

**PROJECT SPECIFIC PLAN FOR EXCAVATION CONTROL  
OF AREAS 3B, 4B, AND 5  
(SUPPLEMENT TO 20300-PSP-0011)**

**DEMOLITION, SOIL AND DISPOSAL PROJECT**

**FERNALD CLOSURE PROJECT  
FERNALD, OHIO**



**JANUARY 2004**

**U.S. DEPARTMENT OF ENERGY**

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OF AREAS 3B, 4B, AND 5  
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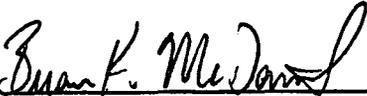
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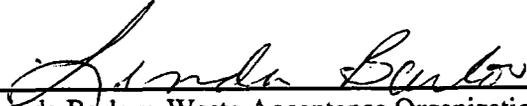
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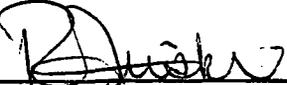
  
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**FERNALD CLOSURE PROJECT**

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## LIST OF ACRONYMS AND ABBREVIATIONS

ALS	Analytical Laboratory Services
ASCOC	area-specific constituent of concern
ASL	analytical support level
AWWT	Advanced Wastewater Treatment (Facility)
CDL	Certification Design Letter
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	constituent of concern
CU	certification unit
DOE	U.S. Department of Energy
DQO	Data Quality Objective
DSDP	Demolition, Soil and Disposal Project
EMS	Excavation Monitoring System
FACTS	Fernald Analytical Computerized Tracking System
FCP	Fernald Closure Project
FPA	former Production Area
FRL	final remediation level
FTF	Fire Training Facility
GC	gas chromatograph
GPS	global positioning system
GMA	Great Miami Aquifer
HPGe	high-purity germanium (detector)
LAN	Local Area Network
NaI	sodium iodide
OSDF	On-Site Disposal Facility
PID	photoionization detector
PPE	personal protective equipment
ppm	parts per million
PSP	Project Specific Plan
PWID	Project Waste Identification and Disposition Report
QA/QC	Quality Assurance/Quality Control
RSS	Radiation Scanning System
RTIMP	Real-Time Instrumentation Measurement Program
RTRAK	Real-Time Radiation Tracking System
RWP	Radiological Work Permit
SCQ	Sitewide CERCLA Quality Assurance Project Plan
SED	Sitewide Environmental Database
SEP	Sitewide Excavation Plan
SMMP	Soil and Miscellaneous Media Sampling
SWL	Solid Waste Landfill
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
V/FCN	Variance/Field Change Notice
VOC	volatile organic compound
WAC	Waste Acceptance Criteria
WAO	Waste Acceptance Organization
WPRAP	Waste Pits Remedial Action Project

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## 1.0 INTRODUCTION

This project specific plan (PSP) describes the data collection-activities necessary to support excavation control of Area 3B, Area 4B, and Area 5. The format of this PSP differs from that of previously submitted PSPs as this PSP only presents the specific information regarding Area 3B, 4B, and 5. The general information that is routinely addressed in a PSP, can be found in 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation*. While this PSP (20810-PSP-0006) has section headings similar to a full-length PSP, where the information in the section is identical to the information in the general PSP, 20300-PSP-0011, a reference to this general PSP is made, and the information is not repeated.

### 1.1 PURPOSE

The purpose of this PSP is to provide specific direction regarding the excavation of Area 3B, Area 4B, and Area 5. This detailed information includes reason to sample, sample locations, number of borings, depth intervals, and constituents of concern.

### 1.2 SCOPE

The areas included within the scope of this PSP are Area 3B, Area 4B, and Area 5.

The schedule for implementation of this PSP is expected to begin early in 2004. Excavation in Area 3B and Area 4B began in the fall of 2003. Precertification prior to certification will follow upon completion of excavation in Area 3B and Area 4B. Area 5 is expected to be excavated spring of 2004, followed by precertification prior to certification. The eastern field of Area 5 (currently Sediment Basin 2 was certified per Certification Report for the Area 5 Eastern Field (20820-RP-0001) in September 2002.

As noted in the above paragraph, excavation in Area 3B and Area 4B has commenced. All variances documenting the work in these areas, issued under the Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification, 20200-PSP-0009, are attached as Appendix A.

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

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

The Variance/Field Change Notice (V/FCN) process is utilized to document the occurrence of two situations. The first is to document a change in protocol occurring when a modification in the characterization approach is required (e.g., a different decision process for defining the extent of contamination or for verifying that soil is below-WAC or below-FRL concentrations). Factors that will be considered under special circumstances include safety of the workers, cost effectiveness, the need for a timely response, and impending weather conditions. This type of V/FCN requires agency approval prior to implementation.

The second situation requiring a V/FCN is to provide documentation of sampling and analytical activities and to provide variable information that is dependent upon field conditions and cannot be specified initially in this PSP. As part of the excavation control process, the collection of physical samples will be documented in applicable field logs and with V/FCNs. Additionally, the Data Group Form, FS-F-5157 will be generated per Procedure EW-1021, Preparation of the Project Waste Identification and Disposition (PWID) Report, following the generation of data from the analysis of physical samples. In this situation the use of this V/FCN form is not used to document a change in the protocol of this PSP, but is used to document sampling and analytical activities in order to demonstrate that these activities are compliant with the protocols of this PSP.

If a V/FCN is required, the Characterization Manager will document the change and requirements through the V/FCN process in accordance with Section 7.5 of the Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation, 20300-PSP-0011.

### 1.4 KEY PERSONNEL

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

## 2.0 AREA-SPECIFIC WORK REMAINING STATUS

### 2.1 AREA 3B

#### 2.1.1 History

Remediation Area 3B lies in the northwest quadrant of the Former Production Area (FPA). The area is bounded by the Impacted Material Haul Road (IMHR) to the north, "B" Street to the east, the southern edge of the Plant 1 Pad and the Building 71 loading dock to the south, and the FPA fence line to the west. The excavation area for Area 3B was increased to accommodate the placement of the utility isolation trench on the north side of the Area 4B excavation. Part of Area 3B will be included in the remediation of the Main Drainage Corridor.

Facilities located in Area 3B excavation area include the Preparation Plant (1A), Plant 1 Storage Building (1B), Plant 1 Ore Silos (1C), NFS Storage and Pump House (2E), Conveyor Tunnel (2H), Chemical Warehouse (30A), Drum Storage Warehouse (30B), CP Storage Warehouse (56A), General In-Process Warehouse (71), and Plant 1 Storage Pad (74T). Plant 1 Storage Pad also encompasses Hazardous Waste Management Unit (HWMU) 20.

#### 2.1.2 Predesign

This supplemental PSP differs from the typical supplemental PSP because predesign activities are complete. The predesign investigation of Area 3B was completed per *Project Specific Plan for Delineating Known Exceedances of the On-Site Disposal Facility Waste Acceptance Criteria In Areas 3B/4B/5*, 20810-PSP-0004. Therefore, the required subsections for this section per 20300-PSP-0011 are not applicable and are not listed.

#### 2.1.3 Excavation Control

##### 2.1.3.1 ASCOCs

The preliminary list of ASCOCs, found in the SEP Table 2-7, data from the predesign investigation of Area 3B, historical information from 3A/4A, and HWMU 20 COCs, resulted in the following list of primary and secondary COCs:

#### Primary COCs

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

**Secondary COCs**

- Aroclor-1254
- Arsenic
- Barium
- Beryllium
- 1,1-Dichloroethene
- 1,2-Dichloroethene
- Lead
- Methylene chloride
- Technetium-99
- Tetrachloroethene
- 1,1,1 Trichloroethane
- Trichloroethene
- Xylene

The data collected in Area 3B was compared to the OSDF WAC. The only constituents that were above-WAC in Area 3B are technetium-99 and total uranium. The modeled depth for total uranium extends below all other above-FRL contamination; therefore, the only constituents controlling excavation in Area 3B are technetium-99 and total uranium.

**2.1.3.2 Excavation Types**

The types of excavation identified in Area 3B are those that are either above-WAC (driven by total uranium or technetium-99) or above-FRL (driven by total uranium). Real-time scanning for total uranium will be performed for both above-WAC uranium areas and above-FRL uranium areas per 20300-PSP-0011, Section 5.1. Physical sampling for excavation control for above-WAC technetium-99 contamination will be performed per 20300-PSP-0011, Section 5.2. Table 2-1 and Table 2-2 list the excavation control COC limits and above-WAC areas and COCs. Table 2-3 and Table 2-4 address the excavation monitoring and sampling requirements, as well as the physical sample volumes, preservation requirements, and analysis information.

**TABLE 2-1  
LIMITS FOR AREA 3B/4B/5 EXCAVATION CONTROLLING COCs**

Area 3B/4B/5 COCs	WAC Maximum Concentration	FRL
Total Uranium (outside a high-leachability area)	1,030 mg/kg	82 mg/kg
Total Uranium (inside a high-leachability area)	1,030 mg/kg	20 mg/kg
Technetium-99	29.1 pCi/g	30 pCi/g
Arsenic	N/A	12 mg/kg

**TABLE 2-2  
AREA 3B/4B/5 ABOVE-WAC AREAS AND COCs**

	Locations	Contaminant	Depth (feet)
1	Plant 1 Pad - Northwest RI/FS boring Zone 1-273	Total U	0-1
2	Plant 1 Pad - North Central Area of process material	Total U	0-5
3	Plant 1 Pad - TS 4 RI/FS boring PLANT1PAD-21D	Technetium-99	0-1
4	Plant 1 Pad - Southwest RI/FS boring PLANT1PAD-86	Technetium-99	0-2
5	Plant 2 - Northwest RI/FS boring 1179	Technetium-99 Total U	0-3
6	Plant 2 - Northeast RI/FS boring 1183	Total U	0-0.5
7	Plant 2 - Southwest RI/FS boring 1199	Technetium-99 Total U	0-4.5
8	Plant 8 - Northeast RI/FS boring 1236	Technetium-99 Total U	0-10
9	Plant 8 - Central RI/FS boring 1798	Technetium-99	0-3
10	Pilot Plant - Northwest RI/FS boring 1248	Technetium-99	0-2.5
11	Pilot Plant - West Predesign boring 12863	Total U	0-5
12	Pilot Plant - South RI/FS boring 1258	Technetium-99	0-2
13	Lab Building - Loading Dock RI/FS boring Zone 1-66	Technetium-99 Total U	0-1
14	Lab Building - North Courtyard RI/FS boring Zone 1-65	Total U	0-0.5
15	Lab Building - Southwest corner 4 RI/FS Borings	Technetium-99 Total U	0-3
16	K-65 Trench	Technetium-99	0-6

**TABLE 2-3  
EXCAVATION MONITORING/SAMPLING REQUIREMENTS**

Type of Contamination Zone	Types of Samples/Measurements and Data Use		
	Sideslope of Each Excavation Lift	Floor of Each Excavation Lift	Floor/Sideslope at Design Depth for Contamination Zone
Above-WAC Tc-99	<ul style="list-style-type: none"> <li>• Physical Tc-99/Lab (for WAC)</li> <li>• Real-time for Uranium WAC</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Physical Tc-99/Lab (for WAC)</li> <li>• Real-time for Uranium WAC*</li> </ul>
Above-WAC Uranium	<ul style="list-style-type: none"> <li>• Real-time for Uranium WAC</li> <li>• Physical Uranium/Lab</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time for Uranium WAC</li> <li>• Physical Uranium/Lab</li> </ul>
Above-FRL Uranium	<ul style="list-style-type: none"> <li>• Real-time for Uranium WAC</li> <li>• Physical Uranium/Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time for Uranium (WAC)</li> <li>• Physical Uranium/Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time for Uranium WAC/FRL*</li> <li>• Physical Uranium/Lab</li> </ul>
Above-FRL Arsenic	<ul style="list-style-type: none"> <li>• Physical arsenic/Lab (for FRL)</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Physical arsenic/Lab (for FRL)</li> <li>• Real-time for Uranium WAC*</li> </ul>

\* During the real-time uranium WAC scan, the data collected will be evaluated later for precertification purposes by reviewing concentrations of thorium-232 and radium-226, as well as thorium-228 and radium-228 based on equilibrium, in comparison to their respective FRLs.

**TABLE 2-4  
PHYSICAL SAMPLE ANALYTICAL REQUIREMENTS**

Analysis (ASL B)	Sample Matrix	Lab	Preservation	Holding Time	Container Type	Sample Mass (wet)
Technetium-99	Solid	On-site	None	12 months	Appropriate Size Plastic or Glass	50 grams
Total Uranium	Solid	On-site	None	12 months	Appropriate Size Plastic or Glass	50 grams
Arsenic	Solid	Off-site	Cool 4°C	14 days	Appropriate Size Plastic	50 grams

### 2.1.3.3 Locations

The list of above-WAC areas (see Figure 2-1) and COCs are as follows:

Above-WAC Areas	COC
Plant 1 Pad – Northwest (part of HWMU 20)	Total Uranium
Plant 1 Pad - North Central	Total Uranium
Plant 1 Pad - TS 4 (part of HWMU 20)	Technetium-99
Plant 1 Pad – Southwest (part of HWMU 20)	Technetium-99

### 2.1.4 Precertification

Precertification will be performed per 20300-PSP-0011, Section 3.0 and Section 6.0.

## 2.2 AREA 4B

### 2.2.1 History

Remediation Area 4B lies in the southwest corner of the FPA. The area is bounded by the Plant 1 Pad to the north, along "B" Street to the east, the FPA fence to the west and south, and the laboratory to the south. The excavation area for Area 4B was reduced due to the placement of the utility isolation trench on the north side of the Area 4B excavation. The placement of this utility isolation trench reduced the Area 4B excavation area by including the very northern portion of Area 4B in the Area 3B excavation. Part of Area 4B will be included in the remediation of the Main Drainage Corridor.

Facilities located in Area 4B excavation area include the Ore Refinery Plant (2A), General/Refinery Sump Control Building (2B), Bulk Lime Handling Building (2C), Metal Dissolver Building (2D), Cold Side Ore Conveyor (2F), Hot Side Ore Conveyor (2G), Maintenance Building (3A), Ozone Building (3B), Nitric Acid Recovery (NAR) Control House (3C), NAR Towers (3D), Hot Raffinate Building (3E), Harshaw System (3F), Refrigeration Building (3G), Refinery Sump (3H), Combined Raffinate Tanks (3J), Old Cooling Tower (3K), Electrical Power Center Building (3L), Recovery Plant (8A), Plant 8 Maintenance Building (8B), Rotary Kiln/Drum Reconditioning (8C), Plant 8 Railroad Filter Building (8D), Drum Conveyor Shelter (8E), Plant 8 Old Drum Washer (8F), Trash Compactor (8G), Soil Washing (8H), Pilot Plant Wet Side (13A), Pilot Plant Maintenance Building (13B), Sump Pump House (13C), Pilot Plant Thorium Tank Farm (13D), Laboratory (15A), General Sump (18B), Bionitrification Towers (18D), Well House #1 (20E), Well House #2 (20F), Well House #3 (20G), Scale House and Weigh Scale (22D), Pump House-HP Fire Protection (26A), Elevated Water Storage Tank (26B), Pilot Plant Annex (37), Construction Division Building [Laboratory Machine Shop] (45A), Six to Four Reduction Facility #1 (54A), Pilot Plant Warehouse (54B), Pilot Plant Dissociator Building (54C), Pilot Plant Warehouse (68), Plant 2 East Pad (74A), Plant 2 West Pad (74B), Plant 8 East Pad (74C), Plant 8 West Pad (74D), Plant 8 Old Metal Dissolver Pad (74Q), Plant 8 North Pad (74R), Pilot Plant Pad (74U), Laboratory Pad (74V), and Incinerator Building Pad (74W).

There are three Hazardous Waste Management Units (HWMU) of concern in Area 4B. They include the Plant 8 East Pad (HWMU 17), the Drum Storage Area near the Lab Building loading dock (HWMU 4), and the Abandoned Sump west of Pilot Plant (HWMU 22).

### 2.2.2 Predesign

This supplemental PSP differs from the typical supplemental PSP because predesign activities are complete. The predesign investigation of Area 4B was completed per *Project Specific Plan for Delineating Known Exceedances of the On-Site Disposal Facility Waste Acceptance Criteria In Areas 3B/4B/5*, 20810-PSP-0004. Therefore, the required subsections for this section per 20300-PSP-0011 are not applicable and are not listed.

### 2.2.3 Excavation Control

#### 2.2.3.1 ASCOCs

The preliminary list of ASCOCs found in the SEP Table 2-7, data from the predesign investigation of 4B, historical information from 3A/4A, and HWMUs 4, 17, and 22 COCs resulted in the following list of primary and secondary COCs:

#### **Primary COCs**

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

#### **Secondary COCs**

- Aroclor-1254
- Arsenic
- Barium
- Benzene
- Beryllium
- Chromium
- 1,1-Dichloroethene
- 1,2-Dichloroethene
- Lead
- Mercury
- Technetium-99
- Tetrachloroethene
- Toluene
- Trichloroethene
- Xylene

The data collected in Area 4B was compared to the OSDF WAC. The only constituents that were above-WAC in Area 4B are technetium-99 and total uranium. The modeled depth for total uranium extends below all other above-FRL contamination; therefore, the only constituents controlling excavation in Area 4B are technetium-99 and total uranium.

### 2.2.3.2 Excavation Types

The types of excavation identified in Area 4B are those that are either above-WAC (driven by total uranium and/or technetium-99) or above-FRL (driven by total uranium). The only constituents controlling excavation in Area 4B are technetium-99 and total uranium.

Real-time scanning for total uranium will be performed for both AWAC uranium areas and above-FRL uranium areas per 20300-PSP-0011, Section 5.1. Physical sampling for excavation control for AWAC technetium-99 contamination will be performed per 20300-PSP-0011, Section 5.2.

Table 2-1 and Table 2-2 list the excavation control COC limits and above-WAC areas and COCs. Table 2-3 and Table 2-4 address the excavation monitoring and sampling requirements, as well as the physical sample volumes, preservation requirements, and analysis information.

### 2.2.3.3 Locations

The list of AWAC areas (see Figure 2-1) and COCs are as follows:

<b>AWAC Areas</b>	<b>COC</b>
Plant 2 – Northwest	Technetium-99/Total Uranium
Plant 2 – Northeast	Total Uranium
Plant 2 – Southwest	Technetium-99/Total Uranium
Plant 8 – Northeast	Technetium-99/Total Uranium
Plant 8 – Central (part of HWMU 17)	Technetium-99
Pilot Plant – Northwest	Technetium-99
Pilot Plant – West (part of HWMU 22)	Total Uranium
Pilot Plant – South	Technetium-99
Lab Building – Loading Dock (part of HWMU 4)	Technetium-99/Total Uranium
Lab Building – North Courtyard	Total Uranium
Lab Building – Southwest corner	Technetium-99/Total Uranium
K-65 Trench	Technetium-99

### 2.2.4 Precertification

Precertification will be performed per 20300-PSP-0011, Section 3.0 and Section 6.0.

## 2.3 AREA 5

### 2.3.1 History

Remediation Area 5 lies in the southern portion of the FPA and northern Administration Area. The area is bounded by 1st Street to the north, Areas 4B and 7 to the west, Area 7 to the south, and Areas 6 and 7 to the east. Part of Area 5 will be included in the remediation of the Main Drainage Corridor.

Facilities located in Area 5 excavation area include the Service Building (11), Administration Building (14A), Building 14 EOC Generator Set (14B), Electrical Substation (16B), Electrical Panels and Transformers (16C), Trailer Substation #1 (16F), Trailer Substation #2 (16G), Storm Sewer Lift Station (22B), Security Building (28A), Industrial Relations Building (28B), Vehicle Repair Garage (31A), Old Truck Scale (31B), Vehicle Repair Garage Annex (46), Health and Safety Building (53A), In-Vivo Building (53B), Southeast Parking Lot (89A), and Main Parking Lot (89B).

### 2.3.2 Predesign

This supplemental PSP differs from the typical supplemental PSP because predesign activities are complete. The predesign investigation of Area 5 was completed per *Project Specific Plan for Delineating Known Exceedances of the On-Site Disposal Facility Waste Acceptance Criteria In Areas 3B/4B/5*, 20810-PSP-0004, as well as the *Project Specific Plan for Predesign Investigation in Area 5*, 20810-PSP-0005. Therefore, the required subsections for this section per 20300-PSP-0011 are not applicable and are not listed.

2.3.3 Excavation Control

2.3.3.1 ASCOCs

The preliminary list of ASCOCs found in the SEP Table 2-7, data from the pre-design investigation of 5, and historical information from 3A/4A resulted in the following list of primary and secondary COCs:

**Primary COCs**

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

**Secondary COCs**

- Aroclor-1254
- Arsenic
- Beryllium

The data collected in Area 5 was compared to the OSDF WAC and all of the constituents were below-WAC. The modeled depth for total uranium extends below all other above-FRL contamination with the exception of arsenic; therefore, the only constituents controlling excavation in Area 5 are arsenic and total uranium.

2.3.3.2 Excavation Types

The types of excavation identified in Area 5 are those that are above-FRL (arsenic and total uranium). The only constituents controlling excavation in Area 5 are arsenic and total uranium. The above-FRL area for arsenic, which is located in the parking lot, is not within the bounds of the above-FRL area for total uranium. Therefore, the above-FRL area for arsenic will be controlled separately.

Real-time scanning for total uranium will be performed for above-FRL uranium areas per 20300-PSP-0011, Section 5.1. Physical sampling for excavation control for above-FRL arsenic contamination will be performed per 20300-PSP-0011, Section 5.2.

Table 2-1 and Table 2-2 list the excavation control COC limits and above-WAC areas and COCs. Table 2-3 and Table 2-4 address the excavation monitoring and sampling requirements, as well as the physical sample volumes, preservation requirements, and analysis information.

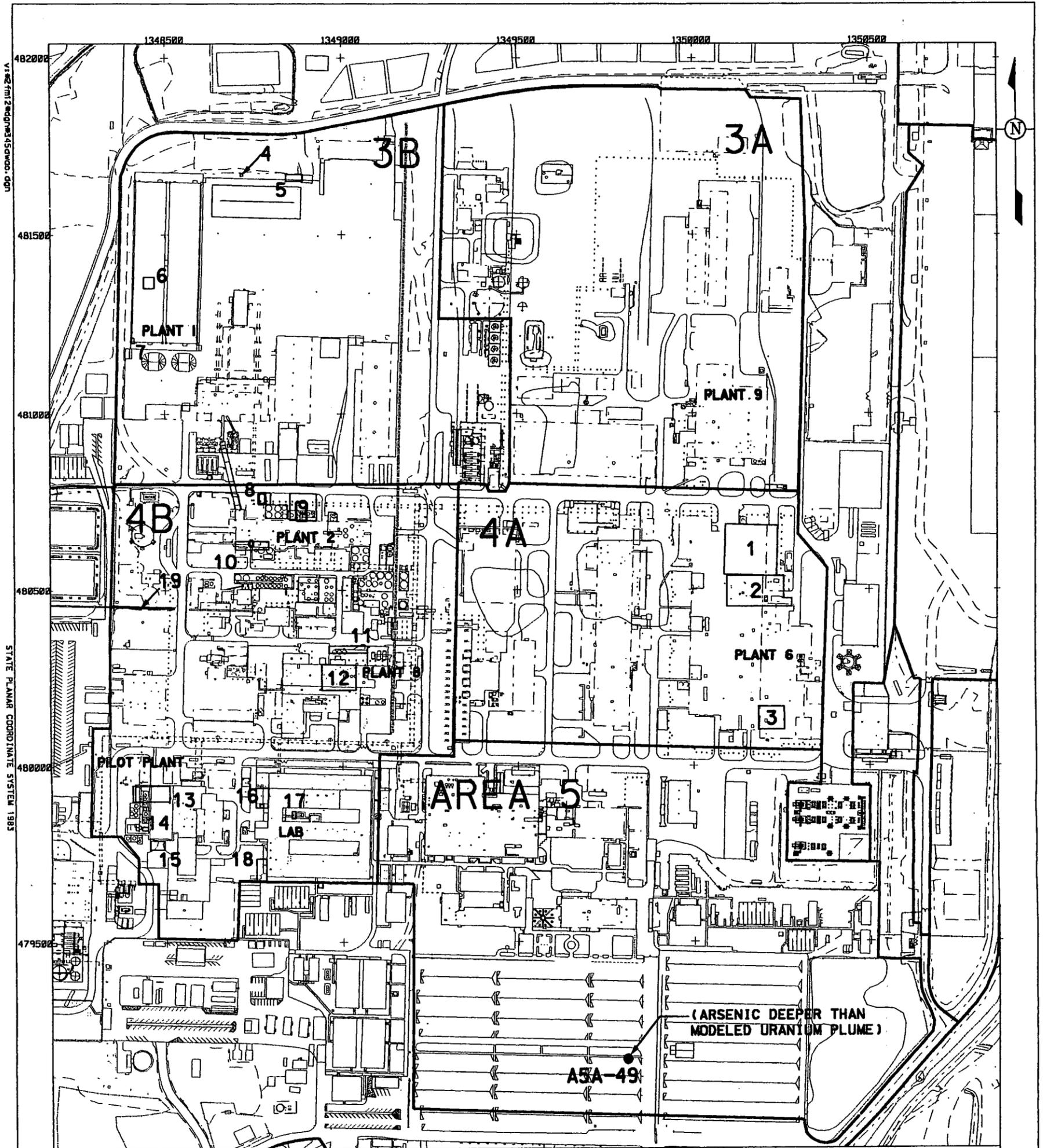
### 2.3.3.3 Locations

Sample location A5A-49 (see Figure 2-1), located in the northeast corner of the southern half of the southwest parking lot within Area 5, will be excavated separately from the uranium excavation.

### 2.3.4 Precertification

Precertification will be performed per 20300-PSP-0011, Section 3.0 and Section 6.0.

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Item Number	Remediation Area	WAC Area Identification	WAC COCs	Soil Volume (yd <sup>3</sup> )
1	4A	Plant 6 - North	n/a	n/a
2	4A	Plant 6 - Central (Rad)	n/a	n/a
3	4A	Plant 6 - South	n/a	n/a
4	3B	Plant 1 Pad - Northwest	U	3
5	3B	Plant 1 Pad - North Central	U	150
6	3B	Plant 1 Pad - TS-4	Tc-99	8
7	3B	Plant 1 Pad - Southwest	Tc-99	20
8	4B	Plant 2 - Northwest	U & Tc-99	13
9	4B	Plant 2 - Northeast	U	30
10	4B	Plant 2 - Southwest	U	213
11	4B	Plant 8 - North	U & Tc-99	567
12	4B	Plant 8 - Central	Tc-99	1770
13	4B	Pilot Pad - Northwest	Tc-99	430
14	4B	Pilot Plant - Southwest	U	35
15	4B	Pilot Plant - South	Tc-99	80
16	4B	Lab Loading Dock	U & Tc-99	20
17	4B	Lab North Courtyard	U	5
18	4B	Lab Southwest Corner	U & Tc-99	205
19	4B	K65 Trench	Tc-99	140

LEGEND:

— CU BOUNDARIES

SCALE

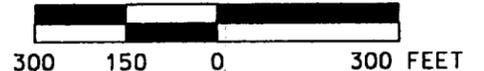


FIGURE 2-1. 3B/4B/5 AWAC LOCATIONS

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19-JAN-2004

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### 3.0 INSTRUMENTATION AND TECHNIQUES

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

#### 3.1 MEASUREMENT INSTRUMENTATION AND TECHNIQUES

##### 3.1.1 Real-time

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

##### 3.1.1.2 HPGe Data Acquisition

##### 3.1.1.3 Excavation Monitoring System

##### 3.1.1.4 Radon Monitor

##### 3.1.2 Surface Moisture Measurements

#### 3.2 REAL-TIME MEASUREMENT IDENTIFICATION

#### 3.3 REAL-TIME DATA MAPPING

#### 3.4 REAL-TIME SURVEYING

### 4.0 PREDESIGN

This supplemental PSP differs from the typical supplemental PSP because predesign activities are complete. The predesign investigation of Area 3B, 4B, and 5 was completed per *Project Specific Plan for Delineating Known Exceedances of the On-Site Disposal Facility Waste Acceptance Criteria In Areas 3B/4B/5*, 20810-PSP-0004. The *Project Specific Plan for Predesign Investigation in Area 5*, 20810-PSP-0005 was also used to complete the predesign investigation of Area 5. Therefore, the required subsections for this section per 20300-PSP-0011 are not applicable and are not listed.

