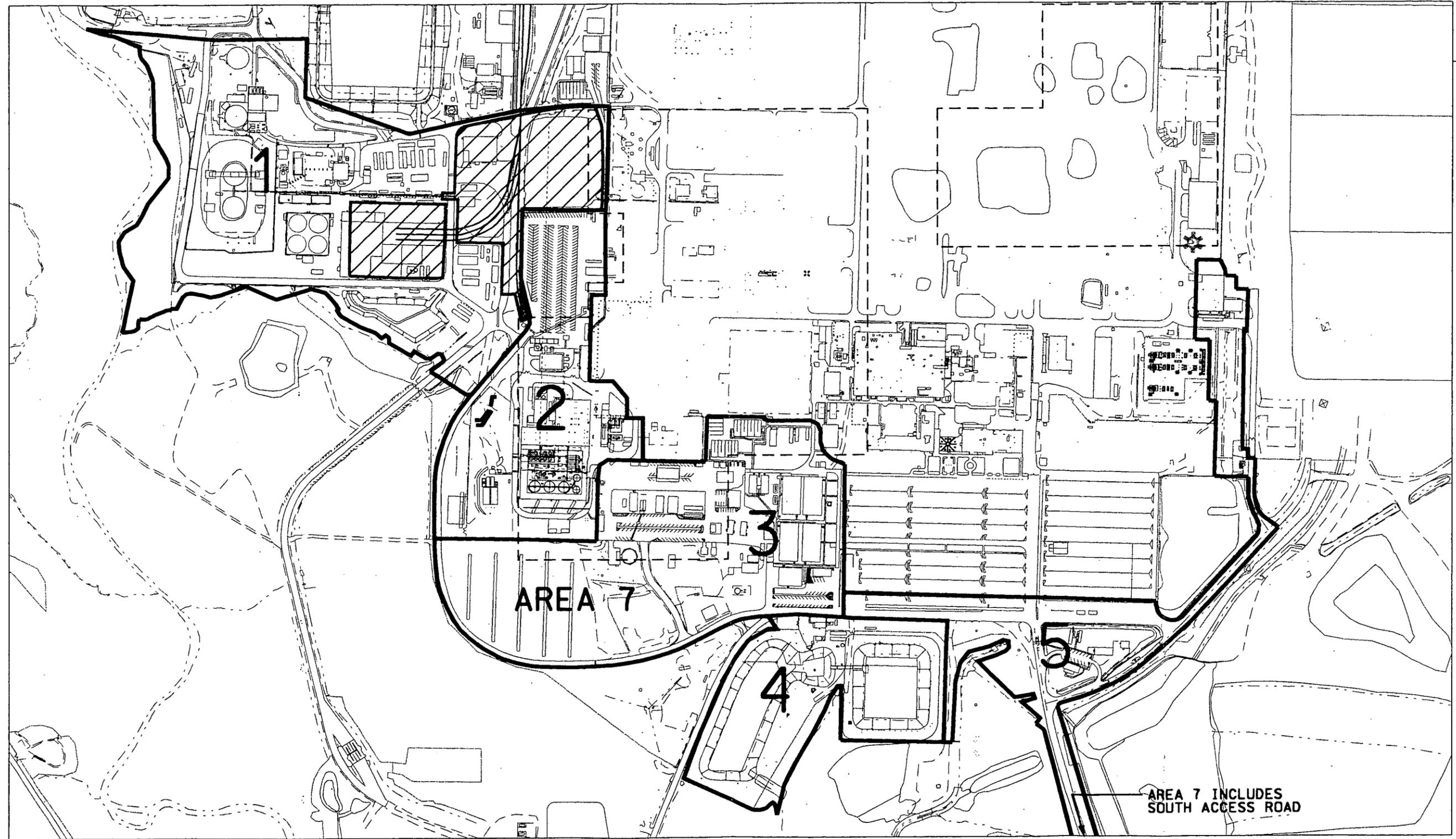
GPC - gas proportional counting

GC - gas chromatography

ICP-AES - inductively couple plasma/atomic electron spectrometry

ICP-MS - inductively coupled plasma/mass spectrometry

LSC - liquid scintillation counting



AREA 7

AREA 7 INCLUDES SOUTH ACCESS ROAD

LEGEND:

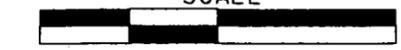


AREA 7 PHASE I



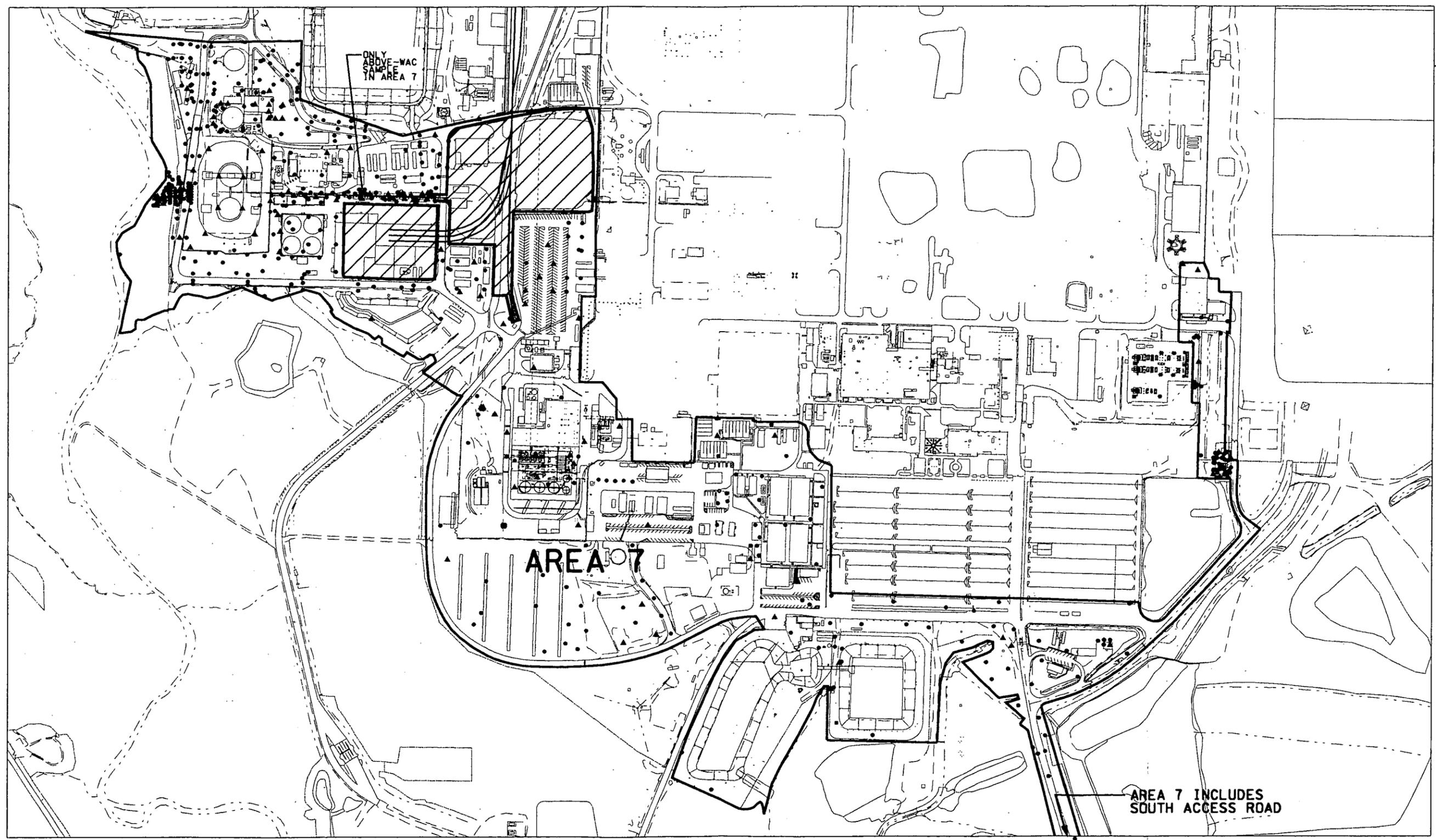
HIGH LEACH ZONE

SCALE



350 175 0 350 FEET

FIGURE 2-1. AREA 7 SUBAREAS LOCATION MAP



- BELOW-FRL
- ▲ ABOVE-FRL
- ABOVE-WAC

LEGEND:

 AREA 7 PHASE I

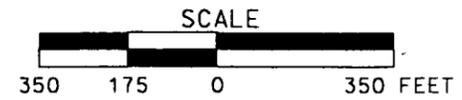
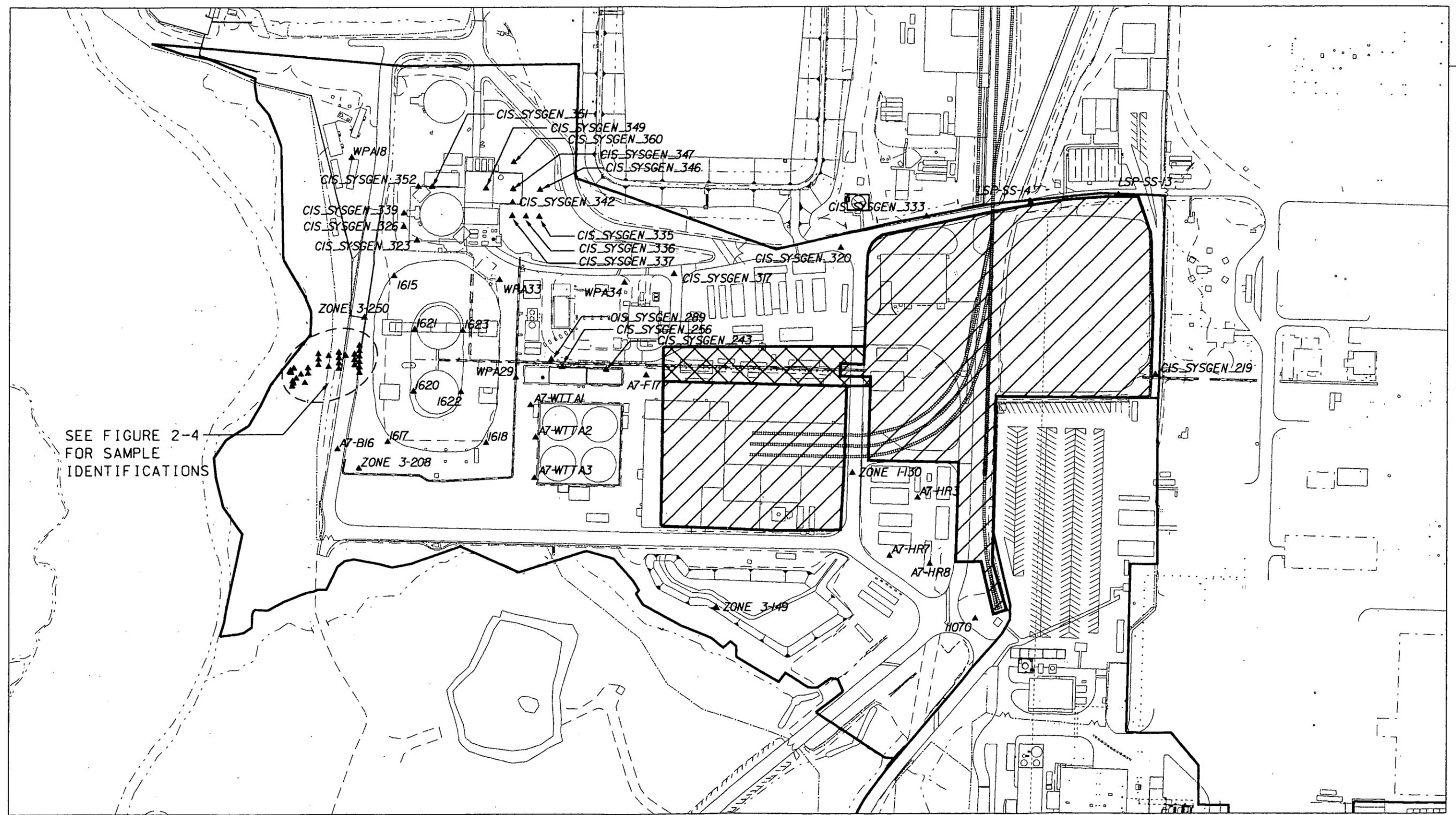


