



5-402.47 AR Coordinator

Department of Energy

**Ohio Field Office
Fernald Area Office**

P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



5-1751

OCT 06 1998

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

DOE-0002-99

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

Dear Mr. Saric and Schneider:

TRANSMITTAL OF VARIANCES TO PROJECT SPECIFIC PLANS

This letter transmits for your records, variances for Project Specific Plans (PSPs) issued during the months of August and September, 1998.

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

Sincerely,

**Johnny W. Reising
Fernald Remedial Action
Project Manager**

FN:Nickel

cc: PSP list

VARIANCE / FIELD CHANGE NOTICE

V/F 20.03.13.06-3

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: 7/30/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

1. Replace the word RTRAK in the PSP to read RTRAK/RSS. Data acquisition using the RSS will be at the same speed and acquisition time as specified in the PSP for the RTRAK. The RSS will have a Global Positioning Unit (GPS) attached to secure positioning information. The RSS trigger level potentially requiring confirmation and delineation measurements by the HPGe will be 721 ppm for total uranium.

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2. Modify Section 2.3 to include the collection of gamma measurements for residual materials of excavated special material areas. If requested by Characterization Lead or designee, conduct a gamma scan over the residual soil where special materials were located and removed during excavation. The gamma measurements can be taken with either the RTRAK/RSS or HPGe depending on the configuration of the special materials excavation footprint. If the RTRAK/RSS is deployed, use the same parameters as described in the PSP. If the HPGe is deployed, use a 15 cm height with an acquisition time of 5 minutes. The measurement numbering scheme is as follows:

Excavation Area-SM-sequential number-G

Where:

Excavation Area = Inactive Flyash Pile (IFP) or Soil Pile 5 (SP5)

SM = Special Materials

Sequential Number = 1,2,3, etc.

G = HPGe measurement if applicable

INFORMATION ONLY

Each special material measurement location will be surveyed to obtain a unique northing, easting and elevation.

3. Modify Section 2.6 for lift area designations. The second and third lift sequence in the IFP excavation area contained a lift area which spanned the Northern (A) and Central (B) sections. The lift area designation for these two lifts were designated as "AB". In addition, eliminate the requirement for the Northern (A), Central (B), and Southern (C) designation when these lift area sections are combined at a common elevation as the result of excavation. The elevation to eliminate this designation is expected to be approximately 567 MSL.

Justification:

1. Approval to use the Radiation Scanning System (RSS) was secured from DOE-FN; the RSS can be used in place of the RTRAK when needed.

2. The gamma scan is necessary to confirm special materials have been sufficiently excavated.

3. The modification of the lift area designation better reflects field conditions and will continue to allow for unique data identification.

REQUESTED BY: Joan White/Mike Rolfes

DATE: 7/30/98

000002

X IF REQD	VARIANCE/FAN APPROVAL	DATE	X IF REQD	VARIANCE/FAN APPROVAL	DATE
X	QUALITY ASSURANCE <i>[Signature]</i>	<u>7-30-98</u>	X	PROJECT MANAGER <i>[Signature]</i>	<u>7/30/98</u>
	DATA QUALITY MANAGEMENT		X	PROJECT PROGRAM MANAGER <i>[Signature]</i>	<u>7/31/98</u>
	ANALYTICAL CUSTOMER SUPPORT		X	<i>[Signature]</i>	<u>7/30/98</u>
	OTHER		X	<i>[Signature]</i>	<u>7/30/98</u>
VARIANCE/FCN APPROVED [X] YES [] NO			REVISION REQUIRED: [] YES [x] NO		

VARIANCE / FIELD CHANGE NOTICE

V/F 20701-03.1

WBS NO.: Document #20701-PSP-0003, Rev. 0

Page 1 of 1

PROJECT TITLE: PSP for the Certification of Area 1 Phase I Sediment Traps 2 & 3

Date: 8/3/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

Field Change Notice:

-1751

This variance documents the removal of Aroclor-1260 as an Area Specific Contaminant of Concern for the A1PI Sediment Traps 2 & 3. These samples will not be collected and Target Analyte List Table C will not be used.

Justification:

- No PCBs were detected in the certification samples analyzed for A1PI.
- There is no surface water drainage from potentially PCB contaminated areas to the sediment traps.
- Review of historical data shows not PCB detects in the area.

**INFORMATION
ONLY**

REQUESTED BY: Alex Duarte

Date: 8/3/98

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>R. A. Wake</i>	8-4-98	X	CHARACTERIZATION LEAD <i>[Signature]</i>	8/1/98
	DATA QUALITY MANAGEMENT		X	FIELD MANAGER <i>[Signature]</i>	8/4/98
	ANALYTICAL CUSTOMER SUPPORT		X	AREA PROJECT MANAGER <i>[Signature]</i>	8/4/98
	OTHER			OTHER	

VARIANCE/FCN APPROVED YES NO

REVISION REQUIRED: YES NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Esther Okner	OTHER:
QUALITY ASSURANCE:	OTHER:	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

000003

VARIANCE / FIELD CHANGE NOTICE

V/FCN 20.03.13.06-4

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: 8/19/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

1. Add section 2.7(MONITORING OF EQUIPMENT WASH FACILITY SEDIMENTS) to PSP.

"Sediments removed from the Equipment Wash Facility will require radiological monitoring to determine proper disposition. Sediments will be removed periodically from the drainage trenches and placed in an approved area to dry; moisture content will be measured prior to real-time radiological monitoring.

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The frequency of sediment removal will be determined on an as needed basis by Construction with guidance from the Characterization and WAO Lead or designee. The sediment will be spread to dry at an impacted material location. When the sediments have adequately dried, Construction will notify the Characterization Lead or designee. Characterization will inspect the dried sediment and mobilize the Real-time Instrumentation Measurement Program (RTIMP) team. One HPGc measurement will be taken over a portion of the sediment using a 15 cm detector height with an acquisition time of 5 minutes. The measurement numbering scheme is as follows:

SWU-EWF-sequential number-G

Where:

- SWU = Southern Waste Unit
- EWF = Equipment Wash Facility in the SWU
- Sequential Number = 1,2,3, etc
- G = HPGc measurement.