## 5.0 EXCAVATION CONTROL MEASURES

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

### 5.1 EXCAVATION DESIGN CONTROL REQUIREMENTS

#### 5.1.1 Contamination Zone

#### 5.1.2 Floors, Roads and Foundations

#### 5.1.3 Real-time Lift Scans

#### 5.1.4 AWAC Lift Scans

### 5.2 ORGANIC SCREENING AND PHYSICAL SAMPLING REQUIREMENTS

#### 5.2.1 Above-WAC Photoionization Detector (PID)/Gas Chromatograph (GC) Screening

#### 5.2.2 All Other Physical Sample Requirements

#### 5.2.3 PID Screening and Physical Sampling Procedures

#### 5.2.4 Physical Sample Identification

## 6.0 PRECERTIFICATION

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

### 6.1 INITIAL PRECERTIFICATION NaI SCAN AT BASE OF DESIGN GRADE

### 6.2 PRECERTIFICATION HPGE MEASUREMENTS IN 20 PPM FRL (URANIUM) AREAS

### 6.3 PRECERTIFICATION HPGE MEASUREMENTS IN 82 PPM FRL (URANIUM) AREAS

### 6.4 DELINEATING HOT SPOTS FOLLOWING PRECERTIFICATION HPGE MEASUREMENTS

## **7.0 QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS**

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

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

#### **7.2 DATA VALIDATION**

##### **7.2.1 Physical Sample Data Validation**

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

### **7.3 APPLICABLE DOCUMENTS, METHODS AND STANDARDS**

#### **7.4 SURVEILLANCES**

### **7.5 IMPLEMENTATION AND DOCUMENTATION OF VARIANCE/ FIELD CHANGE NOTICES (V/FCN)**

## **8.0 SAFETY AND HEALTH**

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

## **9.0 EQUIPMENT DECONTAMINATION**

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

## **10.0 DISPOSITION OF WASTES**

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

## **11.0 DATA AND RECORDS MANAGEMENT**

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

### **11.1 REAL-TIME**

### **11.2 PHYSICAL SAMPLES**

**APPENDIX A**

**AREA 3B AND AREA 4B VARIANCES AND SAMPLE RESULTS**

Variance No.	Variance Date	Variance Description	Significant? (Y or N)	Date Signed	Date Distributed	EPA/OEPA Approval
20200-PSP-0009-159	9/18/03	Documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-TS4 above-WAC Area for technetium-99.	Y	9/18/03	9/29/03	9/22/03
20200-PSP-0009-160	9/18/03	Documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-Southwest above-WAC Area for technetium-99.	Y	9/18/03	9/29/03	9/22/03
20200-PSP-0009-161	9/18/03	Documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-Northwest above-WAC Area for total uranium in lieu of the real-time scanning.	Y	9/18/03	9/29/03	9/22/03
20200-PSP-0009-162	9/22/03	Documents the collection of grab soil samples in Area 3B from material that has been identified as potentially above-WAC for technetium-99 and total uranium.	Y	9/22/03	10/1/03	9/22/03
20200-PSP-0009-164	9/24/03	Documents the collection of grab soil samples in Area 3B from the additional excavation of Plant 1 Pad-Southwest above-WAC Area for technetium-99.	Y	9/25/03	10/3/03	9/30/03
20200-PSP-0009-165	9/25/03	Documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-North Central above-WAC Area for total uranium in lieu of the real-time scanning.	Y	9/26/03	10/3/03	9/30/03
20200-PSP-0009-168	10/7/03	Documents the collection of grab soil samples in Area 3B from soil that has been identified as potentially above-WAC for technetium-99	Y	10/22/03	10/28/03	10/28/03
20200-PSP-0009-173	10/23/03	Documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-Southwest Area for total uranium in lieu of the real-time scanning.	Y	10/23/03	11/12/03	10/28/03
20200-PSP-0009-176	10/27/03	Documents the collection of grab soil samples in the southwest Area 3B from an above-WAC Area (AWAC area 20) for total uranium in lieu of the real-time scanning.	Y	10/27/03	11/12/03	10/30/03
20200-PSP-0009-177	10/27/03	Documents the collection of grab soil samples in the southwest Area 3B an above-WAC Area (AWAC area 21) for total uranium in lieu of the real-time scanning.	Y	10/27/03	11/12/03	10/30/03
20200-PSP-0009-178	10/31/03	Documents the collection of grab water samples in Area 3B from the Plant 1 Pad-Southwest Area for total uranium.	N	11/12/03	11/12/03	N/A
20200-PSP-0009-187	11/20/03	Documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-Southwest Area for total uranium in lieu of the real-time scanning.	Y	11/21/03	12/3/03	11/21/03
20200-PSP-0009-191	12/22/03	Documents the collection of grab soil samples in a discovered above-WAC area north of Plant 2 in Area 4B (above-WAC Area 22). Samples will be collected for total uranium in lieu of the real-time scanning.	Y	Revised 12/22/03	1/16/04	Disapproval 1/12/04
20200-PSP-0009-192	12/16/03	Documents the collection of grab soil samples from the southern end of Area 3B for total uranium in lieu of the real-time scanning.	Y	12/16/03	12/17/03	12/17/03
20200-PSP-0009-193	12/29/03	Documents the collection of additional grab soil samples in a discovered above-WAC area north of Plant 2 in Area 4B (above-WAC Area 23). Samples will be collected for total uranium in lieu of the real-time scanning.	Y	1/16/04	1/16/04	Disapproval 1/12/04
20200-PSP-0009-194	12/29/03	Documents the collection of grab soil samples in Area 4B from an area northeast of Plant 2 for total uranium in lieu of the real-time scanning.	Y	1/16/04	1/16/04	Disapproval 1/12/04
20200-PSP-0009-195	12/30/03	Documents the collection of additional grab soil samples in a discovered above-WAC area north of Plant 2 in Area 4B (above-WAC Area 24). Samples will be collected for total uranium in lieu of the real-time scanning.	Y	1/16/04	1/16/04	Disapproval 1/12/04
20200-PSP-0009-197	1/9/04	Documents the collection of grab soil samples from Area 3B in the utility trench by the former Plant 1 Ore Silos for total uranium in lieu of the real-time scanning.	Y	1/16/04		
20200-PSP-0009-198	1/12/04	Documents the collection of grab soil samples from Area 3B in the utility trench by the former Plant 1 Ore Silos for total uranium in lieu of the real-time scanning.	Y	1/21/04		

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VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-159

5273

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 1 of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/18/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples in Area 3B from Plant 1 Pad -TS4 area for technetium-99. This particular AWAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the above-WAC Technetium-99 area that has been excavated to design grade to verify above-WAC technetium-99 has been removed, see Figure 1. This area is approximately 10' by 10'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, if the floor of the excavation is less than 40 feet in any direction, then two samples at representative spacing will be collected. Additionally, one sample every 20 linear feet along the perimeter of the excavation lift will be collected at a minimum of one sample per sideslope; therefore, six samples will be collected for technetium-99 (TAL G) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.

The first sample ID shall be 3BE-P1TS4-DG-1^TC and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1TS4-DG-2^TC).

Where:

3BE = Area 3B Excavation Control

TS4 = Plant 1 Pad - TS4

DG = Design Grade

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

TC = technetium-99

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: Certificates of analysis only RF 9/29/03

ASL B

Coordinates loaded by Greg

(Vfen ->)

10899

000026

PA

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-159

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 2 of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/18/03

**Justification:**

Physical sampling is required to ensure all above-WAC technetium-99 contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 09/18/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Eriks <i>R. Eriks</i>	9/21/03	X	PROJECT MANAGER: J.D. Chilton <i>J.D. Chilton</i>	9/18/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	9/18/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Debra Medley</i>	9/23/03		RTIMP Manager	
X	WAB <i>Chris Wells</i>	9-23-03	X	SAMPLING MANAGER: J. Bullock <i>Tom Bullock</i>	9/23/03

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:

TAL 20200-PSP-0009-G

COMPONENT	MDL
TECHNETIUM-99	2.9 pCi/g

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL G	Solid	Onsite	B	9:00 am second day	None	12 months	Appropriate Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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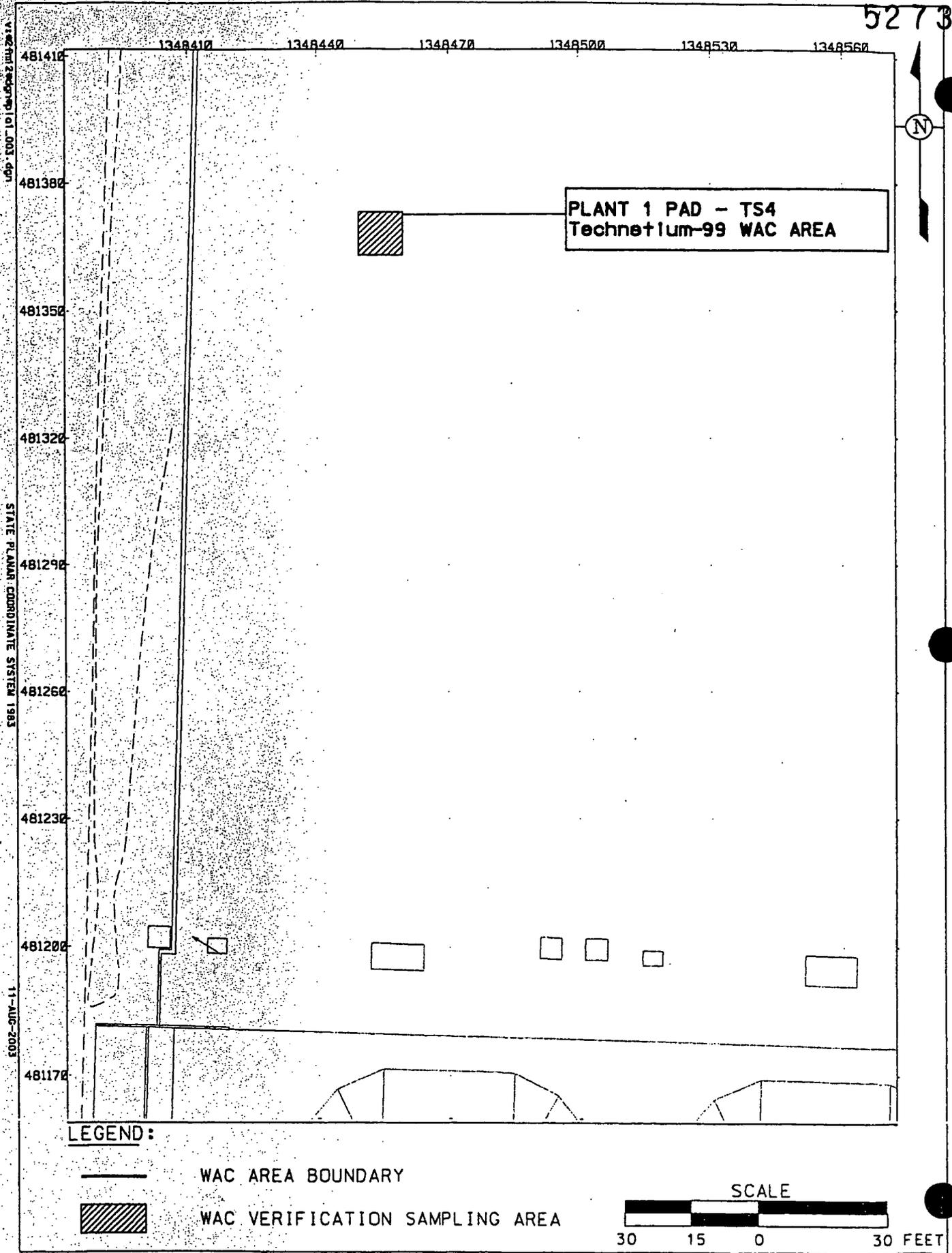
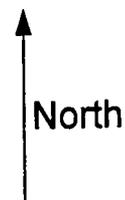
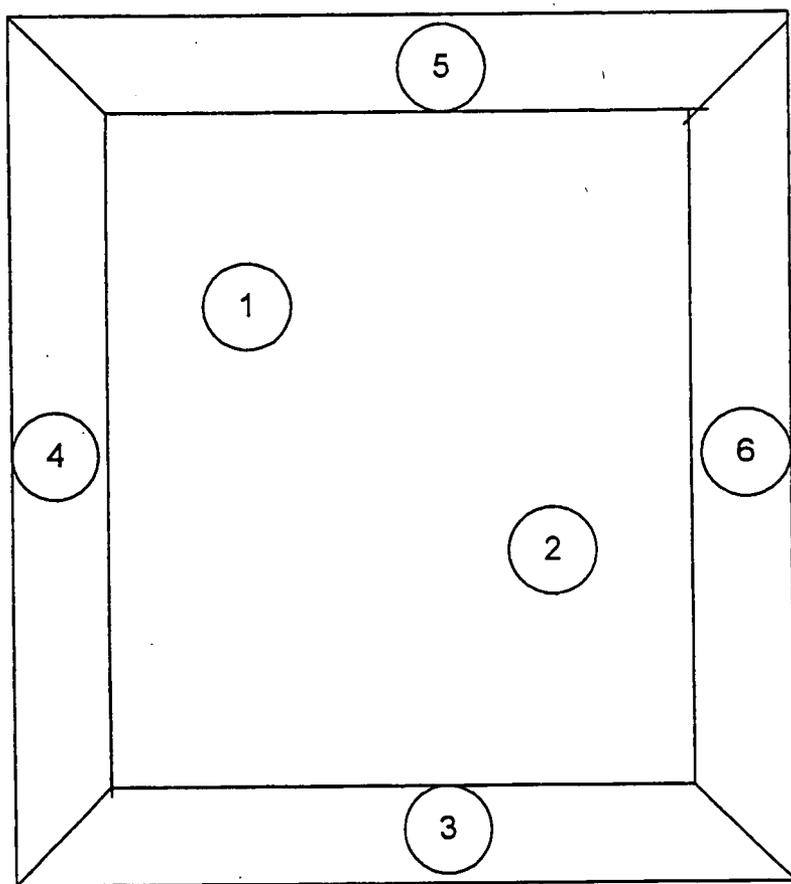


FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

Area 3A/4A Excavation Characterization And Precertification  
20200-PSP-0009 Variance 159





State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: September 22, 2003

SUBJECT: V/FCN 20200-PSP-0009-159 Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification

This V/FCN request the collection of soil samples in Area 3B from the Plant 1 Pad-TS4  
AWAC area for Tc-99. Ohio EPA approves this variance.

Post-it Fax Note 7671		Date	# of pages
To	J.D. Chiou	From	OHIO EPA
Co /Dept		Co	
Phone #		Phone #	
Fax #	25131	Fax #	

## P1P-TS4.txt

## Tc-99 Results

SAMPLE ID	Unit	Conc.	TPU	CE	MDC	Q	UserSampleID
200458600	pCi/g	-0.05	0.95	0.95	1.74	U	3BE-P1TS4-DG-1^TC
200458601	pCi/g	0.81	0.80	0.78	1.26	U	3BE-P1TS4-DG-2^TC
200458602	pCi/g	0.14	0.86	0.86	1.55	U	3BE-P1TS4-DG-3^TC
200458603	pCi/g	-0.05	0.74	0.74	1.39	U	3BE-P1TS4-DG-4^TC
200458604	pCi/g	-0.47	0.84	0.84	1.59	U	3BE-P1TS4-DG-5^TC
200458605	pCi/g	0.00	0.79	0.79	1.47	U	3BE-P1TS4-DG-6^TC

Reported on dry weight basis.

Analyzed by Carol Anderson  
Crosschecked by Baohe Chen 9/22/03

Greg

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-160

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 4 5273

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/18/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples in Area 3B from Plant 1 Pad -SW area for technetium-99. This particular AWAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the above-WAC Technetium-99 area that has been excavated to design grade to verify above-WAC technetium-99 has been removed, see Figure 1. This area is approximately 10' by 21'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, if the floor of the excavation is less than 40 feet in any direction, then two samples at representative spacing will be collected. Additionally, one sample every 20 linear feet along the perimeter of the excavation lift will be collected at a minimum of one sample per sideslope; therefore, eight samples will be collected for technetium-99 (TAL G) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.

The first sample ID shall be 3BE-P1SW-DG-1^TC and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1SW-DG-2^TC).

- Where:
- 3BE = Area 3B Excavation Control
- P1SW = Plant 1 Pad - SW
- DG = Design Grade
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- TC = technetium-99

- Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: No
- Data package requirements: ~~Certificates of analysis only~~ RP 9/29/03

ASL B

Coordinates loaded by Greg 0899  
(Vfen —)

ORIGINAL

000033

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-160

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 2 of 4 - 5273

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/18/03

**Justification:**

Physical sampling is required to ensure all above-WAC technetium-99 contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 09/18/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: P. Friske <i>[Signature]</i>	9/29/03	X	PROJECT MANAGER: J.D. Ellison <i>[Signature]</i>	9/18/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	9/18/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>[Signature]</i>	9/23/03		RTIMP Manager	
X	WAO <i>[Signature]</i>	9-22-03	X	SAMPLING MANAGER: T. Bultrage <i>[Signature]</i>	9/23/03

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:

ORIGINAL

000034

TAL 20200-ISP-0009-G

COMPONENT	MDL
TECHNETIUM-99	2.9 pCi/g

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL G	Solid	Onsite	B	9:00 am second day	None	12 months	Appropriate Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

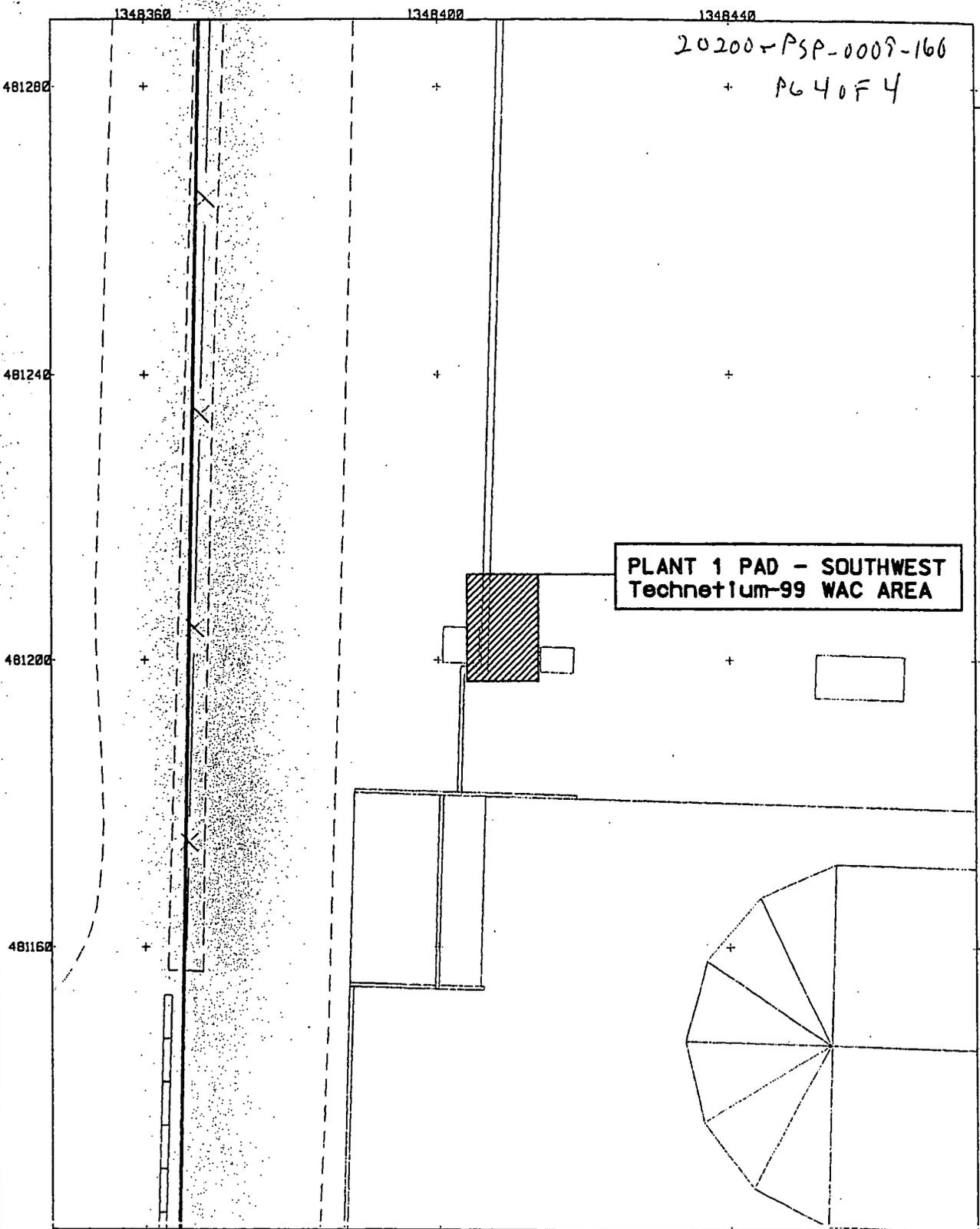
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STATE PLANNING COORDINATE SYSTEM 1983

18-SEP-2003



LEGEND:

-  WAC AREA BOUNDARY
-  WAC VERIFICATION SAMPLING AREA

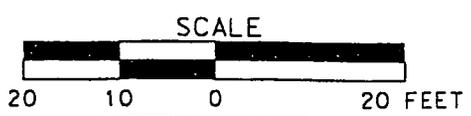
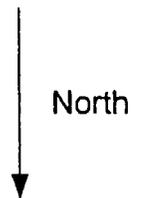
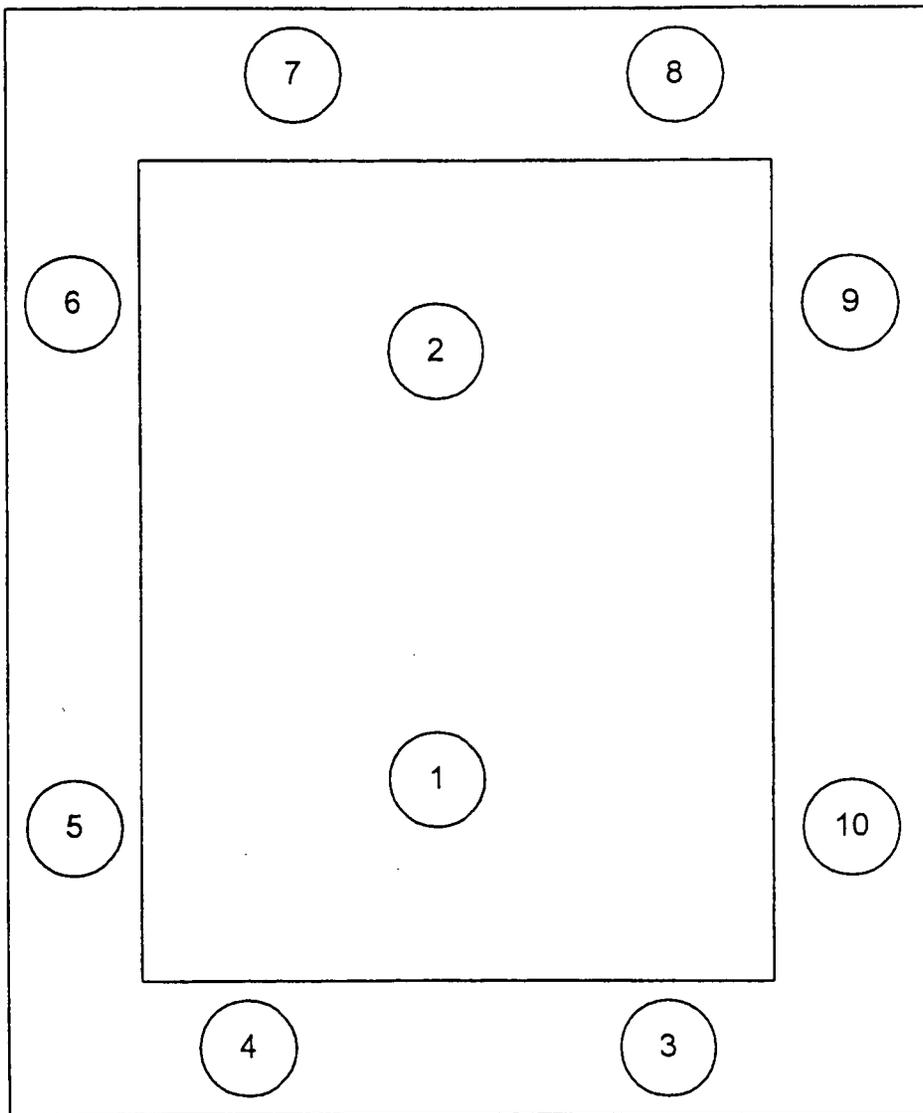


FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

000036

Area 3A/4A Excavation Characterization and Precertification  
2020-PSP-0009 Variance 160





State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller <sup>MW</sup>

DATE: September 22, 2003

SUBJECT: VIFCN 20200-PSP-0009-160 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This VIFCN request the collection of soil samples in Area 3B from the Plant 1 Pad-Southwest AWAC area for Tc-99. Ohio EPA approves this variance.

## PIP-SW-BWAC1.txt

## Tc-99 Results

SAMPLE ID	Unit	Conc.	TPU	CE	MDC	Q	UserSampleID
200458607	pCi/g	3.67	1.46	1.26	1.70		3BE-P1SW-DG-1^TC
200458608	pCi/g	0.10	0.72	0.72	1.32	U	3BE-P1SW-DG-2^TC

Reported on dry weight basis.

Analyzed by Carol Anderson  
Crosschecked by Baohe Chen 9/22/03

PIP-SW.txt

Tc-99 Results

SAMPLE ID	Unit	Conc.	TPU	CE	MDC	Q	UserSampleID
200458609	pCi/g	11.1	2.86	1.81	1.93		3BE-P1SW-DG-3^TC
200458610	pCi/g	5.88	1.80	1.36	1.62		3BE-P1SW-DG-4^TC
200458611	pCi/g	5.52	1.66	1.24	1.37		3BE-P1SW-DG-5^TC
200458612	pCi/g	27.7	6.01	2.35	1.31		3BE-P1SW-DG-6^TC
200458613	pCi/g	38.3	8.11	2.66	1.41		3BE-P1SW-DG-7^TC
200458614	pCi/g	72.8	15.03	3.79	1.58		3BE-P1SW-DG-8^TC
200458661	pCi/g	7.66	2.23	1.62	1.86		3BE-P1SW-DG-9^TC
200485662	pCi/g	2.67	1.44	1.33	2.01		3BE-P1SW-DG-10^TC

Analyzed by: M. Harper/C. Anderson  
 Crosschecked by: Baohe Chen 9/22/03

Greg

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-161

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 4 5273

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/18/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples in Area 3B to replace the real-time scanning requirements in the Plant 1 Pad - Northwest area for total uranium. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the above-WAC total uranium area that has been excavated to design grade to verify above-WAC total uranium has been removed, see Figure 1. This area is approximately 8' by 8'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, if the floor of the excavation is less than 40 feet in any direction, then two samples at representative spacing will be collected. Additionally, one sample every 20 linear feet along the perimeter of the excavation lift will be collected at a minimum of one sample per sideslope; therefore, six samples will be collected for total uranium (TAL H) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.

The first sample ID shall be 3BE-P1NW-DG-1^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1NW-DG-2^U).