FIGURE 2-2. AREA 7 HISTORICAL BORING LOCATIONS



SEE FIGURE 2-4 FOR SAMPLE IDENTIFICATIONS

LEGEND:

-  A7P1 REMEDIATED AREA
-  A7P1 INVESTIGATED AREA
-  ABOVE-FRL SAMPLE

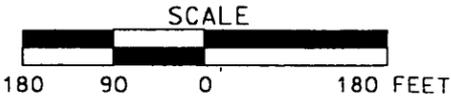
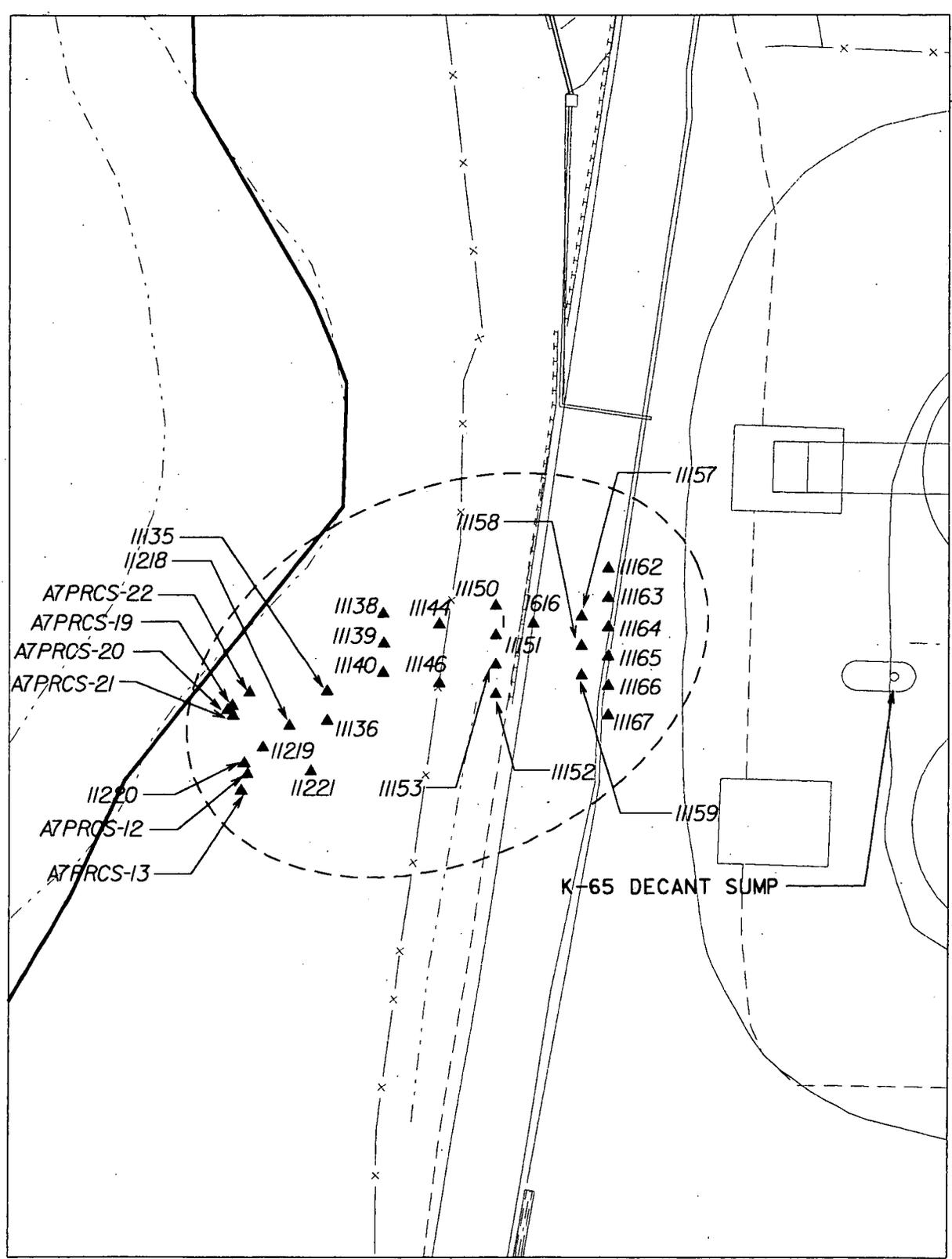


FIGURE 2-3. AREA 7, SUBAREA 1 ABOVE-FRL BORINGS

V:\2\Tm 2\dwg\dwg1\_116.dgn

STATE PLANNING COORDINATE SYSTEM 1983

15-NOV-2004



LEGEND:

▲ ABOVE-FRL SAMPLE

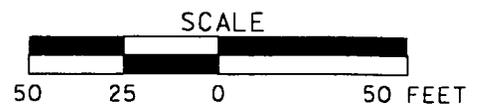
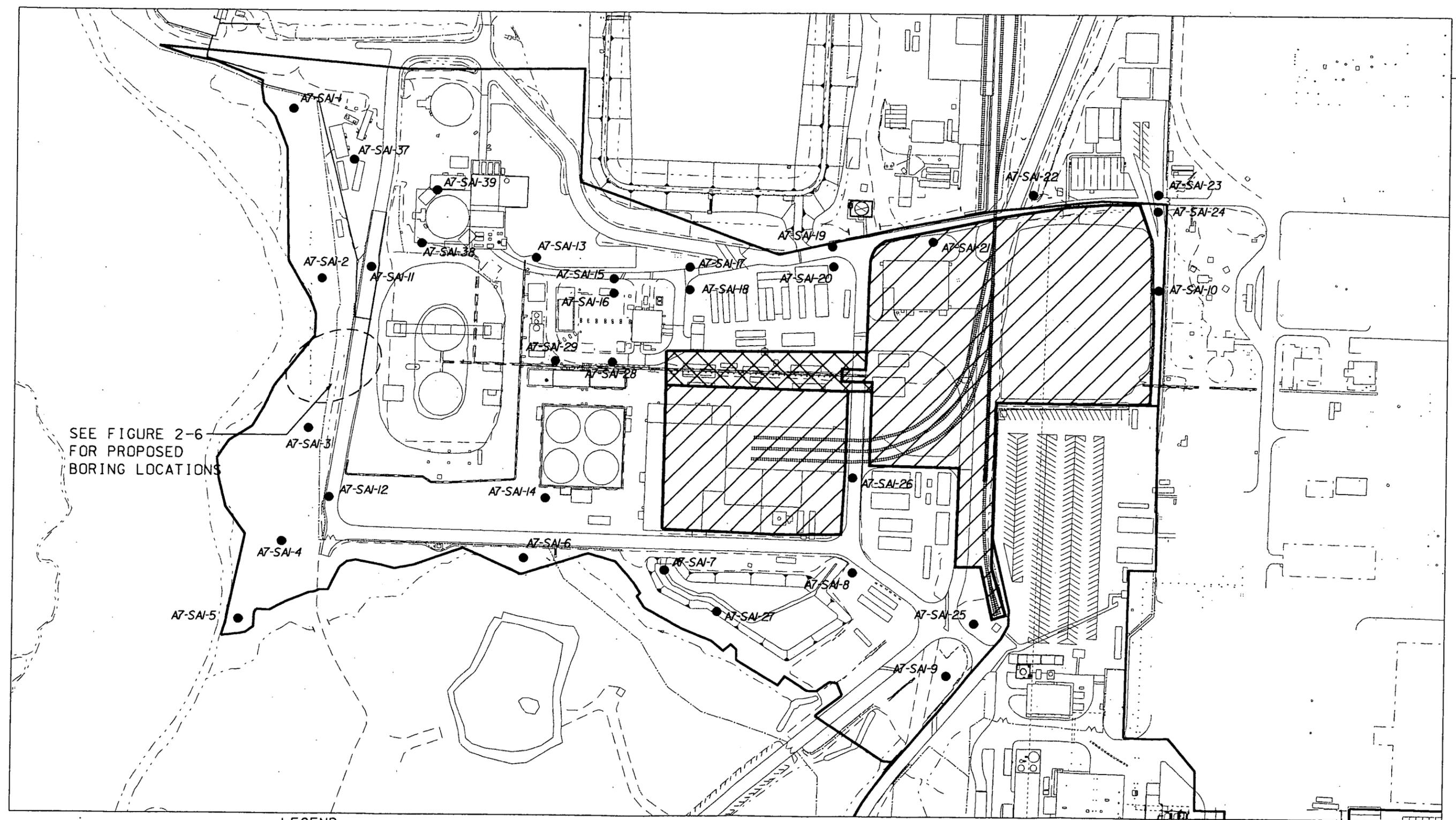


FIGURE 2-4. AREA 7, SUBAREA 1 ABOVE-FRL BORINGS WEST OF SILOS 1 & 2



SEE FIGURE 2-6 FOR PROPOSED BORING LOCATIONS

LEGEND:

-  A7P1 REMEDIATED AREA
-  A7P1 INVESTIGATED AREA

● PROPOSED BORING LOCATION

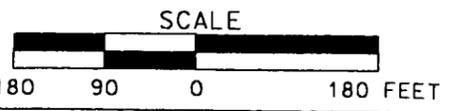
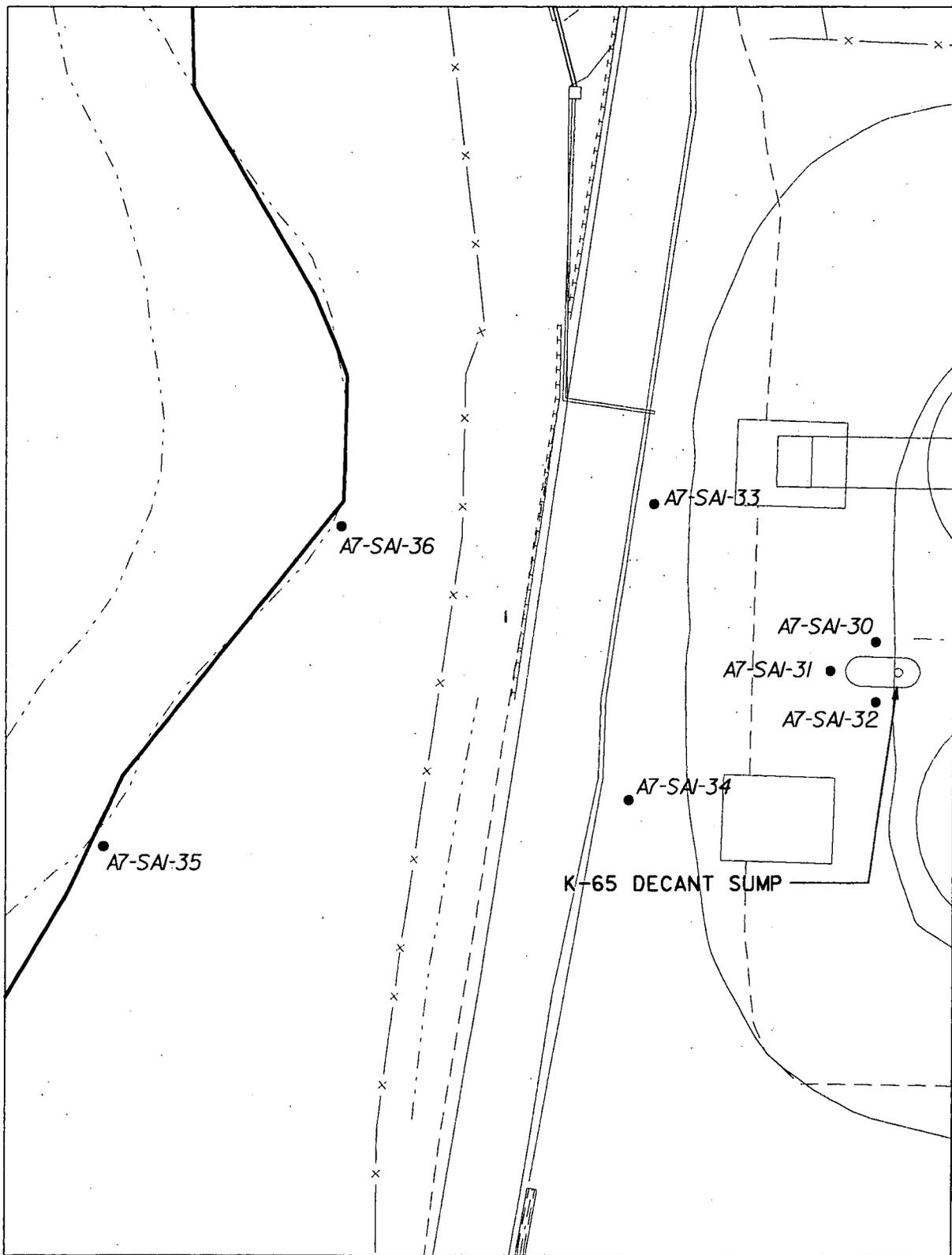