INFORMATION ONLY

The results of the sediment monitoring will be documented on the 'Excavation Monitoring Form' with applicable areas of the form completed or noted as not applicable (N/A)."

2. Modify Section 2.6 of the PSP to include lift sequence designator "4A" in the Inactive Flyash Pile (IFP) lift area. This designator represents a lift sequence between lift 4 and 5 along the southeastern perimeter of the IFP.

Justification:

1. Radiological monitoring of the sediment is required to determine proper disposition of the waste stream.
2. The topography for lift area IFP-4A appeared to be at a different elevation than IFP-4 and the planned IFP-5. A modified designator was necessary to differentiate the real-time scanning.

REQUESTED BY: Mike Rolles

DATE: 8/19/98

000004

X IF REQD	VARIANCE/FAN APPROVAL	DATE	X IF REQD	VARIANCE/FAN APPROVAL	DATE
X	QUALITY ASSURANCE <i>Mary Eleton</i>	8/19/98	X	PROJECT MANAGER <i>M. G. Galt</i>	8/19/98
	DATA QUALITY MANAGEMENT		X	Real-time Program <i>J. H. White</i>	8/19/98
	ANALYTICAL CUSTOMER SUPPORT		X	Characterization Lead <i>Michael B. Galt for Zimera</i>	8/19/98
	OTHER		X	<i>Andre Baber</i>	8/19/98

VARIANCE/FCN APPROVED YES NO

REVISION REQUIRED: YES NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: <i>Jearrie Resser</i>	OTHER:
QUALITY ASSURANCE:	OTHER:	OTHER:

VARIANCE / FIELD CHANGE NOTICE

V/F No. 50.03.59.02-03 ⁰⁵

PROJECT TITLE: A1P11 Pre-Design Investigation for Total Uranium at the STP (Rev. 0)
 PROJECT 50.03.59.02, ECDC 55200-PSP-001 (Rev 0)

Date: 9/14/98

PG 1 of 34

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This variance provides justification for collection of additional samples in the STP Incinerator area. Samples will be collected from six different borings in the locations. The attached figure shows the location of the borings and the following table lists the boring number and coordinates.

Map ID	Boring Number	Easting	Northing
1	12384	1351479.65	480195.48
2	12385	1351513.97	480185.60
3	12386	1351489.50	480171.53
4	12387	1351475.99	480159.48
5	12388	1351510.32	480167.31
6	12389	1351510.60	480150.48

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Locations may be changed depending on field conditions up 3 feet.

Each boring will be advanced to a depth of 5.5 feet, with samples taken and submitted for analysis at the following intervals: 0 - 0.5', 0.5 - 1.0', 1.0 - 1.5'. The following intervals will be collected and archived: 1.5 - 2.0', 2.0 - 2.5', 3.0 - 3.5', 4.0 - 4.5', 5.0 - 5.5'. Note that the 0 - 0.5' interval begins below the existing concrete pad. These samples may be submitted for analysis if the analyses of the above intervals show contamination. Samples will be analyzed for Total Uranium and technetium-99. The attached table lists the sample ID and coordinates. Field QC (duplicates and rinsates) are identified in the attached table. A rinsate will be collected at the beginning of the sampling event and at the end.

The Geoprobe® Macro-core sampler will be used to collect a 1.5 inch diameter by 6 inch core. The duplicate samples will be created by homogenizing a single 6 inch core and splitting it into two samples per SMPL 2-1 (Section 6.5). The rinsates will require 1 liter of sample preserved with HNO₃ to a pH < 2.

Boreholes will be plugged and abandoned using bentonite pellets or granular bentonite. Bentonite will be placed in the borehole in 2-foot increments followed by hydration with one liter of water.

Justification:

The above grade D&D is now complete in the STP area and the incinerator area is now accessible. These samples are necessary to characterize the soil below the incinerator area.

INFORMATION ONLY

REQUESTED BY: Alex Duarte

Date: September 23, 1998

000005

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>JD</i>	9-24-98	X	PROJECT MANAGER <i>Ch Miller</i>	9/23/98
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER <i>A...</i>	9/23/98
	ANALYTICAL CUSTOMER SUPPORT		X	FIELD SAMPLING MANAGER <i>Michelle...</i>	9/23/98
	OTHER			OTHER	

