



Department of Energy

**Ohio Field Office
Fernald Area Office**

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JAN 29 1999

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-0386-99

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 October through December 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

FEMP:Nickel

Enclosure

cc w/enclosure:
T. Schneider, OEPA-Dayton (3 copies of enclosures)
F. Barker, Tetra Tech
AR Coordinator, FDF/78

cc w/o enclosure:
EDC, FDF/52-7

JAN 29 1999

Mr. James A. Saric
Mr. Tom Schneider

-2-

bcc w/enclosure:
R. J. Janke, OH/FEMP
M. Davis, ANL

bcc w/o enclosure:
A. Tanner, OH/FEMP

VARIANCE / FIELD CHANGE NOTICE

V/FCN 20200-PSP-0002-1

ECDC NO.: 20200-PSP-0002 Rev. 1

Page 1 of 1

PROJECT TITLE: PSP for the Area 3 Pre-design Investigation of Plant 9

Date: 11/24/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

- 1) Appendix B of the Plant 9 PSP identified intervals from Borings 12392 and 12395 to be collected for volatile organic compound (VOC) analysis in order to determine if soil exceeded the OSDF waste acceptance criteria. PID readings taken in the field, however, indicated that a number of the identified intervals did not contain detectable concentrations of VOCs. Therefore, alternate intervals were collected for VOC analysis (1,1-dichloroethene, trichloroethene, and tetrachloroethene). Archived samples were also adjusted in response to these changes. The changes are as follows:
 - A3-12392-13V (archive sample) was added
 - A3-12392-14 was changed from an archive sample to a VOC analysis sample with an associated alpha/beta screening sample
 - A3-12395-2 was changed from a rad. sample to a VOC analysis sample with an associated alpha/beta screening sample
 - A3-12395-3 for rad. analysis (uranium, thorium, and technetium-99) was added
 - A3-12395-4 was changed from a VOC analysis sample to an archive sample
- 2) Section 3.0 of the Plant 9 PSP requires that the VOC samples be collected in three 40 mL amber glass containers. A3-12392-17 was collected in two 40 mL amber vials because there was not enough sample volume to fill three containers. A3-12395-2 was collected in a 120-mL amber glass container instead of three 40 mL vials.

Justification:

- 1) The VOC sampling intervals identified in Appendix B of the Plant 9 PSP were changed because PID readings taken in the field indicated that alternate intervals had higher concentrations of VOCs. The radiologic and archive sample intervals were changed in response to the alternate VOC sample intervals.
- 2) Two 40 mL containers were used in place of three because there was not enough sample volume to fill all three. The 120 mL container was used because the sample techs. were having a difficult time putting the clay material into the 40 mL vials. Verbal approval for the use of the 120 mL container was received in the field from QA.

INFORMATION ONLY

REQUESTED BY: Christine Messerly

DATE: 11/24/98

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>R. DeWitt</i>	11-24-98	X	PROJECT MANAGER <i>[Signature]</i>	11/30/98
	DATA QUALITY MANAGEMENT			Real-time Program Mgr	
	ANALYTICAL CUSTOMER SUPPORT		X	Characterization Lead <i>C. Messerly</i>	11/24/98
X	Sampling Team Manager <i>M. J. Frank</i>	11-30-98		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

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

VARIANCE / FIELD CHANGE NOTICE

V/FCN 20810-PSP-0002-1

PSP NO.: ECDC #20810-PSP-0002 Rev. 0

Page 1 of 6

PROJECT TITLE: PSP for Area 3 Pre-Design Investigation of Potentially Characteristic Areas

Date: 12/10/98

VARIANCE / FIELD CHANGE NOTICE (Include justification):

1. CHANGE:

The following samples points were relocated at the KC-2 Warehouse and the area north of the Maintenance Building:

LOCATION	RELOCATED	NORTHING	EASTING
KC02	7 feet west	482191.07	1349498.10
KC05	4 feet west	482148.77	1349357.82
KC06	6 feet west and 2 feet north	482084.45	1349356.21
MB03	6.5 feet east and 3 feet south	481035.50	1349542.90
MB07	3 feet east	481032.79	1349680.69
MB09	3.5 feet south	481017.29	1349691.10

INFORMATION
ONLY

JUSTIFICATION:

These sample locations were relocated due to underground utility obstruction.