FIGURE 2-5. AREA 7, SUBAREA 1 PROPOSED BORING LOCATIONS

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LEGEND:

● PROPOSED BORING

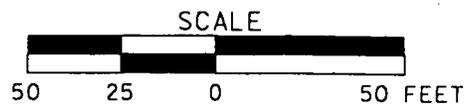
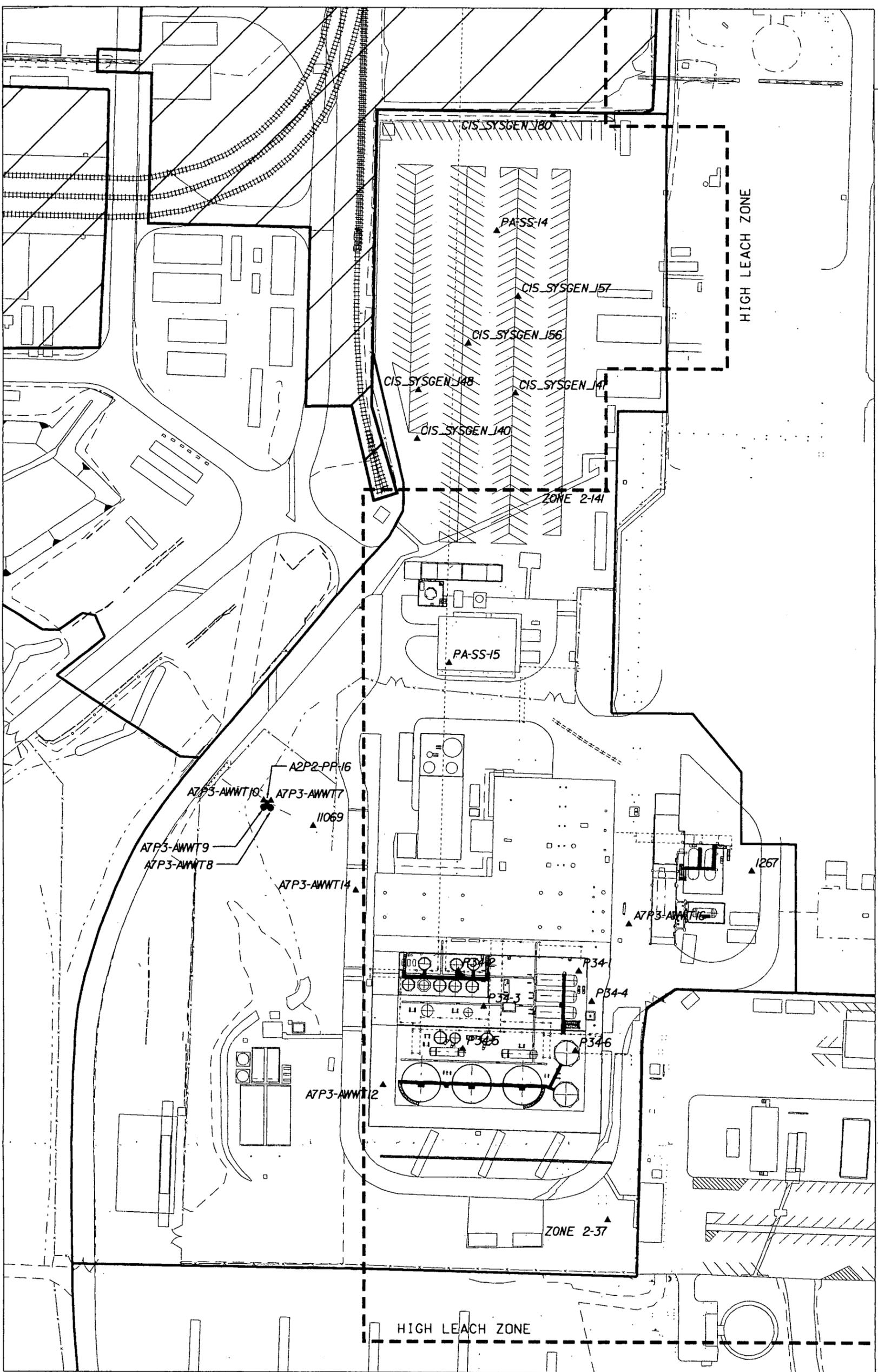


FIGURE 2-6. AREA 7, SUBAREA 1 PROPOSED BORING LOCATIONS WEST OF SILOS 1 & 2



LEGEND:

- ▲ ABOVE-FRL SAMPLE
- BELOW-FRL SAMPLE

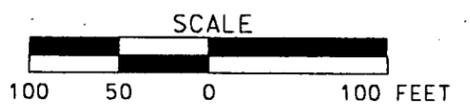
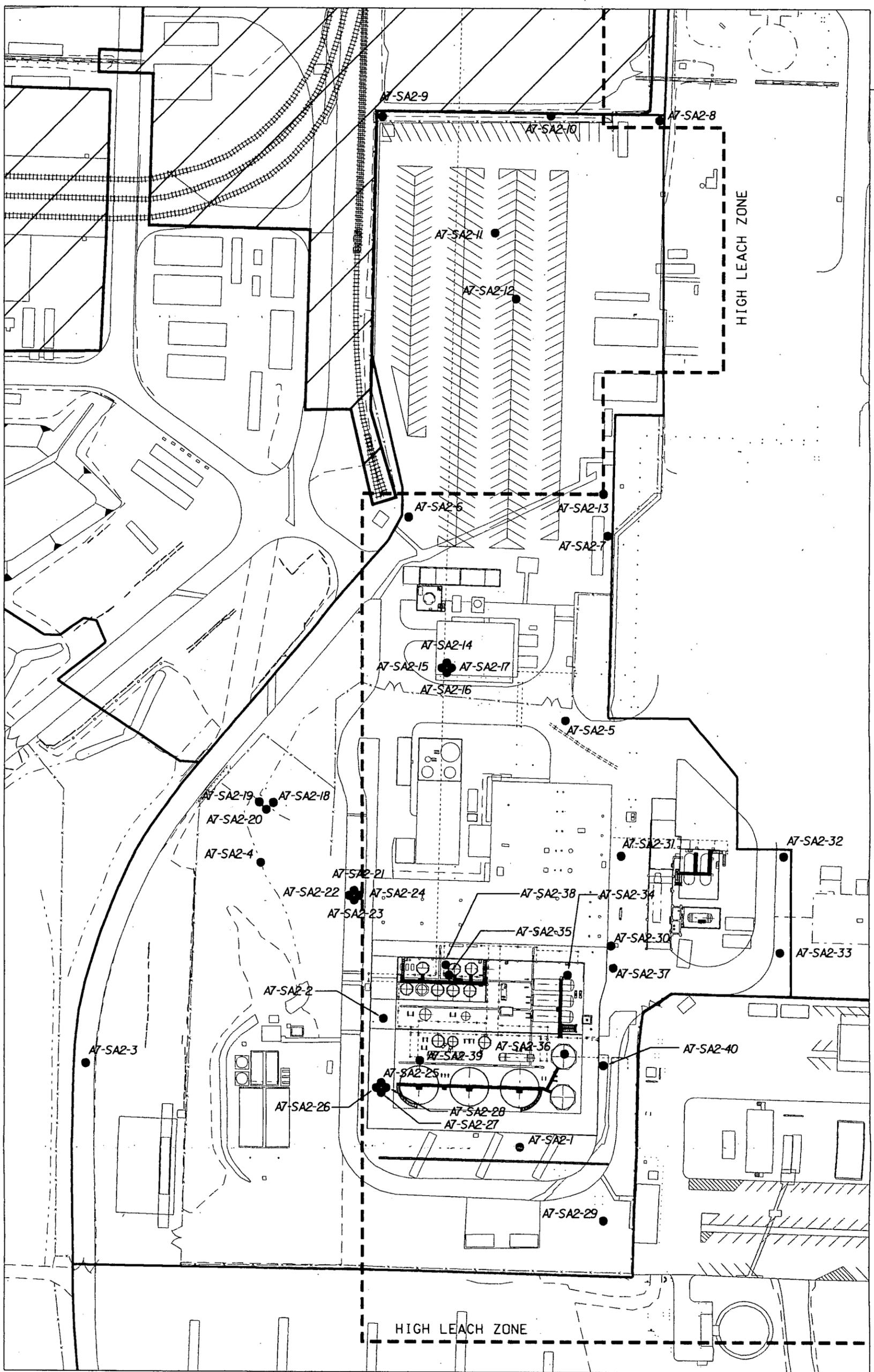


FIGURE 2-7. AREA 7, SUBAREA 2 ABOVE-FRL BORINGS



LEGEND:

● ABOVE-FRL SAMPLE

SCALE

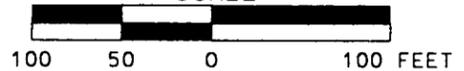
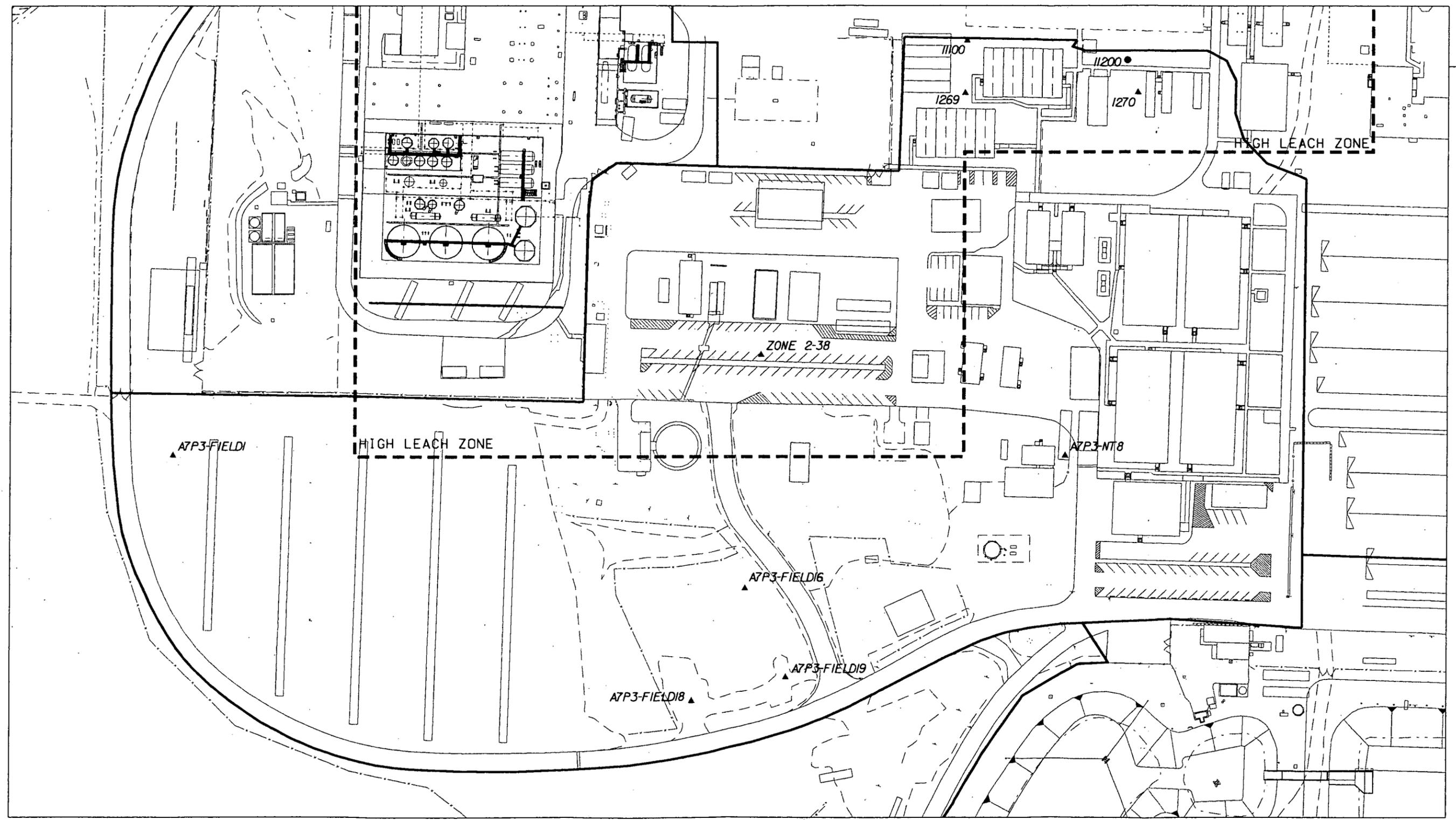