VARIANCE/FCN APPROVED [X] YES [] NO

REVISION REQUIRED: [] YES [X] NO

DISTRIBUTION

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

00005

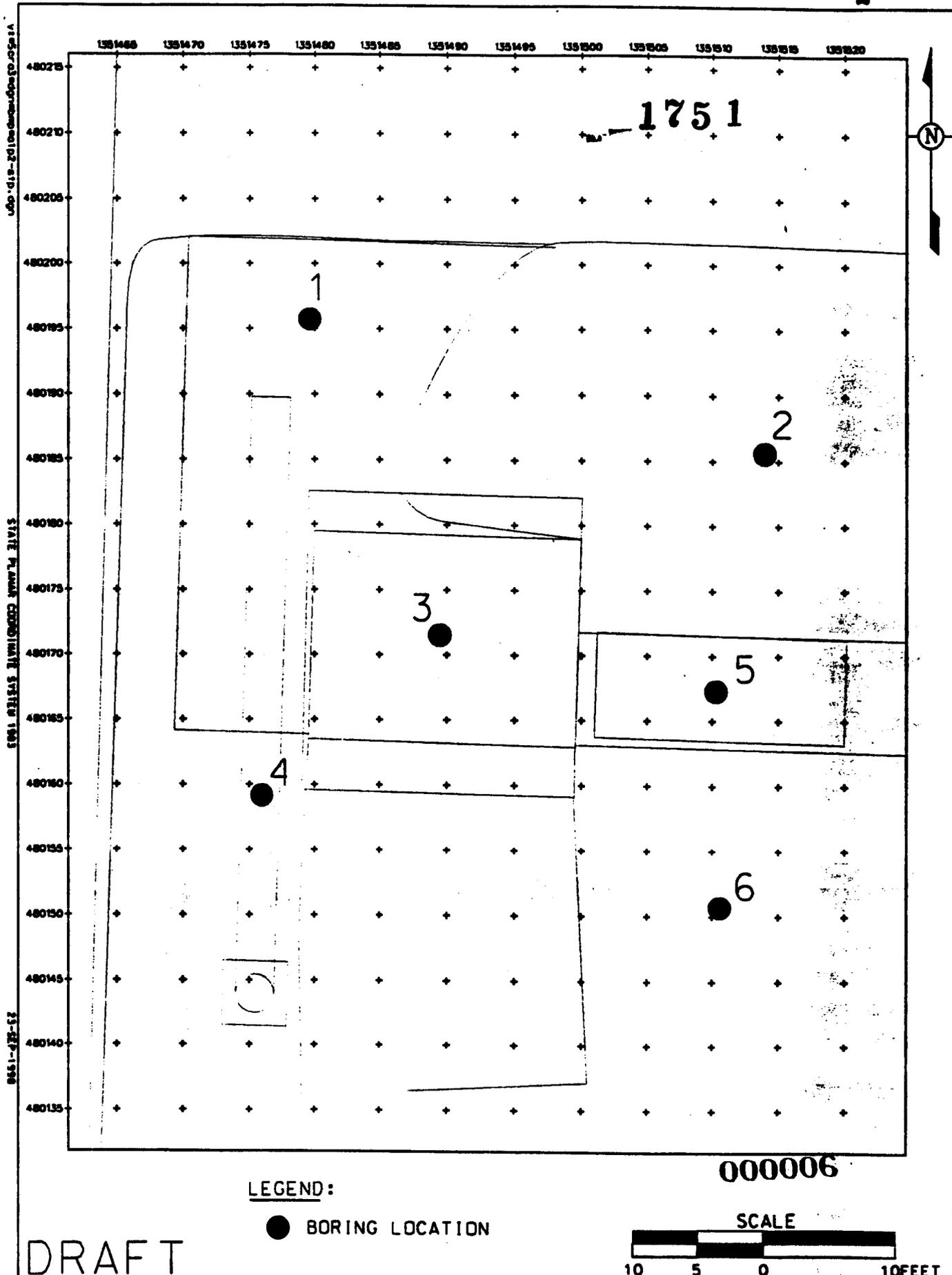


FIGURE 2-X. STP INCINERATOR BORING LOCATIONS Page 2 of 4

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Attachment to Variance 50.05.59.02-03
 Sample Ids, Coordinates and Analyses

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Sample ID	Easting	Northing	Depth (ft)	Analysis
A1P2STP-12384-1	1351479.65	480195.48	0 - 0.5	Total U, Tc99
A1P2STP-12384-1-D	1351479.65	480195.48	0 - 0.5	Total U, Tc99
A1P2STP-12384-2	1351479.65	480195.48	0.5 - 1.0	Total U, Tc99
A1P2STP-12384-3	1351479.65	480195.48	1.0 - 1.5	Total U, Tc99
A1P2STP-12384-4	1351479.65	480195.48	1.5 - 2.0	Archive
A1P2STP-12384-5	1351479.65	480195.48	2.0 - 2.5	Archive
A1P2STP-12384-7	1351479.65	480195.48	3.0 - 3.5	Archive
A1P2STP-12384-9	1351479.65	480195.48	4.0 - 4.5	Archive
A1P2STP-12384-11	1351479.65	480195.48	5.0 - 5.5	Archive
A1P2STP-12385-1	1351513.97	480185.6	0 - 0.5	Total U, Tc99
A1P2STP-12385-2	1351513.97	480185.6	0.5 - 1.0	Total U, Tc99
A1P2STP-12385-3	1351513.97	480185.6	1.0 - 1.5	Total U, Tc99
A1P2STP-12385-4	1351513.97	480185.6	1.5 - 2.0	Archive
A1P2STP-12385-5	1351513.97	480185.6	2.0 - 2.5	Archive
A1P2STP-12385-7	1351513.97	480185.6	3.0 - 3.5	Archive
A1P2STP-12385-9	1351513.97	480185.6	4.0 - 4.5	Archive
A1P2STP-12385-11	1351513.97	480185.6	5.0 - 5.5	Archive
A1P2STP-12386-1	1351489.5	480171.53	0 - 0.5	Total U, Tc99
A1P2STP-12386-2	1351489.5	480171.53	0.5 - 1.0	Total U, Tc99
A1P2STP-12386-3	1351489.5	480171.53	1.0 - 1.5	Total U, Tc99
A1P2STP-12386-4	1351489.5	480171.53	1.5 - 2.0	Archive
A1P2STP-12386-5	1351489.5	480171.53	2.0 - 2.5	Archive
A1P2STP-12386-7	1351489.5	480171.53	3.0 - 3.5	Archive
A1P2STP-12386-9	1351489.5	480171.53	4.0 - 4.5	Archive
A1P2STP-12386-11	1351489.5	480171.53	5.0 - 5.5	Archive
A1P2STP-12387-1	1351475.99	480159.48	0 - 0.5	Total U, Tc99
A1P2STP-12387-1-D	1351475.99	480159.48	0 - 0.5	Total U, Tc99
A1P2STP-12387-2	1351475.99	480159.48	0.5 - 1.0	Total U, Tc99
A1P2STP-12387-3	1351475.99	480159.48	1.0 - 1.5	Total U, Tc99
A1P2STP-12387-4	1351475.99	480159.48	1.5 - 2.0	Archive
A1P2STP-12387-5	1351475.99	480159.48	2.0 - 2.5	Archive
A1P2STP-12387-7	1351475.99	480159.48	3.0 - 3.5	Archive
A1P2STP-12387-9	1351475.99	480159.48	4.0 - 4.5	Archive
A1P2STP-12387-11	1351475.99	480159.48	5.0 - 5.5	Archive
A1P2STP-12388-1	1351510.32	480167.31	0 - 0.5	Total U, Tc99
A1P2STP-12388-2	1351510.32	480167.31	0.5 - 1.0	Total U, Tc99
A1P2STP-12388-3	1351510.32	480167.31	1.0 - 1.5	Total U, Tc99
A1P2STP-12388-4	1351510.32	480167.31	1.5 - 2.0	Archive
A1P2STP-12388-5	1351510.32	480167.31	2.0 - 2.5	Archive

