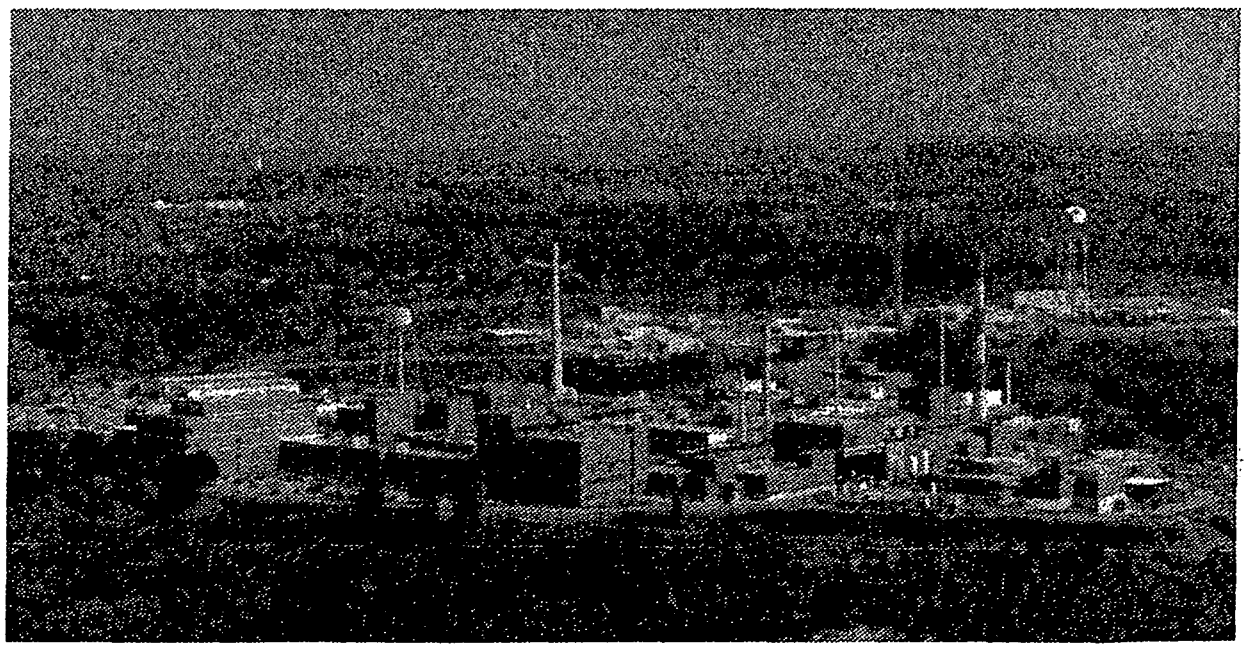
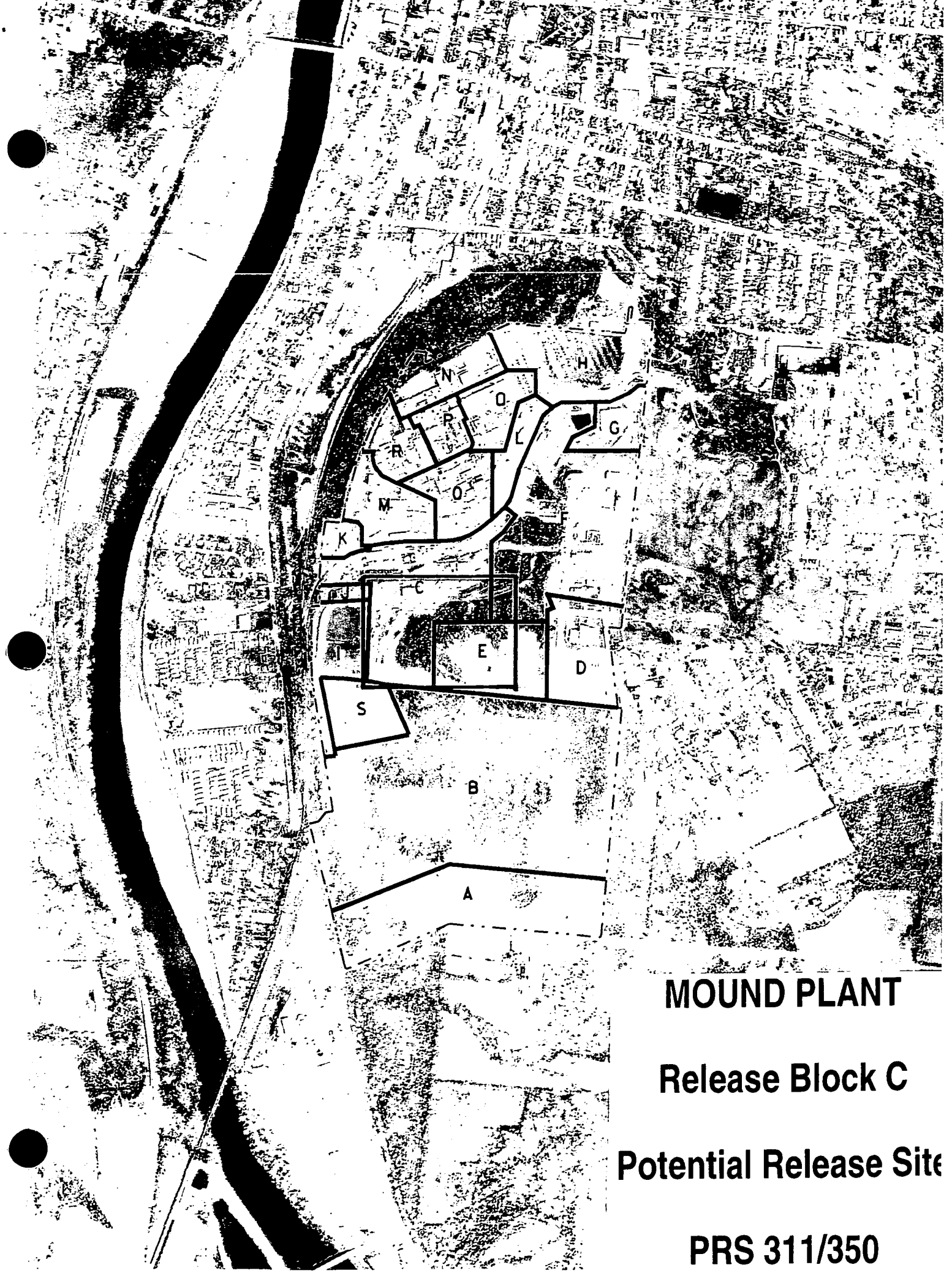
MOUND