Where:

3BE = Area 3B Excavation Control

P1NW = Plant 1 Pad - Northwest

DG = Design Grade

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

U = total uranium

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ~~Certificates of analysis only~~

ASL B

RR 9/29/03

Coordinates loaded by Greg

(Vfen —)  
10899

000041

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-161

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 2 of 4 5273

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/18/03

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected where the real-time scanning could not be performed. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 09/18/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friake <i>R. Friake</i>	9/29/03	X	PROJECT MANAGER: J.D. [Signature]	9/18/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	9/18/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Beaches Medley</i>	9/23/03		RTIMP Manager	
X	<i>WAG</i> <i>Christi Wald</i>	9-22-03	X	SAMPLING MANAGER: J. Bulvage <i>J. Bulvage</i>	9/23/03

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:

5273

TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

000043

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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STATE PLANNAR COORDINATE SYSTEM 1983

18-SEP-2003

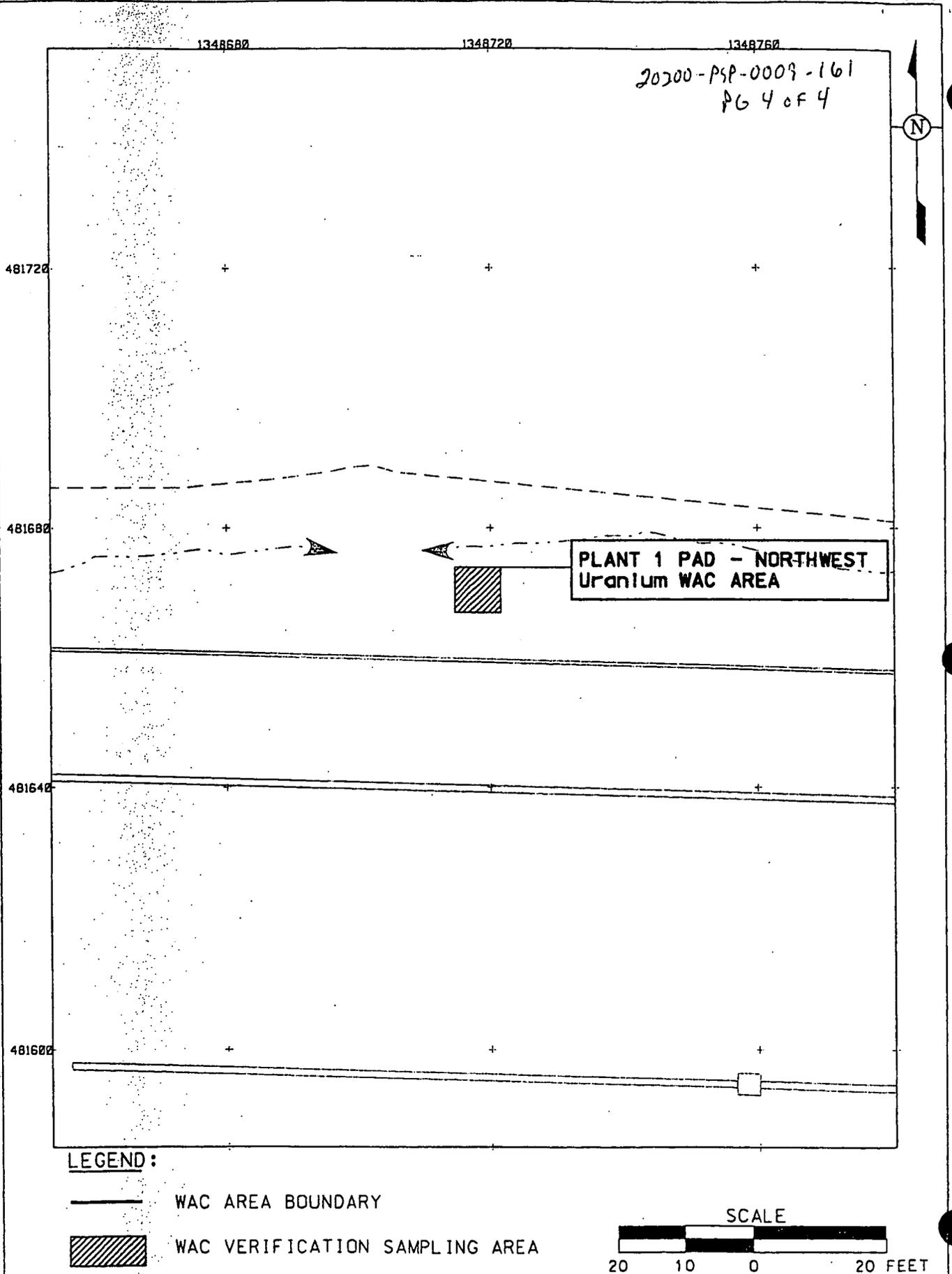
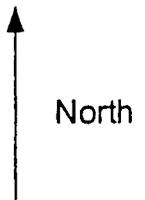
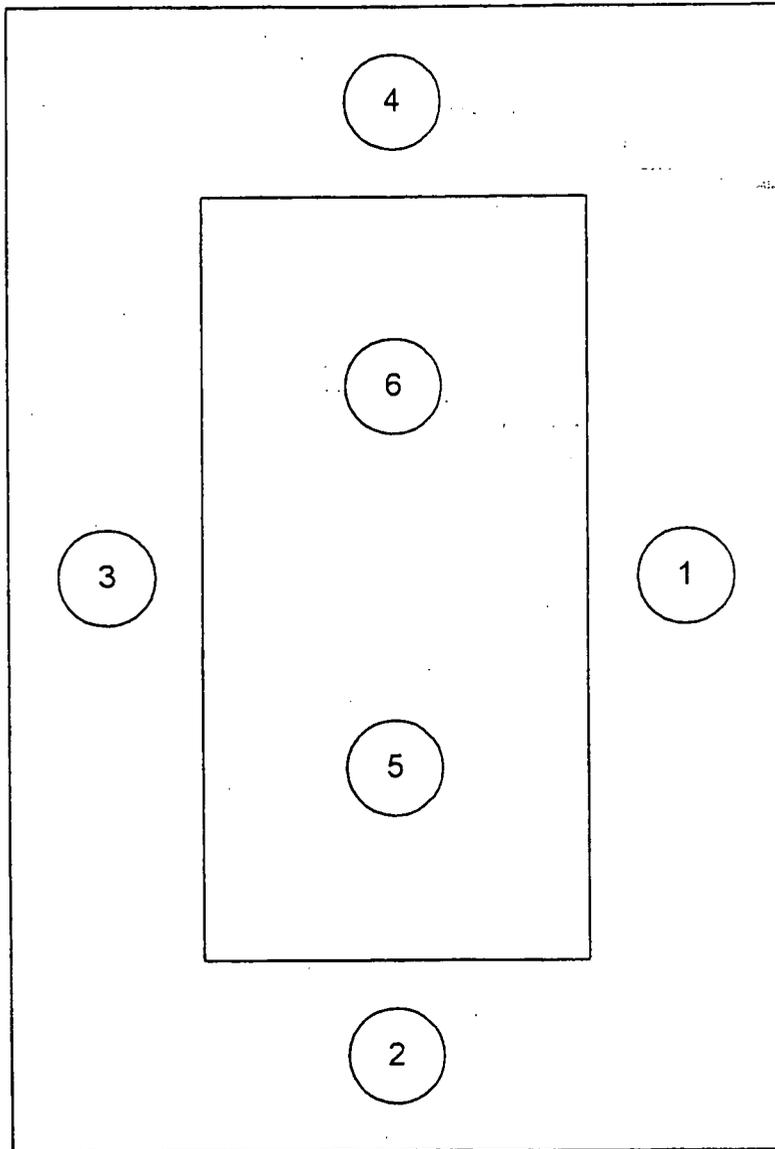


FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

Area 3A/4A Excavation Characterization and Precertification  
20200-PSP-0009 Variance 161





State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: September 22, 2003

SUBJECT: VIFCN 20200-PSP-0009-161 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This VIFCN request the collection of soil samples in Area 3B from the Plant 1 Pad-Northwest AWAC area for total uranium in lieu of real-time scanning. Ohio EPA approves this variance.

		PIP-NW.txt			
		Total	U		
	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UsersampleID
1	200458630	114	4	0.1	3BE-P1NW-DG-1AU
2	200458631	70.2	1.8	0.1	3BE-P1NW-DG-2AU
3	200458632	328	8	0.1	3BE-P1NW-DG-3AU
4	200458633	111	3	0.1	3BE-P1NW-DG-4AU
5	200458634	5.59	0.17	0.1	3BE-P1NW-DG-5AU
6	200458635	<4.85	N/A	0.1	3BE-P1NW-DG-6AU

Determined By: Mark Harper

Approved By: Paul McSwigan

8:39 AM 9/22/2003

Greg

VARIANCE / FIELD CHANGE NOTICE

Significant? YES  
(Yes or No) NO

V/F: 20200-PSP-0009-162

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

8/2  
9/23/03

Page: 1 of 2

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/22/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of a grab soil sample in Area 3B from material that has been identified as potentially above-WAC for technetium-99 and total uranium. This particular AWAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. A sample will be collected to determine if the material is above-WAC for total uranium and/or technetium-99 contamination. Coordinate with the WAO Representative for this sampling event.

One sample will be collected for technetium-99 (TAL G) and total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The sample ID is 3BE-P1-SM-1^UTC.

Coordinates loaded by Greg  
(Vfcu —)

Where:

- 3BE = Area 3B Excavation Control
- P1 = Plant 1 Pad
- SM = special material
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- U = total uranium
- TC = technetium-99

10899

- Surveying required: No
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: No
- Data package requirements: Certificates of analysis only ASLB

Justification:

Physical sampling is required to determine if the material above-WAC for total uranium and/or technetium-99 contamination. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 09/22/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fiske <i>R. Fiske</i>	9-26-03	X	PROJECT MANAGER: J.D. Quinn <i>J.D. Quinn</i>	9/22/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	9/22/03
X	ANALYTICAL CUSTOMER SUPPORT: Heather Madley	9/23/03		RTIMP Manager	
X	WAO <i>Greg</i>	9-23-03	X	SAMPLING MANAGER: T. Burt <i>T. Burt</i>	9/29/03
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:

## TAL 20200-PSP-0009-G

COMPONENT	MDL
TECHNETIUM-99	2.9 pCi/g

## TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL G and TAL H	Solid	Onsite	B	9:00 am second day	None	12 months	Appropriate Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

000049

5273



State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou  
FROM: Donna Bohannon (DB)  
DATE: September 30, 2003

Post-it* Fax Note	7671	Date	9-30-03	# of pages	3
To	J.D. Chiou	From	OHIOEPA		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #	5131	Fax #			

SUBJECT: V/FCN 20200-PSP-0009-162 Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification

This V/FCN requests the collection of one grab soil sample in Area 3B from material identified as above-WAC for Tc-99 and total uranium. Ohio EPA approves this variance.

## PIP-SpecialMaterial\_U.txt

## Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200458615	22800	1100	1.3	3BE-P1-SM-1AUTC

Determined By: Mark Harper/Paul McSwigan

Cross-checked By: Kathy Leslie

8:38 AM 9/19/2003

## PIP-SpecialMaterial\_Tc-99.txt

## Tc-99 Results

SAMPLE ID	Unit	Conc.	TPU	CE	MDC	Q	UserSampleID
200458615	pCi/g	-0.39	1.16	1.16	2.05	U	3BE-P1-SM-1AUTC

Reported on dry-weight basis.

Analyzed by Carol Anderson  
Crosschecked by Baohe Chen 9/22/03

## VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) = YES

V/F: 20200-PSP-0009-164

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: } of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization  
and Precertification

Date: 09/24/03

## VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT 3/29/03

## EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples in Area 3B from Plant 1 Pad -SW area for technetium-99. This particular AWAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. The designed above-WAC area was extended, and excavated, approximately 4 feet to the south due to above-WAC sample results for technetium-99 (sample numbers 3BE-P1SW-DG-7^TC and 3BE-P1SW-DG-8^TC from variance 20200-PSP-0009-160). Figure 1 provides a general drawing of the approximate area that is to be sampled. Samples are to be collected in the extended above-WAC technetium-99 area that has been excavated to verify above-WAC technetium-99 has been removed, see Figure 1. This extended area is approximately 4' by 10'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8.3 of the PSP, if the floor of the excavation is less than 10 feet in any direction, then two samples at representative spacing will be collected. Additionally, one sample every 10 linear feet along the perimeter of the excavation lift will be collected at a minimum of two samples per sideslope when performing additional excavation. Therefore, approximately eight samples will be collected for technetium-99 (TAL G) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The first sample ID shall be 3BE-P1SW-DG-11^TC and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1SW-DG-12^TC).

## Where:

3BE = Area 3B Excavation Control

P1SW = Plant 1 Pad - SW

DG = Design Grade

11, 12, 13, etc. = Consecutive Sample Numbers (Locations)

TC = technetium-99

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

000053

<b>VARIANCE / FIELD CHANGE NOTICE</b>	<b>Significant?</b> (Yes or No) <b>YES</b>	V/F: 20200-PSP-0009-164
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		Page: 2 of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 09/24/03

**Justification:**

Sample numbers 3BE-P1SW-DG-7^TC and 3BE-P1SW-DG-8^TC from variance 20200-PSP-0009-160 were AWAC for technetium-99. The area has been further excavated. Physical sampling is required to ensure all above-WAC technetium-99 contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 09/24/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>R. Friske</i>	10/1/03	X	PROJECT MANAGER: J.D. Chappin <i>J.D. Chappin</i>	9/29/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>Frank Miller</i>	9/24/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Heather Medley</i>	10/2/03		RTIMP Manager	
X	WAC <i>Christa Wall</i>	10-1-03	X	SAMPLING SUPERVISOR: T. Buftage <i>T. Buftage</i>	9/29/03
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:

ORIGINAL

TAL 20200-PSP-0009-G

COMPONENT	MDL
TECHNETIUM-99	2.9 pCi/g

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL G	Solid	Onsite	B	9:00 am second day	None	12 months	Appropriate Plastic or Glass	50 g

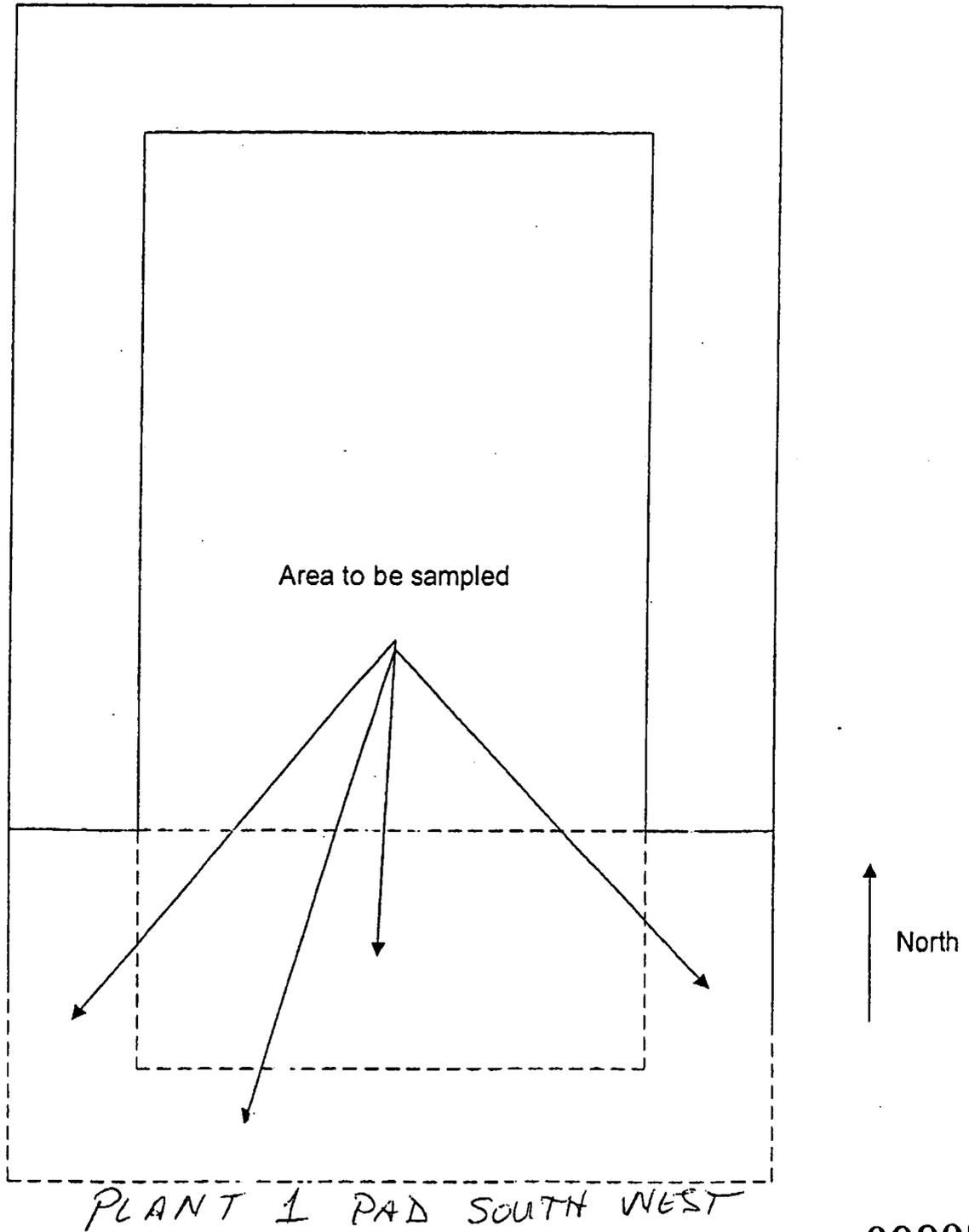
\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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Figure 1  
Area 3A/4A Excavation Characterization and Precertification  
20200-PSP-0009 Variance 164

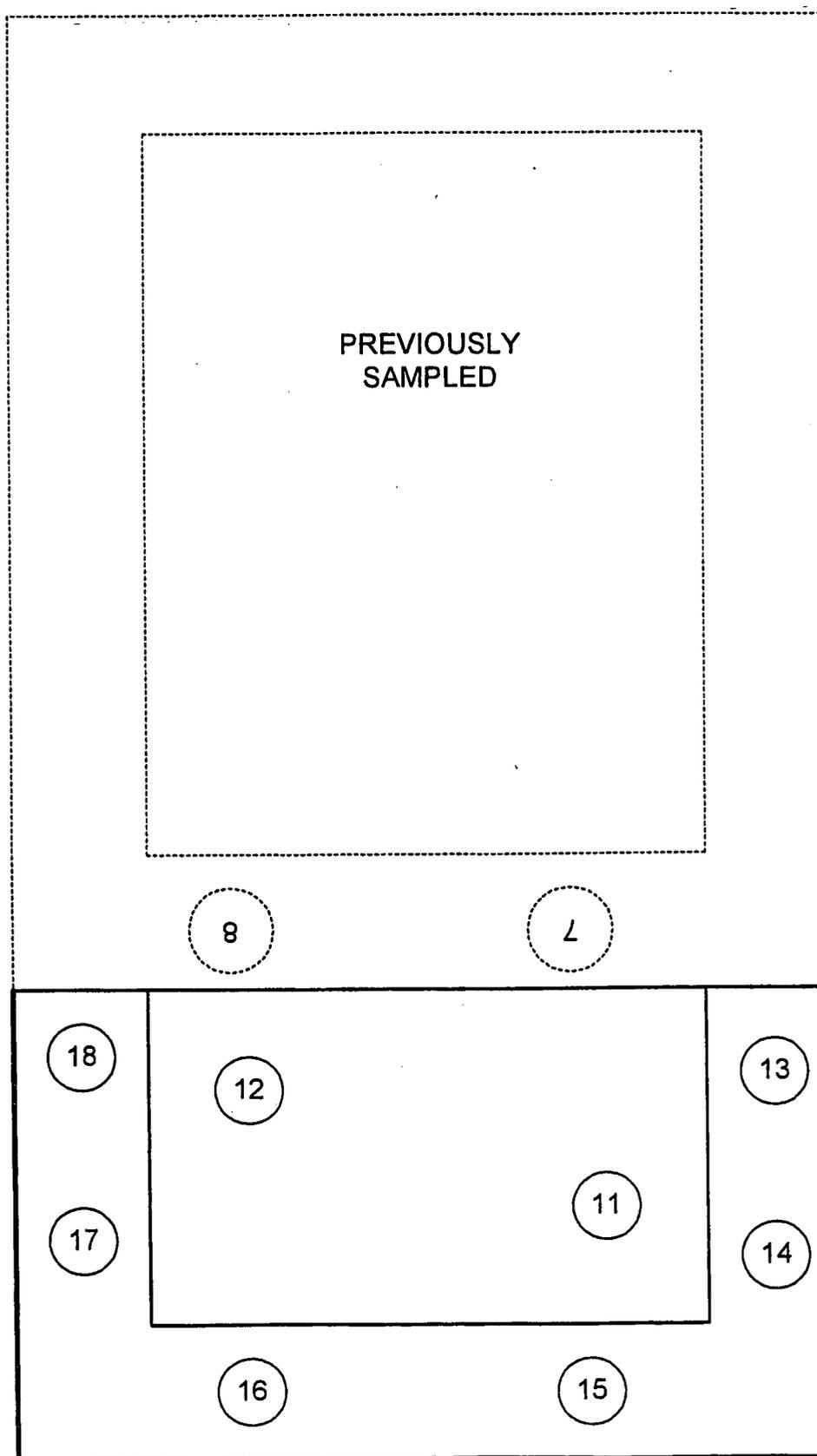
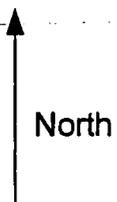


PLANT 1 PAD SOUTH WEST

000056

RP

Area 3A/4A Excavation Characterization and Precertification  
20200-PSP-0009 Variance 164





State of Ohio Environmental Protection Agency

## Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

## MEMO

TO: J.D. Chiou

FROM: Donna Bohannon (DB)

DATE: September 30, 2003

SUBJECT: V/FCN 20200-PSP-0009-164 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This V/FCN requests the collection of grab soil samples in Area 3B from Plant 1 Pad in the SW area for above-WAC Tc-99. Ohio EPA approves this variance.

## P1P-SW-BWAC3.txt

## Tc-99 Results

SAMPLE ID	Unit	Conc.	TPU	CE	MDC	Q	UserSampleID
200458940	pCi/g	4.97	1.50	1.12	1.25		3BE-P1SW-DG-11^TC
200458941	pCi/g	1.71	0.95	0.89	1.27		3BE-P1SW-DG-12^TC
200458942	pCi/g	18.4	4.21	2.05	1.46		3BE-P1SW-DG-13^TC
200458943	pCi/g	14.6	3.44	1.80	1.30		3BE-P1SW-DG-14^TC
200458944	pCi/g	8.39	2.23	1.46	1.44		3BE-P1SW-DG-15^TC
200458945	pCi/g	25.7	5.56	2.16	1.08		3BE-P1SW-DG-16^TC
200458946	pCi/g	0.68	0.86	0.85	1.43	U	3BE-P1SW-DG-17^TC
200458947	pCi/g	3.07	1.22	1.05	1.37		3BE-P1SW-DG-18^TC

Analyzed by: M. Harper/ C. Anderson 9/29/03  
Crosschecked by: Baohe Chen

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No): YES

V/F: 20200-PSP-0009-165

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 1 of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 09/25/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 3B from the Plant 1 Pad - North Central (AWAC area 5) area for total uranium. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the above-WAC total uranium area that has been excavated to design grade to verify above-WAC total uranium has been removed, see Figure 1. This area is approximately 20' by 40'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, the floor will be divided into a 20' X 20' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 20 linear feet along the perimeter of the excavation will be collected at a minimum of one sample per sideslope; therefore, eight samples will be collected for total uranium (TAL H) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.

The first sample ID shall be 3BE-P1NC-DG-1^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1NC-DG-2^U).

Where:

- 3BE = Area 3B Excavation Control
- P1NC = Plant 1 Pad - North Central
- DG = Design Grade
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- U = total uranium

- Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: No
- Data package requirements: ASL B

000060

<b>VARIANCE / FIELD CHANGE NOTICE</b>	Significant? <b>YES</b> (Yes or No) <b>NO</b>	V/F: 20200-PSP-0009-165
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0	9/29/03	Page: 2 of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 09/25/03

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton Date: 09/25/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Feltz <i>R. Feltz</i>	10/1/03	X	PROJECT MANAGER: J.D. Chiles <i>J.D. Chiles</i>	9/25/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	9/25/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Heather Mordley</i>	10/2/03		RTIM Manager	
X	<i>Chris Walk</i>	10-1-03	X	SAMPLING MANAGER: T. Bittner <i>T. Bittner</i>	9/25/03

VARIANCE/FCN APPROVED  YES  NO REVISION REQUIRED:  YES  NO

**DISTRIBUTION**

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

ORIGINAL

TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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VI 20200-PSA-0009-165.dwg

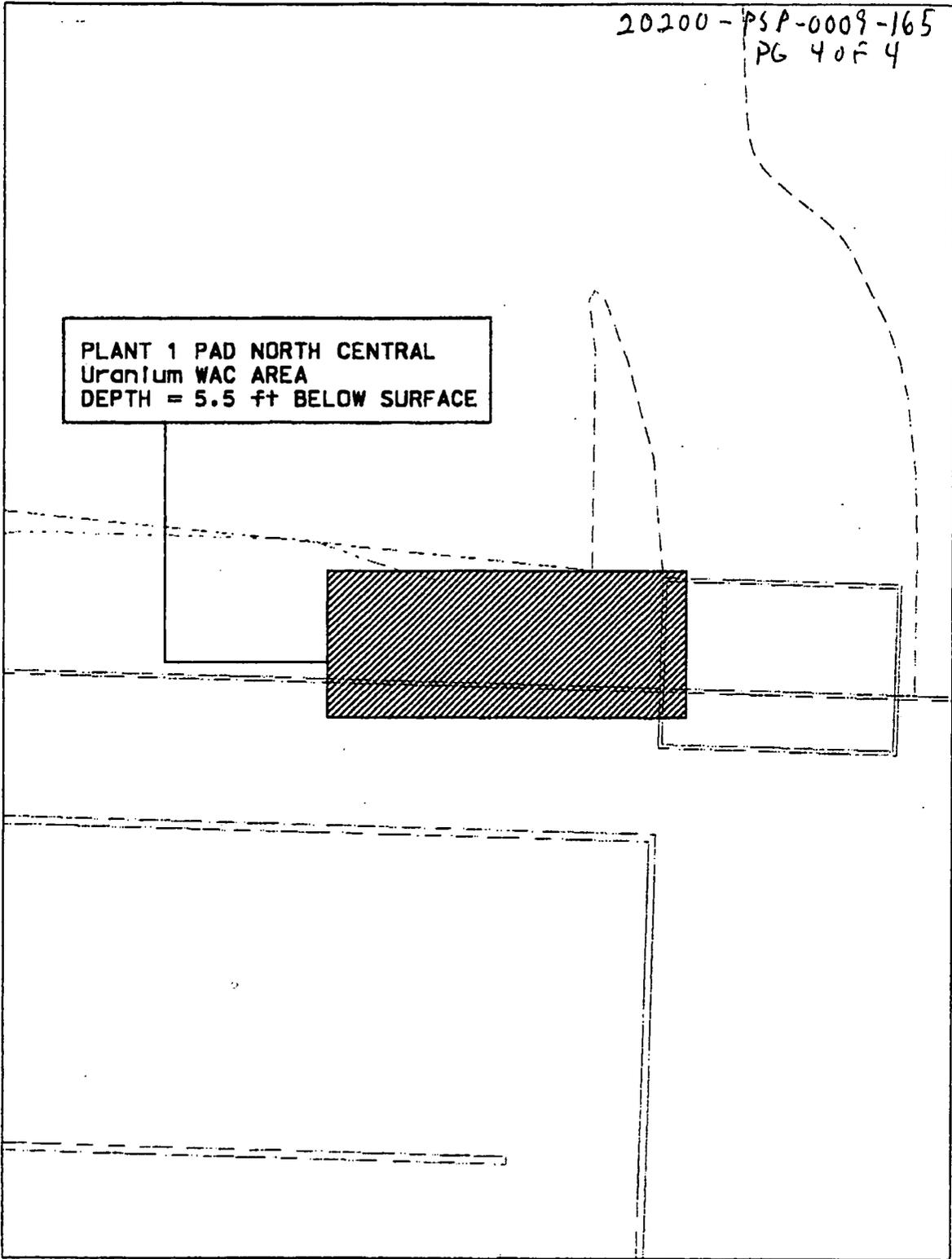
STATE PLANNING COORDINATE SYSTEM 1983

25-SEP-2003

20200-PSA-0009-165  
PG 4 OF 4

N

PLANT 1 PAD NORTH CENTRAL  
Uranium WAC AREA  
DEPTH = 5.5 ft BELOW SURFACE



LEGEND:

- WAC AREA BOUNDARY
- ▨ WAC VERIFICATION SAMPLING AREA

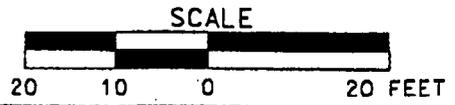
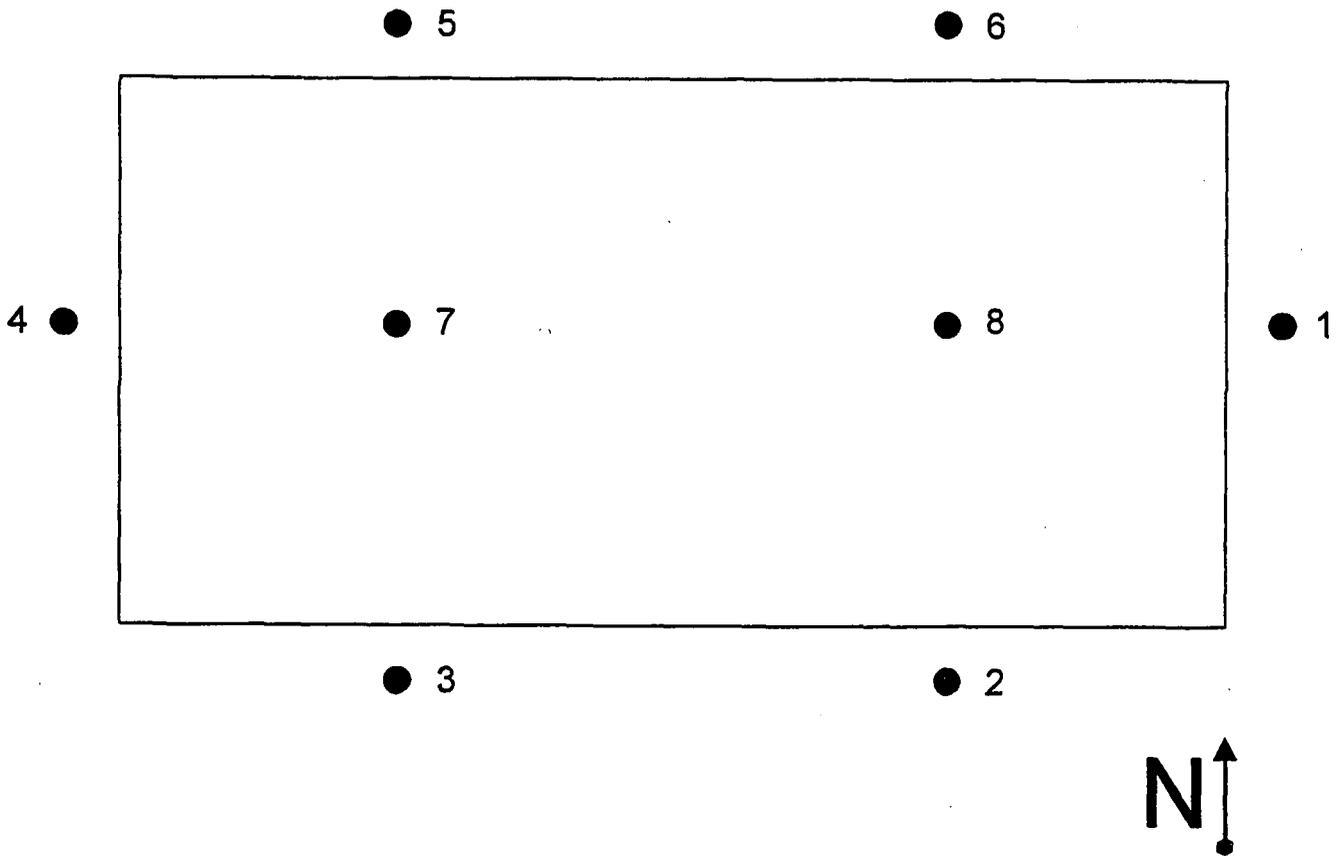


FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

AREA 3A/4A EXCAVATION, CHARACTERIZATION, & PRECERTIFICATION  
VARIANCE 20200 - PSP - 0009 - 165  
NORTH CENTRAL (AWAC AREA 5)  
SAMPLED 09/25/03





State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Donna Bohannon (DB)

DATE: September 30, 2003

SUBJECT: V/FCN 20200-PSP-0009-165 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This V/FCN requests the collection of grab soil samples to verify removal of above-WAC total uranium in Area 3B Plant 1 Pad-NC to replace the real-time scanning requirements. Ohio EPA approves this variance.

