**Department of Energy**

**Ohio Field Office**
**Fernald Area Office**
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

- 2475

AUG 3 1 1999

DOE-1085-99

Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

**TRANSMITTAL OF VARIANCES TO PROJECT SPECIFIC PLANS**

This letter transmits for your records, variances for Project Specific Plans (PSP) issued during the months of May through August 1999.

If you have questions or comments regarding these variances, please contact Kathleen Nickel at (513) 648-3166.

Sincerely,

Johnny Reising

Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

Enclosure

cc w/enclosure:
T. Schneider, OEPA-Dayton (three copies of enclosure)
F. Barker, Tetra Tech
AR Coordinator, FDF/78

cc w/o enclosure:
D. Carr, FDF/52-2
J. D. Chiou, FDF/52-0
ECDC, FDF/52-7

# VARIANCE / FIELD CHANGE NOTICE

V/FCN 20200-PSP-0002-0

WBS NO.: ECDC #20200-PSP-0003 Rev. 0

Page 1 of 1

PROJECT TITLE: *Project Specific Plan for Sampling of Stockpiles 1, 2, and 4 for OSDF WAC Attainment*

Date: 05/27/99

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

**CHANGE:**

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The stockpile PSP requires that samples be collected and head space analysis be performed when the PID reads above-background concentrations. If the head-space analysis is above 10 ppm, the sample is sent to the off-site lab for total VOC analysis.

If a series of consecutive intervals that measure above-background on the PID is encountered, the following actions will be taken:

1. Head-space analysis will still be performed in accordance with the PSP.

2. If four or more consecutive 6-inch intervals have head-space analysis results above 10 ppm, the following samples will be sent to the lab:
- the shallowest and deepest samples that exceeded 10 ppm head-space analysis in order to bound the area
- the sample in between the two bounding samples with the highest concentration from the head-space analysis
- if the samples in between the two bounding intervals have the same head-space analysis results, randomly choose an interval or, if there is a change in material types, choose an interval of sandy soil instead of clay soil

3. If biased VOC samples are being collected from a boring and if the designated random sample interval is not above background on the PID scan or does not exceed 10 ppm head-space analysis, the biased sample interval will replace the random interval for TOTAL VOC ANALYSIS ONLY. All other analytes will be collected from the designated random sample interval.

4. If there are both consecutive and non-consecutive intervals that exceed 10 ppm head-space analysis, item #2 above will be implemented for the consecutive intervals and the non-consecutive intervals will be collected in accordance with the current PSP.

**JUSTIFICATION:**

The goal of this sampling activity is to determine areas of the stockpiles that contain above-WAC concentrations of contaminants. In the case of consecutive intervals of potentially above-WAC VOC concentrations, this goal is still met by collecting only bounding samples and the sample in between with the highest head-space analysis result while at the same time saving time and money by collected less samples.

INFORMATION ONLY

REQUESTED BY: Christine Messerly DATE: 05/27/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Fred Thompson | 5-27-99 | X | PROJECT MANAGER | 5/27/99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| | ANALYTICAL CUSTOMER SUPPORT | | X | Characterization Lead C. M. Messerly | 5/27/99 |
| X | Sampling Team Manager Mike Frank | 5-27-99 | X | WAO | 5/27/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

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|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

| VARIANCE / FIELD CHANGE NOTICE | V/FCN 20.03.13.06-21 |
|---|---|
| WBS NO.: PROJECT/DOCUMENT 20.03.13.06, ECDC #20300-PSP-0004 Rev1. | Page 1 of 1 |
| PROJECT TITLE: PSP for Excavation Characterization for Inactive Flyash Pile and SP5 | Date: 5/18/99 |

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

-- 2475

1) Add the "-V" suffix to the core interval identification scheme used in this PSP to designate archived intervals for potential analysis.

2) Section 2.8 (Miscellaneous Field Sampling) Variance/Field Change Notice (V/FCN) 20.03.13.06-06 requires documentation of the following field sampling.

Supplemental to the IFP-15 lift scan, the EPA requested physical soil sampling at the following HPGe measurement location: IFP-15-14-G (Northing 477913 and Easting 1347544). This HPGe measurement result was 26 ppm for total uranium.

Soil samples will be taken at the above-mentioned location using hand-auger, Geoprobe or Geoprobe equipment to a depth of four feet. The sampling team will label the samples or Geoprobe core sleeves and briefly provide a visual description of each six-inch interval on the Field Activity or Sample Collection Log. The boring location is identified as IFP-15-14 with each six-inch sample interval being subsequently numbered (i.e. 0-0.5 ft=1, 0.5-1 ft=2, 1-1.5 ft=3, etc). For example, the first interval of the IFP-15-14 core would be marked IFP-15-14-1. If used, the plastic sleeved cores ~~may~~ will be wiped down and radiologically monitored (with any elevated readings noted on the plastic sleeves) out of the controlled area. ~~for sample container separation and archiving.~~ mm 5/19/99 5-19-99

The borehole will be plugged using granular or pelletized bentonite and water for hydration. If borehole collapse occurs, no bentonite will be necessary. Borehole abandonment will be documented on a Borehole Abandonment Log.

The first two intervals (IFP-15-14-1 and -2) will be containerized (using glass or plastic containers) by the sampling team and submitted for total uranium analysis by ICP/MS methodology at ASL B (with MDC<10 ppm). The lab sample identification will consist of adding the suffix "-R" to the core interval identification (i.e. IFP-15-14-1-R). The remainder of the core intervals will be archived and identified with the suffix "-V" until future submittal for lab analysis.

INFORMATION ONLY

**Justification:**

1) This suffix designator was not included in V/FCNs 20.03.13.06-16 and -18.

2) Additional data is requested by EPA to assist in the determination of additional above-FRL excavation prior to precertification.

REQUESTED BY: Mike Rolfes DATE: 5/18//99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 5-20-99 | X | PROJECT MANAGER | 5-18-99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| x | ANALYTICAL CUSTOMER SUPPORT Bill Whistermayer | 5/20/99 | X | Characterization Lead | 5/18/99 |
| X | Sampling Team Manager | 5-19-99 | x | WAO | 5/19/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
|---|---|---|

| VARIANCE / FIELD CHANGE NOTICE | V/F 50.03.58-6 |
|---|---|
| WBS NO.: 50.03.58 | Page 1 of 2 |
| PROJECT TITLE: Radiation Scanning System Calibration Document #20701-PSP-0001 | Date: 05/20/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification):

- 2475

Justification:

This variance provides documentation for adding two measurement points to the RSS/GATOR calibration as described in variance #5 to this PSP. It also deletes the requirement to measure point A13-3 as this location has been remediated. Measurements at these two additional points were performed on 5-17-1999.

Because of excavation activities in the IFP, location A13, described in this PSP, no longer contains radioisotopes in concentrations useful for calibration of NaI systems. Two additional locations were selected and characterized to replace this point and to supplement the calibration curve fitting algorythms. Both locations contain elevated concentrations of U-238, Th-232, and Ra-226.

Field Change Notice:

See page 2.

REQUESTED BY: Dale Seiller Date: 05/20/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Rogers | 5-20-99 | X | PROJECT MANAGER R. J. Donaley | 5/20/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER DS | 5/20/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | Characterization MGR. DS | 5/20/99 |
| | OTHER | | | OTHER | |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
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| FIELD MANAGER: | OTHER: | OTHER: |

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**Field Change Notice:**

All supporting information defined in Section 2.4 of the PSP and associated variances of project 50.03.58 was collected during the measurements described in this variance.

## 1. PERFORMANCE OF STATIC GATOR CALIBRATION MEASUREMENTS

### A-CALIBRATION MEASUREMENTS

Static calibration measurements were made at the 2 locations identified in Table 1.

**TABLE 1**
**STATIC RSS CALIBRATION LOCATIONS**

| HPGe Comp Study Area Name | Area Description | Measurement Location I.D. | Northing | Easting |
|---|---|---|---|---|
| Area FQCS 15 | South of the Admin Bldg. | GATOR-15-1 | 479506.07 | 1349424.77 |
| Area FQCS 18 | East Inside RIMIA Gate S-1 | GATOR-A13-3 | 479515.6 | 1350709.7 |

Measurements were performed using the GATOR, RSS, and an HPGe system at both locations. Measurements were collected after 11:00 AM (to avoid elevated natural radon concentrations).

1. The RSS measurements were performed in two orientations, first with the RSS in a normal operating orientation (0 degrees), then rotated 90 degrees. In the second orientation, the RSS crystal was in an orientation equivalent to that of the GATOR. The RSS and GATOR measurements were conducted using acquisition times of 300 seconds.

2. HPGe measurements were made at a height of 31 cm at each location. A 15 minute acquisition time was used. The measurement numbering system followed the design of section 2.4.5 in the PSP with the exception that the acronym RSS was replaced by GATOR.

Examples:

The first measurement using the RSS or GATOR system in Area 15, at location 1was GATOR-15-1-1, the second measurement was: GATOR-15-1-2

The HPGe measurement in Area 18, at location 1, was: GATOR-18-1-4G

3. Moisture gauge measurements were made for both measurement points.

# VARIANCE / FIELD CHANGE NOTICE

V/F 50.03.59.03-~~14~~ 03

WBS NO.: 50.03.59.03 Project No.55200-PSP-03 R/0

Page 1 of 1 (R0)

PROJECT TITLE: Perched Water Sampling in the Sewage Treatment Plant (55200-PSP-0003 Rev. 0)

Date: 5/21/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

**Field Change Notice:** -- 2475

This variance documents the addition of perched water sample in the Sewage Treatment Plant area. The sample location will be designated at 12445, and will be located at the following coordinates: Easting 1351641, Northing 480106. Previous investigations in the area show that three saturated sand lenses exist at this location at depths of 5.5 to 6.5 ft, 12.5 to 14 ft, and 18 to 19.5 ft. The sample will be collected from the middle layer (12.5 -14 ft) and will be analyzed for TAL 50.03.59.03-A (Volatiles) and TAL 50.03.59.03-B (Total Uranium). The analytical detection limit for the volatile analyses must be 1 $\mu$g/l. The volatile organic sample and total uranium sample will be analyzed by an off-site lab and the on-site lab, respectively at ASL B. KPA analysis for total uranium is acceptable.

The samples will be identified as A1P2-12445-L (volatile organics) and A1P2-12445-R (total uranium). The total uranium sample will be collected into a 120 mL plastic container with $HNO_3$ preservative to pH<2. The volatile organic samples will be collected into three, 40-mL glass vials preserved with HCl to a pH <2 and placed in 4°C storage. In accordance with SMPL-02, *Liquids and Sludge Sampling*, a verification vial will be used to verify that the correct pH is attained.

The volatile organic sample will be collected first using the stainless steel mini-bailer. The total uranium sample may be collected using new plastic tubing.

The PSP states that soil cores will be collected and visually classified; however, this requirement does not apply to this boring location. Also, no rinsate or duplicate is required for this sampling event.

One trip blank will be collected with the sample and analyzed for TAL A and will be identified as A1P2-12445-TB.

Borehole abandonment will be performed in accordance with Section 2.7 of the PSP with the following exceptions. Rather than using a expansive cement slurry, a bentonite slurry meeting SCQ specifications willl be utilized. Additionally, bentonite pellets may be used to abandon boreholes that do not collapse when the casing or sampler is removed.

ORIGINAL

**Justification:**
This sample is being collected to confirm previous analyses that show that no volatiles are in the perched water in the STP. This confirmation is needed prior to the beginning of remedial activites.

INFORMATION ONLY

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 5-25-99 | X | CHARACTERIZATION LEAD A Ridenour | 5/24/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD SAMPLING MANAGER Mike Neal | 5/24/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER Thomas L. Crawford | 5-25-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION Chris Walker | 5-25-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

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|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: 000007 |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 50.03.59.04-14

WBS NO.: 50.03.59.04

Page 1 of 1

PROJECT TITLE: A!PII for Field Sampling of Miscellaneous Areas (55200-PSP-0004 Rev. 0)

Date: 5/21/99

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

***Field Change Notice:*** - 2475

This variance provides justification for collection and analysis of 5 concrete samples from 4 locations (plus one rinsate), on the Digester wall in the STP. Note that this work has already been performed, and this variance documents the actions taken and authorizations required to perform the work. This scope of this variance includes the following actions:

The collection of 5 samples from 4 locations from the inside wall of the Digester. The four sampling locations were field located at the due north, south, east, and west locations of the inside wall. Prior to sampling, the sampling area was cleaned using a brush and soapy water to remove as much residual material as possible. Three hundred grams of samples material was collected from the surface of the inside of the Digester wall, penetrating no farther than 0.5 inches into the wall.

Sampling equipment was determined by the field crew, and was deconned prior to sampling. One rinsate was collected at the completion of the sampling event.
The following sample identifications were used:
A1PII-MIS-DWN - Sample located on northern wall
A1PII-MIS-DWS - Sample located on southern wall
A1PII-MIS-DWE - Sample located on eastern wall
A1PII-MIS-DWW - Sample located on western wall

INFORMATION ONLY

The duplicate sample will be given the ID A1PII-MIS-DWX-D. Where X is either N, S, E, or W depending on the location. The rinsate will be given the ID A1PII-MIS-DWR.
The samples were submitted to the onsite laboratory for the analysis of technetium 99. The entire sample was dried and ground and then subject to total dissolution. The required turnaround time was 10 days.

**Justification:**
This sampling was performed to determine if the debris material from the Digester will meet the OSDF WAC. Note that this variance documents work that has already been performed and is being issued to ensure proper authorization is documented.

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 5-21-99 | X | CHARACTERIZATION LEAD | 5/21/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 5/21/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 5-21-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 5-21-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

**DISTRIBUTION**

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| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

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| VARIANCE / FIELD CHANGE NOTICE | V/F 50.03.59.02-7 |
|---|---|
| WBS NO.: 50.03.59.02 | Page 1 of 1 |
| PROJECT TITLE: PSP for PreDesign Excavation of Tc99 in Soil in STP Area ( 55200-PSP-0002 Rev 0) | Date: 2/18/99 |

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

**Field Change Notice:** -- 2475

This variance documents the addition of an addtional three samples to be taken at depth for Tc99 in the STP Area.

The following table lists the sample identification labels, locations, and Target Analyte List.

| Sample IDs | Northing | Easting | Depth | TAL |
|---|---|---|---|---|
| A1P2TC-36-2-R | 1351614.45 | 480208.12 | 6 - 12" | A - ASL B Tc99 |
| A1P2TC-37-2-R | 1351642.64 | 480208.45 | 6 - 12" | A - ASL B Tc99 |
| A1P2TC-39-2-R | 1351762.41 | 480206.79 | 6 - 12" | A - ASL B Tc99 |
| A1P2TC-39-2-R-D | 1351762.41 | 480206.79 | 6 - 12" | A - ASL B Tc99 |

A duplicate sample will be taken at location 39. Equipment decon will be performed per the PSP, however, a rinsate will not be required. All samples will be sent to the on-site laboratory.

INFORMATION ONLY

Justification:

These samples are required to further delineate vertical Tc99 contamination in the area.

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 3-3-99 | X | CHARACTERIZATION LEAD | 2/22/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 3/1/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 2/22/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 6/4/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

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|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Esther Dittmer | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

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ORIGINAL

# VARIANCE / FIELD CHANGE NOTICE

V/F 50.03.59.04-~~10~~ 11 AD 3-10-99

WBS NO.: 50.03.59.04

Page 1 of 2

PROJECT TITLE: AIPII for Field Sampling of Miscellaneous Areas (55200-PSP-0004 Rev. 0)

Date: 2/18/99

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

**Field Change Notice:**

This variance documents the addition of additional sampling of pipe bedding material at 6 locations inside STP and 6 outside the STP as shown on Figure 1. The following table lists the sample identification labels, locations, and Target Analyte List. -- 2475

| Sample IDs | Northing | Easting | Identifier on Figure 1 | |
|---|---|---|---|---|
| A1P2MIS-12418-R | 1351237.88 | 479943.82 | 1 | Outside of STP |
| A1P2MIS-12418-R-D | 1351237.88 | 479943.82 | 1 | Outside of STP |
| A1P2MIS-12419-R | 1351238.05 | 479926.90 | 2 | Outside of STP |
| A1P2MIS-12420-R | 1351384.58 | 479935.99 | 3 | Outside of STP |
| A1P2MIS-12421-R | 1351384.58 | 479923.14 | 4 | Outside of STP |
| A1P2MIS-12422-R | 1351584.18 | 479794.79 | 5 | Outside of STP |
| A1P2MIS-12423-R | 1351692.47 | 479623.17 | 6 | Outside of STP |
| A1P2MIS-12424-R | 1351537.14 | 480078.17 | 7 | Inside of STP |
| A1P2MIS-12425-R | 1351617.15 | 480047.72 | 8 | Inside of STP |
| A1P2MIS-12426-R | 1351734.37 | 480043.85 | 9 | Inside of STP |
| A1P2MIS-12427-R | 1351717.66 | 479971.78 | 10 | Inside of STP |
| A1P2MIS-12428-R | 1351722.88 | 479924.12 | 11 | Inside of STP |
| A1P2MIS-12429-R | 1351727.13 | 480010.72 | 12 | Inside of STP |

INFORMATION ONLY

Samples will be collected by using the Geoprobe with the objective of sampling the pipe bedding material. The Geoprobe will advanced to a depth which goes through the bedding material into the native soil. A field geologist will examine the core and select the 6" interval bedding material above the native soil. If no distinct pipe bedding material is encountered, soil from the immediate area will be collected. A lithology log will be completed for each boring recording the depths of bedding material and native soil. All samples will be analyzed for TAL F (listed below), which consists of technetium-99 and total uranium. The sampling and analytical requirements are summarized on the following table:

**TAL F for Variance 50.03.59.04-10**

| Analyte | Preservative | Lab | ASL | Hold time | Method | Container |
|---|---|---|---|---|---|---|
| Tc99 | None | Onsite | B | Six Months | LSC | Capped Plastic Liner or 500 ml glass or plastic |
| Total U | None | Onsite | B | Six Months | ICP/MS | Capped Plastic Liner or 500 ml glass or plastic |

The Tc99 and Total U sample may be combined into 1 container, provided that the total mass is greater than 350 g. Sampling will be performed ~~by~~ per the PSP requirements. One duplicate will be collected on sample A1P2MIS-1-R. Equipment decontamination will be performed per the requirements in PSP, however, a rinsate will not be collected.

