



Department of Energy

**Ohio Field Office
Fernald Closure Project
175 Tri-County Parkway
Springdale, Ohio 45246**



OCT 3 2006

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DOE-0001-07

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Dear Mr. Saric and Mr. Schneider:

**TRANSMITTAL OF THE DRAFT CERTIFICATION DESIGN LETTER FOR THE
AREA 5 ADMINISTRATION AREA AND WEST PARKING LOT**

Enclosed for your review is the draft Certification Design Letter for the Area 5 Administration Area and West Parking Lot.

If you have any questions or require additional information, please contact me at (513) 648-3139.

Sincerely,

Johnny W. Reising
Director

Enclosure: As Stated

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-2-

DOE-0001-07

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**CERTIFICATION DESIGN LETTER
FOR AREA 5 ADMINISTRATION AREA
AND WEST PARKING LOT**

**FERNALD CLOSURE PROJECT
FERNALD, OHIO**



OCTOBER 2006

U.S. DEPARTMENT OF ENERGY

**20810-PL-0008
REVISION A
DRAFT**

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LIST OF ACRONYMS AND ABBREVIATIONS

ASCOC	area-specific constituent of concern
ASL	analytical support level
CDL	Certification Design Letter
COC	constituent of concern
CRDL	contract required detection limit
CU	certification unit
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FCP	Fernald Closure Project
FRL	final remediation level
FS	Feasibility Study
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
OEPA	Ohio Environmental Protection Agency
OU	Operable Unit
pCi/g	picoCuries per gram
pCi/L	picoCuries per liter
PSP	Project Specific Plan
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SED	Sitewide Environmental Database
SEP	Sitewide Excavation Plan
UCL	Upper Confidence Limit
V/FCN	Variance/Field Change Notice
VSL	validation support level
WAC	waste acceptance criteria
WPL	West Parking Lot

EXECUTIVE SUMMARY

This Certification Design Letter (CDL) describes the certification approach for Area 5 Administration Area and West Parking Lot (WPL). The following information is included:

- The boundary of Area 5 (Figure 1-1) and a description of the area to be certified under the guidance of this CDL;
- A discussion of historical data from the area proposed for certification;
- A discussion of the area-specific constituent of concern (ASCOC) selection process and list of ASCOCs assigned to Area 5;
- A presentation of the certification unit (CU) boundaries and proposed sampling strategy;
- Details of certification sampling, analysis, and validation that will take place;
- The analytical requirements and the statistical methodology that will be employed; and
- The proposed schedule for the certification activities.

The scope of this CDL is limited to the certification of the Area 5 Administration Area, a section of the haul road running through Area 5, the WPL, and the footprint of the 60-inch storm water line excavation that extends the length of Area 5 as shown on Figure 1-1. Remediation was complete in the Administration Area in 2006 and the WPL in 2005, thus initiating the certification process described in this plan.

The certification design presented in this CDL follows the general approach outlined in Section 3.4 of the Site-wide Excavation Plan (SEP, DOE 1998) and SEP Addendum (DOE 2001). The selection of Area 5 Administration Area and WPL ASCOCs was accomplished using constituent of concern (COC) lists in the Operable Unit 5 Record of Decision (DOE 1996), previous investigation data, and process knowledge. Six CUs have been defined for this CDL. Total uranium, thorium-228, thorium-232, radium-226, and radium-228 (the sitewide primary radiological COCs) are considered ASCOCs in each CU. Secondary COCs are identified for specific CUs within the certification area.

1.0 INTRODUCTION

This Certification Design Letter (CDL) describes the certification approach for demonstrating that soil in the Area 5 Administration Area, a section of the haul road running through Area 5, the West Parking Lot (WPL), and the footprint of the 60-inch storm water line excavation that extends the length of Area 5 meet the final remediation levels (FRLs) for all area-specific constituents of concern (ASCOCs). The format of this document follows guidelines presented in the Sitewide Excavation Plan (SEP, DOE 1998) and SEP Addendum (2001). Accordingly, this document consists of the following sections:

- 1.0 Introduction - Presentation of the purpose, objectives, and scope of this CDL
- 2.0 Historical and Precertification Data - Discussion of historical soil data and presentation of precertification data from the Area 5 Administration Area, haul road, WPL, and the footprint of the 60-inch storm water line excavation.
- 3.0 Area-Specific Constituents of Concern - Discussion of selection criteria and ASCOCs for Area 5 Administration Area, haul road, WPL, and the footprint of the 60-inch storm water line excavation.
- 4.0 Certification Approach - Presentation of design, surveying, sampling and analytical methodologies.
- 5.0 Schedule

References

1.1 OBJECTIVES

The primary objectives of this document are to:

- Define the boundaries of the areas to be certified under the guidance of this CDL;
- Present maps for newly acquired real-time data;
- Define the ASCOC selection process and list the selected Administration Area, haul road, WPL, and the footprint of the 60-inch storm water line excavation;
- Present the certification unit (CU) boundaries and proposed certification sampling strategy;
- Summarize the analytical requirements and the statistical methodology that will be employed; and
- Present the proposed schedule for the certification activities.

1 1.2 SCOPE AND AREA DESCRIPTION

2 The scope of this CDL includes details of certification sampling, analysis, and validation that will take
3 place in Area 5 Administration Area, haul road, WPL, and the footprint of the 60-inch storm water line
4 excavation. Figure 1-1 depicts the layout of Area 5 and the portion of Area 5 (Administration Area, haul
5 road, WPL and the 60-inch line excavation) that is to be certified under this plan.

6
7 Remediation Area 5 lies in the southern portion of the Former Production Area and the Administration
8 Area including all but the southern end of the main parking lot. The area is bound by the Main Drainage
9 Corridor 1st Street to the north; Area 7 to the west and south; and Area 6 and Area 5 East Parking Lot to
10 the east. The section of the haul road that that is under this certification effort extends from the western
11 side of the WPL to the northeastern corner of the Administration Area. Once the area has been certified,
12 the haul road will be blended into the surrounding soil during restoration of the area.

2.0 HISTORICAL AND PRECERTIFICATION DATA

In accordance with the SEP, prior to conducting precertification and certification activities, all soil demonstrated to contain contamination above the associated FRLs or other applicable action levels must be evaluated for remedial actions.

The Project Specific Plan (PSP) for Predesign Investigation in Area 5 (DOE 2002), the Remedial Investigation Reports (RI, DOE 1995a and 1995b), and Feasibility Study Reports (FS, DOE 1995c and 1995d) for Operable Units (OU) 3 and 5 were used for remedial design of Area 5. Final grade excavation monitoring/sampling and real-time scanning/sampling data have been collected pursuant to the RI/FS and remedial activities.

Before initiating the certification process, all historical soil data within the Area 5 Administration Area and WPL certification area were pulled from the Sitewide Environmental Database (SED). The data are summarized in Section 2.1. Based on the results of sampling and scanning activities summarized in Section 2.1, it has been determined that no additional remedial actions are necessary to remove above-FRL or above-waste acceptance criteria (WAC) soil.

The concrete pads and footers of the former Services, Administration, and Industrial Relations Buildings were removed as well as all sidewalks. All of the asphalt in the West Parking Lot has been removed, and all utilities have been removed from the area. The 60-inch storm water line that ran the entire length of Area 5 has been excavated. This excavation remains open.

2.1 Area 5 Administration Area and West Parking Lot

2.1.1 Historical, Predesign and Excavation Control

All historical data for Area 5 Administration Area and WPL are presented in the Implementation Plan for Area 3B/4B/5 (DOE 2004a). This includes data collected during the RI/FS and Area 5 Predesign Investigation PSP. No above-WAC areas have been identified in Area 5 Administration Area and WPL. Three above-FRL borings were identified during the Predesign Investigation, two in the Administration Area (beryllium and radium-226) and one in the West Parking Lot (arsenic).

2.1.2 Precertification Data

During excavation of Area 5 Administration Area and WPL, various utilities were removed from the area. These utilities consisted of storm sewer, sanitary, effluent, drinking water, fire, electrical, communication lines, etc. Of these utilities, only those that contained a waste stream that could have leaked and potentially impacted the surrounding soil (i.e., effluent, storm sewer, and sanitary lines), and were going to be back filled prior to certification of the area, were a concern for precertification. Therefore, following the

1 excavation and removal of these types of utilities and their associated bedding material, precertification
2 real-time scans were performed and physical precertification samples were collected from the top 6 inches
3 of the remaining soil. Physical precertification samples from utility excavations were collected under
4 Variance/Field Change Notices (V/FCNs) 20810-PSP-0006-114, 20810-PSP-0006-126, and
5 20810-PSP-0006-137 (see Appendix A).

6
7 Additionally, real-time precertification scans were performed on the surface of the overburden prior to
8 excavation of all utilities. After the potentially impacted material [i.e. utility lines and bedding (where
9 applicable)] was removed, the utility excavations were backfilled with the precertified overburden.

10
11 Following completion of all excavations in the Area 5 Administration Area, haul road, WPL, and the
12 footprint of the 60-inch storm water line excavation, precertification scans were performed according to
13 guidelines established in Section 3.3.3 of the SEP. These precertification activities were conducted to
14 evaluate residual radiological contamination patterns as specified in the PSP Guidelines for General
15 Characterization for Sitewide Soil Remediation (DOE 2005a). The results of all precertification scans in
16 the area are presented in Appendix B.

17
18 Following precertification real-time scans in the WPL, Administration Area, haul road, and the footprint of
19 the 60-inch storm water line excavation, physical precertification samples were collected following
20 certification guidelines under V/FCNs 20810-PSP-0006-129, 151, 165, 168 (respectively). A statistical
21 analysis of these data and the precertification data collected in the trenches will be presented in the
22 Certification Report for this area.

3.0 AREA-SPECIFIC CONSTITUENTS OF CONCERN

In the OU5 Record of Decision (ROD), there are 80 soil COCs with established FRLs. These COCs were retained for further investigation based on a screening process that considered the presence of the constituent in site soil and the potential risk to a receptor exposed to soil containing this contaminant. In spite of the conservative nature of this COC retention process, many of the COCs with established FRLs have a limited distribution in site soil or the presence of the COC is based on high contract required detection limits (CRDLs). When FRLs were established for these COCs in the OU5 ROD, the FRLs were initially screened against site data presented on spatial maps to establish a picture of potential remediation areas.

By reviewing existing RI/FS data presented on spatial distribution maps, the sitewide list of soil COCs in the OU5 ROD was reduced from 80 to 30. This reduction was possible because the majority of the COCs with FRLs listed in the OU5 ROD have no detections above their corresponding FRL, thus eliminating them from further consideration. The 30 remaining sitewide COCs account for over 99 percent of the combined risk to a site receptor model, and they comprise the list from which all of the remediation ASCOCs are drawn. When planning certification for a remediation area, additional selection criteria are used to derive a subset of these 30 COCs. This subset of COCs is passed along to the certification process.

3.1 SELECTION CRITERIA

The selection process for retaining ASCOCs for a remediation area is driven by applying a set of decision criteria. A soil contaminant will be retained as an ASCOC if:

- It is listed as a soil COC in the OU5 ROD, and it is listed as an ASCOC in Table 2-7 of the SEP for the Remediation Area of interest;
- It can be traced to site use in the remediation area of interest, either through process knowledge or known release of the constituent to the environment;
- Analytical results indicate that a contaminant is present above its FRL, and the above-FRL concentrations are not attributable to false positives or elevated CRDLs;
- Physical characteristics of the contaminant, such as degradation rate and volatility, indicate it is likely to persist in the soil between time of release and remediation; or
- The contaminant is one of the sitewide primary COCs (total uranium, radium-226, radium-228, thorium-238, and thorium-232).

Using the above process, the ASCOCs were refined to those listed in Tables 2-7 of the SEP. The list of ASCOCs is also presented in Table 3-1 with their respective FRLs.

1 3.1.1 Area 5 Administration Area and WPL ASCOC Selection

2 Table 3-1 lists the ASCOCs for Remediation Area 5. Table 3-2 shows how each COC listed in Table 3-1
3 was evaluated for its relevance to Area 5 Administration Area and WPL. Additional COCs have been
4 added to Table 3-2 for sampling of the haul road and the 60-inch line excavation. These additional
5 constituents were based on the source areas of the soil and debris that were transported on the haul road
6 (i.e., Silos and Waste Pits areas), and the list of potential contaminants from 60-inch storm sewer line
7 excavation. Table 3-3 presents the final list of ASCOCs for Area 5 Administration Area and WPL
8 including the haul road and the 60-inch storm sewer line excavation.

1
 2
 3
TABLE 3-1
ASCOC LIST FOR REMEDIATION AREA 5

ASCOC	FRL
Radionuclides	
Total Uranium	82/20 ^a mg/kg
Radium-226	1.7 pCi/g
Radium-228	1.8 pCi/g
Thorium-228	1.7 pCi/g
Thorium-232	1.5 pCi/g
Organic	
Aroclor-1254	0.13 mg/kg
Aroclor-1260	0.13 mg/kg
Dieldrin	0.015 mg/kg
Metals	
Arsenic	12.0 mg/kg
Beryllium	1.5 mg/kg

4
 5
 6
 7
 8
 9
^aThe total uranium FRL is lower in the defined high leachability zones (i.e., 20 mg/kg).

mg/kg - milligrams per kilogram
 pCi/g - picoCuries per gram

TABLE 3-2
ASCOC RETENTION PROCESS FOR AREA 5 ADMINISTRATION AREA AND WPL

ASCOC	Retained as ASCOC?	Justification	CU(s)
Total Uranium	Yes	Primary Radionuclide	All
Radium-226	Yes	Primary Radionuclide	All
Radium-228	Yes	Primary Radionuclide	All
Thorium-228	Yes	Primary Radionuclide	All
Thorium-232	Yes	Primary Radionuclide	All
Cesium-137	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Lead-210	Yes	Potential contaminant from Waste Pits and Silos material hauling operations.	A5A-PC08
Technetium-99	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Thorium-230	Yes	Potential contaminant from Waste Pits and Silos material hauling operations.	A5A-PC08
Organic			
1,1-dichloroethene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
1,1,1-trichloroethane	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
1,2-dichloroethene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
4-Methyl-2-pentone	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Acetone	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Aroclor-1254	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Aroclor-1260	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Benzene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Benzo(a)pyrene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Benzo(a)anthracene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Benzo(b)fluoranthene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05

**TABLE 3-2
 (Continued)**

ASCOC	Retained as ASCOC?	Justification	CU(s)
Organic (Continued)			
Benzo(g,h,i)perylene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Benzo(k)fluoranthene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Bromodichloromethane	Yes	Potential contaminant from Waste Pits and Silos material hauling operations.	A5A-PC08
Carbon tetrachloride	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Chrysene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Dieldrin	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Dibenzo(a,h)anthracene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Ethylbenzene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Fluoranthene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Indeno(1,2,3-cd)pyrene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Methyl Chloride	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Phenanthrene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Pyrene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Tetrachloroethene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Toluene	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Trichloroethene	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Xylenes, Total	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Metals			
Antimony	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Arsenic	Yes	Detected at concentrations above the FRL. Potential contaminant from Waste Pits and Silos material hauling operations.	All
Barium	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05

**TABLE 3-2
 (Continued)**

ASCOC	Retained as ASCOC?	Justification	CU(s)
Metals (Continued)			
Beryllium	Yes	Detected at concentrations above the FRL. Potential contaminant from Waste Pits and Silos material hauling operations.	All
Cadmium	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Chromium	Yes	Potential contaminant from Waste Pits and Silos material hauling operations. Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC08 A5A-PC09 A5WPL-PC05
Lead	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Mercury	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Molybdenum	Yes	Potential contaminant from 60-inch storm sewer line excavation.	A5A-PC09 A5WPL-PC05
Selenium	Yes	Potential contaminant from 60-inch storm sewer line excavation	A5A-PC09 A5WPL-PC05
Silver	Yes	Potential contaminant from 60-inch storm sewer line excavation	A5A-PC09 A5WPL-PC05
General chemistry			
Fluoride	Yes	Potential contaminant from Waste Pits and Silos material hauling operations.	A5A-PC08

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2
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**TABLE 3-3
 FINAL ASCOC LIST FOR AREA 5 ADMINISTRATION AREA AND WPL**

ASCOC	FRL/(BTV)
Radionuclides	
Total Uranium	82/20 ^a mg/kg
Radium-226	1.7 pCi/g
Radium-228	1.8 pCi/g
Thorium-228	1.7 pCi/g
Thorium-232	1.5 pCi/g
Cesium-137	1.4 pCi/g
Lead-210	38 pCi/g
Technetium-99	30 pCi/g
Thorium-230	280 pCi/g
Organic	
1,1-dichloroethene	0.41 mg/kg
1,1,1-trichloroethane ^b	4.3 mg/kg
1,2-dichloroethene	0.16 mg/kg
4-Methyl-2-pentanone (MIK)	2500 mg/kg
Acetone	43,000 mg/kg
Aroclor-1254	0.13 mg/kg
Aroclor-1260	0.13 mg/kg
Benzene	850 mg/kg
Benzo(a)pyrene	2.0 mg/kg
Benzo(a)anthracene	20 mg/kg /(1.0 mg/kg)
Benzo(b)fluoranthene	20 mg/kg
Benzo(g,h,i)perylene	(1.0 mg/kg)
Benzo(k)fluoranthene	200 mg/kg /(1.0 mg/kg)
Bromodichloromethane	4.0 mg/kg
Carbon tetrachloride	2.1 mg/kg
Chrysene	2000 mg/kg /(1.0 mg/kg)
Dibenzo(a,h)anthracene	2.0 mg/kg
Dieldrin	0.015 mg/kg
Ethylbenzene	5,100 mg/kg
Fluoranthene	(10 mg/kg)
Indeno(1,2,3-cd)pyrene	20 mg/kg
Methyl Chloride	37 mg/kg /(85 mg/kg)
Phenanthrene	(5 mg/kg)
Pyrene	(10 mg/kg)
Tetrachloroethene	3.6 mg/kg
Toluene	100,000 mg/kg
Trichloroethene	25 mg/kg
Total Xylenes	920,000 mg/kg

**TABLE 3-3
 (Continued)**

ASCOC	FRL/(BTV)
General chemistry	
Fluoride	78,000 mg/kg
Metals	
Antimony	96 mg/kg / (10 mg/kg)
Arsenic	12.0 mg/kg
Barium	68,000 mg/kg
Beryllium	1.5 mg/kg
Cadmium	82 mg/kg / (5.0 mg/kg)
Chromium ^c	300 mg/kg
Lead	400 mg/kg
Mercury	7.5 mg/kg
Molybdenum	2900 mg/kg / (10 mg/kg)
Selenium	5,400 mg/kg
Silver	29,000 mg/kg / (10 mg/kg)

^a The total uranium FRL is lower in the defined high leachability zones (i.e., 20 mg/kg).

^b The FRL is actually for 1,1,2-trichloroethane because 1,1,1-trichloroethane does not have a FRL. This value will be used for statistical comparison for certification criteria.

^c The FRL is actually for hexavalent chromium because total chromium does not have a FRL.

4.0 CERTIFICATION APPROACH

The certification design for Area 5 Administration Area, haul road, WPL, and the footprint of the 60-inch storm water line excavation differs from the typical certification effort. As discussed in Section 2.1.2, utility trenches below design grade were done with physical precertification samples throughout the Administration Area and WPL per variances 20810-PSP-0006-114, 20810-PSP-0006-126, and 20810-PSP-0006-137. Additionally, precertification surface samples have been collected in the WPL, Administration Area, haul road, and 60-inch storm water line per variances 20810-PSP-0006-129, 20810-PSP-0006-151, 20810-PSP-0006-165, and 20810-PSP-0006-168, respectively. The precertification sampling variances are in Appendix A. These sampling approaches were consistent with the certification criteria established in the SEP including CU size, minimum distance between points, analytical support levels as well as validation of all data.

This area has also been protected from impact since the time of sampling/precertification as described in Fernald Closure Project (FCP) Procedure EP-0008, Access to and Management of a Certified Area (DOE 2005b).

Based on the above practices being consistent with all SEP protocols, the precertification physical samples that have been collected will be used for final certification. This approach is consistent with other approved certification efforts such as the former Impacted Material Haul Road in Area 2, Phase II - Subarea 3. All previously collected precertification data will be used for the statistical analysis summarized in tables presented in the Certification Report.

4.1 CERTIFICATION DESIGN

The certification design for Area 5 Administration Area, WPL, the haul road, and the footprint of the 60-inch storm water line excavation follows the general approach outlined in Section 3.4 of the SEP. The certification design for the trench CUs follows the approach described in the CDL for Area 9, Phase III - Part One (DOE 2004b). This approach ensures that the excavation activities to remove utilities have no effect on the soil in Area 5 Administration Area and WPL. The layout for Area 5 Administration Area, WPL, haul road, and the footprint of the 60-inch storm water line excavation is depicted on Figure 4-1 and the sample locations for Area 5 Administration Area, haul road, WPL, and the footprint of the 60-inch storm water line excavation are depicted in Figures 4-2, 4-3, 4-4, 4-5, and 4-6.

As discussed in Section 2.1.2, precertification samples were collected from the bottom of utility excavations in Area 5 Administration Area and the WPL. The precertification data and statistical analysis will be presented in the certification report for this area.

1 As discussed in Section 3.0 of this document, the five primary ASCOCs (total uranium, radium-226,
2 radium-228, thorium-228, and thorium-232) will be retained in each CU. Additional secondary COCs are
3 identified for specific CUs within the certification area.
4

5 The certification area boundary encompasses the Area 5 Administration Area, the haul road, the WPL, and
6 the footprint of the 60-inch storm water line excavation. Because a portion of these areas are in the former
7 production area, which is an impacted area, they were comprised of Group 1 CUs to allow for more
8 concentrated sampling to ensure excavation activities had no effect on the soil.
9

10 4.1.1 Area 5 Administration Area, Haul Road, and WPL Certification Unit Design

11 Area 5 Administration Area consists of CUs A5A-PC01 through A5A-PC06, the haul road consists of
12 CU A5A-PC08, the WPL consists of CUs A5WPL-PC01 through A5WPL-PC04, and the footprint of the
13 60-inch storm water line excavation consists of CUs A5A-PC09 and A5WPL-PC05. Trench CUs were
14 established after potentially impacted utilities (i.e., storm sewer and sanitary lines) were removed.
15

16 4.1.2 Sample Location Design

17 The selection of certification sampling locations in the Group 1 CUs was conducted according to
18 Section 3.4.2 of the SEP. Each CU was first divided into 16 approximately equal sub-CUs. Sample
19 locations were then generated by randomly selecting an easting and northing coordinates within the
20 boundaries of each sub-CU, then testing those locations against the minimum distance criteria for the CU.
21 If the minimum distance criteria were not met, an alternative random location was selected for that
22 sub-CU, and all the locations were re-tested. This process continued, until all 16 random locations met the
23 minimum distance criteria.
24

25 As discussed in Section 2.1.1, the precertification samples that were collected from the bottom of the
26 trenches will be used for certification of the trenches. These sampling locations were placed every 50 feet
27 in the applicable trenches.
28

29 All CUs, sub-CUs, and planned certification sampling locations are shown on Figures 4-2 through 4-5.
30 Four of the 16 sample locations (one location from each quadrant of the CU) are designated with a "V,"
31 indicating archive sample locations. One sample location in the CU is designated with a "D," indicating a
32 field duplicate sample collection location. Neither archive samples nor duplicate samples were collected
33 during trench sampling.
34

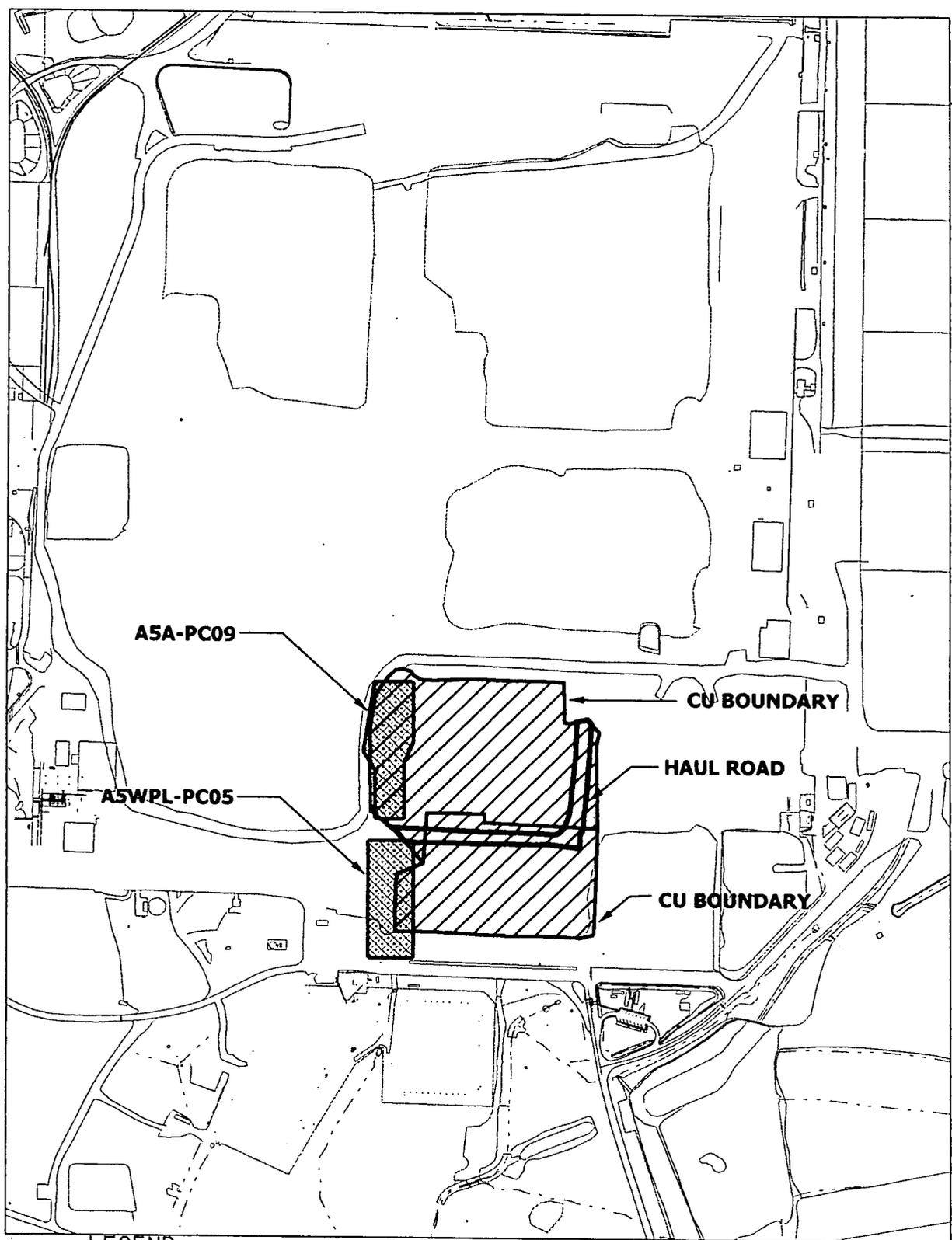
35 4.2 ANALYTICAL METHODOLOGY AND STATISTICAL ANALYSIS

36 Laboratory analysis of certification samples will be conducted using an approved analytical method, as
37 discussed in Appendix H of the SEP. Analyses will be conducted to Analytical Support Level (ASL) D or E,

1 where all requirements for ASL E are the same as ASL D except the minimum detection level for the
2 selected analytical method must be at least 10 percent of the FRL where practical. A minimum of
3 10 percent of the laboratory data will be validated to Validation Support Level (VSL) D with the remainder
4 validated to VSL B. Samples rejected during validation will be re-analyzed, or an archive sample will be
5 submitted for analysis. Once data are validated, results will be entered into the SED and a statistical
6 analysis will be performed to evaluate the pass/fail criteria for each CU. The statistical approach is
7 discussed in Section 3.4.3 and Appendix G of the SEP, and will be the same for Area 5.

