CERTIFICATION DESIGN LETTER FOR AREA 1, PHASE IV PART TWO

FERNALD CLOSURE PROJECT
FERNALD, OHIO

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U.S. DEPARTMENT OF ENERGY

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REVISION A
DRAFT

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LIST OF ACRONYMS AND ABBREVIATIONS

A1PII	Area 1, Phase II
A1PIV	Area 1, Phase IV
ASCOC	area-specific constituent of concern
ASL	analytical support level
CDL	Certification Design Letter
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	constituent of concern
CRDL	contract required detection limit
CU	certification unit
DOE	U.S. Department of Energy
FCP	Fernald Closure Project
FRL	final remediation level
HPGe	high-purity germanium (detector)
MDL	minimum detection level
MEF	material evaluation form
mg/kg	milligrams per kilogram
OSDF	On-site Disposal Facility
OU5	Operable Unit 5
pCi/g	picoCuries per gram
PCB	polychlorinated biphenyl
PSP	Project Specific Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SED	Sitewide Environmental Database
SEP	Sitewide Excavation Plan
TSCA	Toxic Substances Control Act
UCL	Upper Confidence Limit
VOC	volatile organic compound
WAC	waste acceptance criteria

EXECUTIVE SUMMARY

This Certification Design Letter (CDL) describes the certification approach for Area 1, Phase IV (A1PIV) Part Two. The following information is included:

- The boundary (Figure 1-1) and a description of the area to be certified under the guidance of this CDL;
- A presentation 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 A1PIV Part Two;
- A presentation of the certification unit (CU) boundaries and proposed sampling strategy;
- The analytical requirements and the statistical methodology that will be employed; and
- The proposed schedule for the certification activities.

A1PIV is approximately 4.2 acres and is located southeast of the Former Production Area. A1PIV is surrounded almost completely by Area 1, Phase II with the southwest corner bound by Area 7. A1PIV Part Two, which comprises the central portion of A1PIV, is the focus of this CDL. The remainder of the area to the south will be certified at a later date with an independent CDL. The entire area has been well characterized through previous sampling investigations and remediation was completed in A1PIV Part Two during May 2004, thus initiating the certification process described in this CDL. Certification of A1PIV Part Two must be obtained prior to subgrade preparation of the Cell 8 footprint. Field sampling of A1PIV Part Two is scheduled to begin immediately following excavation and precertification.

The certification design presented in this CDL follows the general approach outlined in Section 3.4 of the Sitewide Excavation Plan (SEP, DOE 1998). The selection of A1PIV Part Two 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. Two certification units (CU) 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 the CU. Although not detected in the area, technetium-99 will be included as a secondary COCs for CU 2 as a conservative measure due to elevated radiation levels detected during excavation of the sanitary and effluent lines which have historically contained technetium-99. Secondary COCs for CU 3 include thorium-230, mercury, polychlorinated biphenyls (PCBs), and select volatile organic compounds (VOCs) due to the mixed waste shipment leak in the truck staging area, as discussed in the Project Specific Plan for Area 1, Phase IV Predesign Sampling in the Truck Staging Area (DOE 2004a).

1.0 INTRODUCTION

This Certification Design Letter (CDL) describes the certification approach for demonstrating that soil in Area 1, Phase IV (A1PIV) Part Two meets the final remediation levels (FRLs) for all area-specific constituents of concern (ASCOCs). The format of this CDL follows guidelines presented in the Sitewide Excavation Plan (SEP, DOE 1998). Accordingly, this CDL consists of six sections:

1.0 Introduction - Presentation of the purpose, objectives, and scope of this CDL

2.0 Historical and Precertification Data - Presentation and discussion of historical soil data and precertification from A1PIV Part Two

3.0 Area-Specific Constituents of Concern - Discussion of selection criteria and ASCOCs for A1PIV Part Two

4.0 Certification Approach - Presentation of design, sampling and analytical methodologies

5.0 Schedule

References

1.1 OBJECTIVES

The primary objectives of this document are to:

- Define the boundary of the area 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 A1PIV Part Two ASCOCs;
- Present the certification unit (CU) boundary 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.

1.2 SCOPE AND AREA DESCRIPTION

Due to the timing of subsequent On-Site Disposal Facility (OSDF) construction work in A1PIV, it has been necessary to break certification activities in A1PIV into multiple parts. Each certification effort in A1PIV will be covered in separate CDL and Project Specific Plan (PSP) submittals.

The scope of this CDL is limited to A1PIV Part Two, which, as shown on Figure 1-1, is an area located just southeast of Building 82. This area represents a section of the Cell 8 footprint for the OSDF, and certification is necessary prior to subgrade preparation activities. The Excavation Plan for Area 1, Phase IV (DOE 2003) describes the remediation activities that will be completed in A1PIV. The scope of this CDL includes details of certification sampling, analysis and validation that will take place in A1PIV Part Two.

A1PIV has been, until recently, considered part of the Area 5 Administrative Side. Shown on Figure 1-1, A1PIV is located southeast of the Former Production Area and is surrounded almost completely by Area 1, Phase II with the southwest corner bound by Area 7. The area is a radiologically clean area (not radiologically controlled) and has primarily served as a support area for site operations. Within A1PIV Part Two, a gravel parking lot had been maintained to facilitate worker parking and served as a staging area for outbound tractor-trailers waiting to be shipped for off-site disposal.