FIGURE 2-8. AREA 7. SUBAREA 2 PROPOSED BORING LOCATIONS



LEGEND:

- ▲ ABOVE-FRL SAMPLE
- BELOW-FRL SAMPLE

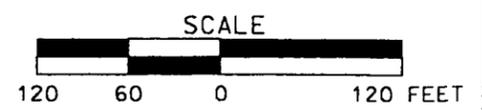
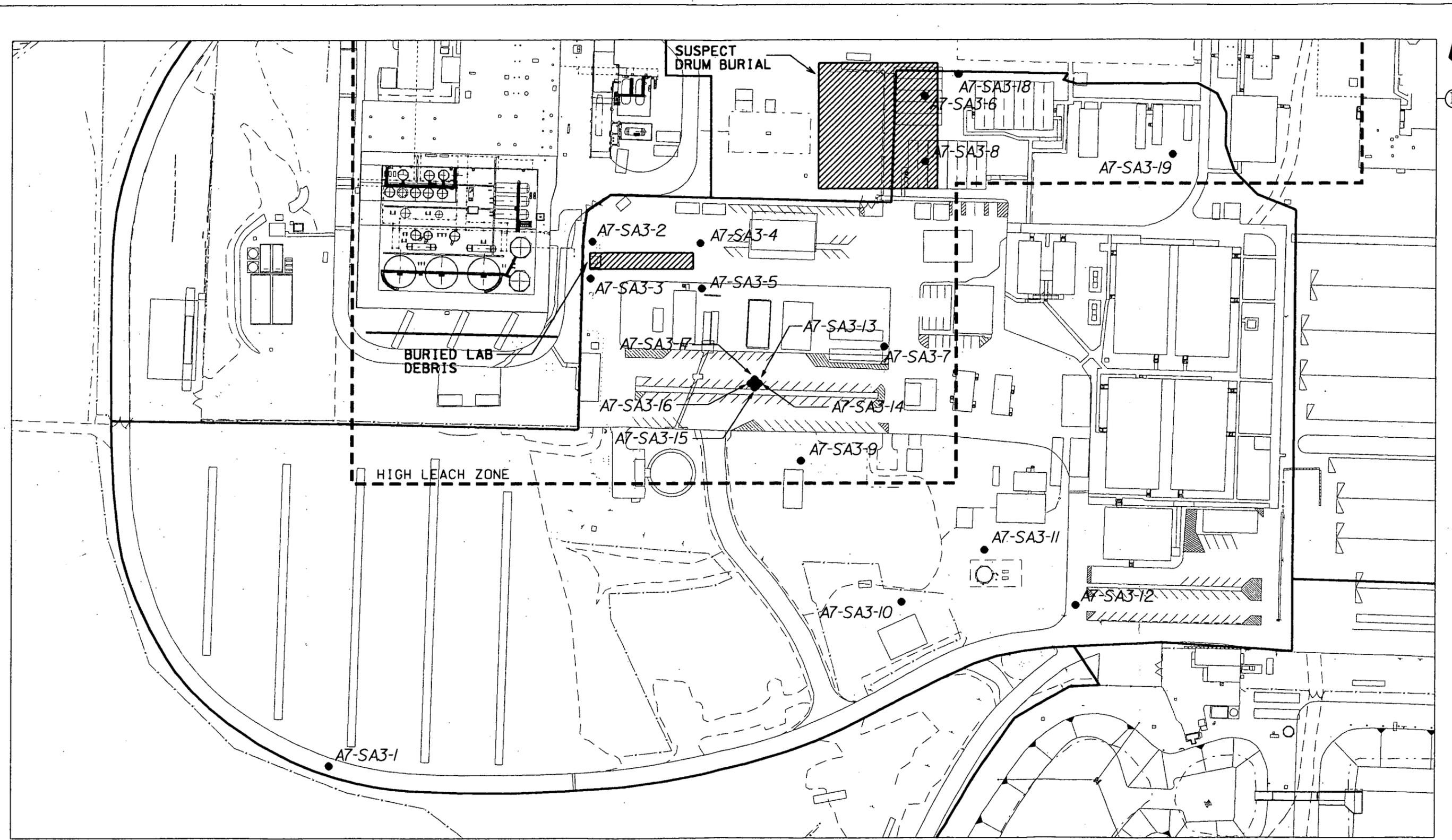


FIGURE 2-9. AREA 7, SUBAREA 3 ABOVE-FRL BORINGS



LEGEND:

● PROPOSED BORING LOCATION

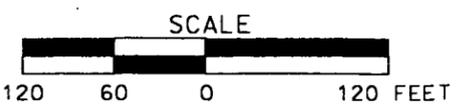
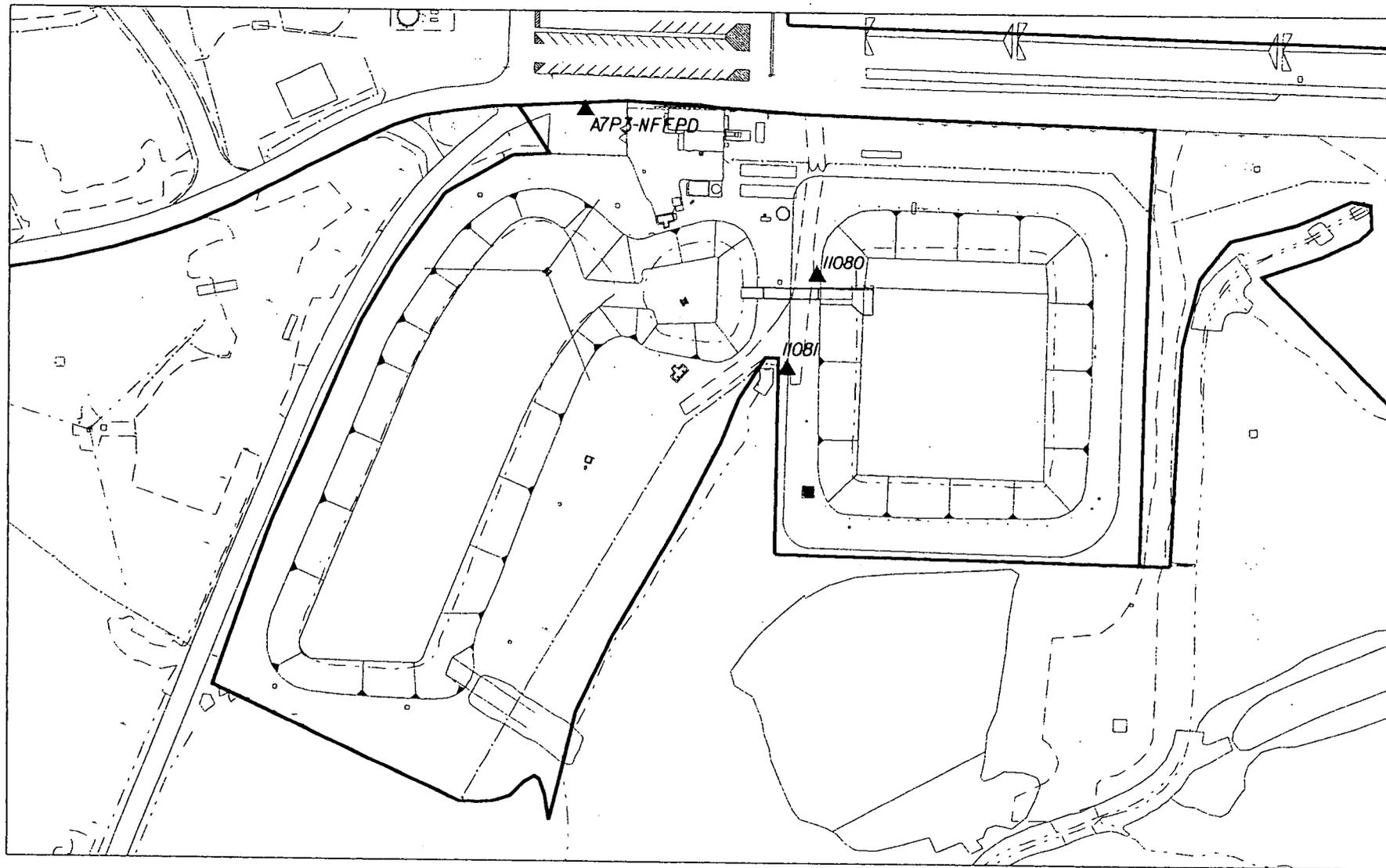


FIGURE 2-10. AREA 7, SUBAREA 3 PROPOSED BORING LOCATIONS



LEGEND:

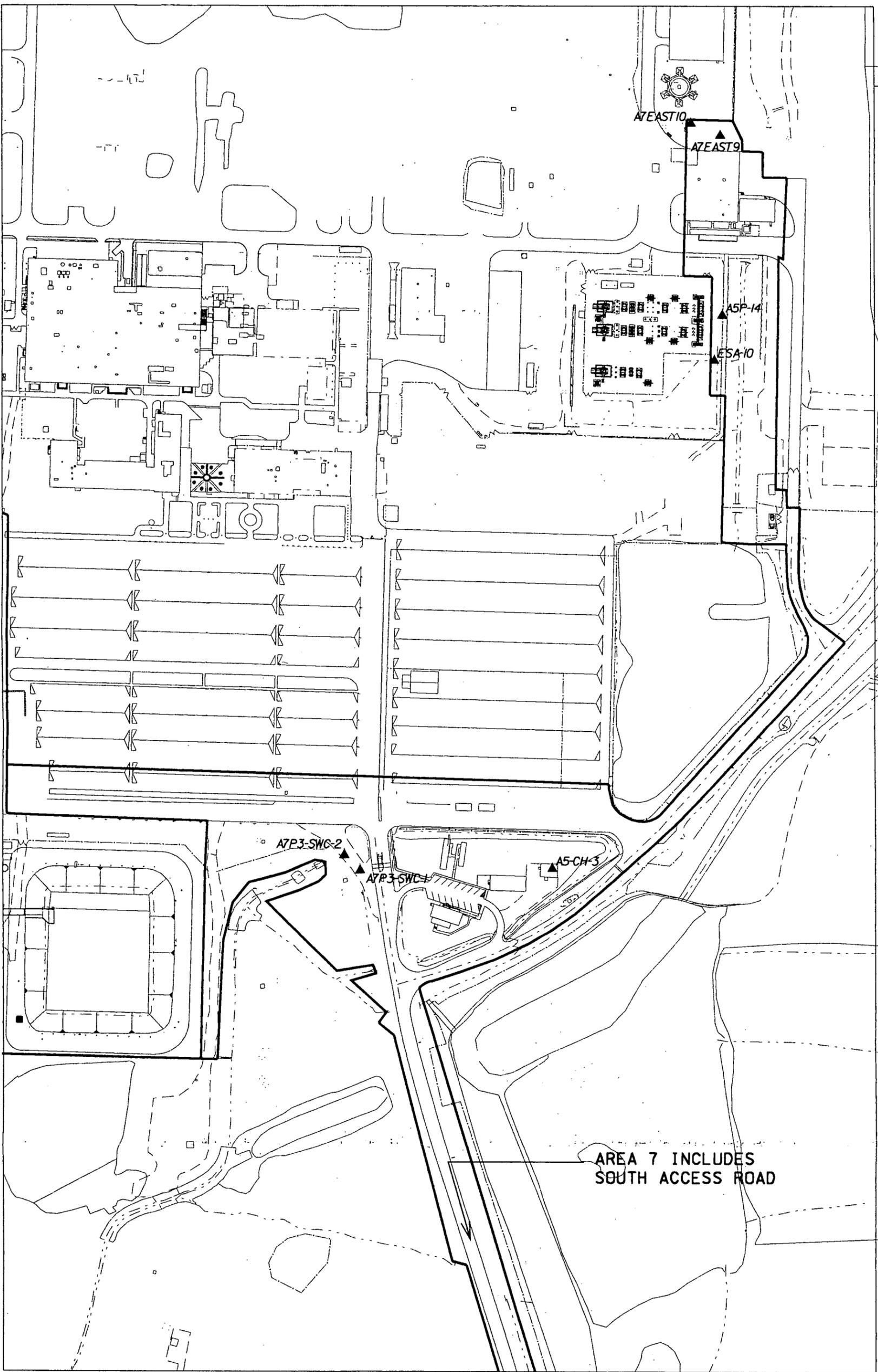


ABOVE-FRL SAMPLE

SCALE



150 75 0 150 FEET



LEGEND:

