



Department of Energy

Ohio Field Office  
Fernald Closure Project  
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AUG 17 2005

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

DOE-0299-05

Mr. Thomas Schneider, Project Manager  
Ohio Environmental Protection Agency  
Southwest District Office  
401 East Fifth Street  
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

**TRANSMITTAL OF RESPONSES TO COMMENTS ON THE DRAFT EXCAVATION PLAN FOR THE STREAM CORRIDORS PILOT PLANT DRAINAGE DITCH AND PADDYS RUN AND DRAFT PROJECT SPECIFIC PLAN FOR EXCAVATION CONTROL AND PRECERTIFICATION OF THE STREAM CORRIDORS PILOT PLANT DRAINAGE DITCH AND PADDYS RUN**

- References:
- 1) Letter, J. Saric to J. Reising, "Stream Corridors Excavation Plan and PSP for Precertification," dated June 7, 2005
  - 2) Letter, T. Schneider to W. Taylor, "Disapproval - Excavation Plan for the Stream Corridors PPDD and Paddys Run," dated July 12, 2005
  - 3) Letter, T. Schneider to W. Taylor, "Disapproval - PSP for Excavation Control and Precertification of the Stream Corridors PPDD and Paddys Run," dated July 12, 2005

Enclosed for your approval are responses to U.S. Environmental Protection Agency and Ohio Environmental Protection Agency comments on the draft Excavation Plan for the Stream Corridors Pilot Plant Drainage Ditch and Paddys Run, and the draft Project Specific Plan (PSP) for Excavation Control and Precertification of the Stream Corridors Pilot Plant Drainage Ditch and Paddys Run. Upon approval, these comment responses will be incorporated into the final Excavation Plan and revised Excavation Control PSP.

Mr. James A. Saric  
Mr. Thomas Schneider

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DOE-0299-05

If you have any questions or require additional information, please contact Johnny Reising at (513) 648-3139.

Sincerely,



for William J. Taylor  
Director

FCP:Reising

Enclosure

cc w/enclosures:

D. Pfister, OH/FCP  
J. Reising, OH/FCP  
T. Schneider, OEPA-Dayton (three copies of enclosure)  
G. Jablonowski, USEPA-V, SR-6J  
F. Bell, ATSDR  
M. Cullerton, Tetra Tech  
M. Shupe, HSI GeoTrans  
R. Vandegrift, ODH  
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosures:

K. Alkema, Fluor Fernald, Inc./MS01  
J. Chiou, Fluor Fernald, Inc./MS88  
F. Johnston, Fluor Fernald, Inc./MS99  
C. Murphy, Fluor Fernald, Inc./MS77  
ECDC, Fluor Fernald, Inc./MS52-7

**RESPONSES TO  
U.S. ENVIRONMENTAL PROTECTION AGENCY AND  
OHIO ENVIRONMENTAL PROTECTION AGENCY  
COMMENTS ON THE DRAFT EXCAVATION PLAN  
FOR THE STREAM CORRIDORS  
PILOT PLANT DRAINAGE DITCH AND PADDYS RUN**

**FERNALD CLOSURE PROJECT  
FERNALD, OHIO**

**AUGUST 2005**

**U.S. DEPARTMENT OF ENERGY**

**RESPONSES TO U.S. ENVIRONMENTAL PROTECTION AGENCY  
TECHNICAL REVIEW COMMENTS ON THE  
DRAFT EXCAVATION PLAN FOR THE STREAM CORRIDORS  
PILOT PLANT DRAINAGE DITCH AND PADDYS RUN  
(20820-PL-0002, REVISION A)**

**SPECIFIC COMMENTS**

Commenting Organization: U.S. EPA  
Section #: 1.0  
Original Specific Comment #: 1

Commentor: Saric  
Line #: 18 and 19

Page #: 1-1

Comment: The text states that 37 cubic yards of uranium-contaminated soil will be removed from three areas in the Pilot Plant Drainage Ditch (PPDD). However, the volumes for these three areas listed in Table 3-1 add up to 41 cubic yards. The text and Table 3-1 should be revised to resolve this discrepancy.

Response: Agreed.

Action: The referenced text in Section 1.0 and Table 3-1 will be revised to reflect that 41 cubic yards of uranium-contaminated soil will be removed from three areas in the Pilot Plant Drainage Ditch (PPDD).

Commenting Organization: U.S. EPA  
Section #: 1.0  
Original Specific Comment #: 2

Commentor: Saric  
Line #: 6 and 7

Page #: 1-2

Comment: The text states that excavation and disposition of impacted soil, sediments, and debris from the PPDD and Paddys Run is scheduled to start in May 2005. The text should be revised to state when the Paddys Run Train Trestle will be dismantled and removed.

Response: Since the Excavation Plan was drafted, the decision has been made to leave the trestle in place for use as a pedestrian footbridge following final closure of the site.

Action: The plan will be revised to reflect the decision to leave the train trestle in place.

Commenting Organization: U.S. EPA  
Section #: 2.4.2  
Original Specific Comment #: 3

Commentor: Saric  
Line #: 23 and 24

Page #: 2-5

Comment: The text states that investigations identified three uranium-contaminated areas in the PPDD. The text should be revised to state that investigations also identified one arsenic-contaminated area in the PPDD.

Response: Agreed. This sentence will be modified as shown below.

Action: Lines 23 and 24 will be modified to read:

“The investigations above identified three total uranium areas as well as one arsenic contamination area. These four areas were bound through physical sampling as elaborated below in order of west to east.”