Environmental
Restoration
Program

EG&G MOUND-30-03-04-02--9603210061

# MOUND PLANT
## Potential Release Site Package
## PRS # 311/350



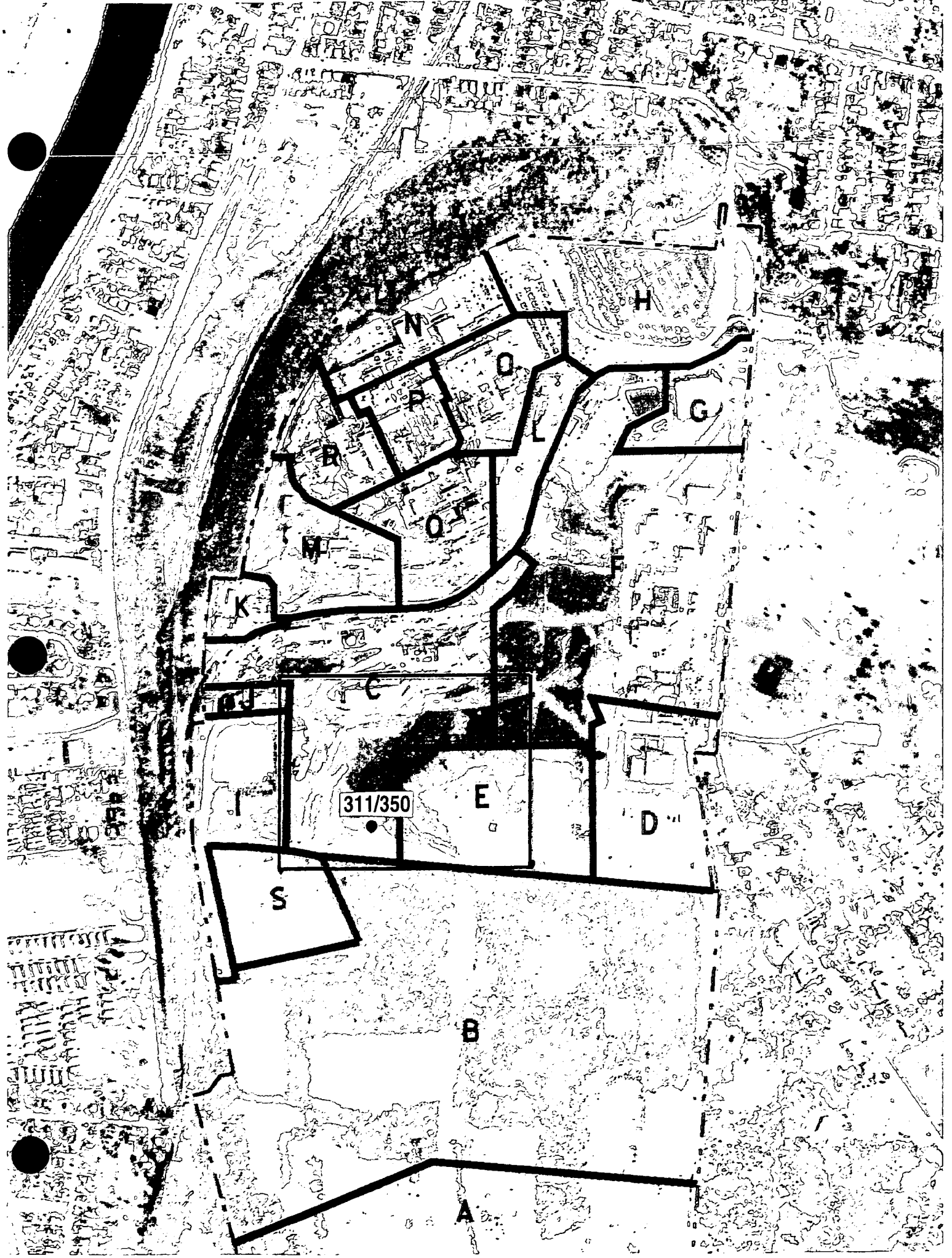



# MOUND PLANT

## Release Block C

## Potential Release Site

## PRS 311/350



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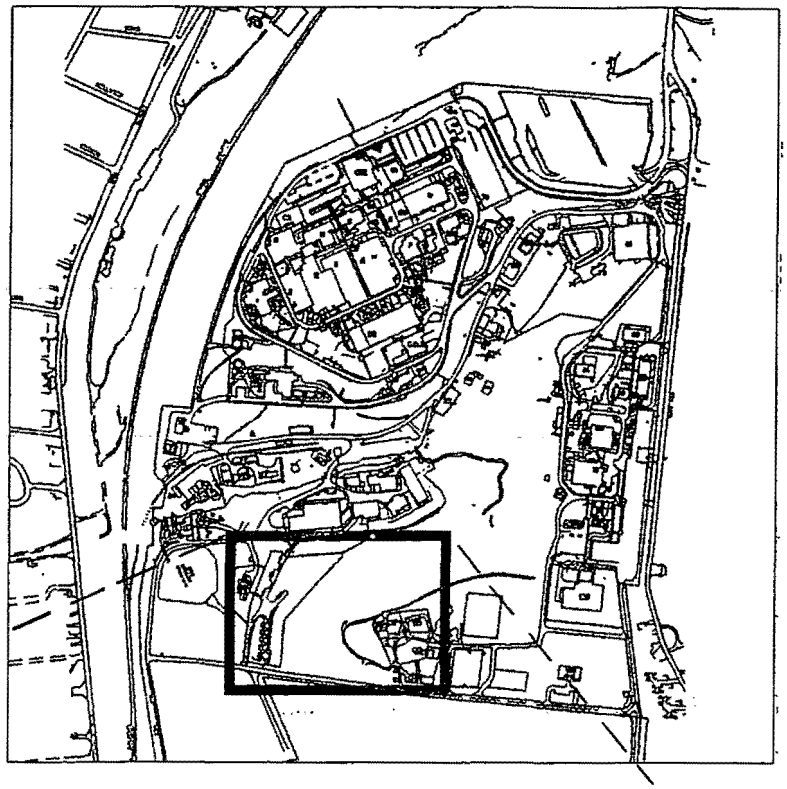
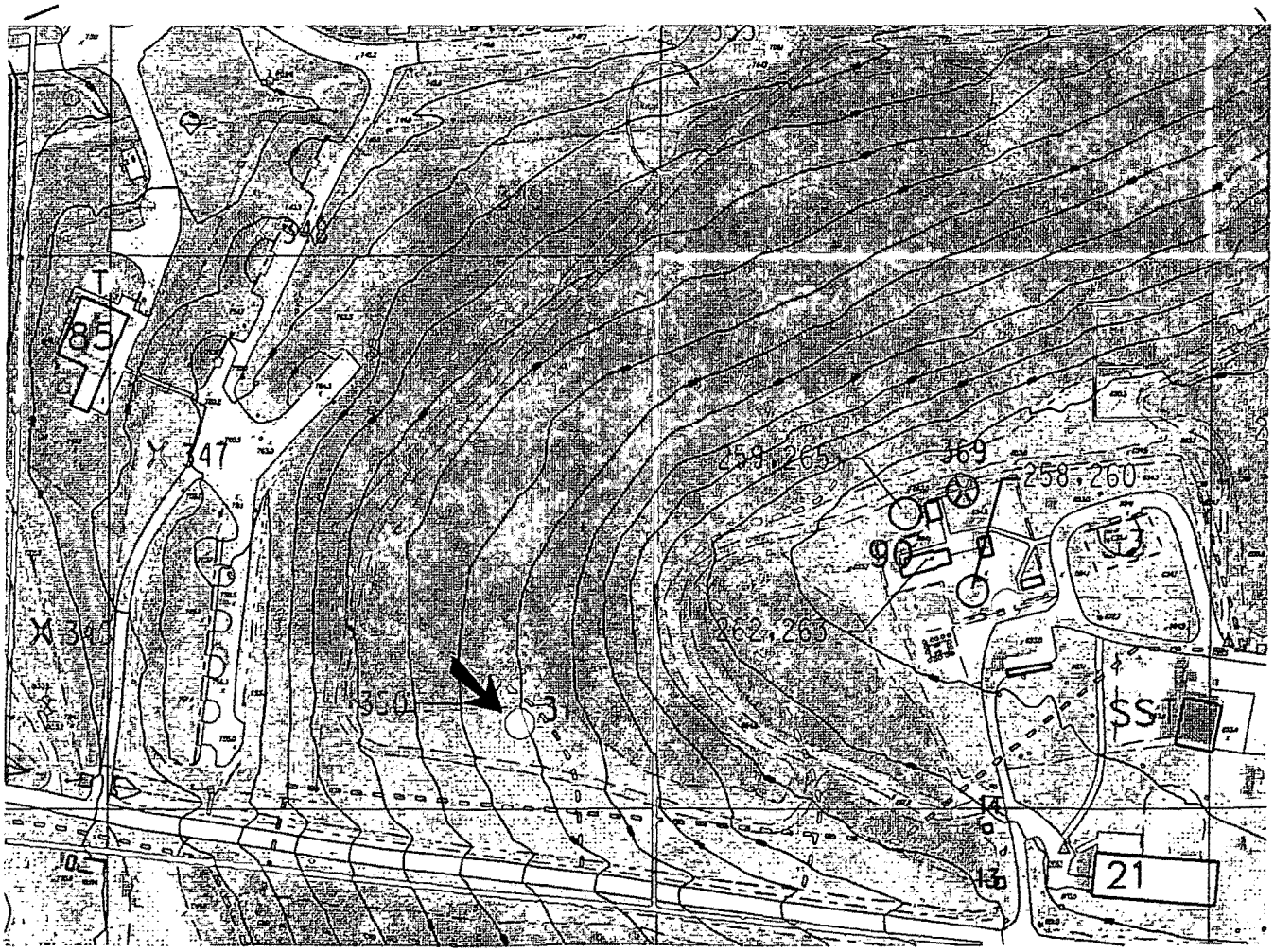
# MOUND PLANT