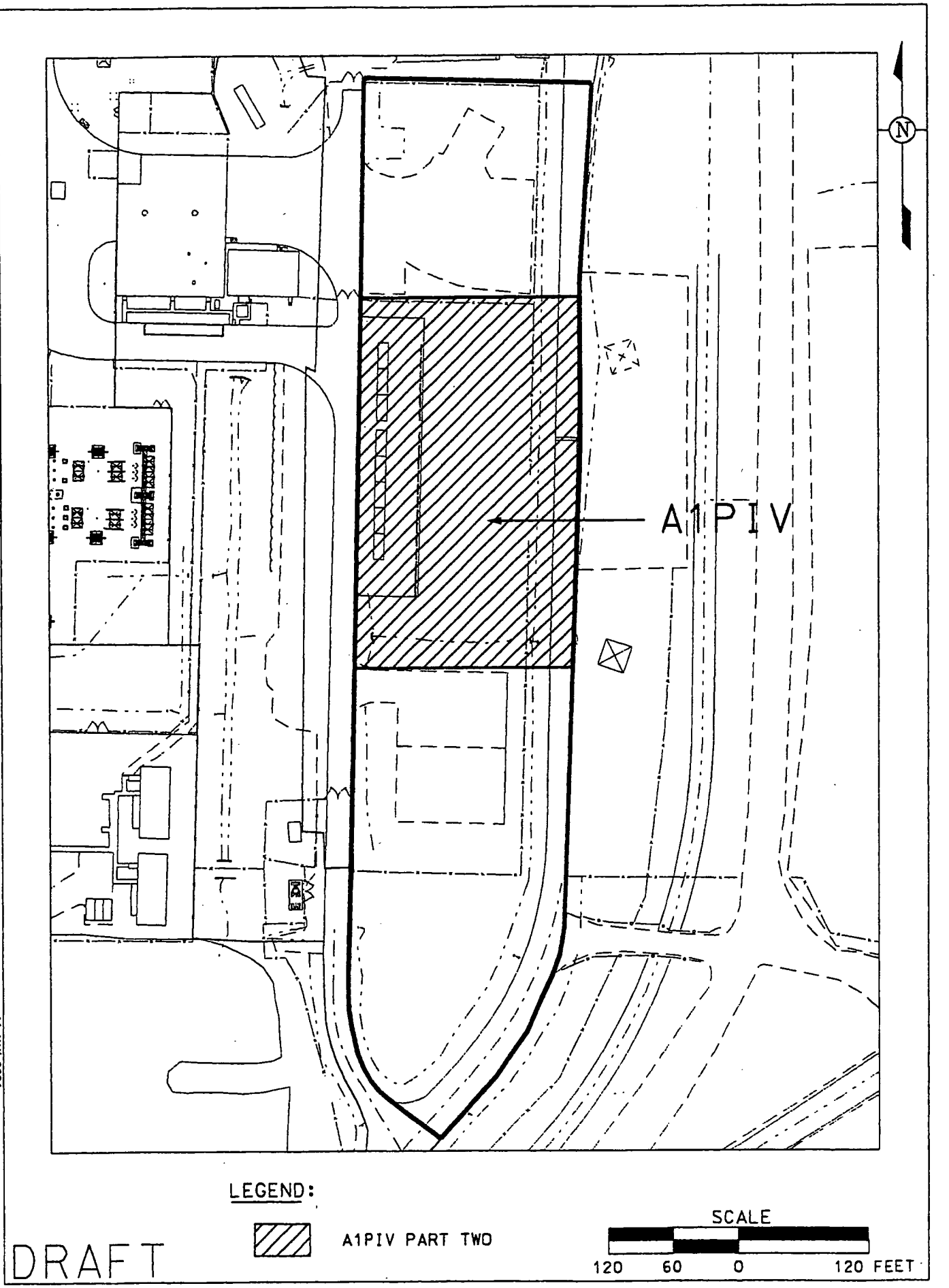

FIGURE 1-1. AREA 1, PHASE IV PART TWO LOCATION MAP

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.

Before initiating the certification process, all historical soil data within the A1PIV certification area were pulled from the Sitewide Environmental Database (SED). A map of historical boring locations for A1PIV, as well as all of the data associated with those boring locations, was submitted in Appendix B to the Excavation Plan for Area 1, Phase IV (DOE 2003).

Based on the results of sampling and scanning activities summarized in section 2.1, it has been determined that no remedial actions are necessary to remove above-FRL or above-waste acceptance criteria (WAC) soil prior to certification of A1PIV Part Two. Excavation activities in A1PIV Part Two were driven by the subgrade preparation of the Cell 8 footprint.

2.1 HISTORICAL, PREDESIGN AND EXCAVATION CONTROL DATA

Data have been collected from A1PIV Part Two as part of the Remedial Investigation/Feasibility Study (RI/FS), Area 1, Phase 2 Project Specific Plan for Field Sampling of Miscellaneous Areas (DOE 1997), the Project Specific Plan for Area 1, Phase II Certified for Reuse Areas, Trap Range, Sector 2C, and Sector 3 Certification Sampling (DOE 2000), Predesign Investigation in Area 5 (DOE 2002), the Project Specific Plan for Area 1, Phase IV Predesign Sampling of the Truck Staging Area (DOE 2004a) and the Project Specific Plan for Area 1, Phase IV Excavation Characterization and Precertification (DOE 2004b).

Two locations in A1PIV Part Two were sampled under the RI/FS. The two locations were surface samples, and a review of the sample data showed that all results were well below FRL or WAC action levels.

Two locations were also sampled during sampling of Area 1, Phase II prior to installation of the leachate line. Again, all samples were below FRL or WAC action levels.

Since A1PIV was previously considered part of the Area 5 Administrative Side, five predesign borings were sampled in the area during the Predesign Investigation of Area 5. One sample was collected from each boring at varying depths. Each sample was analyzed for the primary radiological COCs (total uranium, radium-226, radium-228, thorium-228, and thorium-232). Two samples were also analyzed for arsenic, beryllium and polychlorinated biphenyls (PCBs). All sample results were below FRLs.

As discussed in the PSP for A1PIV Predesign Sampling of the Truck Staging Area (DOE 2004a), five soil samples were collected from within the truck staging area, which is shown on Figure 2-1, following the release of mixed waste liquid from a tractor-trailer awaiting shipment to Envirocare. The soil samples were collected to ensure that residual contamination did not exist above FRL or OSDF WAC. Based upon the characterization data associated with the mixed waste, the soil samples collected from the area were analyzed for the five primary radiological parameters (thorium-228, thorium-232, radium-226, radium-228, and total uranium), thorium-230, mercury, PCBs, and select VOCs (1,1,1-Trichloroethane, Carbon Tetrachloride, and Trichloroethene). All soil sample results were below FRL and WAC levels.

2.2 PRECERTIFICATION REAL-TIME SCAN DATA

According to guidelines established in Section 3.3.3 of the SEP, precertification activities were conducted to evaluate residual radiological contamination patterns. A1PIV Part Two was also scanned with a magnetometer to determine if residual debris remained following excavation activities. Minor occurrences of metallic objects were located and hand picked from the area.

Phase 1 and Phase 2 real-time scans were conducted in April 2004. For the precertification real-time data collected, results showed all total uranium, radium-226 and thorium-232 were below the target levels [three times (3x) FRL for total uranium and thorium-232; 7x FRL for radium-226]. These mapped results are provided on Figures B-1 through B-7 and the high-purity germanium detector (HPGe) results are provided in Table B-1, all which is located in Appendix B.