PIP-NCpartA.txt  
Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200459016	28.9	0.5	0.1	3BE-P1NC-DG-1AU
2	200459017	120	2	0.1	3BE-P1NC-DG-2AU
3	200459018	119	2	0.1	3BE-P1NC-DG-3AU
4	200459019	237	4	0.1	3BE-P1NC-DG-4AU
5	200459020	77.0	1.5	0.1	3BE-P1NC-DG-5AU
6	200459021	86.7	1.5	0.1	3BE-P1NC-DG-6AU
7	200459022	195	3	0.1	3BE-P1NC-DG-7AU
8	200459023	NR	#VALUE!	0.1	NA

NOTE: sample 200459023 needs to be re-analyzed, sample result is less than WAC for uranium.

Determined By: Mark Harper

Approved By: Kathy Leslie

8:46 AM 9/29/2003

PIP-NCpartB.txt  
Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200459023	106	3	0.1	3BE-P1NC-DG-8AU

Determined By: Paul McSwigan

Approved By: Kathy Leslie

10:50 AM 9/29/2003

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No): YES

V/F: 20200-PSP-0009-168

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 10/21/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):  
DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples in north central area of Area 3B (see Figure 1) for technetium-99 and total uranium. The specific area contains a drainage line from the AWAC Stockpile (formerly SP7), which was broken during excavation. This potential AWAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected to determine if the soil is above-WAC for technetium-99 and/or total uranium. This area is approximately 20' by 80.' The water that escaped the pipe seeped into approximately 40 feet of the bottom soil in the area. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

The area is excavated and the sidewalls are sloped and lined with crushed concrete. One sample should be collected every 50 feet at a minimum of two samples (equally spaced) per sidewall. Since the bottom of the area is covered with two to three feet of crushed concrete, samples from the bottom of the area will not be collected at this time. Four samples will be collected and analyzed for technetium-99 (TAL G) and total uranium (TAL H).

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event.

The first sample ID shall be 3BE-P1-SM2-1^UTC and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1-SM2-2^UTC).

- Where:
- 3BE = Area 3B Excavation Control
  - P1 = Plant 1 Pad
  - SM2 = special material area 2
  - 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
  - U = total uranium
  - TC = technetium-99

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.  
 Field QC samples required: No  
 Field data validation: Yes  
 Analytical data validation: No  
 Data package requirements: ASL B

ORIGINAL

000068

*[Handwritten mark]*

<b>VARIANCE / FIELD CHANGE NOTICE</b>	<b>Significant?</b> (Yes or No): <b>YES</b>	V/F: 20200-PSP-0009-168
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		Page: 2 of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 10/21/03

**Justification:**

Physical sampling is required to determine if the material above-WAC for technetium-99 and/or total uranium contamination. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

The intention of this variance is to determine whether or not elevated levels of total uranium and/or technetium-99 exist in the sidewalls of the excavated area that contains the former SP7 drainage line. The line itself needs to remain in use for an extended period of time. The line and soils immediately beneath the line will be investigated once the line is no longer needed. However, additional excavations are planned in the area adjacent to this excavated area, and the determination of whether or not uranium and/or technetium-99 is now a concern in these future excavations needs to be made at this time. If elevated levels of uranium and/or technetium-99 exist in the sidewalls of the excavated area that contains the former SP7 drainage line, then additional sampling would be necessary to bound the lateral extent of the uranium and/or technetium-99 contamination.

As stated in the variance, the bottom of the area is covered with two to three feet of crushed concrete; therefore, samples from the bottom of the area will not be collected at this time. The final excavation of the former SP7 drainage line is planned in 2005. At that time, samples will be collected from the bottom of this excavated area and additional excavations will be performed as necessary based on the results of those samples.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton Date: 10/21/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fiske <i>R. Fiske</i>	10-24-03	X	PROJECT MANAGER: J.D. [Signature]	10/22/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	10/22/03
X	ANALYTICAL CUSTOMER SUPPORT <i>Heather Medley</i>	10/28/03		RTIMP Manager	
X	<i>Chita Wall</i>	10-28-03	X	SAMPLING MANAGER: T. [Signature] <i>Tom [Signature]</i>	10/28/03
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:

**TAL 20200-PSP-0009-G**

COMPONENT	MDL
TECHNETIUM-99	2.9 pCi/g

**TAL 20200-PSP-0009-H**

COMPONENT	MDL
TOTAL URANIUM	8 ppm

**SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL G and TAL H	Solid	Onsite	B	9:00 am second day	None	12 months	Appropriate Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

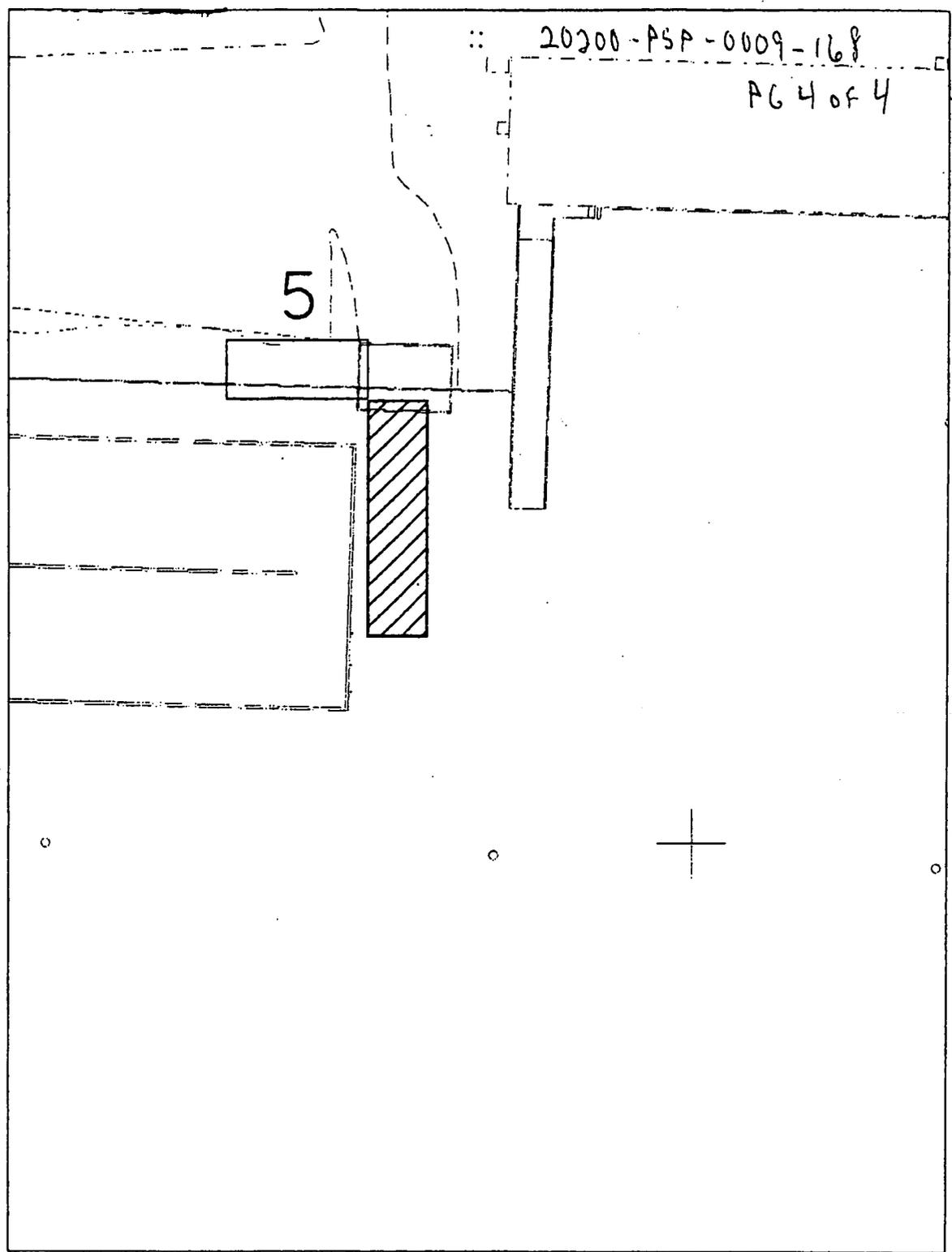
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v:\g\m\2\engr\p\01\_007.dgn

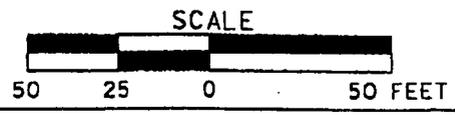
STATE PLANNING COORDINATE SYSTEM 1983

07-OCT-2003



**LEGEND:**

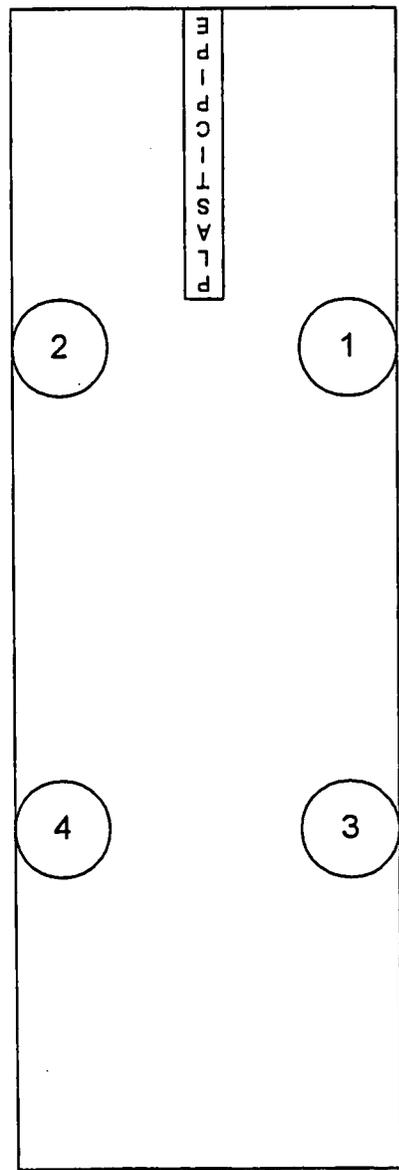
- AREA BOUNDARY
-  WAC VERIFICATION SAMPLING AREA



DRAFT

FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

AREA 3A/4A EXCAVATION CHARACTERIZATION AND PRECERTIFICATION  
20200-PSP-0009 VARIANCE 168



NOT TO SCALE

000072



State of Ohio Environmental Protection Agency  
Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: October 28, 2003

SUBJECT: VIFCN 20200-PSP-0009-168 (Revised) Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

This VIFCN is a request to collect grab soil samples from the slopes of an excavation located at the north central area of Area 3B to determine if the soil is above-WAC for Tc-99 and total uranium. However, during the excavation, a drainage line from the former SP7 broke and drainage escaped to the bottom of the area. Ohio EPA originally disapproved this variance on October 14, 2003, due to the fact that soil samples from the bottom of the area must be included in the sample collection. This variance was resubmitted on October 22, 2003, with an expanded justification to address Ohio EPA concerns. After reviewing the revised variance, Ohio EPA approves this variance, with the agreement that sampling will occur below the pipe for Tc-99 and Total U when the pipe is removed.

Post-it Fax Note	7671	Date	# of pages
To	J.D. Chiou	From	OHIO EPA
Co./Dept		Co	
Phone #		Phone #	
Fax #	5731	Fax #	

000073

## PIP-SpecialMaterial2\_Tc-99.txt

Summary Page: Release 1000029420

## Total U

	209Bi (IS) % Rec.	Sample ID	Result ug/g-dry	TPU	LMDC	UserSampleID
1	100.0	200459432	46.5	1.1	0.1	3BE-P1-SM2-1^UTC
2	102.0	200459433	<4.72	#VALUE	0.1	3BE-P1-SM2-2^UTC
3	100.0	200459434	38.3	0.9	0.1	3BE-P1-SM2-3^UTC
4	101.0	200459435	28.0	0.7	0.1	3BE-P1-SM2-4^UTC

Note: These soil samples were dried, weighed, digested, and filtered by Paul McSwigan and Angela Bown. They were analyzed by Mr. Mark Harper and cross-checked by Mark Durrrough (RG).

## Tc-99 Results

SAMPLE ID	Unit	Conc.	TPU	CE	MDC	Q	UserSampleID
200459432	pCi/g	1.71	0.94	0.87	1.26		3BE-P1-SM2-1^UTC
200459433	pCi/g	2.12	1.11	1.02	1.44		3BE-P1-SM2-2^UTC
200459434	pCi/g	1.04	1.01	0.99	1.62	U	3BE-P1-SM2-3^UTC
200459435	pCi/g	3.58	1.47	1.28	1.72		3BE-P1-SM2-4^UTC

Note: These soil samples were prepared for analyses by Carol Anderson, Missy Bella, and Mark Harper. The data was cross-checked by Mark Durrrough (RG).

## VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No): YES

V/F: 20200-PSP-0009-173

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: } of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization  
and Precertification

Date: 10/23/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

## EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 3B for total uranium. The area is located on the western side of Area 3B (see Figure 1). This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Surface samples are to be collected from the floor and sidewalls of lift 3 of this area to support the lift scan requirements for this lift. This area is approximately 85' by 85'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, the floor will be divided into a 50' X 50' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 50 linear feet along the sidewalls of the excavation will be collected at a minimum of one sample per sidewall. The sidewalls will be sampled in the 0-4-foot interval as measured from the floor; therefore, approximately twelve samples will be collected for total uranium (TAL H) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.

The first sample ID shall be 3BE-P1SWR-L3-1<sup>^</sup>RTL and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE- P1SWR-L3<sup>^</sup>RTL).

Where:

3BE = Area 3B Excavation Control

P1SWR = Plant 1 Pad - Southwest Real-time replacement

L3 = third soil lift from surface elevation

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

RTL = Real-time lift scan

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

000075

ORIGINAL

10/23

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No): YES

V/F: 20200-PSP-0009-173

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 2 of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 10/23/03

Justification:

AND SIDEWALLS

Due to the existing field conditions real-time scanning could not be performed on the floor of the third lift of this area. Therefore, physical samples for total uranium analysis will be collected. Physical samples will be taken in lieu of Real Time scans to represent the lift scan for this area. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 10/23/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Erickson <i>R. Erickson</i>	10-29-03	X	PROJECT MANAGER: <i>[Signature]</i>	10/27/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>Frank Miller</i>	10/23/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Deanna Medley</i>	10/23/03		RTIME Manager	
X	WAD <i>Chris Webb</i>	10-28-03	X	SAMPLING MANAGER: T. Barfield <i>Tom Barfield</i>	10/23/03

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:

## TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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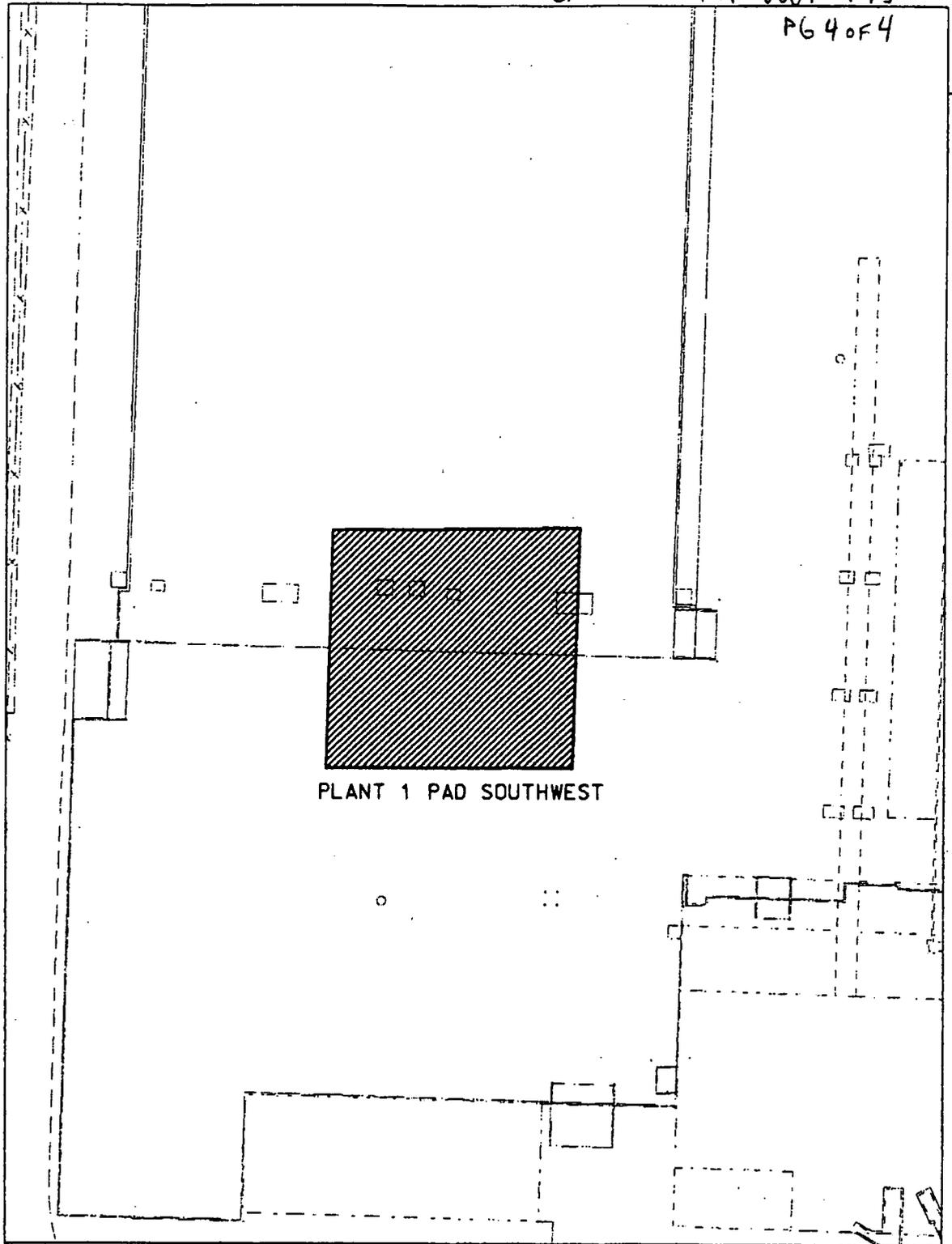
VFCN 20200-PSA-0009-173

PG 4 OF 4

viac full 2ed.dwg 1 of 1 .008 .dgn

STATE PLANNER COORDINATE SYSTEM 1983

23-OCT-2003



PLANT 1 PAD SOUTHWEST

**LEGEND:**

- AREA BOUNDARY
- ▨ APPROXIMATE SAMPLING AREA

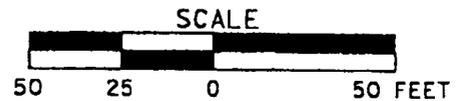
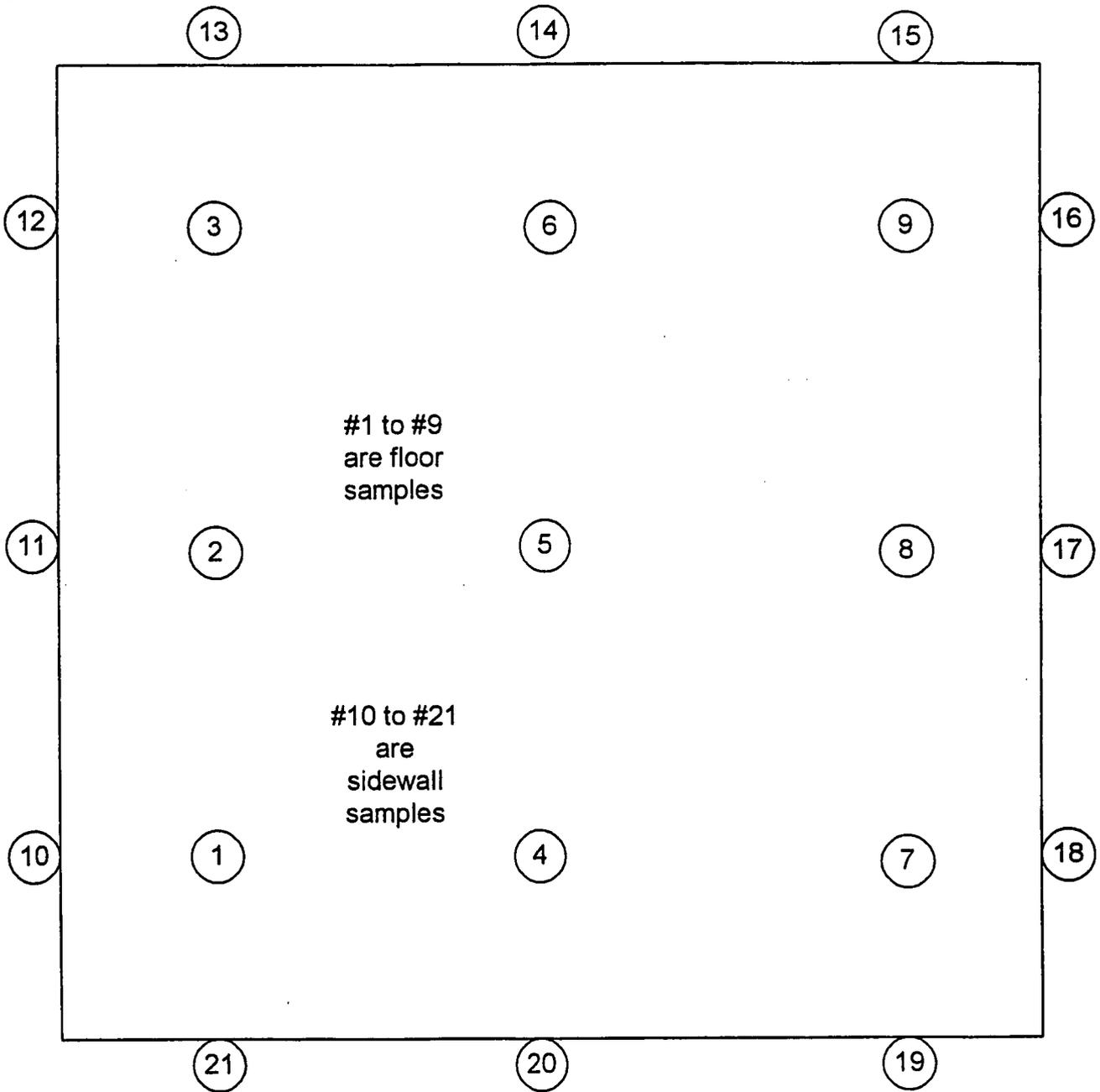


FIGURE 1. LOCATION OF REALTIME REPLACEMENT SAMPLING AREA

3A/4A Excavation Characterization and Precertification  
Area 3B, Soil sampling conducted October 23, 2003.  
Variance #173

5273



N↑

000079



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: October 28, 2003

SUBJECT: V/FCN 20200-PSP-0009-173 *Project Specific Plan for Area 3A/4A*  
*Excavation Characterization and Precertification*

This V/FCN documents the collection of grab soil samples in Area 3B from the Plant 1 Pad-Southwest Area for total uranium in lieu of real-time scanning. Ohio EPA approves this variance.