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Attachment to Variance 50.05.59.02-03
Sample Ids, Coordinates and Analyses

1751

Sample ID	Easting	Northing	Depth (ft)	Analysis
A1P2STP-12388-7	1351510.32	480167.31	3.0 - 3.5	Archive
A1P2STP-12388-9	1351510.32	480167.31	4.0 - 4.5	Archive
A1P2STP-12388-11	1351510.32	480167.31	5.0 - 5.5	Archive
A1P2STP-12389-1	1351510.6	480150.48	0 - 0.5	Total U, Tc99
A1P2STP-12389-2	1351510.6	480150.48	0.5 - 1.0	Total U, Tc99
A1P2STP-12389-3	1351510.6	480150.48	1.0 - 1.5	Total U, Tc99
A1P2STP-12389-4	1351510.6	480150.48	1.5 - 2.0	Archive
A1P2STP-12389-5	1351510.6	480150.48	2.0 - 2.5	Archive
A1P2STP-12389-7	1351510.6	480150.48	3.0 - 3.5	Archive
A1P2STP-12389-9	1351510.6	480150.48	4.0 - 4.5	Archive
A1P2STP-12389-11	1351510.6	480150.48	5.0 - 5.5	Archive
A1P2STP-X-1	N/A	N/A	N/A	Rinsate
A1P2STP-X-2	N/A	N/A	N/A	Rinsate

D - Denotes Duplicate

X - Denotes Rinsate

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50.03.59.05.03
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VARIANCE / FIELD CHANGE NOTICE

V/F 50.03.59.04-~~89~~

WBS NO.: 50.03.59.04, Document No. 55200-PSP-0004, Rev. 0

Page 1 of 1

PROJECT TITLE: A1PII PSP for Field Sampling of Miscellaneous Areas

Date: 9/14/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

Field Change Notice:

- 1751

This variance provides justification for collection of additional samples of the digester sludge located in the Sewage Treatment Plant (STP) area. The sludge is currently located in three areas in the STP: the Sludge Drying Beds, the west chamber of Primary Settling Basin, and in the Digester Building. The objective of this variance is to collect 4 liters of sludge material from each location. Samples will be collected at the surface from each location by removing the temporary covers.

The samples will be delivered to the onsite laboratory and will be analyzed for Fecal Coliform. The residual sample material may be analyzed for wet chemistry analyses to be determined in the future.

The samples will be labeled:

- A1PII-MIS-DS-01 for the sample collected from the Digester Building
- A1PII-MIS-DS-02 for the sample collected from the Sludge Drying Beds
- A1PII-MIS-DS-03 for the sample collected from the Primary Settling Basin

The analysis will be designated on the Chain-of-Custody as Fecal Coliform.

Justification:

These analyses are needed to determine if the sludge material is a biohazard, which may require special handling.

**INFORMATION
ONLY**

REQUESTED BY: Alex Duarte

Date: 9/15/98

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>Duarte</i>	9-16-98	X	CHARACTERIZATION LEAD <i>Arden</i>	9/16/98
	DATA QUALITY MANAGEMENT		X	FIELD MANAGER <i>Mike Ford</i>	9/16/98
	ANALYTICAL CUSTOMER SUPPORT		X	AREA PROJECT MANAGER <i>Jim P. Wood</i>	9/16/98
	OTHER			OTHER	

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

DISTRIBUTION

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

ORIGINAL

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VARIANCE / FIELD CHANGE NOTICE

V/FCN 20.03.13.06-6

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: 9/2/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

1. Modify Section 2.6 to include a lift area designation for the scanning of the temporary haul roads used during excavation. When these temporary haul roads are removed, any previously uncharacterized material will be scanned with either the RTRAK/RSS or HPGe instruments. The measurement numbering scheme for these readings are as follows:

1751

IFP-F-lift sequence-(sequential number-G)

Where:

IFP = Inactive Flyash Pile excavation area

F = Temporary Haul Road

Lift sequence = 1,2,3 etc.

sequential number = Designates the sequential numbering of HPGe measurements within the lift sequence if applicable.

G = HPGe measurement if necessary.

INFORMATION ONLY

2. Add section 2.8 (MISCELLANEOUS FIELD SAMPLING) to PSP.

"Occasions may arise during the excavation which warrant the need for physical sampling and laboratory analysis. While real-time in situ gamma spectrometry is the approach for WAC attainment data collection, physical sampling may be needed to collect data for safety, health, and regulatory concerns. For matrices and data needs not amenable for in situ gamma spectrometry, sampling and analytical needs will be determined on a case-by-case basis consistent with DQO SL-048 and be documented with a variance."

This variance also documents the collection of a water sample from the northern end of the Inactive Flyash Pile excavation footprint (approximately 478203 Northing, 1347521 Easting, and 558 MSL elevation). Per FDF construction, one sample was collected from "rusty", discolored water which had puddled in the area. The sample was analyzed for Total Organic Carbon (TOC), radiological and inorganic ICP/MS scan, and radiological Gamma scan at the onsite laboratories. The volume of sample collected was 250 ml for the TOC and 1 liter for the ICP/MS and Gamma scan. The sample numbering scheme was IFP-SW-1.

Justification:

1. Radiological monitoring of the material is required to determine proper disposition of the waste stream.

2. The results of the sampling are expected to confirm that iron oxidation is the cause of the discoloration and that there is no radiological or biological health concern. The high metals content of the well water use for dust control in the area is expected to be the cause of the discoloration.

REQUESTED BY: Mike Rolfe

DATE: 9/2/98

ORIGINAL

X IF REQD	VARIANCE/FAN APPROVAL	DATE	X IF REQD	VARIANCE/FAN APPROVAL	DATE
X	QUALITY ASSURANCE <i>[Signature]</i>	9-11-98	X	PROJECT MANAGER <i>[Signature]</i>	9-3-98
	DATA QUALITY MANAGEMENT		X	Real-time Program Mgr <i>[Signature]</i>	9/3/98
X	ANALYTICAL CUSTOMER SUPPORT <i>[Signature]</i>	9/3/98	X	Characterization Lab <i>[Signature]</i>	9/3/98
	OTHER			WAO	
VARIANCE/FCN APPROVED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			REVISION REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
DISTRIBUTION 000010					
PROJECT MANAGER:		DOCUMENT CONTROL: Jeannie Rosser		OTHER:	
QUALITY ASSURANCE:		OTHER:		OTHER:	

VARIANCE / FIELD CHANGE NOTICE

V/FCN 20.03.13.06-5

WBS NO.: PROJECT/DOCUMENT 20.03.13.06, ECDC #20300-PSP-0004 Rev1.