## Release Block C

## Potential Release Site

## PRS 311/350





311/350

# PRS 311/350

## PRS HISTORY:

PRS 350 consists of approximately 5 acres of soil west of Building 21. PRS 350 was created due to reported plutonium-238 detections.[3] PRS 311 is a soils location residing approximately 500 feet east of Building 21 and just outside the PRS 350 area.[1] PRS 311 was created due to a single plutonium detection.[1] No radioactive or hazardous processes or activities are known to have occurred at the location of PRS 350 or PRS 311.

## CONTAMINATION:

In December 1994, several soil samples ranging from 25 to 50 pCi/g plutonium-238 were reported in the PRS 350 area.[3] In July of 1983, 28.9 pCi/g of plutonium-238 was identified in a single surface soil sample at location PRS 311.[2]

All reported plutonium-238 detections at PRS 311/350 were less than the plutonium-238 removal criteria used for the Miami-Erie Canal Removal Action (75 pCi/g).

## READING ROOM REFERENCES:


1) OU9, Site Scoping Report: Volume 12 - Site Summary Report. (pages 5-7)
2) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey Report. (pages 8-14)
3) OU5, Area Phase I Investigation Report, December 1994. (pages 15-26)
4) OU5, Operational Area Phase I Investigation Non-AOC Report, Volume II, Appendices A-G. (pages 27-31))


## PREPARED BY:


George Liebson, Member of EG&G Technical Staff
Eric Horstman, Member of EG&G Technical Staff

# MOUND PLANT
# PRS 311/350
# SOIL CONTAMINATION AREA
# WEST OF BUILDING 21

## RECOMMENDATION:

Potential Release Site (PRS) 311 was identified during a 1983 site survey project which discovered an isolated plutonium-238 reading of 29 pCi/g. This value is below the DOE clean-up standard of 100 pCi/g and the OU4 canal clean-up level of 75 pCi/g for plutonium as well as the $10^{-5}$ risk guideline value of 55 pCi/g. An isolated thorium-232 measurement of 2 pCi/g was below the D&D clean-up level of 5 pCi/g surface and 15 pCi/g subsurface for thorium, therefore, NO FURTHER ASSESSMENT is recommended for PRS 311.

PRS 350 consists of detectable plutonium-238 concentrations (25-50 pCi/g) discovered in the vicinity of PRS 311 during the OU5 Phase I Investigation in 1994. Plutonium concentrations were below the DOE clean-up standard of 100 pCi/g , the OU4 canal clean-up level of 75 pCi/g for plutonium , and the $10^{-5}$ risk guideline value of 55 pCi/g. . No radiological processes are known to have occurred at the location of PRS 350 and the age of the area's vegetation suggests that the area of PRS 350 did not experience any large scale earth moving operations that could have deposited contamination from another area of the plant. Based upon this information, PRS 350 is recommended for NO FURTHER ASSESSMENT.

## CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, 2/28/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer, 3/4/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel, 3/4/96
Brian K. Nickel, Project Manager (date)

## SUMMARY OF COMMENTS AND RESPONSES:

Comment period from March 18, 1996 to April 1, 1996.

☒ No comments were received during the comment period.

☐ Comment responses can be found on page_____ of this package.

# REFERENCE MATERIAL
# PRS 311/350

ENVIRONMENTAL RESTORATION PROGRAM

# OPERABLE UNIT 9

# SITE SCOPING REPORT:

# VOLUME 12 - SITE SUMMARY REPORT

## MOUND PLANT

## MIAMISBURG, OHIO

December 1994

U.S. DEPARTMENT OF ENERGY

OHIO FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM

EG&G MOUND APPLIED TECHNOLOGIES

FINAL

| Description of History and Nature of Waste Handling | | | | | | Hazardous Conditions and Incidents | | | Environmental Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | Site Name | Location | Status | Potential Hazardous Substances | Ref | Releases | Media | Ref | Analytes[a] | Results | Ref |
| 300 | Area 19, Underground Waste Transfer Line | G-6<br>G-7<br>G-8<br>G-9 | Historical | Plutonium-238, Nitric acid | 1, 4, 5, 18 | Plutonium-238 | S | 1, 6, 18 | 14 | Tables B.1, B.6, B.7, and B.8 | 6, 8 |
| 301 | Building 38 In-Line Incinerator | G-9 | Historical | Plutonium-238 | 2, 4 | None Suspected D&D 1986 | | | No Data - pending verification | | |
| 302 | Area D, Acid Leach Field | H-8<br>H-9<br>G-8<br>G-9 | Historical | Plutonium-238, Thorium | 1, 4, 5, 18 | Plutonium-238 | S | 6 | 4, 6<br>14 | Tables B.6, B.7, and B.8<br>Table B.1 (Table IV.10 in Ref. 6) | 8<br>6 |
| 303 | Warehouse 14 (AKA Pad 14) | G- 9 | Grounds | Thorium sludge constituents<br>Plutonium-238 | 4 | None Suspected | | | 14 | Table B.9 RSS[c] Locations C0127 and C0128 (Appendix E in Ref. 6) | 6 |
| 304 | Excavated Materials Disposal Area (AKA Rader's Hill) | I-8 | Grounds | Thorium | 4 | Thorium < 2 pci/gm | S | 6 | 14 | Table B.1 | 6 |
| 305 | SM Stack | G-9 | In service | Plutonium-238 | 4 | None suspected beyond routine emissions | A | 4, 18 | No Data | | |
| 306 | SM/PP Hill Seep 0609 | L-9 | NA | None suspected | 5, 18 | None suspected | | | No Data | | |
| 307 | Site Survey Project Potential Hot Spot Location C0007 | E-9 | Grounds | Thorium | 6 | Isolated activity from unknown source | | | 14 | Table B.9 (Appendix E in Ref. 6) | 6 |
| 308 | Site Survey Project Potential Hot Spot Location C0028 | F-10 | Grounds | Thorium | 6 | | | | | | |
| | Site Survey Project Potential Hot Spot Location S0307 | F-9 | Grounds | Thorium | 6 | | | | | | |
| | Site Survey Project Potential Hot Spot Location S0647 | H-9 | Grounds | Cesium-137 | 6 | | | | 15 | Table B.9 (Appendix E in Ref. 6) | 6 |