Original Specific Comment #: 4

Comment: The text states that an evaluation will be made to determine if moving some of the wooded vegetation from the Paddys Run East Restoration Area into the restored areas to re-establish vegetation on the slopes is justified. The text should be revised to provide the criteria and schedule for making this determination.

Response: Agreed.

Action: The referenced text will be revised to reflect that evaluation of the need for wooded vegetation in the restored areas of Paddys Run slope will be performed in cooperation with U.S. EPA and Ohio EPA, within seven days of completion of excavation activities in the stream corridor.



3. Commenting Organization: Ohio EPA Commenter: DSW  
Section #: 1.0 Pg #: 1-1 Line #: 27-28 Code: C

Original Comment #: 3

Comment: The bounding of this area of radium contamination is not clear. From the description in the text, it appears to be a single sample result (PRT-22R4) and, due to its proximity to the silos, the possibility of more extensive contamination than 3 cubic yards seem likely.

Response: Agreed. As in any excavation, volume can, has, and will expand based on excavation control results.

After verbal approval was given to remove this initial and small designed radium-226 area based on the real-time surface bounding, the surface soil was removed which allowed for further real-time analysis which was done as part of the routine excavation control for the area as described in the Excavation Control Project Specific Plan.

The data indicated additional soil would be required to be excavated due to the continued presence of >FRL radium-226. As a confirmation of the real-time measurement, additional physical samples were collected and analyzed for radium-226, which confirmed the elevated real-time results.

Based on these data sets, the area will require further chasing and be controlled using real-time measurement systems. However, it is still >50 feet away from the closest Silos Area excavation boundary.

Action: The document will be corrected/updated to include the data collected from subsequent investigation (both Real Time Instrumentation Measurement Program and Physical Sampling).

4. Commenting Organization: Ohio EPA Commenter: OFFO  
Section #: 1.0 Pg #: 1-1 Line #: 25 Code: C

Original Comment #: 4

Comment: Line 25 states that there will be "no excavation for contamination" in regards to the PR Train Trestle. This sentence seems inappropriate and premature, especially if contamination is found.

Response: Agreed.

Action: Text pertaining to the removal of debris in the area of Paddys Run train trestle, as well as other locations within the streambed, will be revised to state to following:

"No excavation for contamination is planned. However, if contamination is found, it will be bound using appropriate real-time monitoring and/or physical sampling, and excavated and disposed of in accordance with technical specifications Section 02205."

5. Commenting Organization: Ohio EPA Commenter: DSW  
Section #: 2.1; 2.4.2 Pg #: 2-2; 2-7 Line #: 17-19; 26-33 Code: C

Original Comment #: 5

Comment: The bounding of this area of radium contamination is not clear. From the description in the text, it appears to be a single sample result (PRT-22R4) and, due to its proximity to the silos, the possibility of more extensive contamination than 3 cubic yards seems likely. Our assumption has been that there will be a large scale soil removal between the silos and the Paddys Run in this area, including the large amount of riprap placed along the bank of Paddys Run. What evidence exists that this removal will be limited to 3 cubic yards of soil?

Response: See Response to Comment #3.

Action: See Action to Comment #3.

6. There is no Original Comment #6

7. Commenting Organization: Ohio EPA Commenter: OFFO  
Section #: 2.4.2 Pg #: 2-5 Line #: 23 Code: C  
Original Comment #: 7

Comment: This line states that *three* total uranium areas were identified, then states these *four* areas were bound ... Please correct.

Response: Agreed. The document will be corrected.

Action: The document will be corrected to show that three total uranium areas were bound. A fourth above-FRL area (for arsenic) was not bound and no excavation action is planned in this area.

8. Commenting Organization: Ohio EPA Commenter: DSW  
Section #: 2.4.2 Pg #: 2-8 Line #: 1-11 Code: C  
Original Comment #: 8

Comment: In the dataset, sample RTB-2 has a radium-226 result of 9.99 and 7.63 pCi/g at 0-0.5 and 1-1.5 depths, respectively. The only RTB sample location I could locate is on Figure 2-5, at RTB-3. I assume that RTB-2 is also at or near this location. However neither in the narrative nor on the figures is there a location RTB-2 discussed as exceeding the radium-226 FRL (of 2.9 pCi/g). Is there no remediation planned for the oxbow area or for sample location RTB-2?

Response: Agreed. RTB-2 was inadvertently included with the data set. It actually was part of the Storm Sewer Outfall Ditch. Therefore, the data from RTB-2 will be removed from the data set. RTB-3 has no above-FRL data as can be seen in the data set.

Action: The data set will be corrected.

9. Commenting Organization: Ohio EPA Commenter: DSW  
Section #: Figure 2-8 Pg #: NA Line #: NA Code: C  
Original Comment #: 9

Comment: There is no indication on this drawing of the locations of samples other than those above the FRL. Note that the other figures indicate all sampling locations. It is impossible to tell if sampling was adequate in the Pilot Plant Drainage Ditch without showing all the sampling locations. Please provide a figure that includes all sampling locations.

Response: Agreed. The figure will be amended.

Action: Figure 2-8 will be amended to incorporate all sampling locations.

10. Commenting Organization: Ohio EPA Commenter: DSW  
Section #: Figure 2-8 & Drawing 99X-5500-G-00884 Pg #: NA Line #: NA Code: C  
Original Comment #: 10

Comment: The sampling location above the FRL (PPDDH-4) on Figure 2-8 does not appear to be a soil removal location indicated on drawing 99X-5500-G-00884, although the other three locations seem to appear on drawing 99X-5500-G-00884.