2. CHANGE:

The archive sample from the 0.0'-0.5' interval was not collected from KC18, KC19, and KC20. Therefore samples A3-KC18-1V, A3-KC19-1V, and A3-KC20-1V from Appendix B of the PSP are canceled. If laboratory results indicate that additional laboratory analysis is needed at that interval, a second boring will be conducted at the same location at the time the need is identified to collect an additional sample from the 0.0'-0.5' interval.

JUSTIFICATION:

Collecting the archive sample involved doing a second Geoprobe boring a couple of inches away from the original location. The asphalt-coated concrete at locations KC18, KC19, and KC20 was ten inches thick in some places and was taking approximately 45 minutes to drill through. Due to the time involved in drilling the concrete and because lead contamination is not expected to be elevated under the concrete, archive samples from the 0.0'-0.5' interval were not collected at this time.

3. CHANGE:

Section 3.0 of the PSP requires that samples for TAL B (TCLP lead), TAL C (total lead, uranium, thorium), and TAL D (uranium, thorium) be placed in 250 mL glass containers. Instead, these samples will remain in the Macro-Core sample tube - the tube will be cut to a six-inch length and the ends will be capped and taped.

JUSTIFICATION:

The Macro-Core tubes will be used as sample containers because the 250 mL container was not large enough for the whole volume of the six-inch sample interval. By using the tube as the sample container, the laboratory can analyze material that is representative of the entire six-inch interval. Additional benefits of using the Macro-Core tube as the sample container are an increased efficiency in sample collection and waste minimization.

4. CHANGE:

Section 2.1 of the PSP states the procedure for establishing a total lead screening level based on TCLP results and then comparing other total lead results to the screening level. One screening level was to be established for each of the potentially characteristic areas (KC-2 Warehouse, Scrap Metal Pile area, and area north of Maintenance Building). Based on a U.S. EPA comment, the Scrap Metal Pile area and the area north of the Maintenance Building have been divided into smaller sections that will each have a unique total lead screening level. The full U.S. EPA comment/response and associated figures are attached to this variance.

ORIGINAL

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VARIANCE / FIELD CHANGE NOTICE

V/FCN 20810-PSP-0002-1

FORMS NO.: ECDC #20810-PSP-0002 Rev. 0

Page 2 of 6

PROJECT TITLE: PSP for Area 3 Pre-Design Investigation of Potentially Characteristic Areas

Date: 12/10/98

JUSTIFICATION:

The total lead screening level assumes that the lead compounds throughout the area are the same as the lead compounds in the samples whose TCLP results were used to establish the screening level. It is not known whether the lead compounds are the same throughout the Scrap Metal Pile area and the area north of the Maintenance Building. To address this concern, the areas were divided based on historical uses (Scrap Metal Pile area) and other contaminants found with the lead (area north of Maintenance Building).

REQUESTED BY: Christine Messerly DATE: 12/10/98

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE <i>[Signature]</i>	<u>12/21/98</u>	X	PROJECT MANAGER <i>[Signature]</i>	<u>12/10/98</u>
	DATA QUALITY MANAGEMENT			Real-time Program Mgr	
	ANALYTICAL CUSTOMER SUPPORT		X	Characterization Lead <i>[Signature]</i>	<u>12/10/98</u>
X	Sampling Team Manager <i>[Signature]</i>	<u>12/22/98</u>		WAO	

VARIANCE/FCN APPROVED YES NO

REVISION REQUIRED: YES NO

DISTRIBUTION

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

ORIGINAL

RESPONSES TO U.S. EPA COMMENTS ON
PROJECT SPECIFIC PLAN FOR AREA 3 PRE-DESIGN
INVESTIGATION OF POTENTIALLY CHARACTERISTIC AREAS

GENERAL COMMENT

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: General

Page #: N/A

Line #: N/A

Original Comment #: 1

Comment: The text states that samples will be collected for Toxicity Characteristic Leaching Procedure (TCLP) analysis at locations where remedial investigation sampling results for total lead concentrations exceeded 20 times the TCLP limit. Based on the TCLP results, a total lead screening level will be established for each area that reflects that highest total lead result for samples that pass the TCLP limit of 5 mg/L in that area. However, this screening level would be valid for each area only if the lead compounds throughout the area are the same as the lead compounds in the samples whose TCLP results were used to establish the lead screening level. If lead compounds within an area are more soluble than the lead compounds present at the sampling locations used to establish the lead screening level, the screening level could be too high. Samples with total lead concentrations below the screening level could actually have a TCLP limit that exceeds 5 mg/L.