Justification:

Original sampling failed to characterize the pipe bedding material. Since these lines have now been capped it is safe to sample the bedding material for disposition purposes.

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 3-3-99 | X | CHARACTERIZATION LEAD | 2/22/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 3/1/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 2/22/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 6/4/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

ORIGINAL

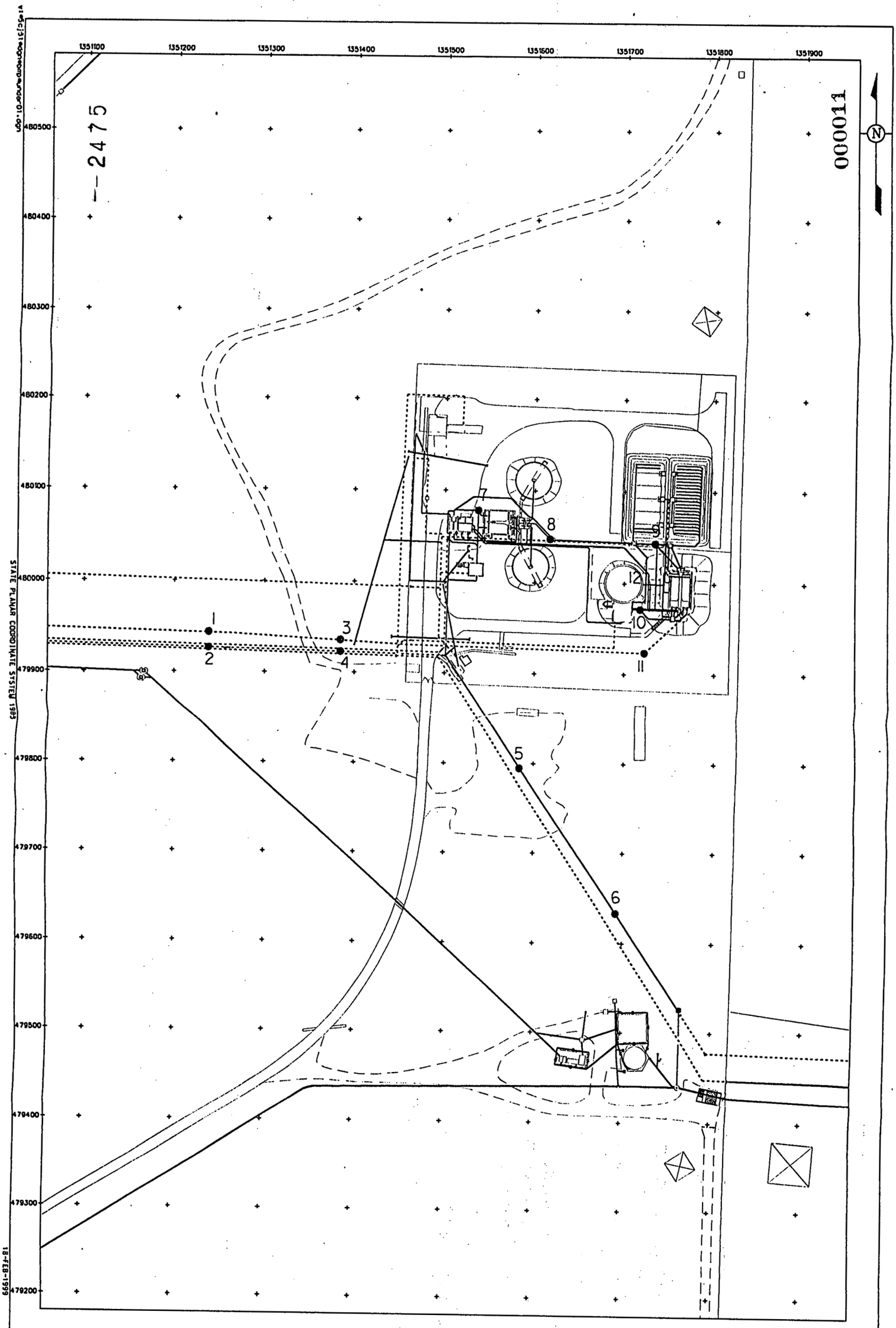


FIGURE 1. SAMPLE LOCATIONS

Variance 50.03.59.04-11
Page 20 of 2

| VARIANCE / FIELD CHANGE NOTICE | V/F 50.03.59.06-9 |
|---|---|
| WBS NO.: 50.03.59.06 | Page 1 of 4 |
| PROJECT TITLE: Area I Phase II Pre-Design Investigation Survey Rev 0 20710-PSP-0003 | Date: 5/6/99 |

**VARIANCE / FIELD CHANGE NOTICE (Include justification):** -- 2475

**Justification:**
The northern portion of A1P2 has been inaccessible to complete the predesign surface real time radiological scans identified in this PSP. Between the spring and fall of 1999 the area will become accessible with the removal of existing soil piles, basins, and the Petro trailer complex. The area covered under this variance is in the process of being readied for future OSDF cell construction.

When the PSP was written in August 1997 the real time predesign approach to soil contamination identification was in development. Since then, the SEP (Sitewide Excavation Plan) and the Users Manual (User Guidelines, Measurement Strategies and Operational Factors for Deployment of in-Situ Gamma Spectrometry at the Fernald Site) have been written. These documents identify the Regulatory Agency approved approaches for predesign investigation (Section 3.1 SEP and Section 2.2 Users Manual). The predesign approach for real time data collection is the same as the precertification approach. The PSP is being revised through this variance to reflect the current predesign approach.

This variance will direct the collection of real time radiological data for:

- Phase 1 predesign surface scans in and around Acres 123 through 127, and acres 141 through 156. Some of these acres have not been scanned and others have already received partial scanning (completed under the original PSP and earlier variances). Movement of soil piles and materials in this area may have disturbed the surface soil, therefore the acres having received partial scans will be rescanned completely. Either the RTRAK, RSS, Gator (when calibrated), or HPGe can be used to perform the scan.
- Phase 2 collection of suspect above FRL location confirmation and delineation measurements.

Data collected under this variance will be identified by this variance number.

INFORMATION ONLY

**Field Change Notice:**
Replace 1.3 PURPOSE AND GOALS last paragraph with the following text:
Real time scanning and physical sampling will be consistent with the Sitewide Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Quality Assurance Project Plan (SCQ), and Data Quality Objectives (DQOs) SL-048 Delineation of Extent of COCs in Predesign Investigation and Remediation Samples, and SL-049 Real Time Precertification Scanning.

Continued on page 2.....

REQUESTED BY: Joan White Date: 5/6/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 5-11-99 | X | PROJECT MANAGER [illegible] | 5-11-99 |
| | DATA QUALITY MANAGEMENT | | X | CHARACTERIZATION LEAD [illegible] | 5/10/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | Real Time Mgr Joan H White | 5/10/99 |
| | OTHER | | X WAO | OTHER Christ Walz | 5/24/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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DISTRIBUTION

ORIGINAL

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| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

.....Continued from page 1

--2475

Replace 1.4 SCOPE paragraph 1 last sentence to with the following text:
Soil samples and QC samples analyzed at either the on-site or off-site laboratories will be collected for total uranium analysis to ASL B.

Replace Section 1.4 SCOPE paragraphs 2 through 6 with the following text:

1.4 SCOPE

Real time radiological field investigations will be conducted in two phases. Phase 1 is a real time radiological surface scan to identify potential above FRL locations. Phase 2 will confirm and delineate any potential above FRL locations found under Phase 1. No physical samples are required for confirmation of HPGe results.

Replace Section 2.0 Field Investigations with the following text:

**2.0 FIELD INVESTIGATION**

2.1 Phase 1 Measurements

Phase 1 will be conducted as a real time radiological surface scan to identify any potential above FRL locations. The following method will be used.

2.1.1 RMS (Radiation Measurement Systems) Scans

Using the RTRAK, RSS or Gator (when calibrated) obtain as close to a 100% surface scan as possible of the accessible area. The spectral acquisition time will be 4 seconds with data collected at a detector speed of 1 mile per hour as determined by the on-board GPS. Two moisture measurements will be collected in each acre measured with the RMS. A radon monitor with a detector height of 31 cm will be positioned in the proximity of the RMS run(s) to ensure the radon correction can be applied to the radium-226 data. The RMS measurements will be accompanied by GPS Northing and Easting coordinates and by an elevation coordinate (if requested).

RMS equipment passes will typically be in a back and forth pattern after two perimeter passes have been completed. Alternatively, a circular pattern may be more appropriate. The overlapping passes are achieved for the RTRAK by placing the innermost tire track in the former outermost tire track from previous passes, achieving an approximate 0.4 meter scanning overlap. For the RSS or Gator stakes or other markers may be used to stay on track to achieve the 0.4 meter overlap.

2.1.2 HPGe System Measurements (Scans)

If the RMS systems cannot be used in Phase 1 (for either topographic or equipment availability reasons) the HPGe will be used to obtain a minimal overlap coverage grid (90.6 % coverage) using a triangular grid (if practical). The measurements will be collected using a 15 minute acquisition time, with a detector height of 1 meter. One moisture measurement will be collected for each HPGe measurement. A radon monitor with a detector height of 1 meter will be positioned in the proximity of the HPGe to ensure the radon correction can be applied to the radium-226 data. One consecutive duplicate will be collected per each 20 HPGe measurements. HPGe measurements will be accompanied by GPS Northing an Easting coordinates (and elevation, if requested).

2.1.3 Phase 1 Numbering System (Scans)

The following numbering system will be used with the RMS and the HPGe in Phase 1 measurements to ensure the data is retrievable and to enable the appropriate radon monitor to be tied to the measurements.

- Phase 1 RMS Numbering system (scans):
  A1P2-P1-acre number-next consecutive run number.
  For example, A1P2-P1-145-220 where:
  A1P2 = Area 1 Phase 2
  P1 = Phase 1
  Acre number = 145
  Run number = 220

Continued on page 3.....

.....Continued from page 2

-- 2475

- Phase 1 HPGe Numbering System (scans):
  A1P2-P1-acre number-next consecutive HPGe measurement number-G-D
  For example, A1P2-P1-145-9-G-D where:
  A1P2 = Area 1 Phase 2
  P1 = Phase 1
  Acre number = 145
  HPGe measurement number = 9
  G = gamma measurement
  D = duplicate measurement (as applicable)

- Phase 1 RMS and HPGe Radon Monitor Numbering System (with scans):
  A1P2-P1-RADON-detector height-measurement number:
  For example, A1P2-P1-Radon-3-2 where
  A1P2 = Area 1 Phase 2
  P1 = Phase 1
  RADON = Radon monitor
  3 = Detector height (detector heights are "1" = 15 cm, "2" = 31 cm, and "3" = 1 meter)
  2 = measurement number

2.1.4 Phase 1 Maps (Scans)

A RMS total activity map (single spectra) will be constructed to show the general radiological pattern in the area. In addition a total uranium, radium-226 (corrected for radon and laboratory radium correction), and a thorium-232 map will be conducted using a 2 point running average of spectra.

If the HPGe is used in the scan, the 1 meter field of view will be shown on the map with the measurement location number indicated. The concentrations will be color coded on the map(s) so that 1X FRL, 2X FRL and 3X FRL and suspect above WAC areas (if any) can be identified. The FRLs for the radiological isotopes of concern and the suspect above WAC trigger levels for RMS and HPGe are shown in the table below.

If any above WAC locations or any locations greater than the FRL are identified, the Excavation Monitoring Form will be completed and forwarded to the Waste Acceptance Organization (WAO).

| ASCOCs | 1XFRL | 2XFRL | 3XFRL | * WAC TRIGGER LEVEL |
|---|---|---|---|---|
| Total Uranium | 82 ppm | 164 ppm | 246 ppm | 721 RMS (31cm detector height). 400 HPGe (1 m detector height). |
| Radium-226 | 1.7 pCi/g | 3.4 pCi/g | 5.1 pCi/g | Not applicable |
| Thorium-232 | 1.5 pCi/g | 3.0 pCi/g | 4.5 pCi/g | Not applicable |

*WAC trigger levels given for reference only, in case above WAC material is found.

2.2 Phase 2 Confirmation and Delineation of Potential Above FRL Locations

Phase 2 will confirm and delineate any potential above FRL locations identified in Phase 1, as requested by the Characterization Lead. Phase 2 readings will be obtained, if necessary, to confirm RMS potential above FRL locations identified during Phase 1 (i.e., if RMS two-point moving average measurements are above the FRL). A radon monitor will be set at both the 1 meter and 31 cm heights (to correspond to the HPGe measurement detector heights).

Continued on page 4.....

.....Continued from page 3

-- 2475

2.2.1 Phase 2 Confirmation of Potential RMS Identified Above FRL Locations

To confirm potential above FRL locations, an HPGe measurement will be made at the location of the maximum result where the RTRAK two-point average was greater than the FRL. In accordance with guidelines established in Section 3.3.2 of the User's Manual, all confirmation readings will be obtained at both the 31 cm and 1 meter detector heights. The HPGe detector system acquisition time will be set to 15 minutes for both readings. One moisture measurement will be made at each HPGe location. The HPGe location will be surveyed for Northing and Easting co-ordinates and with an elevation coordinate (if requested) and marked with a stake or flag. An above FRL location is confirmed if a HPGe measurement at either detector height exceeds the FRL for any resolvable area specific contaminant of concern (ASCOC).

2.2.2 Phase 2 Delineation of Potential HPGe Identified Above FRL Locations

To delineate confirmed above FRL locations, HPGe measurements will be made to bound the area using a 15 cm detector height for at an acquisition time of 15 minutes. One moisture measurement will be made at each HPGe location. A radon monitor will be set at the 15 cm height (to correspond to the HPGe measurement detector height).
All HPGe measurement locations will be surveyed and marked with the measurement location. The boundary of the above FRL location has been delineated when the concentration of resolvable ASCOCs is at or below the FRL.

2.2.3 Phase 2 Above FRL Location Confirmation and Delineation Numbering System

The following numbering system will be used with the HPGe Phase 2 above FRL location confirmation and delineation measurements to ensure the data is retrievable and to enable the appropriate radon monitor is tied to the measurements.

1. Phase 2 HPGe Numbering System:
   A1P2-P2-acre number-next consecutive HPGe measurement number-G-D
   For example, A1P2-P2-145-20-G-D where:
   A1P2 = Area 1 Phase 2
   P2 = Phase 2
   Acre number = 145
   HPGe measurement number = 20
   G = gamma measurement
   D = duplicate measurement (as applicable)

2. Phase 2 HPGe Radon Monitor Numbering System:
   A1P2-P2-RADON-detector height-measurement number:
   where detector height "1" = 15 cm, "2" = 31 cm, and "3" = 1 meter

2.2.4. Phase 2 Above FRL Maps

The HPGe Phase 2 confirmation and delineation map(s) will show the detector field of view with the measurement location number indicated. The concentrations will be color coded on the map(s) so that the boundary of above FRL location can be identified.

| VARIANCE / FIELD CHANGE NOTICE | 20710-PSP-0007-1 |
|---|---|
| WBS NO.: PROJECT/DOCUMENT #20710-PSP-0007 | Page 1 of 1 |
| PROJECT TITLE: PSP for A1PII Excavation Monitoring and Precertification, Rev. 0 | Date: 6/8/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification):

--2475

**Justification**

Information regarding the use, reliability, and comparability of the data gathered with the Gator has not be approved by the USEPA and Ohio EPA. In addition, calibration of the equipment is not fully complete.