Response: Agreed. This location (PPDDH-4) does not represent a removal location.







Statistical Evaluation of Above-FRL Locations Along Paddys Run and Pilot Plant Drainage Ditch

ID	DATA
PPDDH-4	5.02 NV
PPDDH-4	4.70 NV
PPDDH-4	3.48 NV
PPDDH-4E	10.60 NV
PPDDH-4E	10.60 NV
PPDDH-4N	4.59 NV
<i>PPDDH-4N</i>	16.50 NV
PPDDH-4S	4.37 NV
PPDDH-4S	2.83 NV
PPDDH-4W	3.25 NV
PPDDH-4W	2.42 NV
PPDDT-1	3.95 NV
PPDDT-1	3.70 NV
PPDDT-1	4.710 NV
<i>PPDDT-1L1</i>	16.500 NV
<i>PPDDT-1L1</i>	15.400 NV
PPDDT-1L1	8.360 NV
PPDDT-1R1	4.470 NV
PPDDT-1R1	6.270 NV
PPDDT-1R1	4.770 NV
Limit	12.0
Units	mg/kg
Conf. Level	90%
Max. Result	16.5
Max. >= Limit	Yes
W-statistic Prob. #	4.0% (LN)
Test Procedure	Median (Sign)
Sample Size	20
Nondetects	0
% Nondetects	0.0%
Est. Mean*	4.71
Note: Ids in italics indicate	6.27
Prob. > Limit	--
Pass / Fail	Pass

<i>a posteriori Sample</i> Size calculation	8 Pass
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ID	DATA
PRD-18^1-RMPS	5.1 -
PRD-19^1-RMPS	3.44 NV
PRD-20^1-RMPS	4.07 NV
<i>PRT-28^1-RMPS</i>	12.7 -
<i>PRT-29^1-RMPS</i>	4.9 -
PRT-30^1-RMPS	4.5 -
Limit	12.0
Units	mg/kg
Conf. Level	90%
Max. Result	12.7
Max. >= Limit	Yes
W-statistic Prob. #	3.9% (LN)
Test Procedure	Wilcoxon
Sample Size	6
Nondetects	0
% Nondetects	0.0%
Est. Mean*	4.70
UCL	--
Prob. > Limit	3.13%
Pass / Fail	Pass

<i>a posteriori Sample</i> Size calculation	3 Pass
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Note: Est. Mean = Estimated measure of central tendency(Normal: Mean; LogNormal: Est. Mean; Non-Parametric: Median)  
 The maximum value of the two duplicates was used in all statistical equations.  
 #: This is the highest reported probability of the Shapiro-Wilk W-statistic for tests for the validity of the normality assumption  
 Note: Ids in italics indicate above-FRL locations.

# Statistical Evaluation of Above-FRL Locations Along Paddys Run and Pilot Plant Drainage Ditch

ID	DATA
PRC-1^1-RMPS	5.23 J
PRC-2^1-RMPS	3.95 J
PRD-1^1-RMPS	5.64
PRD-2^1-RMPS	6.29
PRD-3^1-RMPS	5.36
<i>PRT-1^1-RMPS</i>	13.8 E
PRT-2^1-RMPS	3.70
PRT-2L1^1-RMPS	5.22
PRT-3^1-RMPS	3.90
PRT-4^1-RMPS	4.13
PRT-5^1-RMPS	6.11 J
PRT-6^1-RMPS	4.34
PRT-7^1-RMPS	5.08
Limit	12.0
Units	mg/kg
Conf. Level	90%
Max. Result	13.8
Max. >= Limit	Yes
W-statistic Prob. #	< 0.01% (LN)
Test Procedure	Median (Sign)
Sample Size	13
Nondetects	0
% Nondetects	0.0%
Est. Mean*	5.22
UCL	5.64
Prob. > Limit	--
Pass / Fail	Pass

<i>a posteriori Sample</i>	5
Size calculation	Pass

ID	Arsenic
PRD-4^1-RMPS	4.35 J
PRD-5^1-RMPS	2.44 J
PRD-6^1-RMPS	3.80 E
<i>PRT-9^1-RMPS</i>	13.7
PRT-10^1-RMPS	6.65
PRT-11^1-RMPS	2.79
PRT-11L1^1-RMPS	3.60
PRT-12^1-RMPS	4.43
PRT-13^1-RMPS	3.08
PRT-14^1-RMPS	8.21
Limit	12.0
Units	mg/kg
Conf. Level	90%
Max. Result	13.7
Max. >= Limit	Yes
W-statistic Prob. #	40.5% (LN)
Test Procedure	Lognormal
Sample Size	10
Nondetects	0
% Nondetects	0.0%
Est. Mean*	5.29
UCL	7.09
Prob. > Limit	--
Pass / Fail	pass

<i>a posteriori Sample</i>	3
Size calculation	Pass

Note: Ids in italics indicate above-FRL locations.

The maximum value of the two duplicates was used in all statistical equations.

#: This is the highest reported probability of the Shapiro-Wilk W-statistic for tests for the validity of the normality assumption.

The test is performed on the raw data (untransformed) data (N) and the log-transformed data (LN) to test for lognormality.

Note: Ids in italics indicate above-FRL locations.