8
9 Two criteria must be met for the CU to pass certification. If the data distribution is normal or lognormal, the
10 first criterion compares the 95 percent Upper Confidence Limit (UCL) on the mean of each primary ASCOC
11 to its FRL. On an individual CU basis, any ASCOC with the 95 percent or 90% UCL above the FRL results
12 in that CU failing certification. If the data distribution is not normal or lognormal, the appropriate
13 nonparametric approach discussed in Appendix G of the SEP will be used to evaluate the second criterion.
14 The second criterion is related to individual samples. An individual sample cannot be greater than two times
15 the FRL (the hotspot criterion). When the given UCL on the mean for each ASCOC is less than its FRL, and
16 the hot spot criterion is met, the CU has met both criteria and will be considered certified.

17
18 There are three conditions that could result in a CU failing certification: 1) high variability in the data set,
19 2) localized contamination, and 3) widespread contamination. Details on the evaluation and responses to
20 these possible outcomes are provided in Section 3.4.5 of the SEP. When all CUs within the scope of this
21 CDL have passed certification, a certification report will be issued. The certification report will be submitted
22 to the U.S. Environmental Protection Agency (EPA) and Ohio Environmental Protection Agency (OEPA)
23 to receive acknowledgement that the pertinent OU remedial actions were completed and the individual CUs
24 are certified to be released for interim or final land use. Section 7.4 of the SEP provides additional details and
25 describes the required content of the certification report.



LEGEND:

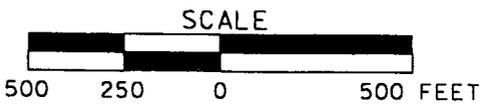
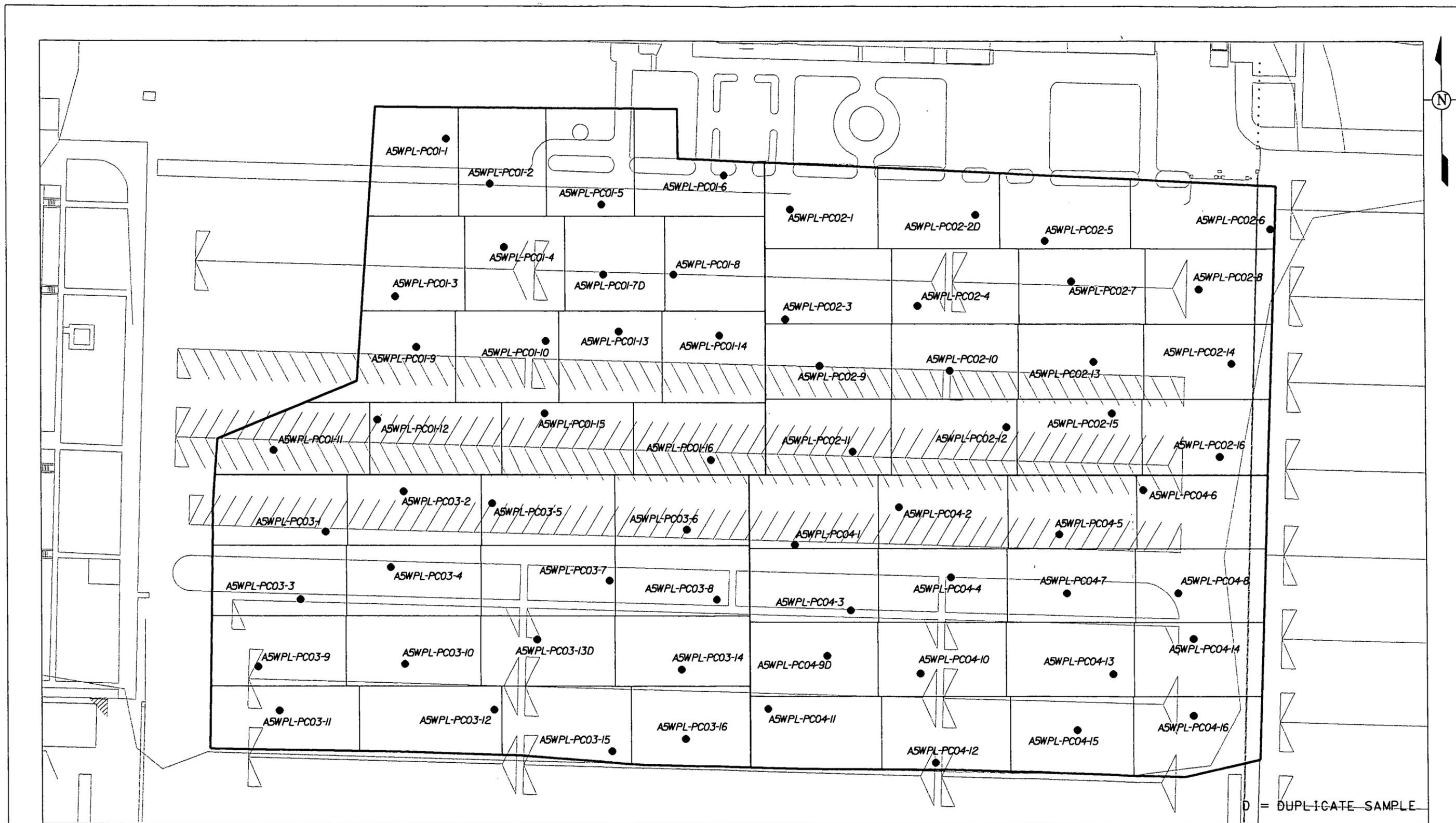


FIGURE 4-1. AREA 5 CERTIFICATION AREA BOUNDARIES



LEGEND:

● SAMPLE LOCATION

D = DUPLICATE SAMPLE

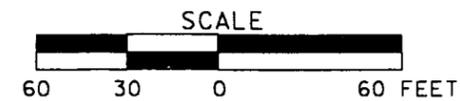


FIGURE 4-2. AREA 5 WEST PARKING LOT PRECERTIFICATION SAMPLE LOCATIONS

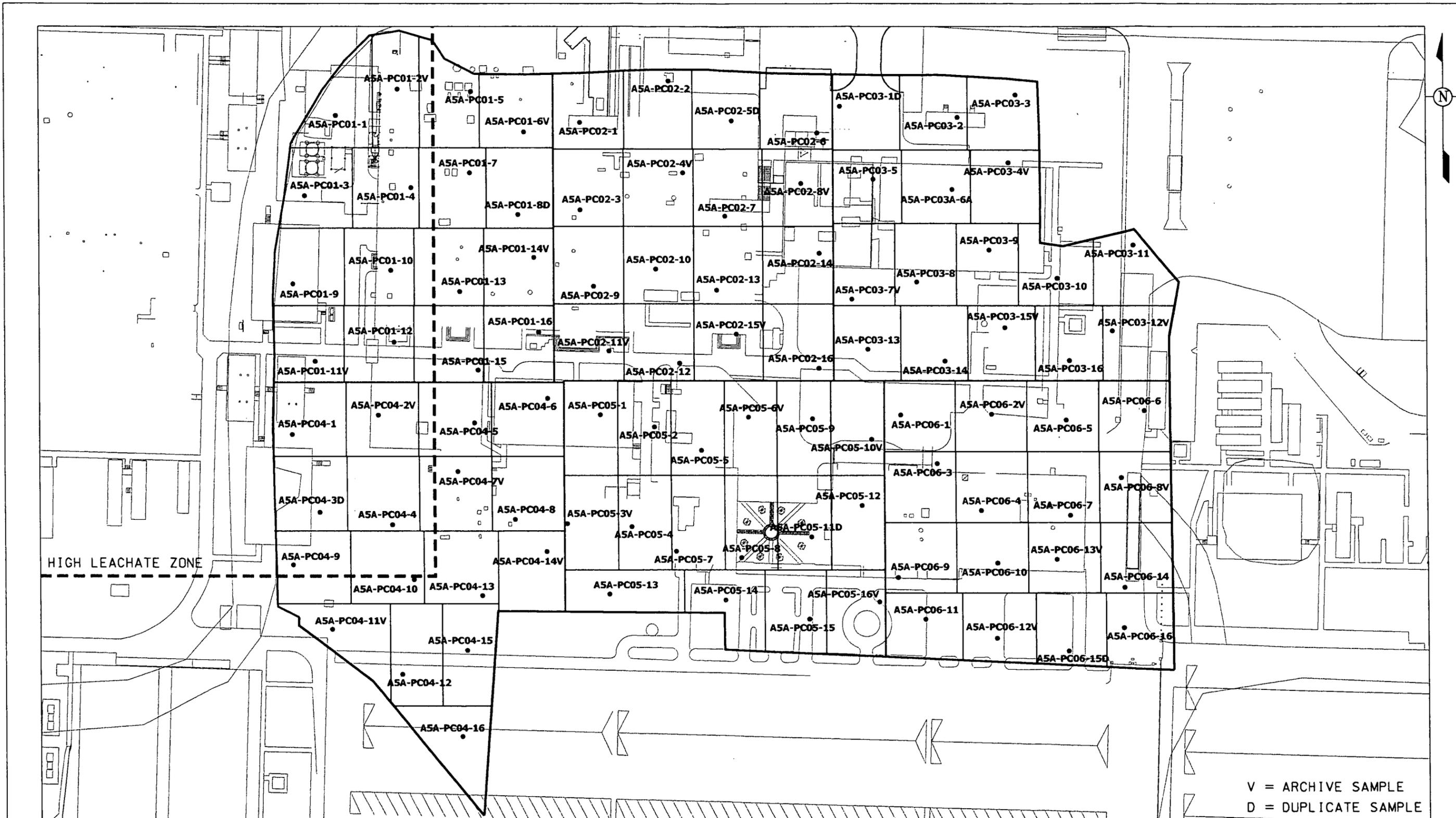


FIGURE 4-3. AREA 5 ADMINISTRATION AREA PRECERTIFICATION SAMPLE LOCATIONS

V = ARCHIVE SAMPLE
D = DUPLICATE SAMPLE

A5A-PC08-16

A5A-PC08-15

A5A-PC08-14V

A5A-PC08-13

A5A-PC08-12

A5A-PC08-11

A5A-PC08-10V

A5A-PC08-9D

A5A-PC08-1

A5A-PC08-2

A5A-PC08-3V

A5A-PC08-7

A5A-PC08-6V

A5A-PC08-4

A5A-PC08-5

A5A-PC08-8

STATE PLANAR COORDINATE SYSTEM 1983
v:\42fm12\dgn\05_haul_101.dgn

LEGEND:

● SAMPLE LOCATION

SCALE

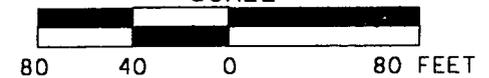
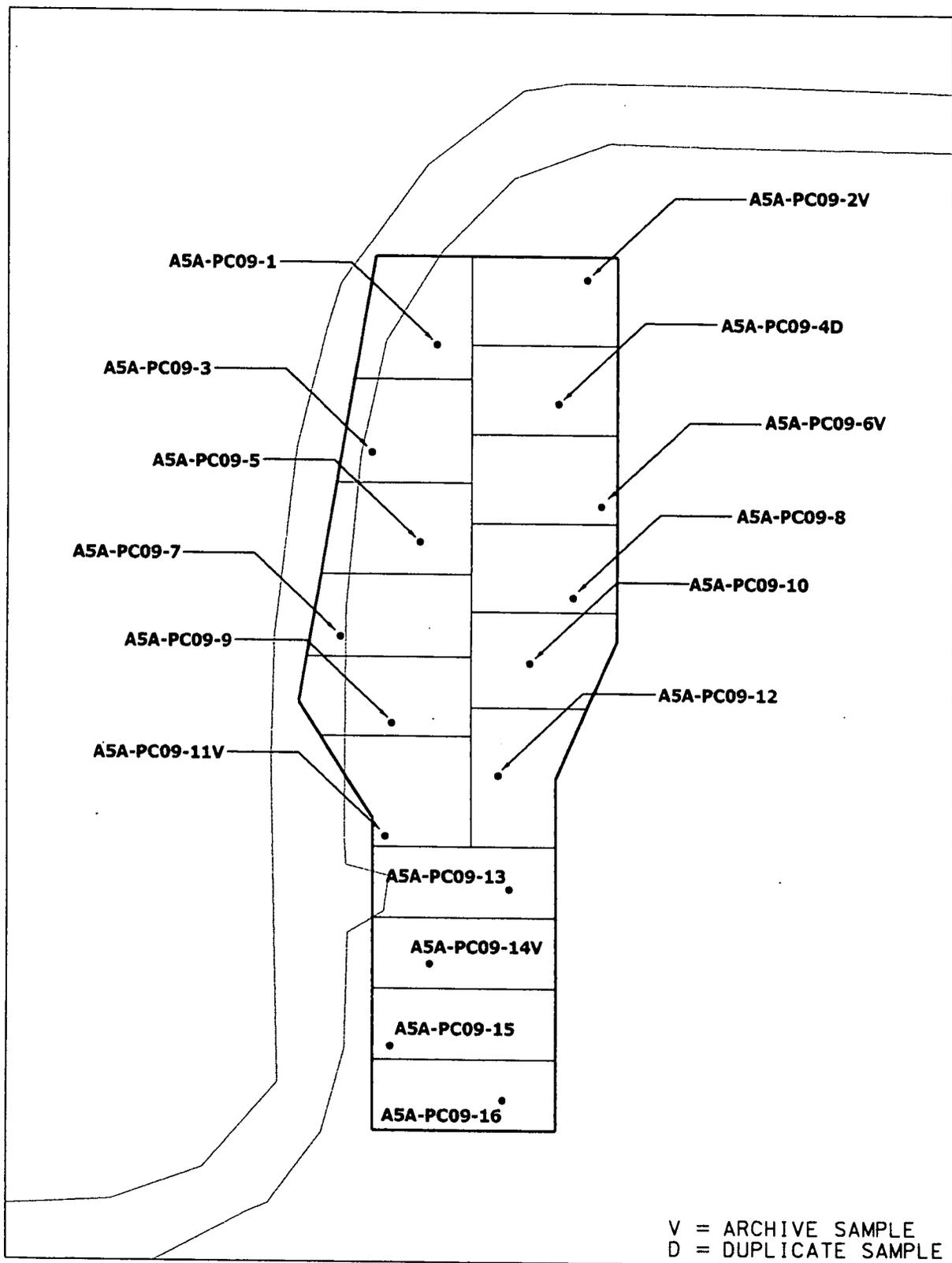


FIGURE 4-4. AREA 5 ADMINISTRATION AREA HAUL ROAD PRECERTIFICATION SAMPLE LOCATIONS



LEGEND:

• SAMPLE LOCATION

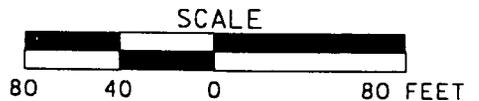
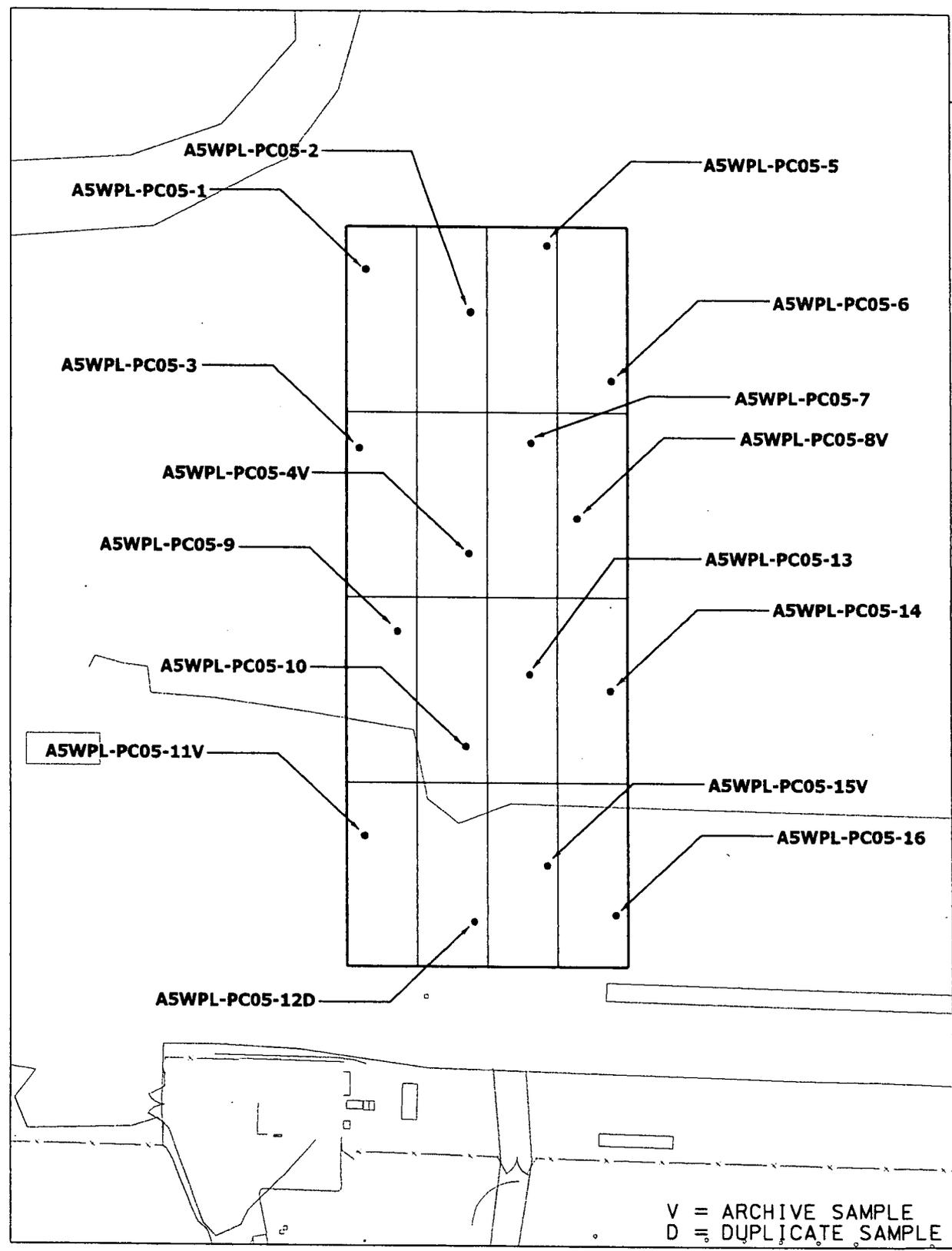


FIGURE 4-5. AREA 5 60-INCH LINE EXCAVATION FOOTPRINT AND PC09 SAMPLE LOCATIONS

V:\2006\12\24\PC05_153.dgn

STATE PLANAR COORDINATE SYSTEM 1983

18-SEP-2006



LEGEND:

• SAMPLE LOCATION

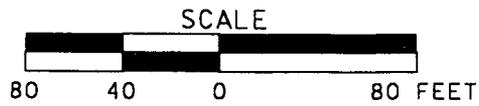


FIGURE 4-6. AREA 5 60-INCH LINE EXCAVATION FOOTPRINT AND PC05 SAMPLE LOCATIONS

1 **5.0 SCHEDULE**

2

3 The following draft schedule shows key activities for the completion of the work within the scope of this
4 CDL. Implementation of this schedule is pending funding availability. If necessary, an extension will be
5 requested.

6

<u>Activity</u>	<u>Target Date</u>
Submittal of Certification Design Letter	September 29, 2006
Start of Certification Sampling	November 2, 2005
Complete Field Work	September 19, 2006
Complete Analytical Work	September 30, 2006
Complete Data Validation and Statistical Analysis	October 9, 2006
Submit Certification Report	October 10, 2006 ^a

7

8 ^a The date for submittal of the CDL and Certification Report are commitments to EPA and OEPA. Other
9 dates are internal target completion dates.