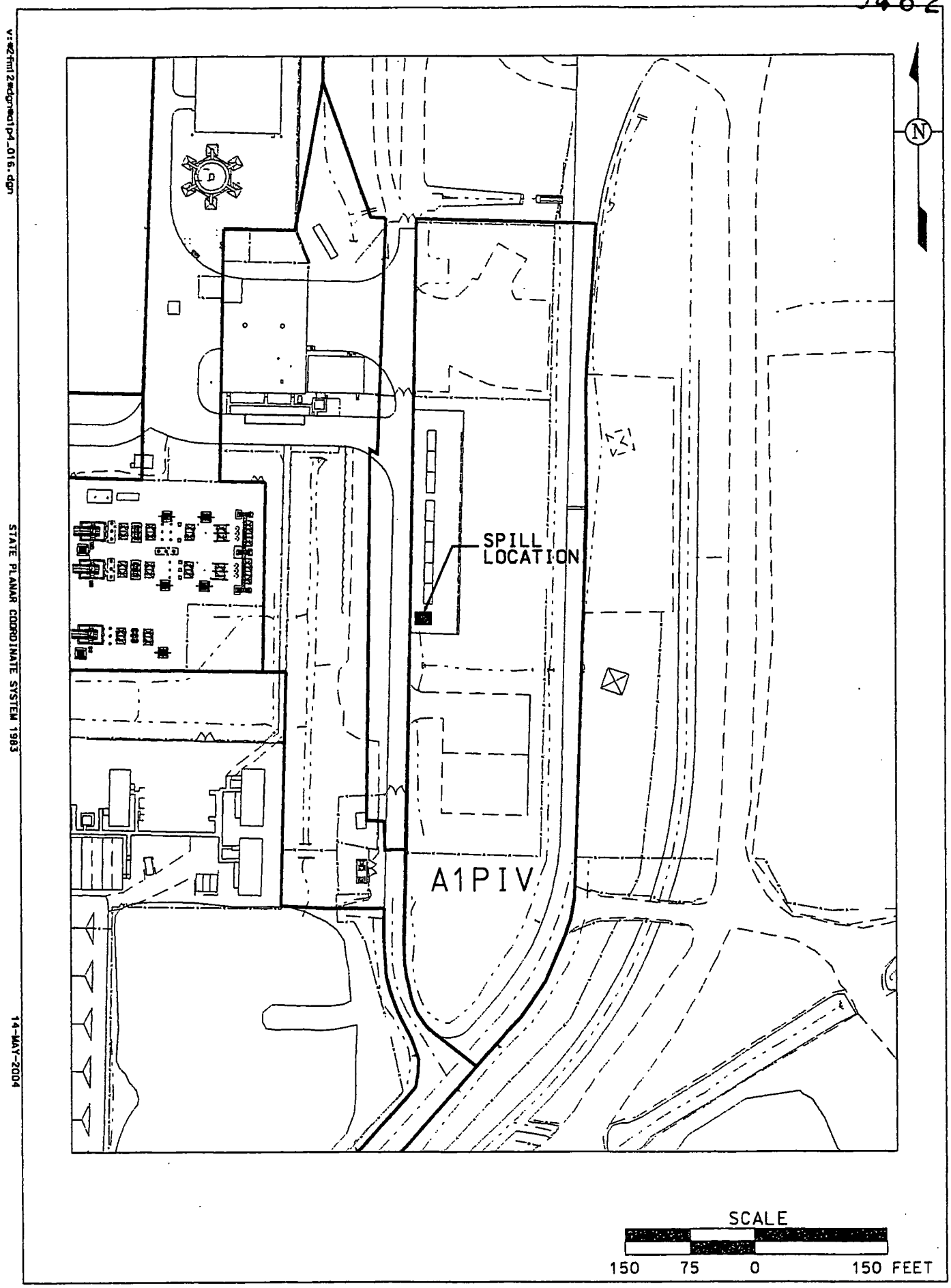

FIGURE 2-1. LOCATION OF TRUCK LEAK IN A1PIV

3.0 AREA-SPECIFIC CONSTITUENTS OF CONCERN

In the Operable Unit 5 (OU5) Record of Decision (ROD, DOE 1996), 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).

Until August of 2003, the area that now represents A1PIV has been a part of the Area 5 Administrative Side. In addition to using the above process and the data presented in Table 3-1, the complete list of primary and secondary COCs presented in Table 2-7 of the SEP for remediation Area 5 has been focused for the A1PIV certification effort. Table 3-1 also includes a column with justification for the decision on retaining or eliminating the ASCOC. The final list of ASCOCs selected for A1PIV Part Two is provided in Table 3-2.

TABLE 3-1
AREA 1, PHASE IV PART TWO SECONDARY ASCOC LIST [a]

A1PIV Part Two Secondary ASCOC	Retained as ASCOC?	Justification
Aroclor-1254 and 1260	Yes	No above FRL results in A1PIV but the mixed waste that was leaking from a tractor-trailer in the Truck Staging Area had been characterized as Toxic Substances Control Act (TSCA) – Regulated for PCBs.
Arsenic	No	No above FRL results in the area
Beryllium	No	No above FRL results in the area
Dieldrin	No	Not associated with A1PIV Part Two

[a]Secondary ASCOCs as listed in Table 2-7 of the SEP for Area 5

TABLE 3-2
ASCOC LIST FOR A1PIV PART TWO

ASCOC	FRL	Type of ASCOC	Where Retained
Total Uranium	82 mg/kg	Primary ASCOC	A1PIV Part Two CU 2 and CU 3
Radium-226	1.7 pCi/g	Primary ASCOC	A1PIV Part Two CU 2 and CU 3
Radium-228	1.8 pCi/g	Primary ASCOC	A1PIV Part Two CU 2 and CU 3
Thorium-228	1.7 pCi/g	Primary ASCOC	A1PIV Part Two CU 2 and CU 3
Thorium-232	1.5 pCi/g	Primary ASCOC	A1PIV Part Two CU 2 and CU 3
Technetium-99	29.1 mg/kg	Secondary ASCOC	A1PIV Part Two CU 2 due to elevated radiation levels encountered during excavation of the sanitary and effluent lines
Aroclor-1254	0.13 mg/kg	Secondary ASCOC	A1PIV Part Two CU 3 since the mixed waste that was leaking from a tractor-trailer in the Truck Staging Area had been characterized as TSCA – Regulated for PCBs. Additional characterization data found in the Material Evaluation Form indicated the mixed waste carried F-listings of F001 & F002 and that mercury carried the D009 code.
Aroclor-1260	0.13 mg/kg	Secondary ASCOC	
Mercury	7.5 mg/kg	Secondary ASCOC	
1,1,1-Trichloroethane	4.3 mg/kg[b]	Secondary ASCOC	
Carbon Tetrachloride	2.1 mg/kg	Secondary ASCOC	
Trichloroethene	25 mg/kg	Secondary ASCOC	
Thorium-230	280 pCi/g	Secondary ASCOC	

[b]1,1,1-Trichloroethane does not have an associated FRL. Therefore, to assess impact to the area, the FRL for 1,1,2-Trichloroethane will be used.

4.0 CERTIFICATION APPROACH

4.1 CERTIFICATION DESIGN

The certification design for A1PIV Part Two follows the general approach outlined in Section 3.4 of the SEP. The CU design and the sample locations are depicted in Figure 4-1. As discussed in Section 3.0 of this document, the five primary ASCOCs (total uranium, radium-226, radium-228, thorium 228, and thorium-232) will be retained in both CUs. Technetium-99 will be retained in CU 2 due to the contaminated effluent and sanitary lines that were excavated. Thorium-230, mercury, PCBs, and select VOCs will be retained in CU 3 due to the mixed waste shipment leak in the truck staging area.

4.1.1 Certification Unit Design

Factors such as historical land use, proximity to other areas of the site, and residual COC data were used to determine the boundaries for each CU. A1PIV Part Two will consist of two Group 1 CUs (A1PIV CU 2 and CU 3) to allow for more concentrated sampling and ensure excavation activities had no effect on the soil.

One sample location in CU 3, A1P4-C3-3, will be biased to the area where the mixed waste shipment was leaking in the truck staging area. The remaining certification sample locations were generated according to Section 3.4.2 of the SEP. The CU was first divided into 16 approximately equal sub-CUs. Sample locations were then generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-CU, then testing those locations against the minimum distance criteria for the CU. If the minimum distance criteria were not met, an alternative random location was selected for that sub-CU, and all the locations were re-tested. This process continued, until all 16 random locations met the minimum distance criteria. All sub-CUs and planned A1PIV Part Two certification sampling locations are shown on Figure 4-1. Four of the 16 sample locations (one location from each quadrant of the CU) are designated with a "V," indicating archive sample locations. One sample location in the CU is designated with a "D," indicating a field duplicate sample collection location.

Prior to commencement of certification sampling field activities, all certification sample locations will be surveyed and field verified to make sure no surface obstacles prevent collection at the planned location. Locations may be moved if a subsurface obstacle prevents collection. Requirements for moving a certification sample location will be discussed in the PSP for A1PIV Part Two Certification Sampling (DOE 2004c). Samples will be collected for analysis from 0 to 6 inches at 12 of the 16 locations in each CU. The four samples designated as "archive" will not be collected unless they are needed for additional analysis.