## Statistical Evaluation of Above-FRL Locations Along Paddys Run and Pilot Plant Drainage Ditch

ID	Arsenic
OPR-10 <sup>1</sup> -RMPS	6.35
<i>OPR-10<sup>2</sup>-RMPS</i>	12.5
OPR-10 <sup>3</sup> -RMPS	5.82
OPR-11 <sup>1</sup> -RMPS	5.91
OPR-11 <sup>2</sup> -RMPS	5.45
OPR-11 <sup>3</sup> -RMPS	5.50
OPR-9 <sup>1</sup> -RMPS	6.86
OPR-9 <sup>2</sup> -RMPS	6.45
OPR-9 <sup>3</sup> -RMPS	5.22
Limit	12.0
Units	mg/kg
Conf. Level	90%
Max. Result	12.5
Max. >= Limit	Yes
W-statistic Prob. #	< 0.01% (LN)
Test Procedure	Median (Sign)
Sample Size	9
Nondetects	0
% Nondetects	0.0%
Est. Mean*	5.91
UCL	6.45
Prob. > Limit	--
Pass / Fail	Pass

<i>a posteriori</i> Sample Size calculation	6 Pass
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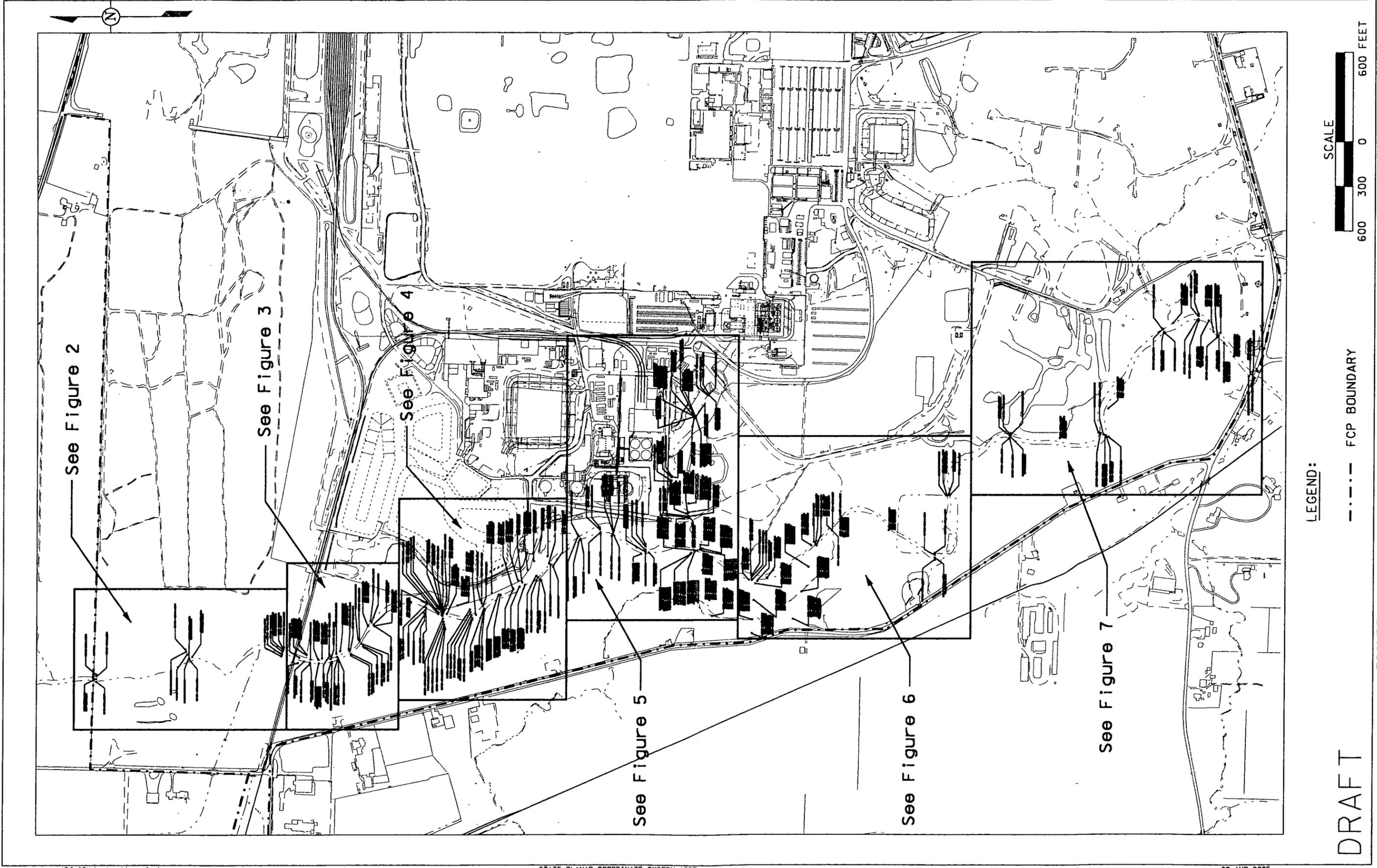
Note: Est. Mean = Estimated measure of central tendency(Normal: Mean; LogNormal: Est. Mean; Non-Parametric: Median)

The maximum value of the two duplicates was used in all statistical equations.

#: This is the highest reported probability of the Shapiro-Wilk W-statistic for tests for the validity of the normality assumption.

The test is performed on the raw data (untransformed) data (N) and the log-transformed data (LN) to test for lognormality.

Note: Ids in italics indicate above-FRL locations.