▲ ABOVE-FRL SAMPLE

SCALE

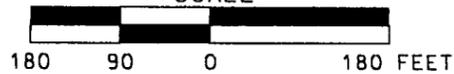
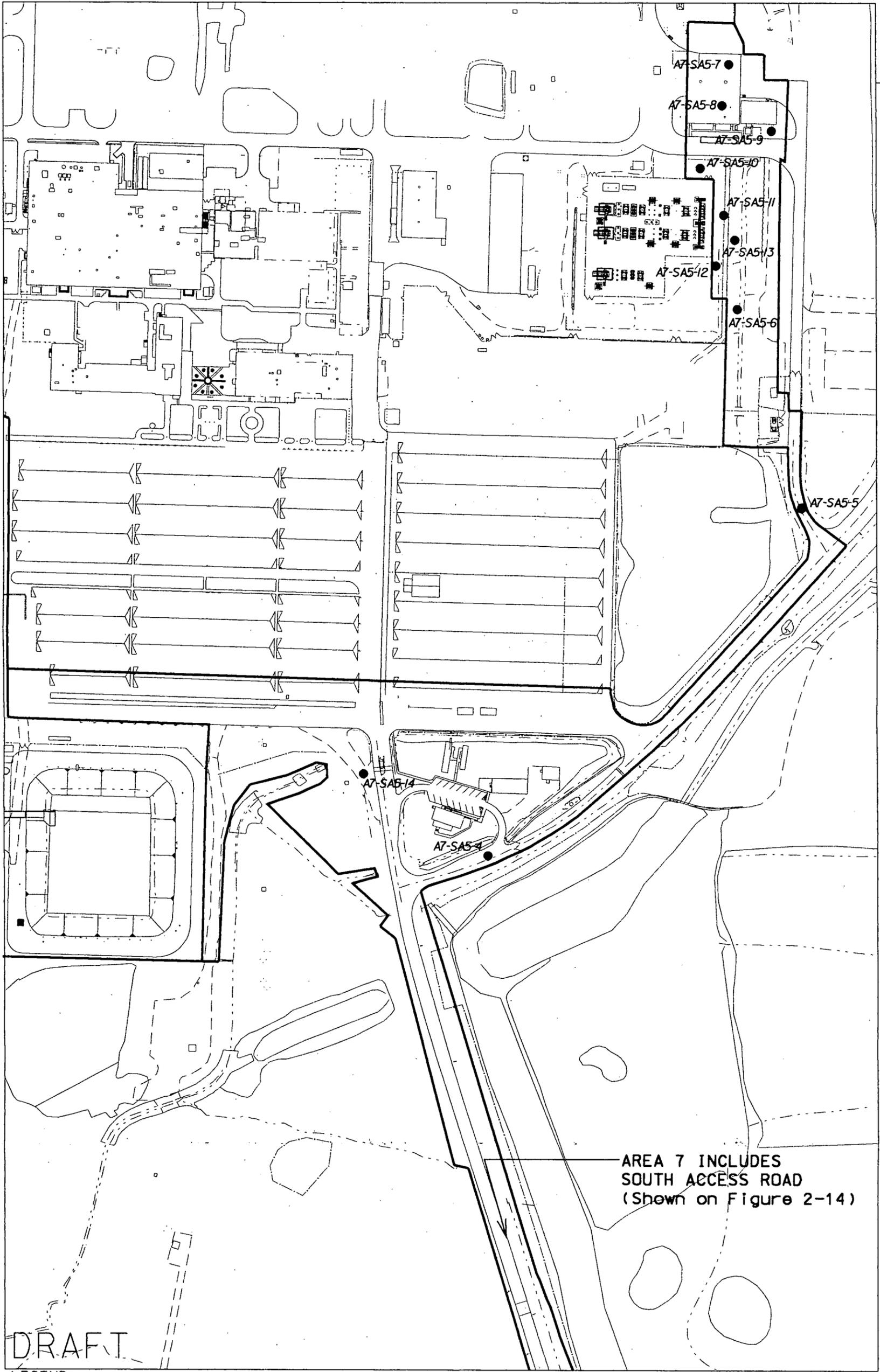


FIGURE 2-13. AREA 7. SUBAREA 5 ABOVE-FRL BORINGS



AREA 7 INCLUDES  
SOUTH ACCESS ROAD  
(Shown on Figure 2-14)

DRAFT

LEGEND:

● PROPOSED BORING LOCATION

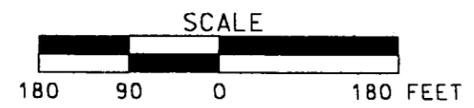


FIGURE 2-14. AREA 7, SUBAREA 5 PROPOSED BORING LOCATIONS

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**LEGEND:**

● PROPOSED BORING LOCATION

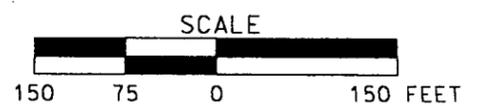


FIGURE 2-15. AREA 7, SUBAREA 5 SOUTH ACCESS ROAD PROPOSED BORING LOCATIONS

### 4.0 PREDESIGN

#### 4.1 REAL-TIME ACTIVITIES

Refer to Section 4.1 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*

#### 4.2 SAMPLE COLLECTION METHODS

Refer to Section 4.2 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*.

#### 4.3 PHYSICAL SAMPLE IDENTIFICATION

Refer to Section 4.3 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for general physical sample identification guidelines. Each soil predesign sample collected from within Area 7 will be assigned a unique sample identification number, where *A7-Specific Area-Location^Depth-Analysis-QC*, where:

A7: Sample collected from Area 7

Specific Area:  
SA1 = Subarea 1  
SA2 = Subarea 2  
SA3 = Subarea 3  
SA4 = Subarea 4  
SA5 = Subarea 5

Location Designator: The Location Designator is a sequential boring number (e.g., 1,2, etc.) that follows the area designator and location designator (e.g., A7-specific area1, etc.).

^: The ^ is placed between the location designator and the depth interval. When used, the information to the left of this symbol identifies the boring number and allows the automatic assignment of the boring identification number to be transferred to the appropriate field/table in the Sitewide Environmental Database (SED). The ^ is not used if the sample does not have coordinates such as trip blanks, a "-" is used instead.

Depth Interval Designator: This number indicates the depth interval of the sample from the soil surface. For example, "1" = 0 to 6-inch interval (where the depth interval indicator equals two times the bottom depth for the respective interval and is measured in feet, i.e., "1" = 2 x 0.5 feet, "2" = 2 x 1.0 feet, "3" = 2 x 1.5 feet, etc.).

Analysis Type: M = metals  
P = PCBs and pesticides  
R = radionuclides  
S = semi-volatiles (polyaromatic hydrocarbon)

Quality Control Designator: Not applicable

Appendix B contains the Boring Table and Sample Identifiers for Predesign Sampling of Area 7. Included in the table are the coordinates for each boring. Using the above guidelines, the sample A7-SA4-1<sup>3</sup>-RMP can be interpreted as sample #1 in the Area 7, Subarea 4, taken at a bottom depth of 1.5 feet, which will be analyzed for radionuclides, metals, and PCBs.

#### 4.4 BOREHOLE ABANDONMENT

Refer to Section 4.4 of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*.

### 3.0 INSTRUMENTATION AND TECHNIQUES

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

#### 3.1 MEASUREMENT INSTRUMENTATION AND TECHNIQUES

##### 3.1.1 Real-Time

##### 3.1.1.1 Sodium Iodide Data Acquisition (RTRAK, RSS, GATOR, EMS)

##### 3.1.1.2 HPGe Data Acquisition

##### 3.1.1.3 Excavation Monitoring System

##### 3.1.1.4 Radon Monitor

##### 3.1.2 Surface Moisture Measurements

#### 3.2 REAL-TIME MEASUREMENT IDENTIFICATION

#### 3.3 REAL-TIME DATA MAPPING

#### 3.4 REAL-TIME SURVEYING

**5.0 EXCAVATION CONTROL MEASURES**

Section 5 is not applicable to this PSP.

**6.0 PRECERTIFICATION**

Section 6 is not applicable to this PSP.

**7.0 QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS**

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

**7.1 QUALITY CONTROL SAMPLES - REAL-TIME MEASUREMENTS AND PHYSICAL SAMPLES**

**7.2 DATA VALIDATION**

**7.2.1 Physical Sample Data Validation**

**7.2.2 Real-Time Data Verification/Validation**

**7.3 APPLICABLE DOCUMENTS, METHODS AND STANDARDS**

**7.4 SURVEILLANCES**

**7.5 IMPLEMENTATION AND DOCUMENTATION OF V/FCN**

**8.0 SAFETY AND HEALTH**

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for this section.

**9.0 EQUIPMENT DECONTAMINATION**

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for this section.

**10.0 DISPOSITION OF WASTES**

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for this section.

## 11.0 DATA AND RECORDS MANAGEMENT

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

11.1 REAL-TIME

11.2 PHYSICAL SAMPLES

**APPENDIX A**

**TARGET ANALYTE LIST FOR PREDESIGN OF AREA 7**

**APPENDIX A  
TARGET ANALYTE LISTS FOR PREDESIGN OF AREA 7**

**TAL 20500-PSP-0005-A**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Total Uranium	82 mg/kg	8.2 mg/kg
Radium-226	1.7 pCi/g	0.17 pCi/g
Radium-228	1.8 pCi/g	0.18 pCi/g
Thorium-228	1.7 pCi/g	0.17 pCi/g
Thorium-232	1.5 pCi/g	0.15 pCi/g

**TAL 20500-PSP-0005-B**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Total Uranium	82 mg/kg	8.2 mg/kg
Radium-228	1.8 pCi/g	0.18 pCi/g
Thorium-228	1.7 pCi/g	0.17 pCi/g
Thorium-232	1.5 pCi/g	0.15 pCi/g

**TAL 20500-PSP-0005-C**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Cesium-137	1.4 pCi/g	0.14 pCi/g
Lead-210	38 pCi/g	3.8 pCi/g
Technetium-99	29.1 pCi/g	2.91 pCi/g
Thorium-230	280 pCi/g	28.0 pCi/g

**TAL 20500-PSP-0005-D**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg

**TAL 20500-PSP-0005-E**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Aroclor-1260	0.13 mg/kg	0.013 mg/kg

**TAL 20500-PSP-0005-F**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Dieldrin	0.015 mg/kg	0.0015 mg/kg

**APPENDIX A**  
**TARGET ANALYTE LISTS FOR PREDESIGN OF AREA 7**  
(Continued)

**TAL 20500-PSP-0005-G**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Lead	400 mg/kg	40.0 mg/kg
Manganese	4600 mg/kg	460.0 mg/kg