Page 1 of 2

PROJECT TITLE: PSP for Excavation Characterization for Inactive Flyash Pile and SP5

Date: 8/28/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

1. Modify Section 2.6 to include a lift area designation for the designed above-WAC lifts within the IFP excavation. The sloped sidewalls of the above-WAC excavation footprint and the bottom of the footprint at 550 msl will be scanned with either the RTRAK/RSS or HPGe instruments, if accessible. The measurement numbering scheme for these readings are as follows:

1751

IFP-E-lift sequence-(sequential number-G)

Where:

IFP = Inactive Flyash Pile

E = Designed above-WAC excavation lift area

Lift sequence = 1,2,3, etc (e.g. 1 = scan of side slopes after 4 feet of above-WAC excavation, 2 = scan of side slopes after 8 feet of above-WAC excavation, etc).

sequential number = Designates the sequential numbering of HPGe measurements within the lift sequence if applicable.

G = HPGe measurement if necessary.

2. Modify the Excavation Monitoring Form (FS-F-5195) to incorporate the following changes:

Box 1 - Change "Lift Area ID" to "Area ID (Lift Area/SM/EWF)"

Delete "Lift Area Identifier" and replace with "Comments"

Box 4 - Change "Data Report and Map Attached?" to "Data Report attached?"

Box 5 - Change "... for this excavation lift by..." to "... for this area by..."

Box 6 - Add an additional blank line to "further action required:"

Change "... this excavation lift has..." to "... this area has..."

Box 7 - Change "... this lift can..." to "... this area can ..."

Add Yes No and Reason: _____

INFORMATION ONLY

Instructions for the Excavation Monitoring Form have been revised to reflect above changes.

Attached is a copy of the revised form and instructions. Please remove the previous form and instructions and replace with the attached change pages.

3. Revise Table 1, Project Personnel, to reflect current personnel assignments. Attached is a copy of the revised table. Please remove the previous table and replace with the attached Table 1, page 1-4.

4. Modify Section 2.3.2 to delete "a minimum of one duplicate per excavation lift" from the second paragraph, line 3, page 2-3. The requirement has been modified to require one duplicate for every 20 HPGe measurements.

Justification:

1. The modification of the lift area designation better reflects field conditions and will continue to allow for unique data identification.

2. The revised Excavation Monitoring Form (FS-F-5195) provides for incorporation of Special Material and Equipment Wash Sediment monitoring information.

3. A revised Table 1, Project Personnel, reflects current personnel assignments.

4. The frequency of one in twenty measurements has been greater than one duplicate per excavation lift.

REQUESTED BY: Mike Rolfes

DATE: 8/28/98

000011

X IF REQD	VARIANCE/FAN APPROVAL	DATE	X IF REQD	VARIANCE/FAN APPROVAL	DATE
X	QUALITY ASSURANCE <i>Amole</i>	4-1-98	X	PROJECT MANAGER <i>John H</i>	9-1-98
	DATA QUALITY MANAGEMENT		X	Real-time Program Mgr <i>Amole</i>	9/1/98
	ANALYTICAL CUSTOMER SUPPORT		X	Characterization Lab <i>Amole</i>	8/31/98
	OTHER		X	WAO <i>Linda K...</i>	9/1/98
VARIANCE/FCN APPROVED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			REVISION REQUIRED: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
DISTRIBUTION					
PROJECT MANAGER:		DOCUMENT CONTROL: Jeanne Rosser		OTHER:	
QUALITY ASSURANCE:		OTHER:		OTHER:	

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TABLE 1
PROJECT PERSONNEL

E-175 I

TITLE	PRIMARY	ALTERNATE
A2PI Area Project Manager	Tom Crawford	Mike Rolfes
Characterization Lead	Mike Rolfes	John Centers
RTIMP Manager	Joan White	Dale Seiller
RTIMP Field Lead	Dave Allen	Dale Seiller
Survey Lead	Jim Schwing	Jim Capannari
Field Data Management Lead	Deanna McDonald	Mike Rolfes
SWU Construction	Marshall Linton	Lee McDaniel
Safety and Health Contact	Debra Grant	Lewis Wiedeman
Quality Assurance Contact	Reinhard Friske	Mary Eleton
WAO Contact	Dave Lockerd	Linda Barlow

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EXCAVATION MONITORING FORM

2003.13.06-5

1751

1. Area Description: _____ Area ID (Lift Area / SM / EWF): _____ Comments: _____ PWID #: _____	
2. <u>Section 1 - Data Collection</u> Equipment Used <input type="checkbox"/> RTRAK <input type="checkbox"/> RSS <input type="checkbox"/> HPGe Unit No: _____ Calibration Acceptable <input type="checkbox"/> Yes Date: _____ <i>Note: If not in calibration, do not use equipment until calibration is acceptable</i>	
3. RTRAK / RSS Map attached? <input type="checkbox"/> Yes <input type="checkbox"/> No List of Batch #s: Coverage in accordance with PSP? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No": <input type="checkbox"/> Equipment Malfunction <input type="checkbox"/> Rough Terrain <input type="checkbox"/> Weather <input type="checkbox"/> Standing Water <input type="checkbox"/> Other: _____ Data Verification Checklist attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	4. HPGe Data Report attached? <input type="checkbox"/> Yes <input type="checkbox"/> No List of Data Points: Data Verification Checklist attached? <input type="checkbox"/> Yes <input type="checkbox"/> No
5. This signature indicates the data generated for this area by this equipment on this day is correct and valid within the confines of equipment performance and as defined in PSP #: _____ _____ <div style="display: flex; justify-content: space-between;"> (Signature) (Signature Date) </div>	
6. <u>Section 2 - Characterization</u> Review real-time data Sufficient real-time coverage? <input type="checkbox"/> Yes <input type="checkbox"/> No Further action required: _____ All data points < total uranium WAC? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, define > WAC area(s) and extent with HPGe if applicable (see attached real-time map) as defined in PSP. The signature indicates this area has been characterized using the real-time data generated in Section 1 above and in accordance with PSP listed in Box 5. _____ <div style="display: flex; justify-content: space-between;"> (Signature) (Signature Date) </div>	
7. <u>Section 3 - WAO</u> Review attached documentation <input type="checkbox"/> Yes MTL Designation _____ This signature indicates this area can be excavated and dispositioned in accordance with the characterization provided in Section 2 above. <input type="checkbox"/> Yes <input type="checkbox"/> No and Reason: _____ _____ <div style="display: flex; justify-content: space-between;"> (Signature) (Signature Date) </div> Assigned Data Group for HPGe from WAO System Controls: _____	