**Field Change Notice**

Defer the use of the NaI mounted Gator until all calibration is complete and approval from the USEPA and Ohio EPA is received.

REQUESTED BY: Joan White DATE: 6/8/99

| X IF REQD | VARIANCE/FAN APPROVAL | DATE | X IF REQD | VARIANCE/FAN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 6-8-99 | X | PROJECT MANAGER [illegible] | 6-8-99 |
| | DATA QUALITY MANAGEMENT | | X | Real-time Program Mgr J H White | 6/8/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | WAO David Bokard | 8/8/99 |
| | OTHER | | X | Characterization Lead [illegible] | 6/8/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

**DISTRIBUTION**

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Michelle Tudor | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

ORIGINAL

| VARIANCE / FIELD CHANGE NOTICE | V/F 21100-PSP-0002-3 |
|---|---|
| WBS NO.: 21100-PSP-0002, Rev. 0 | Page 1 of 1 |
| PROJECT TITLE: PSP for Area 8 Phase II and Area 6 Triangle Area Certification Sampling and Drainage Ditch Investigation | Date: 6/3/99 |

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

**Field Change Notice:**
This V/FCN documents the following changes to the sample identification scheme: 2475

1) The sample identification scheme listed in Section 2.4.2.1 of the PSP is not consistent with the Sample IDs presented in Appendix B. The Sample IDs listed in Appendix B were used on the Chain of Custody Forms and for labeling the sample containers, therefore these IDs will be used. To account for this, the following changes to the PSP are necessary:
   - Section 2.4.2.1 should be revised to show that the CU# precedes the "C" in the sample identification scheme, instead of vice-versa.
   - Section 2.4.2.1 should be revised to show that the sample IDs will begin with "A8PII" (using the roman numeral II) instead of "A8P2".

   Therefore, the sample identification scheme should be *A8PII-CU-C-Location-Suite-QC,* as shown in Appendix B.

2 The archive samples will be identified with a "V" in the Sample ID. This will be added to the Suite identifier, so the archive samples will be identified as A8PII-*CU*-C-*Location*-RV. For example, archive sample A8PII-01-2 will be identified as A8PII-01-C-2-RV.

**Justification:**
Clarification of the Sample Identification Scheme is necessary due to inconsistencies between Section 2.4.2.1 and Appendix B of the PSP. Also, the archive samples needed a unique identifier to distinguish them from the samples that will be submitted for analysis.

INFORMATION ONLY

REQUESTED BY: Mike Frank Date: 6/2/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 6-8-99 | X | PROJECT MANAGER | 6/3/99 |
| | DATA QUALITY MANAGEMENT | | X | CHARACTERIZATION LEAD | 6/3/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | FIELD SAMPLING MANAGER | 6/8/99 |
| | OTHER | | X | OTHER WAD | 6/8/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

ORIGINAL

| VARIANCE / FIELD CHANGE NOTICE 6/8/99 | 20402-PSP-0002-1 |
|---|---|
| WBS NO.: PROJECT/DOCUMENT #20402-PSP-0002 | Page 1 of 1 |
| PROJECT TITLE: PSP for A2PI South Field Excavation Characterization, Rev. ~~0~~ 1 | Date: 6/8/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification):

-- 2475

Justification

Information regarding the use, reliability, and comparability of the data gathered with the Gator has not be approved by the USEPA and Ohio EPA. In addition, calibration of the equipment is not fully complete.

Field Change Notice

Defer the use of use of the NaI mounted Gator until all calibration is complete and approval from the USEPA and Ohio EPA is received.

REQUESTED BY: Joan White DATE: 6/8/99

| X IF REQD | VARIANCE/FAN APPROVAL | DATE | X IF REQD | VARIANCE/FAN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 6-8-99 | X | PROJECT MANAGER | 6-8-99 |
| | DATA QUALITY MANAGEMENT | | X | Real-time Program Mgr | 6/8/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | WAO | 6/8/99 |
| | OTHER | | X | Chemicterization Lead | 6/8/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Michelle Tudor | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

ORIGINAL

# VARIANCE / FIELD CHANGE NOTICE

V/FCN 20460PSP1-8

WBS NO.: PROJECT/DOCUMENT/ECDC #20460-PSP-0001 Rev 0

Page 1 of 1

PROJECT TITLE: PSP for the Area 2, Phase III Precertification Real-Time Scan

Date: 6/3/99

VARIANCE / FIELD CHANGE NOTICE (Include justification):

-- 2475

1) Report results for thorium-232 at ASL B and total uranium (calculated from uranium-238) at ASL E by gamma spec methodology in addition to the radium-226 and the potassium-40 previously requested. The MDC for thorium-232 is 0.15 pCi/g and for total uranium is 8 ppm (ug/g). The data deliverable for total uranium analysis by gamma spectroscopy will be identical in specifications for ASL B except for the MDC. As a result, the total uranium gamma spec data is considered ASL E.

2) Delete the request for radium-226, potassium-40, thorium-232, and total uranium for sample A2P3-RA-7-1-R by gamma spec methodology.

**Justification**

1) Thorium-232 and total uranium are primary constituents of concern for final remediation level (FRL) attainment.

2) Quantitative gamma spec results cannot be attained for A2P3-RA-7-1-R sample due to insufficient sample volume. Surrounding sampling data combined with the radium-226, thorium-230, and technetium-99 results from the other methods will provide adequate information for engineering decisions.

REQUESTED BY: Mike Rolfes DATE: 6/3/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| | Tarah Thompson | 6-8-99 | | | |
| X | QUALITY ASSURANCE | 6-7-99 | X | A2P3 PROJECT MANAGER | 6-7-99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| X | ANALYTICAL CUSTOMER SUPPORT Bill Westerman | 6/4/99 | X | A2P3 Characterization Lead | 6/3/99 |
| X | Sampling Manager | 6/4/99 | X | WAO | 6/8/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

ORIGINAL

ECDC CONTROLLED COPY NO. VA 10459

| VARIANCE / FIELD CHANGE NOTICE | V/F 50.03.59.03-04 |
|---|---|
| WBS NO.: 50.03.59.03 Document No.55200-PSP-0003, Rev. 0 | Page 1 of 1 |
| PROJECT TITLE: PSP for Perched Water Sampling in the Sewage Treatment Plant | Date: 6/15/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification)

**Field Change Notice:**

-- 2475

This variance documents changes to Variance 50.03.59.03-03 based on field conditions. In Variance 50.03.59.03-03 the original boring ID was 12445 in the STP area (Easting 1351641, Northing 480106). However, no perched water was found at this location, and the location was moved to the northern portion of the west Sludge Drying Bed. The new boring ID was 12448 and the approximate coordinates are Easting 1351725, Northing 480115. The perched water zone was encountered at a depth of 14 feet where the samples were collected. The samples IDs were as A1P2-12448-L (volatile organics) and A1P2-12448-R (total uranium). All other sampling and analytical requirements were followed as discussed in Variance 50.03.59.03-03.

INFORMATION ONLY

ORIGINAL

**Justification:**
This variance documents a change based on field conditions.

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 7-7-99 | X | CHARACTERIZATION LEAD | 6/27/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD SAMPLING MANAGER | 6/30/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 6-30-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 7-2-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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DISTRIBUTION

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|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-5

WBS NO.: ECDC #20710-PSP-0007 RU

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 7/6/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

-- 2475

Variance:

This variance documents a change in the sample volumes listed in Table 3-2 of the PSP. For analysis of Volatile Organic Compounds (VOCs), one 60-ml container will be collected instead of two for soil samples. For trip blank samples, three 40-ml vials will be collected instead of two and may be preserved to pH <2 with either HCl or $H_2SO_4$.

This variance also clarifies that the field duplicate to be collected at Sample Location 5 (see Figure 2-2) should not be homogenized in the field prior to containerization.

Justification:

The change in sample volumes is adequate for the requested analyses. Samples will not be homogenized to minimize loss of volatile organic compounds.

INFORMATION ONLY

REQUESTED BY: Mike Frank Date: July 6, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 7-7-99 | X | CHARACTERIZATION LEAD | 7/6/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER Mike Frank | 7-6-99 |
| X | ANALYTICAL CUSTOMER SUPPORT Bill Whisterman | 7/6/99 | X | AREA MANAGER | 7-7-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION Chris Wolf | 7-6-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-4

WBS NO.: ECDC #20710-PSP-0007 R11

Page 1 of 13

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 7/6/99

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

Variance:

-- 2475

The purpose of this variance is to document and provide direction on additional sampling in the Sewage Treatment Plant Area. Two rinsate samples will be collected from the buckets of the Gradall and front-end loader, respectively, for Perchloroethylene (PCE) analysis after decontamination at the end of the work in the drying beds. The equipment will be cleaned using a high pressure low volume pressure washer until all visible residue is removed per the attached instructions. Once the decontamination process is complete, the Construction Manager will notify the Characterization Lead who will coordinate the sampling event with the Field Manager and the Quality Assurance lead.

Rinsate samples will be collected by pouring an appropriate volume of DI water into the bucket of the Gradall and front-end loader. The rinsate samples will be collected by submerging the 40 ml vials into the DI water directly or by collecting the water in a larger container and transferring immediately to the 40 ml vials and capping.

The two rinsate samples and a trip blank sample will be collected in three 40 ml glass vials each with teflon lined septa. Samples will be preserved to a pH < 2 with HCl or $H_2SO_4$ and cooled to 4°C. The rinsate samples will be identified as A1P2-STP-R1-L and A1P2-STP-R2-L and the trip blank will be identified as A1P2-STP-TB2-L. The Field Activity Log (FAL) will identify the machinery associated with each rinsate sample collected. ~~Field QC samples are not required~~ and the analytical data will not be validated.

INFORMATION ONLY

Justification: Sampling is necessary to verify that the heavy machinery has been cleaned of any possible PCE contamination and may be used in areas outside the Sludge Drying Beds.

REQUESTED BY: Alex Duarte Date: July 6, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 7-7-99 | X | CHARACTERIZATION LEAD | 7/6/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 7/6/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 7-7-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 7-6-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

000022

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# REMOVAL OF THE F-LISTED AND AWAC MATERIAL IN STP SLUDGE DRYING BED

2475

## GOALS

- ❑ Minimize further contact of F-listed/AWAC soil with either AWAC soil (outside the HWMU) or F-Listed/BWAC soil (within the HWMU).
- ❑ Minimize application of "washing" debris to limit impact moisture content of material to be containerized and to avoid run-off from the HWMU.
- ❑ Minimize equipment to be used within the HWMU.
- ❑ Containerize all F-Listed/AWAC material for off-site shipment and disposal.

## PREPARATION

- ❑ Remove digester sludge on geotextiles, mix with AWAC soil, and transport to SP7.
- ❑ Remove concrete pillars and concrete debris from the West Berm, place in the drying bed to remove visible AWAC material by wet wiping or high pressure low volume pressure washer. Based on WAO discretion after cleaning, concrete pillars and debris can go to OSDF.
- ❑ Mix the West Berm with the newly generated 30 CY pile in the Northern portion of the drying bed.
- ❑ Remove remaining digester sludge and geotextiles and place on the mixed F-Listed material pile.
- ❑ Shovel any sludge evident on North, East, or South Berm or existing "skimmed' drying bed and place on the mixed F-Listed material pile.
- ❑ Cut/size reduce geotextiles if necessary and place on the mixed F-Listed material pile.

## BLENDING

- ❑ Blend the F-Listed material pile to achieve better homogeneity that is consistent with the existing waste profile description.
- ❑ Do not increase the total volume of the F-Listed material.

## LOADING

- ❑ Take grab sample for moisture content.
- ❑ Handle and load the container according to the new WM procedures.
- ❑ Avoid dropping any material during loading.
- ❑ Maintain coverage of the F-Listed material pile during threat of rain.

## DECONTAMINATION

- ❑ Remove all visible soil and/or sludge from the Gradall using a high pressure low volume pressure washer. This should comply with the spirit of the empty container rule, and ensure that any soil/sludge remaining in crevices of the Gradall fall below 3% by weight of this piece of equipment.
- ❑ Decontaminate as described above any other equipment used within the HWMU.
- ❑ Ensure all material and rinsate is directed to drying bed.
- ❑ Scrap any remaining suspect AWAC surface material (one to two inches) in the drying bed and containerize the material.
- ❑ Collect a final rinsate sample from decontamination of the Gradall bucket and analyze for PCE.

Note: FDF will demonstrate that the Gradall does not "contain" F-listed waste through application of the empty container rule. This regulation is found at 40 CFR 261.7, "Residues of Hazardous Waste in Empty Containers". Also, this is the regulation that Region V EPA required for equipment decons at Superfund and RCRA cleanups. 40 CFR 261.7(b)(1)(i) indicates that a container is judged to be empty when all wastes have been removed that can be removed using the practices commonly employed. Additionally, paragraph (b)(1)(iii)(A) requires that no more than 3 percent by weight of the total capacity of a container, with a total capacity of less than 110 gallons, of waste remains in the container. F002 waste is not an acute hazardous waste, so the requirements at paragraph (b)(3) for triple rinsing with a solvent do not apply.

## SAMPLING

- ❑ Conduct WAC attainment sampling in the drying beds according to the approved PSP

# VARIANCE / FIELD CHANGE NOTICE

V/FCN 20460PSP1-9

WBS NO.: PROJECT/DOCUMENT/ECDC #20460-PSP-0001 Rev 0

Page 1 of 1

PROJECT TITLE: PSP for the Area 2, Phase III Precertification Real-Time Scan

Date: 6/29/99

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

The Aquifer Restoration/Wastewater Project will be installing two extraction wells (32446 and 32447) within the footprint of Area 2 Phase III in the open field near ~~soil~~ 2475 stockpile MTL-SPO-005. The ground water to be extracted through these wells is expected to have total uranium concentrations well below the soil FRL of 82 ppm (the highest concentration found was near 1.1 ppm or 1100 ppb). Surface precertification measurements at these locations exhibited below FRL concentrations for total uranium, radium-226, and thorium-232. This Variance/Field Change Notice (V/FCN) provides guidance for the collection of subsurface soil samples to confirm below-FRL total uranium concentrations of the planned extraction well drill cuttings. Soil samples will be collected at the following locations using Geoprobe equipment.

| Boring Location ID | Northing | Easting |
|---|---|---|
| A2P3-32446 | 476634.5 | 1349312.4 |
| A2P3-32447 | 477150.2 | 1349421.2 |

INFORMATION ONLY

The boring will be advanced to two feet below the surface with each one foot interval being containerized in an appropriate sample container and submitted to the onsite lab for total uranium analysis by ICP/MS at ASL B (HAMDC of 8 ppm). The boring depth interval will be numbered with either a "1" (designating the 0-1 foot interval) or a "2" (designating the 1-2 foot interval). The lab sample identification will include the boring location id and depth interval along with the suffix "R" (i.e. A2P3-32446-1-R). Validation of the field sampling documents is required and no analytical data validation is needed.

**Justification**

NOR 6/30/99 ~~Disposition of the drill cuttings for the extraction wells may involve placement on the ground around the well locations or the OS~~DF. Additional data is needed to ensure proper disposition on the cuttings.

REQUESTED BY: Mike Rolfes DATE: 6/29/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 7/1/99 | X | A2P3 PROJECT MANAGER | 6-30-99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| X | ANALYTICAL CUSTOMER SUPPORT Billy Whiteman | 7/1/99 | X | A2P3 Characterization Lead | 6/29/99 |
| X | Sampling Manager Mike Rolfes | 6/30/99 | X | WAO | 6/30/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

000025

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-3

WBS NO.: ECDC #20710-PSP-0007

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 6/25/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

**Variance:**

-- 2475

The purpose of this variance is to document and provide direction on additional sampling of sludge/solids from the Sludge Drying Beds of the Sewage Treatment Plant within Area 1, Phase II. The sludge will be sampled and analyzed for % moisture.

Ten MHF boxes are expected to be loaded with the material taken from the Sludge Drying Beds. At a minimum, one grab sample will be taken *in situ* prior to the loading of each box. The sampler will visually bias the sampling location to collect the samples which will have the highest moisture content. The Characterization Lead, or designee, shall determine if additional grab samples and sampling locations are necessary. Samples will be collected in a ~~100~~ 120 ml glass or plastic container. No preservation is required, however, samples should be stored in a cooler in the field. The requested analytical turnaround time is 1 day. Samples will be analyzed at ASL A. No duplicates or rinsates will be required and data will not be validated.

Samples will be designated A1P2-STP-S-01-C through A1P2-STP-S-10-C or as needed. The collection log will identify the associated MHF container number by serial number. The collection log should describe the appearance of the material.