**TAL 20500-PSP-0005-H**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Total Uranium	82 mg/kg	8.2 mg/kg

**TAL 20500-PSP-0005-I**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Technetium-99	29.1 pCi/g	2.91 pCi/g

**TAL 20500-PSP-0005-J**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Arsenic	12 mg/kg	1.2 mg/kg

**TAL 20500-PSP-0005-K**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Beryllium	1.5 mg/kg	0.15 mg/kg

**TAL 20500-PSP-0005-L**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Aroclor-1254	0.13 mg/kg	0.013 mg/kg

**TAL 20500-PSP-0005-M**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Radium-226	1.7 mg/kg	0.17 mg/kg

**TAL 20500-PSP-0005-N**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Thorium-232	1.5 pCi/g	0.15 pCi/g

**APPENDIX A  
TARGET ANALYTE LISTS FOR PREDESIGN OF AREA 7  
(Continued)**

**TAL 20500-PSP-0005-O**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Thorium-228	1.7 pCi/g	0.17 pCi/g

**TAL 20500-PSP-0005-P**

<b>Analyte</b>	<b>FRL</b>	<b>MDL (soil)</b>
Benzo(a)anthracene	20 mg/kg	2.0 mg/kg
Benzo(a)pyrene	2 mg/kg	0.2 mg/kg
Benzo(b)fluoranthene	20 mg/kg	2.0 mg/kg

**TAL 20500-PSP-0005-Q**

<b>Analyte</b>	<b>20 times TCLP Limit</b>	<b>MDL (soil) 10% of 20 times TCLP Limit</b>
Total Selenium	20 mg/kg	2.0 mg/kg

MDL – minimum detection level

**APPENDIX B**

**BORING TABLE AND SAMPLE IDENTIFIERS FOR PREDESIGN**

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 1 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA1-1	480961.51	1346738.01	0-0.5	1	A7-SA1-1^1-RMP	A/C/D/G/E
			1-1.5	3	A7-SA1-1^3-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-1^6-RMP	A/C/D/G/E
A7-SA1-2	480645.41	1346794.41	0-0.5	1	A7-SA1-2^1-RMP	A/C/D/G/E
			1-1.5	3	A7-SA1-2^3-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-2^6-RMP	A/C/D/G/E
A7-SA1-3	480366.35	1346772.27	0-0.5	1	A7-SA1-3^1-RMP	A/C/D/G/E
			1-1.5	3	A7-SA1-3^3-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-3^6-RMP	A/C/D/G/E
A7-SA1-4	480155.31	1346724.87	0-0.5	1	A7-SA1-4^1-RMP	A/C/D/G/E
			1-1.5	3	A7-SA1-4^3-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-4^6-RMP	A/C/D/G/E
A7-SA1-5	480010.33	1346646.53	0-0.5	1	A7-SA1-5^1-RMP	A/C/D/G/E
			1-1.5	3	A7-SA1-5^3-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-5^6-RMP	A/C/D/G/E
A7-SA1-6	480126.8	1347171.93	0-0.5	1	A7-SA1-6^1-RMP	A/D/E
			1-1.5	3	A7-SA1-6^3-RMP	A/D/E
			2.5-3	6	A7-SA1-6^6-RMP	A/D/E
A7-SA1-7	480106.25	1347433.19	0-0.5	1	A7-SA1-7^1-RMP	A/D/E
			1-1.5	3	A7-SA1-7^3-RMP	A/D/E
			2.5-3	6	A7-SA1-7^6-RMP	A/D/E
A7-SA1-8	480103.32	1347782.08	0-0.5	1	A7-SA1-8^1-RMP	A/D/E
			1-1.5	3	A7-SA1-8^3-RMP	A/D/E
			2.5-3	6	A7-SA1-8^6-RMP	A/D/E
A7-SA1-9	479912.49	1347956.92	0-0.5	1	A7-SA1-9^1-RMP	A/D/E
			1-1.5	3	A7-SA1-9^3-RMP	A/D/E
			2.5-3	6	A7-SA1-9^6-RMP	A/D/E
A7-SA1-10	480631.1	1348342.31	0-0.5	1	A7-SA1-10^1-RMP	A/D/E
			1-1.5	3	A7-SA1-10^3-RMP	A/D/E
			2.5-3	6	A7-SA1-10^6-RMP	A/D/E
A7-SA1-11	480667.5	1346885.05	0-0.5	1	A7-SA1-11^1-RMP	A/C/D/G/E
			1.5-2	4	A7-SA1-11^4-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-11^6-RMP	A/C/D/G/E
			3.5-4	8	A7-SA1-11^8-RMP	A/C/D/G/E
			4.5-5	10	A7-SA1-11^10-RMP	A/C/D/G/E
			5.5-6	12	A7-SA1-11^12-RMP	A/C/D/G/E
			6.5-7	14	A7-SA1-11^14-RMP	A/C/D/G/E
7.5-8	16	A7-SA1-11^16-RMP	A/C/D/G/E			

**APPENDIX B**  
**BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 1 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA1-12	480238.16	1346812.26	0-0.5	1	A7-SA1-12^1-RMP	A/C/D/G/E
			1.5-2	4	A7-SA1-12^4-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-12^6-RMP	A/C/D/G/E
			3.5-4	8	A7-SA1-12^8-RMP	A/C/D/G/E
			4.5-5	10	A7-SA1-12^10-RMP	A/C/D/G/E
			5.5-6	12	A7-SA1-12^12-RMP	A/C/D/G/E
			6.5-7	14	A7-SA1-12^14-RMP	A/C/D/G/E
			7.5-8	16	A7-SA1-12^16-RMP	A/C/D/G/E
A7-SA1-13	480686.58	1347189.83	0-0.5	1	A7-SA1-13^1-RMP	A/C/D/G/E
			1.5-2	4	A7-SA1-13^4-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-13^6-RMP	A/C/D/G/E
			3.5-4	8	A7-SA1-13^8-RMP	A/C/D/G/E
			4.5-5	10	A7-SA1-13^10-RMP	A/C/D/G/E
			5.5-6	12	A7-SA1-13^12-RMP	A/C/D/G/E
			6.5-7	14	A7-SA1-13^14-RMP	A/C/D/G/E
			7.5-8	16	A7-SA1-13^16-RMP	A/C/D/G/E
A7-SA1-14	480238.6	1347211.07	0-0.5	1	A7-SA1-14^1-RMP	A/C/D/G/E
			1.5-2	4	A7-SA1-14^4-RMP	A/C/D/G/E
			2.5-3	6	A7-SA1-14^6-RMP	A/C/D/G/E
			3.5-4	8	A7-SA1-14^8-RMP	A/C/D/G/E
			4.5-5	10	A7-SA1-14^10-RMP	A/C/D/G/E
			5.5-6	12	A7-SA1-14^12-RMP	A/C/D/G/E
			6.5-7	14	A7-SA1-14^14-RMP	A/C/D/G/E
			7.5-8	16	A7-SA1-14^16-RMP	A/C/D/G/E
A7-SA1-15	480647.76	1347334.31	0-0.5	1	A7-SA1-15^1-RM	A/J
			1-1.5	3	A7-SA1-15^3-RM	A/J
			2.5-3	6	A7-SA1-15^6-RM	A/J
A7-SA1-16	480620.73	1347334.31	0-0.5	1	A7-SA1-16^1-RM	A/J
			1-1.5	3	A7-SA1-16^3-RM	A/J
			2.5-3	6	A7-SA1-16^6-RM	A/J
A7-SA1-17	480670.44	1347474.55	0-0.5	1	A7-SA1-17^1-RM	A/J
			1-1.5	3	A7-SA1-17^3-RM	A/J
			2.5-3	6	A7-SA1-17^6-RM	A/J
A7-SA1-18	480628.14	1347474.55	0-0.5	1	A7-SA1-18^1-RM	A/J
			1-1.5	3	A7-SA1-18^3-RM	A/J
			2.5-3	6	A7-SA1-18^6-RM	A/J
A7-SA1-19	480709.69	1347738.8	0-0.5	1	A7-SA1-19^1-RMP	A/K/L
			1-1.5	3	A7-SA1-19^3-RMP	A/K/L
			2.5-3	6	A7-SA1-19^6-RMP	A/K/L
A7-SA1-20	480672.62	1347741.41	0-0.5	1	A7-SA1-20^1-RMP	A/K/L
			1-1.5	3	A7-SA1-20^3-RMP	A/K/L
			2.5-3	6	A7-SA1-20^6-RMP	A/K/L

**APPENDIX B**  
**BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 1 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA1-21	480719.72	1347924.58	0-0.5	1	A7-SA1-21^1-RMP	A/K/L
			1-1.5	3	A7-SA1-21^3-RMP	A/K/L
			2.5-3	6	A7-SA1-21^6-RMP	A/K/L
A7-SA1-22	480809.12	1348108.96	0-0.5	1	A7-SA1-22^1-RMP	A/K/L
			1-1.5	3	A7-SA1-22^3-RMP	A/K/L
			2.5-3	6	A7-SA1-22^6-RMP	A/K/L
A7-SA1-23	480809.99	1348340.62	0-0.5	1	A7-SA1-23^1-RMP	A/K/L
			1-1.5	3	A7-SA1-23^3-RMP	A/K/L
			2.5-3	6	A7-SA1-23^6-RMP	A/K/L
A7-SA1-24	480779.03	1348339.75	0-0.5	1	A7-SA1-24^1-RMP	A/K/L
			1-1.5	3	A7-SA1-24^3-RMP	A/K/L
			2.5-3	6	A7-SA1-24^6-RMP	A/K/L
A7-SA1-25	480009.5	1348008	0-0.5	1	A7-SA1-25^1-R	N
			2-2.5	5	A7-SA1-25^5-R	N
			5-5.5	11	A7-SA1-25^11-R	N
			10-10.5	21	A7-SA1-25^21-R	N
			15-15.5	31	A7-SA1-25^31-R	N
			15.5-16	32	A7-SA1-25^32-R	N
A7-SA1-26	480279.3	1347781	0-0.5	1	A7-SA1-26^1-R	A
			1-1.5	3	A7-SA1-26^3-R	A
			2.5-3	6	A7-SA1-26^6-R	A
A7-SA1-27	480029.4	1347531	0-0.5	1	A7-SA1-27^1-R	N
			1-1.5	3	A7-SA1-27^3-R	N
			2.5-3	6	A7-SA1-27^6-R	N
A7-SA1-28	480492.3	1347333	0-0.5	1	A7-SA1-28^1-R	H/I/M
			6-6.5	13	A7-SA1-28^13-R	H/I/M
A7-SA1-29	408494.6	1347227	0-0.5	1	A7-SA1-29^1-R	H/I/M
			6-6.5	13	A7-SA1-29^13-R	H/I/M
A7-SA1-30	480490.81	1346960.74	0-0.5	1	A7-SA1-30^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-30^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-30^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-30^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-30^9-RM	A/C/D/G
			4.5-5	10	A7-SA1-30^10-RM	A/C/D/G
A7-SA1-31	480481.11	1346945.61	0-0.5	1	A7-SA1-31^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-31^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-31^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-31^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-31^9-RM	A/C/D/G
			4.5-5	10	A7-SA1-31^10-RM	A/C/D/G

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 1 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA1-32	480470.6	1346960.74	0-0.5	1	A7-SA1-32^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-32^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-32^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-32^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-32^9-RM	A/C/D/G
			4.5-5	10	A7-SA1-32^10-RM	A/C/D/G
A7-SA1-33	480537.37	1346886.2	0-0.5	1	A7-SA1-33^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-33^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-33^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-33^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-33^9-RM	A/C/D/G
			5-5.5	11	A7-SA1-33^11-RM	A/C/D/G
			6-6.5	13	A7-SA1-33^13-RM	A/C/D/G
			7-7.5	15	A7-SA1-33^15-RM	A/C/D/G
			8-8.5	17	A7-SA1-33^17-RM	A/C/D/G
			9-9.5	19	A7-SA1-33^19-RM	A/C/D/G
			10-10.5	21	A7-SA1-33^21-RM	A/C/D/G
			11-11.5	23	A7-SA1-33^23-RM	A/C/D/G
11.5-12	24	A7-SA1-33^24-RM	A/C/D/G			
A7-SA1-34	480437.59	1346877.93	0-0.5	1	A7-SA1-34^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-34^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-34^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-34^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-34^9-RM	A/C/D/G
			5-5.5	11	A7-SA1-34^11-RM	A/C/D/G
			6-6.5	13	A7-SA1-34^13-RM	A/C/D/G
			7-7.5	15	A7-SA1-34^15-RM	A/C/D/G
			8-8.5	17	A7-SA1-34^17-RM	A/C/D/G
			9-9.5	19	A7-SA1-34^19-RM	A/C/D/G
			10-10.5	21	A7-SA1-34^21-RM	A/C/D/G
			11-11.5	23	A7-SA1-34^23-RM	A/C/D/G
11.5-12	24	A7-SA1-34^24-RM	A/C/D/G			