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APPENDIX A

**PRECERTIFICATION REAL-TIME SCAN DATA FOR AREA 5
ADMINISTRATION AREA, WEST PARKING LOT, HAUL ROAD, AND
THE 60-INCH STORM SEWER LINE EXCAVATION FOOTPRINT**

TABLE A-1
AREA 5 ADMINISTRATION AREA AND WEST PARKING LOT -
HPGe RESULTS DETECTOR HEIGHT 31 cm

Location ID	Measurement Date	Northing	Easting	Detector Height (cm)	Ra-226 (pCi/g)	Th-232 (pCi/g)	Total U (ppm)
A5-WPL-P2-638	05Aug051	479271	1349306	31	2.996	0.834	18.7
A5-WPL-P2-637	05Aug051	479422	1349456	31	2.353	0.635	20.4
A5-WPL-P2-742	10Oct051	479164	1349254	31	1.361	0.898	0
A5-WPL-P2-742-D	10Oct051	479164	1349254	31	1.297	0.916	0
A5-WPL-P2-743	10Oct051	479103	1349266	31	1.701	1.02	16
A5-WPL-P2-791	19Oct051	479197	1349224	31	1.24	0.694	0
ADMIN&WPL-P2-2243	16Jan061	479555	1349556	31	1.82	0.867	0.105
ADMIN&WPL-P2-2243-D	16Jan061	479554	1349556	31	1.648	1.02	17.3
ADMIN&WPL-P2-2246	16Jan061	479601	1349632	31	1.768	1.04	0.101
ADMIN&WPL-P2-2247	16Jan061	479918	1349287	31	1.782	1.04	28.3
ADMIN&WPL-P2-2509	16Feb061	479742	1349783	31	1.634	1.12	0.103
ADMIN&WPL-P2-2509-D	16Feb061	479742	1349783	31	1.807	1.15	11.8
ADMIN&WPL-P2-2511	16Feb061	479707	1349689	31	1.521	0.895	14.6
ADMIN&WPL-P2-2513	16Feb061	479711	1349666	31	1.521	0.896	9.18E-02
ADMIN&WPL-P2-2510	16Feb061	479735	1349771	31	1.75	1.1	0.104
ADMIN&WPL-P2-2512	16Feb061	479737	1349706	31	1.65	0.944	19
ADMIN&WPL-P2-2512-D	16Feb061	479737	1349706	31	1.71	0.953	19.1
ADMIN&WPL-P2-2514	16Feb061	479714	1349646	31	1.74	0.946	14.2
ADMIN&WPL-P2-2516	16Feb061	479674	1349567	31	1.75	1.03	16.4
ADMIN&WPL-P2-2518	16Feb061	479793	1349416	31	1.49	1.14	11.9
ADMIN&WPL-P2-2520	16Feb061	479897	1349296	31	1.28	0.822	16.2
ADMIN&WPL-P2-2522	16Feb061	479728	1349756	31	1.65	1.04	14.5
ADMIN&WPL-P2-2524	16Feb061	479725	1349773	31	1.76	1.03	11.9
ADMIN&WPL-P2-2532	17Feb061	479470	1349419	31	1.042	0.932	35.3
ADMIN&WPL-P2-2532-D	17Feb061	479470	1349419	31	1.055	0.971	31.7
ADMIN&WPL-P2-2533	17Feb061	479516.1	1349391.3	31	0.935	0.895	130
ADMIN&WPL-P2-4512	28Jul061	479467	1349888	31	1.935	0.733	17.5
ADMIN&WPL-P2-4512-D	28Jul061	479467	1349888	31	2.025	0.737	18.9
A4BPT2-CONF-P2-4830	17Aug061	479398	1349364	31	1.374	0.811	14.1
ADMIN&WPL-P2-5030	30Aug061	479320	1349262	31	1.37	1.15	0
ADMIN&WPL-P2-5030-D	30Aug061	479320	1349262	31	1.51	1.12	7.94E-02
ADMIN&WPL-P2-5031	30Aug061	479504	1349229	31	1.21	0.702	17.5
ADMIN&WPL-P2-5034	30Aug061	479755	1349613	31	1.35	0.972	0
ADMIN&WPL-P2-5051	31Aug061	479495	1349192	31	1.56	0.947	5.62E-02
ADMIN&WPL-P2-5417	27Sep061	479589	1349776	31	1.254	0.828	0
ADMIN&WPL-P2-5417-D	27Sep061	479589	1349776	31	1.283	0.793	16.1

**TABLE A-1
 AREA 5 ADMINISTRATION AREA AND WEST PARKING LOT -
 HPGe RESULTS DETECTOR HEIGHT 31 cm**

Location ID	Measurement Date	Northing	Easting	Detector Height (cm)	Ra-226 (pCi/g)	Th-232 (pCi/g)	Total U (ppm)
ADMIN&WPL-P2-5416	27Sep06	479652	1349914	31	2.163	0.733	25.6
ADMIN&WPL-P2-5416-D	27Sep06	479652	1349914	31	2.201	0.796	27.7
ADMIN&WPL-PHYS-31-P3-4783	14Aug06	479272	1349141	31	1.24	0.731	0
ADMIN&WPL-CONF-P1-5006	25Aug06	479976	1349591	31	1.56	0.937	12.4
ADMIN&WPL-CONF-P1-5007	25Aug06	479986	1349529	31	1.67	1.01	12
ADMIN&WPL-CONF-P1-5008	25Aug06	479893	1349521	31	1.612	0.74	7.57
ADMIN&WPL-CONF-P1-5009	25Aug06	479893	1349503	31	1.754	0.735	13.1
ADMIN&WPL-CONF-P1-5010	25Aug06	479906	1349421	31	1.475	0.863	17.1
ADMIN&WPL-CONF-P1-5011	25Aug06	479916	1349390	31	1.719	0.755	11.5
ADMIN&WPL-CONF-P1-5012	25Aug06	479940	1349450	31	1.578	0.816	46.3

TABLE A-2
AREA 5 ADMINISTRATION AREA AND WEST PARKING LOT -
HPGe RESULTS DETECTOR HEIGHT 15 cm

Location ID	Measurement Date	Northing	Easting	Detector Height (cm)	Ra-226 (pCi/g)	Th-232 (pCi/g)	Total U (ppm)
ADMIN&WPL-PHYS-15-P3-4766	14Aug062	479272	1349141	15	1.16	0.874	8.55E-02

Figure A-1 Area 5 Administration Area and West Parking Lot Phase 1 Total Gross Counts per Second



Data Groups: GATOR_0638_08-02-2005, 0643_08-03-2005, 0779_01-10-2006, 0782_01-16-2006, 1035_08-03-2006
 RSS1_2144_09-06-2005, 2212_10-05-2005, 2237_10-18-2005, 2375_01-10-2006, 2381_01-16-2006, 2388_01-27-2006
 2406_02-09-2006, 2412_02-10-2006, 2420_02-15-2006, 2714_07-25-2006, 2733_08-01-2006, 2888_09-27-2006
 RSS2_1204_10-05-2005, 1402_07-25-2006
 RSS3_1190_01-26-2006, 1193_01-27-2006, 1255_02-15-2006, 1591_08-01-2006
 RSS4_0799_01-26-2006, 0824_02-08-2006, 0852_02-15-2006, 0854_02-15-2006, 1451_07-25-2006, 1459_07-28-2006
 Measurement Period: 08-02-2005 thru 09-27-2006

Areas not showing coverage are due to standing water and staged soil stockpiles.



Nal Tcps	
Light Green	0 to 3000
Dark Green	3000 to 5000
Blue	5000 to 15000
Red	15000 to 18000
Orange	18000 to 99999

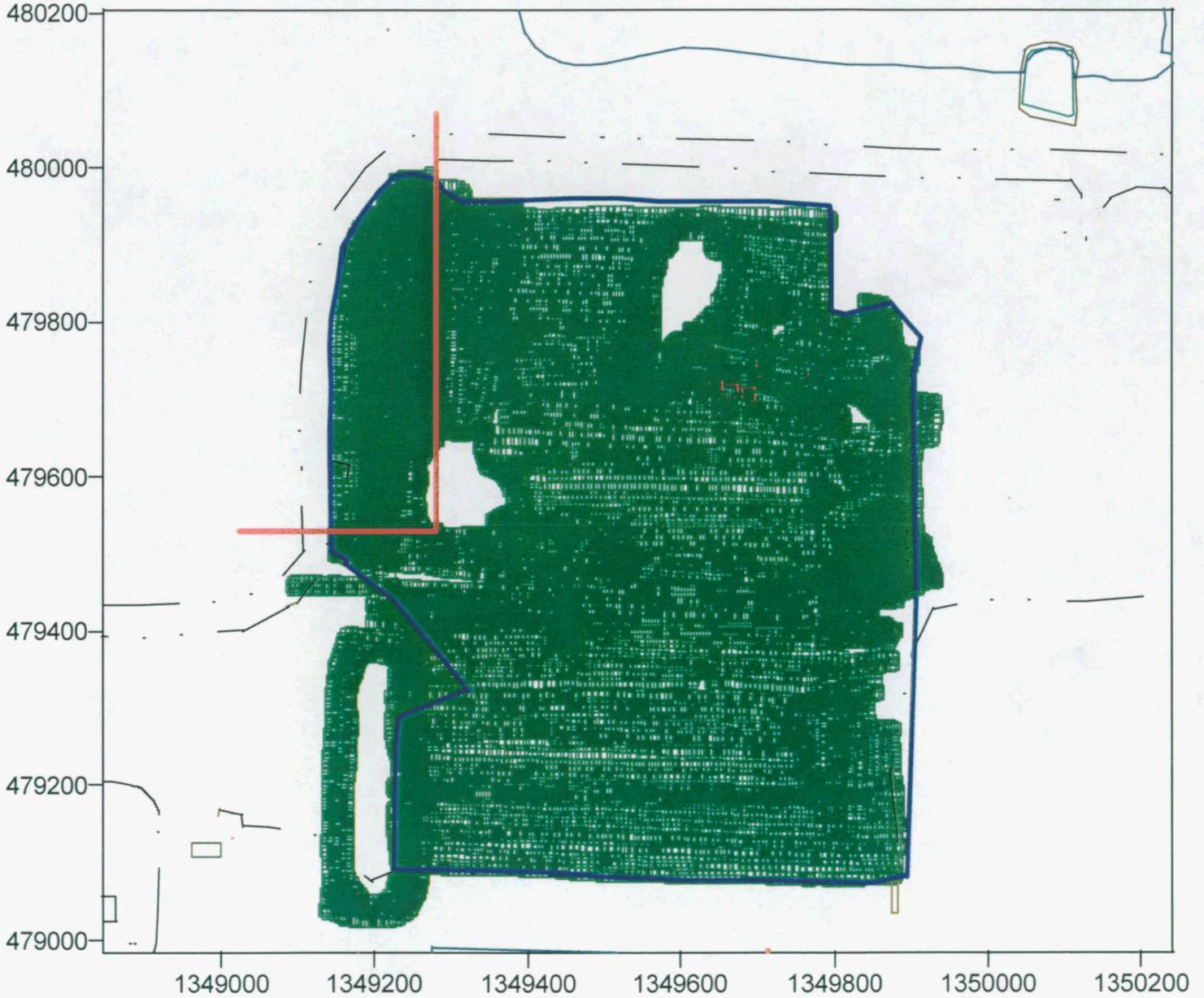
RTIMP DWG ID: ADMIN_P1_TC.srf
 Project ID: Gen Char for Site Soil Rem 20300-PSP-0011
 Prepared: D. Seiller 09-28-2006
 Support Data: ADMIN_P1.xls

Figure A-2 Area 5 Administration Area and West Parking Lot Phase 1 Moisture Corrected Radium-226



Data Groups: GATOR_0638_08-02-2005, 0643_08-03-2005, 0779_01-10-2006, 0782_01-16-2006, 1035_08-03-2006
 RSS1_2144_09-06-2005, 2212_10-05-2005, 2237_10-18-2005, 2375_01-10-2006, 2381_01-16-2006, 2388_01-27-2006
 2406_02-09-2006, 2412_02-10-2006, 2420_02-15-2006, 2714_07-25-2006, 2733_08-01-2006, 2888_09-27-2006
 RSS2_1204_10-05-2005, 1402_07-25-2006
 RSS3_1190_01-26-2006, 1193_01-27-2006, 1255_02-15-2006, 1591_08-01-2006
 RSS4_0799_01-26-2006, 0824_02-08-2006, 0852_02-15-2006, 0854_02-15-2006, 1451_07-25-2006, 1459_07-28-2006
 Measurement Period: 08-02-2005 thru 09-27-2006

Areas not showing coverage are due to standing water and staged soil stockpiles.



High Leachability boundary CDL Boundary Sub Area Boundary

Nal Ra-226 pCi/g	
	-9999 to 5.1
	5.1 to 9999

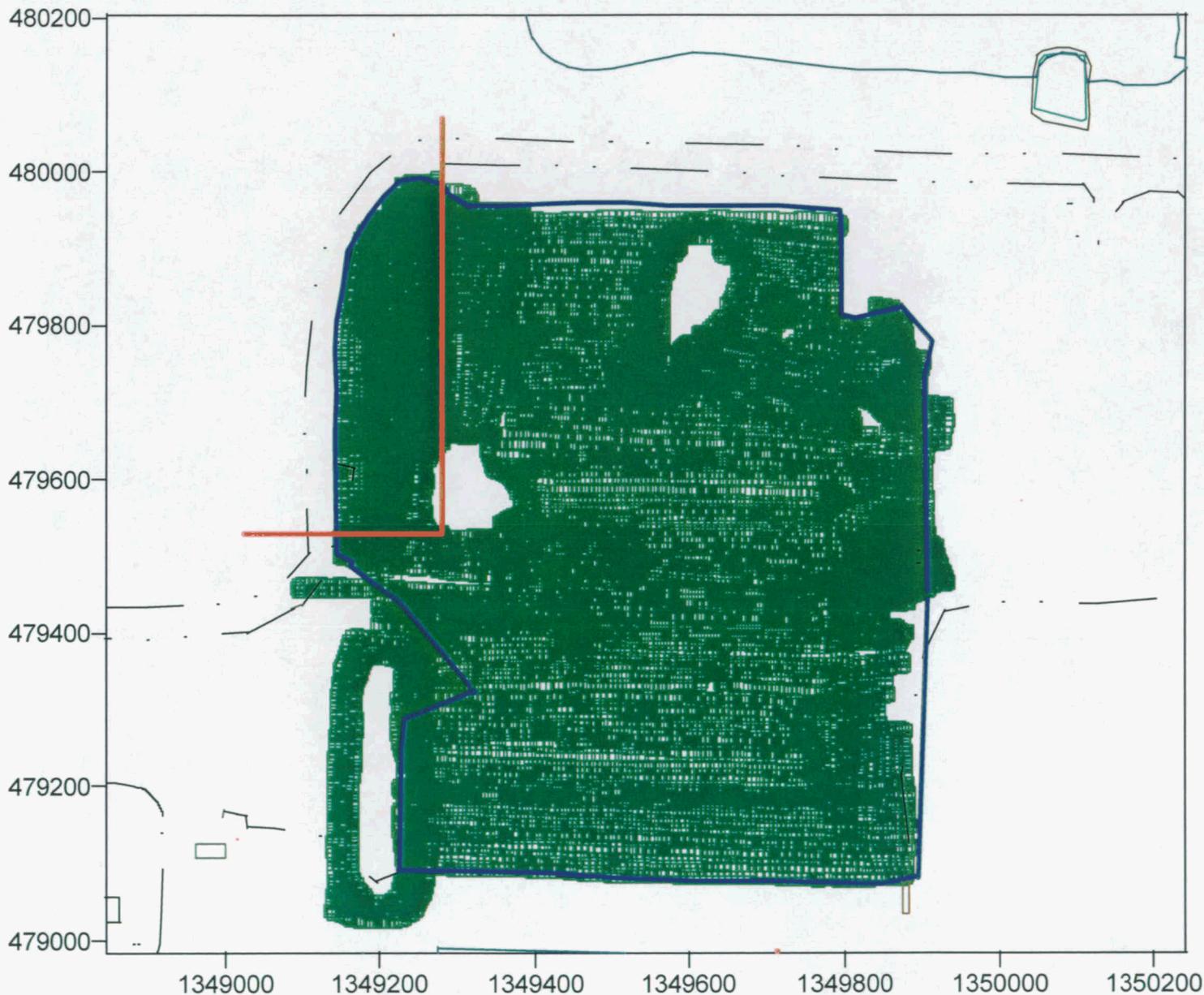
RTIMP DWG ID: ADMIN_P1_RA.srf
 Project ID: Gen Char for Site Soil Rem 20300-PSP-0011
 Prepared: D. Seiller 09-28-2006
 Support Data: ADMIN_P1.xls

Figure A-3 Area 5 Administration Area and West Parking Lot Phase 1 Moisture Corrected Thorium-232



Data Groups: GATOR_0638_08-02-2005, 0643_08-03-2005, 0779_01-10-2006, 0782_01-16-2006, 1035_08-03-2006
 RSS1_2144_09-06-2005, 2212_10-05-2005, 2237_10-18-2005, 2375_01-10-2006, 2381_01-16-2006, 2388_01-27-2006
 2406_02-09-2006, 2412_02-10-2006, 2420_02-15-2006, 2714_07-25-2006, 2733_08-01-2006, 2888_09-27-2006
 RSS2_1204_10-05-2005, 1402_07-25-2006
 RSS3_1190_01-26-2006, 1193_01-27-2006, 1255_02-15-2006, 1591_08-01-2006
 RSS4_0799_01-26-2006, 0824_02-08-2006, 0852_02-15-2006, 0854_02-15-2006, 1451_07-25-2006, 1459_07-28-2006
 Measurement Period: 08-02-2005 thru 09-27-2006

Areas not showing coverage are due to standing water and staged soil stockpiles.



——— High Leachability boundary
 ——— CDL Boundary
 ——— Sub Area Boundary

Nal Th-232 pCi/g	
	-9999 to 4.5
	4.5 to 9999

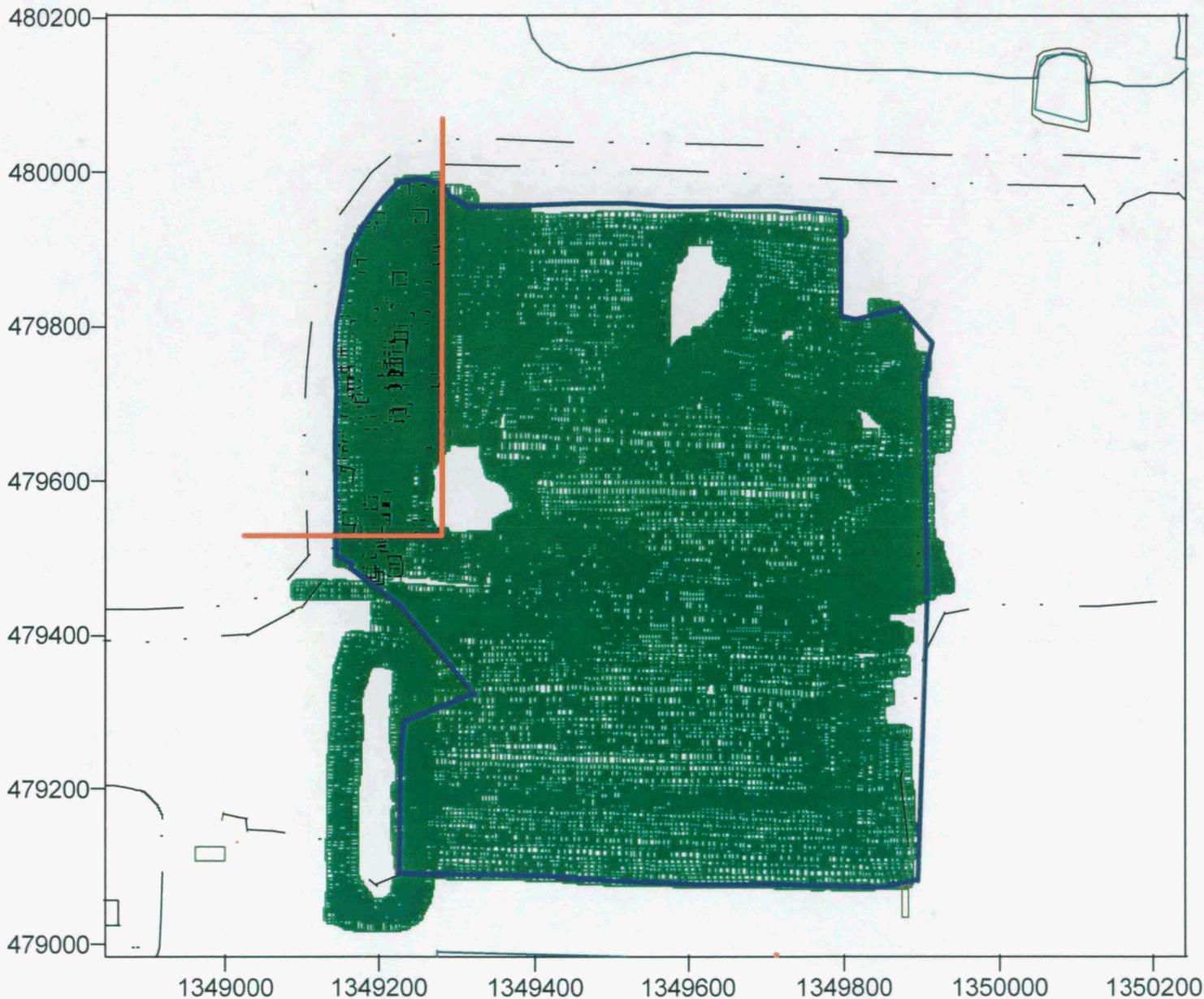
RTIMP DWG ID: ADMIN_P1_TH.srf
 Project ID: Gen Char for Site Soil Rem 20300-PSP-0011
 Prepared: D. Seiller 09-28-2006
 Support Data: ADMIN_P1.xls

Figure A-4 Area 5 Administration Area and West Parking Lot Phase 1 Moisture Corrected Total Uranium



Data Groups: GATOR_0638_08-02-2005, 0643_08-03-2005, 0779_01-10-2006, 0782_01-16-2006, 1035_08-03-2006
 RSS1_2144_09-06-2005, 2212_10-05-2005, 2237_10-18-2005, 2375_01-10-2006, 2381_01-16-2006, 2388_01-27-2006
 2406_02-09-2006, 2412_02-10-2006, 2420_02-15-2006, 2714_07-25-2006, 2733_08-01-2006, 2888_09-27-2006
 RSS2_1204_10-05-2005, 1402_07-25-2006
 RSS3_1190_01-26-2006, 1193_01-27-2006, 1255_02-15-2006, 1591_08-01-2006
 RSS4_0799_01-26-2006, 0824_02-08-2006, 0852_02-15-2006, 0854_02-15-2006, 1451_07-25-2006, 1459_07-28-2006
 Measurement Period: 08-02-2005 thru 09-27-2006

Areas not showing coverage are due to standing water and staged soil stockpiles.



High Leachability boundary	CDL Boundary	Sub Area Boundary
----------------------------	--------------	-------------------

<p>NalTU ppm Non-High Leachability Area</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20px; text-align: center;"></td> <td>-9999 to 246</td> </tr> <tr> <td style="width: 20px; text-align: center;"></td> <td>246 to 875</td> </tr> <tr> <td style="width: 20px; text-align: center;"></td> <td>875 to 9999</td> </tr> </table>		-9999 to 246		246 to 875		875 to 9999	<p>Nal TU ppm High Leachability Area</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20px; text-align: center;"></td> <td>-9999 to 60</td> </tr> <tr> <td style="width: 20px; text-align: center;"></td> <td>60 to 875</td> </tr> <tr> <td style="width: 20px; text-align: center;"></td> <td>875 to 9999</td> </tr> </table>		-9999 to 60		60 to 875		875 to 9999
	-9999 to 246												
	246 to 875												
	875 to 9999												
	-9999 to 60												
	60 to 875												
	875 to 9999												

RTIMP DWG ID: ADMIN_P1_TU.srf
 Project ID: Gen Char for Site Soil Rem 20300-PSP-0011
 Prepared: D. Seiller 09-28-2006
 Support Data: ADMIN_P1.xls

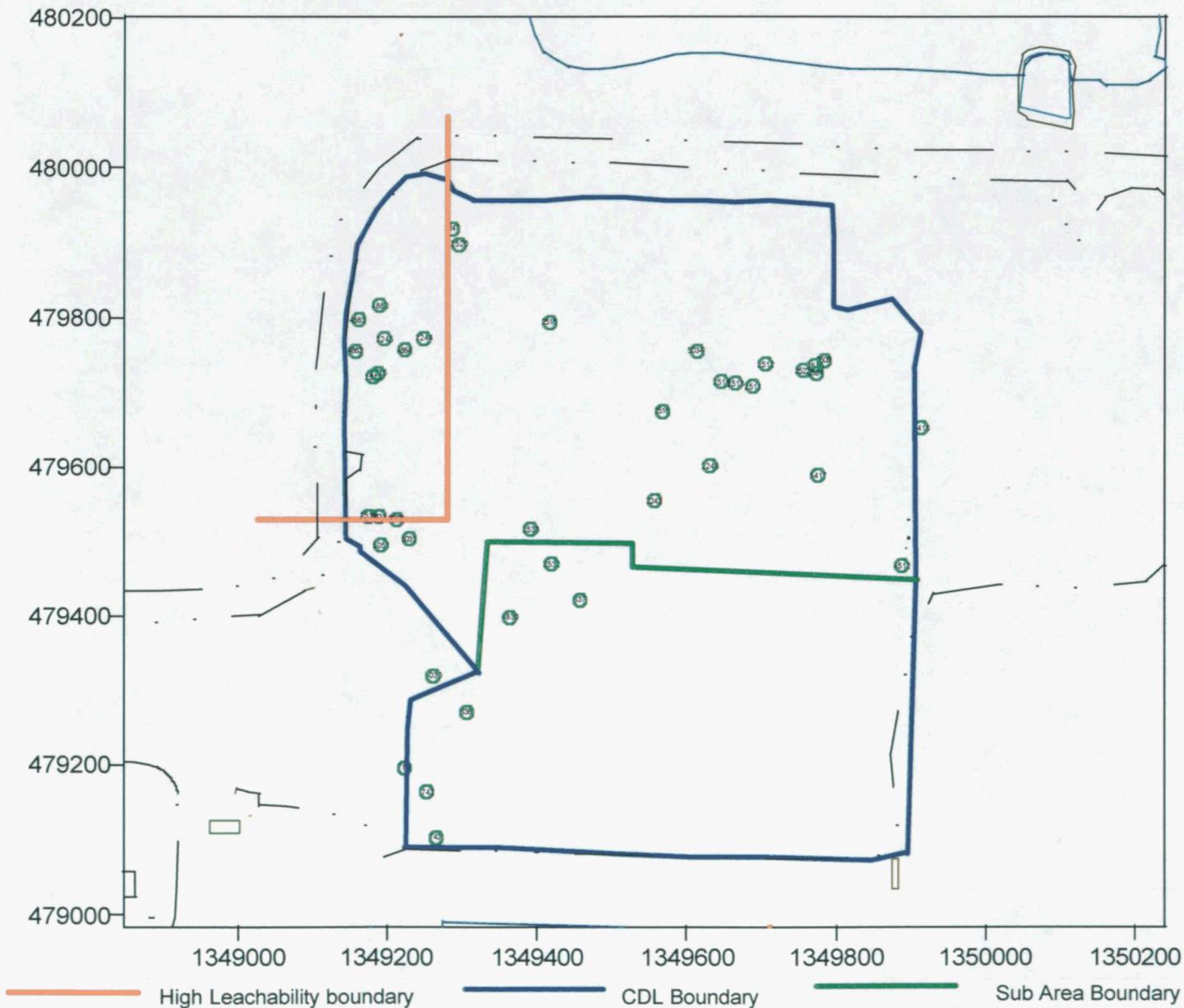
Figure A-5 Administration Area and West Parking Lot Phase 2 Moisture Corrected Radium-226