Instructions for the Excavation Monitoring Form:

- 175 1

- Box 1 Enter the Area Description (excavation area), Area ID (Lift Area / Special Material (SM) / Equipment Wash Facility (EWF)), Comments (if additional clarification is required) and PWID No.
- Box 2 Check all the equipment used and enter the identification number for the HPGe detector used. If equipment is not in calibration, do not use until calibration is acceptable. Check yes if the calibration is acceptable and enter the date the calibration was performed. If more than one unit is used, a separate sheet for each unit number must be used.
- Box 3 Check yes or no if a RTRAK map is attached. List the Batch Numbers associated with the referenced lift ID. Check yes or no if coverage is in accordance with the PSP. If the answer is no, give the reason that coverage was not in accordance with the PSP. If 'Other' is chosen as the reason, add a description of the reason. Check yes or no if the data verification checklist is attached. If the data verification checklist is not attached, explain why.
- Box 4 Check yes or no if an HPGe data report is attached. List all the data points associated with the identified lift. Check yes or no if the data verification checklist is attached. If the data verification checklist is not attached, explain why.
- Box 5 Enter the appropriate PSP number. Sign and date.
- Box 6 Check yes or no if the real-time coverage is in accordance with applicable PSP. If the coverage is not as specified in the PSP, identify any further action required. Check yes if all the data points are less than Total Uranium WAC, if not check no. If data points are not all below WAC, define areas above-WAC and extent by filling out a separate form and attaching applicable map(s). Sign and date.
- Box 7 Check yes if reviewed attached documentation. Enter Material Tracking Location (MTL) designator. Check yes if area can be excavated or no and explain why not. Sign and date. Fill in assigned (unique IIMS data group designator) data group for HPGe from WAO Systems Control.

NOTE:

- Box 1 will be completed by the SCEP representative and/or WAO representative.
- Boxes 2-5 will be completed by the RTIMP representative.
- Box 6 will be completed by the SCEP representative.
- Box 7 will be completed by the WAO representative.

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VARIANCE / FIELD CHANGE NOTICE

V/F No. 50.03.59.04-8

WBS NO.: 50.03.59.04

Page 1 of 1

PROJECT TITLE: A1/P11 PSP for Field Sampling of Miscellaneous Areas

Date: 8/26/98

VARIANCE / FIELD CHANGE NOTICE (Include justification): ECDC# 55200-PSP-0004

Field Change Notice (FCN):

1751

The purpose of this FCN is to document and provide direction on additional sampling and analysis of sludge/solids from the Digester Tank of the Sewage Treatment Plant within Area 1/Phase II. The sludge will be sampled and analyzed using the TCLP metals procedure, and a pH determination, at the onsite lab using ASL B.

A total of four samples will be collected from two containment areas containing the digester sludge. Two samples will be collected from the Digester tank, which contains approximately 4-5 feet of sludge, at two points a minimum of ten feet apart. Two samples will also be collected from the West Clarifier Basin, which contains sludge material having a level two feet below the top of the basin. These two samples will be collected from each end of the basin. All samples will be collected from the surface of the sludge at each location. A drawing will be included in the Field Activity Log illustrating the sample locations from each area.

The Solids Sampling, SMPL-01 procedure (Section 6.12) methodology will be used for sample collection via a plastic dipper. The same dipper may be used for all samples since the material is relatively homogeneous. Samples will be identified as follows: A1P2MIS-DT-9M through A1P2MIS-DT-12M.

Samples will be containerized into a 500 mL plastic or glass container with a teflon-lined closure and maintained at 4°C immediately following collection. The samples will be submitted to the onsite laboratory for TCLP Metals and pH. No field QC samples are necessary.

This FCN also documents that only eight samples were collected from the Digester Tank under Variance/FCN 50.03.59.04-7 instead of the planned 10 samples for total uranium and Tc-99. This was due to the fact that the last five feet of sludge was left in the Digester Tank; additionally, the data indicated that the material exceeds the OSDF WAC.

Justification:

The TCLP Metals and pH determination is necessary to evaluate the treatment and disposal options for the sludge.

INFORMATION ONLY

REQUESTED BY: J.D. Chiou

Date: 8/26/98

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>D. Lube</i>	8-26-98	X	PROJECT MANAGER <i>T. Kany (MS)</i>	8/26/98
	DATA QUALITY MANAGEMENT		X	FIELD SAMPLING LEAD <i>Mike Fink</i>	8/26/98
X	ANALYTICAL CUSTOMER SUPPORT <i>Bill Whetton</i>	8/27/98	X	CHARACTERIZATION LEAD <i>Ar...</i>	8/26/98
	OTHER			OTHER	

VARIANCE/FCN APPROVED YES NO

REVISION REQUIRED: YES NO

DISTRIBUTION

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PROJECT MANAGER:	DOCUMENT CONTROL: JEANIE ROSSER	OTHER:
QUALITY ASSURANCE:	OTHER:	OTHER:

CONFIDENTIAL

VARIANCE / FIELD CHANGE NOTICE

V/F 50.03.40.03-17

WBS NO.: 50.03.40.03 PROJECT/DOCUMENT #20701-001

Page 1 of 3

PROJECT TITLE: Comparability Study, Part B, Rev. 0

Date: 8/5/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

Justification

The HPGe (high purity germanium) Core Counter is being developed to analyze soil cores in the field for WAC determination by collecting real-time gamma spectroscopy data for total uranium on the soil encased in plastic cores liners. The core counter consists of a standard HPGe detector and a lead shielded structure into which the soil core is inserted. The HPGe detector is the same instrument currently used in the field to measure gamma emitting radiological COCs (Constituents Of Concern) for Waste Acceptance Criteria (WAC) and soil precertification.