4.2 ANALYTICAL METHODOLOGY AND STATISTICAL ANALYSIS

Laboratory analysis of certification samples will be conducted using an approved analytical method, as discussed in Appendix H of the SEP. 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. All results will be validated to validation support level (VSL) D. Samples rejected during validation will be re-analyzed, or an archive sample will be submitted for analysis. Once data are validated, results will be entered into the SED and a statistical analysis will be performed to evaluate the pass/fail criteria for the CU. The statistical approach is discussed in Section 3.4.3 and Appendix G of the SEP, and will be the same for A1PIV Part Two as for previous certification efforts.

Two criteria must be met for the CU to pass certification. If the data distribution is normal or lognormal, the first criterion compares the 95 percent Upper Confidence Limit (UCL) on the mean of each primary ASCOC to its FRL. On an individual CU basis, any ASCOC with the 95 percent UCL above the FRL results in that CU failing certification. If the data distribution is not normal or lognormal, the appropriate nonparametric approach discussed in Appendix G of the SEP will be used to evaluate the second criterion. The second criterion is related to individual samples. An individual sample cannot be greater than two times the FRL or three times the FRL, based on the area size (see Section 3.4.6 and Figure 3-11 of the SEP for further details). When the given UCL on the mean for each ASCOC is less than its FRL, and the hot spot criterion is met, the CU has met both criteria and will be considered certified.

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

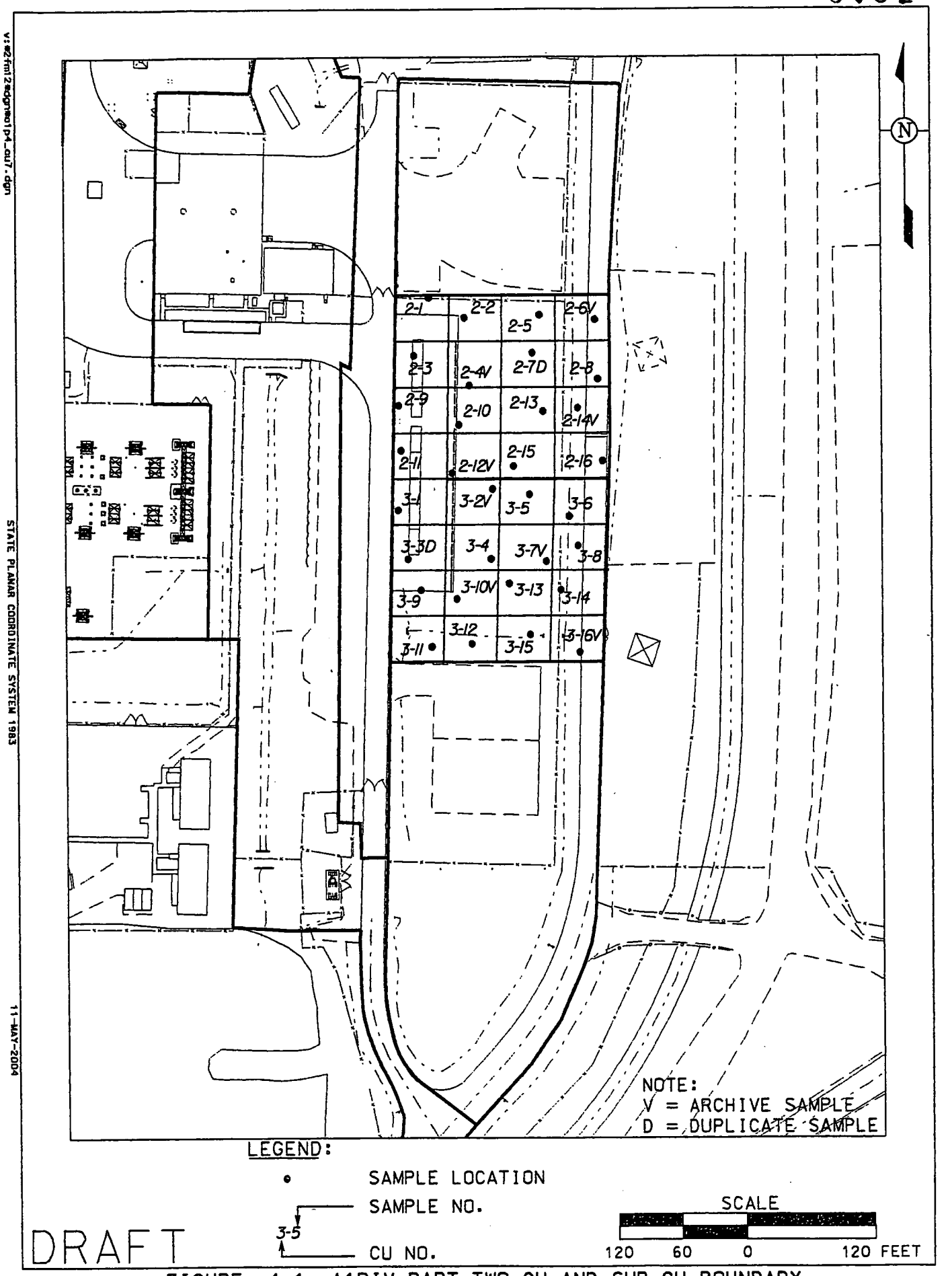

FIGURE 4-1. A1PIV PART TWO CU AND SUB-CU BOUNDARY AND CERTIFICATION SAMPLING LOCATIONS

5.0 SCHEDULE

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

Activity	Target Date
Submittal of Certification Design Letter	May 20, 2004
Start of Certification Sampling	June 30, 2004
Complete Field Work	July 1, 2004
Complete Analytical Work	August 2, 2004
Complete Data Validation and Statistical Analysis	August 6, 2004
Submit Certification Report	August 12, 2004[a]

[a]Only the date for submittal of the Certification Report is a commitment to the U.S. Environmental Protection Agency and Ohio Environmental Protection Agency. Other dates are internal target completion dates.

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APPENDIX A

PRECERTIFICATION REAL-TIME SCAN DATA

TABLE A-1. HPGe RESULTS
DETECTOR HEIGHT OF 31 CM

Location	Date	Northing	Easting	Det. Height	Ra-226 (pCi/g)	Th-232 (pCi/g)	Total U (ppm)
A1P4-P2-42	05/13/2004	480046	1350722	31 cm	1.27	0.785	12.4
A1P4-P2-42-D	05/13/2004	480046	1350722	31 cm	1.2	0.755	12.5
A1P4-P2-43	05/13/2004	479945	1350771	31 cm	1.6	0.935	0.0961
A1P4-P2-44	05/13/2004	479697	1350828	31 cm	1.07	0.868	19