| Description of History and Nature of Waste Handling | | | | | | Hazardous Conditions and Incidents | | | Environmental Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | Site Name | Location | Status | Potential Hazardous Substances | Ref. | Releases | Media | Ref. | Analytes[a] | Results | Ref. |
| 311 | Site Survey Project Potential Hot Spot Location S0706 | I-6 | Grounds | Plutonium-238 | 6 | (Cont.) | | | 13 | Table B.9 (Appendix E in Ref. 6) | 6 |
| 312 | Site Survey Project Potential Hot Spot Location S0971 | J-9 | Grounds | Thorium | 6 | | | | 14 | Table B.9 (Appendix E in Ref. 6) | 6 |
| 313 | Site Survey Project Potential Hot Spot Location S0982 | I-8 | Grounds | Thorium | 6 | | | | | | |
| 314 | Farm Trash Area | M-5 | Historical | Waste oil | 5, 18 | Suspected, not confirmed | | | 3, 4, 5, 6<br>14 | Tables B.6, B.7, and B.8<br>Table B.9 RSS[c] Location S0237 (Appendix E in Ref. 6) | 7<br>6 |
| 315 | Waste Transport Vehicles | SITE-WIDE | In service | Explosives Programs wastes<br>Mixed wastes<br>Laboratory chemicals<br>Low activity wastewater from SM/PP Complex to WD Building | 4, 5, 18 | None Suspected | | | No Data | | |
| 316 | Trash Dumpsters | SITE-WIDE | In service | Solid wastes | 4, 5, 18 | None Suspected | | | No Data | | |
| 317 | Ventilation Hoods | SITE-WIDE | In service | Paint fumes, Acidic and caustic gases<br>Asbestos, Acetone, Trichloroethylene, Benzene, Chloroform, Toluene | 4, 5, 18 | None Suspected | | | No Data | | |
| | Transformers | SITE-WIDE | In service | Polychlorinated biphenyls | 4 | All PCB oils replaced | | | No Data | | |
| | Epoxy Resin Disposal | G-7<br>H-7 | In service | Epoxy resins | 5, 18 | None Suspected | | | No Data | Table B.9 | 6 |
| | Dayton Unit I | Dayton | Historical | Radioisotopes (including plutonium-239)<br>Spent acids (including hydrochloric acid) | 1, 4 | None Suspected | | | No Data | | |

1 - Soil Gas Survey - Freon 11, Freon 113, Trans-1,2-Dichloroethylene, Cis-1,2-Dichloroethylene, 1,1,1-Trichloroethane, Perchloroethylene, Trichloroethylene, Toluene
2 - Gamma Spectroscopy - Thorium-228, -230, Cobalt-60, Cesium-137, Radium-224, -226, -228, Americium-241, Actinium-227, Bismuth-207, Bismuth-210m, Potassium-40
3 - Target Analyte List
4 - Target Compound List (VOC)
5 - Target Compound List (SVOC)
6 - Target Compound List (Pesticides/Polychlorinated Biphenyl)
7 - Dioxins/Furans
8 - Extractable Petroleum Hydrocarbons (EPH)/Total Petroleum Hydrocarbons (TPH)
9 - Lithium
10 - Nitrate/Nitrite
11 - Chloride
12 - Explosives
13 - Plutonium-238
14 - Plutonium-238, Thorium-232
15 - Cobalt-60, Cesium-137, Radium-226, Americium-241
16 - Tritium

Reference List


1. DOE 1986 "Phase I: Installation Assessment Mound [DRAFT]."
2. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (Final)."
3. DOE 1992c "Mound Plant Underground Storage Tank Program Plan & Regulatory Status Review (Final)."
4. DOE 1993a "Site Scoping Report: Vol. 7 - Waste Management (FINAL)."
5. EPA 1988a "Preliminary Review/Visual Site Inspection for RCRA Facility Assessment of Mound Plant"
6. DOE 1993d "Operable Unit 9, Site Scping Report: Vol. 3 - Radiological Site Survey (FINAL)."
7. DOE 1993c "Operable Unit 3, Misc. Sites Limited Field Investigation Report."
8. DOE 1992d "Reconnaissance Sampling Report Decontamination & Decommissioning Areas, OU6, (FINAL)."
9. Fentiman 1990 "Characterization of Mound's Hazardous, Radioactive and Mixed Wastes."
10. DOE 1992f "Operable Unit 9, Site Scpoing Report: Vol. 9 - Spills and Response Actions (FINAL)."
11. Styron and Meyer 1981"Potable Water Standards Project: Final Report."
12. DOE 1993b "Reconnaissance Sampling Report - Soil Gas Survey & Geophysical Investigations, Mound Plant Main Hill and SM/PP Hill (FINAL)."
13. DOE 1993d "Operable Unit 9, Site Scoping Report: Vol. 3 - Radiological Site Survey (FINAL)."
14. DOE 1991b "Main Hill Seeps, Operable Unit 2, On-Scene Coordinator Report for CERCLA Section 104 Remedial Action, West Powerhouse PCB Site."
15. Halford 1990 "Results of South Pond Sampling."
16. DOE 1993e "Operable Unit 4, Special Canal Sampling Report, Miami Erie Canal."
17. DOE 1990 "Preliminary Results of Reconnaissance Magnetic Survey of Mound Plant Areas 2, 6, 7, and C."
18. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (FINAL)."
19. Rogers 1975 "Mound Laboratory Environmental Plutonium Study, 1974."
20. DOE 1992h "Ground Water and Seep Water Quality Data Report Through First Quarter, FY92."
21. Dames and Moore 1976a, b "Potable Water Standards Project Mound Laboratory" and "Evaluation of the Buried Valley Aquifer Adjacent to Mound Laboratory."
22. DOE 1992l "Closure Report, Building 34 - Aviation Fuel Storage Tank."
"Closure Report, Building 51 - Waste Storage Tank."
"Operable Unit 1, Remedial Investigation Report."
"Active Underground Storage Tank Plan."

Document Control No. DGC

W.P. DAVIS

Environmental Restoration Program

# OPERABLE UNIT 9, SITE SCOPING REPORT
# VOLUME 3 - RADIOLOGICAL SITE SURVEY

MOUND PLANT
MIAMISBURG, OHIO

June 1993

FINAL

Department of Energy
Albuquerque Field Office

Environmental Restoration Program
EG&G Mound Applied Technologies

The drilling and sampling were performed using an auger drill rig and a 2-ft, split-barrel sampler. As the split-barrel sampler was removed from the borehole, it was monitored for radioactivity contamination by Mound Plant health physics personnel using a FIDLER to detect radioactivity contamination that would pose a hazard to the workers present. After the soil was removed from the sampler and placed in sample containers, field team members wearing gloves brushed the remaining soil out of the sampler. The gloves were then monitored with an alpha scintillometer before the split-barrel sampler was used again. However, no standard decontamination was performed.

The core locations are shown in Plate 1. The core locations were surveyed by a licensed surveyor after drilling was completed. The available reports submitted to Mound Plant by the drilling subcontractors are presented in Appendix B.

### 2.1.4. Sample Analyses

#### 2.1.4.1. FIDLER Screening

In order to identify samples with concentrations of plutonium-238 exceeding 25 pCi/g and total thorium exceeding 2 pCi/g, all of the soil samples collected were pulverized and then screened using a Bicron® FIDLER at the Mound Plant Soil Screening Facility, known as trailer 15 at the time of the Site Survey Project. The Soil Screening Facility is now located in the H Building at Mound Plant (Plate 1). The minimum detectable activity at which plutonium-238 can be reliably detected at the Mound Plant screening facility is estimated to be 25 pCi/g (Draper 1986b). The detection of plutonium-238 at lesser concentrations (12-25 pCi/g) was unreliable and had an estimated error of ±75 percent. The estimated error decreased with increasing sample activity; for samples with 25 to 100 pCi/g of plutonium-238, the estimated error was ±35 percent, and for samples with >100 pCi/g, the estimated error was ±30 percent (Casella and Bishop 1984). The minimum detectable activity for thorium from FIDLER screening was estimated to be about 2 pCi/g (Stought et al. 1988). The Mound Plant procedure for screening soil samples is provided in Appendix A.

#### 2.1.4.2. Radiochemical Analysis for Plutonium-238

Because of the high error (±75 percent) involved in the FIDLER screening of samples containing less than 25 pCi/g of plutonium-238, all soil samples were radiochemically analyzed by Mound Plant for plutonium-238. The lower detection limit (LDL) for plutonium-238 by this method was estimated to be 0.01 pCi/g, with a relative precision (two standard deviations) of 25 percent. The overall precision of the plutonium-238 measurements was reported to be about 18 percent (DOE 1991b). The Mound

Plant procedure for the radiochemical analysis of soil samples for plutonium-238 is provided in Appendix A.