Includes all Phase 2 measurements

Phase 2 Data Groups: 31204_08-05-2005,02-16-2006,02-17-2006
31265_10-10-2005,08-30-2006
30687_10-19-2005,01-16-2006,02-16-2006,07-28-2006
40293_08-17-2006,09-27-2006
30699_08-31-2006,09-01-2006,09-27-2006

Confirmation Phase 2 Data Groups: 40293_08-21-2006

Measurement Period: 08-05-2005 thru 09-27-2006



HPGe Ra-226 pCi/g
● 0 to 5.1
● 5.1 to 999

RTIMP DWG ID: ADMIN&WPL_P2_RA.srf
Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
Prepared: D.Seiller 09-28-2006
Support Data: ADMIN&WPL_P2.xls

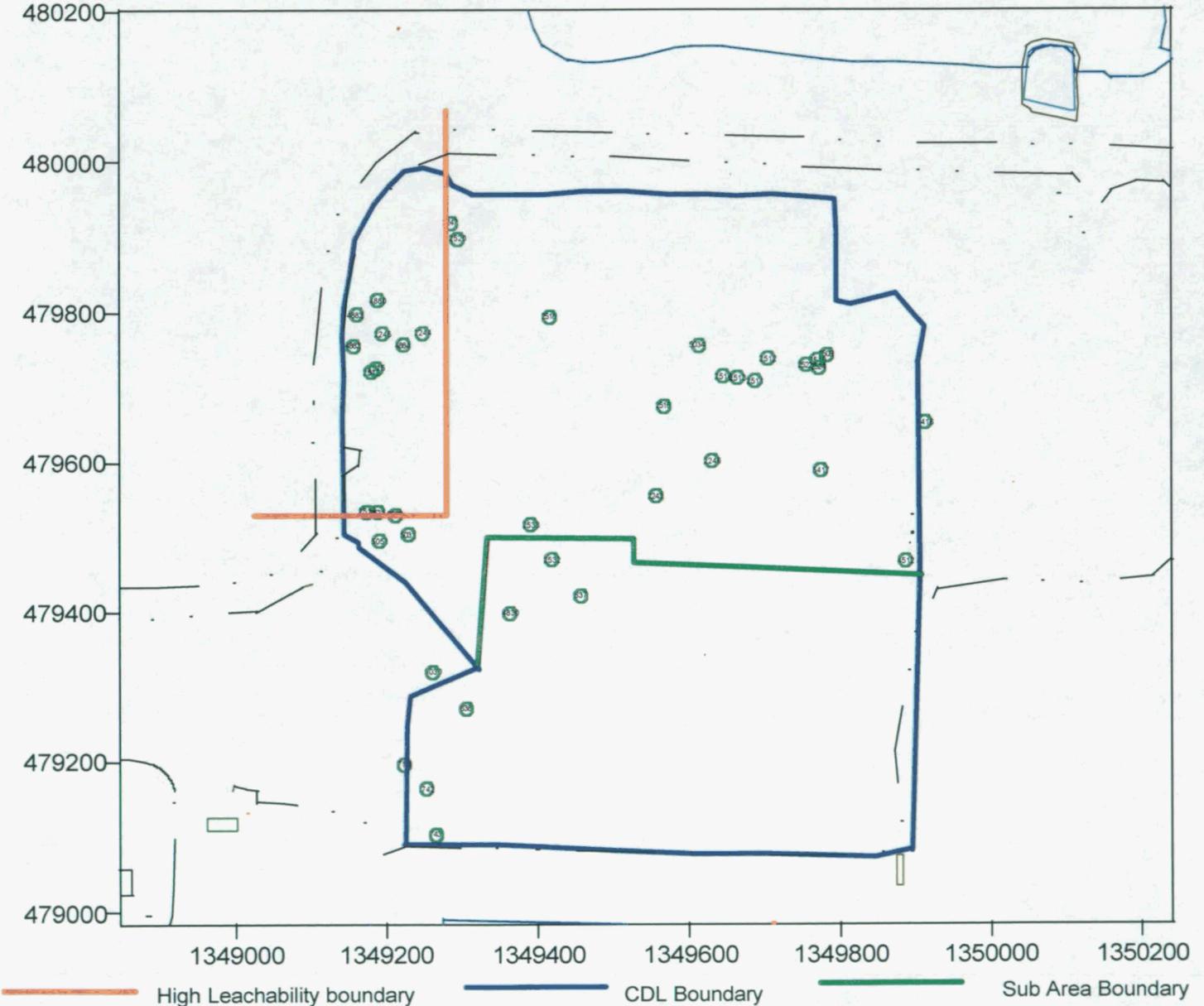
Figure A-6 Administration Area and West Parking Lot Phase 2 Moisture Corrected Thorium-232

Includes all Phase 2 measurements

Phase 2 Data Groups: 31204_08-05-2005,02-16-2006,02-17-2006
 31265_10-10-2005,08-30-2006
 30687_10-19-2005,01-16-2006,02-16-2006,07-28-2006
 40293_08-17-2006,09-27-2006
 30699_08-31-2006,09-01-2006,09-27-2006

Confirmation Phase 2 Data Groups: 40293_08-21-2006

Measurement Period: 08-05-2005 thru 09-27-2006



HPGe Th-232 pCi/g	
○	0 to 4.5
○	4.5 to 999

RTIMP DWG ID: ADMIN&WPL_P2_TH.srf
 Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
 Prepared: D.Seiller 09-28-2006
 Support Data: ADMIN&WPL_P2.xls

Figure A-7 Administration Area and West Parking Lot Phase 2 Moisture Corrected Total Uranium

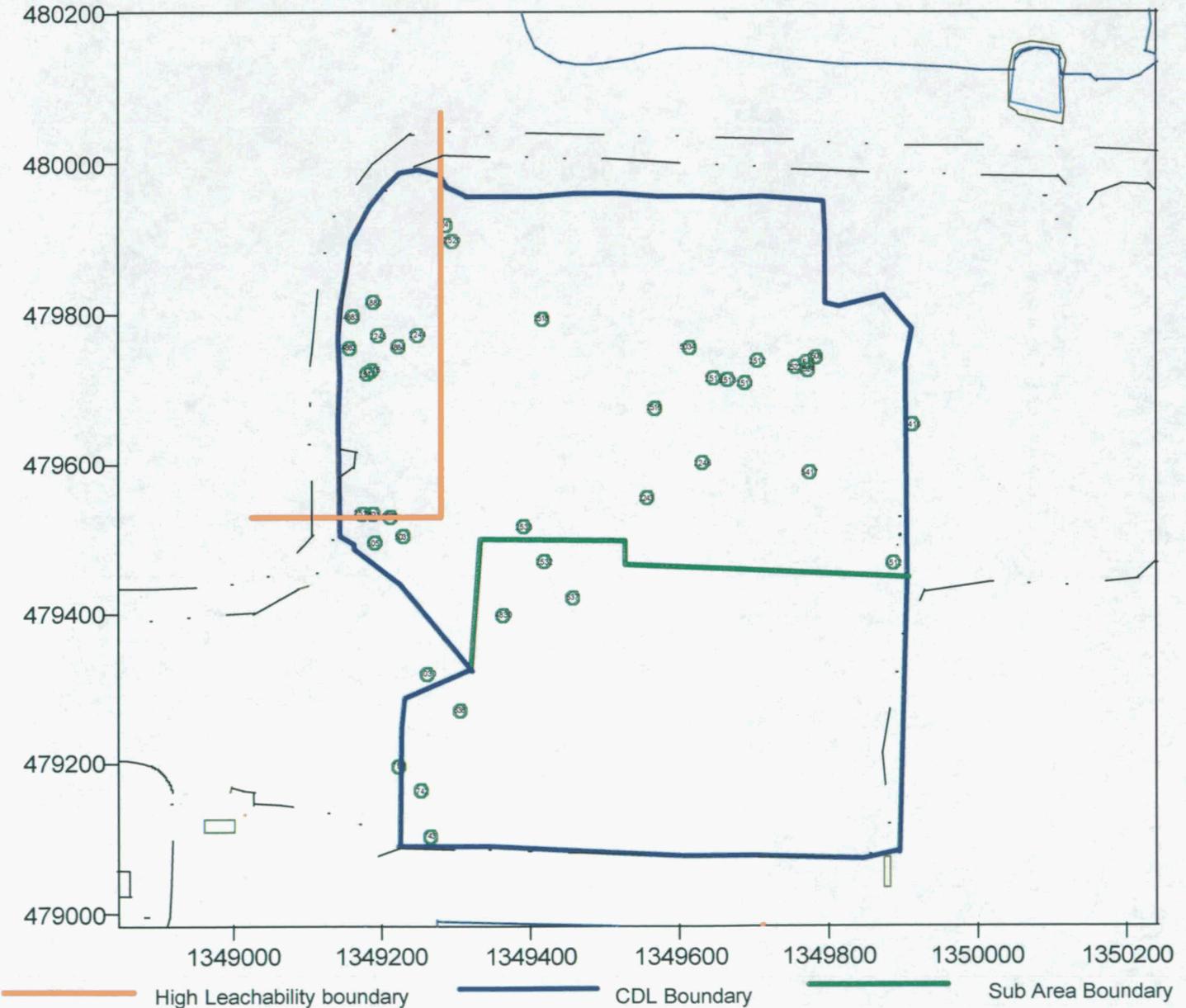
Includes all Phase 2 measurements

Phase 2 Data Groups: 31204_08-05-2005,02-16-2006,02-17-2006
 31265_10-10-2005,08-30-2006
 30687_10-19-2005,01-16-2006,02-16-2006,07-28-2006
 40293_08-17-2006,09-27-2006
 30699_08-31-2006,09-01-2006,09-27-2006



Confirmation Phase 2 Data Groups: 40293_08-21-2006

Measurement Period: 08-05-2005 thru 09-27-2006



HPGe TU ppm		HPGe TU ppm	
Non-High leachability Area		High Leachability Area	
○	0 to 246	○	0 to 60
○	246 to 999	○	60 to 999

RTIMP DWG ID: ADMIN&WPL_P2_TU.srf
 Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
 Prepared: D.Seiller 09-28-2006
 Support Data: ADMIN&WPL_P2.xls

Figure A-8 Administration Area and West Parking Lot Phase 3 (Physical Sample) Moisture Corrected Radium-226



Data Group: 40293_08-14-2006

Measurement Period: 08-14-2006 thru 08-14-2006



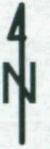
High Leachability boundary CDL Boundary Sub Area Boundary

HPGe Ra-226

- -999 to 5.1
- 5.1 to 9999

RTIMP DWG ID: ADMIN&WPL_PHYS_P3_RA.srf
Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
Prepared: D.Seiller 09-28-2006
Support Data: ADMIN&WPL_PHYS_P3.xls

Figure A-9 Administration Area and West Parking Lot Phase 3 (Physical Sample) Moisture Corrected Thorium-232



Data Group: 40293_08-14-2006

Measurement Period: 08-14-2006 thru 08-14-2006



High Leachability boundary CDL Boundary Sub Area Boundary

HPGe Th-232

- -999 to 4.5
- 4.5 to 9999

RTIMP DWG ID: ADMIN&WPL_PHYS_P3_TH.srf
Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
Prepared: D.Seiller 09-28-2006
Support Data: ADMIN&WPL_PHYS_P3.xls

Figure A-10 Administration Area and West Parking Lot Phase 3 (Physical Sample) Moisture Corrected Total Uranium



Data Group: 40293_08-14-2006

Measurement Period: 08-14-2006 thru 08-14-2006



High Leachability boundary CDL Boundary Sub Area Boundary

HPGe TU ppm	
○	-999 to 246
○	246 to 9999

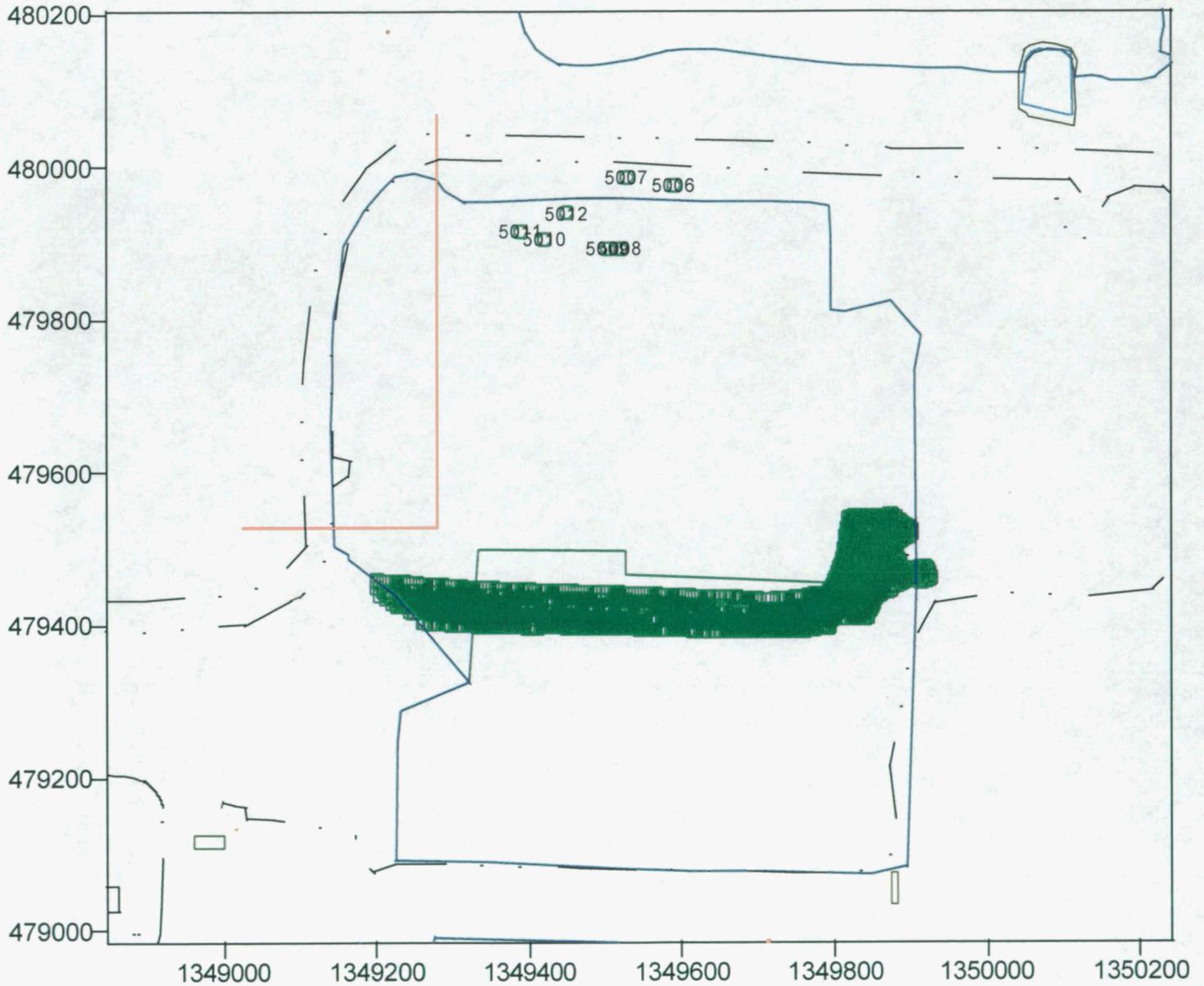
RTIMP DWG ID: ADMIN&WPL_PHYS_P3_TU.srf
Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
Prepared: D.Seiller 09-28-2006
Support Data: ADMIN&WPL_PHYS_P3.xls

Figure A-11 Administration Area and West Parking Lot Confirmation of Precertification Phase 1- Moisture Corrected Total Uranium



Data Groups: RSS3_1632_08-16-2006,40227_08-25-2006

Measurement Period: 08-16-2006 thru 08-25-2006



— High Leachability boundary
 — CDL Boundary
 — Sub Area Boundary

Nal TU ppm	
■	-9999 to 246
■	246 to 875
■	875 to 9999

HPGe TU ppm	
○	-999 to 246
○	246 to 928
○	928 to 9999

RTIMP DWG ID: ADMIN&WPL_CONF_P1_TU.srf
 Project ID: Gen. Char. for Site. Soil Rem 20300-PSP-0011
 Prepared: D.Seiller 09-28-2006
 Support Data: ADMIN&WPL_CONF_P1.xls

APPENDIX B

**VARIANCE/FIELD CHANGE NOTICES FOR
PRECERTIFICATION SAMPLING IN AREA 5
ADMINISTRATION AREA, HAUL ROAD, AND WEST PARKING LOT**

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No): **NO**

V/F: 20810-PSP-0006-114

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 3

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 8/02/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples for Precertification of the West Parking Lot of Area 5 (Area 5 WPL) following the removal of utilities in the former West Parking Lot (Figure 1). Construction will be excavating known utilities; however, the possibility exists that unknown utilities will be uncovered during excavation. All sampling locations will be field located approximately every ~~forty~~ ^{fifty} feet along the bottom of the excavation. All samples will be collected from the bottom of the excavation from the bucket of an excavator (if necessary) after the piping and bedding material has been removed. The goal will be to collect samples from the top six inches of soil from the bottom of the excavation.

Additionally, if there is evidence of leakage from the piping (e.g. broken, cracked, or disjointed piping), then a biased sample location will be flagged, and samples will be collected from the floor and both sidewalls approximately one foot from the floor of the excavation.

The area specific constituents of concern (ASCOCs) for this precertification effort will be primary radionuclides (total uranium, radium-226, radium-228, thorium-228, and thorium-232) [TAL F]. The sampling and analytical requirements and TAL are listed on Attachment 1.

The first sample ID shall be A5EC-WPL-T-1^R and each additional sample ID will be sequentially numbered (e.g. second sample ID is A5EC-WPL-T-2^R).

Where:

- A5EC = Area 5 Excavation Control
- WPL = West Parking Lot
- T = trench
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- R = Radiological analysis

- Field sketch required: Yes
- Surveying required: Yes. Surveying will survey these locations.
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: Yes 10%D, 90%B
- Off-site data package requirements (if applicable): ASL D(E)
- The highest total uranium result from this area is 35.4 ppm at location A5A-45.

Justification:

Because the utilities in this area are so deep, it is necessary to backfill the trenches after the utilities have been removed in order to ensure the area is left in a safe condition. Therefore, samples will be collected from the bottom of the excavation prior to backfilling the trenches similarly to the sampling performed during the excavation of the Abandoned Outfall Line.

REQUESTED BY: Greg Lupton

Date: 8/02/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>[Signature]</i>	8-3-05	X	PROJECT MANAGER: J. Ch... <i>[Signature]</i>	8/3/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	8/3/05
X	ANALYTICAL CUSTOMER SUPPORT: WAO <i>[Signature]</i>	8-4-05		RTIMP Manager	
			X	SAMPLING MANAGER: <i>[Signature]</i>	8/3/05
VARIANCE/FCN APPROVED [X]YES []NO			REVISION REQUIRED: []YES [x]NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte ^a	Method ^a	Matrix	Preserve	TAT	Hold Time	Container ^b	Minimum Mass/Volume
Radiological (TAL F)	Gamma Spec	Solid	none	30 days	12 months	Plastic core liner or glass or polyethylene sample container	300 g (900 g) ^c

^a Samples will be analyzed according to Analytical Support Level (ASL) D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b 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.

^c At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in the CU in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

**TAL F
(Radiological - ASL D/E*)**

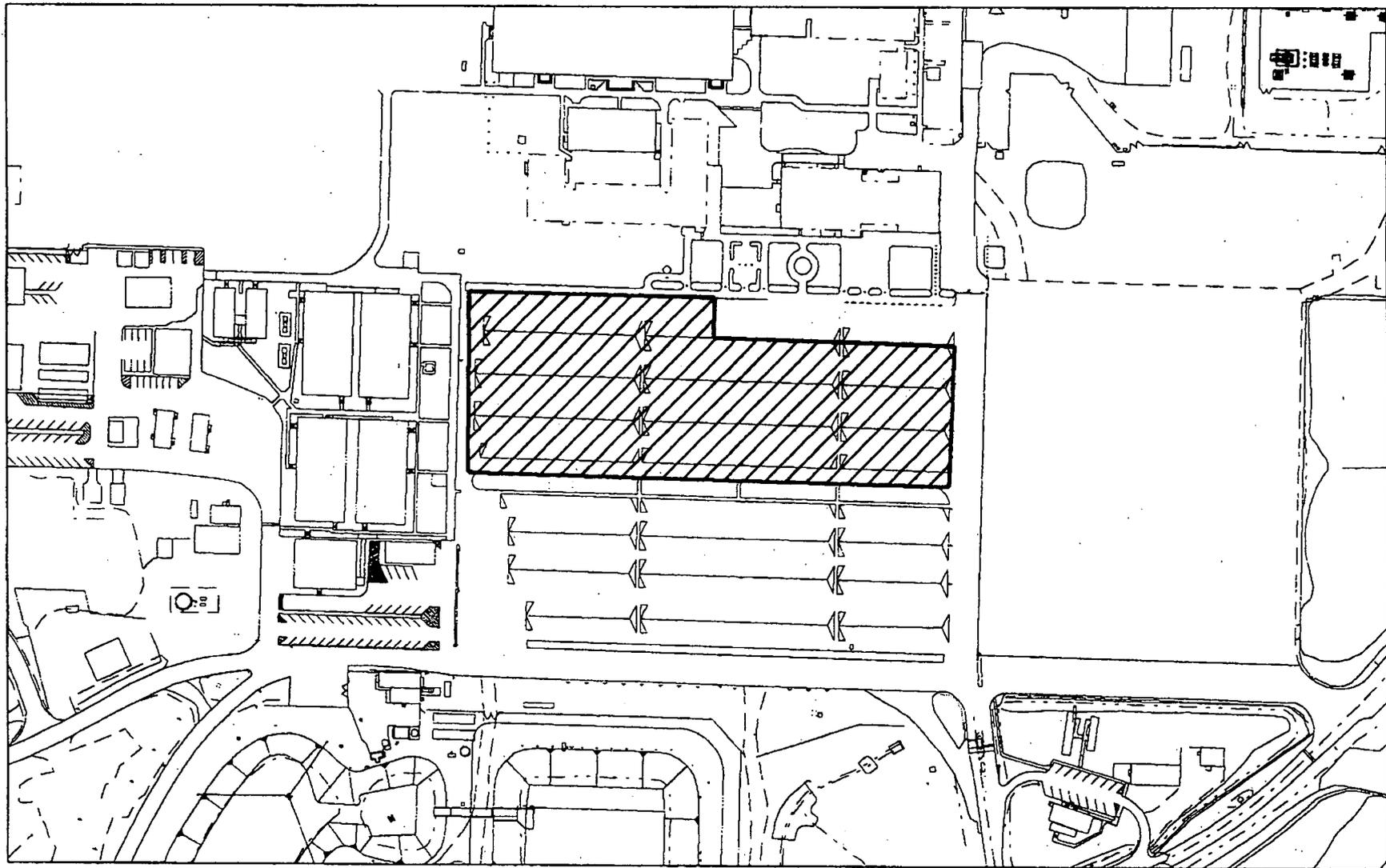
Analyte	On-Property FRL	MDL
Total Uranium	82 mg/kg	8.2 mg/kg
Radium-226	1.7 pCi/g	0.17 pCi/g
Radium-228	1.8 pCi/g	0.18 pCi/g
Thorium-228	1.7 pCi/g	0.17 pCi/g
Thorium-232	1.5 pCi/g	0.15 pCi/g

*Analytical requirements will meet ASL D but the MDL may cause some analyses to be considered ASL E.

MDL – minimum detection level

mg/kg – milligrams per kilogram

pCi/g – picoCuries per gram

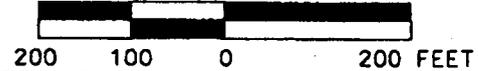


LEGEND:



A5 WEST PARKING LOT

SCALE



DRAFT

FIGURE 1. AREA 5 WEST PARKING LOT PRECERTIFICATION AREA

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No): **NO**

V/F: 20810-PSP-0006-126

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 2

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 10/04/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples and real-time scanning for precertification of the Area 5 Admin Area (V/FCN 20810-PSP-0006-80) following the removal of utilities in the Precertification Units A5A-PC05, A5A-PC06, and A5A-PC07. Construction will be excavating known utilities and will have to back fill some of the areas to maintain the open roadway. All sampling locations will be field located approximately every fifty feet along the bottom of the excavation. Upon completion of the removal of subsurface utilities and bedding material, the excavator will excavate a bucket-load of soil from the bottom of the trench every 50 feet. All samples will be collected from this excavated material.

The area specific constituents of concern (ASCOs) for this precertification/certification effort will be primary radionuclides (total uranium, radium-226, radium-228, thorium-228, and thorium-232) [TAL F]. The sampling and analytical requirements and TAL are listed on Attachment 1.

The first sample ID shall be A5A-PC2-T-1^R and each additional sample ID will be sequentially numbered (e.g. second sample ID is A5A-PC2-T-2^R).

Where:

- A5A = Area 5 Admin
- PC2 = Precertification Number 2
- T = trench
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- R = Radiological analysis

- Field sketch required: Yes
- Surveying required: Yes. Surveying will survey these locations.
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: Yes, VSL D
- Off-site data package requirements (if applicable): ASL D(E)
- The highest total uranium result from this area is 368 ppm at RI/FS location ZONE 1-82.