Unless there is adequate site history information to determine the chemical nature of the source of the lead and its current chemical state after degradation, the screening level of 100 mg/kg of total lead or 20 times the TCLP limit of 5 mg/L should be used.

Response: DOE agrees with EPA's statement that the total lead screening level would be valid for each area only if the lead compounds throughout the area are the same as those in the TCLP samples used to establish the lead screening level. Due to the small size of the lead contamination area near the KC-2 Warehouse, no changes will be made to the screening level strategy presented in the Project Specific Plan for that area.

However, the Scrap Metal Pile area is large (the entire northeast corner of the Former Production Area) and is known to have had multiple uses. Based on historical aerial photographs of the site, the Scrap Metal Pile area has been subdivided into three areas to address EPA's concerns (see revised Figure 2-4). Area 1 is defined by the area used to store scrap metal and includes the Decontamination Pad and the surrounding area; Area 2 is directly to the east of the Decontamination Pad and was used to store drums; Area 3 borders the eastern boundary of the Former Production Area and was an area of disturbed soil. Each of these subareas includes at least one location undergoing TCLP analysis in the current PSP.

Although the lead contamination north of the Maintenance Building does not cover a large area, there are two distinct areas of contamination and only Area 1 is associated with elevated levels of trichloroethene contamination. Therefore, the area north of the Maintenance Building has also been subdivided into two areas of contamination (see revised Figure 2-5). Screening levels will be established and compared only within those subareas.