**APPENDIX B**  
**BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 1 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA1-35	480422.04	1346702.41	0-0.5	1	A7-SA1-35^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-35^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-35^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-35^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-35^9-RM	A/C/D/G
			5-5.5	11	A7-SA1-35^11-RM	A/C/D/G
			6-6.5	13	A7-SA1-35^13-RM	A/C/D/G
			7-7.5	15	A7-SA1-35^15-RM	A/C/D/G
			8-8.5	17	A7-SA1-35^17-RM	A/C/D/G
			9-9.5	19	A7-SA1-35^19-RM	A/C/D/G
			10-10.5	21	A7-SA1-35^21-RM	A/C/D/G
			11-11.5	23	A7-SA1-35^23-RM	A/C/D/G
			11.5-12	24	A7-SA1-35^24-RM	A/C/D/G
A7-SA1-36	480529.76	1346781.71	0-0.5	1	A7-SA1-36^1-RM	A/C/D/G
			1-1.5	3	A7-SA1-36^3-RM	A/C/D/G
			2-2.5	5	A7-SA1-36^5-RM	A/C/D/G
			3-3.5	7	A7-SA1-36^7-RM	A/C/D/G
			4-4.5	9	A7-SA1-36^9-RM	A/C/D/G
			5-5.5	11	A7-SA1-36^11-RM	A/C/D/G
			6-6.5	13	A7-SA1-36^13-RM	A/C/D/G
			7-7.5	15	A7-SA1-36^15-RM	A/C/D/G
			8-8.5	17	A7-SA1-36^17-RM	A/C/D/G
			9-9.5	19	A7-SA1-36^19-RM	A/C/D/G
			10-10.5	21	A7-SA1-36^21-RM	A/C/D/G
			11-11.5	23	A7-SA1-36^23-RM	A/C/D/G
			11.5-12	24	A7-SA1-36^24-RM	A/C/D/G
A7-SA1-37	480867.29	1346851.51	0-0.5	1	A7-SA1-37^1-S	P
			1-1.5	3	A7-SA1-37^3-S	P
			2.5-3	6	A7-SA1-37^6-S	P
A7-SA1-38	480712.145	1346977.751	0-0.5	1	A7-SA1-38^1-RMP	A/C/D/G/E
			TBD	<i>a</i>	A7-SA1-38^ <i>a</i> -RMP	A/C/D/G/E
A7-SA1-39	480811.427	1347005.47	0-0.5	1	A7-SA1-39^1-RMP	A/C/D/G/E
			TBD	<i>a</i>	A7-SA1-39^ <i>a</i> -RMP	A/C/D/G/E

*a* = Temporary identifier to be replaced with a depth identification number that represents depth of "native" sample below "fill" sample. Depth identifier number is equal to 2Xs the bottom depth of the sample interval.

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 2 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA2-1	479355.42	1348193.43	0-0.5	1	A7-SA2-1^1-RMP	B/D/E
			1-1.5	3	A7-SA2-1^3-RMP	B/D/E
			2.5-3	6	A7-SA2-1^6-RMP	B/D/E
A7-SA2-2	479488.86	1348052.41	0-0.5	1	A7-SA2-2^1-RMP	B/D/E
			1-1.5	3	A7-SA2-2^3-RMP	B/D/E
			2.5-3	6	A7-SA2-2^6-RMP	B/D/E
A7-SA2-3	479441.52	1347744.59	0-0.5	1	A7-SA2-3^1-RMP	B/D/E
			1-1.5	3	A7-SA2-3^3-RMP	B/D/E
			2.5-3	6	A7-SA2-3^6-RMP	B/D/E
A7-SA2-4	479649.66	1347925.71	0-0.5	1	A7-SA2-4^1-RMP	B/D/E
			1-1.5	3	A7-SA2-4^3-RMP	B/D/E
			2.5-3	6	A7-SA2-4^6-RMP	B/D/E
A7-SA2-5	479796.17	1348241.49	0-0.5	1	A7-SA2-5^1-RMP	B/D/E
			1-1.5	3	A7-SA2-5^3-RMP	B/D/E
			2.5-3	6	A7-SA2-5^6-RMP	B/D/E
A7-SA2-6	480005.36	1348078.69	0-0.5	1	A7-SA2-6^1-RM	A/K
			1-1.5	3	A7-SA2-6^3-RM	A/K
			2.5-3	6	A7-SA2-6^6-RM	A/K
A7-SA2-7	479986.33	1348285.06	0-0.5	1	A7-SA2-7^1-RM	A/K
			1-1.5	3	A7-SA2-7^3-RM	A/K
			2.5-3	6	A7-SA2-7^6-RM	A/K
A7-SA2-8	480411.6	1348338.91	0-0.5	1	A7-SA2-8^1-RM	A/K
			1-1.5	3	A7-SA2-8^3-RM	A/K
			2.5-3	6	A7-SA2-8^6-RM	A/K
A7-SA2-9	480414.96	1348051.34	0-0.5	1	A7-SA2-9^1-RM	A/K
			1-1.5	3	A7-SA2-9^3-RM	A/K
			2.5-3	6	A7-SA2-9^6-RM	A/K
A7-SA2-10	480415.88	1348225.97	0-0.5	1	A7-SA2-10^1-RM	A/K
			1-1.5	3	A7-SA2-10^3-RM	A/K
			2.5-3	6	A7-SA2-10^6-RM	A/K
			4-4.5	9	A7-SA2-10^9-RM	A/K
A7-SA2-11	480296.19	1348168.04	0-0.5	1	A7-SA2-11^1-RM	A/K
			1-1.5	3	A7-SA2-11^3-RM	A/K
			2.5-3	6	A7-SA2-11^6-RM	A/K
			4-4.5	9	A7-SA2-11^9-RM	A/K
A7-SA2-12	480228.8	1348189.84	0-0.5	1	A7-SA2-12^1-RM	A/K
			1-1.5	3	A7-SA2-12^3-RM	A/K
			2.5-3	6	A7-SA2-12^6-RM	A/K
			4-4.5	9	A7-SA2-12^9-RM	A/K
A7-SA2-13	480029.37	1348280.85	0-0.5	1	A7-SA2-13^1-RM	A/K
			1-1.5	3	A7-SA2-13^3-RM	A/K
			2.5-3	6	A7-SA2-13^6-RM	A/K
			4-4.5	9	A7-SA2-13^9-RM	A/K

**APPENDIX B**  
**BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 2 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA2-14	479855.53	1348118.07	0-0.5	1	A7-SA2-14^1-R	H
			1-1.5	3	A7-SA2-14^3-R	H
			2.5-3	6	A7-SA2-14^6-R	H
A7-SA2-15	479850.53	1348113.07	0-0.5	1	A7-SA2-15^1-R	H
			1-1.5	3	A7-SA2-15^3-R	H
			2.5-3	6	A7-SA2-15^6-R	H
A7-SA2-16	479845.53	1348118.07	0-0.5	1	A7-SA2-16^1-R	H
			1-1.5	3	A7-SA2-16^3-R	H
			2.5-3	6	A7-SA2-16^6-R	H
A7-SA2-17	479850.53	1348123.07	0-0.5	1	A7-SA2-17^1-R	H
			1-1.5	3	A7-SA2-17^3-R	H
			2.5-3	6	A7-SA2-17^6-R	H
A7-SA2-18	479710.99	1347938.65	1.5-2	4	A7-SA2-18^4-R	H
			3.5-4	8	A7-SA2-18^8-R	H
A7-SA2-19	479711.53	1347924.13	1.5-2	4	A7-SA2-19^4-R	H
			3.5-4	8	A7-SA2-19^8-R	H
A7-SA2-20	479704.03	1347931.33	4-4.5	9	A7-SA2-20^9-R	H
			5.5-6	12	A7-SA2-20^12-R	H
			6.5-7	14	A7-SA2-20^14-R	H
A7-SA2-21	479621.01	1348022.05	0-0.5	1	A7-SA2-21^1-R	H
			1-1.5	3	A7-SA2-21^3-R	H
			3-3.5	7	A7-SA2-21^7-R	H
			4-4.5	9	A7-SA2-21^9-R	H
A7-SA2-22	479616.01	1348017.05	0-0.5	1	A7-SA2-22^1-R	H
			1-1.5	3	A7-SA2-22^3-R	H
			3-3.5	7	A7-SA2-22^7-R	H
			4-4.5	9	A7-SA2-22^9-R	H
A7-SA2-23	479611.01	1348022.05	0-0.5	1	A7-SA2-23^1-R	H
			1-1.5	3	A7-SA2-23^3-R	H
			3-3.5	7	A7-SA2-23^7-R	H
			4-4.5	9	A7-SA2-23^9-R	H
A7-SA2-24	479616.01	1348027.05	0-0.5	1	A7-SA2-24^1-R	H
			1-1.5	3	A7-SA2-24^3-R	H
			3-3.5	7	A7-SA2-24^7-R	H
			4-4.5	9	A7-SA2-24^9-R	H
A7-SA2-25	479422.11	1348050.04	0-0.5	1	A7-SA2-25^1-M	K
			1-1.5	3	A7-SA2-25^3-M	K
			3-3.5	7	A7-SA2-25^7-M	K
A7-SA2-26	479417.11	1348045.04	0-0.5	1	A7-SA2-26^1-M	K
			1-1.5	3	A7-SA2-26^3-M	K
			3-3.5	7	A7-SA2-26^7-M	K

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 2 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA2-27	479412.11	1348050.04	0-0.5	1	A7-SA2-27^1-M	K
			1-1.5	3	A7-SA2-27^3-M	K
			3-3.5	7	A7-SA2-27^7-M	K
A7-SA2-28	479417.11	1348055.04	0-0.5	1	A7-SA2-28^1-M	K
			1-1.5	3	A7-SA2-28^3-M	K
			3-3.5	7	A7-SA2-28^7-M	K
A7-SA2-29	479279.36	1348280.86	0-0.5	1	A7-SA2-29^1-R	H
			1-1.5	3	A7-SA2-29^3-R	H
			2.5-3	6	A7-SA2-29^6-R	H
A7-SA2-30	479565.3	1348288.68	0-0.5	1	A7-SA2-30^1-R	H/N
			1-1.5	3	A7-SA2-30^3-R	H/N
			2.5-3	6	A7-SA2-30^6-R	H/N
A7-SA2-31	479657.22	1348299.04	0-0.5	1	A7-SA2-31^1-R	H/N
			1-1.5	3	A7-SA2-31^3-R	H/N
			2.5-3	6	A7-SA2-31^6-R	H/N
A7-SA2-32	479656.86	1348467.79	0-0.5	1	A7-SA2-32^1-R	H/N
			1-1.5	3	A7-SA2-32^3-R	H/N
			2.5-3	6	A7-SA2-32^6-R	H/N
A7-SA2-33	479558.14	1348464.21	0-0.5	1	A7-SA2-33^1-R	H/N
			1-1.5	3	A7-SA2-33^3-R	H/N
			2.5-3	6	A7-SA2-33^6-R	H/N
A7-SA2-34	479534.44	1348243.51	0-0.5	1	A7-SA2-34^1-RM	H/N/O/Q
			1.5-2	4	A7-SA2-34^4-RM	H/N/O/Q
			2.5-3	6	A7-SA2-34^6-RM	H/N/O/Q
			3.5-4	8	A7-SA2-34^8-RM	H/N/O/Q
			4.5-5	10	A7-SA2-34^10-RM	H/N/O/Q
A7-SA2-35	479534.25	1348120.3	5.5-6	12	A7-SA2-34^12-RM	H/N/O/Q
			0-0.5	1	A7-SA2-35^1-RM	N/O/Q
			1.5-2	4	A7-SA2-35^4-RM	N/O/Q
			2.5-3	6	A7-SA2-35^6-RM	N/O/Q
			3.5-4	8	A7-SA2-35^8-RM	N/O/Q
A7-SA2-36	479452.65	1348240.3	0-0.5	1	A7-SA2-36^1-R	N/O
			1.5-2	4	A7-SA2-36^4-R	N/O
			2.5-3	6	A7-SA2-36^6-R	N/O
			3.5-4	8	A7-SA2-36^8-R	N/O
A7-SA2-37	479542.04	1348290.87	0-0.5	1	A7-SA2-37^1-RM	B/D/Q
			1.5-2	4	A7-SA2-37^4-RM	B/D/Q
			2.5-3	6	A7-SA2-37^6-RM	B/D/Q
			3.5-4	8	A7-SA2-37^8-RM	B/D/Q
			4.5-5	10	A7-SA2-37^10-RM	B/D/Q
			5.5-6	12	A7-SA2-37^12-RM	B/D/Q