Justification:

Because the utilities in this area are so deep, it is necessary to backfill the trenches after the utilities have been removed in order to maintain the roadway and to ensure the area is left in a safe condition. Therefore, samples will be collected from the bottom of the excavation prior to backfilling the trenches similarly to the sampling performed during the excavation of the utilities in the West Parking Lot.

REQUESTED BY: Krista Flaugh

Date: 10/05/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: <i>[Signature]</i>	10-4-05	X	PROJECT MANAGER: J.D. <i>[Signature]</i>	10/6/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	10/4/05
X	ANALYTICAL CUSTOMER SUPPORT: <i>Paul S. McWhirgan</i>	10/4/05		RTIMP Manager	
X	WAS <i>Scott Osler</i>	10/5/05	X	SAMPLING MANAGER: <i>Tom Buhlay</i>	10/4/05
VARIANCE/FCN APPROVED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			REVISION REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte ^a	Method ^a	Matrix	Preserve	Hold Time	Container ^b	Minimum Mass/Volume
Radiological (TAL F)	Gamma Spec	Solid	none	12 months	Plastic core liner or glass or polyethylene sample container	400 g (1200 g ^c)

^a Samples will be analyzed according to Analytical Support Level (ASL) D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b 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.

^c At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

ICP/MS – inductively coupled plasma/mass spectroscopy

LSC – liquid scintillation counting

**TAL F
(Radiological - ASL D/E*)**

Analyte	On-Property FRL	MDL
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

* Analytical requirements will meet ASL D but the MDL may cause some analyses to be considered ASL E.

MDL – minimum detection level

mg/kg – milligrams per kilogram

pCi/g – picoCuries per gram

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No): **YES**

V/F: 20810-PSP-0006-129

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 8

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 10/31/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples for Precertification of the West Parking Lot of Area 5 (Area 5WPL) following the removal of the asphalt, underlying gravel, and utilities in the area (see Figure 1).

To ensure ample coverage for precertification, this area was gridded into areas not greater than 250' by 250' similar to a Group 1 certification unit. With this gridding process, four areas were defined (see Figure 2). Each of the defined areas has been sub-divided into 16 approximately equal sub-areas. Sample locations within each of the defined areas have been generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-area, then each location was tested against the minimum distance criteria for each defined area to ensure that all 16 random locations have sufficient spacing. One sample location in each of the defined areas has been designated with a "D", indicating a field duplicate sample collection location. All samples within each defined area will be collected for analysis from 0 to 6 inches. The planned precertification sampling locations are shown on Figure 3.

The area specific constituents of concern (ASCOCs) for this entire precertification effort will be the primary radionuclides (total uranium, radium-226, radium-228, thorium-228, and thorium-232) TAL F. Additionally, arsenic (TAL H) is an ASCOC in PC04 only. These sampling and analytical requirements and the TAL are listed on Attachment 1. The sample locations and identifiers are listed in Attachment 2.

If "push tubes" are used for sample collection, two container blanks will be collected – one before sample collection begins and one at the conclusion of sample collection. The container blank samples will be analyzed for the primary radiological COCs that are identified in TAL F. If an alternate sample collection method is used, one rinsate will be collected at a minimum frequency of one per 20 pieces of equipment reused in the field.

Analyses will be conducted to Analytical Support Level (ASL) D or E, where all requirements for ASL E are the same as ASL D except the minimum detection level for the selected analytical method must be at least 10 percent of the FRL. A minimum of 10 percent of the laboratory data will be validated to Validation Support Level (VSL) D with the remainder validated to VSL B.

Historical data will be used for shipment of the samples collected under this V/FCN. The highest total uranium result from this area is 35.4 ppm at location A5A-45.

Justification:

This area is to be used as a temporary parking lot for Silos clean truck staging, which will require importing clean gravel to be used as a base similar to the East Parking Lot. Samples need to be collected before the clean gravel is brought to the area.

REQUESTED BY: Greg Lupton

Date: 10/31/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: <i>[Signature]</i>	11/1/05	X	PROJECT MANAGER: J.D. [Signature]	10/31/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>[Signature]</i>	10/31/05
X	ANALYTICAL CUSTOMER SUPPORT: <i>[Signature]</i>	11/1/05		RTIMP Manager	
X	WAO <i>[Signature]</i>		X	SAMPLING MANAGER: Tom [Signature]	10/31/05
VARIANCE/FCN APPROVED [X] YES [] NO			REVISION REQUIRED: [] YES [x] NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte ^a	Method ^a	Matrix	Preserve	TAT	Hold Time	Container ^b	Minimum Mass/Volume
Rads/Metals (TAL F and/or H)	Gamma Spec	Solid	Cool to 4 degrees	30 days	12 months	Plastic core liner or glass or polyethylene sample container	500 g (1500 g) ^c
	ICP or ICP/MS				6 months		
Metals (TAL H)	ICP or ICP/MS	Liquid (rinsate ^d)	HNO ₃ pH<2	30 days	6 months	Polyethylene	500 ml
Radiological (TAL F)	Gamma Spec	Liquid (rinsate ^d)	HNO ₃ pH<2	30 days	6 months	Polyethylene	4 liters

^a Samples will be analyzed according to Analytical Support Level (ASL) D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b 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.

^c At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in the CU in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

^d If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

**TAL F
(Radiological - ASL D/E*)**

Analyte	On-Property FRL	MDL
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 H
(Metals - ASL D/E*)**

Analyte	On-Property FRL	MDL
Arsenic	12 mg/kg	1.2 mg/kg

*Analytical requirements will meet ASL D but the MDL may cause some analyses to be considered ASL E.

MDL – minimum detection level

pCi/g – picoCuries per gram

ATTACHMENT 2
AREA 5WPL SAMPLE LOCATIONS AND IDENTIFIERS

Defined Area	Defined sub-Area Location	Depth	Sample ID	Analysis (TAL)	Northing	Easting
A5WPL-PC01	1-1	0"-6"	A5WPL-PC01-1^R	F	479479.2	1349378.51
	1-2	0"-6"	A5WPL-PC01-2^R	F	479450.71	1349406.31
	1-3	0"-6"	A5WPL-PC01-3^R	F	479379.12	1349345.68
	1-4	0"-6"	A5WPL-PC01-4^R	F	479410.4	1349415.2
	1-5	0"-6"	A5WPL-PC01-5^R	F	479437.43	1349477.64
	1-6	0"-6"	A5WPL-PC01-6^R	F	479456.15	1349556.05
	1-7D	0"-6"	A5WPL-PC01-7^R-D	F	479393.06	1349478.6
	1-8	0"-6"	A5WPL-PC01-8^R	F	479393.01	1349523.37
	1-9	0"-6"	A5WPL-PC01-9^R	F	479346.77	1349358.99
	1-10	0"-6"	A5WPL-PC01-10^R	F	479350.69	1349441.46
	1-11	0"-6"	A5WPL-PC01-11^R	F	479281.19	1349267.64
	1-12	0"-6"	A5WPL-PC01-12^R	F	479300.59	1349333.85
	1-13	0"-6"	A5WPL-PC01-13^R	F	479356.7	1349488.31
	1-14	0"-6"	A5WPL-PC01-14^R	F	479354.26	1349552.48
	1-15	0"-6"	A5WPL-PC01-15^R	F	479304.51	1349440.7
	1-16	0"-6"	A5WPL-PC01-16^R	F	479274.95	1349546.74
A5WPL-PC02	2-1	0"-6"	A5WPL-PC02-1^R	F	479434.5	1349598.06
	2-2D	0"-6"	A5WPL-PC02-2^R-D	F	479431.04	1349716.08
	2-3	0"-6"	A5WPL-PC02-3^R	F	479364.72	1349594.83
	2-4	0"-6"	A5WPL-PC02-4^R	F	479373.13	1349679.13
	2-5	0"-6"	A5WPL-PC02-5^R	F	479414.63	1349760.05
	2-6	0"-6"	A5WPL-PC02-6^R	F	479422.02	1349903.42
	2-7	0"-6"	A5WPL-PC02-7^R	F	479388.73	1349777.15
	2-8	0"-6"	A5WPL-PC02-8^R	F	479383.7	1349858.37
	2-9	0"-6"	A5WPL-PC02-9^R	F	479334.92	1349616.49
	2-10	0"-6"	A5WPL-PC02-10^R	F	479331.84	1349699.4
	2-11	0"-6"	A5WPL-PC02-11^R	F	479280.38	1349637.47
	2-12	0"-6"	A5WPL-PC02-12^R	F	479296.03	1349735.34
	2-13	0"-6"	A5WPL-PC02-13^R	F	479337.57	1349791.03
	2-14	0"-6"	A5WPL-PC02-14^R	F	479336.47	1349878.57
2-15	0"-6"	A5WPL-PC02-15^R	F	479304.68	1349802.51	
2-16	0"-6"	A5WPL-PC02-16^R	F	479277.22	1349871.13	

ATTACHMENT 2
AREA 5WPL SAMPLE LOCATIONS AND IDENTIFIERS

Defined Area	Defined sub-Area Location	Depth	Sample ID	Analysis (TAL)	Northing	Easting
A5WPL-PC03	3-1	0"-6"	A5WPL-PC03-1^R	F	479229.4	1349300.43
	3-2	0"-6"	A5WPL-PC03-2^R	F	479255.1	1349350.53
	3-3	0"-6"	A5WPL-PC03-3^R	F	479186.25	1349283.99
	3-4	0"-6"	A5WPL-PC03-4^R	F	479206.77	1349342.02
	3-5	0"-6"	A5WPL-PC03-5^R	F	479247.53	1349406.94
	3-6	0"-6"	A5WPL-PC03-6^R	F	479230.78	1349531.19
	3-7	0"-6"	A5WPL-PC03-7^R	F	479198.13	1349481.82
	3-8	0"-6"	A5WPL-PC03-8^R	F	479186.01	1349550.17
	3-9	0"-6"	A5WPL-PC03-9^R	F	479143.34	1349257.09
	3-10	0"-6"	A5WPL-PC03-10^R	F	479144.91	1349350.64
	3-11	0"-6"	A5WPL-PC03-11^R	F	479115.29	1349270.46
	3-12	0"-6"	A5WPL-PC03-12^R	F	479115.69	1349407.64
	3-13D	0"-6"	A5WPL-PC03-13^R-D	F	479160.47	1349435.21
	3-14	0"-6"	A5WPL-PC03-14^R	F	479141.4	1349527.51
	3-15	0"-6"	A5WPL-PC03-15^R	F	479089.46	1349482.99
	3-16	0"-6"	A5WPL-PC03-16^R	F	479097.08	1349529.85
A5WPL-PC04	4-1	0"-6"	A5WPL-PC04-1^RM	FH	479221.11	1349600.13
	4-2	0"-6"	A5WPL-PC04-2^RM	FH	479245.11	1349666.69
	4-3	0"-6"	A5WPL-PC04-3^RM	FH	479179.38	1349635.49
	4-4	0"-6"	A5WPL-PC04-4^RM	FH	479200.44	1349699.59
	4-5	0"-6"	A5WPL-PC04-5^RM	FH	479227.91	1349768.62
	4-6	0"-6"	A5WPL-PC04-6^RM	FH	479256.21	1349822.57
	4-7	0"-6"	A5WPL-PC04-7^RM	FH	479190.24	1349773.4
	4-8	0"-6"	A5WPL-PC04-8^RM	FH	479190.49	1349844.42
	4-9D	0"-6"	A5WPL-PC04-9^RM-D	FH	479150.25	1349620.54
	4-10	0"-6"	A5WPL-PC04-10^RM	FH	479139.02	1349679.77
	4-11	0"-6"	A5WPL-PC04-11^RM	FH	479116.44	1349582.65
	4-12	0"-6"	A5WPL-PC04-12^RM	FH	479082.24	1349689.19
	4-13	0"-6"	A5WPL-PC04-13^RM	FH	479138.69	1349802.62
	4-14	0"-6"	A5WPL-PC04-14^RM	FH	479161.26	1349854
	4-15	0"-6"	A5WPL-PC04-15^RM	FH	479103.01	1349779.6
	4-16	0"-6"	A5WPL-PC04-16^RM	FH	479112.15	1349853.8

**ATTACHMENT 3
AREA 5WPL SAMPLE LOCATIONS AND IDENTIFIERS**

Each soil precertification sample will be assigned a unique sample identification number where:

A5WPL = Sample collected from Remediation Area 5 West Parking Lot

PC = Precertification

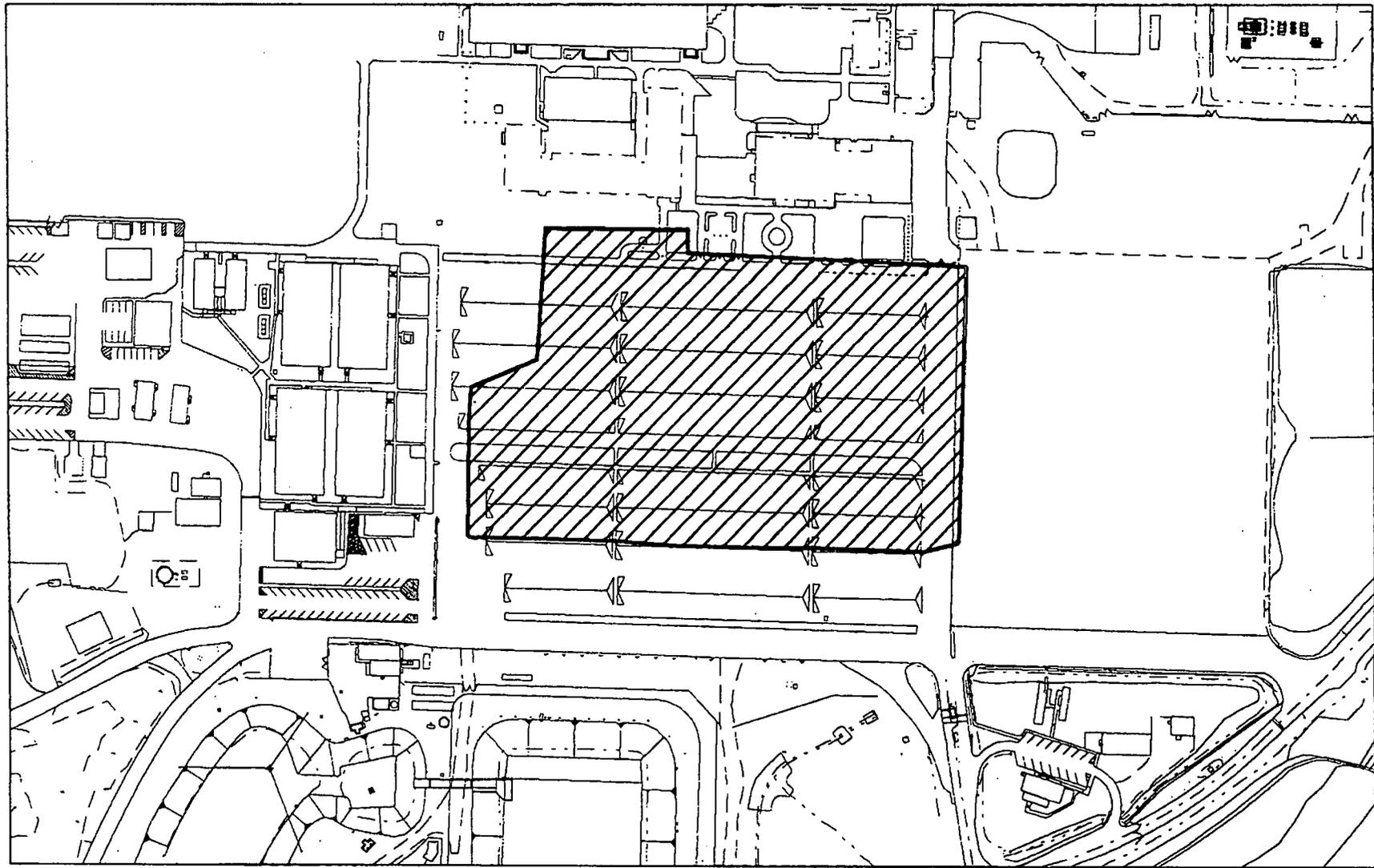
= Specific area from which sample was collected

Location = Sample location number within the specific area

^ = The ^ is placed between the location number for the specific area and the analysis type identifier. When used, the information to the left of this symbol identifies the location number and allows the automatic assignment of the location identification number to be transferred to the appropriate field/table in the Sitewide Environmental Database.

Analysis = "R" indicates radiological analysis; "M" indicates metals

QC = Quality control sample. A "D" indicates a field-duplicated sample; "Y" indicates a container blank sample; "X" indicates a rinsate

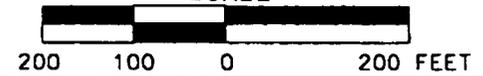


LEGEND:



A5 WEST PARKING LOT

SCALE



DRAFT

FIGURE 1. AREA 5 WEST PARKING LOT PRECERTIFICATION AREA

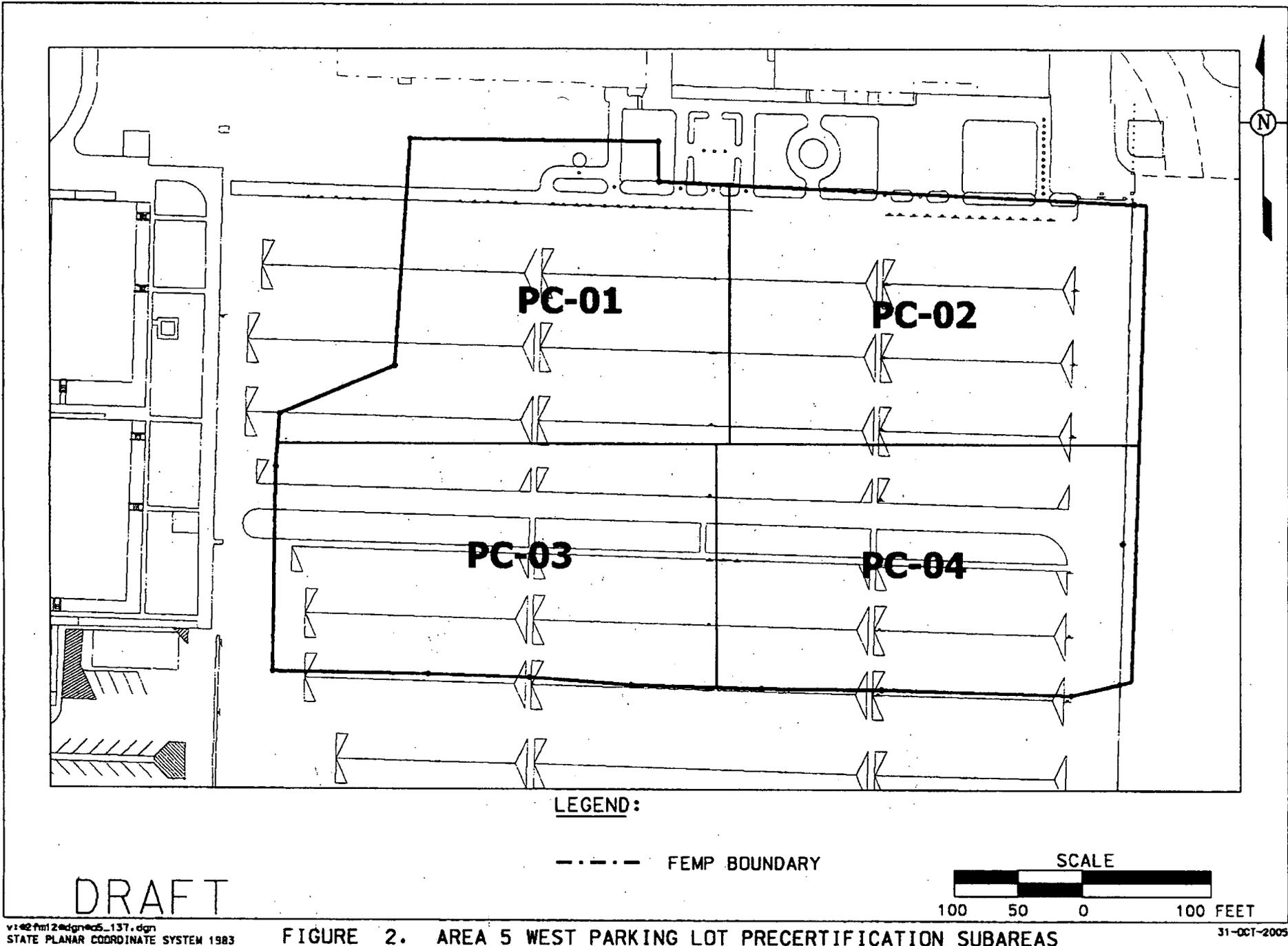
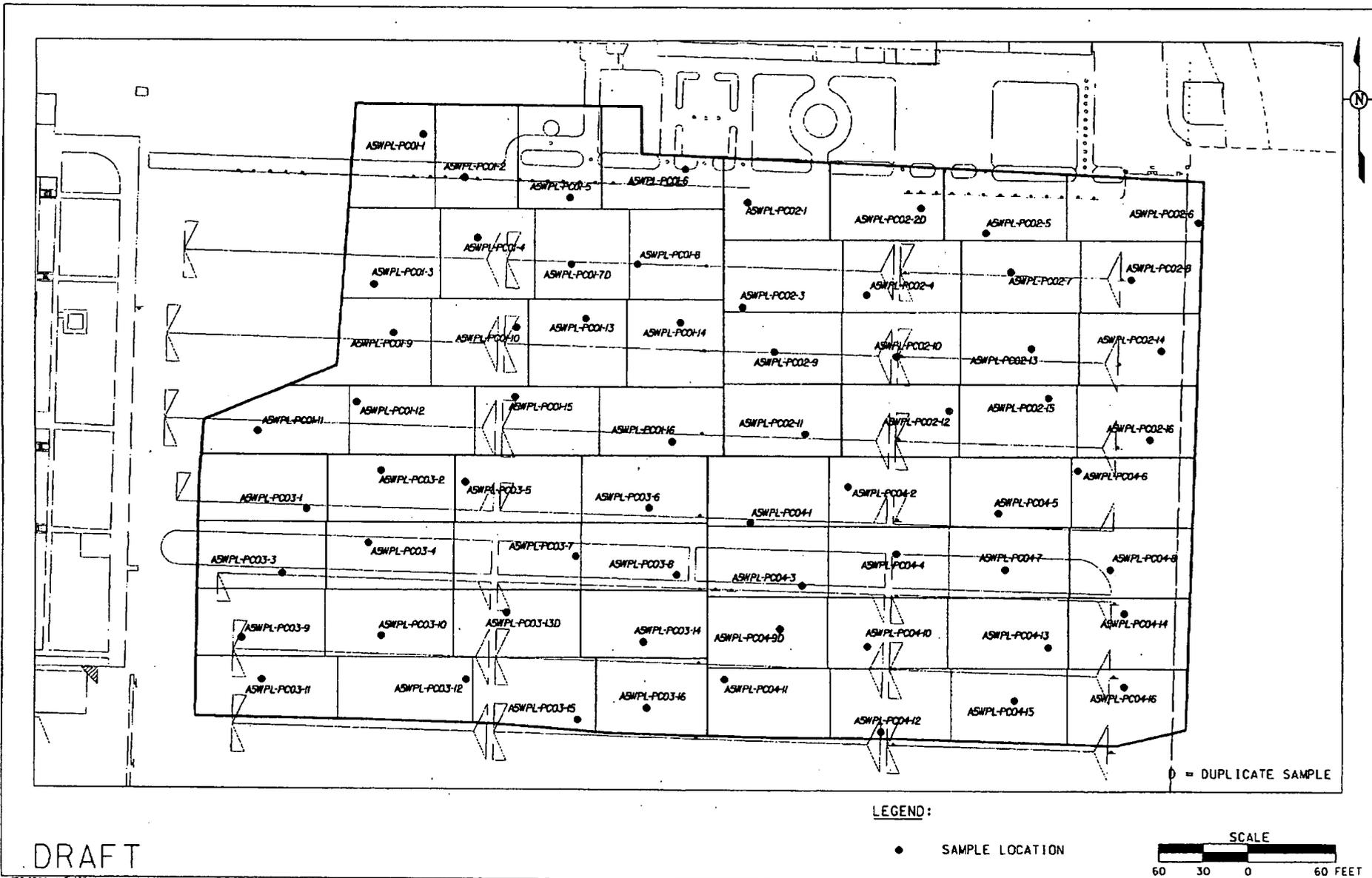


FIGURE 2. AREA 5 WEST PARKING LOT PRECERTIFICATION SUBAREAS



DRAFT

v:\02\p01\3\edg\p01_1138.dgn

STATE PLANNING COORDINATE SYSTEM 1983

31-001-2003

FIGURE 3. AREA 5 WEST PARKING LOT PRECERTIFICATION SAMPLE LOCATIONS

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No): **NO**

V/F: 20810-PSP-0006-137

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 3

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 11/30/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples for Precertification of the Administration Area of Area 5 (Area 5A) following the removal of utilities (Figure 1). Construction will be excavating known utilities; however, the possibility exists that unknown utilities will be uncovered during excavation. All sampling locations will be field located approximately every fifty feet along the bottom of the excavation. All samples will be collected from the bottom of the excavation from the bucket of an excavator (if necessary) after the piping and bedding material has been removed. The goal will be to collect samples from the top six inches of soil from the bottom of the excavation.