INFORMATION ONLY

**Justification:**

Moisture determination is necessary to ensure that the material does not exceed moisture levels used to calculate the absorbent determination.

ORIGINAL

REQUESTED BY: Alex Duarte Date: June 25, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 6/25/99 | X | CHARACTERIZATION LEAD Jenny Vance for Alex Duarte | 06/25/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER Mike Fugh | 6/25/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER [illegible] | 6-25-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION Chris Walls | 6-25-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

000026

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/FCN 20402PSP2-3

**WBS NO.:** PROJECT/DOCUMENT/ECDC #20402-PSP-0002 Rev 1

Page 1 of 1

**PROJECT TITLE: PSP for Area 2, Phase I South Field Excavation Characterization**

Date: 7/19/99

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

REFERENCE: **V/FCN 20402PSP2-2** -- 2475

Collect one additional 250 ml soil sample from treatment grid B for TCLP lead at the A2P1 Firing Range after verification of treatment sampling is completed.

**Justification**

Immediate analysis of this soil is necessary to determine if treatment results mimic results observed during the treatability study.

REQUESTED BY: Mike Rolfes DATE: 7/12/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE [signature] | 7/19/99 | X | A2P3 PROJECT MANAGER [signature] | 7-19-99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| | ANALYTICAL CUSTOMER SUPPORT | | X | A2P3 Characterization Lead [signature] | 7-19-99 |
| X | Sampling Manager [signature] | 7/19/99 | X | WAO [signature] | 7-19-99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

INFORMATION ONLY

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-6

WBS NO.: ECDC #20710-PSP-0007

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 7/13/99

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

Variance:

2475

The purpose of this variance is to document a change in the sample identification scheme for samples collected for % moisture analysis under Variance 20710-PSP-0007-3. For most boxes, two samples were collected and analyzed. For these boxes, the first and second sample were respectively identified with a "-1" or "-2" added to the original sample designation.

For example, the two samples collected from the second box would be identified as "A1P2-STP-S-02-C-1" and "A1P2-STP-S-02-C-2".

Justification: This change is necessary to ensure that all samples have a unique identificatier.

INFORMATION ONLY

REQUESTED BY: Mike Frank Date: July 13, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 7-14-99 | X | CHARACTERIZATION LEAD | 7/13/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 7/13/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 7-13-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 7-14-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/FCN 20710-PSP-0007-8

WBS NO.: PROJECT/DOCUMENT/ECDC # 20710-PSP-0007



PROJECT TITLE: **PSP for A1P2 Excavation Monitoring and Precertification**

Date: 7/19/99

**VARIANCE / FIELD CHANGE NOTICE (Include justification):** --2475

Verification treatment sampling and analysis will be conducted by the stabilization contractor in the Trap Range after in-situ treatment. Split sampling by FDF will also be conducted within the treatment areas identified in the stabilization contractor sampling plan (see attached map). The stabilization contractor will collect the sample material and place the material in a mixing pan. At this time, the FDF sampling team will prepare the material in accordance with SMPL-21 and containerize the material into a 250 ml container. The samples will be identified using the following identification scheme:

A1P2TR-X-M

Where A1P2TR = Trap Range
X = treatment grid identified in attached map
M = inorganic analysis

After collection, the FDF sampling team will place the samples in a cooler to begin the preservation to 2-6 degrees celcius before delivery to the on-site lab. The samples will be analyzed for total and TCLP lead and arsenic at ASL B ~~and Paint Filter Liquids Test (PFLT) at~~ the on-site lab. This split sampling and analysis will be conducted in accordance with DQO SL-048. Validation of the field documents as well as TCLP/total lead and arsenic will be conducted to ASL B. MJH 7/19/99

Justification

Split sampling will assist in the assessment of quality control of the stabilization contractor verification sampling.

REQUESTED BY: Mike Heinen DATE: 7/19/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 7/19/99 | | A1P2 PROJECT MANAGER | 7-19-99 |
| | DATA QUALITY MANAGEMENT | | X | Field Manager | 7-19-99 |
| X | ANALYTICAL CUSTOMER SUPPORT Bill Whitenwa | 7/19/99 | X | A1P2 Characterization Lead | 7/19/99 |
| | Sampling Manager | | X | WAO Christa Walls | 7-19-99 |

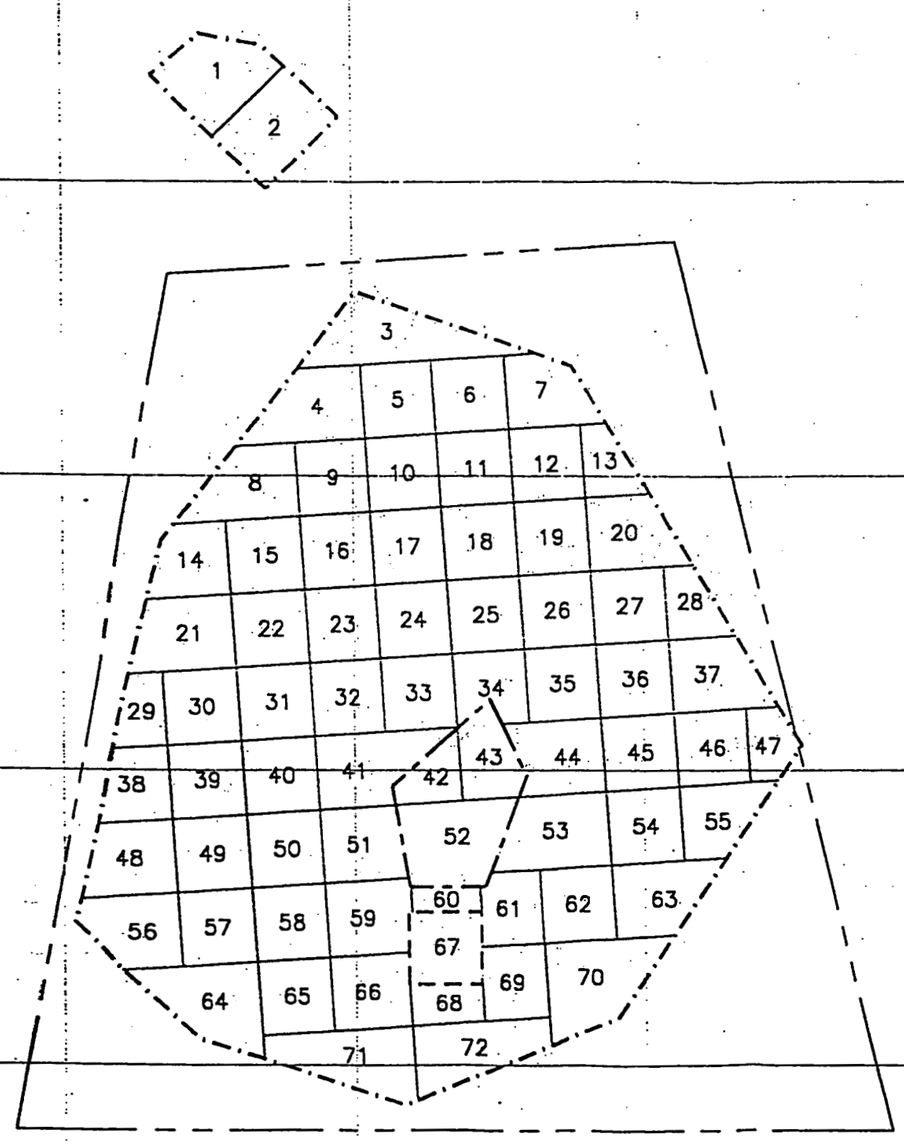
INFORMATION ONLY

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |




LEGEND

- STABILIZATION LIMIT TO 6" DEPTH
- STABILIZATION LIMIT TO 8" DEPTH
- STABILIZATION LIMIT TO 12" DEPTH
- SURVEY TRAVERSE

100 0 100
SCALE IN FEET

TREATMENT GRID LAYOUT

FLUOR DANIEL FERNALD
AREA 1 PHASE II
TRAP RANGE STABILIZATION PROJECT
FERNALD OHIO

SEVENSON ENVIRONMENTAL SERVICES, INC.

| DRAWING | | |
|---|---|---|
| FIG-1 | DATE: | 3/12/99 |
| | DRAWN BY: | MB |
| | CHECKED BY: | SS |
| | CAD FILE: | FDGRID.DWG |

| VARIANCE / FIELD CHANGE NOTICE | V/FCN 20402PSP2-2 |
|---|---|
| WBS NO.: PROJECT/DOCUMENT/ECDC #20402-PSP-0002 Rev 1 | Page 1 of 2 |
| PROJECT TITLE: PSP for Area 2, Phase I South Field Excavation Characterization | Date: 7/12/99 |

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

Verification treatment sampling and analysis will be conducted by the stabilization contractor in the Firing Range after in-situ treatment. Split sampling by FDF will also be conducted within the treatment areas identified in the stabilization contractor sampling plan (see attached map). This sampling is expected to take place within a day after treatment. -2475

The stabilization contractor will collect the sample material from each treatment area (four locations from Area A, three from Area B, and one from Area C) and place the material in a mixing pan. At this time, the FDF sampling team will prepare the material in the field in accordance with SMPL-021 and containerize the material for the FDF split samples. Two 250 ml containers (one for total lead and one for TCLP lead) will remain in custody of the FDF sampling team for preservation to 2-6 degrees celcius, sample identification and submittal to the on-site laboratory. The remaining sample material will be given to the stabilization contractor who is responsible for custody, preservation and lab submittal. If requested, additional sample material may be provided to Ohio EPA. No field quality control samples will be needed for the FDF split samples. The FDF samples will be identified using the following identification scheme:

A2PIFR-x-y-M(or TM)

Where A2PIFR = Firing Range
x = A,B, or C (treatment area identified in attached map)
y = 1,2,3, etc (sequential sample number)
M = total lead analysis
TM = TCLP lead analysis

INFORMATION ONLY

The samples will be analyzed for total and TCLP lead at ASL B at the onsite lab. This split sampling and analysis will be conducted in accordance with DQO SL-048. Validation of the field documents will be conducted along with analytical data validation as ASL B.

Note: Do not prep the sample material for analysis until seven days after sampling. This will allow adequate time for treatment of the material.

**Justification**

Split sampling will assist in the assessment of quality control of the stabilization contractor verification sampling.

REQUESTED BY: Mike Rolfes DATE: 7/12/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 7-13-99 | X | A2P3 PROJECT MANAGER | 7-12-99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| X | ANALYTICAL CUSTOMER SUPPORT Bill Whiteman | 7/13/99 | X | A2P3 Characterization Lead | 7/12/99 |
| X | Sampling Manager Mike Rolfes | 7-12-99 | X | WAO Nicky L. Zeisberman | 7/12/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [X]NO

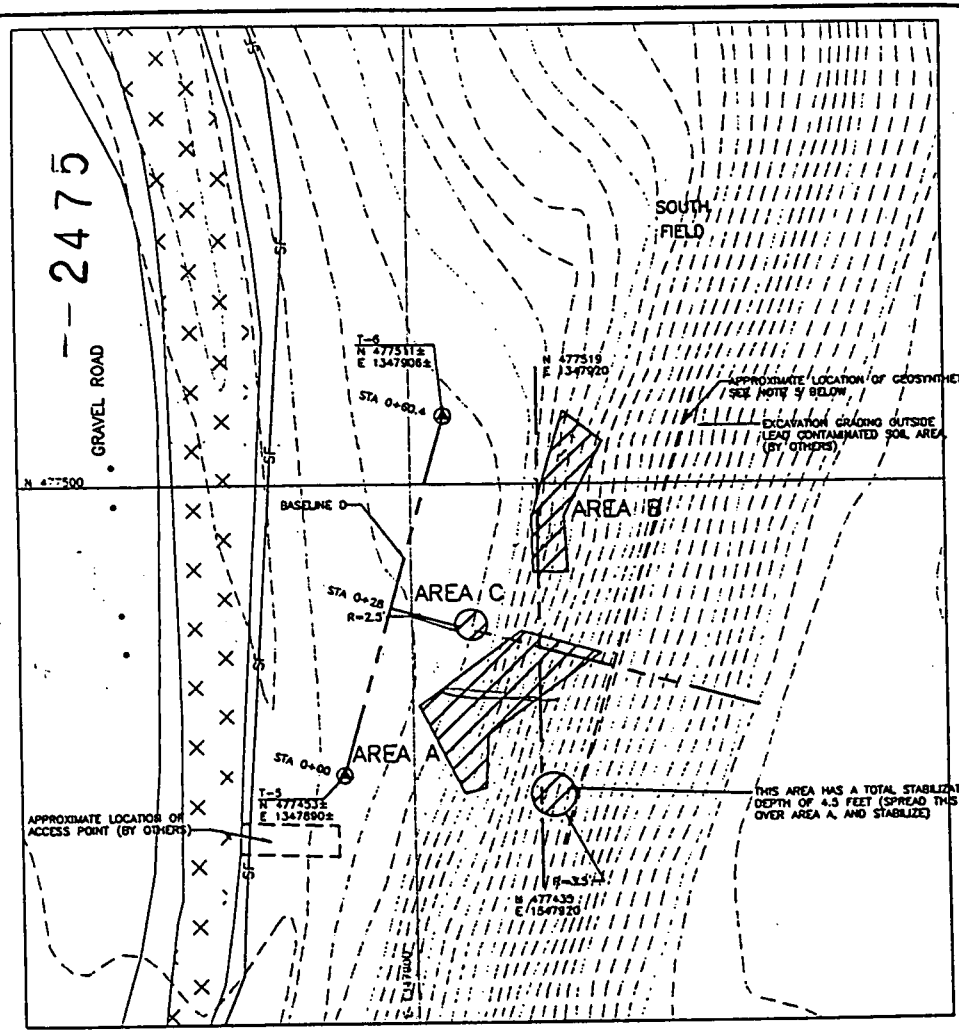
000031

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |

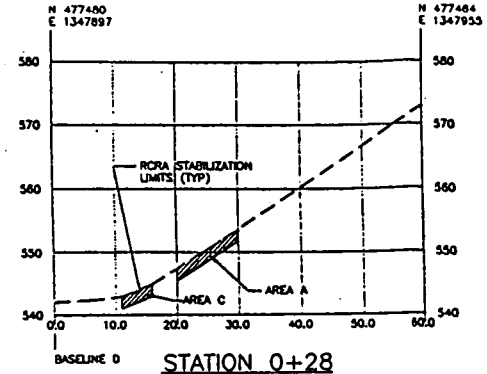
V/FCN 20402PSP2-2 7/12/99

000032




AREA 2 PHASE II FIRING RANGE STABILIZATION AREA PLAN

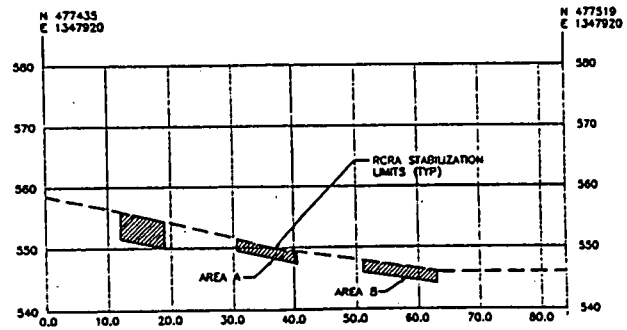
20 0 20
SCALE IN FEET




STATION 0+28
SCALE: HOR 1"=10'
VER 1"=10'

| LIMITS OF RCRA EXCAVATION SOIL AREA (RLA) | | |
|---|---|---|
| POINT | NORTHING | EASTING |
| 1 | 477512 | 1347925 |
| 2 | 477507 | 1347931 |
| 3 | 477495 | 1347925 |
| 4 | 477488 | 1347925 |
| 5 | 477488 | 1347920 |
| 6 | 477495 | 1347920 |
| 7* | 477477 | 1347910 |
| 8 | 477476 | 1347918 |
| 9 | 477473 | 1347930 |
| 10 | 477459 | 1347912 |
| 11 | 477451 | 1347912 |
| 12 | 477450 | 1347909 |
| 13 | 477464 | 1347902 |
| 14** | 477450 | 1347923 |

* CENTER OF A 2.5' RADIUS CIRCLE
** CENTER OF A 3.5' RADIUS CIRCLE




E 1347920
SCALE: HOR 1"=10'
VER 1"=10'

RCRA (RLA) SOIL LIMITS

1. SURVEYING AND STAKING LIMITS OF RCRA SOIL AREA WILL BE PERFORMED BY OTHERS.
2. STABILIZE THE RCRA SOIL AREAS TO THE LIMITS AND DEPTHS SHOWN ON THIS SHEET AND AS SPECIFIED IN TECHNICAL SPECIFICATION 02211. DEPTH IS 2 FEET UNLESS SPECIFIED ON THIS SHEET.
3. THE CONTRACTOR HAS OPTION FOR THE CIRCULAR AREAS SHOWN ON THIS SHEET TO EITHER SPOT EXCAVATE AND SPREAD SOIL OVER THE LARGER TREATMENT AREAS OR STABILIZE IN-PLACE.
4. PERFORM CONFIRMATORY SAMPLING.
5. ANCHOR TRENCH AND GEOSYNTHETIC COVER WILL BE INSTALLED BY OTHERS. AFTER SAMPLES ARE COLLECTED THE CONTRACTOR SHALL UNROLL GEOSYNTHETIC COVER AND PLACE AS DIRECTED BY CONSTRUCTION MANAGER.