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Two different sized core liners are currently used at the FEMP. Variance 50.03.40.03-16 describes the bench scale testing of the core counter for the larger diameter macro-core tubes (1 5/8 inch inner diameter). This variance describes the bench scale test for the dual tube cores (1 1/8 inch inner diameter). Excess soil from the same archive samples used to make the bench scale test cores for the macro-core tube test in Variance 50.03.40.03-16 will be used to make the bench scale test cores for the dual-tube test to be conducted under this Variance.

During the dual-tube core bench scale test a correlation will be developed between moisture corrected HPGe measurements collected on the dual-tube cores in the Core Counter, and laboratory total uranium analyses of the same material subsequently removed from the dual-tube cores. Also, a correlation between the β/γ frisker readings on the dual-tube cores and the laboratory analyses of the soil in these cores will be attempted. The preparation and analysis of composite samples made from archived soil samples is described below. These composite core samples will be used in the bench scale test to verify the accuracy of the HPGe Core Counter dual-tube calibration curve.

Field Change Notice

Using archived soil samples (currently in jars) from previous sample collection events, prepare 5 to 7 dual-tube soil cores and perform bench scale measurements of the HPGe Core Counter. Initially, 5 to 7 dual-tube core samples are planned for analysis, however more may be prepared and analyzed to fully test the system. Some of the actions described below have already been performed as part of Variance 50.30.40.03-16.

INFORMATION ONLY

(continued on following page....)

REQUESTED BY: Joan White

DATE: 8/5/98

X IF REQD	VARIANCE/FAN APPROVAL	DATE	X IF REQD	VARIANCE/FAN APPROVAL	DATE
X	QUALITY ASSURANCE <i>V. J. White</i>	8-12-98	X	PROJECT MANAGER <i>Chris Smith</i>	
	DATA QUALITY MANAGEMENT		X	Real-time Program Mgr <i>Joan White</i>	8/12/98
X	ANALYTICAL CUSTOMER SUPPORT <i>R. J. Donohy</i>	8/12/98		OTHER	
	OTHER			OTHER	

VARIANCE/FCN APPROVED YES NO

REVISION REQUIRED: YES NO

DISTRIBUTION

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

ORIGINAL

Continued from preceding page.....

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- 1 - Retrieve Archived Soil Samples - retrieve samples of interest from archive storage building (see list on Page 3 of this variance).
- 2 - Composite Archived Soil Samples - Archived soil samples were collected in 6-inch increments using the Geoprobe® Dual-Tube method and are containerized in 500 milliliter plastic jars. Using an HPGe detector to semi-quantitatively measure each container, group the containers into sets of three to four based upon the similarity of the HPGe uranium measurements. Mix the individual components to crudely homogenize the soil in each set according to procedure SMPL-01 Solids Sampling to obtain sufficient volume to fill a 9 inch plastic dual-tube core cylinder. Document on a Field Activity Log (FAL) the sample numbers combined (from the list on Page 3 of this variance) The archived soil samples may contain fragments of construction material such as wood, brown glass, clear glass, etc. Ensure construction material is included in the homogenized soil samples. Lithologic logs for the samples listed below indicate that the construction material in the Southern Waste Unit (SWU) was contaminated and contributed significantly to the high β/γ frisker readings recorded for the sample cores in the field.
- 3 - Collect Moisture Measurements - Collect Infra Red (IR) moisture meter readings on the exposed soil of each uncapped core soil sample, if instrument is available for use. If the IR moisture meter is not available, the % moisture value obtained from the laboratory analysis of the soil samples will be applied to the HPGe Core Counter measurements to yield moisture corrected core counter results.
- 4 - Fill, Seal and Label Dual-Tube Core Soil Samples - Fill each dual-tube core with the blended soil from a single set. Tamp the soil in the tube to eliminate voids and air spaces as much as possible. Cap and tape both ends of each tube after filling. Label each dual-tube core to provide positive identification. Obtain FACTS labels for on-site percent moisture and total uranium analysis by three techniques: Bromo Padap, ICP/mass spectrometry, and gamma spectrometry. The FACTS label is to indicate the dual-tube core soil sample is a solid matrix with 6 month holding time and is to be analyzed to ASL B. Analytical data are to be sent to Chris Sutton. After sealing the soil into the dual-tube cores conduct and record β/γ frisker readings of each dual-tube core.
- 5 - Acquire Core Counter Measurements - Prior to use, the operator will ensure the HPGe detector selected for use has a current calibration in accordance with procedure EQT-22 High Purity Germanium Detector In-Situ Efficiency Calibration and has met the QC requirements identified in procedure ADM-16 In-Situ Gamma Spectroscopy Quality Control Measurements. Measurements will be performed on each dual-tube core soil sample using the HPGe Core Counter system according to Procedure EQT-35 Soil Core Sample Counting System. Detector count time will be at least 5 minutes live time.
- 6 - Quality Control Measurements - At least one duplicate measurement will be made during the bench scale test. The duplicate measurement will be made with the same HPGe detector immediately after the initial measurement, at the same location on the dual tube core cylinder. Each HPGe Core Counter measurement will be reviewed for the QC parameters identified on the Checklist for Verification of Quality Control (QC) and Data Review Elements for HPGe Measurements.
- 7 - Submit Dual-Tube Core Soil Samples to Laboratory for Analysis - Submit dual-tube core bench scale test soil samples to the on-site laboratory for total uranium and percent moisture analyses.
- 8 - Perform Data Comparisons - Compare the dual-tube core bench scale soil sample β/γ frisker readings, moisture corrected core counter measurements, and analytical laboratory results to determine the accuracy of the HPGe Core Counter dual-tube calibration curve.
- 9 - Data Management - All HPGe and sample data collected for this dual-tube core bench scale test will be sent to the Sitewide Environmental Data Base (SED).