Additionally, if there is evidence of leakage from the piping (e.g. broken, cracked, or disjointed piping), then a biased sample location will be flagged, and samples will be collected from the floor and both sidewalls approximately one foot from the floor of the excavation.

The area specific constituents of concern (ASCOCs) for this precertification effort will be primary radionuclides (total uranium, radium-226, radium-228, thorium-228, and thorium-232) [TAL F] and beryllium (TAL G). The sampling and analytical requirements and TALs are listed on Attachment 1.

The first sample ID shall be A5A-T-1^R and each additional sample ID will be sequentially numbered (e.g. second sample ID is A5A-T-2^R).

Where:

A5A = Area 5 Administration

T = trench

1, 2, 3, etc. = Consecutive Sample Numbers (Locations)

R = Radiological analysis

Field sketch required: No

Surveying required: Yes. Samplers shall contact Surveying when locations are ready to be surveyed.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: Yes 10%D, 90%B

Off-site data package requirements (if applicable): ASL D(E)

The highest total uranium result from this area is 368 ppm at RI/FS location ZONE 1-82.

Justification:

Because the utilities in this area are so deep, it is necessary to backfill the trenches after the utilities have been removed in order to ensure the area is left in a safe condition. Therefore, samples will be collected from the bottom of the excavation prior to backfilling the trenches similarly to the sampling performed during the excavation of the West Parking Lot.

REQUESTED BY: Greg Lupton

Date: 11/30/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: <i>Dave Wassel</i> DATA QUALITY MANAGEMENT	12-01-05	X	PROJECT MANAGER: J.D. Chiou <i>J.D. Chiou</i>	12/1/05
			X	CHARACTERIZATION MANAGER: Miller <i>Frank Miller</i> RTIMP Manager	11/30/05
X	ANALYTICAL CUSTOMER SUPPORT: <i>Army Meyer</i>	12/16/05			
X	<i>Chris Ball</i>	11-30-05	X	SAMPLING MANAGER: <i>Tim Sullivan</i>	12/16/05
VARIANCE/FCN APPROVED [X]YES []NO			REVISION REQUIRED: []YES [x]NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte ^a	Method ^a	Matrix	Preserve	Hold Time	Container ^b	Minimum Mass/Volume
Rads and Metals (TALs F and G)	Gamma Spec	Solid	Cool, 4° C	12 months	Plastic core liner or glass or polyethylene sample container	400 g (1200 g) ^c
	ICP/MS			6 months		

^a Samples will be analyzed according to Analytical Support Level (ASL) D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b 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.

^c At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location per release in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

ICP/MS – inductively coupled plasma/mass spectroscopy

LSC – liquid scintillation counting

**TAL F
(Radiological - ASL D/E*)**

Analyte	On-Property FRL	MDL
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 G
(Metals - ASL D/E*)**

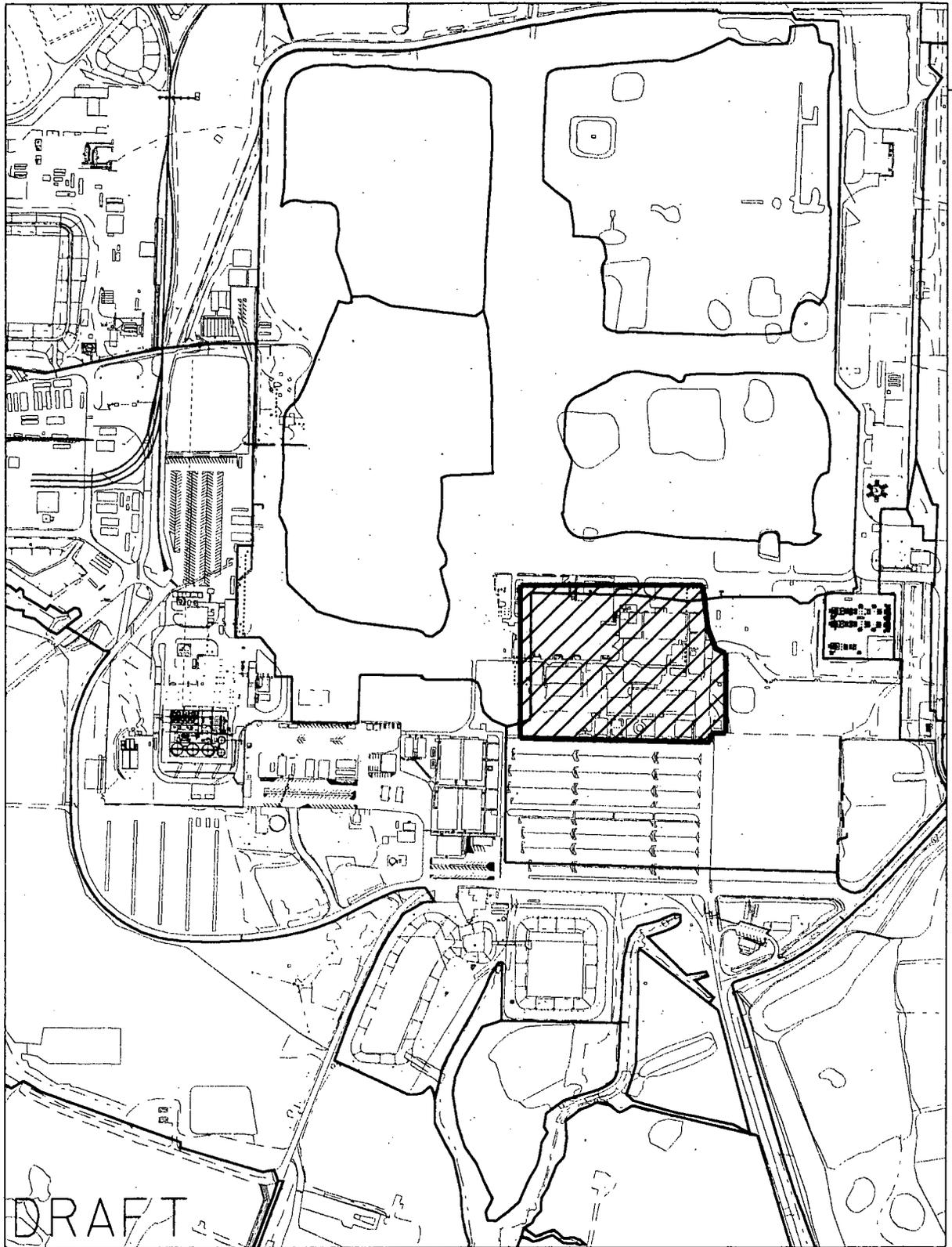
Analyte	On-Property FRL	MDL
Beryllium	1.5 mg/kg	0.15 mg/kg

*Analytical requirements will meet ASL D but the MDL may cause some analyses to be considered ASL E.

MDL – minimum detection level

mg/kg – milligrams per kilogram

pCi/g – picoCuries per gram



LEGEND:



AREA 5 ADMINISTRATION
AREA

SCALE

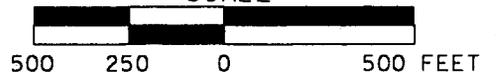


FIGURE 1.

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No): **YES**

V/F: 20810-PSP-0006-151

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 9

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 1/11/06

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples for Precertification of the Area 5 Administration Area following the removal of concrete, underlying gravel, and utilities in the area (see Figure 1).

To ensure ample coverage for precertification, this area was gridded into areas not greater than 250' by 250' similar to a Group 1 certification unit. With this gridding process, six areas were defined (see Figure 2). Each of the defined areas has been sub-divided into 16 approximately equal sub-areas. Sample locations within each of the defined areas have been generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-area, then each location was tested against the minimum distance criteria for each defined area to ensure that all 16 random locations have sufficient spacing. One sample location in each of the defined areas has been designated with a "D", indicating a field duplicate sample collection location. Additionally, four archive sample locations have been identified in each of the six defined areas. All samples within each defined area will be collected for analysis from 0 to 6 inches with the exception of the archive sample locations. However, all of the sampling locations including the archives will be surveyed. The planned precertification sampling locations are shown on Figure 3.

The area specific constituents of concern (ASCOCs) for this entire precertification effort will be the primary radionuclides (total uranium, radium-226, radium-228, thorium-228, and thorium-232) TAL F, arsenic (TAL H), and beryllium (TAL G). These sampling and analytical requirements and the TALs are listed on Attachment 1. The sample locations and identifiers are listed in Attachment 2. The sample identifier description is in Attachment 3.

If "push tubes" are used for sample collection, two container blanks will be collected – one before sample collection begins and one at the conclusion of sample collection. The container blank samples will be analyzed for TALs F, G, and H. If an alternate sample collection method is used, one rinsate will be collected at a minimum frequency of one per 20 pieces of equipment reused in the field.

Analyses will be conducted to Analytical Support Level (ASL) D or E, where all requirements for ASL E are the same as ASL D except the minimum detection level for the selected analytical method must be at least 10 percent of the FRL. A minimum of 10 percent of the laboratory data will be validated to Validation Support Level (VSL) D with the remainder validated to VSL B.

Historical data will be used for shipment of the samples collected under this V/FCN. The highest total uranium result from this area is 76.2 mg/kg at location A5A-10.

Justification:

The 60-inch main drainage line that passes under the western section of Area 5 Administration Area is being excavated. Precertification samples are necessary to determine where the excavated overburden can be temporarily stockpiled and if it can be used as backfill once the 60-inch line has been removed. Precertification samples are necessary in the remainder of the Area 5 Administration Area before the overburden is stockpiled in the area.

REQUESTED BY: Greg Lupton

Date: 1/11/06

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: <i>[Signature]</i>	1/12/06	X	PROJECT MANAGER: J.D. Chou <i>[Signature]</i>	1/11/06
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>[Signature]</i>	1/11/06
X	ANALYTICAL CUSTOMER SUPPORT: Paul S. McSwigan <i>[Signature]</i>	1/12/06		RTIMP Manager	
X	WAO <i>[Signature]</i>		X	SAMPLING MANAGER: <i>[Signature]</i>	1/12/06
VARIANCE/FCN APPROVED [X] YES [] NO			REVISION REQUIRED: [] YES [x] NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte ^a	Method ^a	Matrix	Preserve	Hold Time	TAT	Container ^b	Minimum Mass/Volume
Rads/Metals (TAL F, G, and H)	Gamma Spec	Solid	Cool, 4° C	12 months	Prelim 10 days Final 30 days	Glass with Teflon-lined lid	500 g (1500 g) ^c
	ICP or ICP/MS			6 months	10 days		
Radiological (TAL F)	Gamma Spec	Liquid (rinsate ^d)	HNO ₃ pH<2	6 months	30 days	Polyethylene	4 liters
Metals (TAL G, H)	ICP or ICP/MS	Liquid (rinsate ^d)	HNO ₃ pH<2	6 months	10 days	Polyethylene	500 ml

^a Samples will be analyzed according to Analytical Support Level (ASL) D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b 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.

^c At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in the CU in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

^d If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

**TAL F
(Radiological - ASL D/E*)**

Analyte	On-Property FRL	MDL
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 G
(Metals - ASL D/E*)**

Analyte	On-Property FRL/(BTV)	MDL (soil)
Beryllium	1.5 mg/kg	0.15 mg/kg

**TAL H
(Metals - ASL D/E*)**

Analyte	On-Property FRL	MDL
Arsenic	12 mg/kg	1.2 mg/kg

*Analytical requirements will meet ASL D but the MDL may cause some analyses to be considered ASL E.

MDL – minimum detection level
pCi/g – picoCuries per gram

**ATTACHMENT 3
AREA 5 ADMINISTRATION SAMPLE LOCATIONS AND IDENTIFIERS**

Each soil precertification sample will be assigned a unique sample identification number where:

- A5A = Sample collected from Area 5 Administration
- PC = Precertification
- # = Specific area from which sample was collected
- Location = Sample location number within the specific area
- ^ = The ^ is placed between the location number for the specific area and the analysis type identifier. When used, the information to the left of this symbol identifies the location number and allows the automatic assignment of the location identification number to be transferred to the appropriate field/table in the Sitewide Environmental Database.
- Analysis = "R" indicates radiological analysis; "M" indicates metals
- QC = Quality control sample. A "D" indicates a field-duplicated sample; "Y" indicates a container blank sample; "X" indicates a rinsate

ATTACHMENT 2
AREA 5 ADMINISTRATION AREA SAMPLE LOCATIONS AND IDENTIFIERS

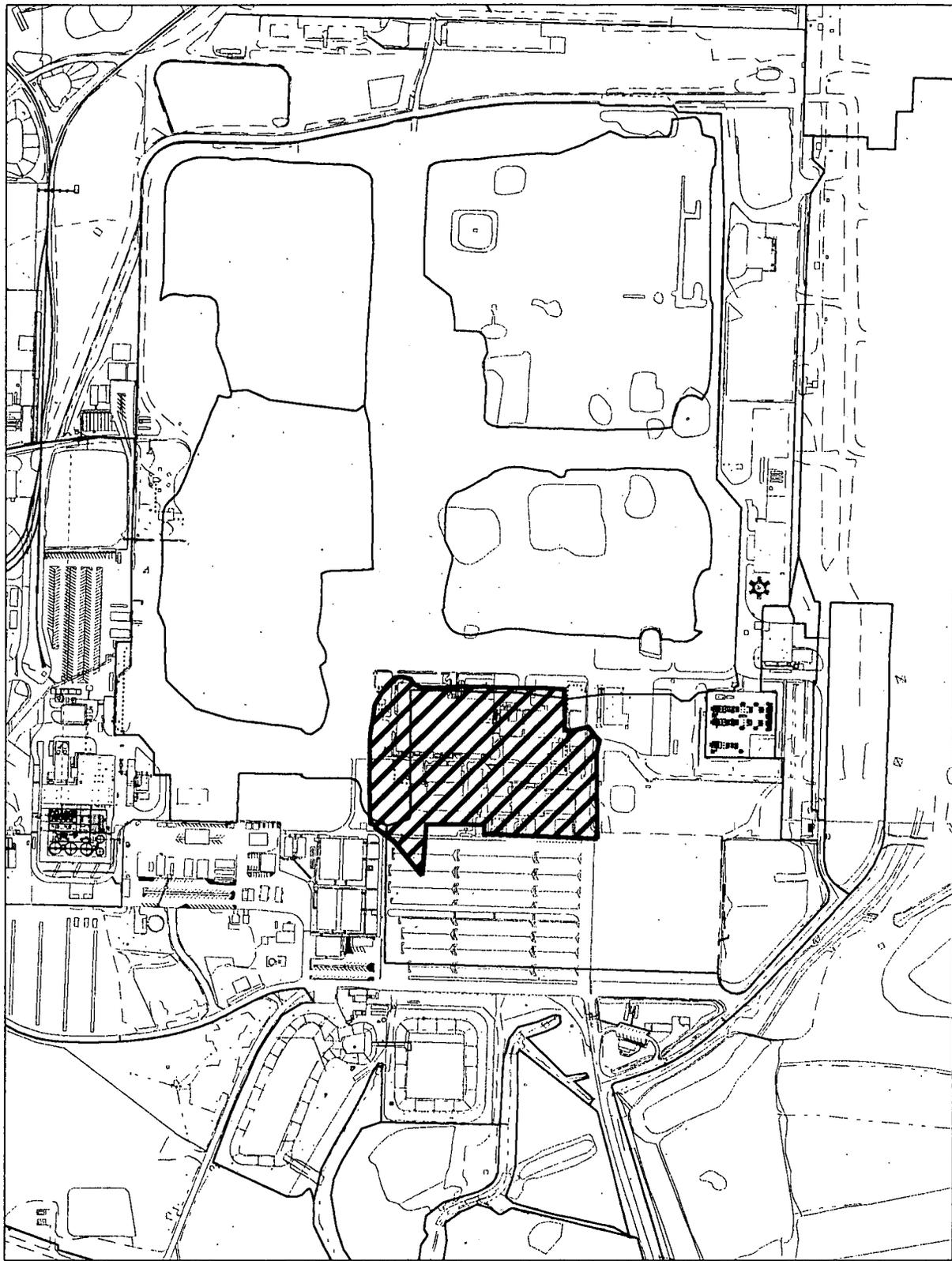
CU	Location	Depth	Sample ID	TAL	North-83	East-83
1	1-1	0"-6"	A5A-PC01-1^RM	FGH	479920.74	1349196.94
	1-2V	0"-6"	A5A-PC01-2^V	Archive	479943.09	1349249.55
	1-3	0"-6"	A5A-PC01-3^RM	FGH	479852.72	1349170.64
	1-4	0"-6"	A5A-PC01-4^RM	FGH	479859.67	1349260.97
	1-5	0"-6"	A5A-PC01-5^RM	FGH	479941.1	1349312.59
	1-6V	0"-6"	A5A-PC01-6^V	Archive	479906.84	1349357.75
	1-7	0"-6"	A5A-PC01-7^RM	FGH	479872.08	1349311.1
	1-8D	0"-6"	A5A-PC01-8^RM	FGH	479836.83	1349352.3
			A5A-PC01-8^RM-D			
	1-9	0"-6"	A5A-PC01-9^RM	FGH	479777.99	1349160.21
	1-10	0"-6"	A5A-PC01-10^RM	FGH	479789.41	1349243.1
	1-11V	0"-6"	A5A-PC01-11^V	Archive	479711.95	1349178.58
	1-12	0"-6"	A5A-PC01-12^RM	FGH	479728.33	1349245.58
	1-13	0"-6"	A5A-PC01-13^RM	FGH	479771.53	1349302.17
	1-14V	0"-6"	A5A-PC01-14^V	Archive	479800.33	1349365.7
	1-15	0"-6"	A5A-PC01-15^RM	FGH	479704.5	1349317.55
1-16	0"-6"	A5A-PC01-16^RM	FGH	479736.77	1349369.67	
2	2-1	0"-6"	A5A-PC02-1^RM	FGH	479914.78	1349405.15
	2-2	0"-6"	A5A-PC02-2^RM	FGH	479950.04	1349480.6
	2-3	0"-6"	A5A-PC02-3^RM	FGH	479840.8	1349405.15
	2-4V	0"-6"	A5A-PC02-4^V	Archive	479872.08	1349492.51
	2-5D	0"-6"	A5A-PC02-5^RM	FGH	479916.27	1349534.2
			A5A-PC02-5^RM-D			
	2-6	0"-6"	A5A-PC02-6^RM	FGH	479905.85	1349607.16
	2-7	0"-6"	A5A-PC02-7^RM	FGH	479835.34	1349528.24
	2-8V	0"-6"	A5A-PC02-8^V	Archive	479863.14	1349593.26
	2-9	0"-6"	A5A-PC02-9^RM	FGH	479776	1349416.07
	2-10	0"-6"	A5A-PC02-10^RM	FGH	479790.4	1349469.18
	2-11V	0"-6"	A5A-PC02-11^V	Archive	479720.88	1349428.98
	2-12	0"-6"	A5A-PC02-12^RM	FGH	479710.46	1349489.03
	2-13	0"-6"	A5A-PC02-13^RM	FGH	479772.52	1349520.8
	2-14	0"-6"	A5A-PC02-14^RM	FGH	479803.81	1349608.53
	2-15V	0"-6"	A5A-PC02-15^V	Archive	479735.28	1349537.55
2-16	0"-6"	A5A-PC02-16^RM	FGH	479705.99	1349608.03	

ATTACHMENT 2
AREA 5 ADMINISTRATION AREA SAMPLE LOCATIONS AND IDENTIFIERS

CU	Location	Depth	Sample ID	TAL	North-83	East-83
3	3-1D	0"-6"	A5A-PC03-1^RM	FGH	479928.49	1349626.41
			A5A-PC03-1^RM-D			
	3-2	0"-6"	A5A-PC03-2^RM	FGH	479919.1	1349726.22
	3-3	0"-6"	A5A-PC03-3^RM	FGH	479938.17	1349775.59
	3-4V	0"-6"	A5A-PC03-4^V	Archive	479880.58	1349769.21
	3-5	0"-6"	A5A-PC03-5^RM	FGH	479866.74	1349654.59
	3-6	0"-6"	A5A-PC03-6^RM	FGH	479857.96	1349721.57
	3-7V	0"-6"	A5A-PC03-7^V	Archive	479764.92	1349636.15
	3-8	0"-6"	A5A-PC03-8^RM	FGH	479779.42	1349691.19
	3-9	0"-6"	A5A-PC03-9^RM	FGH	479806.68	1349752.93
	3-10	0"-6"	A5A-PC03-10^RM	FGH	479782.6	1349810.04
	3-11	0"-6"	A5A-PC03-11^RM	FGH	479810.92	1349874.22
	3-12V	0"-6"	A5A-PC03-12^V	Archive	479737.89	1349856.46
	3-13	0"-6"	A5A-PC03-13^RM	FGH	479722.3	1349649.48
	3-14	0"-6"	A5A-PC03-14^RM	FGH	479712.24	1349714.83
	3-15V	0"-6"	A5A-PC03-15^V	Archive	479740.59	1349765.9
3-16	0"-6"	A5A-PC03-16^RM	FGH	479712.57	1349820.16	
4	4-1	0"-6"	A5A-PC04-1^RM	FGH	479649.63	1349159.1
	4-2V	0"-6"	A5A-PC04-2^V	Archive	479666.01	1349232.06
	4-3D	0"-6"	A5A-PC04-3^RM	FGH	479583.59	1349181.93
			A5A-PC04-3^RM-D			
	4-4	0"-6"	A5A-PC04-4^RM	FGH	479573.16	1349243.47
	4-5	0"-6"	A5A-PC04-5^RM	FGH	479659.56	1349314.45
	4-6	0"-6"	A5A-PC04-6^RM	FGH	479680.41	1349376.99
	4-7V	0"-6"	A5A-PC04-7^V	Archive	479618.35	1349300.06
	4-8	0"-6"	A5A-PC04-8^RM	FGH	479577.63	1349348.7
	4-9	0"-6"	A5A-PC04-9^RM	FGH	479538.9	1349159.1
	4-10	0"-6"	A5A-PC04-10^RM	FGH	479526.49	1349261.84
	4-11V	0"-6"	A5A-PC04-11^V	Archive	479483.91	1349191.86
	4-12	0"-6"	A5A-PC04-12^RM	FGH	479445.67	1349251.42
	4-13	0"-6"	A5A-PC04-13^RM	FGH	479512.71	1349320.41
	4-14V	0"-6"	A5A-PC04-14^V	Archive	479550.44	1349375.5
	4-15	0"-6"	A5A-PC04-15^RM	FGH	479466.03	1349307
4-16	0"-6"	A5A-PC04-16^RM	FGH	479392.67	1349302.54	

ATTACHMENT 2
AREA 5 ADMINISTRATION AREA SAMPLE LOCATIONS AND IDENTIFIERS

CU	Location	Depth	Sample ID	TAL	North-83	East-83
5	5-1	0"-6"	A5A-PC05-1^RM	FGH	479666.5	1349421.54
	5-2	0"-6"	A5A-PC05-2^RM	FGH	479656.24	1349467.54
	5-3V	0"-6"	A5A-PC05-3^V	Archive	479574.01	1349393.09
	5-4	0"-6"	A5A-PC05-4^RM	FGH	479571.6	1349447.76
	5-5	0"-6"	A5A-PC05-5^RM	FGH	479636.18	1349507.4
	5-6V	0"-6"	A5A-PC05-6^V	Archive	479664.37	1349547.83
	5-7	0"-6"	A5A-PC05-7^RM	FGH	479550.66	1349485.5
	5-8	0"-6"	A5A-PC05-8^RM	FGH	479545.23	1349541.16
	5-9	0"-6"	A5A-PC05-9^RM	FGH	479663.23	1349602.27
	5-10V	0"-6"	A5A-PC05-10^V	Archive	479645.78	1349652.47
	5-11D	0"-6"	A5A-PC05-11^RM	FGH	479562.82	1349601.06
			A5A-PC05-11^RM-D			
	5-12	0"-6"	A5A-PC05-12^RM	FGH	479589.42	1349643.94
	5-13	0"-6"	A5A-PC05-13^RM	FGH	479513.99	1349428.45
	5-14	0"-6"	A5A-PC05-14^RM	FGH	479508.9	1349527.29
	5-15	0"-6"	A5A-PC05-15^RM	FGH	479492.88	1349598.81
5-16V	0"-6"	A5A-PC05-16^V	Archive	479507.45	1349658.34	
6	6-1	0"-6"	A5A-PC06-1^RM	FGH	479666.33	1349677.04
	6-2V	0"-6"	A5A-PC06-2^V	Archive	479666.87	1349754.58
	6-3	0"-6"	A5A-PC06-3^RM	FGH	479625.05	1349708.01
	6-4	0"-6"	A5A-PC06-4^RM	FGH	479585.32	1349745.44
	6-5	0"-6"	A5A-PC06-5^RM	FGH	479662.11	1349817.21
	6-6	0"-6"	A5A-PC06-6^RM	FGH	479670.01	1349883.15
	6-7	0"-6"	A5A-PC06-7^RM	FGH	479581.3	1349820.41
	6-8V	0"-6"	A5A-PC06-8^V	Archive	479613.12	1349863.45
	6-9	0"-6"	A5A-PC06-9^RM	FGH	479528.13	1349674.08
	6-10	0"-6"	A5A-PC06-10^RM	FGH	479540.45	1349758.72
	6-11	0"-6"	A5A-PC06-11^RM	FGH	479492.69	1349697.28
	6-12V	0"-6"	A5A-PC06-12^V	Archive	479476.18	1349758.17
	6-13V	0"-6"	A5A-PC06-13^V	Archive	479543.71	1349808.72
	6-14	0"-6"	A5A-PC06-14^RM	FGH	479519.95	1349865.78
	6-15D	0"-6"	A5A-PC06-15^RM	FGH	479465.45	1349818.4
			A5A-PC06-15^RM-D			
6-16	0"-6"	A5A-PC06-16^RM	FGH	479485.45	1349865.03	