AREA 2 PHASE I FIRING RANGE TREATMENT AREAS

U.S. DEPARTMENT OF ENERGY

SEVENSON ENVIRONMENTAL SERVICES, INC.

| DRAWING 1 | | |
|---|---|---|
| | DATE: | 6/3/99 |
| | DRAWN BY: | MB |
| | CHECKED BY: | SS |
| | CAD FILE: | 92g01031A |
| | SCALE: | SHOWN |

| VARIANCE / FIELD CHANGE NOTICE | 20402-PSP-2-5 |
|---|---|
| WBS NO.: PROJECT/DOCUMENT #20402-PSP-0002 | Page 1 of 2 |
| PROJECT TITLE: PSP for A2PI South Field Excavation Characterization, Rev. 0 | Date: 8/18/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification):

2475

Justification

RTIMP personnel conducting HPGe and RSS runs in an active construction area are occupied with watching measurement equipment computer screens and are not free to watch construction equipment moving in the field. To ensure construction equipment does not endanger RTIMP personnel safety, additional requirements for personnel performing real time scans in construction zones has been added to the program. RTIMP personnel are to place safety cones on the ground to establish a minimum of a 50 foot safe work zone around HPGe measurement and RSS measurement areas. These cones will be a visible indicator to construction equipment operators of the safe zone perimeter and ensure the safety of RTIMP personnel .

ORIGINAL

Field Change Notice

1 - Add to Section 4 Safety and Health (after the 3rd paragraph) the following:
RTIMP personnel are to demarcate a minimum of a 50 foot safe work zone for HPGe measurement locations and RSS runs in the field using a sufficient number of construction cones to clearly demarcate the work zone. This is needed because RTIMP personnel conducting HPGe and RSS runs in the construction area are occupied with watching measurement equipment computer screens and maneuvering the RSS over and around soil obstacles and are not free to watch construction equipment moving in the field. The cones will be a visible indicator to construction equipment operators of the safe zone perimeter. A 50 foot safe work zone does not need to be established during RTRAK runs since the RTRAK driver can watch for approaching equipment.

2 - Add to Section 2.3 Real-Time *In-Situ* Gamma Spectroscopy Measurement of the Excavation Lift Area
RTIMP personnel are to demarcate a minimum of a 50 foot safe work zone for HPGe measurement locations and RSS runs in the field using a sufficient number of construction cones to clearly demarcate the work zone. This is needed because RTIMP personnel conducting HPGe and RSS runs in the construction area are occupied with watching measurement equipment computer screens and maneuvering the RSS over and around soil obstacles and are not free to watch construction equipment moving in the field. The cones will be a visible indicator to construction equipment operators of the safe zone perimeter. A 50 foot safe work zone does not need to be established during RTRAK runs since the RTRAK driver can watch for approaching equipment.

REQUESTED BY: Joan White DATE: 8/18/99

INFORMATION ONLY

| X IF REQD | VARIANCE/FAN APPROVAL | DATE | X IF REQD | VARIANCE/FAN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 8-23-99 | X | PROJECT MANAGER | 8/18/99 |
| | DATA QUALITY MANAGEMENT | | X | Real-time Program Mgr | 8/18/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | WAO | 8/23/99 |
| | OTHER | | X | A2PI Characterization Lead | 8/18/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Michelle Tudor | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

000033

| VARIANCE / FIELD CH NOTICE | V/F 20710-PSP-0007-16 |
|---|---|
| PSP NO.: 20710-PSP-0007, REV. 1 | Page 1 of 1 |
| PROJECT TITLE: A1PII EXCAVATION MONITORING AND PRECERTIFICATION | Date: 8/18/99 |

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

**Variance:** The purpose of this variance is to document the measured coordinates for samples collected under Variance 13. Some boring locations were moved because of field conditions. Actual coordinates are listed below:

| Boring | Northing | Easting | Surface Elevation |
|---|---|---|---|
| 12572 | 480890.518 | 1350909.891 | 587.123 |
| 12573 | 480822.022 | 1350908.740 | 586.707 |
| 12574 | 480754.744 | 1350908.475 | 586.709 |
| 12575 | 480698.664 | 1350905.267 | 586.338 |
| 12576 | 480604.552 | 1350903.957 | 585.879 |
| 12577 | 480841.535 | 1350931.983 | 591.071 |
| 12578 | 480670.213 | 1350932.669 | 589.463 |
| 12579 | 480867.732 | 1350953.246 | 591.052 |
| 12580 | 480832.803 | 1350953.315 | 592.048 |
| 12581 | 480694.658 | 1350955.740 | 590.689 |
| 12582 | 480646.099 | 1350952.420 | 591.498 |
| 12583 | 480852.799 | 1350993.544 | 591.438 |
| 12584 | 480773.173 | 1350993.623 | 591.407 |
| 12585 | 480713.510 | 1350993.580 | 592.059 |
| 12586 | 480648.660 | 1350993.650 | 592.463 |
| 12587 | 480814.579 | 1351025.533 | 591.780 |
| 12588 | 480739.403 | 1351025.638 | 592.373 |

2475

Additionally, this variance corrects the sample IDs for archive samples. Table 1 of Variance 13 lists the archive samples as ending with "-R" (denoting radiological sample), but should have been "-V" (denoting archive sample). The following changes were made in the field:

| Original Sample ID | Corrected Sample ID |
|---|---|
| A1P2-12583-2-R | A1P2-12583-2-V |
| A1P2-12584-2-R | A1P2-12584-2-V |
| A1P2-12585-2-R | A1P2-12585-2-V |
| A1P2-12586-2-R | A1P2-12586-2-V |
| A1P2-12587-2-R | A1P2-12587-2-V |
| A1P2-12588-2-R | A1P2-12588-2-V |

INFORMATION ONLY

**Justification:** Borings 12572 through 12576 did not fall into the bottom of the drainage ditch as expected and were each moved between four and ten feet west. Boring 12576 was also moved approximately 20 feet south to avoid sampling through a thick gravel road covering a drainage pipe. The points were moved and resurveyed to meet the objectives of the sampling as described in Variance 13. The remaining points did not move significantly from the planned boring locations and are listed only for purposes of documentation. Archive sample IDs are corrected to be consistent with the sample identification scheme as described in the PSP.

REQUESTED BY: Jenny Vance Date: August 18, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 8-18-99 | X | CHARACTERIZATION LEAD [signature] | 8/18/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER Tom Bullage for Mike Frank | 8/18/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER [signature] for T. Crawford | 8/18/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION [signature] | 8/18/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO | REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |
| | | |

000034

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-9

WBS NO.: ECDC #20710-PSP-0007

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 7/30/99

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

Variance:

2475

The purpose of this variance is to document the collection of seven additional samples at six locations in the northern and western berm surrounding the East Sludge Drying Bed in the STP area. The attached figure shows the approximate location of the samples and the results of previous sampling. The locations will be field located by the Characterization Lead and will be surveyed after sampling. Two to three samples will be collected per location at six inch intervals at the depths listed below. Sampling will be done using a hand auger or the Geoprobe. The following table lists the sample identifiers and the approximate depth of the boring to the start of the first interval. The first interval will be submitted for Total Uranium and Technetium-99 analysis, and the second and subsequent interval will be archived as listed below. One duplicate will be collected at location 14.

| Sample ID | ID on Figure | Analysis | Approximate Depth from Current Elevation |
|---|---|---|---|
| A1P2-STP-S-10-5-R | WAC 10 | Total U, Tc99 | 2.0-2.5 feet |
| A1P2-STP-S-10-6-V | WAC 10 | Archive | 2.5-3.0 feet |
| A1P2-STP-S-11-5-R | WAC 11 | Total U, Tc99 | 2.0-2.5 feet |
| A1P2-STP-S-11-6-V | WAC 11 | Archive | 2.5-3.0 feet |
| A1P2-STP-S-12-4-R | WAC 12 | Total U, Tc99 | 1.5-2.0 feet |
| A1P2-STP-S-12-5-V | WAC 12 | Archive | 2.0-2.5 feet |
| A1P2-STP-S-13-4-R | WAC 13 | Total U, Tc99 | 1.5-2.0 feet |
| A1P2-STP-S-13-5-V | WAC 13 | Archive | 2.0-2.5 feet |
| A1P2-STP-S-13-6-V | WAC 13 | Archive | 2.5-3.0 feet |
| A1P2-STP-S-14-6-R | WAC 14 | Total U, Tc99 | 2.5-3.0 feet |
| A1P2-STP-S-14-6-R-D | WAC 14 | Total U, Tc99 | 2.5-3.0 feet |
| A1P2-STP-S-14-7-V | WAC 14 | Archive | 3.0-3.5 feet |
| A1P2-STP-S-14-8-V | WAC 14 | Archive | 3.5-4.0 feet |
| A1P2-STP-S-15-3-R | WAC 15 | Total U, Tc99 | 1.0-1.5 feet |
| A1P2-STP-S-15-4-V | WAC 15 | Archive | 1.5-2.0 feet |

INFORMATION ONLY

Justification:
Samples needed to delineate above WAC areas.

REQUESTED BY: Alex Duarte Date: July 30, 1999

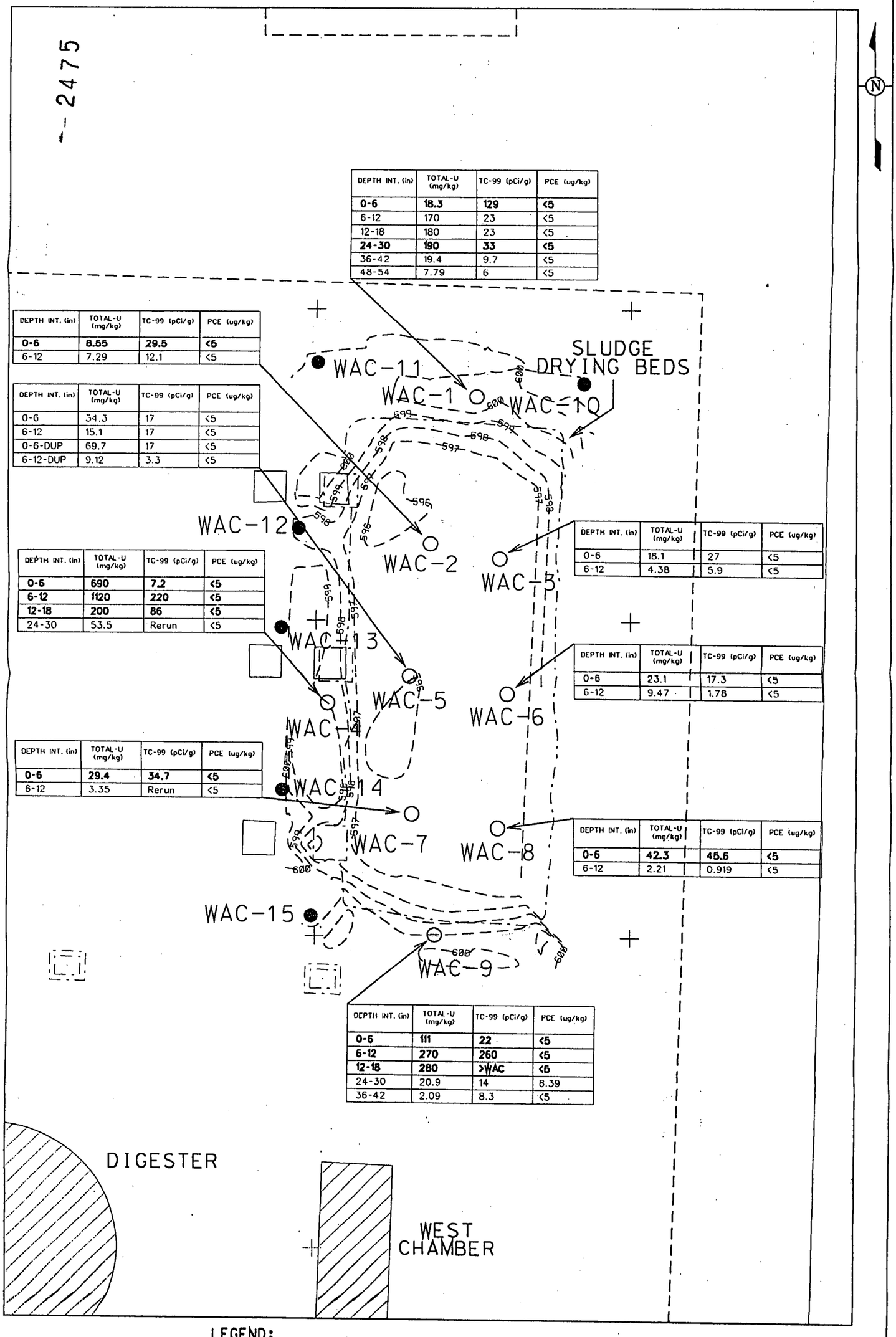
| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE [signature] | 7-30-99 | X | CHARACTERIZATION LEAD J. Vance for A. Duarte | 07/30/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER [signature] | 7/30/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER [signature] | 7-30-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION [signature] | 7-30-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |




| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| **0-6** | **18.3** | **129** | **<5** |
| 6-12 | 170 | 23 | <5 |
| 12-18 | 180 | 23 | <5 |
| **24-30** | **190** | **33** | **<5** |
| 36-42 | 19.4 | 9.7 | <5 |
| 48-54 | 7.79 | 6 | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| **0-6** | **8.55** | **29.5** | **<5** |
| 6-12 | 7.29 | 12.1 | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| 0-6 | 34.3 | 17 | <5 |
| 6-12 | 15.1 | 17 | <5 |
| 0-6-DUP | 69.7 | 17 | <5 |
| 6-12-DUP | 9.12 | 3.3 | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| 0-6 | 18.1 | 27 | <5 |
| 6-12 | 4.38 | 5.9 | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| **0-6** | **690** | **7.2** | **<5** |
| **6-12** | **1120** | **220** | **<5** |
| **12-18** | **200** | **86** | **<5** |
| 24-30 | 53.5 | Rerun | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| 0-6 | 23.1 | 17.3 | <5 |
| 6-12 | 9.47 | 1.78 | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| **0-6** | **29.4** | **34.7** | **<5** |
| 6-12 | 3.35 | Rerun | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| **0-6** | **42.3** | **45.6** | **<5** |
| 6-12 | 2.21 | 0.919 | <5 |

| DEPTH INT. (in) | TOTAL-U (mg/kg) | TC-99 (pCi/g) | PCE (ug/kg) |
|---|---|---|---|
| **0-6** | **111** | **22** | **<5** |
| **6-12** | **270** | **260** | **<5** |
| **12-18** | **280** | **>WAC** | **<5** |
| 24-30 | 20.9 | 14 | 8.39 |
| 36-42 | 2.09 | 8.3 | <5 |

**LEGEND:**

● PROPOSED SAMPLE LOCATIONS TO NATIVE SOIL

SCALE
15 7.5 0 15 FEET

DRAFT

NOTE: DUP = DUPLICATE SAMPLE

STP SLUDGE DRYING BED SAMPLING RESULTS

STATE PLANAR COORDINATE SYSTEM 1927

29-JUL-1993 09:31 sdpsamp.dwg

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-11

PSP ~~WBS~~ NO.: ~~EGDG~~ #20710-PSP-0007, Rev 1
08/03/99 JV 08/03/99 JV

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 8/3/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

2475

Variance:

As described in Variance 9 of this PSP, samples were collected from the northern and western berm area of the East Sludge Drying Bed on 07/30/99. At this time the sample points were surveyed. The coordinates and surface elevation are listed below:

| Sample ID Prefix | Location ID | Northing | Easting | Surface Elevation |
|---|---|---|---|---|
| A1P2-STP-S-10 | WAC 10 | 480137.090 | 1351787.710 | 599.611 |
| A1P2-STP-S-11 | WAC 11 | 480137.827 | 1351746.978 | 599.009 |
| A1P2-STP-S-12 | WAC 12 | 480115.165 | 1351746.950 | 597.702 |
| A1P2-STP-S-13 | WAC 13 | 480100.060 | 1351746.143 | 599.541 |
| A1P2-STP-S-14 | WAC 14 | 480077.907 | 1351746.058 | 599.127 |
| A1P2-STP-S-15 | WAC 15 | 480056.523 | 1351745.719 | 599.374 |

INFORMATION ONLY

Justification:

The purpose of this variance is to document the survey information for the samples collected as directed in Variance 9.