### 2.1.4.3. Radiochemical Analysis for Thorium

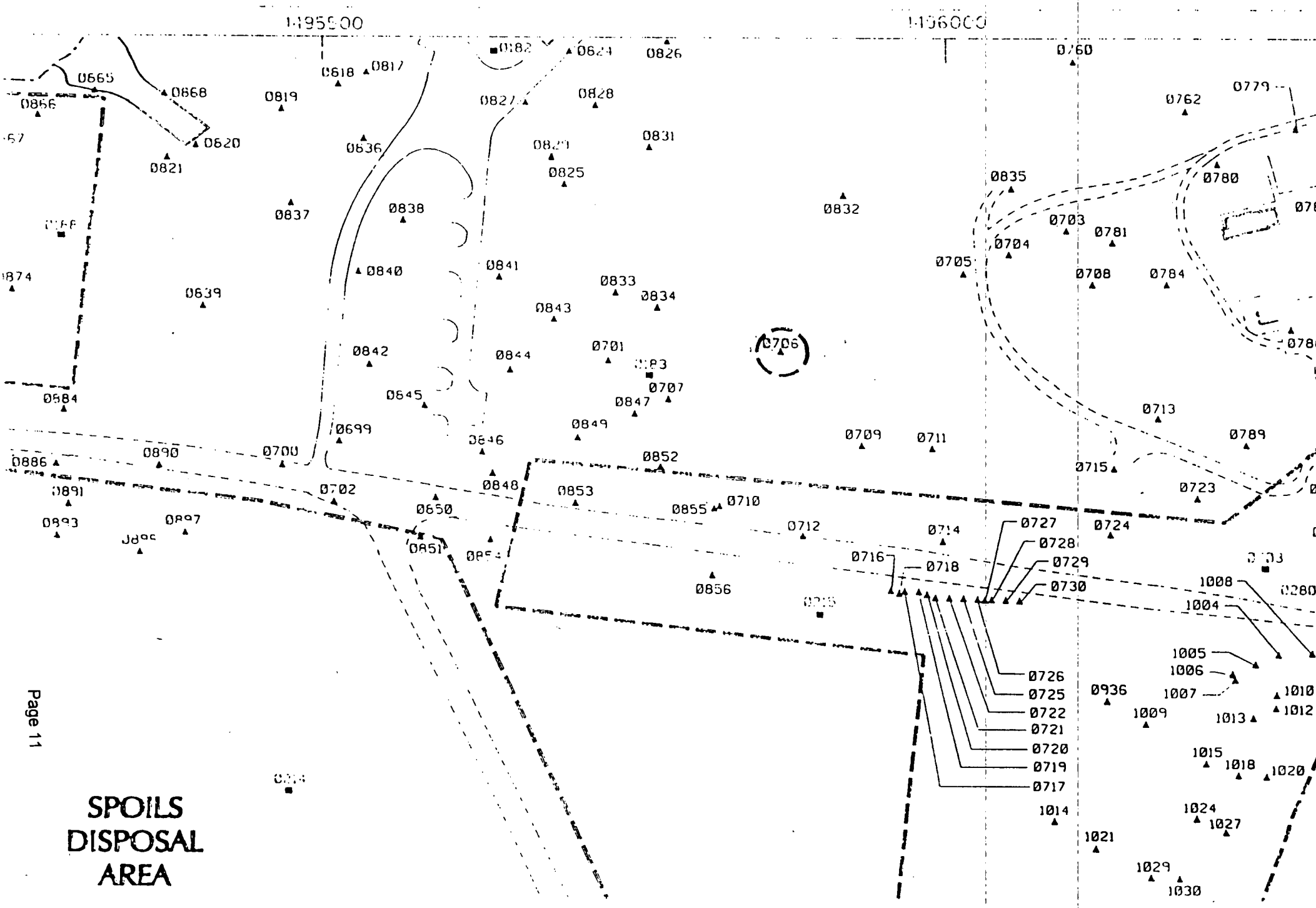
Samples with thorium concentrations in excess of 2 pCi/g by FIDLER screening were also radiochemically analyzed for thorium, resulting in the radiochemical analysis of about 12 percent of the samples. The LDLs for the thorium isotopes using radiochemical procedures were estimated to be

- 0.3 pCi/g for thorium-228, with a relative precision of 60 percent;
- 0.3 pCi/g for thorium-230, with a relative precision of 30 percent; and
- 0.1 pCi/g for thorium-232, with a relative precision of 70 percent.

The overall precision for the thorium measurement was reported to be about 25 percent. The thorium results were reported in pCi of total thorium per gram of soil, isotopes were not identified. The Mound Plant procedure for the radiochemical analysis of soil samples for thorium is provided in Appendix A.

### 2.1.4.4. Gamma Spectroscopy

Gamma spectroscopy was performed by Mound Plant on approximately 350 (18 percent) of the soil samples in order to verify the identity of the radionuclides present when screening indicated the presence of gamma-emitting radionuclides, but little excess plutonium or thorium was identified by radiochemical analysis. Gamma spectroscopy is capable of detecting a variety of gamma-emitting radionuclides. The radionuclides detected in samples collected during the Site Survey Project included cobalt-60, cesium-137, radium-226, actinium-227, and americium-241. No other gamma-emitting radionuclides with gamma energies below 1.5 millielectron volts (MeV) were detected, although the project report stated that subsequent sampling and analysis in some areas indicated bismuth-207 and bismuth 210m. No polonium-210 peaks were detected in the Site Survey Project samples, confirming that polonium-210, which was used at Mound Plant in the 1950s, is no longer present due to radioactive decay (half-life of 138.4 days). The LDLs for cesium-137, cobalt-60, and americium-241 were given with the original data, and were estimated to be 0.5 pCi/g for each. The LDLs for radium-226 and actinium-227 were estimated to be 1.0 pCi/g for both (Stought 1990). The Mound Plant procedure for gamma spectroscopy is provided in Appendix A.




SPOILS DISPOSAL AREA

# RADIOCHEMICAL ANALYSIS

| Map Location[a] | Coordinates South | Coordinates West | MRC ID No. | Mo-Yr | Depth (inch) | Pu-238 (pCi/g) | Thorium[b] (pCi/g) | Tritium (pCi/mL) | Co-60 (pCi/g) | Cs-137 (pCi/g) | Ra-226 (pCi/g) | Am-241 (pCi/g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S0701 | 3275 | 4165 | 2937 | 10-83 | 0 | 0.37 | b | | | | | |
| S0702 | 3295 | 4415 | 2934 | 10-83 | 0 | 0.16 | b | | | | | |
| S0703 | 3325 | 3785 | 5851 | 07-84 | 0 | 0.51 | b | | | | | |
| S0704 | 3325 | 3835 | 4019 | 10-83 | 0 | 0.11 | b | | | | | |
| S0705 | 3325 | 3875 | 5852 | 07-84 | 0 | 0.24 | b | | | | | |
| S0706 | 3325 | 4035 | 4021 | 07-84 | 0 | 28.90 | b | | | | | |
| S0707 | 3325 | 4135 | 5853 | 07-84 | 0 | 0.37 | b | | | | | |
| S0708 | 3375 | 3785 | 5850 | 07-84 | 0 | 0.05 | b | | | | | |
| S0709 | 3425 | 4010 | 5855 | 07-84 | 0 | 7.67 | b | | | | | |
| S0710 | 3425 | 4135 | 5854 | 07-84 | 0 | 0.30 | b | | | | | |
| S0711 | 3450 | 3960 | 4018 | 10-83 | 0 | 1.88 | b | | | | | |
| S0712 | 3475 | 4085 | 5856 | 07-84 | 0 | 7.84[c] | 25.25[c] | | | | | |
| S0713 | 3500 | 3785 | 5849 | 07-84 | 0 | 0.23 | b | | | | | |
| S0714 | 3525 | 3985 | 5857 | 07-84 | 0 | 3.01 | b | | | | | |
| S0715 | 3525 | 3835 | 4017 | 10-83 | 0 | 0.45 | b | | | | | |
| S0716 | 3545 | 4040 | 10466 | 08-85 | 0 | 3.06 | b | | | | | |
| S0717 | 3550 | 4030 | 10465 | 08-85 | 0 | 12.05 | b | | | | | |
| S0718 | 3550 | 4035 | 4020 | 10-83 | 0 | 0.28 | b | | | | | |
| S0719 | 3555 | 4020 | 10464 | 08-85 | 0 | 17.10 | b | | | | | |