Post-it<sup>®</sup> Fax Note 7671

To	J.D. Chiou	Date		# of Pages
Co/Dept		From	OHIO EPA	
Phone #		Co		
Fax #	5731	Phone #		
		Fax #		

000080 *[Signature]*

## P1-SW\_lift 3.txt

	Sample ID	Total U Result	LMDC ug/g dry	UsersampleID
1	200460196	<5.02	0.1	3BE-P1SWR-L3-10^ARTL
2	299460186	<4.81	0.1	3BE-P1SWR-L3-1^ARTL
3	200460187	<4.85	0.1	3BE-P1SWR-L3-2^ARTL
4	200460188	<4.99	0.1	3BE-P1SWR-L3-3^ARTL
5	200460189	<4.83	0.1	3BE-P1SWR-L3-4^ARTL
6	200460191	<4.78	0.1	3BE-P1SWR-L3-5^ARTL
7	200460192	<5.00	0.1	3BE-P1SWR-L3-6^ARTL
8	200460193	<5.00	0.1	3BE-P1SWR-L3-7^ARTL
9	200460194	<4.92	0.1	3BE-P1SWR-L3-8^ARTL
10	200460195	<5.04	0.1	3BE-P1SWR-L3-9^ARTL
11	200460197	<5.04	0.1	3BE-P1SWR-L3-11^ARTL
12	200460198	<4.90	0.1	3BE-P1SWR-L3-12^ARTL
13	200460212	<5.01	0.1	3BE-P1SWR-L3-13^ARTL
14	200460213	<5.00	0.1	3BE-P1SWR-L3-14^ARTL
15	200460214	<4.97	0.1	3BE-P1SWR-L3-15^ARTL
16	200460215	<4.95	0.1	3BE-P1SWR-L3-16^ARTL
17	200460216	<4.85	0.1	3BE-P1SWR-L3-17^ARTL
18	200460217	<4.95	0.1	3BE-P1SWR-L3-18^ARTL
19	200460218	<5.07	0.1	3BE-P1SWR-L3-19^ARTL
20	200460219	<4.96	0.1	3BE-P1SWR-L3-20^ARTL
21	200460220	<4.99	0.1	3BE-P1SWR-L3-21^ARTL

Determined BY: Mark Durrrough  
 Approved By: Paul McSwigan

8:16 AM 10/27/2003

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No) <b>YES</b>	V/F: 20200-PSP-0009-176
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		Page:   of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 10/27/03
VARIANCE / FIELD CHANGE NOTICE (Include justification):		
<p><b>EXCAVATION CONTROL SAMPLING</b></p> <p>This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 3B from Plant 1 (AWAC area #20) area for total uranium. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the above-WAC total uranium area that has been partially excavated. During excavation, piping was struck and broken. The piping contained black material that is suspected to be uranium oxide (black oxide). This area is approximately 50' by 100'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.</p> <p>Per Section 2.6.8 of the PSP, the floor will be divided into a 20' X 20' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 20 linear feet along the perimeter of the excavation will be collected at a minimum of one sample per sideslope; therefore, approximately 30 samples will be collected for total uranium (TAL H) from this area.</p> <p>See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.</p> <p>The first sample ID shall be 3BE-P1A20-D-1^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1A20-D-2^U).</p> <p>Where:  3BE = Area 3B Excavation Control  P1A20 = Plant 1 Pad - AWAC area #20  D = Discovered AWAC area  1, 2, 3, etc. = Consecutive Sample Numbers (Locations)  U = total uranium</p> <p>Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.  Field QC samples required: No  Field data validation: Yes  Analytical data validation: No  Data package requirements: ASL B</p>		

**ORIGINAL**

RF 00082

<b>VARIANCE / FIELD CHANGE NOTICE</b>	Significant? (Yes or No): <b>YES</b>	V/F: 20200-PSP-0009-176
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		Page: 2 of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 10/27/03

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 10/27/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>R. Friske</i>	11-5-03	X	PROJECT MANAGER: D. Chino <i>D. Chino</i>	10/27/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	10/27/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Deborah Medley</i>	10/28/03		RTIMP Manager	
X	<i>Christi Wall</i>	10-27-03	X	SAMPLING MANAGER: T. Burley <i>Tim Burley</i>	10/27/03

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:

*RR*

## TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

PR

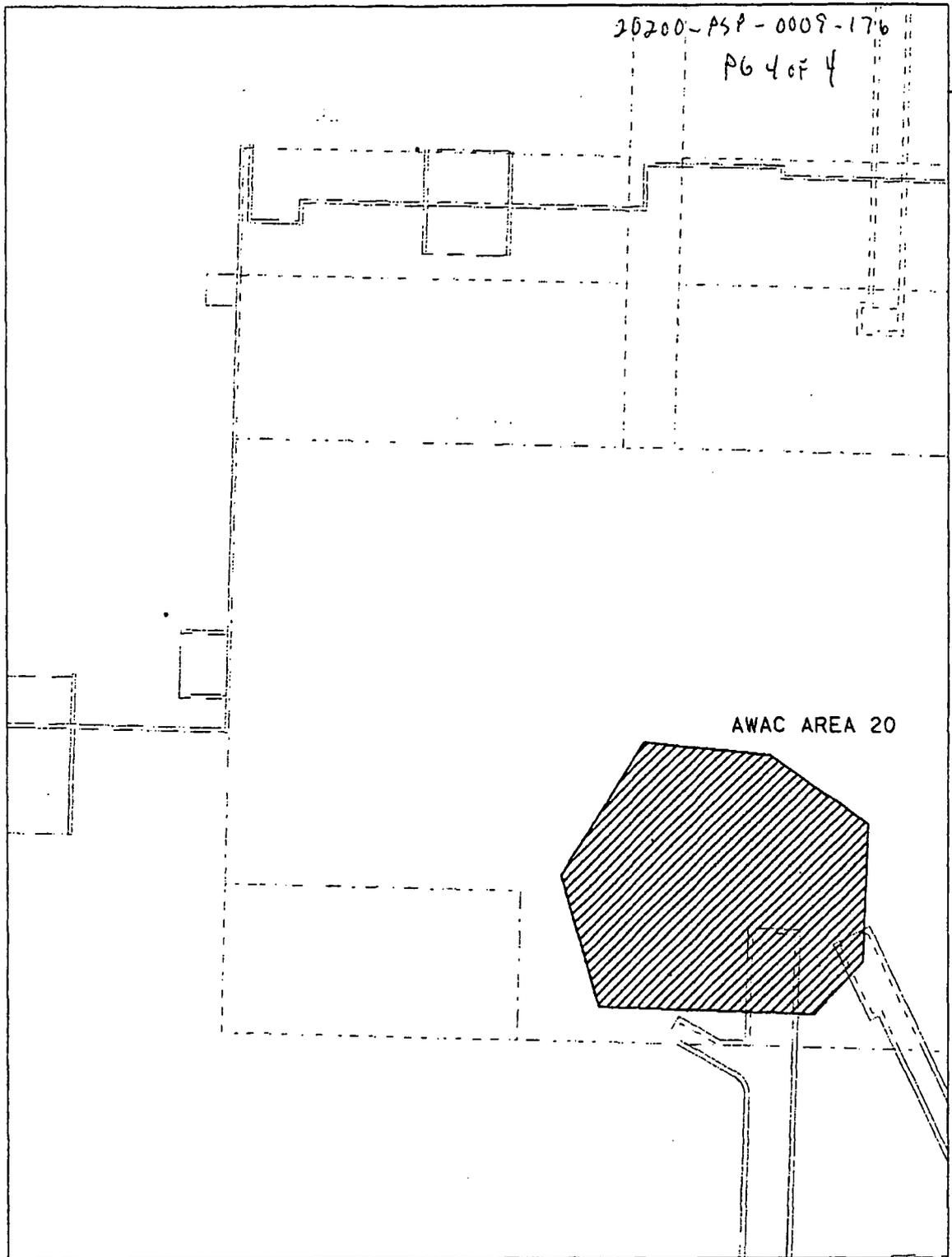
00084

5273

View from 2nd Floor (01\_010.dgn)

STATE PLANNER COORDINATE SYSTEM 1983

28-OCT-2003

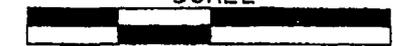


LEGEND:



APPROXIMATE SAMPLING AREA

SCALE

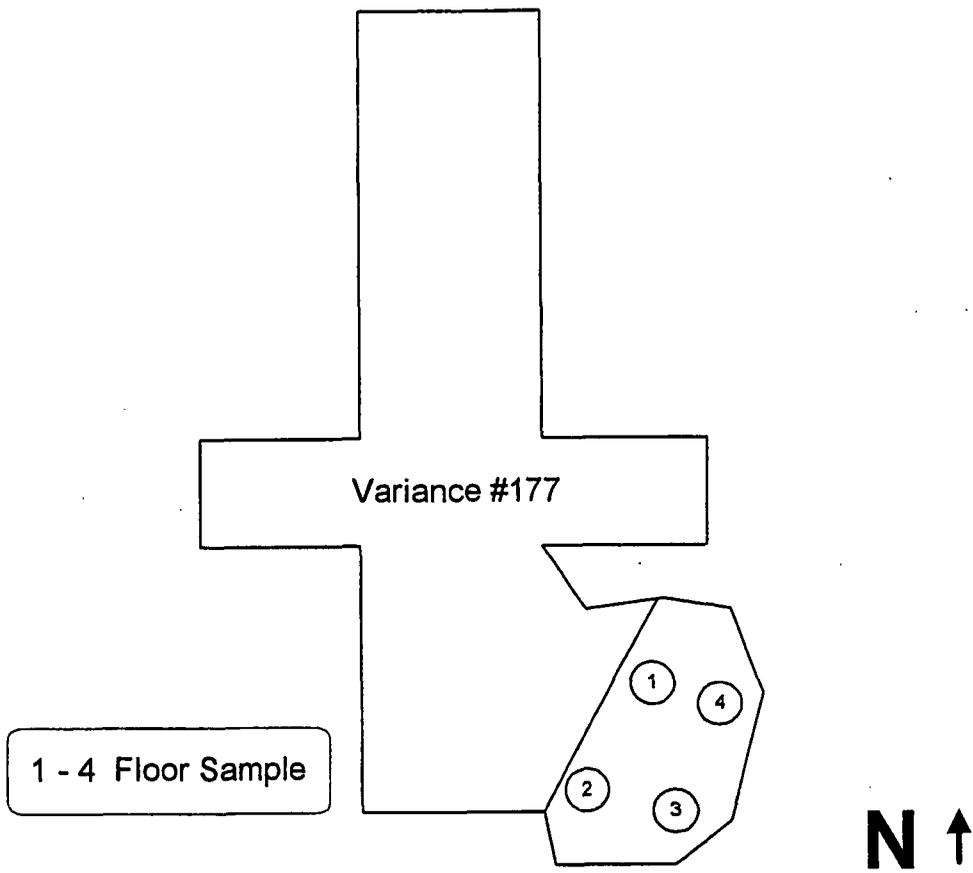


20 10 0 20 FEET

FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

000085 PR

3A/4A Excavation Characterization and Precertification  
Area 3B, Soil sampling conducted October 27, 2003.  
Variance #176





State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: October 30, 2003

SUBJECT: VIFCN 20200-PSP-0009-176 *Project Specific Plan for Area 3A/4A*  
*Excavation Characterization and Precertification*

This VIFCN documents the collection of grab soil samples in the southwest Area 3B from an above-WAC Area (AWAC area 20) for total uranium in lieu of the real time scanning. While excavating in this area, a pipe containing what is suspected to be uranium oxide was struck and broken. Ohio EPA approves this variance.

Post-it® Fax Note	7671	Date	<del>10/30/03</del>	# of pages	3
To	J.D. Chiou	From	OHIO EPA		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #	5131	Fax #			

000087

P1-AWAC area 20.txt

Total U Results

Sample ID	Result	TPU	LMDC (ug/g dry)	User sample ID
200460361	1.61	0.05	0.15	3BE-P1A20-D-1AU
200460362	6.16	0.19	0.15	3BE-P1A20-D-2AU
200460363	7.95	0.31	0.14	3BE-P1A20-D-3AU
200460364	6.37	0.17	0.14	3BE-P1A20-D-4AU

Analyzed by: Mark Durrrough  
Crosschecked by: Carol Anderson

10/29/03 2:58PM

<b>VARIANCE / FIELD CHANGE NOTICE</b>		Significant? (Yes or No) <b>YES</b>	V/F: 20200-PSP-0009-177
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		Page: / of 4	
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 10/27/03	

**VARIANCE / FIELD CHANGE NOTICE (Include justification):**

### EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 3B from Plant 1 (AWAC area #21) area for total uranium. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the above-WAC total uranium area that has been partially excavated. During excavation, piping was struck and broken. The piping contained black material that is suspected to be uranium oxide (black oxide). This area is approximately 4' by 200'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, one sample will be collected every 20 feet from the floor, and one sample will be collected every 20 feet from each sideslope; therefore, approximately 30 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event.

The first sample ID shall be 3BE-P1A21-D-1^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1A21-D-2^U).

**Where:**

3BE = Area 3B Excavation Control

P1A21 = Plant 1 Pad - AWAC area #21

D = Discovered AWAC area

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

U = total uranium

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

**ORIGINAL**

000089

RR

<b>VARIANCE / FIELD CHANGE NOTICE</b>			Significant? (Yes or No) <b>YES</b>		V/F: 20200-PSP-0009-177
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0					Page: 2 of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification					Date: 10/27/03
<b>Justification:</b> Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.					
Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.					
REQUESTED BY: Greg Lupton			Date: 10/27/03		
X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fritke <i>R. Fritke</i>	11-5-03	X	PROJECT MANAGER: D. Chiu <i>D. Chiu</i>	10/27/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>Frank Miller</i>	10/27/03
X	ANALYTICAL CUSTOMER SUPPORT: WAD <i>Heather Medley</i>	10/28/03		RTIMP Manager	
X	<i>Chris Wall</i>	10-27-03	X	SAMPLING MANAGER: A. Brilage <i>Tom Brilage</i>	10/27/03
VARIANCE/FCN APPROVED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			REVISION REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
<b>DISTRIBUTION</b>					
PROJECT MANAGER:		DOCUMENT CONTROL: Jeannie Rosser		OTHER:	
QUALITY ASSURANCE:		CHARACTERIZATION MANAGER: Frank Miller		OTHER:	
FIELD MANAGER:		OTHER:		OTHER:	

1150

**TAL 20200-PSP-0009-H**

COMPONENT	MDL
TOTAL URANIUM	8 ppm

**SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

RK

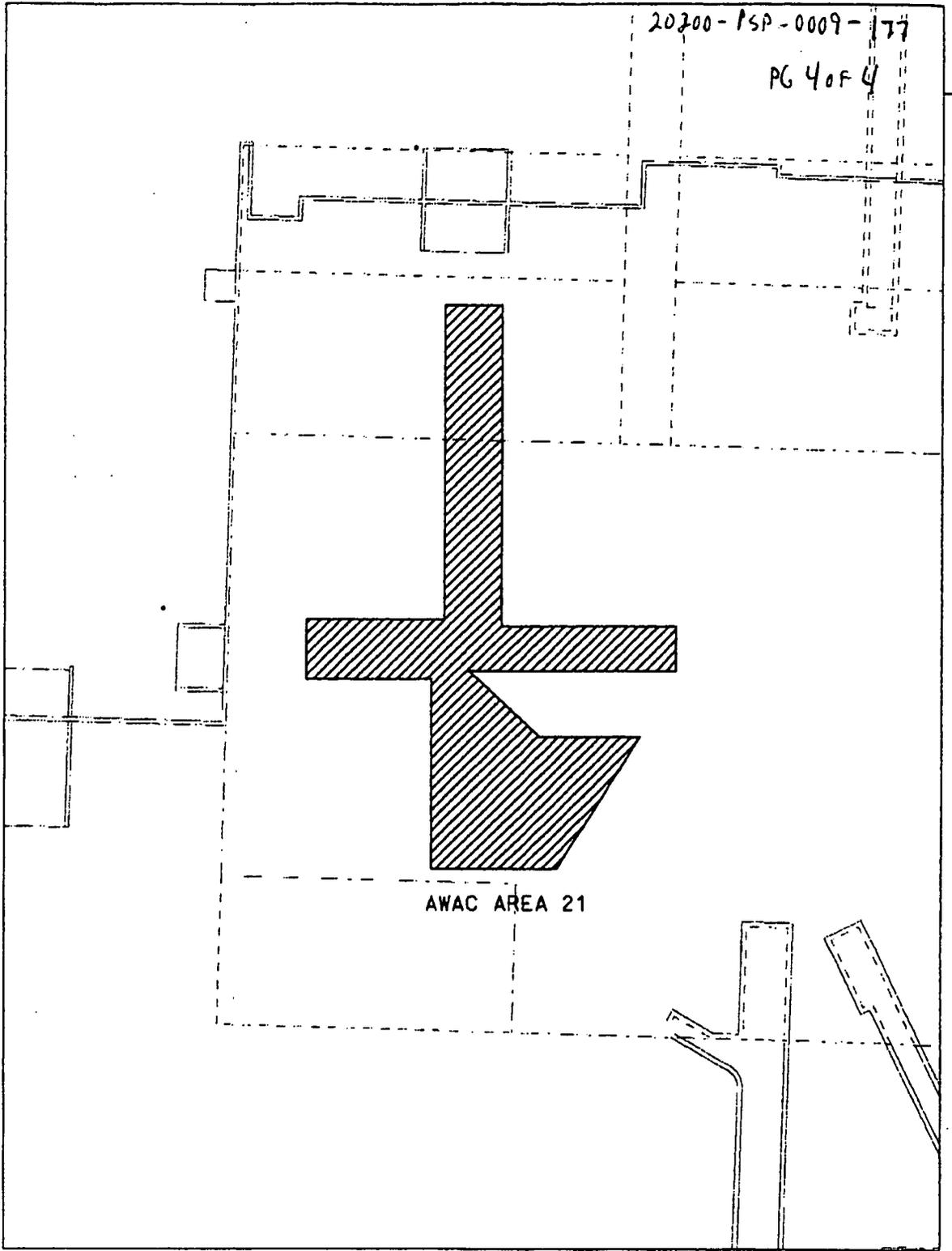
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VI 02.mxd 2/26/03 map1 of 1009.dgn

STATE PLANNER COORDINATE SYSTEM 1983

28-OCT-2003



**LEGEND:**



APPROXIMATE SAMPLING AREA

**SCALE**



20 10 0 20 FEET

FIGURE 1. LOCATION OF WAC VERIFICATION SAMPLING AREA

PP00092



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Walter <sup>tau</sup>

DATE: October 30, 2003

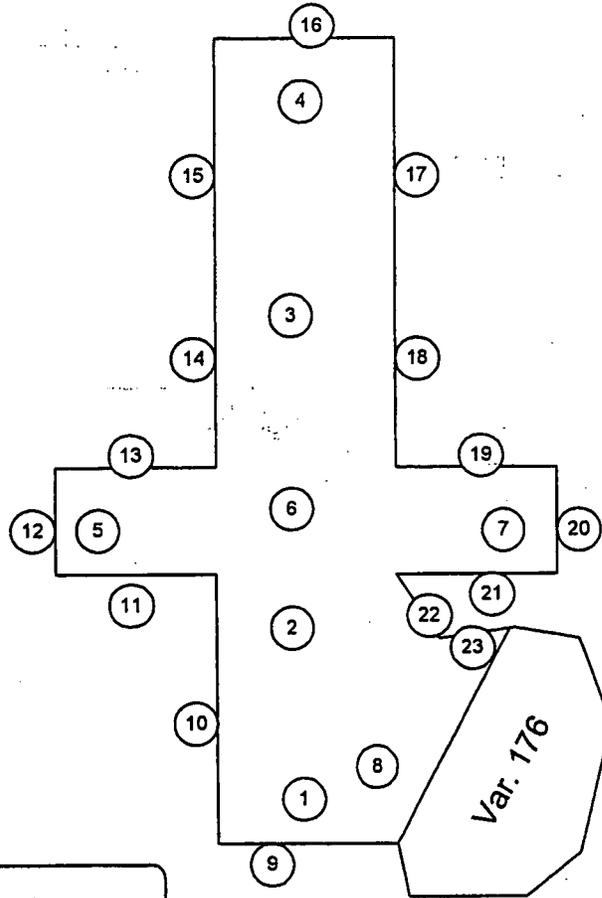
SUBJECT: VIFCN 20200-PSP-0009-177 Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification

This VIFCN documents the collection of grab soil samples in the southwest Area 3B from an above-WAC Area (AWAC area 21) for total uranium in lieu of the real time scanning. While excavating in this area, a pipe containing what is suspected to be uranium oxide was struck and broken. Ohio EPA approves this variance.

Post-it* Fax Note	7671	Date	# of pages
To	J.D. Chiou	From	OHio EPA
Co/Dept.		Co	
Phone #		Phone #	
Fax #	5131	Fax #	

00093

3A/4A Excavation Characterization and Precertification  
Area 3B, Soil sampling conducted October 27, 2003.  
Variance #177



1 - 8 Floor Samples  
9 - 23 Sidewall Samples

N ↑

P1-AWAC area 21 part 1.txt  
Total U

Sample ID	TPU ug/g	LMDC ug/g	Result ug/g Dry	USER_SAMPLEID
200460341	1.0	0.20	54.0	3BE-P1A21-D-1AU
200460342	N/A	0.12	<5.26	3BE-P1A21-D-2AU
200460343	0.7	0.10	37.8	3BE-P1A21-D-3AU
200460344	N/A	0.10	<4.82	3BE-P1A21-D-4AU
200460345	N/A	0.11	<5.46	3BE-P1A21-D-5AU
200460346	N/A	0.14	<6.25	3BE-P1A21-D-6AU
200460347	N/A	0.13	<6.21	3BE-P1A21-D-7AU
200460348	N/A	0.13	<5.70	3BE-P1A21-D-8AU
200460349	1.3	0.10	67.5	3BE-P1A21-D-9AU
200460350	N/A	0.13	<5.64	3BE-P1A21-D-10AU
200460351	N/A	0.14	<5.51	3BE-P1A21-D-11AU
200460352	N/A	0.13	<5.98	3BE-P1A21-D-12AU
200460354	N/A	0.14	<5.92	3BE-P1A21-D-14AU
200460355	N/A	0.12	<5.18	3BE-P1A21-D-15AU

Release 1000029468

Determined By: M. Harper/ M. Durrrough

Approved By: Paul McSwigan

5:29 PM 10/28/2003

## P1-AWAC area 21 part 2.txt

## Total U Results

Sample ID	Result	TPU	LMDC (ug/g dry)	User sample ID
200460353	2.03	0.05	0.14	3BE-P1A21-D-13AU
200460356	11.8	0.4	0.1	3BE-P1A21-D-16AU
200460357	4.56	0.15	0.14	3BE-P1A21-D-17AU
200460358	24.2	0.8	0.1	3BE-P1A21-D-18AU
200460359	7.94	0.24	0.15	3BE-P1A21-D-19AU
200460360	4.32	0.12	0.14	3BE-P1A21-D-20AU
200460381	3.13	0.10	0.14	3BE-P1A21-D-21AU
200460382	11.5	0.4	0.1	3BE-P1A21-D-22AU
200460383	14.8	0.5	0.1	3BE-P1A21-D-23AU

Analyzed by: Mark Durrrough  
Crosschecked by: Carol Anderson

10/29/03 2:58PM

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No): NO

V/F: 20200-PSP-0009-178

WBS NO.: PROJECT/DOCUMENT/BCDC # 20200-PSP-0009 Rev.0

Page: 1 of 3

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 10/31/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of a grab water sample in Area 3B for total uranium (TAL U). The area is located on the western side of Area 3B (see Figure 1). This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. This excavated area, which is approximately 12 feet deep, has water seeping into it from the sidewalls. The sample should be collected from the "sump" area on the eastern side of the excavation. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event.

The sample ID shall be 3BE-P1SWW-1^U

Where:

- 3BE = Area 3B Excavation Control
- P1SWW = Plant 1 Pad - Southwest water
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- U = total uranium

- Surveying required: No
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: No
- Data package requirements: None

Justification:

Water is entering from a large sand lens into the excavated area. A sample of the water is being collected to determine whether or not the sand lens is transporting contaminants.

Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 10/31/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>R. Friske</i>	11-12-03	X	PROJECT MANAGER: M. Wilson <i>M. Wilson</i>	11/10/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	11/03/03
X	ANALYTICAL CUSTOMER SUPPORT WAO <i>Stephen Needle</i>	11/10/03		RTIM Manager	
			X	SAMPLING MANAGER: T. Ehrhage <i>T. Ehrhage</i>	11/10/03
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:

ORIGINAL

**TAL 20200-PSP-0009-H**

COMPONENT	MDL
TOTAL URANIUM	3 ppb

**SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte	Method	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H	ICP-MS	Liquid	Onsite	B	3 days	HNO3 pH<2	12 months	Appropriate Plastic or Glass	1 liter

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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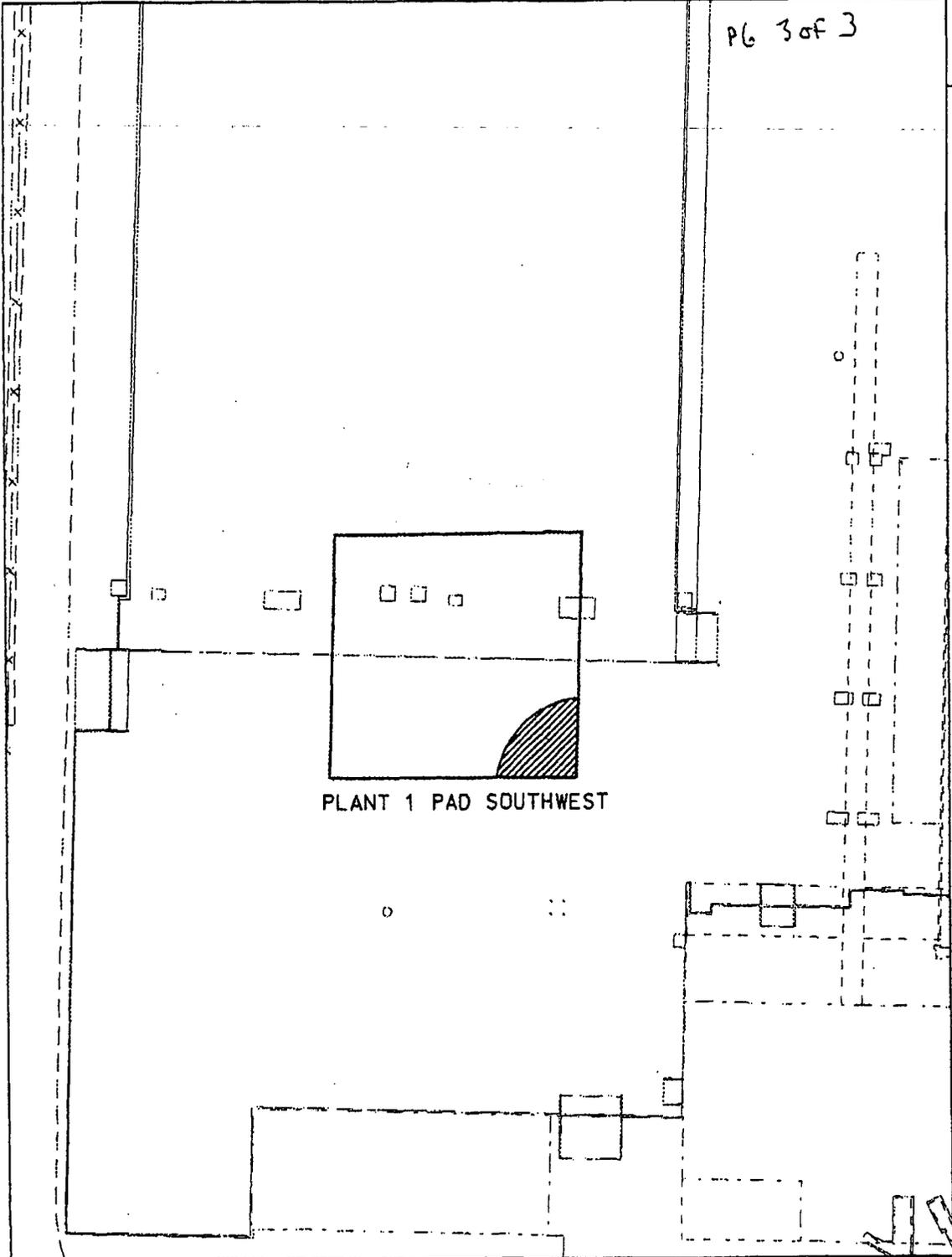
20200-PSP-0009-178

P6 3 of 3

View for 2nd of 3 of 011.dgn

STATE PLANNER COORDINATE SYSTEM 1983

10-NOV-2003



LEGEND:

- AREA BOUNDARY
-  APPROXIMATE SAMPLING AREA

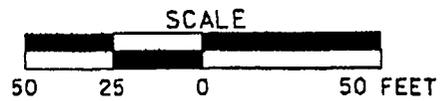


FIGURE 1. LOCATION OF SUMP

000099

20200-PSP-0009-178water.txt  
Total U

	Sample ID	Result mg/L	TPU mg/L	LMDC mg/L	UserSampleID
1	200460423	0.0168	0.0003	0.0001	3BE-P1SWW-1^U

Determined By: Paul McSwigan  
Approved By: Mark Harper

1:42 PM 11/1/2003

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-187

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page of 4

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 11/20/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 3B for total uranium. The area is located on the western side of Area 3B (see Figure 1). This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Surface samples are to be collected from the floor and sidewalls of lift 4 of this area to support the lift scan requirements for this lift. This area is approximately 120' by 120'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, the floor will be divided into a 50' X 50' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 50 linear feet along the sidewalls of the excavation will be collected at a minimum of one sample per sidewall. The sidewalls will be sampled in the 0 -4-foot interval as measured from the floor; therefore, approximately 21 samples will be collected for total uranium (TAL H) from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. QC samples will not be necessary for this sampling event. Field validation is required. Analytical validation is not required.

The first sample ID shall be 3BE-P1SWR-L4-1^RTL and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-P1SWR-L4-2^RTL).

Where:

- 3BE = Area 3B Excavation Control
- P1SWR = Plant 1 Pad - Southwest Real-time replacement
- L4 = fourth soil lift from surface elevation
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- RTL = Real-time lift scan

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

ORIGINAL

12/04/03 AM 7:14

000101

<b>VARIANCE / FIELD CHANGE NOTICE</b>	Significant? (Yes or No): <b>YES</b>	V/F: 20200-PSP-0009-187
WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		Page: 2 of 4
PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		Date: 11/20/03

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on the sidewalls and floor of the fourth lift of this area. Therefore, physical samples for total uranium analysis will be collected. Physical samples will be taken in lieu of Real Time scans to represent the lift scan for this area. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 11/20/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>R. Friske</i>	11/21/03	X	PROJECT MANAGER: J.P. Chiew <i>J.P. Chiew</i>	11/20/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	11/20/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>Deborah Medley</i>	11/20/03		RTIMP Manager	
X	<i>Photo Walls</i>	11-20-03	X	SAMPLING MANAGER: T. Buttrick <i>T. Buttrick</i>	11/20/03

VARIANCE/FCN APPROVED  YES  NO      REVISION REQUIRED:  YES  NO

**DISTRIBUTION**

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

ORIGINAL

TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL II (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)  
All subsequent batches are due in 1 day increments.