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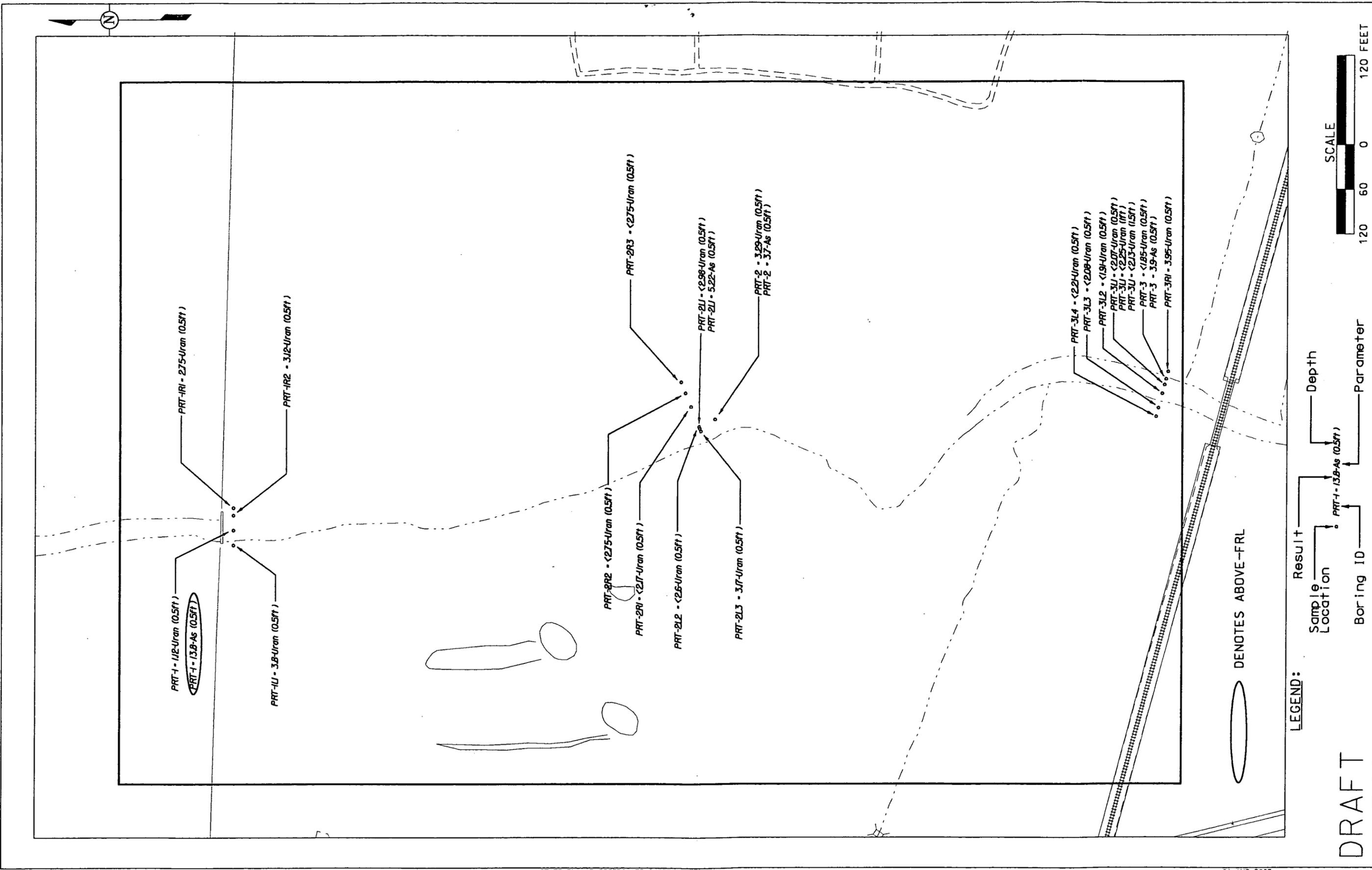
- - - - - FCP BOUNDARY  
 ————— PILOT PLANT DRAINAGE DITCH AND PADDYS RUN