| f Map Location[a] | Coordinates South | West | MRC ID No. | Mo-Yr | Depth (inch) | Pu-238 (pCi/g) | Thorium[b] (pCi/g) | Tritium (pCi/mL) | Co-60 (pCi/g) | Cs-137 (pCi/g) | Ra-226 (pCi/g) | Am-241 (pCi/g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C0289 | 2422.7 | 2081.0 | None[d] | 07-84 | 0 | NR | 0.6 | | | | | |
| | | | None[d] | 07-84 | 12 | NR | 1.1 | | | | | |
| | | | None[d] | 07-84 | 24 | NR | 0.5 | | | | | |
| | | | None[d] | 07-84 | 36 | NR | 0.8 | | | | | |
| | | | None[d] | 07-84 | 48 | NR | 1.0 | | | | | |
| | | | None[d] | 07-84 | 60 | NR | 0.8 | | | | | |
| C0290 | 2401.5 | 2102.1 | None[d] | 07-84 | 0 | NR | 0.7 | | | | | |
| | | | None[d] | 07-84 | 12 | NR | 0.8 | | | | | |
| | | | None[d] | 07-84 | 24 | NR | 0.8 | | | | | |
| | | | None[d] | 07-84 | 36 | NR | 0.8 | | | | | |
| | | | None[d] | 07-84 | 48 | NR | 0.6 | | | | | |
| | | | None[d] | 07-84 | 60 | NR | 0.9 | | | | | |
| | | | None[d] | 07-84 | 72 | NR | 0.8 | | | | | |
| C0291 | 2915.3 | 2490.3 | None[d] | 07-84 | 0 | NR | 0.6 | | | | | |
| | | | None[d] | 07-84 | 12 | NR | 0.4 | | | | | |
| | | | None[d] | 07-84 | 24 | NR | 0.5 | | | | | |
| | | | None[d] | 07-84 | 36 | NR | 0.4 | | | | | |
| | | | None[d] | 07-84 | 48 | NR | 0.4 | | | | | |
| | | | None[d] | 07-84 | 60 | NR | 0.3 | | | | | |
| | | | None[d] | 07-84 | 72 | NR | 0.5 | | | | | |
| | | | None[d] | 07-84 | 84 | NR | 0.4 | | | | | |
| | | | None[d] | 07-84 | 96 | NR | 0.7 | | | | | |
| | | | None[d] | 07-84 | 108 | NR | 0.6 | | | | | |
| | | | None[d] | 07-84 | 120 | NR | 0.3 | | | | | |
| | | | None[d] | 07-84 | 132 | NR | 0.3 | | | | | |
| S1092 | 2185 | 3362 | 8413 | 12-84 | f | 0.31 | 323.5[g] | | | | | |

[redacted] location on Plate 1.

[b]Thorium results of ≤ 2 pCi/g are listed as "b".

[redacted] Verification sample analyzed for QA/QC.

[d]No MRC ID assigned because *in situ* gamma spectrometry was performed for thorium-232.

[e]Gamma results could not be confirmed using the gamma spectroscopy printout given in this appendix.

[f]This sample was given as "SS". For mapping purposes (Plates 1 and 5), this is assumed to be a surface sample.

[g]Results were given isotopically for this sample and included 0.99 pCi/g thorium-228; 321 pCi/g thorium-230; and 1.5 pCi/g thorium-232, for a total of 323.5 pCi/g.

LDL - The sample result was below the Lower Detection Limit, which was estimated to be 0.5 pCi/g for cesium-137, cobalt-60, and americium-241. The LDL for radium-226 or actinium-227 was estimated to be 1 pCi/g.

NR - No result provided. (Note: no samples were taken for plutonium-238 when *in situ* gamma spectrometry was performed.)

Document Control No.

Environmental Restoration Program

# OPERABLE UNIT 5
# OPERATIONAL AREA PHASE I INVESTIGATION
# NONACQUIFER REPORT

MOUND PLANT
MIAMISBURG, OHIO

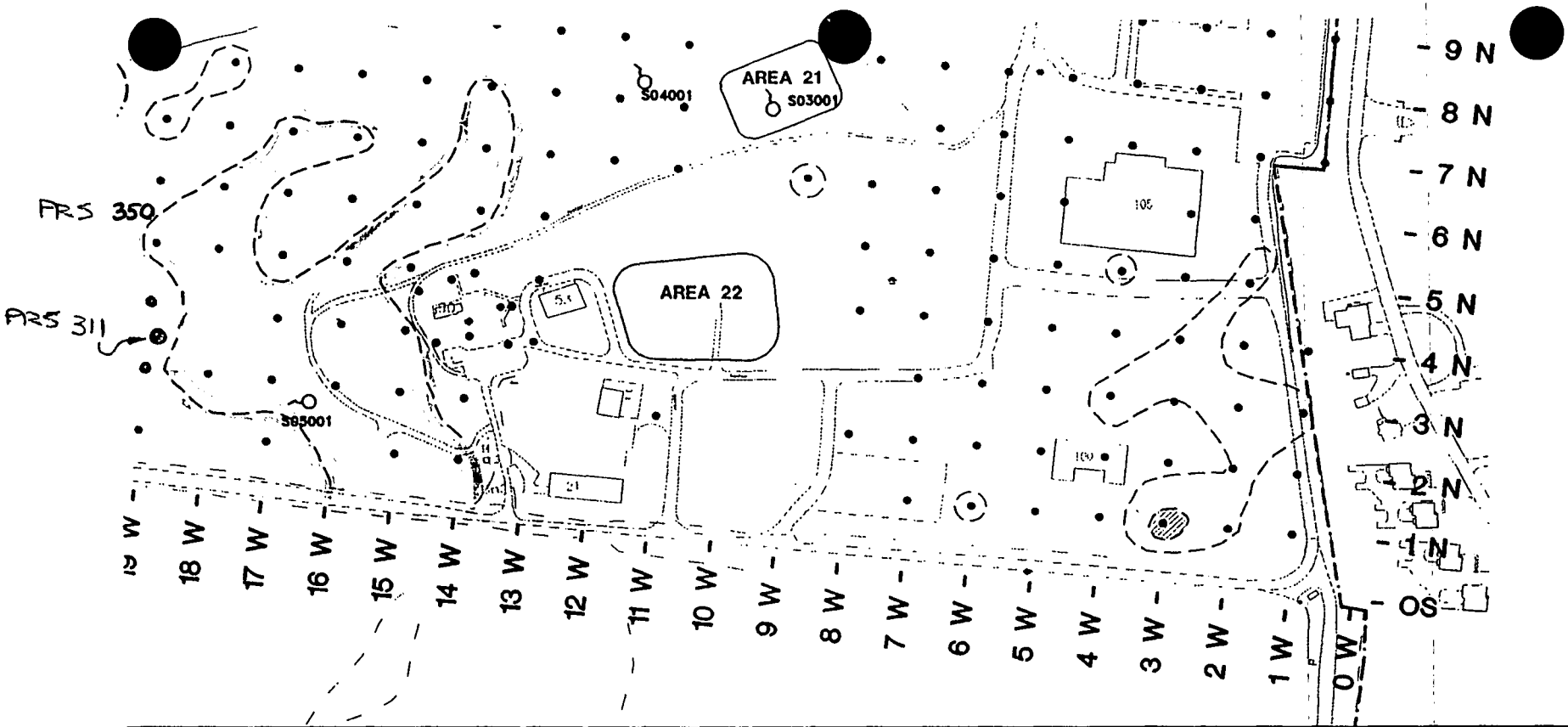
VOLUME I - TEXT

June 1995

Final (Revision 0)