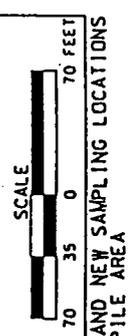
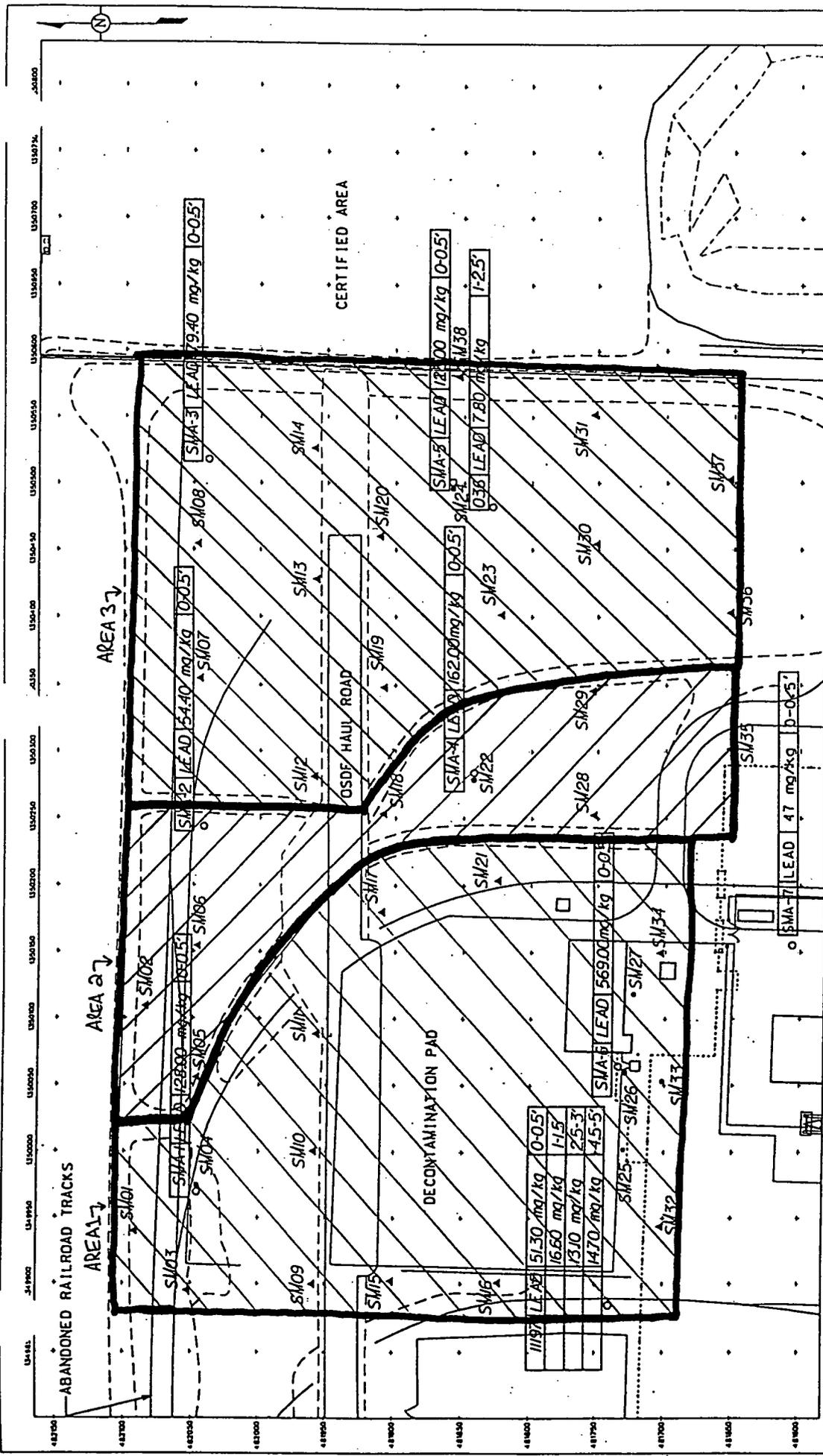
Because Areas 2 and 3 of the Scrap Metal Pile Area and Area 2 of the Maintenance Building Area have only one sample being collected for initial TCLP analysis, at least the sample with the highest total lead concentrations above the 20-times limit will also undergo TCLP analysis

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so that it can be compared to the initial results. Based on the initial sampling results, additional TCLP analysis may be conducted to further reduce the uncertainty of potential problem areas. The additional TCLP analysis would be documented in a variance to the PSP. If no samples have concentrations above the 20-times limit for lead, then no additional analysis is needed.

DOE believes that further subdividing the Scrap Metal Pile area and the Maintenance Building area, as described above, will ensure that total lead screening levels are established using TCLP results that are valid and comparable within those subareas.

Action: The PSP will be revised to reflect these changes prior to laboratory analysis of samples.



LEGEND:
 ○ RI/FS SAMPLE LOCATIONS
 ● PROPOSED TCLP LEAD - TOTAL LEAD SAMPLE LOCATIONS
 ▲ PROPOSED TOTAL LEAD SAMPLE LOCATIONS
 □ RI/FS SAMPLE ID, ANALYTE, RESULT AND DEPTH

DRAFT

STATE PLUMBER COORDINATE SYSTEM 1983 20-SEP-1998
 FIGURE 2-4. EXISTING RI/FS DATA AND NEW SAMPLING LOCATIONS FOR SCRAP METAL PILE AREA