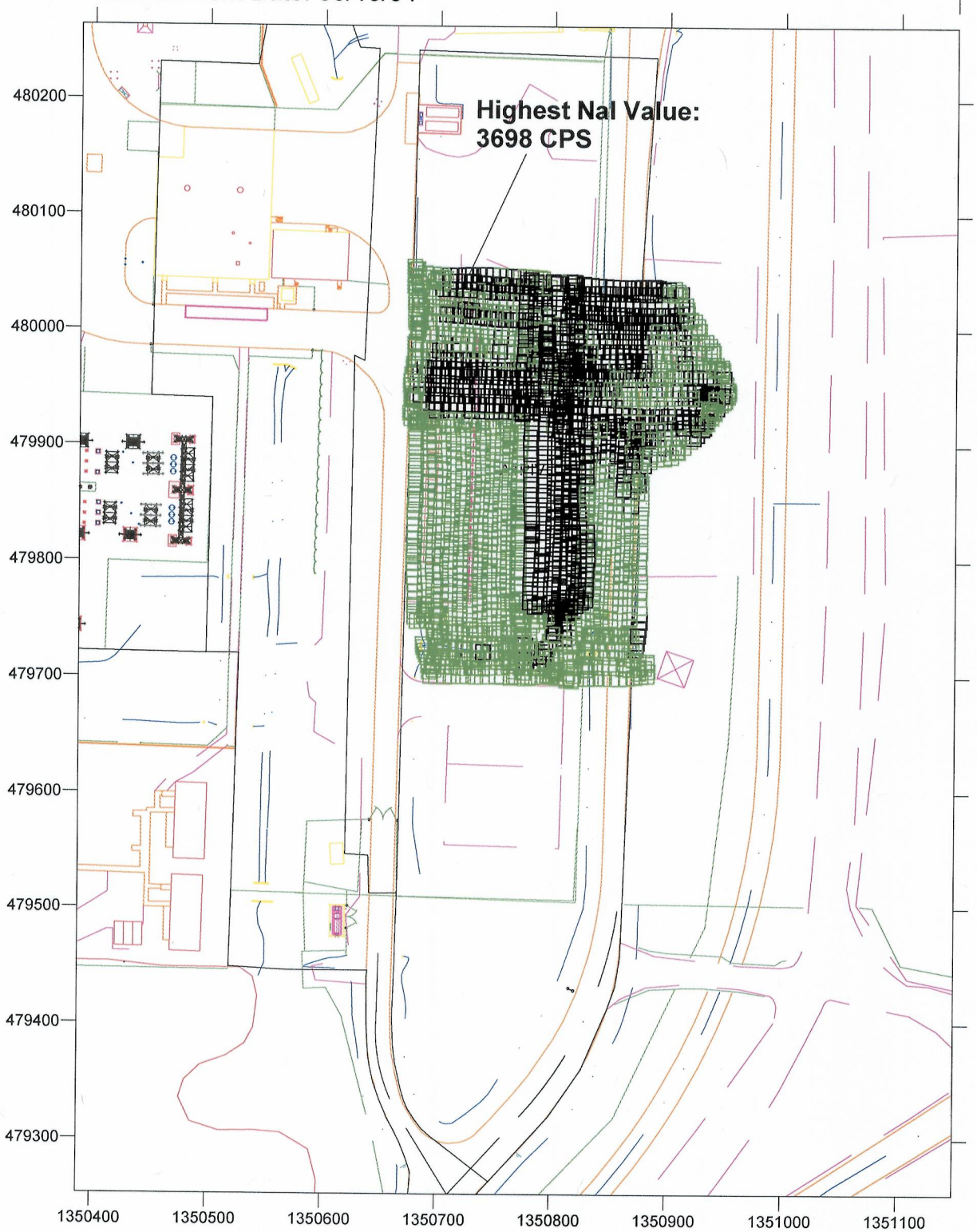
cm = centimeter
pCi/g = picoCuries per gram
ppm = parts per million

000021

5482

Figure A-1 A1PIV Part Two, Phase 1 Total Gross Counts per Second

Field of View to Scale
NaI Batch #: RSS1- 1036; RSS2- 640
Measurement Date: 05/13/04

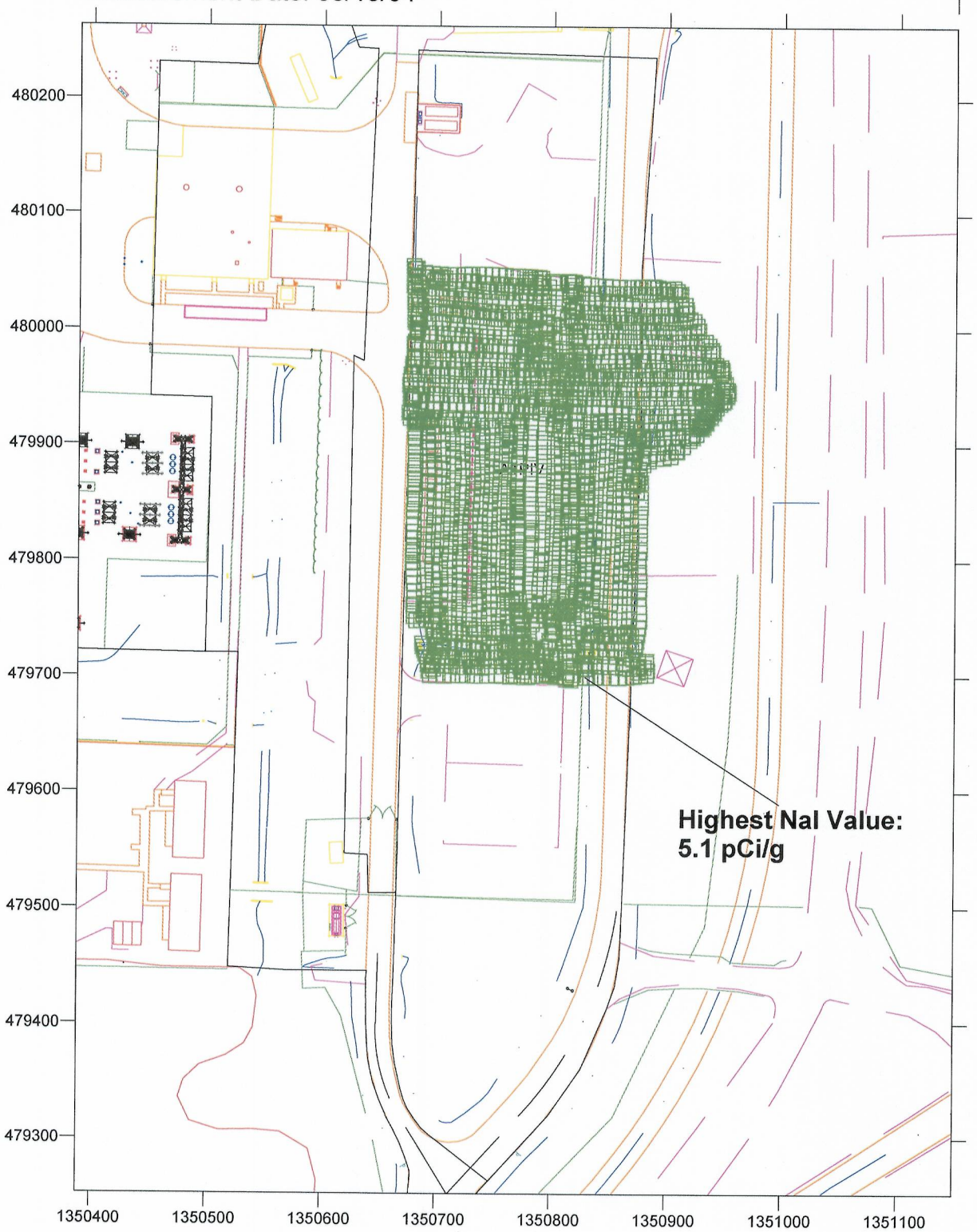


NaI
TCPS
- 0 to 3000
- 3000 to 5000
- 5000 to 15000
- 15000 to 18000
- 18000 to 99999