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies




TE 3

TITLE:

# LOCATIONS OF ELEVATED SURFACE SOIL PU-238 ACTIVITY

Structures

Plant Boundary

Paved/Unpaved Roadway

Ephemeral Stream

OU5 Boundary

Non-AOC Sampling and Survey Locations: Soil Gas Samples, Soil Screening Facility Radiological Samples, and FIDLER Survey

Monitoring Well

Piezometer

1 N - 1 W - Grid Lines

Seeps

Contour for Pu-238 Concentrations Between .25 - 50 pCi/g

Contour for Pu-238 Concentrations - 50 pCi/g

Note: Information on Basemap is Derived from the Weston OU9 Site Scoping Report, 1993, & Referenced to the 1927 Ohio State Plane Coordinate System

AREAS OF SPECIAL INTEREST AND ADDITIONAL SAMPLI

- Surface Soil Sampling Locations (Area H Pyrotechnic Waste Disposal Area and Building 34 Firefighting Training Area
- Soil Gas and Soil Screening Facility Radiological Sampling Locations (Fuel Area and Additional Sampling [a] )
- Soil Screening Facility Radiological Sampling Locati (Additional Sampling [a] )
- Surface and Subsurface Soil Sampling Locations (Building 24)

a OU5 Discussion Paper (See Appendix B)

FIDLER DATA

**Table II.2. Summary of Elevated Surface Radiological Activity in Non-AOC (FIDLER Survey)**
**Page 1 of 5**

| Location | Channel 1 (cpm) | | Channel 2 (kcpm) | | Out Channel (kcpm) |
|---|---|---|---|---|---|
| | CC | RDG | CC | RDG | RDG |
| 1N2 | 114.9 | 130 | 6.4 | 8.0 | a |
| 1N3 | | -- | | 8.0 | a |
| 1N4 | | -- | | 7.0 | a |
| 1N5 | | -- | | 8.0 | a |
| 1N6 | | -- | | 7.5 | a |
| 1N14 | | 120 | | 9.0 | a |
| 1N15 | | -- | | 9.0 | a |
| 2N2 | 102.1 | -- | 5.4 | 9.0 | a |
| 2N3 | | -- | | 8.5 | a |
| 2N5 | | -- | | 6.5 | a |
| 2N6 | | -- | | 6.0 | a |
| 2N8 | | -- | | 6.5 | a |
| 2N14 | | -- | | 8.0 | a |
| 2N15 | 173.2 | -- | 8.7 | 9.0 | a |
| 2N16 | | -- | | 9.5 | a |
| 2N18 | | -- | | 9.5 | a |
| 2N19 | | -- | | 10.0 | a |
| 3N1 | 114.9 | -- | 6.4 | 6.5 | a |
| 3N2 | 149.4 | -- | 6.7 | 8.5 | a |
| 3N3 | | 150 | | 8.5 | a |
| 3N4 | | 150 | | 9.0 | a |
| 3N5 | 136.8 | -- | 5.2 | 7.0 | a |
| 3N6 | | -- | | 6.0 | a |
| 3N16 | 200.1 | -- | 9.7 | 10.0 | a |
| 3N17 | | -- | | 10.5 | a |
| 3N18 | | -- | | 10.0 | a |
| 3N19 | 173.2 | -- | 8.7 | 9.0 | a |

FIDLER DATA

**Table II.2. Summary of Elevated Surface Radiological Activity in Non-AOC (FIDLER Survey)**
**Page 2 of 5**

| Location | Channel 1 (cpm) | | Channel 2 (kcpm) | | Out Channel (kcpm) |
|---|---|---|---|---|---|
| | CC | RDG | CC | RDG | RDG |
| 3N20 | 130 | -- | 5.2 | 9.0 | a |
| 3N21 | | -- | | 8.0 | a |
| 3N22 | 138 | 150 | 7.3 | 8.5 | a |
| 4N4 | 136.8 | -- | 5.2 | 7.0 | a |
| 4N6.5 | | 1000 | | 80.0 | 45.0 |
| 4N5 | | -- | | 5.5 | a |
| 4N7 | | -- | | 6.0 | a |
| 4N13 | 165.3 | -- | 7.6 | 8.5 | a |
| 4N19 | 173.2 | -- | 8.7 | 9.5 | a |
| 4N20 | 130 | -- | 5.2 | 5.5 | a |
| 4N22 | 154 | -- | 6.7 | 8.0 | a |
| 5N13 | 173.2 | -- | 8.7 | 9.5 | a |
| 5N15 | | -- | | 9.5 | a |
| 5N16 | 200.1 | -- | 9.7 | 11.0 | a |
| 5N18 | | -- | | 10.5 | a |
| 5N19 | 130 | -- | 5.2 | 9.5 | a |
| 5N20 | | -- | | 6.5 | a |
| 5N21 | | -- | | 6.0 | a |
| 5N23 | 138 | -- | | 6.5 | a |
| 6N3 | 154 | -- | 6.7 | 9.0 | a |
| 6N7 | 123.1 | 140 | 4.5 | 9.0 | a |
| 6N8 | 177.7 | -- | 9.3 | 9.5 | a |
| 6N9 | | -- | | 9.5 | a |
| 6N11 | 173.2 | -- | 8.7 | 9.5 | a |
| 6N12 | | -- | | 10.0 | a |
| 6N13 | | 190 | 8.7 | 9.5 | a |
| 6N14 | | --- | | 11.0 | a |

FIDLER DATA

**Table II.2. Summary of Elevated Surface Radiological Activity in Non-AOC (FIDLER Survey)**
**Page 3 of 5**

| Location | Channel 1 (cpm) | | Channel 2 (kcpm) | | Out Channel (kcpm) |
|---|---|---|---|---|---|
| | CC | RDG | CC | RDG | RDG |
| 6N15 | 173.2 | -- | 8.7 | 10.0 | a |
| 6N16 | | -- | | 10.0 | a |
| 6N17 | | -- | | 10.0 | a |
| 6N18 | 130 | -- | 5.2 | 9.0 | a |
| 6N19 | | 155 | | 7.5 | a |
| 6N20 | | -- | | 6.5 | a |
| 6N21 | | 180 | | 6.5 | a |
| 7N7 | 123.1 | -- | 4.5 | 5.5 | a |
| 7N11 | 173.2 | -- | 8.7 | 9.5 | a |
| 7N12 | | 175 | | 10.5 | a |
| 7N15 | | -- | | 9.5 | a |
| 7N16 | | -- | | 10.0 | a |
| 7N18 | 130 | 150 | 5.2 | 10.0 | a |
| 7N19 | | -- | | 5.5 | a |
| 7N21 | 154 | -- | 6.7 | 7.5 | a |
| 7N23 | 141.4 | -- | 5.3 | 8.0 | a |
| 7N27 | | -- | | 8.5 | a |
| 8N7 | 123.1 | -- | 4.5 | 8.5 | a |
| 8N8 | | -- | | 7.5 | a |
| 8N12 | 202.4 | -- | 10.4 | 10.5 | a |
| 8N16 | 130 | -- | 5.2 | 6.0 | a |
| 8N17 | | -- | | 6.0 | a |
| 8N20 | | -- | | 5.5 | a |
| 8N23 | 118.4 | -- | 6.9 | 7.0 | a |
| 8N24 | 154 | -- | 6.7 | 7.0 | a |
| 9N1 | 123.1 | -- | 9.9 | 10.5 | a |
| 9N3 | | 125 | 4.5 | 5.0 | a |

Table II.3. Summary of Elevated Surface Soil Radiological Activity in the Non-AOC
Page 1 of 2