SCALE

600 300 0 600 FEET

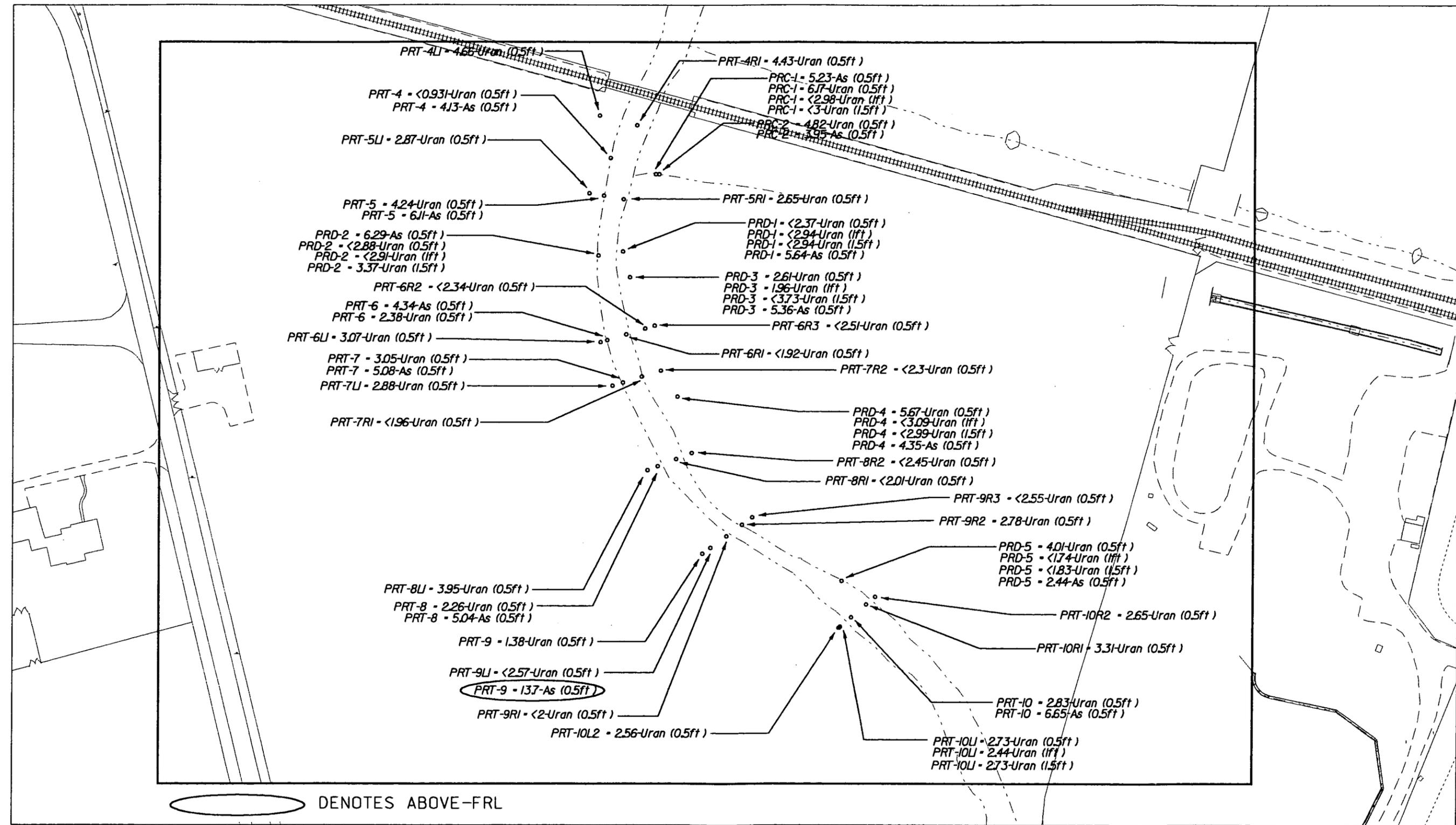
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FIGURE 1. PILOT PLANT DRAINAGE DITCH AND PADDYS RUN



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FIGURE 2. PADDYS RUN - NORTHERN PROPERTY BOUNDARY AREA



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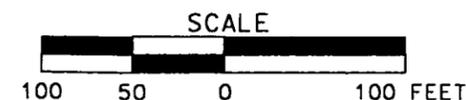
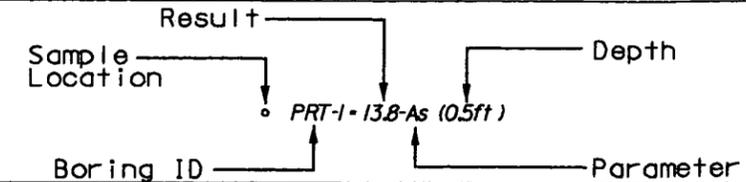
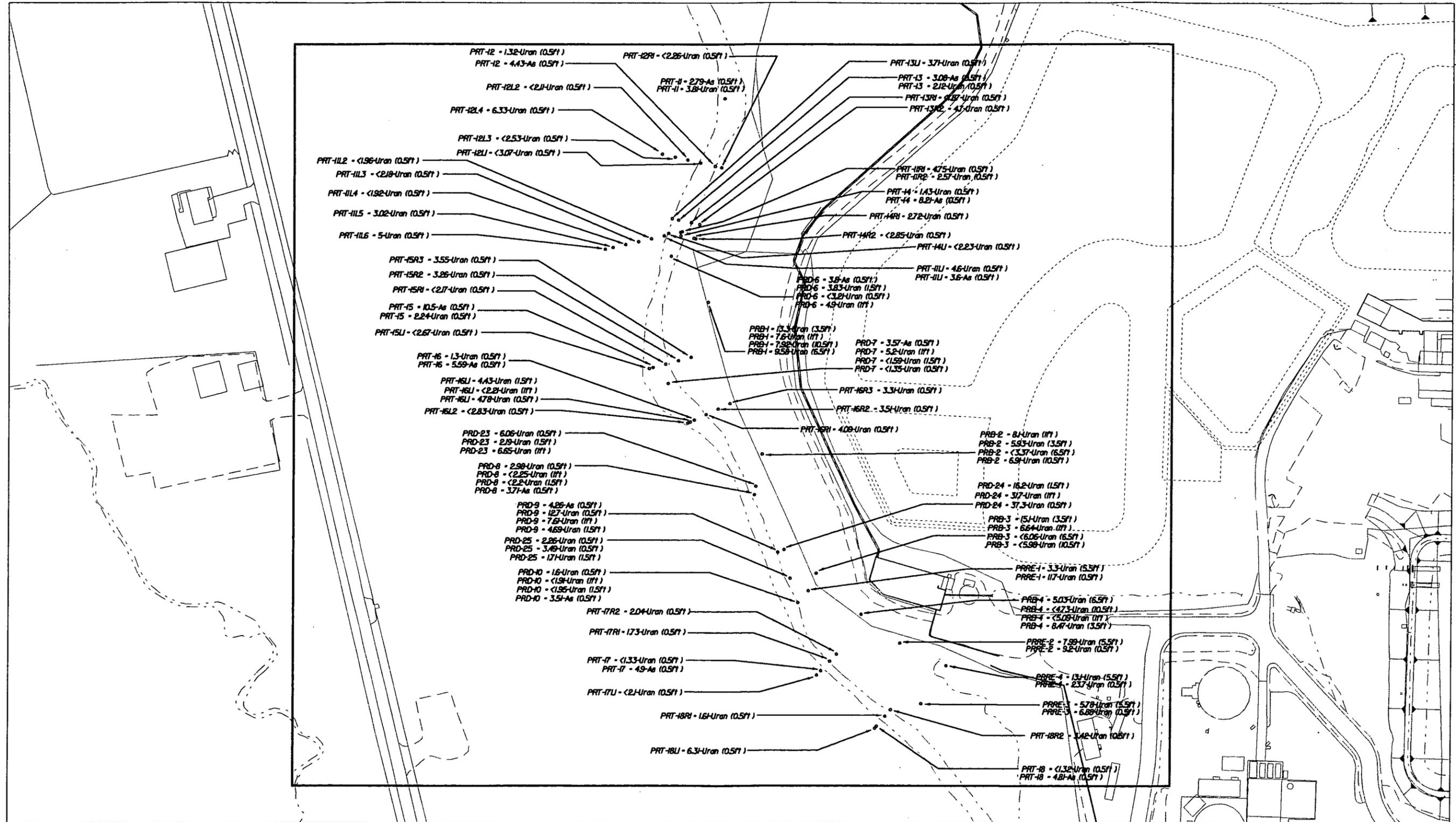