RTIMP DWG TITLE: A1P4_PT2_P1_TC.srf
Project Name: A1PIV Exc. Char.&Precert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P1_NaI_V3.xls

Figure A-2 A1PIV Part Two, Phase 1 Moisture Corrected Radium-226

Field of View to Scale
NaI Batch #: RSS1- 1036; RSS2- 640
Measurement Date: 05/13/04

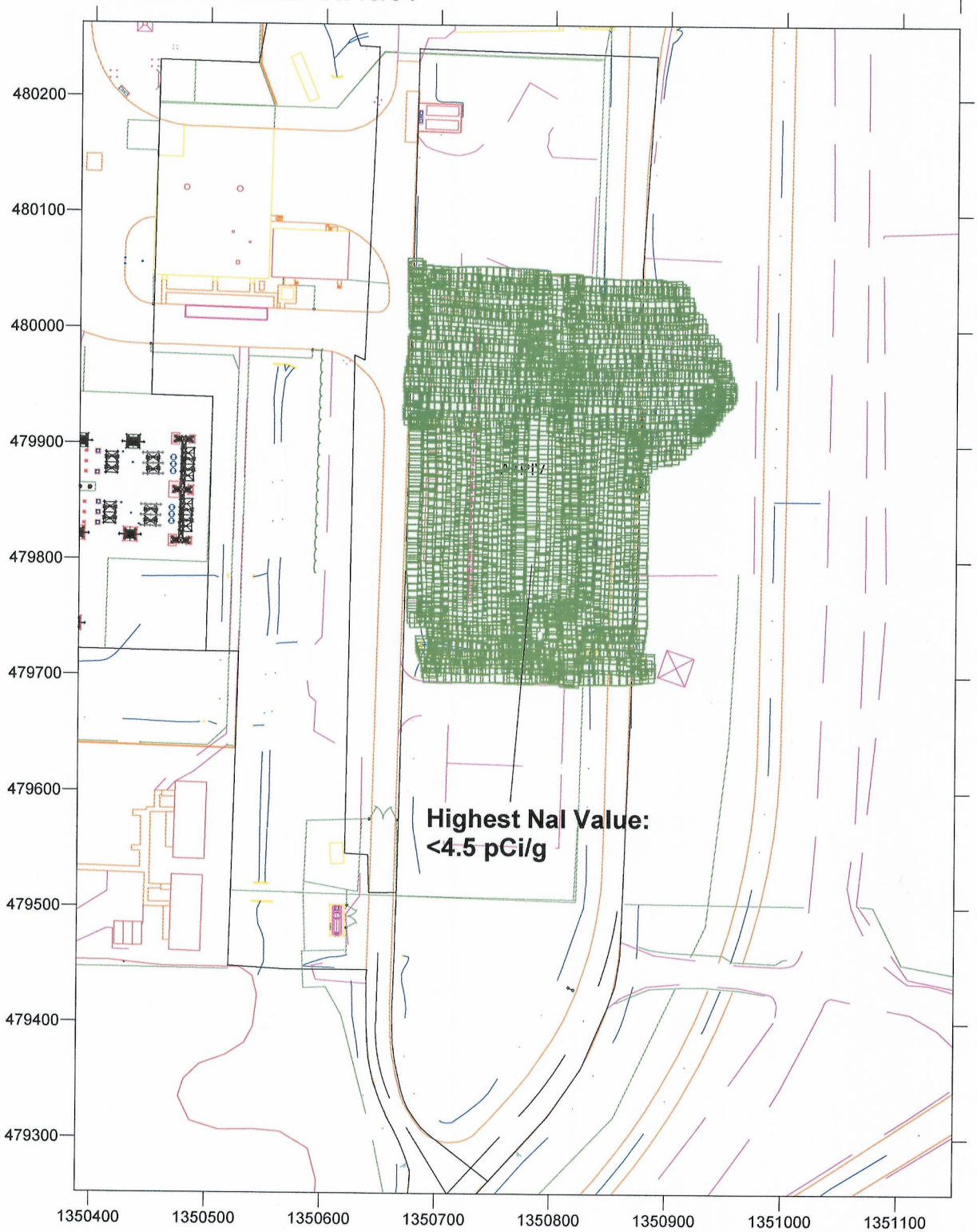


NaI
Ra-226 (pCi/g)
-1 to 5.1
5.1 to 9999

RTIMP DWG TITLE: A1P4_PT2_P1_RA.srf
Project Name: A1PIV Exc. Char.&Precert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P1_NaI_V3.xls

Figure A-3 A1PIV Part Two, Phase 1 Moisture Corrected Thorium-232

Field of View to Scale
NaI Batch #: RSS1- 1036; RSS2- 640
Measurement Date: 05/13/04