2021

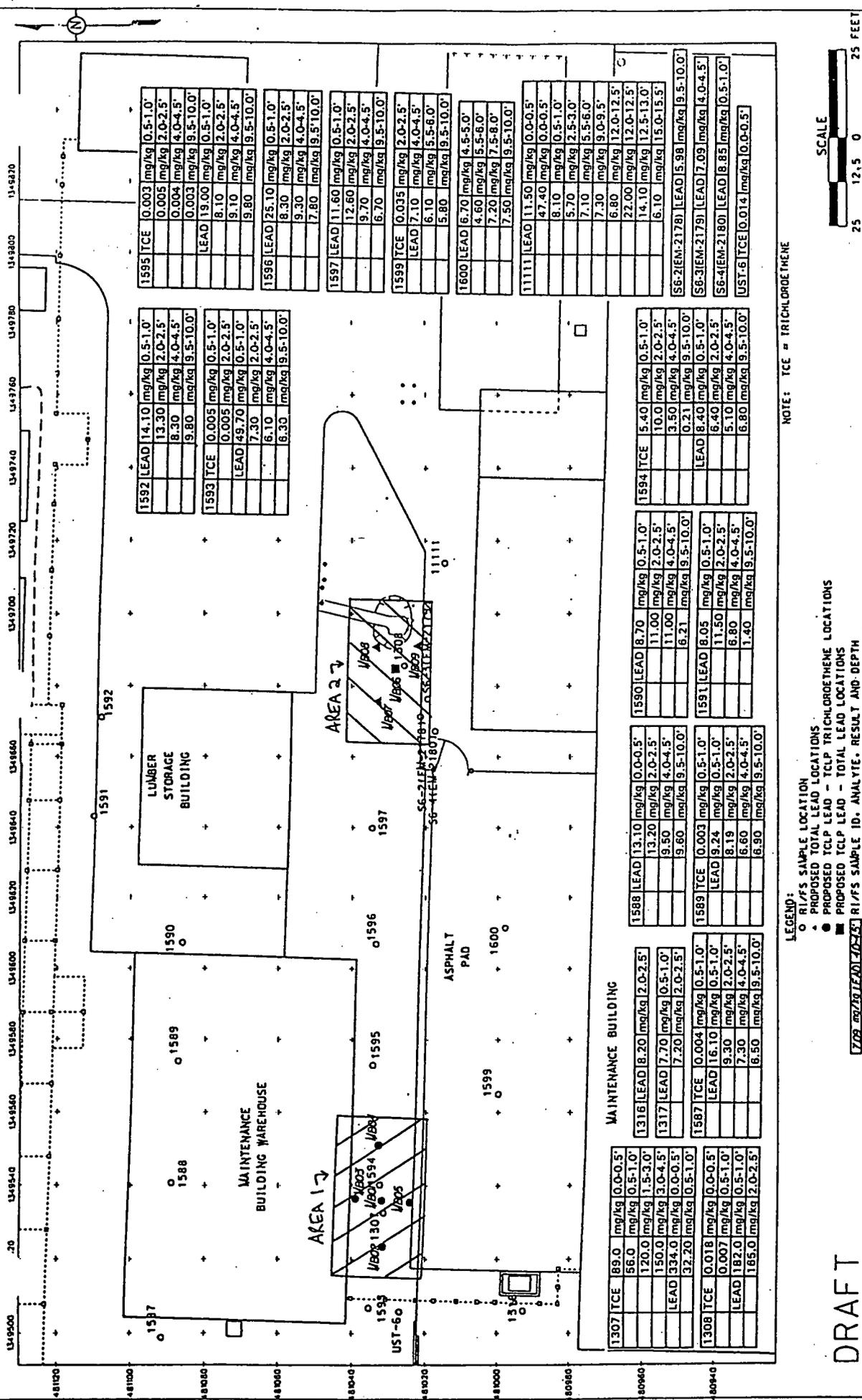


FIGURE 2-5. EXISTING RI/FS DATA AND NEW SAMPLING LOCATIONS FOR MAINTENANCE BUILDING AREA

NOTE: TCE = TRICHLOROETHENE

LEGEND:
 ○ RI/FS SAMPLE LOCATION
 ● PROPOSED TOTAL LEAD LOCATIONS
 ● PROPOSED TCLP LEAD - TCLP TRICHLOROETHENE LOCATIONS
 ■ PROPOSED TCLP LEAD - TOTAL LEAD LOCATIONS
 [729, 802, 1610, 1620, 1630] RI/FS SAMPLE ID, ANALYTIC, RESULT AND DEPTH

DRAFT

1595	TCE	0.003	mg/kg	0.5-1.0'
		0.005	mg/kg	2.0-2.5'
		0.004	mg/kg	4.0-4.5'
		0.003	mg/kg	9.5-10.0'
	LEAD	19.00	mg/kg	0.5-1.0'
		8.10	mg/kg	2.0-2.5'
		9.10	mg/kg	4.0-4.5'
		9.80	mg/kg	9.5-10.0'