FIGURE 3. PADDY'S RUN TRAIN TRESTLE AREA



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LEGEND:

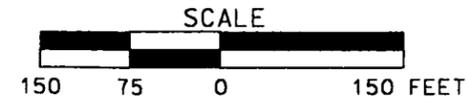
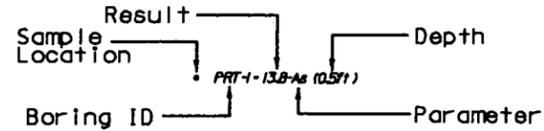
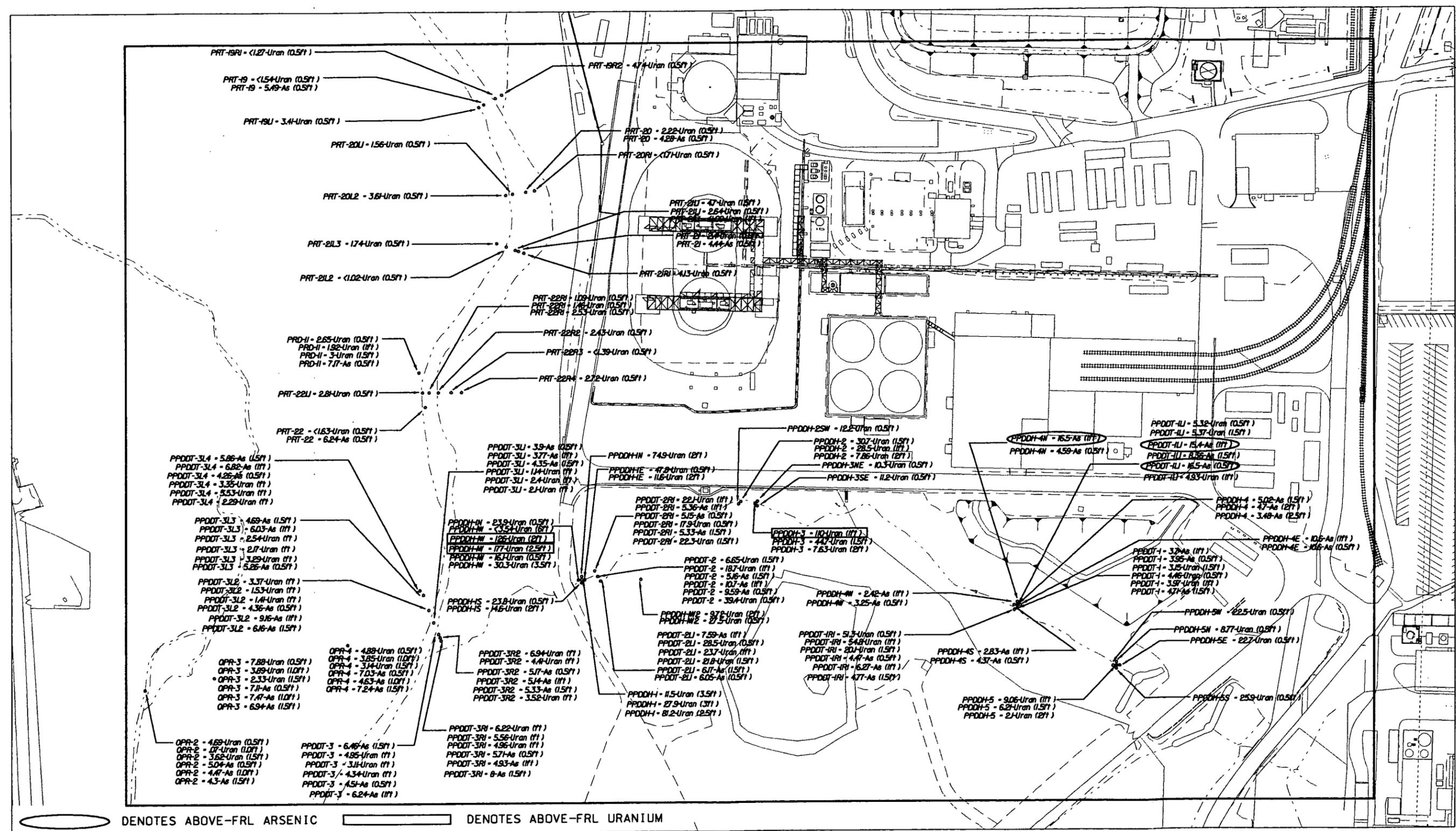
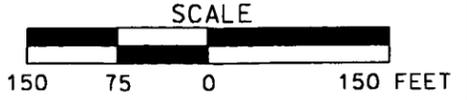
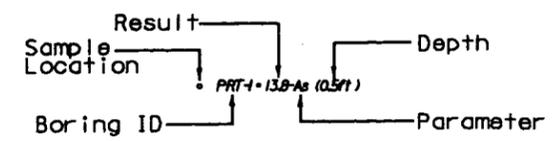