000103

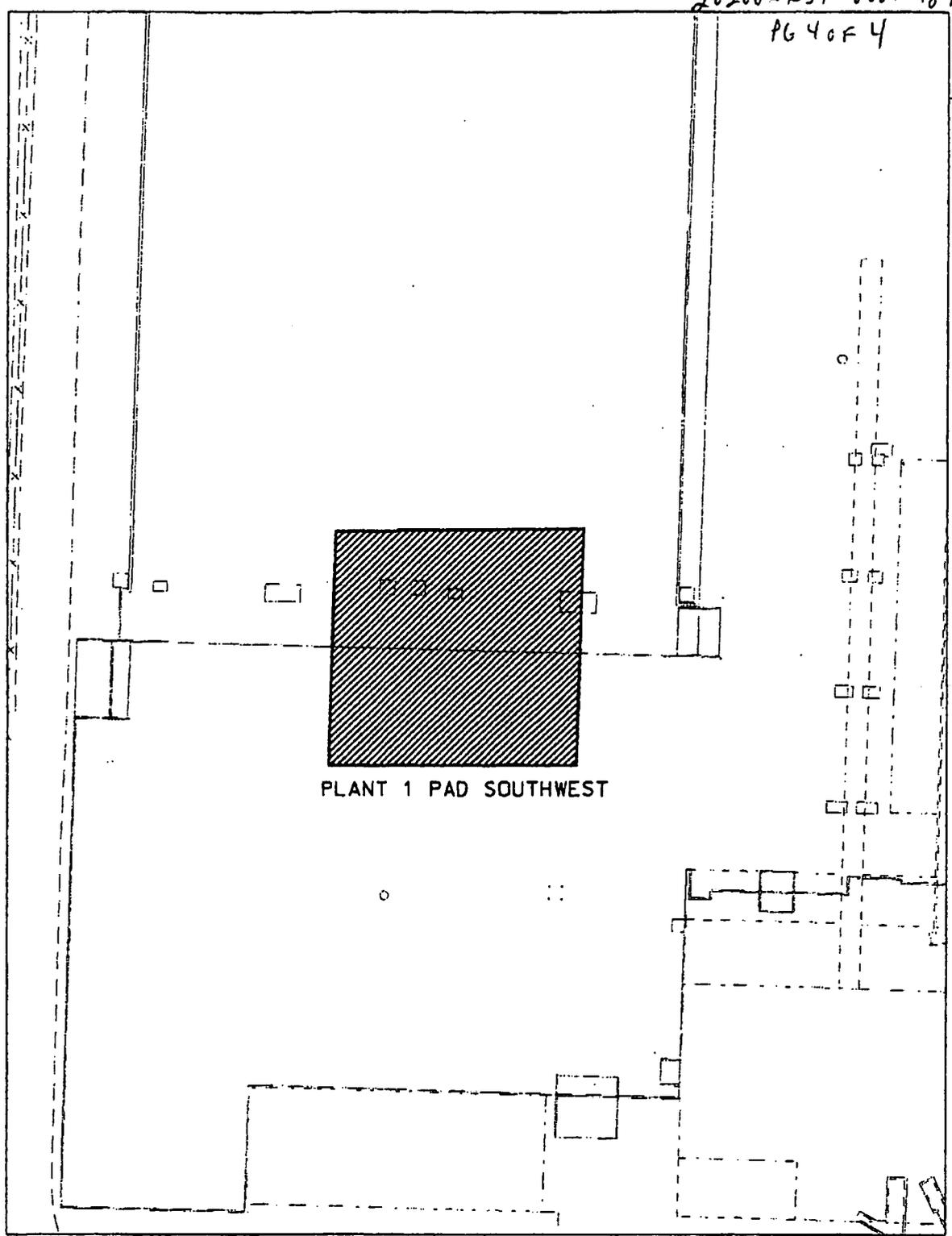
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20200-DSA-0009-187  
PG 4 OF 4

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STATE PLANNING COORDINATE SYSTEM 1983

20-HDV-2003



**LEGEND:**

- AREA BOUNDARY
- ▨ APPROXIMATE SAMPLING AREA

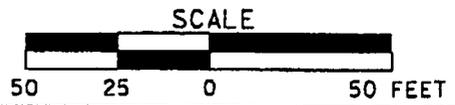
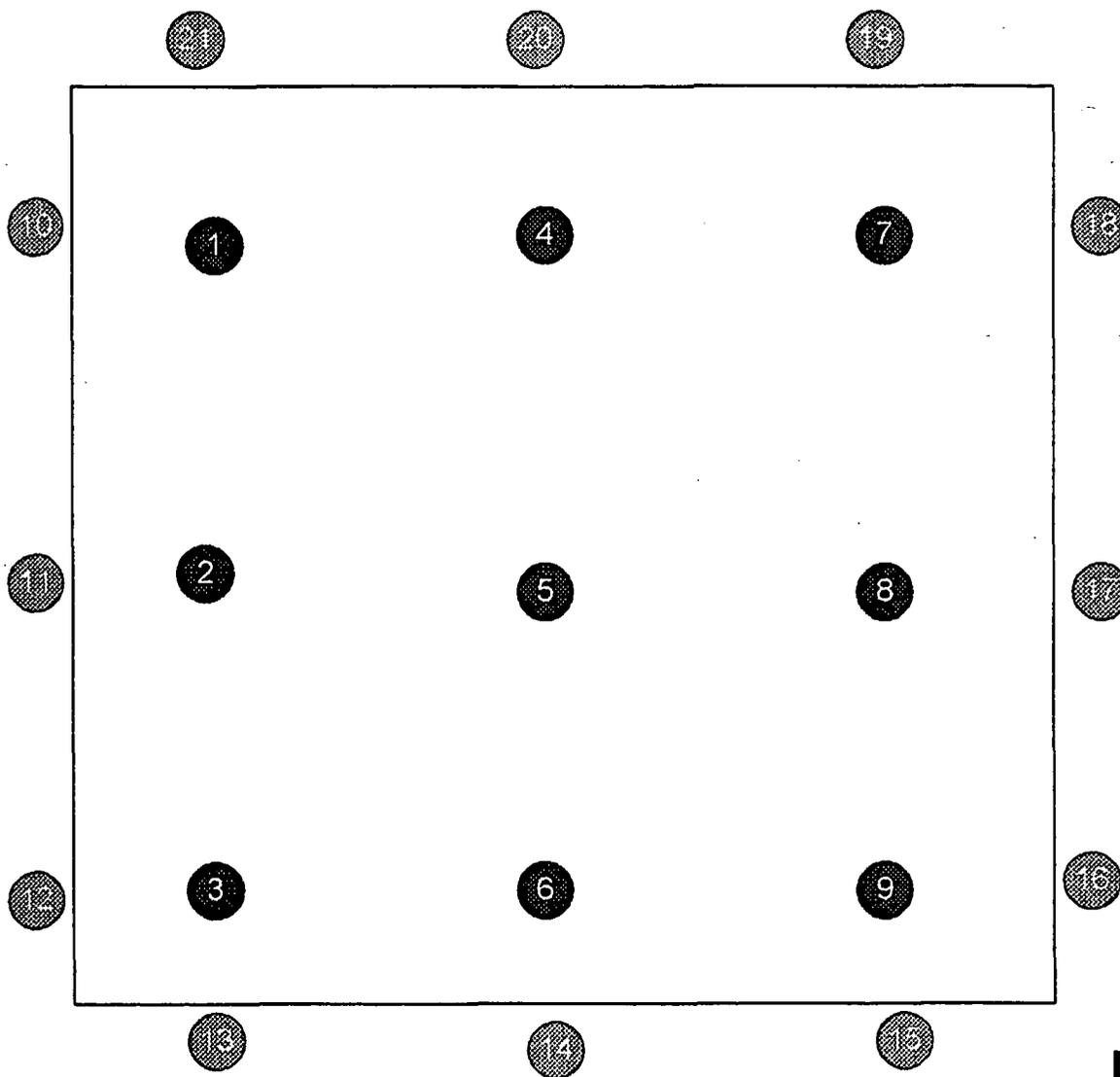


FIGURE 1. LOCATION OF REALTIME REPLACEMENT SAMPLING AREA

3A/4A Excavation Characterization and Precertification  
Variance #187



N↑

NOT TO SCALE

●# = Floor Sample, Lift 4, completed Nov. 20, 2003

●# = Sidewall Sample, Lift 4, completed Nov. 21, 2003

000105



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 286-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: November 21, 2003

SUBJECT: V/FCN 20200-PSP-0009-187 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This V/FCN request the collection of soil samples in Area 3B from the Plant 1 Pad - southwest area for total uranium in lieu of real-time scanning. Ohio EPA approves this variance.

Post-it <sup>®</sup> Fax Note 7671		Date	# of pages ▶
To	J.D. Chiou	From	Ohio EPA
Co./Dept.		Co	
Phone #		Phone #	
Fax #	5731	Fax #	

000106

P1-SW\_lift 4.txt

Summary Page: Release # 1000029522

Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200461578	<4.75	#VALUE!	0.14	3BE-P1SWR-L4-1^RTL
2	200461579	<5.00	#VALUE!	0.15	3BE-P1SWR-L4-2^RTL
3	200461580	<4.97	#VALUE!	0.14	3BE-P1SWR-L4-3^RTL
4	200461581	<5.02	#VALUE!	0.15	3BE-P1SWR-L4-4^RTL
5	200461582	<5.02	#VALUE!	0.15	3BE-P1SWR-L4-5^RTL
6	200461583	<4.99	#VALUE!	0.14	3BE-P1SWR-L4-6^RTL
7	200461584	<4.98	#VALUE!	0.14	3BE-P1SWR-L4-7^RTL
8	200461585	<4.89	#VALUE!	0.14	3BE-P1SWR-L4-8^RTL
9	200461586	5.12	0.17	0.15	3BE-P1SWR-L4-9^RTL

These samples were prepped and analyzed by Mr. Mark Harper.  
The results were cross-checked and approved by Mark Durrough.

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-191

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 3

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 12/22/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 4B from Plant 2 (AWAC area #22 discovered) for total uranium. All exposed areas where AWAC soil has been removed will be physically sampled. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 4B is in process and will be submitted in the near future. Samples are to be collected in the discovered above-WAC total uranium area. This area is approximately 13,000 square feet and was surface scraped to remove visible product. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Although the entire area has not been cleared of AWAC, a significant portion of the area has been excavated. Therefore, the samples collected under this variance are intended to demonstrate that a majority of the AWAC soil has been removed from this area. However, product remains in the southern sidewall and will not be sampled at this time. This sidewall will be further excavated and controlled as AWAC until all visible product has been removed. Future sampling will be conducted under a separate variance for the sidewall once this area has been cleared.

Per Section 2.6.8 of the PSP, one sample will be collected every 20 feet from the floor; therefore, approximately 32 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements. The first sample ID shall be 4BE-P2A22-D-1^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 4BE-P2A22-D-2^U).

Where:

- 4BE = Area 4B Excavation Control
- P2A22 = Plant 2 - AWAC area #22
- D = Discovered AWAC area
- 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
- U = total uranium

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.  
 Field QC samples required: No  
 Field data validation: Yes  
 Analytical data validation: No  
 Data package requirements: ASL B

Justification:

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 12/22/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Frisk <i>[Signature]</i>	1-16-04	X	PROJECT MANAGER: J.D. [Signature]	12/23/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	12/23/03
X	ANALYTICAL CUSTOMER SUPPORT <i>[Signature]</i>	12/30/03		RTIMP Manager	
X	WAO <i>[Signature]</i>	1-5-04	X	SAMPLING MANAGER: T. [Signature]	12/30/03
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: 000108

TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

000109

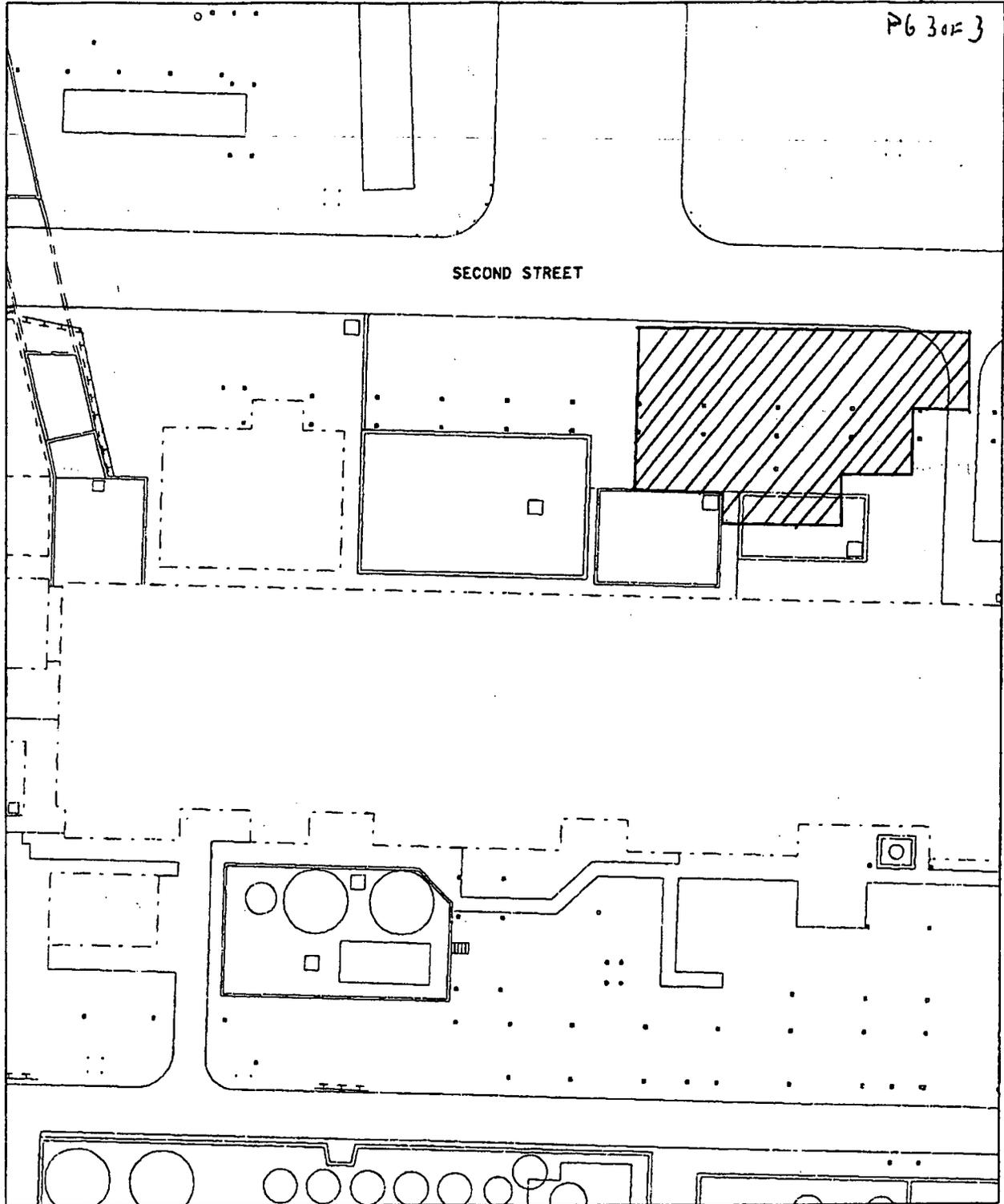
5273

20200-PSP-0009-191

P6 3 of 3

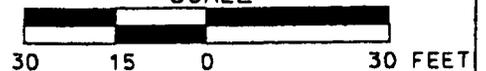
N

SECOND STREET



LEGEND: [Hatched Box] APPROXIMATE SAMPLING AREA

SCALE



V:\FCN\20200-PSP-0009-191.dgn

STATE PLANNER COORDINATE SYSTEM 1983

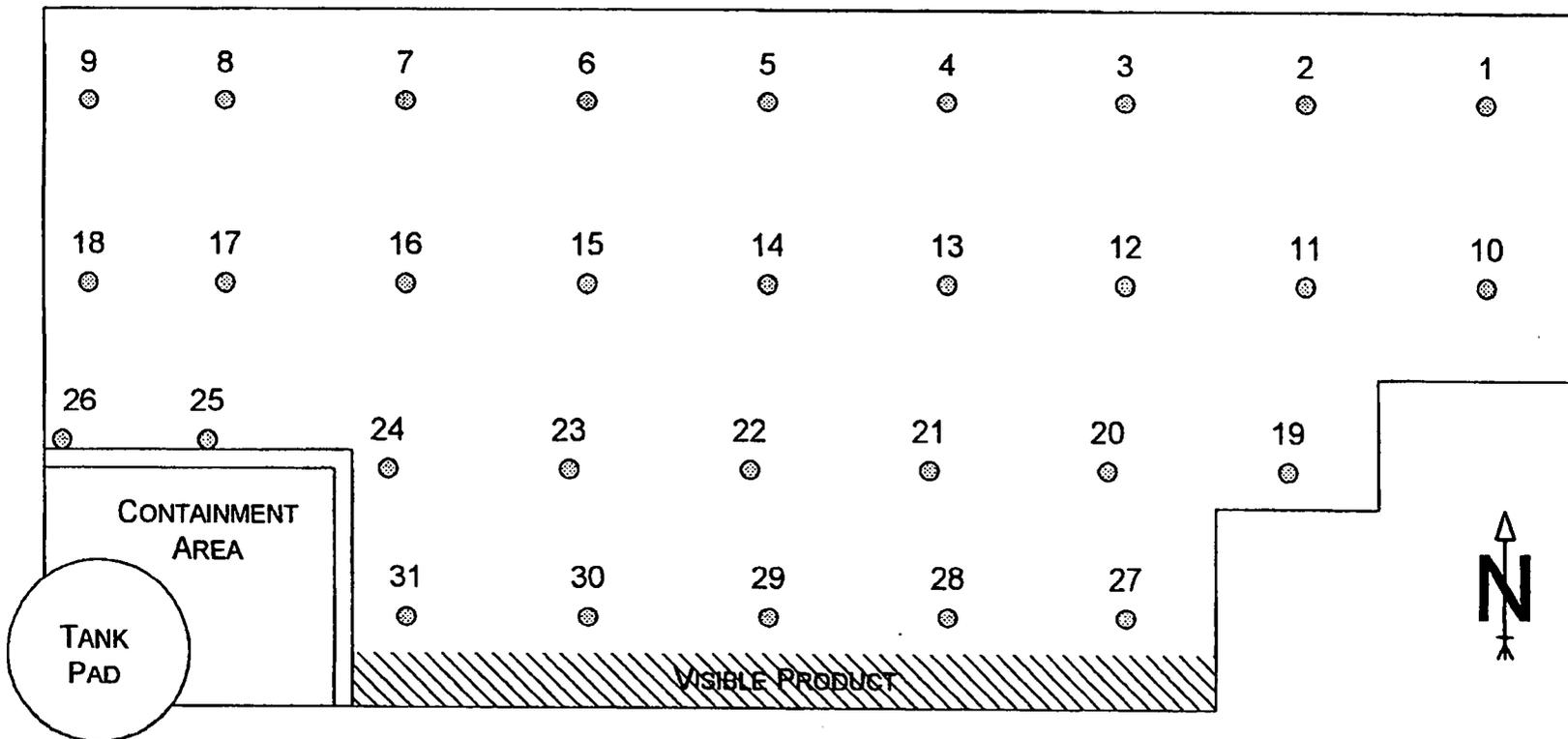
15-DEC-2003

FIGURE 1. V/FCN 20200-PSP-0009-191

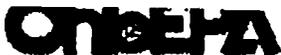
000110

AREA 3A/4A EXCAVATION, CHARACTERIZATION, & PRECERTIFICATION  
20200 - PSP - 0009 - 191  
AWAC AREA, NORTH OF PLANT 2A  
SAMPLED 12/16/03

SECOND STREET



000111



State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: January 12, 2004

SUBJECT: V/FCN 20200-PSP-0009-191 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This V/FCN requests the collection of grab soil samples in above-WAC Area 22 for total uranium in lieu of real-time scanning. It has come to our attention that this sampling has already occurred, so Ohio EPA does not approve this variance.

Post-It* Fax Note	7671	Date	# of pages ▶
To	JD Chiou	From	OEPA
Co /Dept		Co.	
Phone #		Phone #	
Fax #	X5731	Fax #	

Plant2NReal-time\_replace.txt  
Total U (Moisture Corrected)

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200462951	60.6	1.4	0.08	4BE-P2A22-D-1AU
2	200462952	5.56	N/A	0.1	4BE-P2A22-D-2AU
3	200462953	149	4	0.1	4BE-P2A22-D-3AU
4	200462954	8.61	0.27	0.1	4BE-P2A22-D-4AU
5	200462955	5.88	N/A	0.07	4BE-P2A22-D-5AU
6	200462956	80.8	2.2	0.1	4BE-P2A22-D-6AU
7	200462957	123	2	0.1	4BE-P2A22-D-7AU
8	200462958	57.4	1.5	0.1	4BE-P2A22-D-8AU
9	200462959	76.5	1.6	0.07	4BE-P2A22-D-9AU
10	200462960	82.9	2.0	0.08	4BE-P2A22-D-10AU
11	200462961	123	2	0.07	4BE-P2A22-D-11AU
12	200462962	202	3	0.08	4BE-P2A22-D-12AU
13	200462963	15.3	0.3	0.07	4BE-P2A22-D-13AU
14	200462964	112	3	0.07	4BE-P2A22-D-14AU
15	200462965	5.50	N/A	0.07	4BE-P2A22-D-15AU
16	200462966	32.1	0.6	0.07	4BE-P2A22-D-16AU

## Total U

	sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
17	200462967	34.2	1.3	0.08	4BE-P2A22-D-17AU
18	200462968	<4.91	N/A	0.08	4BE-P2A22-D-18AU
19	200462969	<5.03	N/A	0.08	4BE-P2A22-D-19AU
20	200462970	13.1	0.5	0.08	4BE-P2A22-D-20AU
21	200462971	50.0	1.8	0.08	4BE-P2A22-D-21AU
22	200463016	33.3	1.3	0.08	4BE-P2A22-D-22AU
23	200463017	158	6	0.08	4BE-P2A22-D-23AU
24	200463018	26.9	0.9	0.08	4BE-P2A22-D-24AU
25	200463019	84.9	2.6	0.08	4BE-P2A22-D-25AU
26	200463020	33.4	1.1	0.08	4BE-P2A22-D-26AU
27	200463021	319	13	0.08	4BE-P2A22-D-27AU
28	200463022	170	7	0.08	4BE-P2A22-D-28AU
29	200463023	17.1	0.6	0.08	4BE-P2A22-D-29AU
30	200462024	690	27	0.08	4BE-P2A22-D-30AU
31	200463025	265	12	0.08	4BE-P2A22-D-31AU

Determined By: Mark Harper

Approved By: Paul McSwigan

Plant2ETotalU.txt  
Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200463692	<4.93	N/A	0.08	4BE-P2A22-D-32AU
2	200463693	191	6	0.08	4BE-P2A22-D-33AU
3	200463694	65.3	1.9	0.08	4BE-P2A22-D-34AU
4	200463695	474	15	0.08	4BE-P2A22-D-35AU
5	200463696	34.5	0.9	0.08	4BE-P2A22-D-36AU
6	200463697	5.53	0.15	0.08	4BE-P2A22-D-37AU
7	200463698	304	9	0.07	4BE-P2A22-D-38AU
8	200463699	99.1	3.5	0.08	4BE-P2A22-D-39AU
9	200463700	7.27	0.22	0.08	4BE-P2A22-D-40AU
10	200463701	273	8	0.08	4BE-P2A22-D-41AU
11	200463702	43.6	1.4	0.08	4BE-P2A22-D-42AU
12	200463703	41.1	1.2	0.07	4BE-P2A22-D-43AU
13	200463704	157	4	0.08	4BE-P2A22-D-44AU
14	200463705	8.07	0.32	0.08	4BE-P2A22-D-45AU
15	200463706	182	5	0.08	4BE-P2A22-D-46AU
16	200463707	164	5	0.08	4BE-P2A22-D-47AU

Determined By: Mark Harper

Approved By: Paul McSwigan

7:49 AM 12/31/2003

**VARIANCE / FIELD CHANGE NOTICE**

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

V/F: 20200-PSP-0009-192

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 3

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 12/16/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):

**EXCAVATION CONTROL SAMPLING**

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples along the southern end of Area 3B just north of Second Street for total uranium. This sampling replaces the real-time scanning requirements. This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the area defined in Figure 1. This area is approximately 89,800 square feet. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, one sample will be collected every 50 feet; therefore, approximately 36 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The first sample ID shall be 3BE-SE-SF-1^RTL and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-SE-SF-2^RTL).

- Where:
- 3BE = Area 3B Excavation Control
  - SE = Southern End
  - SF = Sampling done after the removal of gravel
  - 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)
  - RTL = Real-Time Replacement (total uranium)

- Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.
- Field QC samples required: No
- Field data validation: Yes
- Analytical data validation: No
- Data package requirements: ASL B

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to determine the proper disposition of the first planned lift of excavated soil. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 12/16/03

N IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
N	QUALITY ASSURANCE: R. Flynn <i>R. Flynn</i>	12/17/03	X	PROJECT MANAGER: J.D. Zilony <i>J.D. Zilony</i>	12/16/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>Frank Miller</i>	12/16/03
N	ANALYTICAL CUSTOMER SUPPORT <i>Deborah Medley</i>	12/16/03		RTMP Manager	
N	WAO <i>Steve Wall</i>	12-19-03	X	SAMPLING MANAGER: T. Mulligan <i>T. Mulligan</i>	12/16/03
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:

**TAL 20200-PSP-0009-H**

COMPONENT	MDL
TOTAL URANIUM	8 ppm

**SAMPLING AND ANALYTICAL REQUIREMENTS**

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)  
All subsequent batches are due in 1 day increments.

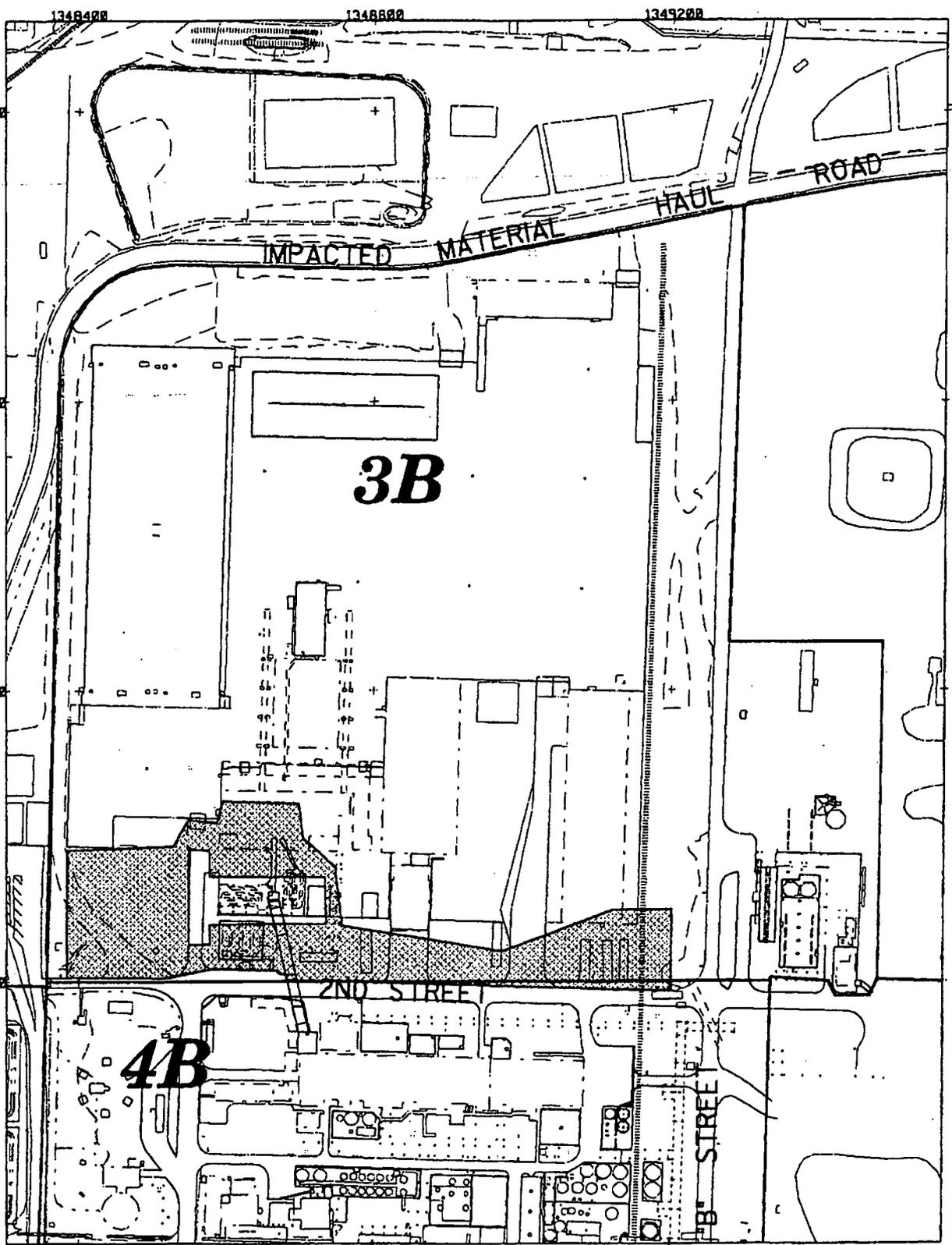
000116

5273

V:\FCM\2020\p200-009.dgn

STATE PLANNING COORDINATE SYSTEM 1983

16-DEC-2003



LEGEND:

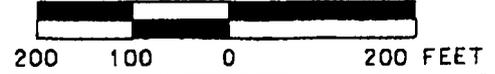


SAMPLE AREA



AREA BOUNDARIES

SCALE



DRAFT

FIGURE 1. V/FCS 2020-PSP-0009-192

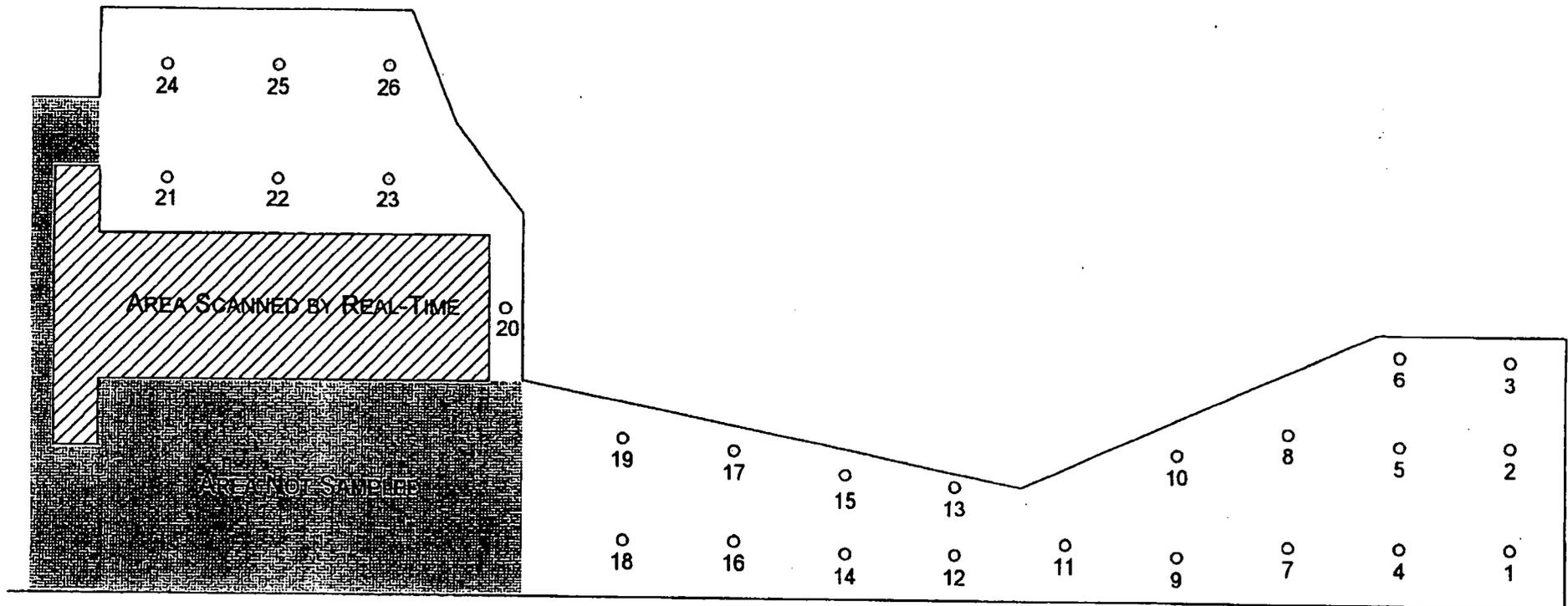
000117

AREA 3A/4A EXCAVATION, CHARACTERIZATION, &  
PRECERTIFICATION

20200 - PSP - 0009 - 192

AREA 3B, JUST NORTH OF SECOND STREET

SAMPLED 12/17/03



SECOND STREET

000118

5273



State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 286-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou  
FROM: Donna Bohannon (DB)  
DATE: December 17, 2003

Post-It Fax Note	7671	Date	12-17-03	# of pages	3
To	J.D. Chiou	From	OHIOEPA		
Co/Dept		Co			
Phone #		Phone #			
Fax #	5131	Fax #			

SUBJECT: V/FCN 20200-PSP-0009-192 Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification

This V/FCN is a request to collect 36 grab soil samples, one every 50 feet, along the south end of Area 3B for total uranium. This sampling will determine the layout of the first lift in the excavation. Due to current field conditions, this sampling will replace real-time scanning. Ohio EPA approves of this variance.