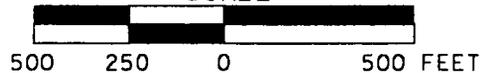


LEGEND:



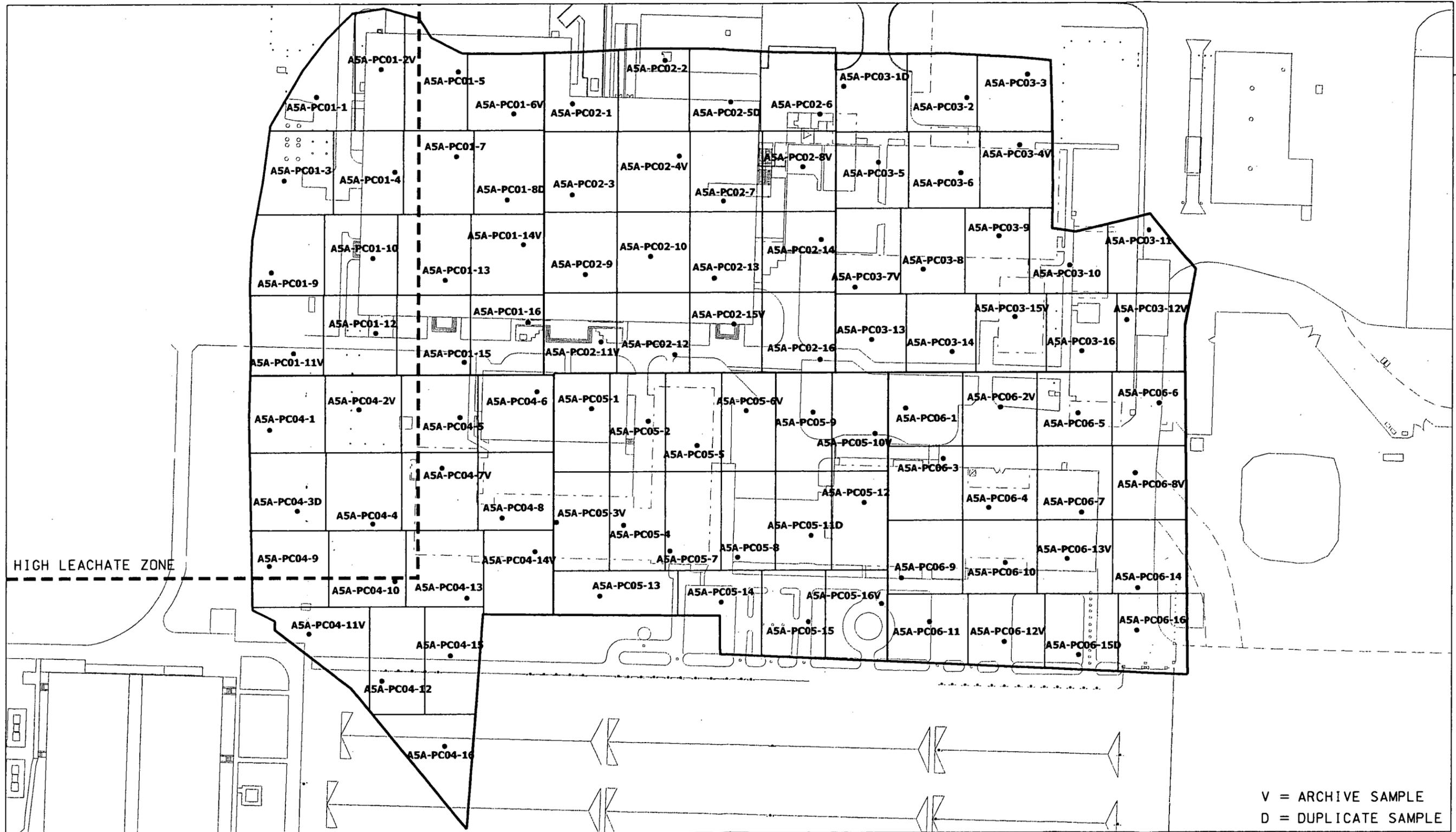
PRECERTIFICATION
AREA

SCALE



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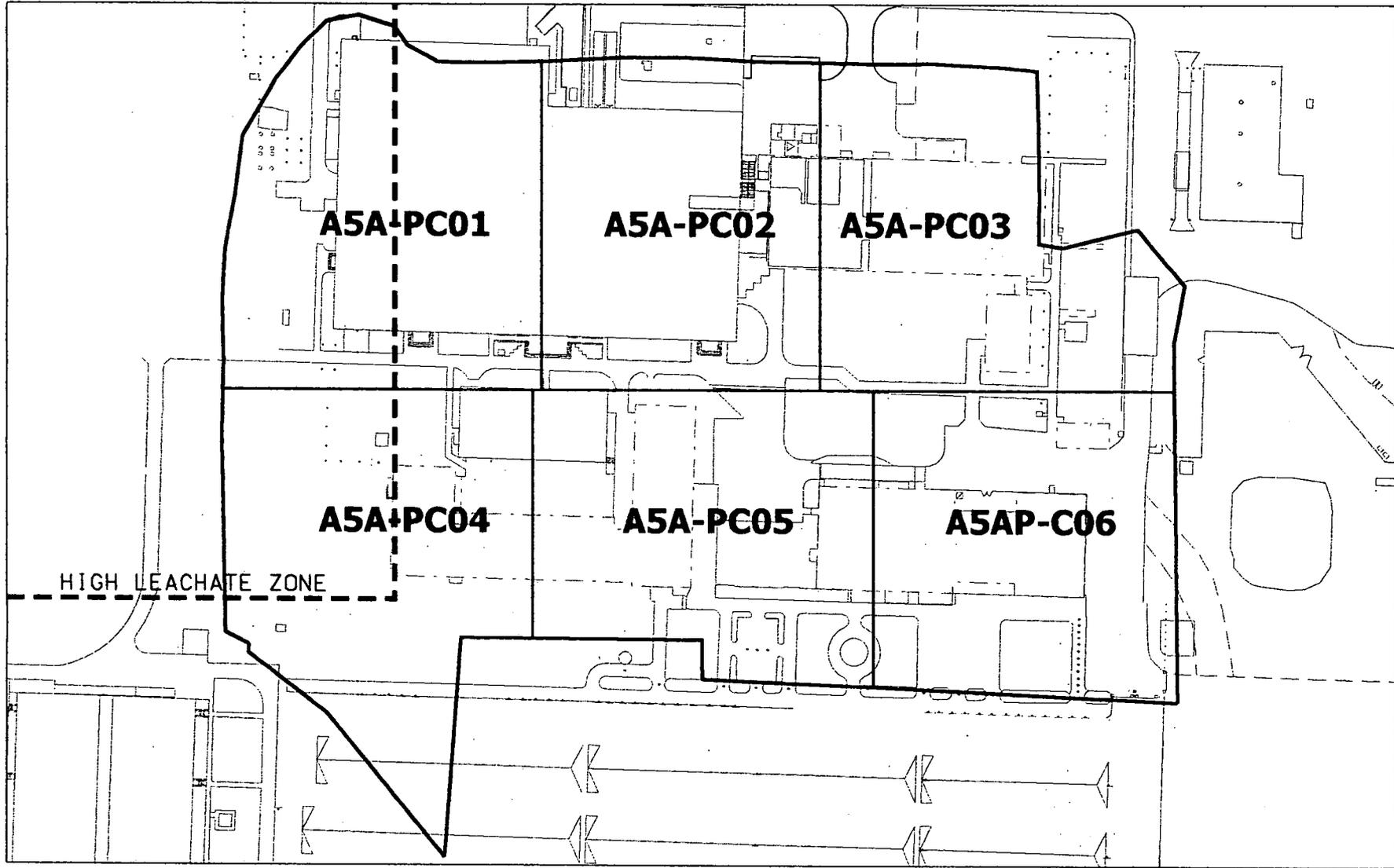
FIGURE 1. AREA 5 ADMINISTRATION AREA



DRAFT

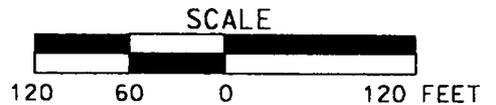
FIGURE 3. AREA 5 ADMINISTRATION AREA PRECERTIFICATION SAMPLE LOCATIONS

8 of 9



LEGEND:

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State of Ohio Environmental Protection Agency

Southwest District

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Bob Taft, Governor
Bruce Johnson, Lt. Governor
Joseph P. Koncelik, Director

MEMO

TO: J.D. Chiou, Fluor Fernald

FROM: Donna Bohannon, Ohio EPA/OFFO

DATE: January 13, 2006

SUBJECT: *V/FCN 20810-PSP-0006-151 Project Specific Plan For Excavation Control of Areas 3B, 4B, And 5*

This V/FCN documents the soil sampling to be preformed for precertification of Area 5 Administration Area after concrete, gravel and utilities have been removed. The precertification samples are to determine where excavated overburden soil is to be temporarily stockpiled, once the 60-in main drainage line, located under the western section of the Administration Area, is excavated. Ohio EPA approves of this precertification sampling.

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No) **YES**

V/F: 20810-PSP-0006-165

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 6

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 7/21/06

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples for Precertification of the Area 5 Administration Area Haul Road (see Figure 1).

To ensure ample coverage for precertification, this area was gridded into areas not greater than 250' by 250' similar to a Group 1 certification unit. With this gridding process, one area was defined. The defined area has been sub-divided into 16 approximately equal sub-areas. Sample locations within each of the defined areas have been generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-area, then each location was tested against the minimum distance criteria for each defined area to ensure that all 16 random locations have sufficient spacing. One sample location in each of the defined areas has been designated with a "D", indicating a field duplicate sample collection location. Additionally, four archive sample locations have been identified in each of the six defined areas. All samples within each defined area will be collected for analysis from 0 to 6 inches with the exception of the archive sample locations. However, all of the sampling locations including the archives will be surveyed. The planned precertification sampling locations are shown on Figure 2.

The Sampling and Analytical Requirements are provided on Attachment 1. The Target Analyte Lists are in Attachment 2. The sample locations and identifiers are listed in Attachment 3.

Sampling will be completed using the Geoprobe® Model 5400 and Model 6600 per EQT-06, or an alternate method identified in SMPL-01, as long as sufficient volume is collected to perform the prescribed analyses. Ultimately, the method of sample collection will be left to the discretion of the Field Sampling Lead. One rinsate will be collected for TALs P and Q at a minimum frequency of one per 20 pieces of equipment reused in the field.

Analyses will be conducted to Analytical Support Level (ASL) D or E, where all requirements for ASL E are the same as ASL D except the minimum detection level for the selected analytical method must be at least 10 percent of the FRL. A minimum of 10 percent of the laboratory data will be validated to Validation Support Level (VSL) D with the remainder validated to VSL B.

Historical data will be used for shipment of the samples collected under this V/FCN. The highest total uranium result from this area is 76.2 mg/kg at location A5A-10.

Justification:

The soils in the Area 5 Administration and West Parking Lot areas have been precertified. Following precertification of these areas, a haul road was created with clean material on top of the precertified soil. Precertification samples in conjunction with real-time scans are necessary to confirm that the road can pass certification or determine whether any sections of the road require excavation.

REQUESTED BY: Greg Lupton

Date: 7/21/06

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>R. Friske</i>	7/21/06	X	PROJECT MANAGER: J.D. Chiou <i>J.D. Chiou</i>	7/21/06
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: R. Abitz <i>Greg Lupton</i> FOR R. Abitz	7/21/06
X	ANALYTICAL CUSTOMER SUPPORT: WAO <i>Greg Lupton</i>	7/21/06		RTIMP Manager	
			X	SAMPLING MANAGER: T. Burbridge <i>T. Burbridge</i>	7/31/06
VARIANCE/FCN APPROVED [X]YES []NO			REVISION REQUIRED: []YES [x]NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

TAL(s)	Method ^a	Matrix	Preserve	Hold Time	TAT	Container ^c	Minimum Mass/Volume
Rads/Metals/ PCBs/SVOCs (TALs P, Q, R)	Gamma Spec, Alpha Spec, and LSC or GPC	Solid	Cool, 4° C	12 months	EDD 10 days	Glass with Teflon-lined lid	500 g (1500 g) ^d
	Final 14 days						
	ICP or ICP/MS and IC			6 months	10 days		
	GC				10 days		
GC	14 days	10 days					
VOCs (TAL S)	GC/MS	Solid	Cool, 4° C	48 hours	10 days	3 x 1-Encore Sampler ^d plus 1 x 2-oz jar for % moisture	Each full Encore Sampler ^d will hold approx. 5 g
Rads (TALs P)	Gamma Spec, Alpha Spec, and LSC	Liquid (rinsate)	HNO ₃ pH<2	6 months	14 days	Polyethylene	4 liters
Metals (TAL Q)	ICP or ICP/MS and ISE	Liquid (rinsate)	HNO ₃ pH<2	6 months	10 days	Polyethylene	500 ml
VOCs (TAL S)	GC/MS	Liquid (trip blank only)	H ₂ SO ₄ pH<2 Cool, 4o C	14 days	10 days	3 x 40-ml glass with teflon-lined septa	120 ml (no headspace)

^a Samples will be analyzed according to ASL D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b One sample per CU will be selected for analysis utilizing a 21-day in-growth with a 30-day TAT for Ra-226 only. Samples with a 7-day in-growth will be denoted by a "7DAY" suffix while the sample chosen as a 21-day in-growth will be denoted by a "21DAY" suffix attached to the laboratory data.

^c 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.

^d At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in the CU in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

**ATTACHMENT 2
TARGET ANALYTE LISTS**

TAL 20810-PSP-0006-P - 13 Samples

Analyte	On-Property FRL	MDL (soil)	MDL (water)
Total Uranium	82 mg/kg	8.2 mg/kg	650 µg/L
Radium-226	1.7 pCi/g	0.17 pCi/g	30 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	30 pCi/L
Thorium-228	1.7 pCi/g	0.17 pCi/g	30 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	30 pCi/L
Cesium-137	1.4 pCi/g	0.14 pCi/g	15 pCi/L
Lead-210	38 pCi/g	3.8 pCi/g	700 pCi/L
Technetium-99	30.0 pCi/g (29.1 pCi/g)	2.91 pCi/g ^a	10 pCi/L
Thorium-230	280 pCi/g	28 pCi/g	1 pCi/L

TAL 20810-PSP-0006-Q - 13 Samples

Analyte	On-Property FRL	MDL (soil)	MDL (water)
Arsenic	12 mg/kg	1.2 mg/kg	1.8 mg/L
Beryllium	1.5 mg/kg	0.15 mg/kg	0.22 mg/L
Chromium	300 mg/kg	30 mg/kg	45 mg/L
Fluoride	78,000 mg/kg	7800 mg/kg	11,700 mg/L

TAL 20810-PSP-0006-R - 13 Samples

Analyte	On-Property FRL	MDL (soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Aroclor-1260	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg
Benzo(a)pyrene	2.0 mg/kg	0.2 mg/kg
Benzo(b)fluoranthene	20 mg/kg	2.0 mg/kg
Dibenzo(a,h)anthracene	2.0 mg/kg	0.2 mg/kg
Indeno(1,2,3-cd)pyrene	20 mg/kg	2.0 mg/kg

TAL 20810-PSP-0006-S - 13 Samples

Analyte	On-Property FRL	MDL (soil)	MDL (water)
1,1-Dichloroethene	0.41 mg/kg	0.041 mg/kg	10 µg/L
1,2-Dichloroethene	0.16 mg/kg	0.016 mg/kg	10 µg/L
1,1,1-Trichloroethane	4.3 mg/kg ^b	0.43 mg/kg	10 µg/L
Bromodichloromethane	4.0 mg/kg	0.4 mg/kg	10 µg/L
Tetrachloroethene	3.6 mg/kg	0.36 mg/kg	10 µg/L
Trichloroethene	25 mg/kg	2.5 mg/kg	10 µg/L

^aThe MDL for technetium-99 is 10 percent of the WAC limit, which is lower than the FRL.

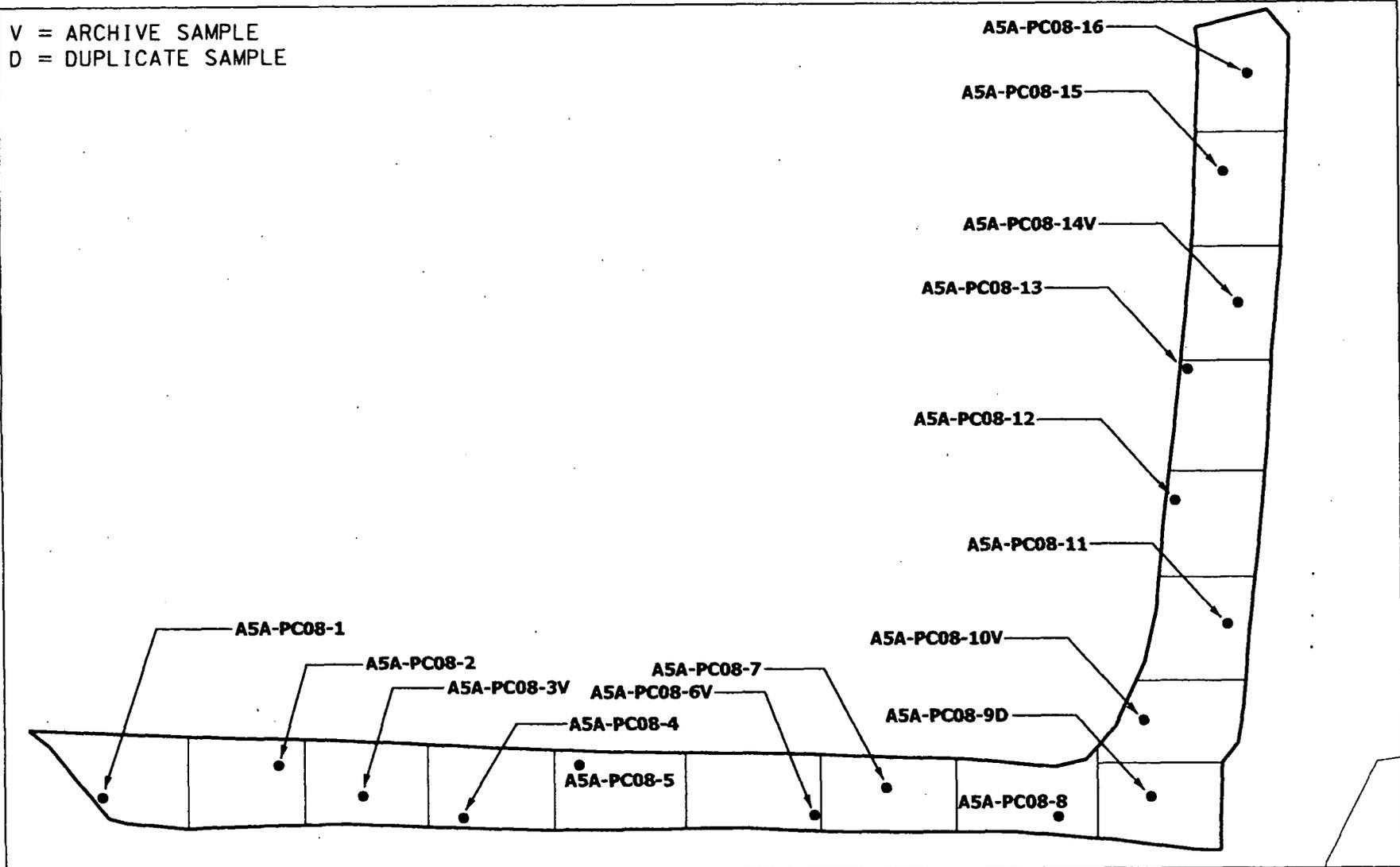
^bThe FRL is actually for 1,1,2-trichloroethane because 1,1,1-trichloroethane does not have a FRL. This value will be used for statistical comparison for certification criteria.

ATTACHMENT 3

AREA 5 ADMINISTRATION AREA HAUL ROAD SAMPLE LOCATIONS AND IDENTIFIERS

CU	Location	Depth	Sample ID	TAL	North-83	East-83
8	8-1	0"-6"	A5A-PC08-1^RMPS	PQR	479412.62	1349254.70
			A5A-PC08-1^L	S		
	8-2	0"-6"	A5A-PC08-2^RMPS	PQR	479429.00	1349348.04
			A5A-PC08-2^L	S		
	8-3V	0"-6"	A5A-PC08-3^V	Archive	479413.15	1349392.42
	8-4	0"-6"	A5A-PC08-4^RMPS	PQR	479401.17	1349445.43
			A5A-PC08-4^L	S		
	8-5	0"-6"	A5A-PC08-5^RMPS	PQR	479428.65	1349507.07
			A5A-PC08-5^L	S		
	8-6V	0"-6"	A5A-PC08-6^V	Archive	479401.87	1349631.58
	8-7	0"-6"	A5A-PC08-7^RMPS	PQR	479415.97	1349669.97
			A5A-PC08-7^L	S		
	8-8	0"-6"	A5A-PC08-8^RMPS	PQR	479400.81	1349761.38
			A5A-PC08-8^L	S		
	8-9D	0"-6"	A5A-PC08-9^RMPS	PQR	479411.03	1349810.69
			A5A-PC08-9^L	S		
			A5A-PC08-9^RMPS-D	PQR		
			A5A-PC08-9^L-D	S		
	8-10V	0"-6"	A5A-PC08-10^V	Archive	479451.20	1349807.17
	8-11	0"-6"	A5A-PC08-11^RMPS	PQR	479501.59	1349851.90
			A5A-PC08-11^L	S		
	8-12	0"-6"	A5A-PC08-12^RMPS	PQR	479566.53	1349824.78
			A5A-PC08-12^L	S		
	8-13	0"-6"	A5A-PC08-13^RMPS	PQR	479635.59	1349831.82
			A5A-PC08-13^L	S		
	8-14V	0"-6"	A5A-PC08-14^V	Archive	479670.48	1349858.95
	8-15	0"-6"	A5A-PC08-15^RMPS	PQR	479739.37	1349851.55
			A5A-PC08-15^L	S		
8-16	0"-6"	A5A-PC08-16^RMPS	PQR	479790.82	1349864.58	
		A5A-PC08-16^L	S			

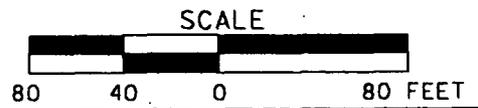
V = ARCHIVE SAMPLE
D = DUPLICATE SAMPLE



STATE PLANAR COORDINATE SYSTEM 1983
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LEGEND:

• SAMPLE LOCATION



DRAFT

FIGURE 2. AREA 5 ADMINISTRATION AREA HAUL ROAD PRECERTIFICATION SAMPLE LOCATIONS

20-JUL-2006



State of Ohio Environmental Protection Agency

Southwest District

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Bob Taft, Governor
Bruce Johnson, Lt. Governor
Joseph P. Koncelik, Director

MEMO

TO: J.D. Chiou, Fluor Fernald

FROM: Donna Bohannon, Ohio EPA/OFFO

DATE: July 26, 2006

SUBJECT: *V/FCN 20810-PSP-0006-165 Project Specific Plan For Excavation Control of Areas 3B, 4B, And 5*

This V/FCN documents the collection of 16 soil samples from Area 5 Administration Area Haul Road for precertification. The area is equalvalent in size to a Group 1 Certification Unit and has been divided into 16 sub areas. The existing soils in Area 5 and the West Parking Lot were previously precertified and due to the creation of a Haul Road in this area, the precertification samples will help determine whether the road will pass certification. In addition, the status of Area 5 and the Haul Road will be clarified in the Certification Design Letter and Project Specific Plan. Ohio EPA approves of this variance.

VARIANCE / FIELD CHANGE NOTICE

Significant?
(Yes or No) **YES**

V/F: 20810-PSP-0006-168

WBS NO.: PROJECT/DOCUMENT/ECDC # 20810-PSP-0006 Rev.1

Page: 1 of 9

PROJECT TITLE: Project Specific Plan For Excavation Control Of Areas 3B, 4B, And 5

Date: 8/21/06

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of physical soil samples from the footprint of the 60-inch storm sewer line excavation (see Figure 1). Samples are being collected to complete the Precertification of the Area 5 Administration Area and West Parking Lot.

To ensure ample coverage for precertification, this area was gridded into areas not greater than 250' by 250' similar to a Group 1 certification unit. With this gridding process, two areas were defined (see Figure 2). Each of the defined areas has been sub-divided into 16 approximately equal sub-areas. Sample locations within each of the defined areas have been generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-area, then each location was tested against the minimum distance criteria for each defined area to ensure that all 16 random locations have sufficient spacing. One sample location in each of the defined areas has been designated with a "D", indicating a field duplicate sample collection location. Additionally, four archive sample locations have been identified in each of the two defined areas. All samples within each defined area will be collected for analysis from 0 to 6 inches with the exception of the archive sample locations. The planned precertification sampling locations are shown on Figure 3.