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 2 PREDESIGN**

<b>Boring</b>	<b>Northing</b>	<b>Easting</b>	<b>Depth (feet)</b>	<b>Depth Identifier</b>	<b>Sample ID</b>	<b>Analyte</b>
A7-SA2-38	479544.82	1348116.9	0-0.5	1	A7-SA2-38^1-RM	B/D/Q
			1.5-2	4	A7-SA2-38^4-RM	B/D/Q
			2.5-3	6	A7-SA2-38^6-RM	B/D/Q
			3.5-4	8	A7-SA2-38^8-RM	B/D/Q
			4.5-5	10	A7-SA2-38^10-RM	B/D/Q
			5.5-6	12	A7-SA2-38^12-RM	B/D/Q
A7-SA2-39	479445.48	1348090.11	0-0.5	1	A7-SA2-39^1-RM	B/D/Q
			1.5-2	4	A7-SA2-39^4-RM	B/D/Q
			2.5-3	6	A7-SA2-39^6-RM	B/D/Q
			3.5-4	8	A7-SA2-39^8-RM	B/D/Q
			4.5-5	10	A7-SA2-39^10-RM	B/D/Q
			5.5-6	12	A7-SA2-39^12-RM	B/D/Q
A7-SA2-40	479440.57	1348280.68	0-0.5	1	A7-SA2-40^1-RM	B/D/Q
			1.5-2	4	A7-SA2-40^4-RM	B/D/Q
			2.5-3	6	A7-SA2-40^6-RM	B/D/Q
			3.5-4	8	A7-SA2-40^8-RM	B/D/Q
			4.5-5	10	A7-SA2-40^10-RM	B/D/Q
			5.5-6	12	A7-SA2-40^12-RM	B/D/Q

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 3 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA3-1	478802.9	1348003	0-0.5	1	A7-SA3-1^1-RMP	B/D/E
			1-1.5	3	A7-SA3-1^3-RMP	B/D/E
			2.5-3	6	A7-SA3-1^6-RMP	B/D/E
A7-SA3-2	479457.3	1348329	0-0.5	1	A7-SA3-2^1-RMP	B/D/E
			1-1.5	3	A7-SA3-2^3-RMP	B/D/E
			2.5-3	6	A7-SA3-2^6-RMP	B/D/E
A7-SA3-3	479410.8	1348741	0-0.5	1	A7-SA3-3^1-RMP	B/D/E
			1-1.5	3	A7-SA3-3^3-RMP	B/D/E
			2.5-3	6	A7-SA3-3^6-RMP	B/D/E
A7-SA3-4	479455.2	1348465	0-0.5	1	A7-SA3-4^1-RMP	B/D/E
			1-1.5	3	A7-SA3-4^3-RMP	B/D/E
			2.5-3	6	A7-SA3-4^6-RMP	B/D/E
A7-SA3-5	479398.5	1348465	0-0.5	1	A7-SA3-5^1-RMP	B/D/E
			1-1.5	3	A7-SA3-5^3-RMP	B/D/E
			2.5-3	6	A7-SA3-5^6-RMP	B/D/E
A7-SA3-6	479639	1348740.68	0-0.5	1	A7-SA3-6^1-RMP	B/D/E
			1-1.5	3	A7-SA3-6^3-RMP	B/D/E
			2.5-3	6	A7-SA3-6^6-RMP	B/D/E
A7-SA3-7	479325.39	1348691.22	0-0.5	1	A7-SA3-7^1-RMP	B/D/E
			1-1.5	3	A7-SA3-7^3-RMP	B/D/E
			2.5-3	6	A7-SA3-7^6-RMP	B/D/E
A7-SA3-8	479557.06	1348741.06	0-0.5	1	A7-SA3-8^1-RMP	B/D/E
			1-1.5	3	A7-SA3-8^3-RMP	B/D/E
			2.5-3	6	A7-SA3-8^6-RMP	B/D/E
A7-SA3-9	479182.5	1348589	0-0.5	1	A7-SA3-9^1-RMP	B/D/E
			1-1.5	3	A7-SA3-9^3-RMP	B/D/E
			2.5-3	6	A7-SA3-9^6-RMP	B/D/E
A7-SA3-10	479006.2	1348713	0-0.5	1	A7-SA3-10^1-RMP	B/D/E
			1-1.5	3	A7-SA3-10^3-RMP	B/D/E
			2.5-3	6	A7-SA3-10^6-RMP	B/D/E
A7-SA3-11	479071.1	1348816	0-0.5	1	A7-SA3-11^1-RMP	B/D/E
			1-1.5	3	A7-SA3-11^3-RMP	B/D/E
			2.5-3	6	A7-SA3-11^6-RMP	B/D/E
A7-SA3-12	479002.1	1348929	0-0.5	1	A7-SA3-12^1-RMP	B/D/E
			1-1.5	3	A7-SA3-12^3-RMP	B/D/E
			2.5-3	6	A7-SA3-12^6-RMP	B/D/E
A7-SA3-13	479279.4	1348530.93	0-0.5	1	A7-SA3-13^1-R	H
			1-1.5	3	A7-SA3-13^3-R	H
			3-3.5	7	A7-SA3-13^7-R	H
A7-SA3-14	479279.4	1348535.93	0-0.5	1	A7-SA3-14^1-R	H
			1-1.5	3	A7-SA3-14^3-R	H
			3-3.5	7	A7-SA3-14^7-R	H

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 3 PREDESIGN**

<b>Boring</b>	<b>Northing</b>	<b>Easting</b>	<b>Depth (feet)</b>	<b>Depth Identifier</b>	<b>Sample ID</b>	<b>Analyte</b>
A7-SA3-15	479274.4	1348530.93	0-0.5	1	A7-SA3-15^1-R	H
			1-1.5	3	A7-SA3-15^3-R	H
			3-3.5	7	A7-SA3-15^7-R	H
A7-SA3-16	479279.4	1348525.93	0-0.5	1	A7-SA3-16^1-R	H
			1-1.5	3	A7-SA3-16^3-R	H
			3-3.5	7	A7-SA3-16^7-R	H
A7-SA3-17	479284.4	1348530.93	0-0.5	1	A7-SA3-17^1-R	H
			1-1.5	3	A7-SA3-17^3-R	H
			3-3.5	7	A7-SA3-17^7-R	H
A7-SA3-18	479666.4	1348782.78	0-0.5	1	A7-SA3-18^1-RMP	H/K/L/I
			1-1.5	3	A7-SA3-18^3-RMP	H/K/L/I
			2.5-3	6	A7-SA3-18^6-RMP	H/K/L/I
A7-SA3-19	479566.02	1349047.64	0-0.5	1	A7-SA3-19^1-R	H
			1-1.5	3	A7-SA3-19^3-R	H
			2.5-3	6	A7-SA3-19^6-R	H

**APPENDIX B  
BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 4 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA4-1	1348859.32	478832.38	0-0.5	1	A7-SA4-1^1-RMP	B/D/E
			1-1.5	3	A7-SA4-1^3-RMP	B/D/E
			2.5-3	6	A7-SA4-1^6-RMP	B/D/E
A7-SA4-2	1348652.59	478379.2	0-0.5	1	A7-SA4-2^1-RMP	B/D/E
			1-1.5	3	A7-SA4-2^3-RMP	B/D/E
			2.5-3	6	A7-SA4-2^6-RMP	B/D/E
A7-SA4-3	1348849.1	478289.7	0-0.5	1	A7-SA4-3^1-RMP	B/D/E
			1-1.5	3	A7-SA4-3^3-RMP	B/D/E
			2.5-3	6	A7-SA4-3^6-RMP	B/D/E
A7-SA4-4	1348894.39	478361.97	0-0.5	1	A7-SA4-4^1-RMP	B/D/E
			1-1.5	3	A7-SA4-4^3-RMP	B/D/E
			2.5-3	6	A7-SA4-4^6-RMP	B/D/E
A7-SA4-5	1349054.94	478625.47	0-0.5	1	A7-SA4-5^1-RMP	B/D/E
			1-1.5	3	A7-SA4-5^3-RMP	B/D/E
			2.5-3	6	A7-SA4-5^6-RMP	B/D/E
A7-SA4-6	1349216.87	478525.41	0-0.5	1	A7-SA4-6^1-RMP	B/D/E
			1-1.5	3	A7-SA4-6^3-RMP	B/D/E
			2.5-3	6	A7-SA4-6^6-RMP	B/D/E
A7-SA4-7	1349535.32	478512.98	0-0.5	1	A7-SA4-7^1-RMP	B/D/E
			1-1.5	3	A7-SA4-7^3-RMP	B/D/E
			2.5-3	6	A7-SA4-7^6-RMP	B/D/E
A7-SA4-8	1349521.84	478722.79	0-0.5	1	A7-SA4-8^1-RMP	B/D/E
			1-1.5	3	A7-SA4-8^3-RMP	B/D/E
			2.5-3	6	A7-SA4-8^6-RMP	B/D/E
A7-SA4-9	1349425.38	478856.63	0-0.5	1	A7-SA4-9^1-RMP	B/D/E
			1-1.5	3	A7-SA4-9^3-RMP	B/D/E
			2.5-3	6	A7-SA4-9^6-RMP	B/D/E

**APPENDIX B**  
**BORING TABLE AND SAMPLE IDENTIFIERS FOR AREA 7 SUBAREA 5 PREDESIGN**

Boring	Northing	Easting	Depth (feet)	Depth Identifier	Sample ID	Analyte
A7-SA5-1	478389.71	1349978.11	0-0.5	1	A7-SA5-1^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-1^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-1^6-RMP	B/D/E/F
A7-SA5-2	477766.23	1350187.87	0-0.5	1	A7-SA5-2^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-2^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-2^6-RMP	B/D/E/F
A7-SA5-3	476673.79	1350522.87	0-0.5	1	A7-SA5-3^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-3^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-3^6-RMP	B/D/E/F
A7-SA5-4	478688.97	1350081.71	0-0.5	1	A7-SA5-4^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-4^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-4^6-RMP	B/D/E/F
A7-SA5-5	479332.94	1350664.56	0-0.5	1	A7-SA5-5^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-5^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-5^6-RMP	B/D/E/F
A7-SA5-6	479699.38	1350546.31	0-0.5	1	A7-SA5-6^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-6^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-6^6-RMP	B/D/E/F
A7-SA5-7	480152.23	1350530.91	0-0.5	1	A7-SA5-7^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-7^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-7^6-RMP	B/D/E/F
A7-SA5-8	480076.02	1350518.49	0-0.5	1	A7-SA5-8^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-8^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-8^6-RMP	B/D/E/F
A7-SA5-9	480028.73	1350609.52	0-0.5	1	A7-SA5-9^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-9^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-9^6-RMP	B/D/E/F
A7-SA5-10	479960.56	1350477.43	0-0.5	1	A7-SA5-10^1-RMP	B/D/E/F
			1-1.5	3	A7-SA5-10^3-RMP	B/D/E/F
			2.5-3	6	A7-SA5-10^6-RMP	B/D/E/F
A7-SA5-11	479873.59	1350521.4	0-0.5	1	A7-SA5-11^1-P	L
			1-1.5	3	A7-SA5-11^3-P	L
			2.5-3	6	A7-SA5-11^6-P	L
A7-SA5-12	479780.11	1350506.57	0-0.5	1	A7-SA5-12^1-P	L
			1-1.5	3	A7-SA5-12^3-P	L
			2.5-3	6	A7-SA5-12^6-P	L
A7-SA5-13	479827.99	1350542.07	0-0.5	1	A7-SA5-13^1-P	L
			1-1.5	3	A7-SA5-13^3-P	L
			2.5-3	6	A7-SA5-13^6-P	L
A7-SA5-14	478839.83	1349852.04	0-0.5	1	A7-SA5-14^1-P	L
			1-1.5	3	A7-SA5-14^3-P	L
			2.5-3	6	A7-SA5-14^6-P	L