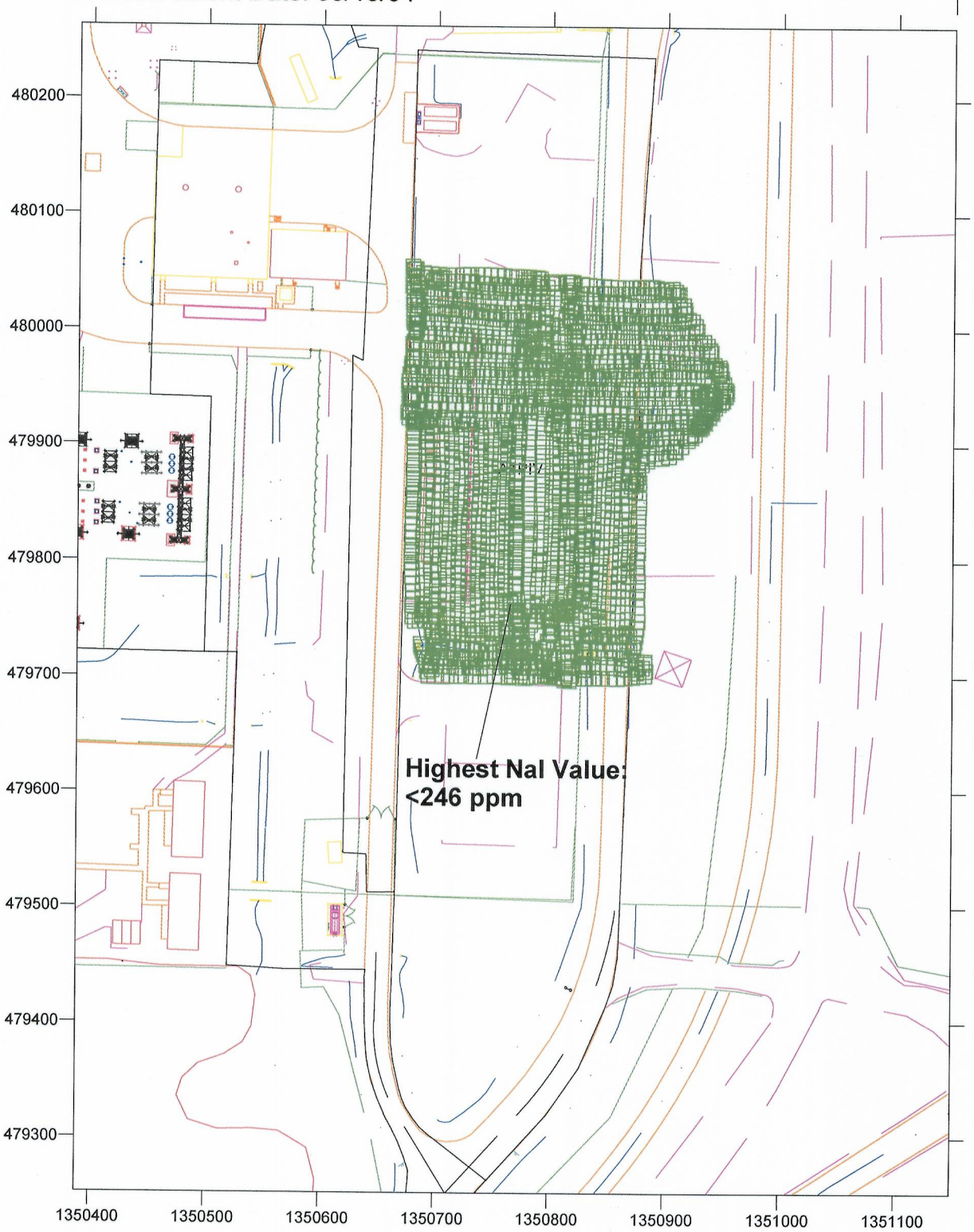


NaI
Th-232 (pCi/g)
0 to 4.5
4.5 to 9999

RTIMP DWG TITLE: A1P4_PT2_P1_TH.srf
Project Name: A1PIV Exc. Char.&Precert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P1_NaI_V3.xls

Figure A-4 A1PIV Part Two, Phase 1 Moisture Corrected Total Uranium

Field of View to Scale
NaI Batch #: RSS1- 1036; RSS2- 640
Measurement Date: 05/13/04

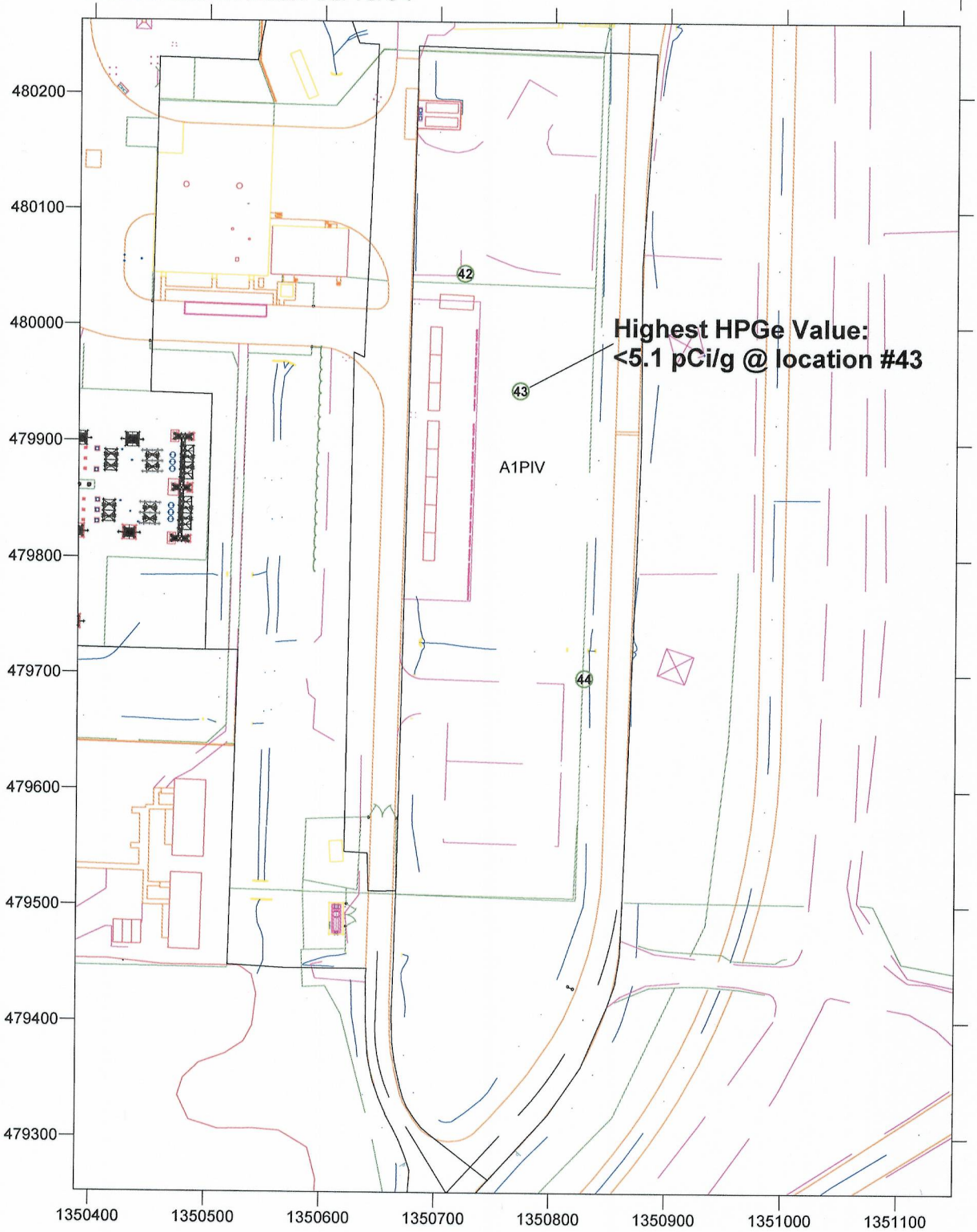


NaI
Total U (ppm)
-186 to 246
246 to 875
875 to 9999

RTIMP DWG TITLE: A1P4_PT2_P1_TU.srf
Project Name: A1PIV Exc. Char.&Precert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P1_NaI_V3.xls