REQUESTED BY: Jenny Vance Date: August 3, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 8-3-99 | X | CHARACTERIZATION LEAD | 8/3/99 |
| | DATA QUALITY MANAGEMENT | | | FIELD MANAGER | |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER for Crawford | 8/3/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 8-3-99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: 000037 |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-12

~~WBS~~ PSP NO.: ECDC #20710-PSP-0007, Rev 1

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 8/3/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

Variance:

2475

The purpose of this variance is to document the collection of six samples in Stockpiles 99-4 and 99-5 in the OSDF Borrow Area in A1P2. Two samples were collected from both the northern and southern portion of 99-4 (total of 4 samples). Two samples were collected in 99-5, one each in the northern and southern portions (total of 2 samples) . Samples were collected using a Geoprobe, where the core was pushed to the bottom of the pile. The core was composited into a 5 gallon container, which weighed approximately 40 pounds. The samples were submitted for permeability studies. No QC is required. The following sample Ids were used:

| Sample ID | Location |
|---|---|
| A1P2-PS-5-N | 99-5 Northen Portion |
| A1P2-PS-5-S | 99-5 Southern Portion |
| A1P2-PS-4-N1 | 99-4 Northen Portion |
| A1P2-PS-4-N2 | 99-4 Northen Portion |
| A1P2-PS-4-S1 | 99-4 Southern Portion |
| A1P2-PS-4-S2 | 99-4 Southern Portion |

INFORMATION ONLY

Justification:
Samples needed to determine if liner material is adequate for Cell 3.

REQUESTED BY: Alex Duarte Date: August 2, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 8-3-99 | X | CHARACTERIZATION LEAD | 8/3/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 8/3/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 8/3/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 8-3-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

000038

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

| VARIANCE / FIELD CHANGE NOTICE | V/FCN 20402PSP2-4 |
|---|---|
| WBS NO.: PROJECT/DOCUMENT/ECDC #20402-PSP-0002 Rev 0 | Page 1 of 3 |
| PROJECT TITLE: PSP for Area 2, Phase I South Field Excavation Characterization | Date: 8/3/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification): - 2475

Modify Section 2.6 Tracking/Managing Data Collection, Item 2 Lift Area to add an "N" and "S" designation for the north and south lift areas within the South Field. The northern and southern lift area boundary is separated by the existing diverson ditch/berm which traverses the South Field from east to west and is denoted on construction drawing 92X-5900-G-01000.

Replace pages 2-9 and 2-10 with the attached pages, which reflect the change.

**Justification**

Modification of the lift area identification is needed to more accurately reflect the excavation plan and the fieldwork.

INFORMATION ONLY

REQUESTED BY: Mike Rolfes DATE: 8/3/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 8-5-99 | X | A2PI PROJECT MANAGER | 8/4/99 |
| | DATA QUALITY MANAGEMENT | | X | Real-time Program Mgr | 8/4/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | A2PI Characterization Lead | 8/4/99 |
| | Sampling Manager | | X | WAO | 8/4/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

Confirming and delineating the extent of contamination with 15 and 31 cm HPGe measurements is at the discretion of the Characterization Lead or designee. Conditions may arise which warrant a different decision process for defining the extent of contamination (i.e., cost effectiveness, need for timely response, obvious discoloration in the soil, brown/clear glass, process residue or other suspect above-WAC material may require immediate excavation, photoionization detector monitoring, or physical sampling). The decision process for the unusual condition will be documented in applicable field activity logs and, if determined to be appropriate by the Characterization Lead or designee, with a Variance/Field Change Notice (V/FCN) as described in Section 3.2.

Duplicate measurements will be performed in the same manner described in Section 2.3.2: one per 20 measurements taken.

## 2.6 TRACKING/MANAGING DATA COLLECTION

All RTIMP equipment measurements will be assigned a unique identification for data tracking purposes. There are three essential components in the numbering scheme regardless of which measurement technique is used:

- Excavation area
- Lift area within the excavation area (if appropriate)
- Lift sequence in lift area.

These three components, combined with additional designators and differentiated by their location (northing, easting, and elevation) and time, will allow for unique identification.

All RTIMP equipment measurements will contain some or all of the following designators.

| | | |
|---|---|---|
| 1. | Excavation area: | Denotes major excavation area: South Field (SF) |
| 2. | Lift area: | Denotes location of lift within the excavation area, if appropriate. For example, the initial surface scan of the SF will not require a lift designation. These lift areas are designated as follows:<br><br>N = North area of the South Field<br>S = South area of the South Field<br>D = Lead-Contaminated Soil Area<br>E = Temporary Haul Road (if used). |

2475

Area D lead-contaminated soil area can be found in Figure 2-2. Additional lift area designations may be required and will be documented in a V/FCN as necessary.

The following designations have been previously used for other areas/PSPs and will not be used again to avoid confusion:

A = East Section Impacted Material Stockpile (used in previous variance to 20300-PSP-0004)
B = Basin, Site Preparation (used in Area 2, Phase I Areas Sampling Project, 20401-PSP-0001)
C = West Section Impacted Material Stockpile (used in previous variance to 20300-PSP-0004).

3. Lift sequence: Designates the lift sequence (if used) with the surface lift starting as 1 and all subsequent lifts following sequentially (1, 2, 3, 4, etc.)

4. RMS batch number (if applicable): Sequential numbering of RMS analytical runs

5. HPGe measurement. number (if applicable): Designates the sequential numbering of HPGe measurements from a particular lift with the first measurement designated as 1 and any subsequent measurements numbered sequentially (1, 2, 3, 4, etc.).

6. Measurement designator: G = gamma measurements and associated moisture measurement

7. Quality control designators (as necessary): D = duplicate measurement.

Using these guidelines, the unique identification scheme for each measurement technique is as follows:

<u>RMS Measurement Identification</u>: use designators 1, 2 (if appropriate), 3, and 4 above.

Example: SF-N-2-541 where:
SF = South Field excavation area
N= north area of the South Field
2 = second lift
541 = sequential RMS run

SF-E-2-542 where:
SF = South Field excavation area
E = Temporary Haul Road (if used)
2 = second lift
542 = sequential RMS run

000041

| VARIANCE / FIELD CHANGE NOTICE | V/F 20200-PSP-0004-0004-2 |
|---|---|
| WBS NO.: ECDC #20200-PSP-0004 Rev. 0 | Page 1 of 1 |
| PROJECT TITLE: Project Specific Plan for Area 3A/4A Surface Predesign Investigation | Date 8/10/99 |

VARIANCE / FIELD CHANGE NOTICE (Include justification):

Field Change Notice: -2475

Delete Boring Number 11 (later renumbered as 12464 in V/FCN 20200-PSP-0004-1).

ORIGINAL

INFORMATION ONLY

Justification:

This boring is unnecessary as another boring, 12488, at approximately the same location and depths will be sampled under 20200-PSP-0005, Project Specific Plan for Area 3A/4A Subsurface Predesign Investigation. All surface investigation objectives can be achieved by the later boring.

REQUESTED BY: Bill Westerman
Date: 8/10/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 8-11-99 | X | PROJECT MANAGER | 8/10/99 |
| | DATA QUALITY MANAGEMENT | | X | Characterization Lead | 8/10/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | | RTIMP Manager | |
| X | OTHER (WAC) | 8/10/99 | X | Sampling Manager | 8/10/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Esther Dittmer | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-13

PSP NO.: 20710-PSP-0007, REV. 1



PROJECT TITLE: A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 8/11/99

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

Variance: The purpose of this variance is to direct the collection of 36 surface and subsurface samples from 17 locations near and in the OSDF Petro laydown area. Except for the current use, the soil in this area is basically undisturbed. Samples collected under this variance will be analyzed for Total Uranium. Surface samples (0-6") from locations 12577 and 12578 were determined during predesign activities to exceed the FRL for total uranium. These results will be verified and additional samples will be collected at the 6-12" and 36-42" intervals to determine if uranium contamination exists below the surface. Samples will be collected at locations 12577 and 12578 with the Geoprobe ® Macro-Core sampler. The soil cores will be screened in six-inch increments in the field using a beta gamma frisker and results will be noted in the Field Activity Log. Samples will be collected from the top two 6-inch increments at the remaining sample locations using either a hand auger or Macro-Core sampler per procedure *SMPL-01, Solids Sampling.* Sample locations 12572 through 12576 are to be collected in the bottom of the drainage ditch west of sample locations 12577 and 12578 to bound the contamination and determine if uranium may have been deposited by surface water runoff. The remaining samples will be collected in the gravel covered Petro laydown area and will be used to bound the extent of the uranium contamination. If sample locations are identified which have uranium concentrations exceeding the FRL in the 6-12" increment, samples will be collected at depth under a separate variance. All sample points are shown on the attached map (Figure 1). Sample points 12572 through 12578 may be moved up to one foot and points 12579 through 12588 up to ten feet, at the discretion of the field crew, when necessary based on field conditions. Sample points moved more than three feet must be resurveyed. For samples locations which fall into gravel covered areas, the sample depths should begin at the top of the undisturbed soil layer. Samples will be collected in capped plastic liners or 500 ml glass or plastic containers and analyzed for Total Uranium to ASL B at the on-site laboratory by ICP/MS. A minimum sample mass of 100g should be collected. Rinsates and duplicate samples will not be required. Ten percent of the analytical data will be validated to ASL B. Sample IDs, boring numbers, sample locations, and depths are attached (Table1).

2475

Justification: Previous analytical data from Area 1, Phase II Pre-Design Investigation Survey PSP (20710-PSP-0003) shows two physical sample locations (A1P2-123-1-1R and A1P2-126-1-1R) which exceed the Total Uranium FRL. Additional data is needed to determine the extent of the uranium contamination. Physical sampling is necessary because much of the area is covered by gravel and is inaccessible to RTIMP equipment and to allow for vertical bounding.

INFORMATION ONLY

REQUESTED BY: Jenny Vance Date: August 11, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 8-11-99 | X | CHARACTERIZATION LEAD | 8/11/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 8/11/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 8-11-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 8-11-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

**TABLE 1**
Sampling Locations for Variance 13
20710-PSP-0007, Rev. 1

2475

| BORING | NORTHING | EASTING | SAMPLE ID | DEPTH | ANALYSIS |
|---|---|---|---|---|---|
| 12572 | 480890.46 | 1350914.14 | A1P2-12572-1-R | 0-6" | Total Uranium |
| | | | A1P2-12572-2-R | 6-12" | Total Uranium |
| 12573 | 480822.2 | 1350914.14 | A1P2-12573-1-R | 0-6" | Total Uranium |
| | | | A1P2-12573-2-R | 6-12" | Total Uranium |
| 12574 | 480754.78 | 1350914.14 | A1P2-12574-1-R | 0-6" | Total Uranium |
| | | | A1P2-12574-2-R | 6-12" | Total Uranium |
| 12575 | 480698.62 | 1350914.14 | A1P2-12575-1-R | 0-6" | Total Uranium |
| | | | A1P2-12575-2-R | 6-12" | Total Uranium |
| 12576 | 480624.42 | 1350914.14 | A1P2-12576-1-R | 0-6" | Total Uranium |
| | | | A1P2-12576-2-R | 6-12" | Total Uranium |
| 12577 | 480841.544 | 1350932.008 | A1P2-12577-1-R | 0-6" | Total Uranium |
| | | | A1P2-12577-2-R | 6-12" | Total Uranium |
| | | | A1P2-12577-7-R | 36-42" | Total Uranium |
| 12578 | 480670.238 | 1350932.638 | A1P2-12578-1-R | 0-6" | Total Uranium |
| | | | A1P2-12578-2-R | 6-12" | Total Uranium |
| | | | A1P2-12578-7-R | 36-42" | Total Uranium |
| 12579 | 480867.64 | 1350953.22 | A1P2-12579-1-R | 0-6" | Total Uranium |
| | | | A1P2-12579-2-R | 6-12" | Total Uranium |
| 12580 | 480832.18 | 1350953.22 | A1P2-12580-1-R | 0-6" | Total Uranium |
| | | | A1P2-12580-2-R | 6-12" | Total Uranium |
| 12581 | 480694.7 | 1350955.80 | A1P2-12581-1-R | 0-6" | Total Uranium |
| | | | A1P2-12581-2-R | 6-12" | Total Uranium |
| 12582 | 480646.26 | 1350952.34 | A1P2-12582-1-R | 0-6" | Total Uranium |
| | | | A1P2-12582-2-R | 6-12" | Total Uranium |
| 12583 | 480852.70 | 1350993.66 | A1P2-12583-1-R | 0-6" | Total Uranium |
| | | | A1P2-12583-2-R | 6-12" | Archive |
| 12584 | 480773.16 | 1350993.66 | A1P2-12584-1-R | 0-6" | Total Uranium |
| | | | A1P2-12584-2-R | 6-12" | Archive |
| 12585 | 480713.50 | 1350993.66 | A1P2-12585-1-R | 0-6" | Total Uranium |
| | | | A1P2-12585-2-R | 6-12" | Archive |
| 12586 | 480648.64 | 1350993.66 | A1P2-12586-1-R | 0-6" | Total Uranium |
| | | | A1P2-12586-2-R | 6-12" | Archive |
| 12587 | 480814.66 | 1351025.64 | A1P2-12587-1-R | 0-6" | Total Uranium |
| | | | A1P2-12587-2-R | 6-12" | Archive |
| 12588 | 480739.42 | 1351025.64 | A1P2-12588-1-R | 0-6" | Total Uranium |
| | | | A1P2-12588-2-R | 6-12" | Archive |

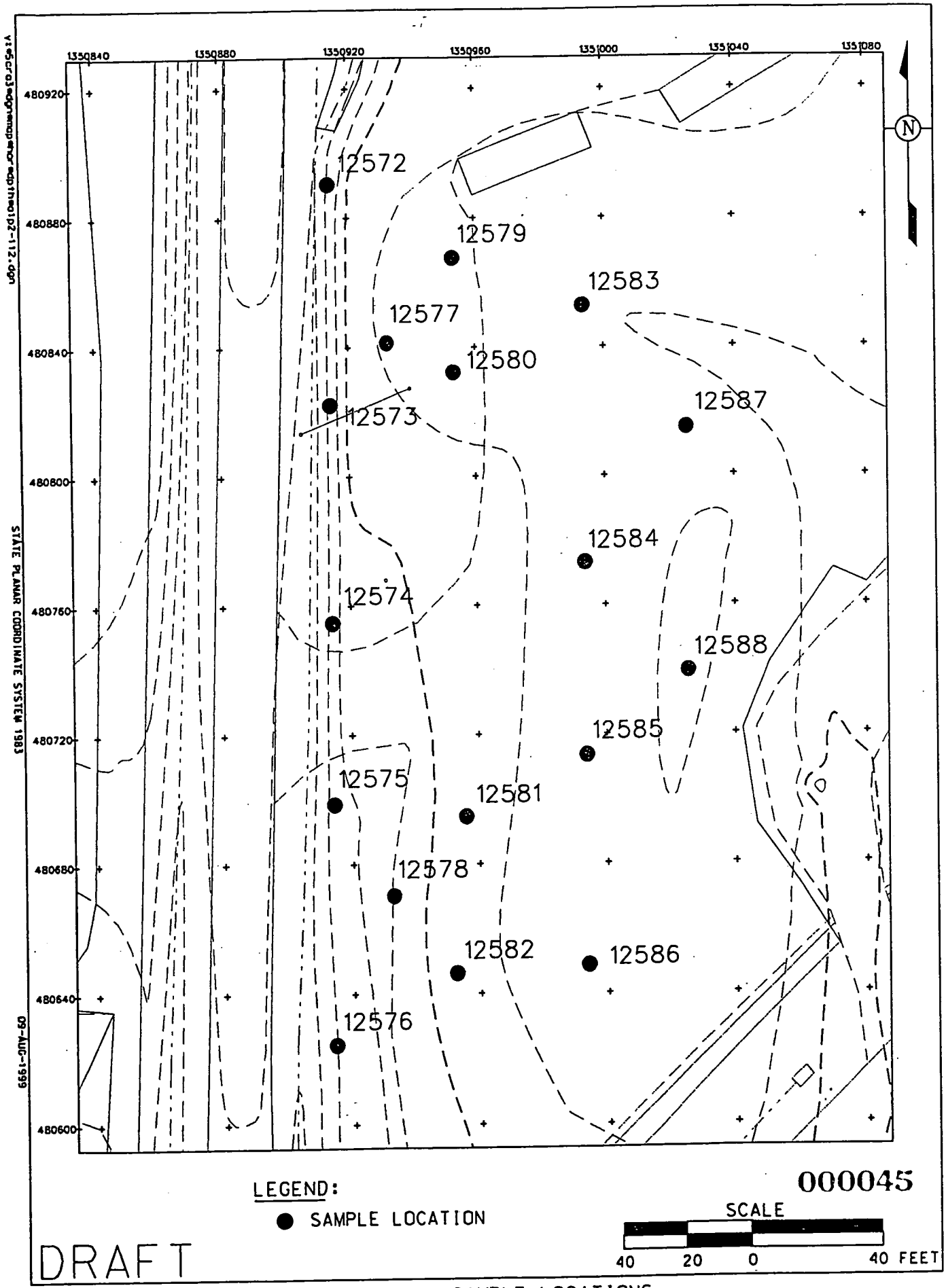





FIGURE 1. SAMPLE LOCATIONS

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-14

WBS NO.: ECDC #20710-PSP-0007

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 8/5/99

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

Variance:

-2475

The purpose of this variance is to document the collection of three additional post-excavation samples at three locations in the southern and south west portion of the East Sludge Drying Bed in the STP area. The locations will be field located and surveyed after sampling. Sampling will be done using a hand auger or a direct push liner. The following table lists the sample identifiers. Samples will be submitted for Total Uranium and Technetium-99 analysis.

| Sample ID | Analysis | Location |
|---|---|---|
| A1P2-STP-S-16-1-R | Total U, Tc99 | South east side of berm |
| A1P2-STP-S-17-1-R | Total U, Tc99 | South west side of berm |
| A1P2-STP-S-18-1-R | Total U, Tc99 | South west corner of berm |

Justification:
Samples needed to delineate above WAC areas.