1592	LEAD	14.10	mg/kg	0.5-1.0'
		13.30	mg/kg	2.0-2.5'
		8.30	mg/kg	4.0-4.5'
		9.80	mg/kg	9.5-10.0'
	TCE	0.005	mg/kg	0.5-1.0'
		0.005	mg/kg	2.0-2.5'
		49.70	mg/kg	0.5-1.0'
		7.30	mg/kg	2.0-2.5'
		6.10	mg/kg	4.0-4.5'
		6.30	mg/kg	9.5-10.0'

1596	LEAD	25.10	mg/kg	0.5-1.0'
		8.30	mg/kg	2.0-2.5'
		9.30	mg/kg	4.0-4.5'
		7.80	mg/kg	9.5-10.0'

1597	LEAD	11.60	mg/kg	0.5-1.0'
		12.60	mg/kg	2.0-2.5'
		9.70	mg/kg	4.0-4.5'
		6.70	mg/kg	9.5-10.0'

1593	TCE	0.035	mg/kg	2.0-2.5'
		6.10	mg/kg	4.0-4.5'
		5.80	mg/kg	9.5-10.0'

1600	LEAD	6.70	mg/kg	4.5-5.0'
		4.60	mg/kg	5.5-6.0'
		7.20	mg/kg	7.5-8.0'
		7.50	mg/kg	9.5-10.0'

11111	LEAD	11.50	mg/kg	0.0-0.5'
		47.40	mg/kg	0.0-0.5'
		8.10	mg/kg	0.5-1.0'
		5.70	mg/kg	2.5-3.0'
		7.10	mg/kg	5.5-6.0'
		7.30	mg/kg	9.0-9.5'
		6.80	mg/kg	12.0-12.5'
		22.00	mg/kg	12.0-12.5'
		14.10	mg/kg	12.5-13.0'
		6.10	mg/kg	15.0-15.5'

S6-2(EM-2178)	LEAD	15.98	mg/kg	9.5-10.0'
S6-3(EM-2179)	LEAD	17.09	mg/kg	4.0-4.5'
S6-4(EM-2180)	LEAD	18.85	mg/kg	0.5-1.0'
UST-6	TCE	0.014	mg/kg	0.0-0.5'

1594	TCE	5.40	mg/kg	0.5-1.0'
		10.0	mg/kg	2.0-2.5'
		3.50	mg/kg	4.0-4.5'
		0.21	mg/kg	9.5-10.0'
	LEAD	8.40	mg/kg	0.5-1.0'
		6.40	mg/kg	2.0-2.5'
		5.10	mg/kg	4.0-4.5'
		6.80	mg/kg	9.5-10.0'

1590	LEAD	8.70	mg/kg	0.5-1.0'
		11.00	mg/kg	2.0-2.5'
		11.00	mg/kg	4.0-4.5'
		6.21	mg/kg	9.5-10.0'
1591	LEAD	8.05	mg/kg	0.5-1.0'
		11.50	mg/kg	2.0-2.5'
		6.80	mg/kg	4.0-4.5'
		1.40	mg/kg	9.5-10.0'

1588	LEAD	13.10	mg/kg	0.0-0.5'
		13.20	mg/kg	2.0-2.5'
		9.50	mg/kg	4.0-4.5'
		9.60	mg/kg	9.5-10.0'
1589	TCE	0.003	mg/kg	0.5-1.0'
		9.24	mg/kg	0.5-1.0'
		8.19	mg/kg	2.0-2.5'
		6.80	mg/kg	4.0-4.5'
		6.90	mg/kg	9.5-10.0'

1316	LEAD	8.20	mg/kg	2.0-2.5'
1317	LEAD	7.70	mg/kg	0.5-1.0'
		7.20	mg/kg	2.0-2.5'
1587	TCE	0.004	mg/kg	0.5-1.0'
		16.10	mg/kg	0.5-1.0'
		9.30	mg/kg	2.0-2.5'
		7.30	mg/kg	4.0-4.5'
		6.50	mg/kg	9.5-10.0'