3BSouthernEndRTR.txt  
Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200463036	<4.73	N/A	0.08	3BE-SE-SF-1^RTL
2	200463037	14.3	0.4	0.08	3BE-SE-SF-2^RTL
3	200463038	7.38	0.21	0.08	3BE-SE-SF-3^RTL
4	200463039	14.1	0.4	0.08	3BE-SE-SF-4^RTL
5	200463040	9.92	0.29	0.08	3BE-SE-SF-5^RTL
6	200463041	8.03	0.27	0.08	3BE-SE-SF-6^RTL
7	200463042	13.7	0.4	0.08	3BE-SE-SF-7^RTL
8	200463043	<4.63	N/A	0.07	3BE-SE-SF-8^RTL
9	200463044	32.3	0.9	0.08	3BE-SE-SF-9^RTL
10	200463045	17.0	0.5	0.08	3BE-SE-SF-10^RTL
11	200463046	18.3	0.6	0.08	3BE-SE-SF-11^RTL
12	200463047	17.3	0.6	0.08	3BE-SE-SF-12^RTL
13	200463048	16.6	0.6	0.08	3BE-SE-SF-13^RTL
14	200463049	21.9	0.6	0.08	3BE-SE-SF-14^RTL
15	200463050	<4.71	N/A	0.08	3BE-SE-SF-15^RTL
16	200463051	34.6	1.0	0.08	3BE-SE-SF-16^RTL
17	200463052	65.4	1.7	0.07	3BE-SE-SF-17^RTL
18	200463053	18.4	0.6	0.08	3BE-SE-SF-18^RTL
19	200463054	16.9	0.5	0.08	3BE-SE-SF-19^RTL

Determined By: Paul McSwigan

Approved By: Mark Harper

4:22 PM 12/18/2003

<b>VARIANCE / FIELD CHANGE NOTICE</b>	<b>Significant?</b> (Yes or No) <b>YES</b>	V/F: 20200-PSP-0009-193
<b>WBS NO.:</b> PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0		<b>Page:</b> / of 3
<b>PROJECT TITLE:</b> Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification		<b>Date:</b> 12/29/03

**VARIANCE / FIELD CHANGE NOTICE (Include justification):**

**EXCAVATION CONTROL SAMPLING**

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 4B from Plant 2 (AWAC area #22 discovered) for total uranium. This variance continues where variance 20200-PSP-0009-191 left off. All exposed areas where AWAC soil has been removed will be physically sampled. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 4B is in process and will be submitted in the near future. This area is either bounded by gravel/concrete sidewalls or the soil sidewalls do not exist because the area is adjacent to previously excavated areas; therefore, only surface samples are to be collected from the floor of this area. Samples are to be collected in the discovered above-WAC total uranium area. This area is approximately 10,000 square feet and was surface scraped to remove visible product. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, one sample will be collected every 20 feet from the floor; therefore, approximately 25 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements. The first sample ID shall be 4BE-P2A22-D-32^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 4BE-P2A22-D-33^U).

- Where:
- 4BE = Area 4B Excavation Control
  - P2A22 = Plant 2 – AWAC area #22
  - D = Discovered AWAC area
  - 32, 33, 34, etc. = Consecutive Sample Numbers (Locations)
  - U = total uranium

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.  
 Field QC samples required: No  
 Field data validation: Yes  
 Analytical data validation: No  
 Data package requirements: ASL B

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

**REQUESTED BY:** Greg Lupton **Date:** 12/29/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Frisk <i>[Signature]</i>	1-16-04	X	PROJECT MANAGER: J.D. Cron <i>[Signature]</i>	12/30/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>[Signature]</i>	12/29/03
X	ANALYTICAL CUSTOMER SUPPORT: Heather Medley <i>[Signature]</i>	12/30/03		RTIMP Manager	
X	WAO Christa Wells <i>[Signature]</i>	1-5-04	X	SAMPLING MANAGER: T. Bylund <i>[Signature]</i>	12/30/03
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:

TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

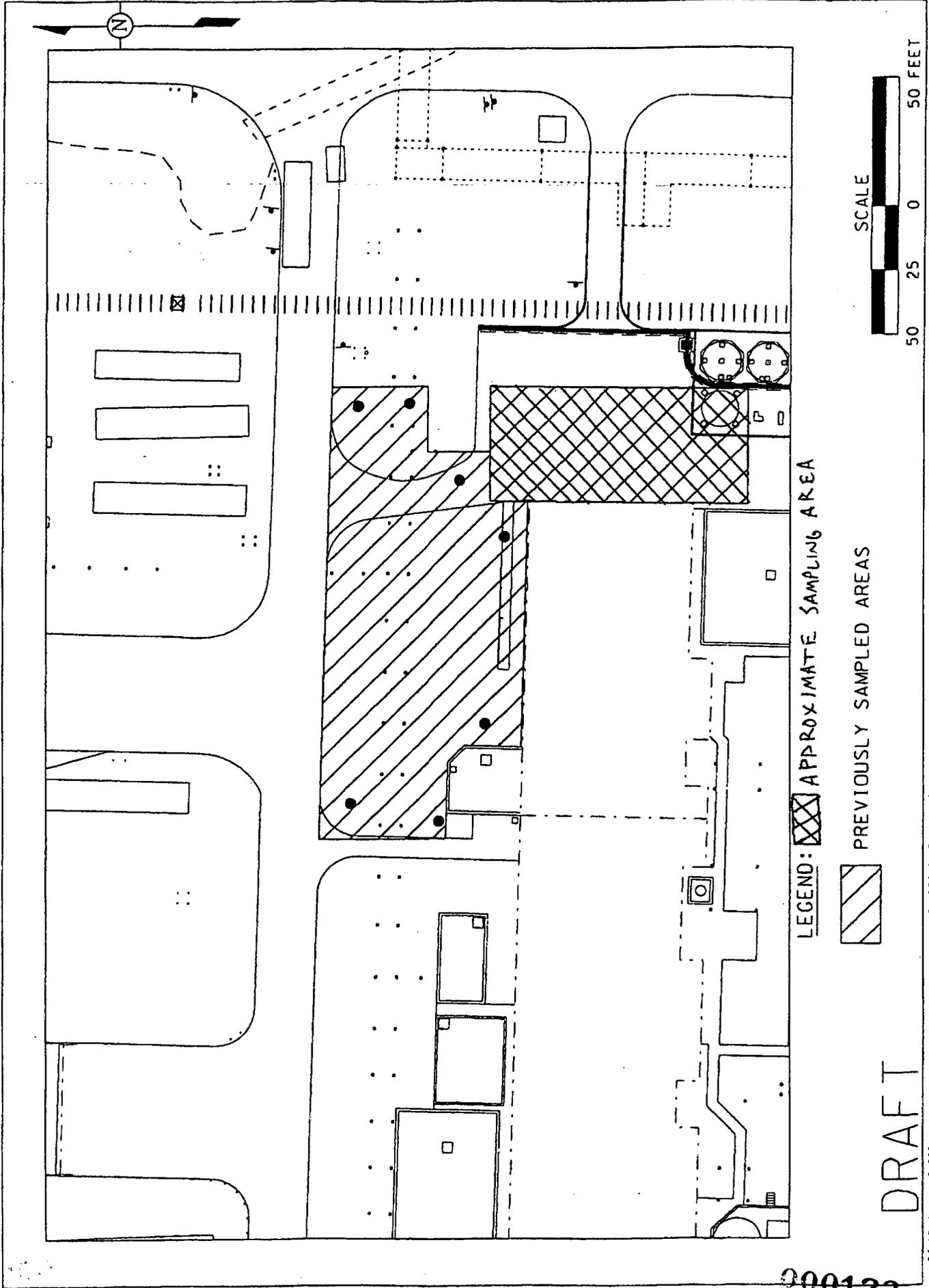
SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

000122

5273



LEGEND: [Cross-hatch symbol] APPROXIMATE SAMPLING AREA

[Diagonal hatching symbol] PREVIOUSLY SAMPLED AREAS



DRAFT

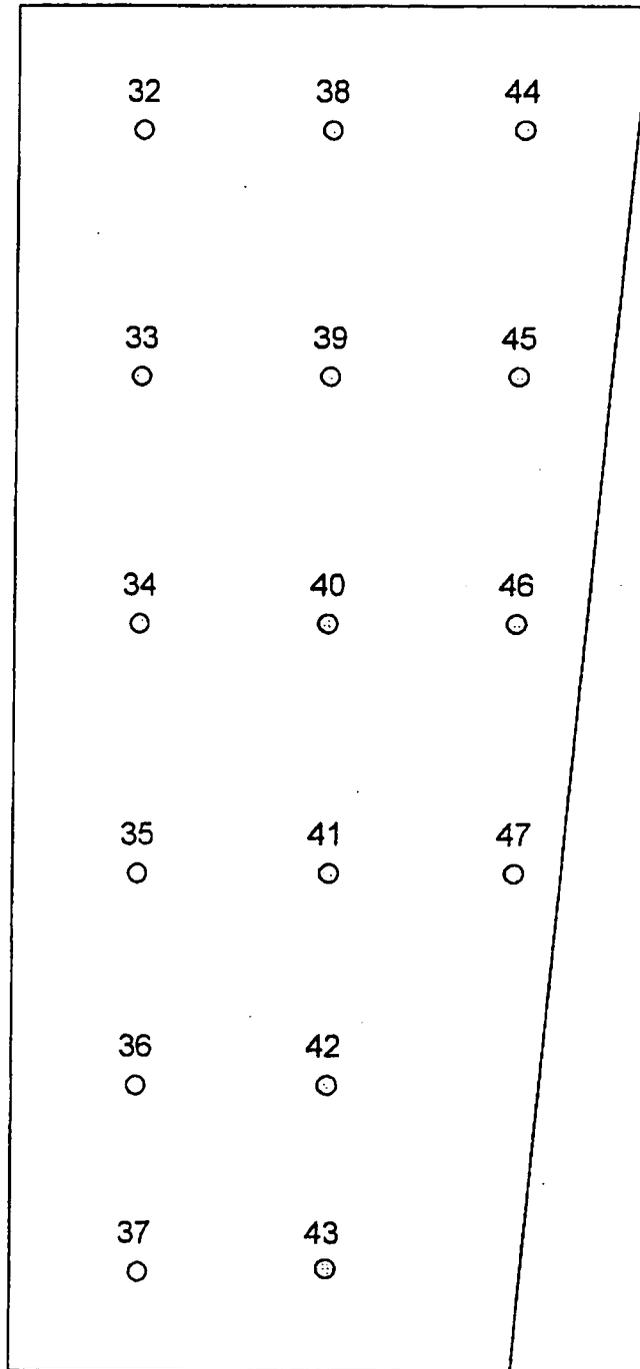
FIGURE 1. V/FCN 20200-PSP-0009-193

30-DEC-2003

v:\24m12\adp\p1c2\_0020.dgn  
STATE PLANAR COORDINATE SYSTEM 1983

000123

**AREA 3A/4A EXCAVATION, CHARACTERIZATION, & PRECERTIFICATION  
20200 - PSP - 0009 - 193  
PLANT 2A, AWAC AREA #22  
SAMPLED 12/29/03**





State of Ohio Environmental Protection Agency

5273

## Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

## MEMO

**TO:** J.D. Chiou

**FROM:** Michelle Waller *MW*

**DATE:** January 12, 2004

**SUBJECT:** V/FCN 20200-PSP-0009-193 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This V/FCN requests the collection of grab soil samples in above-WAC Area 23 for total uranium in lieu of real-time scanning. It has come to our attention that this sampling has already occurred, so Ohio EPA does not approve this variance.

Plant2ETotalU.txt  
Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200463692	<4.93	N/A	0.08	4BE-P2A22-D-32AU
2	200463693	191	6	0.08	4BE-P2A22-D-33AU
3	200463694	65.3	1.9	0.08	4BE-P2A22-D-34AU
4	200463695	474	15	0.08	4BE-P2A22-D-35AU
5	200463696	34.5	0.9	0.08	4BE-P2A22-D-36AU
6	200463697	5.53	0.15	0.08	4BE-P2A22-D-37AU
7	200463698	304	9	0.07	4BE-P2A22-D-38AU
8	200463699	99.1	3.5	0.08	4BE-P2A22-D-39AU
9	200463700	7.27	0.22	0.08	4BE-P2A22-D-40AU
10	200463701	273	8	0.08	4BE-P2A22-D-41AU
11	200463702	43.6	1.4	0.08	4BE-P2A22-D-42AU
12	200463703	41.1	1.2	0.07	4BE-P2A22-D-43AU
13	200463704	157	4	0.08	4BE-P2A22-D-44AU
14	200463705	8.07	0.32	0.08	4BE-P2A22-D-45AU
15	200463706	182	5	0.08	4BE-P2A22-D-46AU
16	200463707	164	5	0.08	4BE-P2A22-D-47AU

Determined By: Mark Harper

Approved By: Paul McSwigan

7:49 AM 12/31/2003

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-194

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 3

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 12/30/03

VARIANCE / FIELD CHANGE NOTICE (Include justification):  
DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time lift scanning requirements for total uranium in Area 4B northeast of Plant 2 (see Figure 1). This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 4B is in process and will be submitted in the near future. This area is approximately 15,000 square feet. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, the floor will be divided into a 50' X 50' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 50 linear feet along the sidewalls of the excavation will be collected at a minimum of one sample per sidewall. The sidewalls will be sampled in the 0 - 4-foot interval as measured from the floor; therefore, approximately 12 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The first sample ID shall be 4BE-P2NE-1^RTL and each additional sample ID will be sequentially numbered (e.g. second sample ID is 4BE-P2NE-2^RTL).

- Where:  
 4BE = Area 4B Excavation Control  
 P2NE = Plant 2 northeast real-time replacement  
 1, 2, 3, etc. = Consecutive Sample Numbers (Locations)  
 RTL = Real-time lift scan

- Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.  
 Field QC samples required: No  
 Field data validation: Yes  
 Analytical data validation: No  
 Data package requirements: ASL B

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on the floor of this surface scraped area. Therefore, physical samples for total uranium analysis will be collected. Physical samples will be taken in lieu of Real Time scans to represent the lift scan for this area. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 12/30/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>[Signature]</i>	1-16-04	X	PROJECT MANAGER: D. Chou <i>[Signature]</i>	12/30/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: Frank Miller <i>[Signature]</i>	12/30/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>[Signature]</i>	12/30/03		RTIMP Manager	
X	WAO <i>[Signature]</i>	1-5-04	X	SAMPLING MANAGER: T. Eufurlage <i>[Signature]</i>	12/30/03
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:

**TAL 20200-PSP-0009-H**

COMPONENT	MDL
TOTAL URANIUM	8 ppm

**SAMPLING AND ANALYTICAL REQUIREMENTS**

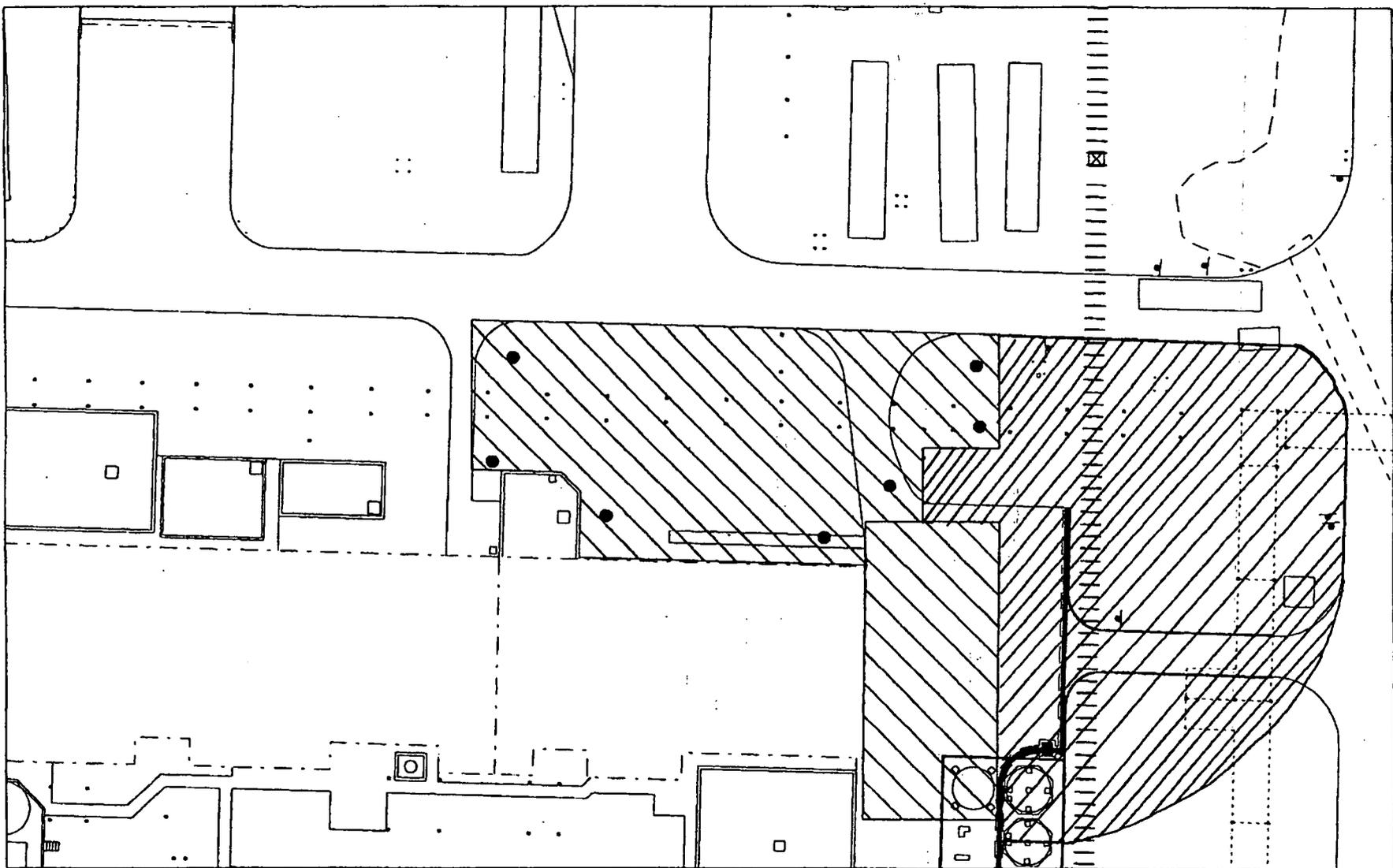
Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

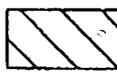
000128

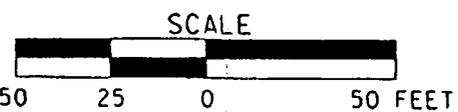
5273

0128



LEGEND:  APPROXIMATE SAMPLING AREA

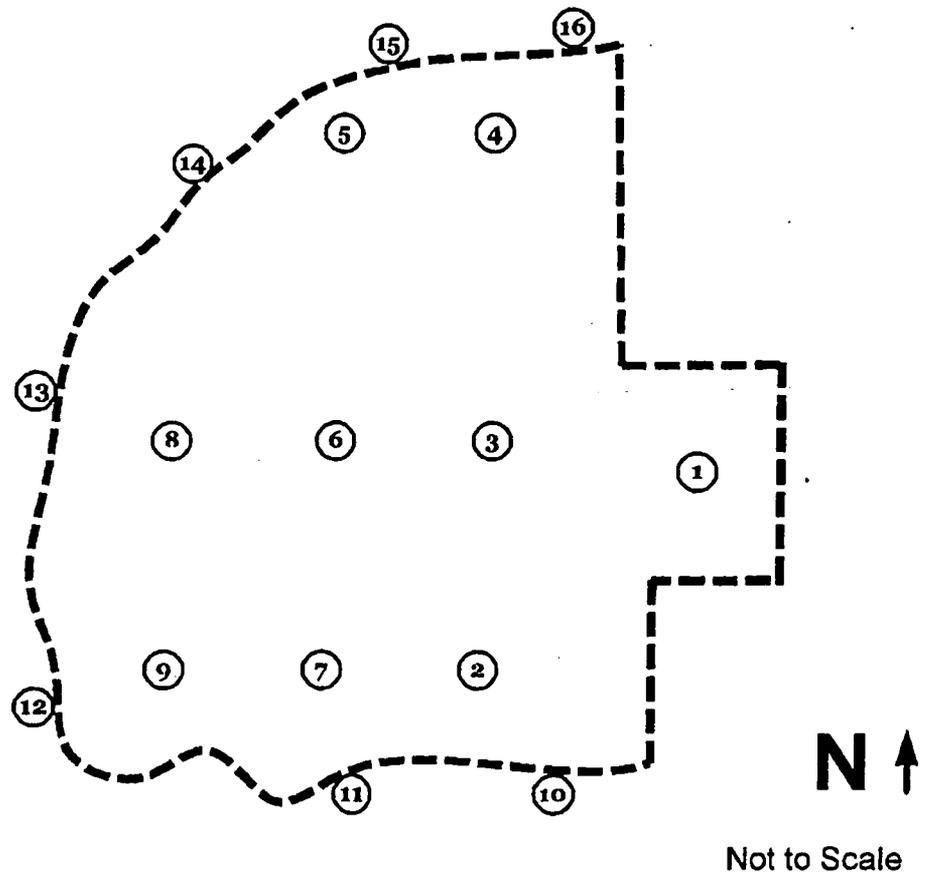
 PREVIOUSLY SAMPLED AREAS



DRAFT

000129

**AREA 3A/4A EXCAVATION, CHARACTERIZATION, & PRECERTIFICATION**  
**20200 - PSP - 0009 - 194**  
**SAMPLED 12/30/2003**



1 to 9 floor samples  
10 to 16 sidewall samples



State of Ohio Environmental Protection Agency

5273

Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

MEMO

TO: J.D. Chiou

FROM: Michelle Waller *MW*

DATE: January 12, 2004

SUBJECT: V/FCN 20200-PSP-0009-194 *Project Specific Plan for Area 3A/4A  
Excavation Characterization and Precertification*

This V/FCN requests the collection of grab soil samples in Area 4B from an area northeast of Plant 2 for total uranium in lieu of real-time scanning. It has come to our attention that this sampling has already occurred, so Ohio EPA does not approve this variance.

## Plant2NEReal-time\_replace.txt

Summary Page: RELEASE #1000029995

	Sample ID	Total U Result TPU ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200463725	308	10	0.08	4BE-P2NE-1^RTL
2	200463726	6.68	0.23	0.08	4BE-P2NE-2^RTL
3	200463727	152	4	0.08	4BE-P2NE-3^RTL
4	200463728	302	10	0.08	4BE-P2NE-4^RTL
5	200463729	69.4	2.4	0.08	4BE-P2NE-5^RTL
6	200463730	25.6	0.8	0.08	4BE-P2NE-6^RTL
7	200463731	29.4	0.7	0.08	4BE-P2NE-7^RTL
8	200463732	28.0	0.7	0.08	4BE-P2NE-8^RTL
9	200463733	51.4	1.6	0.08	4BE-P2NE-9^RTL
10	200463734	45.4	1.7	0.08	4BE-P2NE-10^RTL
11	200463735	32.1	0.9	0.08	4BE-P2NE-11^RTL
12	200463736	8.76	0.22	0.08	4BE-P2NE-12^RTL
13	200463737	173	6	0.08	4BE-P2NE-13^RTL
14	200463738	64.6	1.9	0.08	4BE-P2NE-14^RTL
15	200463739	122	3	0.08	4BE-P2NE-15^RTL
16	200463740	26.0	0.8	0.08	4BE-P2NE-16^RTL

All samples listed were analyzed by Mark Durrrough.  
They were cross-checked by Mr. Mark Harper.

**VARIANCE / FIELD CHANGE NOTICE**

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

V/F: 20200-PSP-0009-195

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 3

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 12/30/03

**VARIANCE / FIELD CHANGE NOTICE (Include justification):**  
**DRAFT**

**EXCAVATION CONTROL SAMPLING**

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples to replace the real-time scanning requirements in Area 4B from Plant 2 (AWAC area #23 discovered) for total uranium. All exposed areas where AWAC soil has been removed will be physically sampled. This particular above-WAC area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 4B is in process and will be submitted in the near future. This area is either bounded by gravel/concrete sidewalls or the soil sidewalls do not exist because the area is adjacent to previously excavated areas; therefore, only surface samples are to be collected from the floor of this area. Samples are to be collected in the discovered above-WAC total uranium area. This area is approximately 6,000 square feet and was surface scraped to remove visible product. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, one sample will be collected every 20 feet from the floor; therefore, approximately 15 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements. The first sample ID shall be 4BE-P2A23-D-1^U and each additional sample ID will be sequentially numbered (e.g. second sample ID is 4BE-P2A23-D-2^U).