INFORMATION ONLY

REQUESTED BY: Alex Duarte

Date: August 5, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 8-9-99 | X | CHARACTERIZATION LEAD | 8/5/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER Mike Frol | 8/10/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER J. Vance for T. Crawford | 8/5/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION Chris Walk | 8-5-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

| VARIANCE / FIELD CHANGE NOTICE | V/F 20710-PSP-0007-15 |
|---|---|
| WBS NO.: ECDC # 20710-PSP-0007, Rev 1 | Page 1 of 1 |
| PROJECT TITLE: PSP for A1PII Excavation Monitoring and Precertification | Date 8/12/1999 |

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

**Field Change Notice:** -- 2475

The purpose of this variance is to document the collection of two additional sampling activities in the East Sludge Drying Bed: 1. Rinsate sample collection, 2. Above-WAC confirmatory sampling.

Rinsate Sample Collection:
One additional rinsate sample will be collected from the bucket of the equipment used to excavate the mixed waste material in the southern berm of the East Drying Bed. The sample will be submitted for analysis of Perchloroethylene analysis. The rinsate sample will be collected by pouring the appropriate volume of DI water into the bucket, then submerging 40ml vials directly into the bucket or by collecting the water in a larger container and immediately transferring the water to 40ml vials and capping. The rinsate sample and one trip blank will be collected in three 40 ml glass vials each with teflon lined septa. The samples will be preserved to a PH <2 with HCL or $H_2SO_4$ and cooled to 4°C. The rinsate sample will be identified as A1P2-STP-R3-L, and the trip blank as A1P2-STP-TB3-L. The analytical data will not be validated.

Above-WAC Sampling:
Three additional samples will be collected at three locations in post-excavated southern berm. The locations will be field located and surveyed after the sampling. Sampling will be done using a hand auger or a direct push liner collecting a sample from the 0-6" interval from the existing grade. The following table list the sample identifiers. Samples will be submitted for Total Uranium and Technetium-99 analysis.

| SAMPLE ID | ANALYSIS | APPROXIMATE LOCATION |
|---|---|---|
| A1P2-STP-S-19-1-R | Total U, Tc99 | Eastern Portion of the post-excavated southern berm |
| A1P2-STP-S-20-1-R | Total U, Tc99 | Middle Portion of the post-excavated southern berm |
| A1P2-STP-S-21-1-R | Total U, Tc99 | Western Portion of the post-excavated southern berm |

**Justification:**

Rinsate sample needed to verify no cross-contamination occurs after the mixed waste material is removed. Additional WAC samples needed to confirm removal of all above-WAC material.

Requested By: Alex Duarte Date: 8/12/1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Fred Thompson | 8-13-99 | X | PROJECT MANAGER | 8-13-99 |
| | DATA QUALITY MANAGEMENT | | X | Characterization Lead | 8/12/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | | RTIMP Manager | |
| X | WAO OTHER Dry Cascone | 8/12/99 | X | Sampling Manager MIKE FRANK BY A. DUARTE | 8/16/99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

000047

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Esther Dittmer | OTHER: |
| QUALITY ASSURANCE: | OTHER: | |
| FIELD MANAGER: | OTHER: | OTHER: |

INFORMATION ONLY

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-10

WBS NO.: ECDC #20710-PSP-0007 R/1

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 7/27/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

Variance:

2475

Samples A1P2-STP-S-9-4-V and A1P2-STP-S-9-6-V were collected from the Sludge Drying Beds and archived. These samples will be retrieved from storage and submitted to the on-site analytical laboratory for analysis of Total Uranium and Technetium-99 (TAL A) as A1P2-STP-S-9-4-R and A1P2-STP-S-9-6-R, respectively. As noted in the original PSP, these samples will be analyzed at ASL B and the analytical data will be validated.

INFORMATION ONLY

Justification:

Analytical results from adjacent boring intervals indicated above-WAC levels of Technetium-99. These additional analyses will provide supplemental information for determining the extent of the radiological contamination.

REQUESTED BY: Jenny Vance

Date: July 27, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 7-29-99 | X | CHARACTERIZATION LEAD | 7/27/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 7/27/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 7-27-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 7-27-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-02

Project No. 20710-PSP-0007

Page 1 of 1

PROJECT TITLE: A1PII Precertification and Excavation Monitoring (Rev 1)

Date: 6/21/99

VARIANCE / FIELD CHANGE NOTICE (Include justification)

**Field Change Notice:**

2475

This variance documents the addition 3 samples in the East Sludge Drying Bed for Volatiles analyses (VOA). The sample locations will be field located by the Characterization Lead on temporary stockpiles of over-excavated material in the East Sludge Drying Bed. Each of the three samples will be collected into a 60 mL glass container (with teflon lined lid) from the surface of the pile at each point. The locations will be documented on the Field Activity Log in a field sketch of the area. The samples will be submitted for VOA analysis, and will have the following IDs: A1P2-STP-TS1-L, A1P2-STP-TS2-L, A1P2-STP-TS3-L. The samples must be placed in a cooler with ice packs immediately after collection and delivered to the laboratory for rush shipment to an off-site contract laboratory.

One trip blank, prepared per the PSP, will accompany the field team and samples and be given the ID A1P2-STP-TB1-L. All other sampling and analysis procedures will follow the PSP.

INFORMATION ONLY

ORIGINAL

**Justification:**
These samples are being collected to ensure that the subject area does not contain any F-listed material.

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE Frank Thompson | 6/22/99 | X | CHARACTERIZATION LEAD | 6/22/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD SAMPLING MANAGER Mike Miller | 6/22/99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER TOM CRAWFORD BY ARDUS | 6/22/99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION Christa Walk | 6-22-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

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DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/F 20710-PSP-0007-7

WBS NO.: ECDC #20710-PSP-0007

Page 1 of 1

PROJECT TITLE: PSP FOR A1PII EXCAVATION MONITORING AND PRECERTIFICATION

Date: 7/15/99

**VARIANCE / FIELD CHANGE NOTICE (Include Justification)**

Variance: 2475

The purpose of this variance is to document a change in the field during the collection of samples for moisture determination as described in Variance 20710-PSP-0007-3. Box MHFU001131was loaded and sealed before a sample was collected. There will be no moisture value available for this box.

INFORMATION ONLY

Justification: JV 07/20/99

The box was loaded ~~after~~ before sample collection personnel arrived in the field.

Moisture determination is not a requirement for packaging or shipping. Moisture samples were taken only as supplemental information to verify that residual moistures prior to excavation would not affect moisture determination criteria. 7/22/99 7-22-99

REQUESTED BY: Jenny Vance Date: July 15, 1999

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE | 7/22/99 | X | CHARACTERIZATION LEAD | 7/20/99 |
| | DATA QUALITY MANAGEMENT | | X | FIELD MANAGER | 7-20-99 |
| | ANALYTICAL CUSTOMER SUPPORT | | X | AREA MANAGER | 7-21-99 |
| | OTHER | | X | WASTE ACCEPTANCE ORGANIZATION | 7-21-99 |

VARIANCE/FCN APPROVED [X ]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| FIELD MANAGER: | OTHER: | OTHER: |

# VARIANCE / FIELD CHANGE NOTICE

V/FCN 20200-PSP-0004-1

WBS NO.: ECDC #20200-PSP-0004 Rev. 0



PROJECT TITLE: Project Specific Plan for Area 3A/4A Surface Predesign Investigation

Date: 7/21/99

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

1. CHANGE: Four additional soil borings will be conducted as shown in the attached figure:

| Boring No. | Northing | Easting |
|---|---|---|
| 12467 | 481887.52 | 1349865.44 |
| 12468 | 481904.79 | 1349866.62 |
| 12469 | 481887.30 | 1349841.67 |
| 12470 | 481857.81 | 1349866.62 |

2475

Borings will be advanced to 3.5 feet and samples will be collected from the 0.-0.5, 0.5-1.0, and 1.0-1.5 foot intervals of each sample location using the methods described in Section 2.2 of the PSP. A beta/gamma scan will be performed of the remaining sample intervals (1.5 - 3.5 feet) and any intervals above background will collected for archive. If the scan results are 450 corrected counts per minute or above, the interval will be collected for analysis. The samples will be analyzed for total uranium at the on-site laboratory using ICP/MS (TAL C).

JUSTIFICATION: Results from RI/FS Boring "ZONE 1-320" exceeds the total uranium waste acceptance criteria (WAC) at the 0.5-1.0 foot depth. Because real-time instrumentation cannot scan at that depth additional soil samples are needed to bound the above-WAC area.

2. CHANGE: The sample location numbers have been changed as follows:

| Old Number | New Number |
|---|---|
| 1 | 12454 |
| 2 | 12455 |
| 3 | 12456 |
| 4 | 12457 |
| 5 | 12458 |
| 6 | 12459 |
| 7 | 12460 |
| 8 | 12461 |
| 9 | 12462 |
| 10 | 12463 |
| 11 | 12464 |
| 12 | 12465 |
| 13 | 12466 |

INFORMATION ONLY

As a result of this change, the physical sample identifiers will be modified also. The identifier will consist of the sample location number, followed by a depth identification (1=0-0.5 feet, 2=0.5-1.0 feet, etc.), and followed by a letter designating the type of sample ("R" for total uranium, "S" for SVOC, "AB" for alpha/beta screening, and "V" for archive). For example, 12462-2-R is the sample collected from the 0.5-1.0 foot interval from sample location 12462 and is a total uranium sample.

Revised Figures 2-1, 2-2, 2-3, and Appendix C is attached.

JUSTIFICATION: The sample locations in the PSP are labeled sequentially 1 through 13. Although unique sample identifiers were developed, each sample location also needs a unique boring number so as to avoid confusion when data is added to the Sitewide Environmental Database. Therefore, sample locations have been renumbered and sample identifiers have been modified to be consistent with the new location numbers.

| VARIANCE / FIELD CHANGE NOTICE | V/FCN 20200-PSP-0004-1 |
|---|---|
| WBS NO.: ECDC #20200-PSP-0004 Rev. 0 | Page 2x of 18 |
| PROJECT TITLE: Project Specific Plan for Area 3A/4A Surface Predesign Investigation | Date: 7/21/99 |

CHANGE: The coordinates for Borings 12454 through 12458 near the KC-2 Warehouse have been changed as follows:

2475

| Boring | New Northing | New Easting |
|---|---|---|
| 12454 | 482091.45 | 1349504.08 |
| 12455 | 482098.07 | 1349503.65 |
| 12456 | 482091.35 | 1349510.84 |
| 12457 | 482085.23 | 1349503.27 |
| 12458 | 482091.60 | 1349496.17 |

JUSTIFICATION: There was an error in the coordinates of RI/FS sample location KC2-2; the Borings 12454 through 12458 were positioned around that location. When the correct coordinates of KC2-2 were used, the boring locations were adjusted accordingly.

REQUESTED BY: Christine Messerly DATE: 7/21/99

| X IF REQD | VARIANCE/FCN APPROVAL | DATE | X IF REQD | VARIANCE/FCN APPROVAL | DATE |
|---|---|---|---|---|---|
| X | QUALITY ASSURANCE B D Woodwell | 7/22/99 | X | PROJECT MANAGER | 7/21/99 |
| | DATA QUALITY MANAGEMENT | | | Real-time Program Mgr | |
| | ANALYTICAL CUSTOMER SUPPORT | | X | Characterization Lead C M Messerly | 7/21/99 |
| X | Sampling Team Manager Mike Frank | 7-20-99 | X | WAO Linda Balon | 7/21/99 |

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

| | | |
|---|---|---|
| PROJECT MANAGER: | DOCUMENT CONTROL: Jeannie Rosser | OTHER: |
| QUALITY ASSURANCE: | OTHER: | OTHER: |
| | | |

VIFCN 20200-HSP-0001-1
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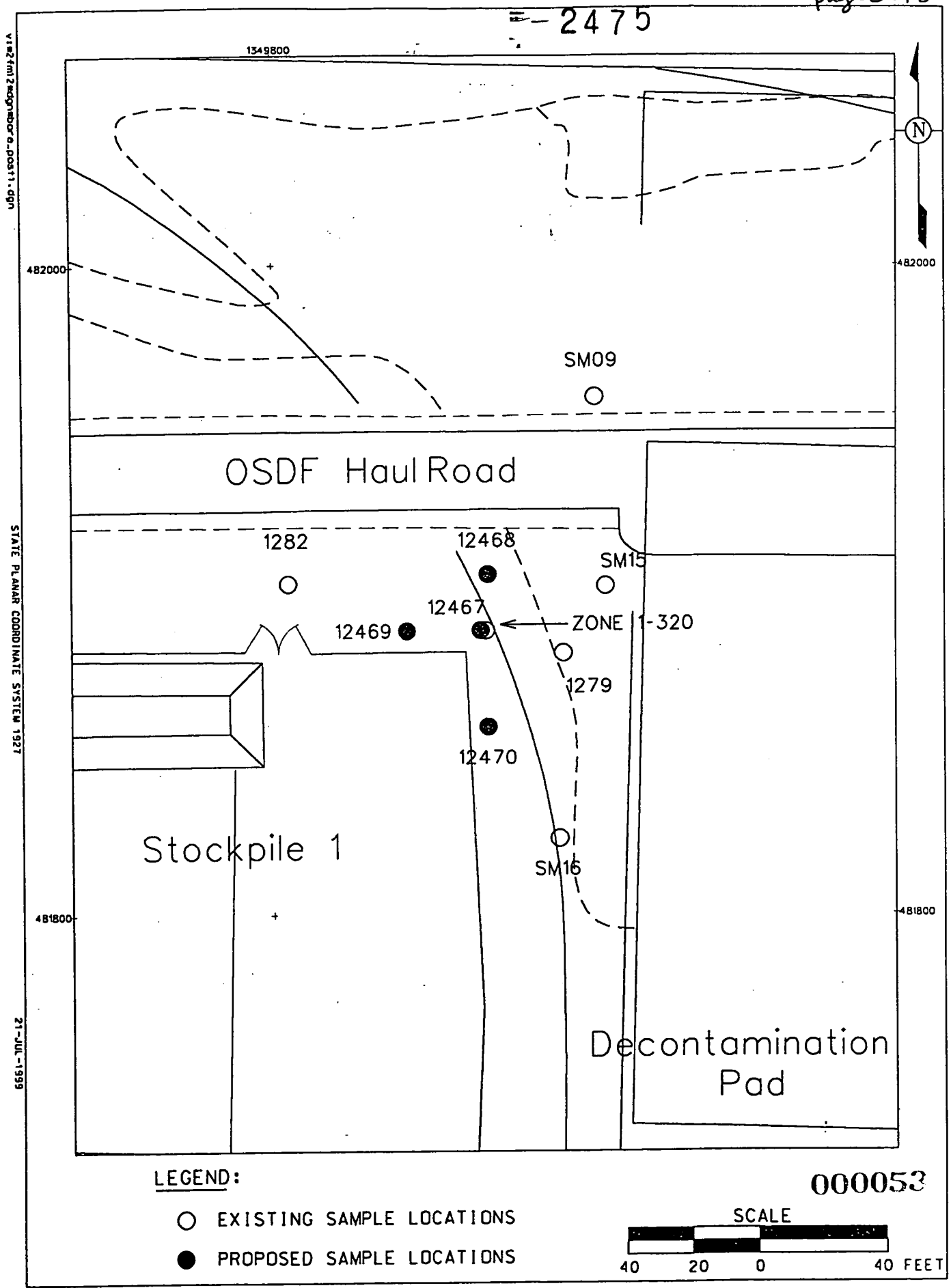
2475