1307	TCE	89.0	mg/kg	0.0-0.5'
		56.0	mg/kg	0.5-1.0'
		120.0	mg/kg	1.5-3.0'
		150.0	mg/kg	3.0-4.5'
	LEAD	334.0	mg/kg	0.0-0.5'
		32.20	mg/kg	0.5-1.0'
1308	TCE	0.018	mg/kg	0.0-0.5'
		0.007	mg/kg	0.5-1.0'
		182.0	mg/kg	0.5-1.0'
		165.0	mg/kg	2.0-2.5'

VARIANCE / FIELD CHANGE NOTICE

V/F No. 50.03.59.05-04

PROJECT TITLE: A1P11 Pre-Design Investigation for Total Uranium at the STP (Rev. 0)
PROJECT 50.03.59.05, ECDC 55200-PSP-001 (Rev 0)

Date: 11/13/1998

VARIANCE / FIELD CHANGE NOTICE (Include justification):

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This variance provides justification for collection and analysis of additional sample material encountered during the borings performed in the STP Incinerator area. This variance includes the following actions:

1. Archived samples A1P2STP-12388-9 and A1P2STP-12388-11 will be submitted for Total Uranium and technetium 99 analysis.
2. Screenpoint Installation and Sampling of Perched Groundwater

A Geoprobe® Screen Point 15 Sampler will be installed near Boring 12388 for collection of perched groundwater for the purpose of characterizing the oily material encountered during previous investigations. This location will be labeled 12399 and will be about 6" off of 12388. Installation will be completed in accordance with procedure EQT-06, Geoprobe Model 5400 - Operation and Maintenance. Development of the Screen Point 15 after installation will not be necessary due to the potential for non-aqueous waste liquid (oil) to exist in the perched water zone and the need to determine the waste constituents. Groundwater will be collected using a tubing bottom check-valve method or a peristaltic pump as outlined in SMPL-01, Liquids and Sludge Sampling. The volume of the Screen Point 15 screen and probe rods is 0.02 gallons/foot. A geologist will oversee and document the abandonment operation.

Prior to sampling or removing groundwater, polyethylene tubing (equipped with a tubing bottom check valve) will be inserted into the bottom of the sampler screen and removed to determine the non-aqueous phase liquid (NAPL) (or oil layer) thickness, if present. A water level reading will be taken prior to each sampling or groundwater removal event. Sampling will be performed in accordance with procedure SMPL-02, Liquids and Sludge Sampling. If possible the NAPL fraction will be separated from the groundwater and submitted for analysis. The samples (oil and groundwater) will be collected and submitted for the following analyses: Total Uranium, Technetium 99, Diesel Range Organics, Volatiles, and Total PCBs for ASL B. Field QC (Duplicates, trip blanks, and rinsates) are identified in the attached table.

Sample volumes for the analyses are as follows:

Analysis	Oil Sample	Water Sample
Total U, Tc99	500 ml	1 liter
Volatiles*	4 40 ml containers	3 40 ml containers
DRO	500 mls	3 liters
Total PCBs	200 mls	3 liters

INFORMATION
ONLY

- * Volatiles are cooled to 4 degrees C.

The screenpoint sampler may also be utilized to extract the NAPL from the perched water zone to the extent possible. This determination and direction will be provided by the Characterization Lead after installation of the screenpoint. This purging will be conducted at the top of the perched water table to maximize the removal of the NAPL during the purge.

The use of polyethylene sample tubing and a PVC screen or stainless steel is adequate in this situation due to 1) the significant amount of NAPL previously encountered and 2) the short duration planned for the screenpoint installation.

Soil samples will also be collected from this location from every six inch interval above the perched water zone, then from the next two six intervals below the perched water zone. These samples will be collected for Total Uranium, Technetium 99, Diesel Range Organics, Volatiles, and Total PCBs for ASL B.

- 150 g for the radiological analyses
- 50g cooled to 4 degrees Celsius for Volatiles
- 50 g sample for Diesel Range Organics
- 50 g sample for Total PCBs

The borehole remaining after removal of the screenpoint will be grouted with bentonite pellets since the borehole will not extend below the perched water zone (bottom estimated to be approximately four feet below the surface). A borehole abandonment log will be completed by the geologist.

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