Where:

- 4BE = Area 4B Excavation Control
- P2A23 = Plant 2 - AWAC area #23
- D = Discovered AWAC area
- 1, 2, 3 etc. = Consecutive Sample Numbers (Locations)
- U = total uranium

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to ensure all above-WAC total uranium contamination has been removed during excavation. Although this particular AWAC area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 12/30/03

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>[Signature]</i>	1-16-04	X	PROJECT MANAGER: D. Chilton <i>[Signature]</i>	12/30/03
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	12/30/03
X	ANALYTICAL CUSTOMER SUPPORT: <i>[Signature]</i>	12/30/03		RTIMP Manager	
X	<i>[Signature]</i>	1-5-04	X	SAMPLING MANAGER: T. Buhlman <i>[Signature]</i>	12/30/03
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:

## TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

## SAMPLING AND ANALYTICAL REQUIREMENTS

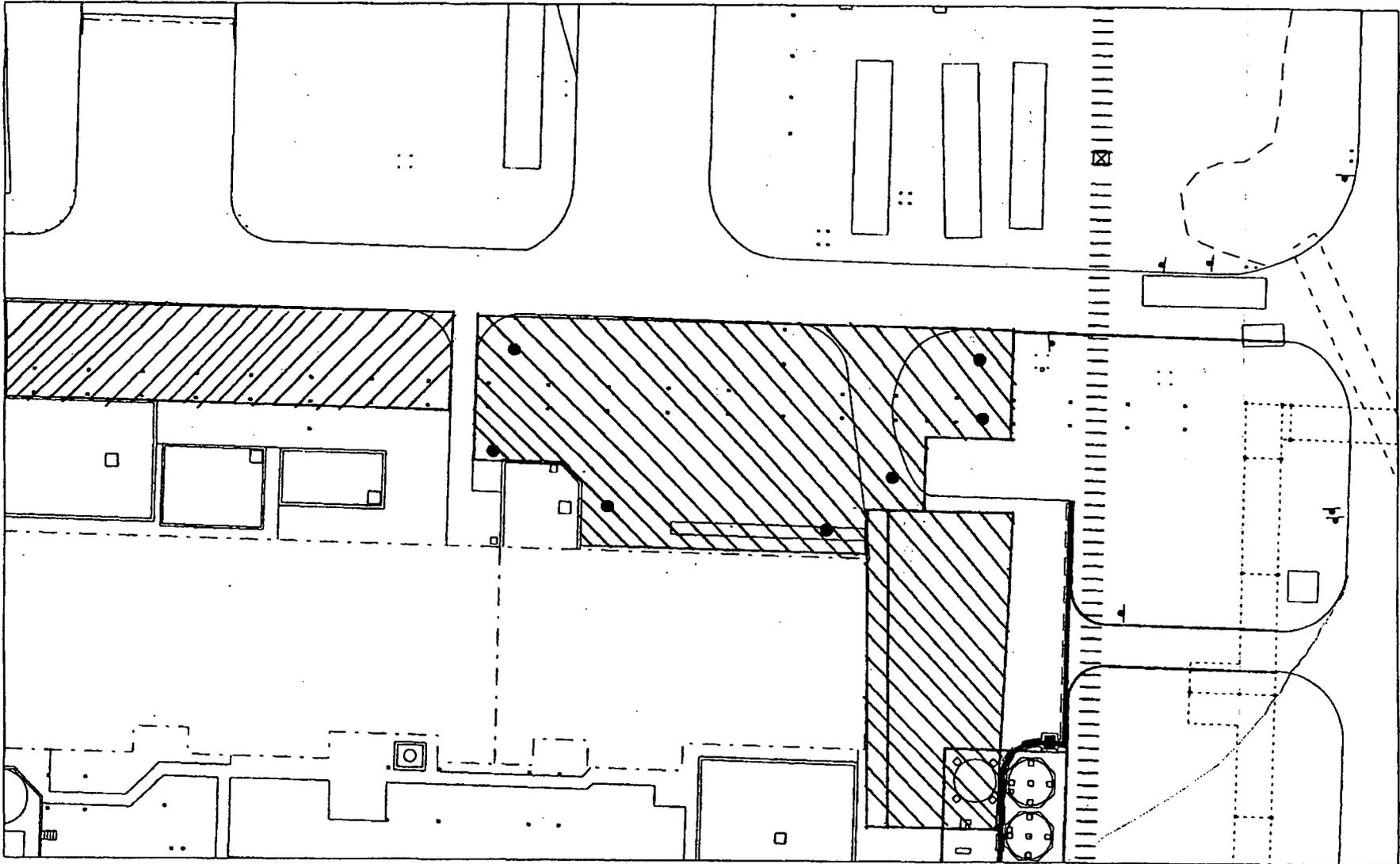
Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

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1756



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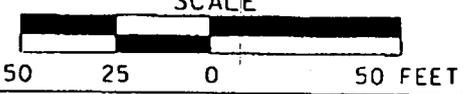
 APPROXIMATE SAMPLING AREA

LEGEND:

 PREVIOUSLY SAMPLED AREAS



SCALE

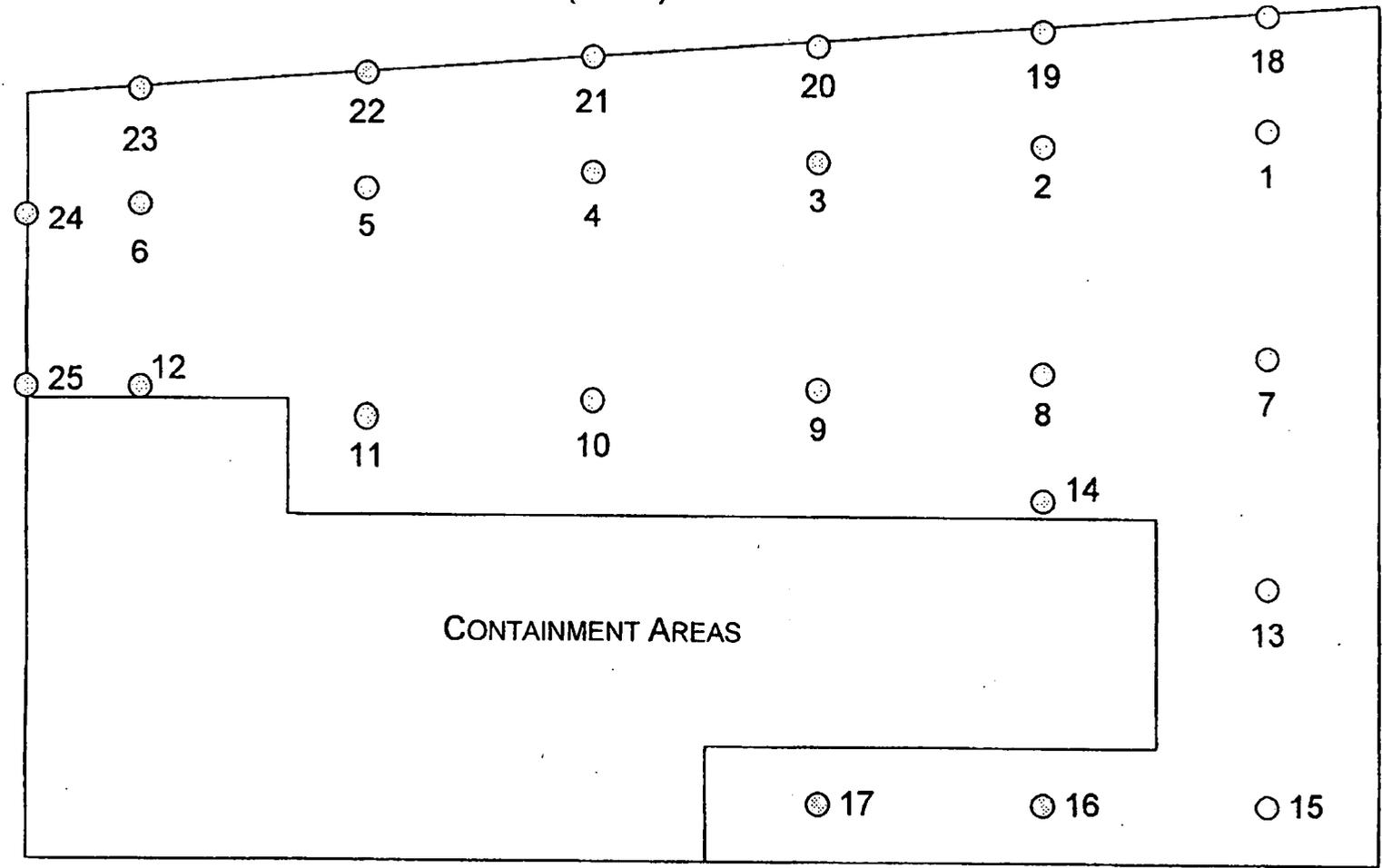


DRAFT

5273

AREA 3A/4A EXCAVATION, CHARACTERIZATION, & PRECERTIFICATION  
20200 - PSP - 0009 - 195  
NORTH OF PLANT 2A, AWAC AREA #23  
SAMPLED 12/30/03

FLOOR SAMPLES - 4BE-P2A23-(1-17)  
SIDEWALL SAMPLES - 4BE-P2A23-(18-25)



000136

5273



State of Ohio Environmental Protection Agency

5273

## Southwest District Office

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (937) 285-6367 FAX: (937) 285-6404

Bob Taft, Governor  
Maureen O'Connor, Lt. Governor  
Christopher Jones, Director

## MEMO

TO: J.D. Chiou

FROM: Michelle Waller <sup>mw</sup>

DATE: January 12, 2004

SUBJECT: V/FCN 20200-PSP-0009-196 *Project Specific Plan for Area 3A/4A*  
*Excavation Characterization and Precertification*

This V/FCN requests the collection of grab soil samples in above-WAC Area 24 for total uranium in lieu of real-time scanning. It has come to our attention that this sampling has already occurred, so Ohio EPA does not approve this variance.

Plant2AWAC#23\_TotalU.txt  
 Summary Page: RELEASE #100029997

	Sample ID	Total U Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
1	200463745	56.8	1.6	0.08	4BE-P2A23-D-1AU
2	200463746	48.5	1.7	0.08	4BE-P2A23-D-2AU
3	200463747	8.93	0.29	0.08	4BE-P2A23-D-3AU
4	200463748	59.5	1.5	0.08	4BE-P2A23-D-4AU
5	200463749	78.4	3.1	0.08	4BE-P2A23-D-5AU
6	200463750	32.5	1.1	0.08	4BE-P2A23-D-6AU
7	200463751	8.54	0.28	0.08	4BE-P2A23-D-7AU
8	200463752	15.2	0.5	0.08	4BE-P2A23-D-8AU
9	200463753	52.0	1.8	0.08	4BE-P2A23-D-9AU
10	200463754	5.54	0.19	0.08	4BE-P2A23-D-10AU
11	200463755	169	6	0.08	4BE-P2A23-D-11AU
12	200463756	134	4	0.08	4BE-P2A23-D-12AU
13	200463757	210	6	0.08	4BE-P2A23-D-13AU
14	200463758	126	5	0.08	4BE-P2A23-D-14AU
15	200463759	55.5	1.6	0.08	4BE-P2A23-D-15AU
16	200463760	39.2	1.2	0.08	4BE-P2A23-D-16AU
17	200463761	262	8	0.08	4BE-P2A23-D-17AU
18	200463762	40.4	1.2	0.08	4BE-P2A23-D-18AU
19	200463763	78.2	2.3	0.08	4BE-P2A23-D-19AU
20	200463764	60.9	1.8	0.08	4BE-P2A23-D-20AU

Release 1000029996

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UserSampleID
17	200463789	160	4	0.08	4BE-P2A23-D-21AU
18	200463790	243	7	0.08	4BE-P2A23-D-22AU
19	200463791	33.5	0.9	0.08	4BE-P2A23-D-23AU
20	200463792	68.4	2.1	0.08	4BE-P2A23-D-24AU
21	200463793	48.8	1.5	0.08	4BE-P2A23-D-25AU

All samples listed were analyzed by Mark Durrrough.  
 They were cross-checked by Mr. Mark Harper.

**VARIANCE / FIELD CHANGE NOTICE**Significant?  
(Yes or No) **YES**

V/F: 20200-PSP-0009-197

**WBS NO.:** PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: | of 4

**5273****PROJECT TITLE:** Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 1/09/04

**VARIANCE / FIELD CHANGE NOTICE (Include justification):****DRAFT****EXCAVATION CONTROL SAMPLING**

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples along the utility trench by the former Plant 1 Ore Silos in Area 3B. This sampling replaces the real-time scanning requirements. This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the area defined in Figure 1. This area is approximately 8' X 100'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, the floor will be divided into a 50' X 50' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 50 linear feet along the sidewalls of the excavation will be collected at a minimum of one sample per sidewall. The sidewalls will be sampled in the 0 - 4-foot interval as measured from the floor; therefore, approximately 6 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The first sample ID shall be 3BE-UT-SF-1^RTL and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-UT-SF-2^RTL).

Where:

3BE = Area 3B Excavation Control

UT = Utility Trench

SF = Sampling done after the removal of concrete

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

RTL = Real-Time Replacement (total uranium)

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

**000139**

**VARIANCE / FIELD CHANGE NOTICE**

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

V/F: 20200-PSP-0009-197

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 2 of 4 **527**

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 1/09/04

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to determine the proper disposition of the first planned lift of excavated soil. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 1/09/04

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske <i>R. Friske</i>	<i>1/16/04</i>	X	PROJECT MANAGER: J. Chou <i>J. Chou</i>	<i>1/13/04</i>
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>F. Miller</i>	<i>1/12/04</i>
X	ANALYTICAL CUSTOMER SUPPORT: <i>Heather Mackley</i>	<i>1/13/04</i>		RTIMP Manager	
X	WAO <i>Chris Wald</i>	<i>1-13-04</i>	X	SAMPLING MANAGER: T. Furbush <i>Tom Furbush</i>	<i>1/12/04</i>

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:

000140

6752

## TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)  
All subsequent batches are due in 1 day increments.

000141

-5273

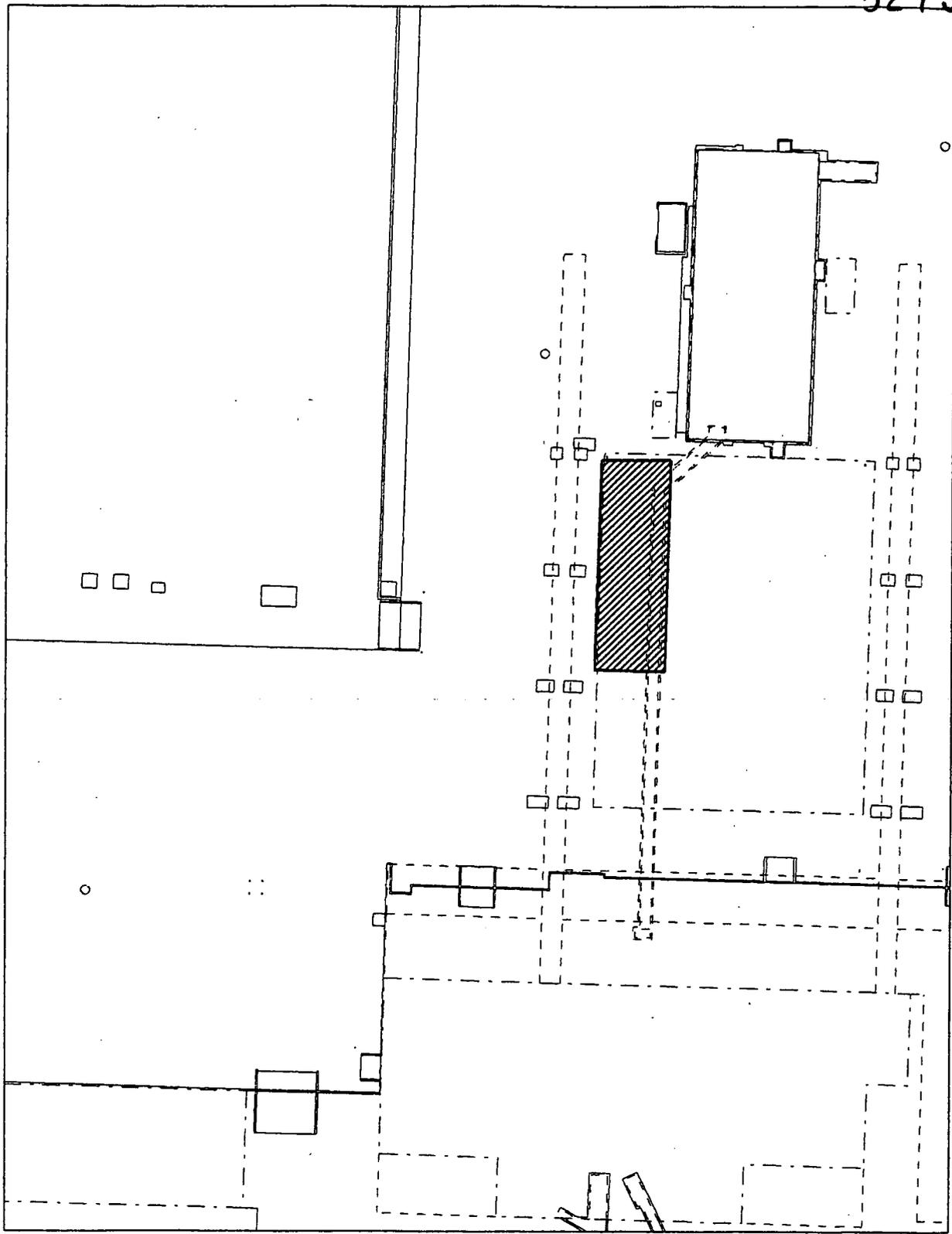
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STATE PLANNING COORDINATE SYSTEM 1983

12-JAN-2004



**LEGEND:**

- AREA BOUNDARY
- APPROXIMATE SAMPLING AREA

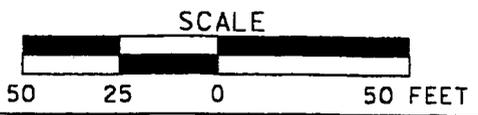


FIGURE 1. V/FCN 20200-PSP-0009-197

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P1-osilo-utility trench 20200-0009-197.txt  
Total U

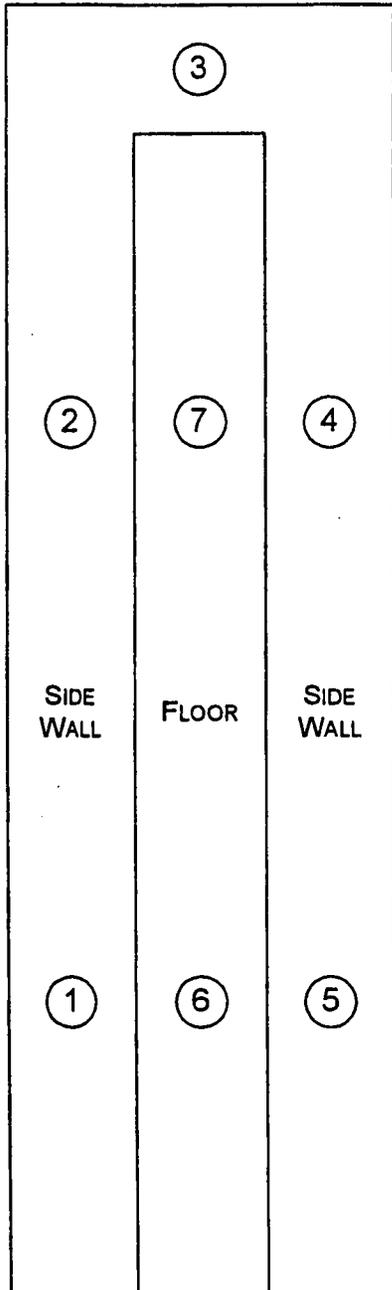
	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UsersampleID
1	200464173	<4.95	N/A	0.08	3BE-UT-SF-1^RTL
2	200464174	<4.89	N/A	0.08	3BE-UT-SF-2^RTL
3	200464175	41.5	1.3	0.08	3BE-UT-SF-3^RTL
4	200464176	12.6	0.5	0.08	3BE-UT-SF-4^RTL
5	200464177	5.61	0.20	0.08	3BE-UT-SF-5^RTL
6	200464178	7.23	0.26	0.08	3BE-UT-SF-6^RTL
7	200464179	15.1	0.5	0.08	3BE-UT-SF-7^RTL

Determined By: Mark Harper

Approved By: Paul McSwigan

7:42 AM 1/12/2004

AREA 3A/4A EXCAVATION,  
CHARACTERIZATION, &  
PRECERTIFICATION  
20200 - PSP - 0009 - 197  
AREA 3B, PLANT 1 ORE SILOS  
SAMPLED 01/09/04



**VARIANCE / FIELD CHANGE NOTICE**Significant?  
(Yes or No) **YES**

V/F: 20200-PSP-0009-198

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: / of 4 **5273**PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization  
and Precertification

Date: 1/12/04

**VARIANCE / FIELD CHANGE NOTICE (Include justification):****DRAFT****EXCAVATION CONTROL SAMPLING**

This Variance/Field Change Notice (VFCN) documents the collection of grab soil samples along the utility trench by the former Plant 1 Ore Silos in Area 3B. This area is an extension to the south of the area sampled under variance 20200-PSP-0009-197. This sampling replaces the real-time scanning requirements. This particular area is not in the 3A/4A scope. A formal PSP to describe the remainder of Area 3B is in process and will be submitted in the near future. Samples are to be collected in the area defined in Figure 1. This area is approximately 8' X 100'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Per Section 2.6.8 of the PSP, the floor will be divided into a 50' X 50' grid and one location will be marked in each block. A minimum of two samples at representative spacing will be collected. Additionally, one sample every 50 linear feet along the sidewalls of the excavation will be collected at a minimum of one sample per sidewall. The sidewalls will be sampled in the 0 - 4-foot interval as measured from the floor; therefore, approximately 7 samples will be collected for total uranium (TAL H) from this area. See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The first sample ID shall be 3BE-UT-SF-8^RTL and each additional sample ID will be sequentially numbered (e.g. second sample ID is 3BE-UT-SF-9^RTL).

Where:

3BE = Area 3B Excavation Control

UT = Utility Trench

SF = Sampling done after the removal of concrete

8, 9, 10, etc. = Consecutive Sample Numbers (Locations)

RTL = Real-Time Replacement (total uranium)

Surveying required: Yes. Surveying of sample locations will occur after samples have been collected.

Field QC samples required: No

Field data validation: Yes

Analytical data validation: No

Data package requirements: ASL B

**000145**

27

VARIANCE / FIELD CHANGE NOTICE

Significant?  
(Yes or No) YES

V/F: 20200-PSP-0009-198

WBS NO.: PROJECT/DOCUMENT/ECDC # 20200-PSP-0009 Rev.0

Page: 2 of 4

5273

PROJECT TITLE: Project Specific Plan for Area 3A/4A Excavation Characterization and Precertification

Date: 1/12/04

**Justification:**

Due to the existing field conditions real-time scanning could not be performed on this area. Therefore, physical samples for total uranium analysis will be collected. Physical sampling is required to determine the proper disposition of the first planned lift of excavated soil. Although this particular area is outside of the 3A/4A boundaries, it is characteristically similar to the various areas in 3A/4A; therefore, this area to be sampled is included with the 3A/4A PSP.

Per Section 2.3.1 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton

Date: 1/12/04

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: B. Fiske <i>[Signature]</i>	1-16-04	X	PROJECT MANAGER: J.D. Chou <i>[Signature]</i>	1/24/04
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller <i>[Signature]</i>	1/12/04
X	ANALYTICAL CUSTOMER SUPPORT: <i>[Signature]</i>	1/13/04		RTIMP Manager	
X	<i>[Signature]</i>	1-13-04	X	SAMPLING MANAGER: T. Bullock <i>[Signature]</i>	1/12/04

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:

## TAL 20200-PSP-0009-H

COMPONENT	MDL
TOTAL URANIUM	8 ppm

## SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container	Sample Volume/Mass
TAL H (Total Uranium)	Solid	Onsite	B	9 a.m. next day	None	12 months	Appropriate Size Plastic or Glass	50 g

\* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)  
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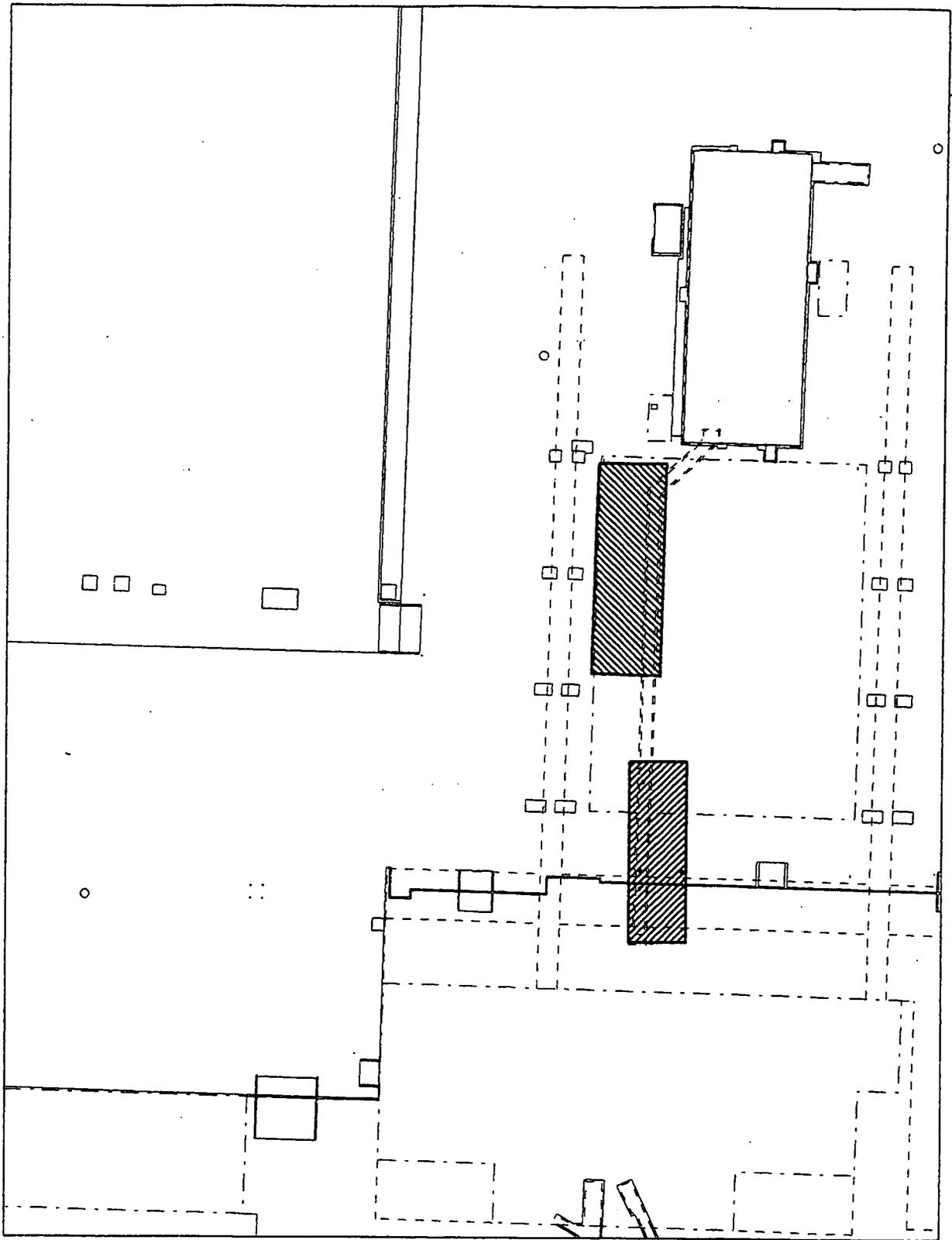
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STATE PLANNING COORDINATE SYSTEM 1983

21-JAN-2004



**LEGEND:**



APPROXIMATE SAMPLING AREA



PREVIOUSLY SAMPLED AREA

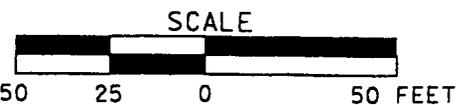
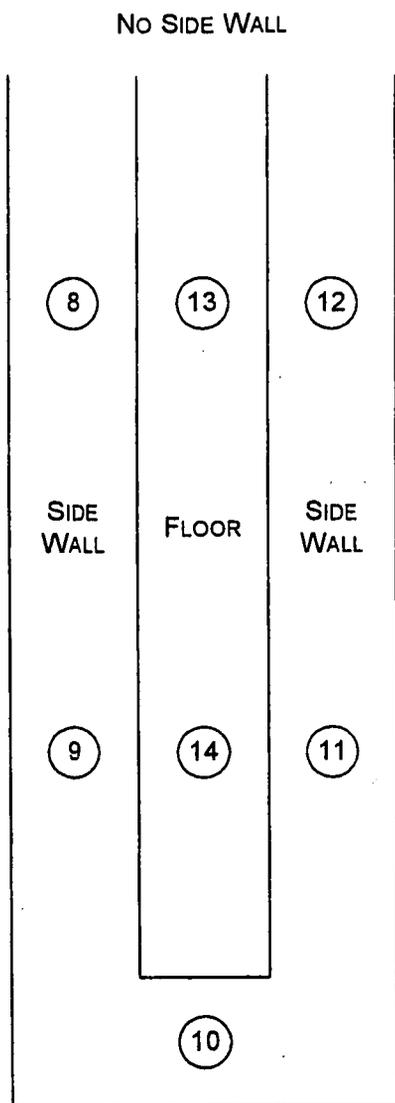


FIGURE 1. V/FCN 20200-PSP-0009-198

AREA 3A/4A EXCAVATION,  
CHARACTERIZATION, &  
PRECERTIFICATION  
20200 - PSP - 0009 - 198  
AREA 3B, PLANT 1 ORE SILOS  
SAMPLED 01/12/04



P1-OSilo-utility trench 20200-0009-198.txt  
Total U

	Sample ID	Result ug/g dry	TPU ug/g dry	LMDC ug/g	UsersampleID
8	200464180	<4.93	N/A	0.08	3BE-UT-SF-8^RTL
9	200464181	<4.95	N/A	0.08	3BE-UT-SF-9^RTL
10	200464182	<4.91	N/A	0.08	3BE-UT-SF-10^RTL
11	200464227	<4.90	N/A	0.08	3BE-UT-SF-11^RTL
12	200464228	<4.91	N/A	0.08	3BE-UT-SF-12^RTL
13	200464229	20.3	0.6	0.08	3BE-UT-SF-13^RTL
14	200464230	<4.94	N/A	0.08	3BE-UT-SF-14^RTL

Determined By: Mark Harper

Approved By: Paul McSwigan

7:41 AM 1/13/2004