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Continued from preceding page.....

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The following archived samples will be retrieved and used for the preparation of composite dual tube core samples:

<u>Archived Soil Sample I.D.</u>	<u>Beta / Gamma Counts (ccpm)</u>
SWU-5-22B-51	1000
SWU-5-22-51	1000
SWU-5-23B-49	200
SWU-5-24-47	100
SWU-5-24A-49	300
SWU-5-24B-49	400
SWU-5-26-46	0
SWU-5-26-47	300
SWU-5-26A-46	0
SWU-5-26A-47	150
SWU-5-26A-48	200
SWU-5-26A-50	400
SWU-5-26A-51	450
SWU-5-27-48	200
SWU-5-31A-49	200
SWU-5-31A-50	1000
SWU-5-33-54	650
SWU-5-36-48	450
SWU-5-36-49	450
SWU-5-36-50	450
SWU-5-36-51	400
SWU-5-37-53	200

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VARIANCE / FIELD CHANGE NOTICE

V/F No. 50.03.59.04-

WBS NO.: 50.03.59.04

Page 1 of 2

PROJECT TITLE: A1/PII PSP for Field Sampling of Miscellaneous Areas

Date: 8/11/98

VARIANCE / FIELD CHANGE NOTICE (Include justification): ECDC# 55200-PSP-0004

Field Change Notice (FCN):

1751
INFORMATION ONLY

1. Initial Sampling

The purpose of this FCN is to document and provide direction on the sampling and analysis of sludge/solids from the Digester Tank of the Sewage Treatment Plant within Area 1/Phase II. The sludge will be sampled for OSDF WAC attainment purposes. The solids will be excavated from the Digester Tank and placed onto the existing sludge drying beds.

Sampling will be performed during the removal process and possibly after the material is stockpiled onto the sludge drying beds dependent on initial sampling results. The initial sampling will involve collection of material directly from the trackhoe bucket. This sample will be analyzed for total uranium and technetium-99 (Tc-99) as an initial WAC screening. Follow-up sampling will be performed if the total uranium and Tc-99 are below the WAC based on the initial sample. If necessary, follow-up sampling and analysis will be performed to determine concentrations of the WAC COC list of 18 analytes including selected radiological, VOC, SVOC, and metal constituents (see TALs). The sample container specifications are included in Table 1 below.

The sampling approach is based on the collection of ten random samples (for total U and Tc-99) throughout the sludge removal process to representatively characterize the Digester Tank contents. The ten samples will be collected from the trackhoe buckets during sludge removal and each individual sampling event will be performed for approximately every 10% of the total volume of sludge removed from the Digester. This volume and sampling frequency decision will be jointly determined by the sampling team leader and the construction coordinator.

2. Contingency Sampling

After evaluation of the ten total uranium and Tc-99 sample results, additional sampling for other radiological, VOC, SVOC, pesticide and metal WAC constituents will be performed if the material is below the WAC for total uranium and Tc-99. This sampling will be conducted from the sludge stockpile and will involve the collection of ten sample sets for the remaining 16 of the 18 WAC constituents. The samples will be collected from the perimeter of the pile at ten equidistant locations to the extent possible (inaccessible areas on the perimeter of the stockpile will not be sampled if locations cannot be accessed safely). The final sample locations will be determined by the Field Sampling Lead after the sludge stockpile is complete and the dimensions and field access conditions are evaluated. The final sampling locations will be documented in a diagram on the Field Activity Log.

Samples will be collected from the surface of the stockpile by removing the temporary plastic cover from the stockpile. The sample material will be collected from the top four inches of sludge.

The applicable DQO, SL-048, has been updated since the original issuance of the PSP; SL-048 is now a revision 3.

No field QC samples are required. The ASL for each analyte group is identified in Table 1.

Justification:

The WAC attainment determination for the sludge is necessary in order to identify the disposition plan. Dependent on sampling and analytical results, the material will be dispositioned to the OSDF or will be potentially processed with other above-WAC soil.

REQUESTED BY: J.D. Chiou

Date: 8/11/98

ORIGINAL

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>R. Ariske</i>	8-11-98	X	PROJECT MANAGER <i>J.D. Chiou</i>	8/10/98
	DATA QUALITY MANAGEMENT		X	FIELD SAMPLING LEAD <i>Mike Fuchs</i>	8/12/98
X	ANALYTICAL CUSTOMER SUPPORT <i>Joe Whelan</i>	8/12/98	X	CHARACTERIZATION LEAD <i>A. Jones</i>	8/10/98
	OTHER			OTHER	

VARIANCE/FCN APPROVED YES NO

REVISION REQUIRED: YES NO

DISTRIBUTION

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PROJECT MANAGER:	DOCUMENT CONTROL: JEANIE ROSSER	OTHER:
QUALITY ASSURANCE:	OTHER:	OTHER:

**Table 1
Sampling and Analytical Requirements**

1751

Analyte	Sample Matrix/Type	Preservative	Lab	ASL	Holding Time	Container
Total Uranium & Tc-99	Solid	None	On-site	E* B (Tc-99)	6 Months	500 mL glass or plastic container
Np-237, Sr-90	Solid	None	On-site	B	6 months	250 mL
Volatile Organics	Solid	Cool, 4C	Off-site	B	14 days	2 -120 mL w/ teflon lid
Semivolatile Organics & Pesticides	Solid	Cool, 4C	Off-site	B	14 days	250 mL
Metals (total)	Solid	Cool, 4C	On-site	B	6 Months (28 days for Mercury)	120 mL glass or plastic container
Alpha/Beta Screen	Solid	None	On-site	B	6 months	120 mL plastic (50 grams)

* ASL E due to higher detection limit (approx. 100 mg/kg); same lab QA/QC as ASL B applies to the ASL E.

Note: *Additional sample volume may be required at select locations to provide split samples for the OEPA. Screening samples (120 mL container w/ 50 grams) for alpha/beta screening will be required for each OEPA sample collected.

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