The area specific constituents of concern (ASCOCs) for this precertification effort are the same as those collected during the certification of the 60-inch excavated footprint in the Area Main Drainage Corridor and Former Production Area, which is certified. The sampling and analytical requirements and the TALs are listed on Attachment 1. The sample locations and identifiers are listed in Attachment 2. The sample identifier description is in Attachment 3.

Analyses will be conducted to Analytical Support Level (ASL) D or E, where all requirements for ASL E are the same as ASL D except the minimum detection level for the selected analytical method must be at least 10 percent of the FRL. A minimum of 10 percent of the laboratory data will be validated to Validation Support Level (VSL) D with the remainder validated to VSL B.

Justification:

The 60-inch main drainage line and the 18-inch storm drainage line that passed under the western section of Area 5 Administration Area and the West Parking Lot was excavated and removed. Precertification samples are necessary to determine if the soil can pass certification.

REQUESTED BY: Greg Lupton

Date: 8/21/06

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: <i>[Signature]</i>	8-22-06	X	PROJECT MANAGER: J.D. Chiou <i>[Signature]</i>	9/15/06
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	22 Aug 06
X	ANALYTICAL CUSTOMER SUPPORT: <i>[Signature]</i>	9/15/06		TEMP Manager	
X	WAO 9/15/06		X	SAMPLING MANAGER: <i>[Signature]</i>	9/14/06
VARIANCE/FCN APPROVED [X] YES [] NO			REVISION REQUIRED: [] YES [x] NO		

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

**ATTACHMENT 1
SAMPLING AND ANALYTICAL REQUIREMENTS**

TAL(s)	Method ^a	Matrix	Preserve	Hold Time	TAT	Container ^c	Minimum Mass/Volume
Rads/Metals/ PCBs/SVOCs (TALs A3/T/A2)	Gamma Spec and LSC or GPC ICP or ICP/MS and IC GC GC	Solid	Cool, 4° C	12 months	EDD 10 days	Glass with Teflon- lined lid	500 g (1500 g) ^d
					Final 14 days ^b		
					10 days		
				6 months	10 days		
				14 days	10 days		
				14 days	10 days		
VOCs (TAL Z)	GC/MS	Solid	Cool, 4° C	48 hours	10 days	3 x 1-Encore Sampler ^d plus 1 x 2-oz jar for % moisture	Each full Encore Sampler ^d will hold approx. 5 g
Metals ^e (TAL T)	ICP or ICP/MS and ISE	Liquid ^e	HNO ₃ pH<2	6 months	10 days	Polyethylene	500 ml
VOCs (TAL Z)	GC/MS	Liquid (trip blank only)	H ₂ SO ₄ pH<2 Cool, 4° C	14 days	10 days	3 x 40-ml glass with teflon-lined septa	120 ml (no headspace)

^a Samples will be analyzed according to ASL D requirements but the minimum detection level may cause some analyses to be considered ASL E.

^b One sample per CU will be selected for analysis utilizing a 21-day in-growth with a 30-day TAT for Ra-226 only. Samples with a 7-day in-growth will be denoted by a "7DAY" suffix while the sample chosen as a 21-day in-growth will be denoted by a "21DAY" suffix attached to the laboratory data.

^c 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.

^d At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in the CU in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

^e The container blank and/or rinsate samples will be analyzed for TAL T only.

The highest total uranium result from this area is 76.2 mg/kg at location A5A-10.

**ATTACHMENT 2
TARGET ANALYTE LISTS**

V/FCN 20810-PSP-0006-168

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TAL 20810-PSP-0006-A3 - 26 Samples

Analyte	On-Property FRL/WAC	MDL (soil)
Total Uranium	20 mg/kg	2.0 mg/kg
Radium-226	1.7 pCi/g	0.3 pCi/g
Radium-228	1.8 pCi/g	0.3 pCi/g
Thorium-228	1.7 pCi/g	0.3 pCi/g
Thorium-232	1.5 pCi/g	0.3 pCi/g
Cesium-137	1.4 pCi/g	0.2 pCi/g
Technetium-99	30.0 pCi/g (29.1 pCi/g)	2.91 pCi/g

TAL 20810-PSP-0006-T - 26 Samples

Analyte	On-Property FRL/(BTV)	MDL (soil)	MDL (water)
Antimony	96 mg/kg /(10 mg/kg)	1.0 mg/kg	1.5 mg/L
Arsenic	12 mg/kg	1.2 mg/kg	1.8 mg/L
Barium	68,000 mg/kg /(500 mg/kg)	50 mg/kg	10,200 mg/L
Beryllium	1.5 mg/kg	0.15 mg/kg	0.22 mg/L
Cadmium	82 mg/kg /(5.0 mg/kg)	0.5 mg/kg	0.75 mg/L
Chromium	300 mg/kg	30 mg/kg	45 mg/L
Lead	400 mg/kg /(200 mg/kg)	20 mg/kg	30 mg/L
Mercury	7.5 mg/kg /(5 mg/kg)	0.5 mg/kg	0.75 mg/L
Molybdenum	2900 mg/kg /(10 mg/kg)	1.0 mg/kg	1.5 mg/L
Selenium	5400 mg/kg	540 mg/kg	810 mg/L
Silver	29,000 /(10 mg/kg)	1.0 mg/kg	1.5 mg/L

TAL 20810-PSP-0006-Z - 26 Samples

Analyte	On-Property FRL	MDL (soil)	MDL (water)
1,1-dichloroethene	0.16 mg/kg	0.016 mg/kg	10 µg/L
1,2-dichloroethane	0.015 mg/kg	0.0015 mg/kg	10 µg/L
1,1,1-Trichloroethane ^c	4.3 mg/kg ^c	0.43 mg/kg ^c	10 µg/L
4-Methyl-2-pentanone	2500 mg/kg	250 mg/kg	10 µg/L
Acetone	43,000 mg/kg	4,300 mg/kg	10 µg/L
Benzene	850 mg/kg	85 mg/kg	10 µg/L
Carbon tetrachloride	2.1 mg/kg	0.21 mg/kg	10 µg/L
Ethylbenzene	5,100 mg/kg	510 mg/kg	10 µg/L
Methyl Chloride	37 mg/kg	3.7 mg/kg	10 µg/L
Tetrachloroethene	3.6 mg/kg	0.36 mg/kg	10 µg/L
Toluene	100,000 mg/kg	10,000 mg/kg	10 µg/L
Trichloroethene	25 mg/kg	2.5 mg/kg	10 µg/L
Xylene	920,000 mg/kg	92,000 mg/kg	10 µg/L

**ATTACHMENT 2
TARGET ANALYTE LISTS**

V/FCN 20810-PSP-0006-168

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TAL 20810-PSP-0006-A2 - 26 Samples

Analyte	On-Property FRL/(BTV)	MDL (soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Aroclor-1260	0.13 mg/kg	0.013 mg/kg
Benzo(a)pyrene	2.0 mg/kg /(1.0 mg/kg)	0.1 mg/kg
Benzo(a)anthracene	20 mg/kg /(1.0 mg/kg)	0.1 mg/kg
Benzo(b)fluoranthene	20 mg/kg /(1.0 mg/kg)	0.1 mg/kg
Benzo(g,h,i)perylene	(1.0 mg/kg)	0.1 mg/kg
Benzo(k)fluoranthene	200 mg/kg /(1.0 mg/kg)	0.1 mg/kg
Chrysene	2000 mg/kg /(1.0 mg/kg)	0.1 mg/kg
Dibenzo(a,h)anthracene	2.0 mg/kg /(0.088 mg/kg)	0.0088 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg
Fluoranthene	(10 mg/kg)	1.0 mg/kg
Indeno(1,2,3-cd)pyrene	20 mg/kg /(1.0 mg/kg)	0.1 mg/kg
Phenanthrene	(5 mg/kg)	0.5 mg/kg
Pyrene	(10 mg/kg)	1.0 mg/kg

ATTACHMENT 3

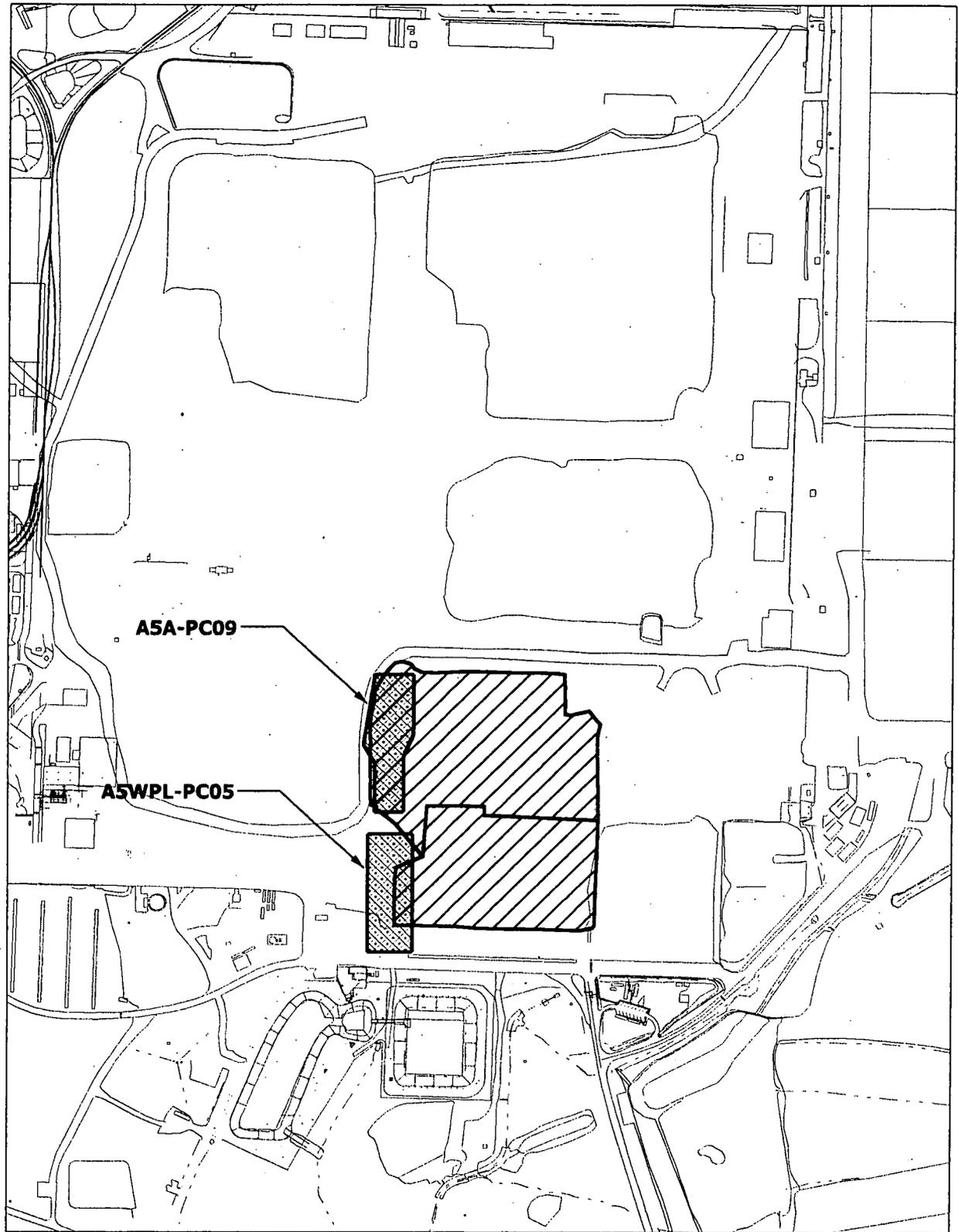
AREA 5 ADMINISTRATION AREA AND WEST PARKING LOT SAMPLE LOCATIONS AND IDENTIFIERS

CU	Location	Depth	Sample ID	TAL	North-83	East-83
A5A-PC09	9-1	0"-6"	A5A-PC09-1^RMPS	T,A2,A3	479901.96	1349192.37
			A5A-PC09-1^L	Z		
	9-2V	0"-6"	A5A-PC09-2^V	Archive	479936.99	1349272.81
	9-3	0"-6"	A5A-PC09-3^RMPS	T,A2,A3	479843.82	1349157.73
			A5A-PC09-3^L	Z		
	9-4D	0"-6"	A5A-PC09-4^RMPS	T,A2,A3	479870.38	1349257.41
			A5A-PC09-4^L	Z		
			A5A-PC09-4^RMPS-D	T,A2,A4		
			A5A-PC09-4^L-D	Z		
	9-5	0"-6"	A5A-PC09-5^RMPS	T,A2,A3	479795.69	1349183.51
			A5A-PC09-5^L	Z		
	9-6V	0"-6"	A5A-PC09-6^V	Archive	479815.33	1349280.51
	9-7	0"-6"	A5A-PC09-7^RMPS	T,A2,A3	479744.48	1349141.17
			A5A-PC09-7^L	Z		
	9-8	0"-6"	A5A-PC09-8^RMPS	T,A2,A3	479766.04	1349265.49
			A5A-PC09-8^L	Z		
	9-9	0"-6"	A5A-PC09-9^RMPS	T,A2,A3	479698.08	1349168.50
			A5A-PC09-9^L	Z		
	9-10	0"-6"	A5A-PC09-10^RMPS	T,A2,A3	479730.42	1349242.40
			A5A-PC09-10^L	Z		
	9-11V	0"-6"	A5A-PC09-11^V	Archive	479637.25	1349165.04
	9-12	0"-6"	A5A-PC09-12^RMPS	T,A2,A3	479669.97	1349225.47
			A5A-PC09-12^L	Z		
	9-13	0"-6"	A5A-PC09-13^RMPS	T,A2,A3	479608.56	1349231.24
			A5A-PC09-13^L	Z		
	9-14V	0"-6"	A5A-PC09-14^V	Archive	479568.13	1349188.90
	9-15	0"-6"	A5A-PC09-15^RMPS	T,A2,A3	479523.85	1349167.73
			A5A-PC09-15^L	Z		
9-16	0"-6"	A5A-PC09-16^RMPS	T,A2,A3	479494.78	1349227.78	
		A5A-PC09-16^L	Z			

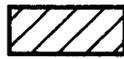
ATTACHMENT 3

AREA 5 ADMINISTRATION AREA AND WEST PARKING LOT SAMPLE LOCATIONS AND IDENTIFIERS

CU	Location	Depth	Sample ID	TAL	North-83	East-83
A5WPL-PC05	5-1	0"-6"	A5WPL-PC05-1^RMPS	T,A2,A3	479379.46	1349145.41
			A5WPL-PC05-1^L	Z		
	5-2	0"-6"	A5WPL-PC05-2^RMPS	T,A2,A3	479356.36	1349201.99
			A5WPL-PC05-2^L	Z		
	5-3	0"-6"	A5WPL-PC05-3^RMPS	T,A2,A3	479282.05	1349141.94
			A5WPL-PC05-3^L	Z		
	5-4V	0"-6"	A5WPL-PC05-4^V	Archive	479224.77	1349200.83
	5-5	0"-6"	A5WPL-PC05-5^RMPS	T,A2,A3	479392.64	1349243.56
			A5WPL-PC05-5^L	Z		
	5-6	0"-6"	A5WPL-PC05-6^RMPS	T,A2,A3	479319.10	1349278.20
			A5WPL-PC05-6^L	Z		
	5-7	0"-6"	A5WPL-PC05-7^RMPS	T,A2,A3	479285.22	1349234.70
			A5WPL-PC05-7^L	Z		
	5-8V	0"-6"	A5WPL-PC05-8^V	Archive	479244.02	1349259.72
	5-9	0"-6"	A5WPL-PC05-9^RMPS	T,A2,A3	479182.22	1349162.34
			A5WPL-PC05-9^L	Z		
	5-10	0"-6"	A5WPL-PC05-10^RMPS	T,A2,A3	479119.85	1349199.29
			A5WPL-PC05-10^L	Z		
	5-11V	0"-6"	A5WPL-PC05-11^V	Archive	479070.75	1349144.64
	5-12D	0"-6"	A5WPL-PC05-12^RMPS	T,A2,A3	479003.76	1349203.91
			A5WPL-PC05-12^L	Z		
			A5WPL-PC05-12^RMPS-D	T,A2,A4		
			A5WPL-PC05-12^L-D	Z		
	5-13	0"-6"	A5WPL-PC05-13^RMPS	T,A2,A3	479158.92	1349233.93
			A5WPL-PC05-13^L	Z		
	5-14	0"-6"	A5WPL-PC05-14^RMPS	T,A2,A3	479150.07	1349277.81
			A5WPL-PC05-14^L	Z		
	5-15V	0"-6"	A5WPL-PC05-15^V	Archive	479054.58	1349243.17
5-16	0"-6"	A5WPL-PC05-16^RMPS	T,A2,A3	479027.63	1349280.51	
		A5WPL-PC05-16^L	Z			



LEGEND:



PREVIOUSLY SAMPLED
AREA - ADMIN & WPL



PRECERTIFICATION
AREA

DRAFT

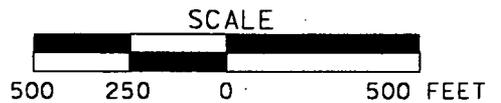
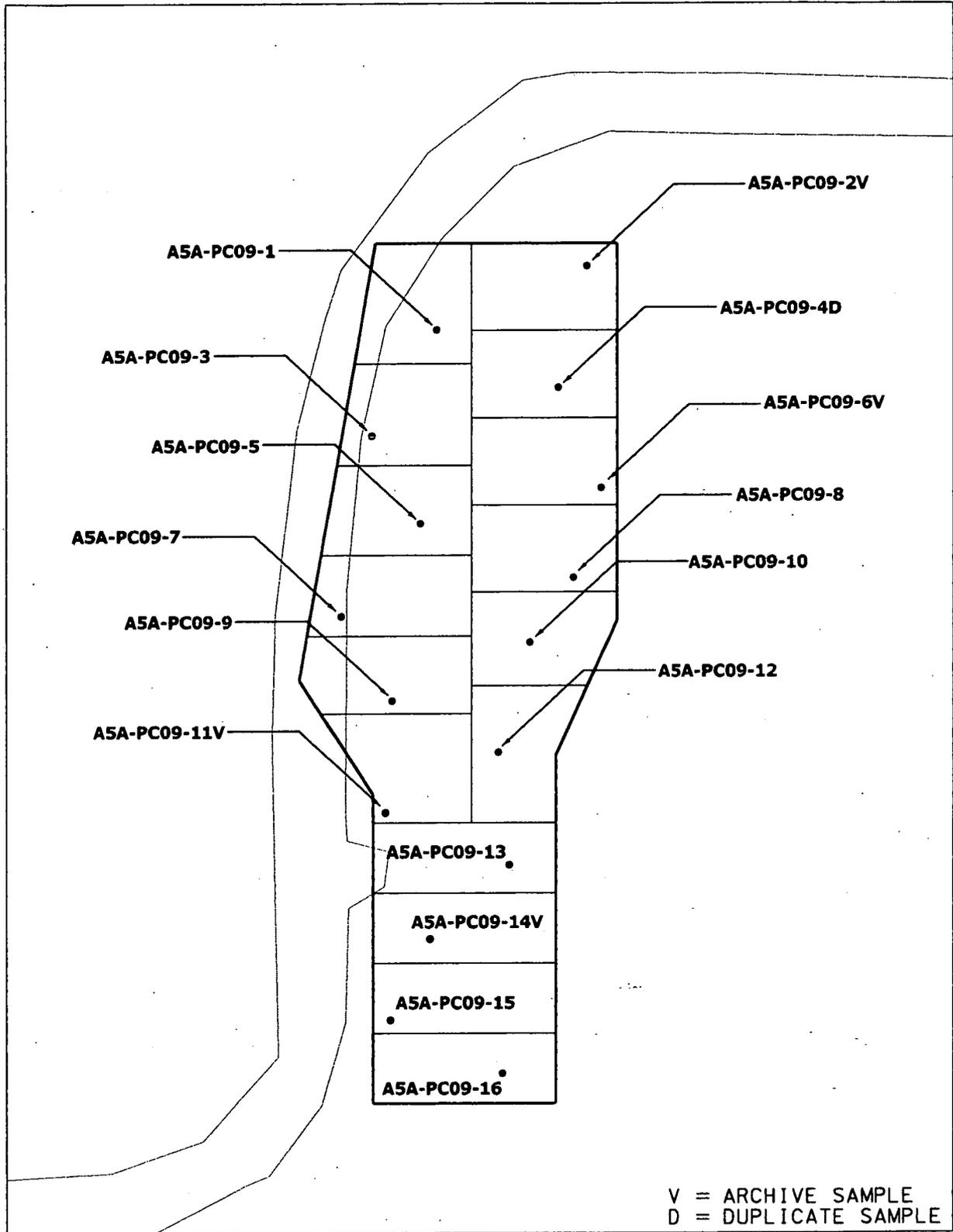


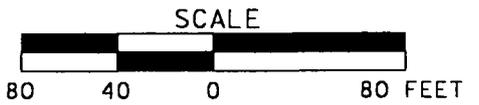
FIGURE 1. 60-INCH LINE EXCAVATED AREA



V = ARCHIVE SAMPLE
 D = DUPLICATE SAMPLE

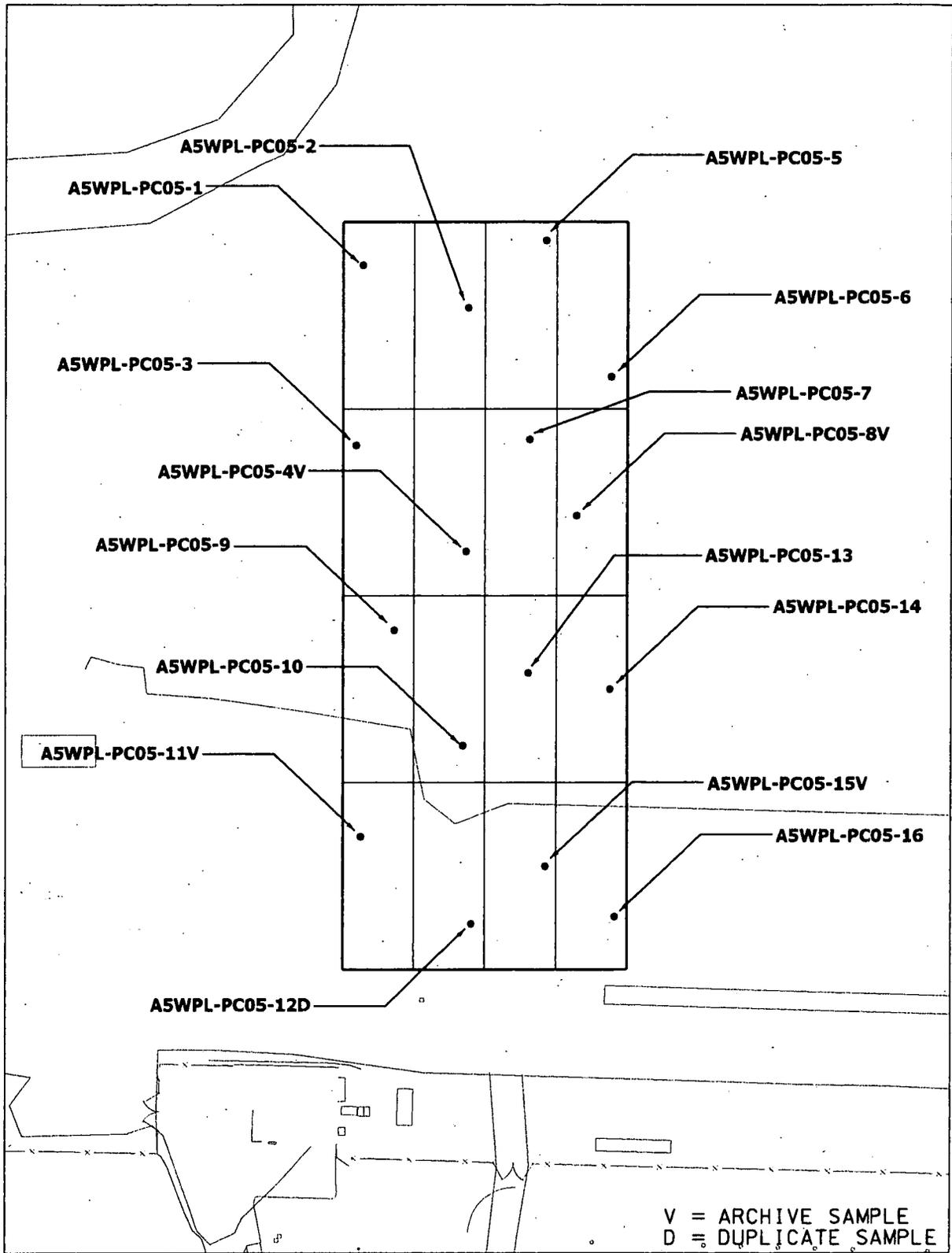
LEGEND:

• SAMPLE LOCATION



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FIGURE 2. PC09 SAMPLE LOCATIONS



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LEGEND:

• SAMPLE LOCATION

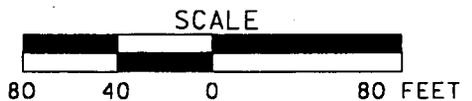


FIGURE 3. PC05 SAMPLE LOCATIONS