FIGURE 4. PADDYS RUN NORTHERN OXBOW AND WASTE PITS AREA



○ DENOTES ABOVE-FRL ARSENIC      □ DENOTES ABOVE-FRL URANIUM

LEGEND:



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FIGURE 5. PILOT PLANT DRAINAGE DITCH AND PADDYS RUN SILOS AREA

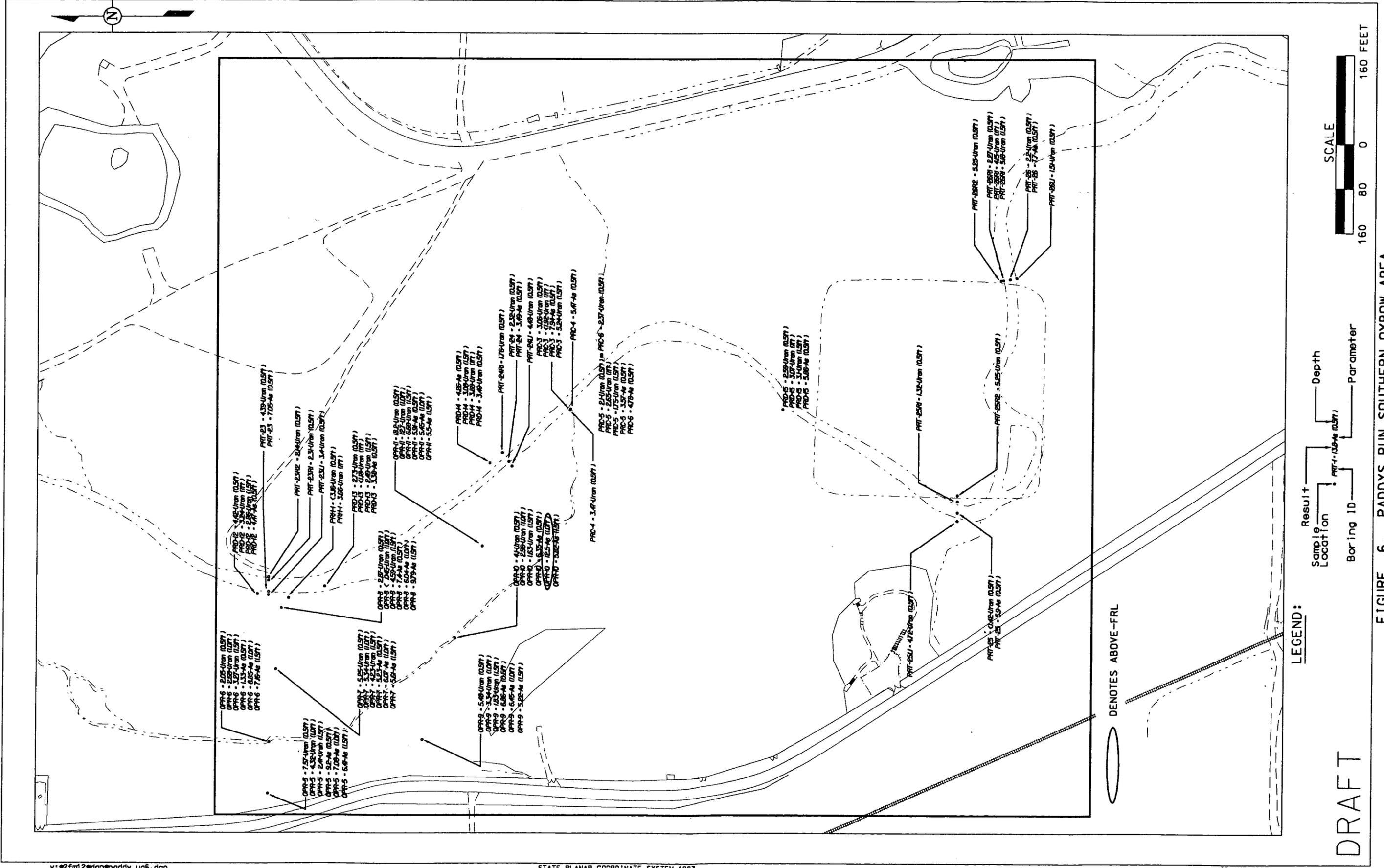


FIGURE 6. PADDY'S RUN SOUTHERN OXBOW AREA



**RESPONSES TO  
OHIO ENVIRONMENTAL PROTECTION AGENCY  
COMMENTS ON THE DRAFT PROJECT SPECIFIC PLAN  
FOR EXCAVATION CONTROL AND PRECERTIFICATION  
OF THE STREAM CORRIDORS  
PILOT PLANT DRAINAGE DITCH AND PADDYS RUN**

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