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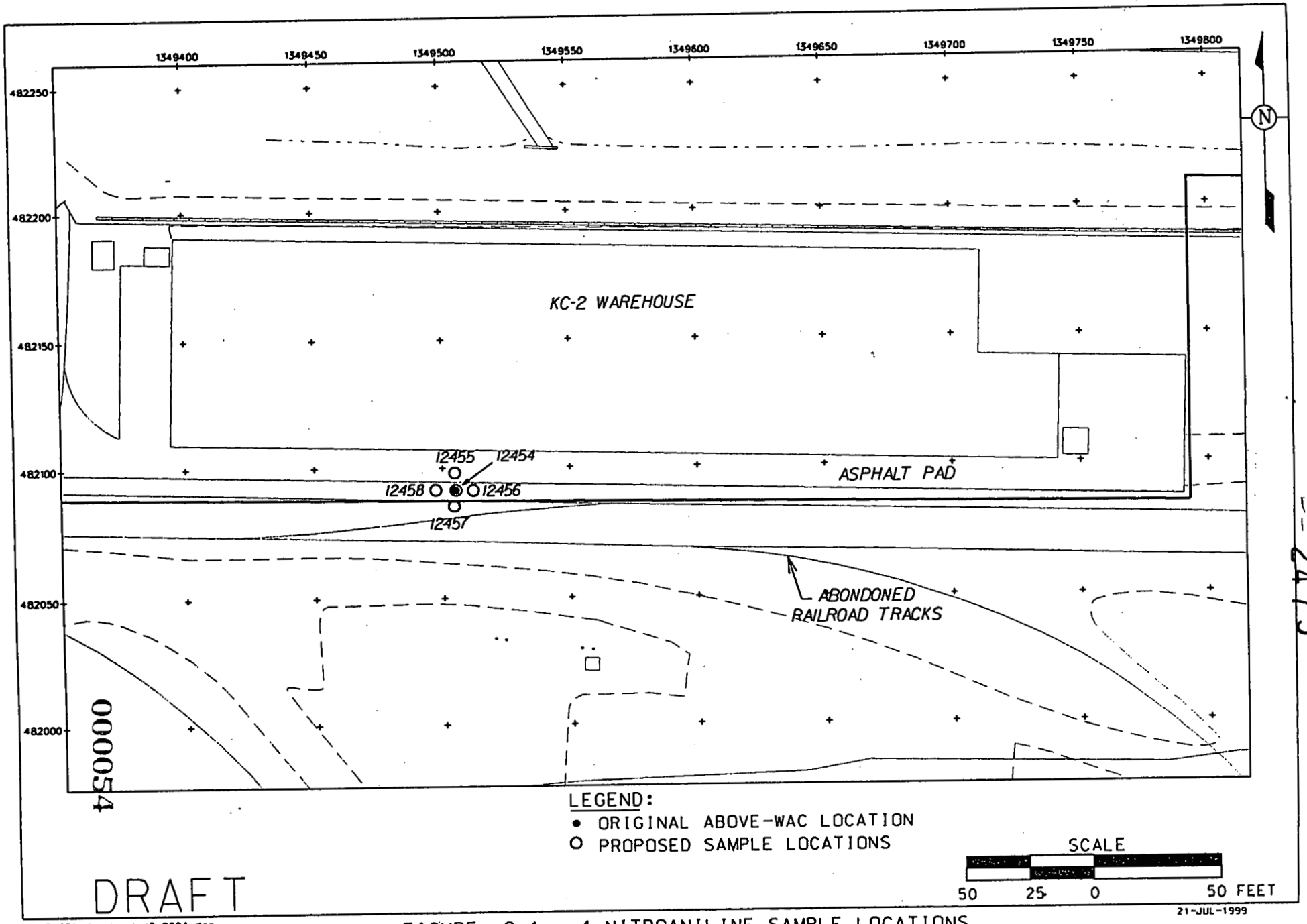
ADDITIONAL TOTAL URANIUM SAMPLE LOCATIONS

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STATE PLANAR COORDINATE SYSTEM 1983

FIGURE 2-1. 4-NITROANILINE SAMPLE LOCATIONS

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2475

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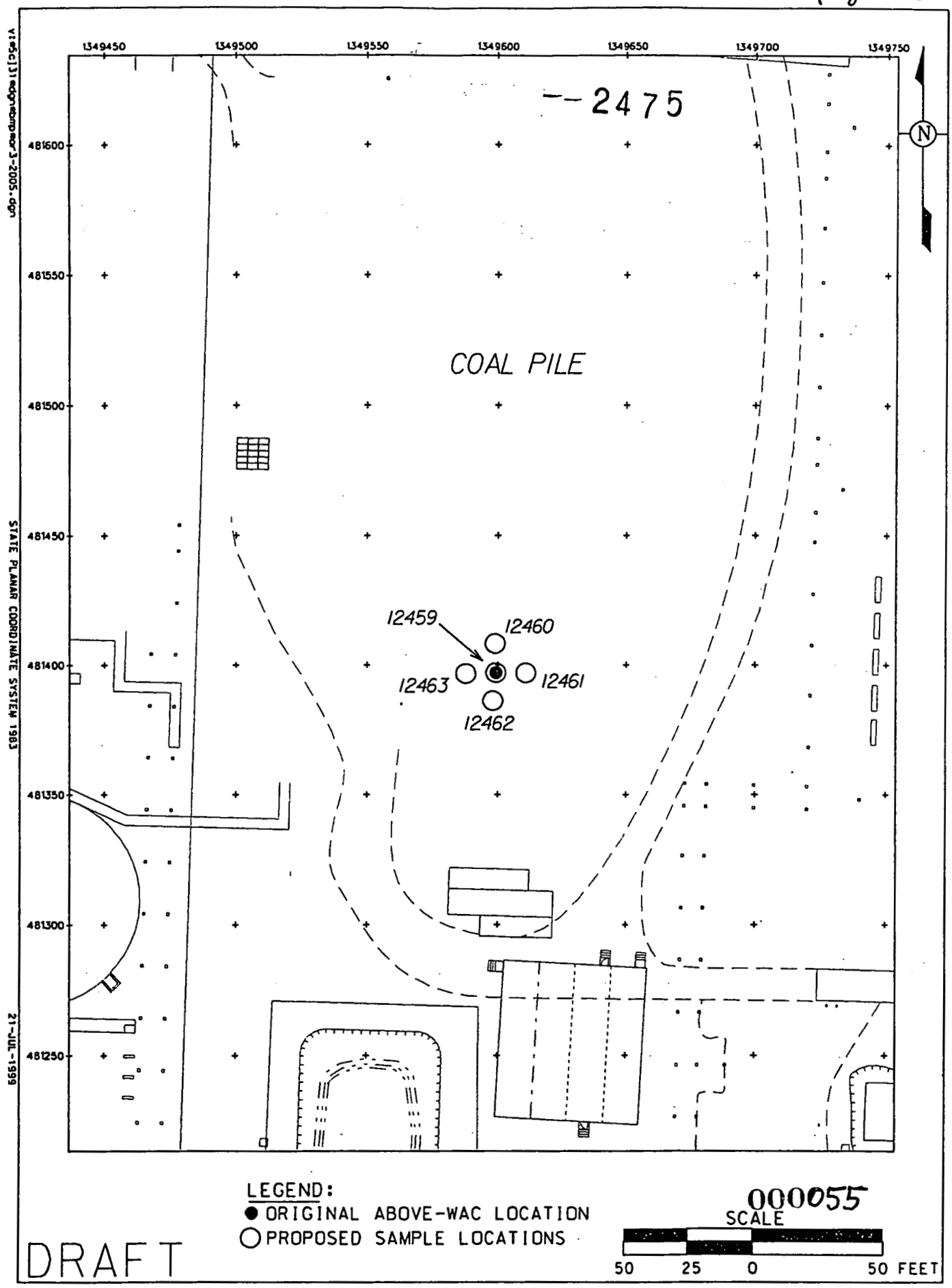


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FIGURE 2-2. BIS(2-CHLOROISOPROPYL)ETHER SAMPLE LOCATIONS

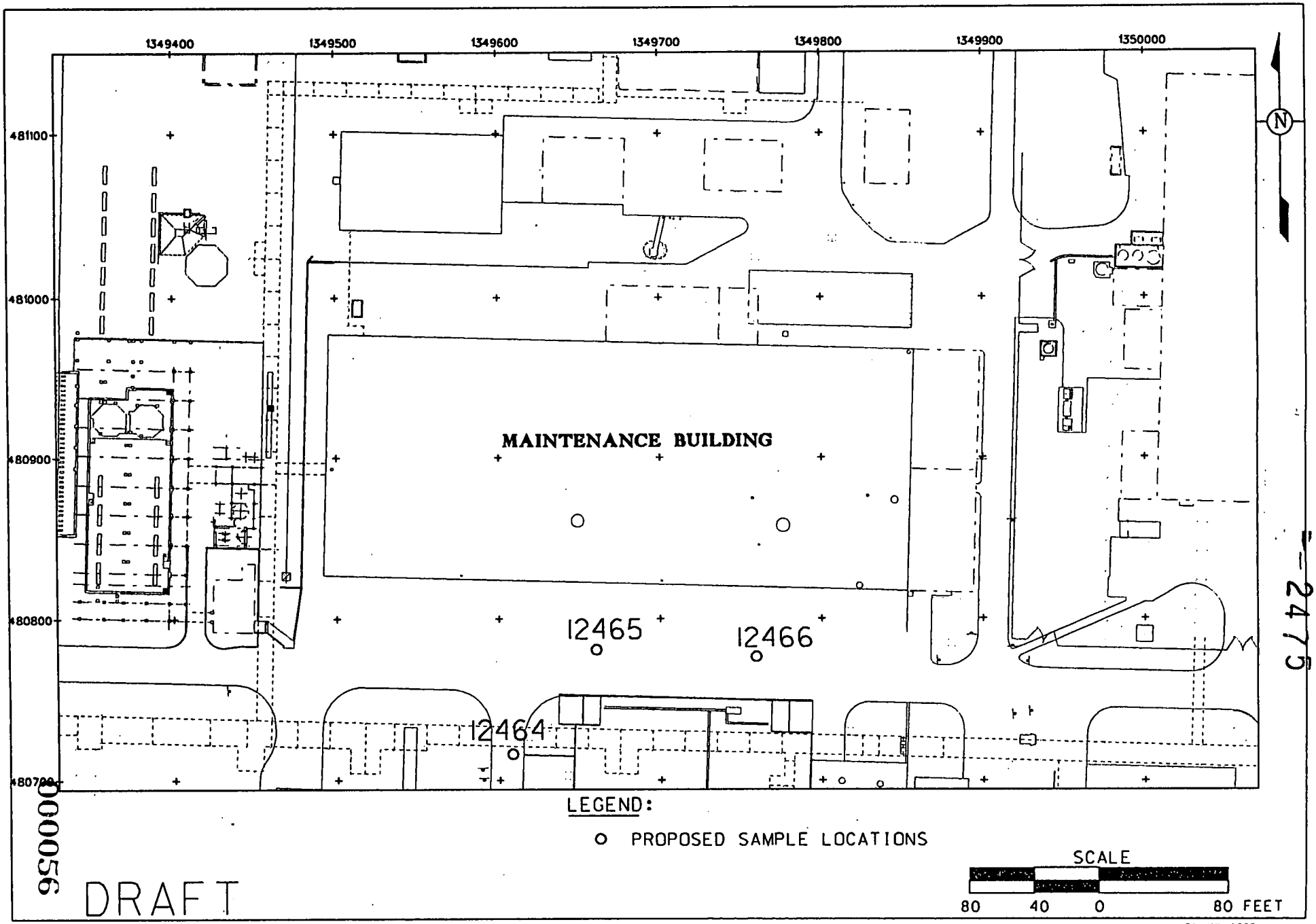


FIGURE 2-3. TOTAL URANIUM SAMPLE LOCATIONS

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STATE PLANAR COORDINATE SYSTEM 1983

21-JUL-1999

# APPENDIX C
## SOIL SAMPLES TO BE COLLECTED FOR THE AREA 3A/4A SURFACE PREDESIGN INVESTIGATION

| Location | Northing | Easting | Depth | Sample ID | Analysis | Analytes |
|---|---|---|---|---|---|---|
| 12454 | 482091.45 | 1349504.08 | 0'-0.5' | 12454-1-S | TAL A | 4-nitroaniline |
| | | | 0'-0.5' | 12454-1-1-AB | | Alpha/Beta Screen |
| 12455 | 482098.07 | 1349503.65 | 0'-0.5' | 12455-1-S | TAL A | 4-nitroaniline |
| | | | 0'-0.5' | 12455-1-AB | | Alpha/Beta Screen |
| 12456 | 482091.35 | 1349510.84 | 0'-0.5' | 12456-1-S | TAL A | 4-nitroaniline |
| | | | 0'-0.5' | 12456-1-AB | | Alpha/Beta Screen |
| 12457 | 482085.23 | 1349503.27 | 0'-0.5' | 12457-1-S | TAL A | 4-nitroaniline |
| | | | 0'-0.5' | 12457-1-AB | | Alpha/Beta Screen |
| 12458 | 482091.60 | 1349496.17 | 0'-0.5' | 12458-1-S | TAL A | 4-nitroaniline |
| | | | 0'-0.5' | 12458-1-AB | | Alpha/Beta Screen |
| 12459 | 481396.89 | 1349597.39 | 0'-0.5' | 12459-1-S | TAL B | bis(2-chloroisopropyl)ether |
| | | | 0'-0.5' | 12459-1-AB | | Alpha/Beta Screen |
| 12460 | 481408.13 | 1349597.11 | 0'-0.5' | 12460-1-S | TAL B | bis(2-chloroisopropyl)ether |
| | | | 0'-0.5' | 12460-1-AB | | Alpha/Beta Screen |
| 12461 | 481396.80 | 1349608.97 | 0'-0.5' | 12461-1-S | TAL B | bis(2-chloroisopropyl)ether |
| | | | 0'-0.5' | 12461-1-AB | | Alpha/Beta Screen |
| 12462 | 481386.06 | 1349596.25 | 0'-0.5' | 12462-1-S | TAL B | bis(2-chloroisopropyl)ether |
| | | | 0'-0.5' | 12462-1-AB | | Alpha/Beta Screen |
| 12463 | 481396.53 | 1349596.03 | 0'-0.5' | 12463-1-S | TAL B | bis(2-chloroisopropyl)ether |
| | | | 0'-0.5' | 12463-1-AB | | Alpha/Beta Screen |
| 12464 | 480715.68 | 1349606.40 | 0'-0.5' | 12464-1-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12464-3-V | | Archive |
| | | | 2.0'-2.5' | 12464-5-V | | Archive |
| | | | 3.0'-3.5' | 12464-7-V | | Archive |

**APPENDIX C**
**(Continued)**

| Location | Northing | Easting | Depth | Sample ID | Analysis | Analytes |
|---|---|---|---|---|---|---|
| 12465 | 480780.56 | 1349658.63 | 0'-0.5' | 12465-1-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12465-3-V | | Archive |
| | | | 2.0'-2.5' | 12465-5-V | | Archive |
| | | | 3.0'-3.5' | 12465-7-V | | Archive |
| 12466 | 480776.23 | 1349757.77 | 0'-0.5' | 12466-1-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12466-3-V | | Archive |
| | | | 2.0'-2.5' | 12466-5-V | | Archive |
| | | | 3.0'-3.5' | 12466-13-7-V | | Archive |
| 12467 | 481887.52 | 1349865.44 | 0'-0.5' | 12467-1-R | TAL C | Total uranium |
| | | | 0.5'-1.0' | 12467-2-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12467-3-R | TAL C | Total uranium |
| 12468 | 481904.79 | 1349866.62 | 0'-0.5' | 12468-1-R | TAL C | Total uranium |
| | | | 0.5'-1.0' | 12468-2-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12468-3-R | TAL C | Total uranium |
| 12469 | 481887.30 | 1349841.67 | 0'-0.5' | 12469-1-R | TAL C | Total uranium |
| | | | 0.5'-1.0' | 12469-2-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12469-3-R | TAL C | Total uranium |
| 12470 | 481857.81 | 1349866.62 | 0'-0.5' | 12470-1-R | TAL C | Total uranium |
| | | | 0.5'-1.0' | 12470-2-R | TAL C | Total uranium |
| | | | 1.0'-1.5' | 12470-3-R | TAL C | Total uranium |