Figure A-5 A1PIV Part Two, Phase 2 Moisture Corrected Radium-226

Field of View to Scale
HPGe DET#: 30699
Measurement Date: 05/13/04

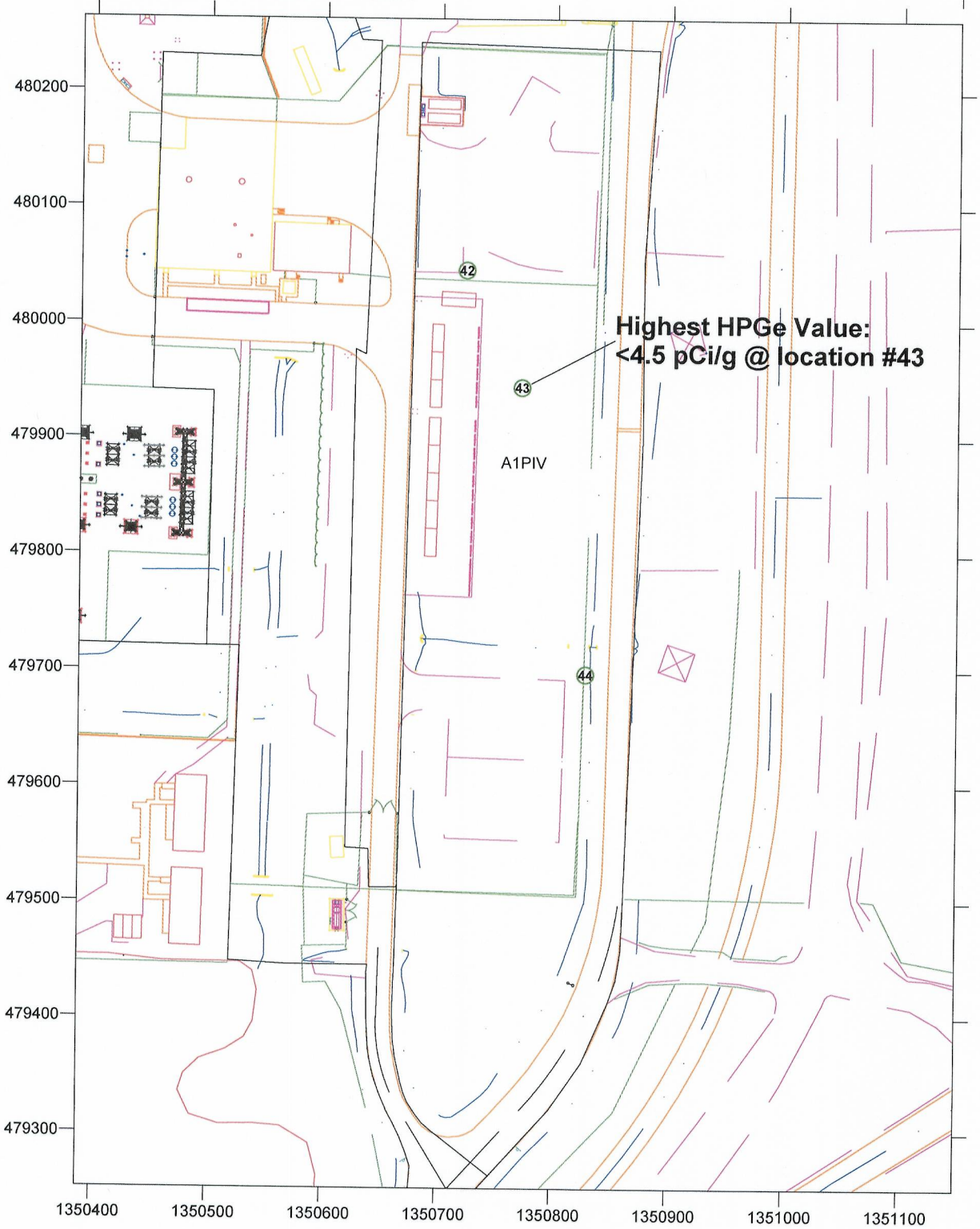


HPGe @ 31cm
Ra-226 (pCi/g)
0 to 5.1
5.1 to 9999

RTIMP DWG TITLE: A1P4_PT2_P2_RA.srf
Project Name: A1PIV Exc. Char.& PreCert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P2_HPGe_31cm_V3.xls

Figure A-6 A1PIV Part Two, Phase 2 Moisture Corrected Thorium-232

Field of View to Scale
HPGe DET#: 30699
Measurement Date: 05/13/04

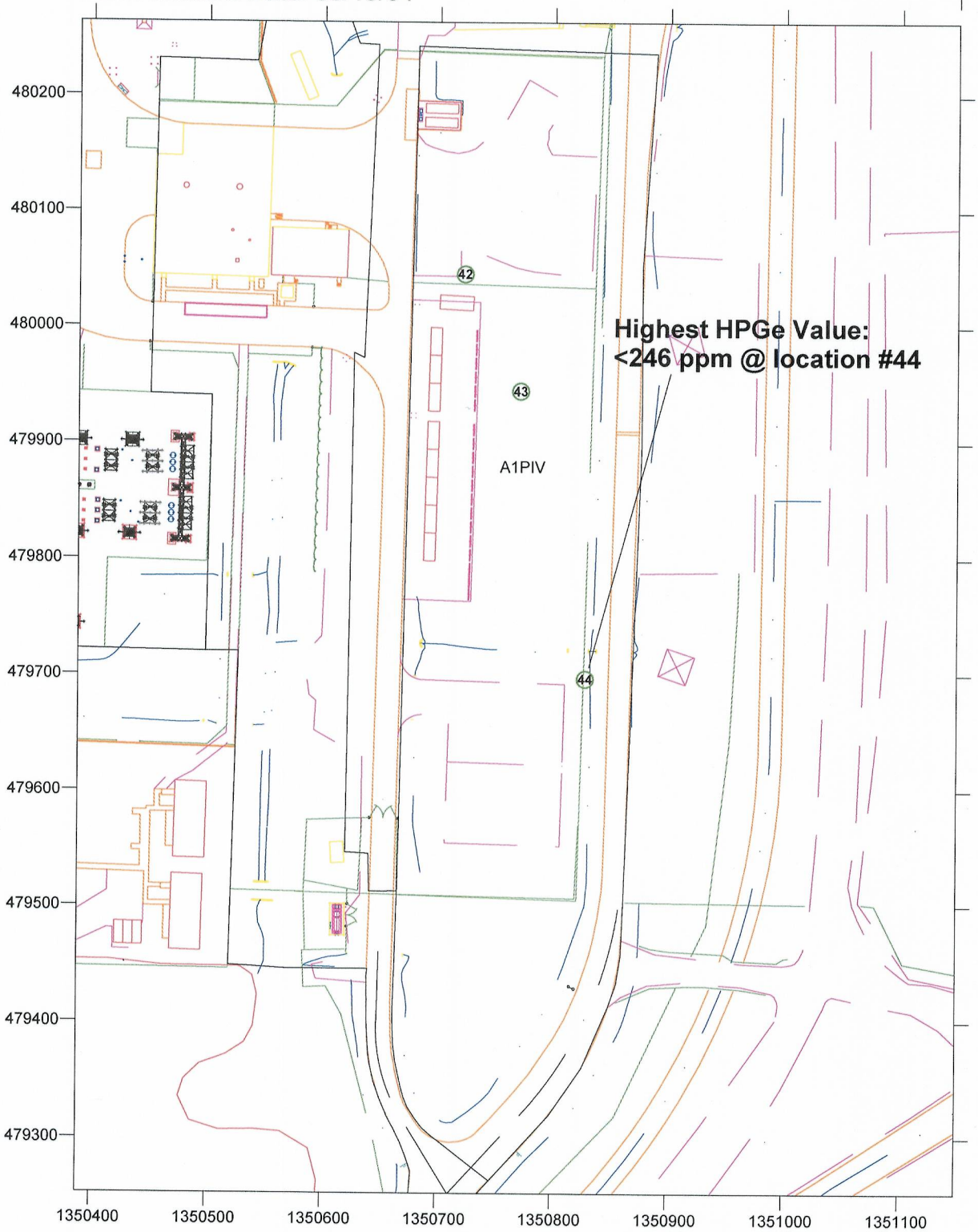


HPGe @ 31cm Th-232 (pCi/g)	
○	0 to 4.5
○	4.5 to 9999

RTIMP DWG TITLE: A1P4_PT2_P2_TH.srf
Project Name: A1PIV Exc. Char.& PreCert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P2_HPGe_31cm_V3.xls

Figure A-7 A1PIV Part Two, Phase 2 Moisture Corrected Total Uranium

Field of View to Scale
HPGe DET#: 30699
Measurement Date: 05/13/04



HPGe @ 31cm
Total U (ppm)

- 0 to 246
- 246 to 928
- 928 to 9999

RTIMP DWG TITLE: A1P4_PT2_P2_TU.srf
Project Name: A1PIV Exc. Char.& PreCert
Project #: 20730-PSP-0001
Verified By: Brian McDaniel/11058
Date Verified: 05/14/04
Support Data: A1P4_PT2_P2_HPGe_31cm_V3.xls