MOUND SOIL SCREEN DATA

| Grid Location[a] | Mound Soil Screening Facility Data | |
|---|---|---|
| | Plutonium-238 (pCi/g) | Thorium-232 (pCi/g) |
| 1N2 | 25 | 0.9 |
| 1N3 | 60 | ND |
| 1N6 | 25 | ND |
| 1N14 | 38 | ND |
| 1N15 | 34 | ND |
| 2N2 | 25 | ND |
| 2N15 | 37 | ND |
| 2N16 | 28 | ND |
| 2N17 | 31 | ND |
| 2N18 | 40 | ND |
| 3N1 | 38 | ND |
| 3N2 | 49 | ND |
| 3N3 | 25 | ND |
| 3N4 | 31 | ND |
| 3N15 | 28 | ND |
| 3N16 | 36 | ND |
| 3N17 | 35 | ND |
| 3N18 | 46 | ND |
| 4N3 | 25 | ND |
| 4N16 | 31 | ND |
| 4N18 | 37 | ND |
| 4N19 | 35 | ND |
| 5N2 | 30 | ND |
| 5N4 | 27 | ND |
| 5N14 | 25 | ND |
| 5N15 | 41 | ND |
| 5N18 | 39 | ND |

MOUND SOIL SCREEN DATA

Table II.3. Summary of Elevated Surface Soil Radiological Activity
Page 2 of 2

| Grid Location[a] | Mound Soil Screening Facility Data | |
|---|---|---|
| | Plutonium-238 (pCi/g) | Thorium-232 (pCi/g) |
| 6N9 | 33 | ND |
| 6N14 | 30 | ND |
| 6N16 | 29 | ND |
| 6N17 | 25 | ND |
| 6N19 | 39 | ND |
| 7N14 | 27 | ND |
| 7N18 | 26 | ND |
| 7N23 | 25 | 1 |
| 9N10 | 25 | ND |
| 11N11 | 25 | ND |
| 12N15 | 85 | ND |
| 15N7 | 30 | ND |
| 16N4 | 78 | ND |
| 16N5 | 243 | ND |
| 19N7 | 56 | 15.9 |
| 19N8 | 25<br>39 | 2.4<br>ND |
| 20N6 | 27 | 2.6 |
| 20N7 | 37 | 14.7 |
| 22N4 | ND | 2.0 |
| 23N1 | 25 | ND |
| 23N2 | 26 | 1 |
| 23N5 | 25 | ND |
| B18001 (Building 24) | 38 | 6.7 |
| 21.5N2.5 | 25 | ND |

[a] See Plate 1 for grid location

ND Radiological contamination not detected above the Mound Plant Soil Screening Facility detection limits of 25 pCi/g for Pu-238 and 2 pCi/g for Th-232

# APPENDIX D

## RADIOLOGICAL DATA (FIDLER SURVEY MOUND SOIL SCREENING FACILITY DATA) FOR NON-AOC POINTS

| | FIDLER SURVEY DATA | | | | | MOUND SOIL SCREENING FACILITY DATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| SMPID | Contamination Criteria CH1 | FIDLER Readings CH1 | Contamination Criteria CH2 | FIDLER Readings CH2 | FIDLER Readings Out Channel | Plutonium - 238 | | Thorium - 232 | |
| | Units: CPM | Units: CPM | Units: KCPM | Units: KCPM | Units: KCPM | Units: pCi/g | | Units: pCi/g | |
| | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | Note: | RESULTS | Note: |
| 01N01 | 113 | 60 | 8.06 | 3.2 | NC | 3 | a | 1 | a |
| 01N02 | 113 | 130 | 8.06 | 8.01 | NC | 25 | b | 0.9 | a |
| 01N03 | 113 | 110 | 8.06 | 8.0 | NC | 60 | b | 1.1 | a |
| 01N04 | 113 | 75 | 8.06 | 7.0 | NC | 6 | a | 0.7 | a |
| 01N05 | 113 | 100 | 8.06 | 8.0 | NC | 15 | a | 1.3 | a |
| 01N06 | 113 | 90 | 8.06 | 7.5 | NC | 25 | b | 1.1 | a |
| 01N07 | 113 | 40 | 8.06 | 3.5 | NC | 10 | | 0.3 | a |
| 01N14 | 113 | 120 | 8.06 | 9.0 | NC | 38 | b | 1.1 | a |
| 01N15 | 113 | 105 | 8.06 | 9.0 | NC | 34 | b | 1 | a |
| 01N16 | 210.6 | 130 | 12.22 | 9.0 | NC | NR | | NR | |
| 01N17 | 210.6 | 135 | 12.22 | 9.0 | NC | 21 | a | 0.7 | a |
| 01N18 | 210.6 | 120 | 12.22 | 9.0 | NC | 24 | a | 0.6 | a |
| 01N19 | 210.6 | 135 | 12.22 | 9.0 | NC | NR | | NR | |
| 01N21 | 170.3 | 110 | 9.72 | 7.5 | NC | NR | | NR | |
| 01N22 | 210.6 | 135 | 12.22 | 7.0 | NC | 20 | a | 0.6 | a |
| 01N23 | 210.6 | 145 | 12.22 | 7.0 | NC | 17 | a | 0.9 | a |
| 02N01 | 98.8 | 70 | 6.76 | 4.4 | NC | 12 | a | 0.5 | a |
| 02N02 | 98.8 | 90 | 6.76 | 9.0 | NC | 25 | b | 1 | a |
| 02N03 | 98.8 | 90 | 6.76 | 8.5 | NC | 21 | a | 0.9 | a |
| 02N04 | 98.8 | 30 | 6.76 | 4.5 | NC | NR | | NR | |
| 02N05 | 98.8 | 60 | 6.76 | 6.5 | NC | 19 | a | 0.8 | a |
| 02N06 | 98.8 | 60 | 6.76 | 6.0 | NC | 17 | a | 0.8 | a |
| 02N07 | 98.8 | 60 | 6.76 | 4.5 | NC | 1 | a | 0.4 | a |
| 02N08 | 98.8 | 100 | 6.76 | 6.5 | NC | NR | | NR | |
| 02N11 | 157.3 | 55 | 8.45 | 3.5 | NC | 0 | a | 0.5 | a |
| 02N14 | 98.8 | 110 | 6.76 | 8.0 | NC | 6 | a | 0.5 | a |
| 02N15 | 179.4 | 120 | 10.92 | 9.0 | NC | 37 | b | 1 | a |
| 02N16 | 179.4 | 140 | 10.92 | 9.5 | NC | 28 | b | 1 | a |
| 02N17 | 179.4 | 130 | 10.92 | 6.0 | NC | 31 | b | 0.9 | a |

# APPENDIX D

## RADIOLOGICAL DATA (FIDLER SURVEY MOUND SOIL SCREENING FACILITY DATA) FOR NON-AOC POINTS

| | FIDLER SURVEY DATA | | | | | MOUND SOIL SCREENING FACILITY DATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| SMPID | Contamination Criteria CH1 | FIDLER Readings CH1 | Contamination Criteria CH2 | FIDLER Readings CH2 | FIDLER Readings Out Channel | Plutonium - 238 | | Thorium - 232 | |
| | Units: CPM | Units: CPM | Units: KCPM | Units: KCPM | Units: KCPM | Units: pCi/g | | Units: pCi/g | |
| | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | Note: | RESULTS | Note: |
| 02N18 | 179.4 | 170 | 10.92 | 9.5 | NC | 40 | b | 1 | a |
| 02N19 | 179.4 | 150 | 10.92 | 10.0 | NC | 20 | a | 1 | a |
| 02N20 | 130 | 85 | 6.5 | 6.5 | NC | 18 | a | 1.3 | a |
| 02N21 | 130 | 90 | 6.5 | 6.5 | NC | NR | | NR | |
| 02N22 | 179.4 | 115 | 10.92 | 7.0 | NC | 21 | a | 0.8 | a |
| 02N23 | 179.4 | 80 | 10.92 | 6.5 | NC | 15 | a | 1 | a |
| 03N01 | 113 | 105 | 8.06 | 6.5 | NC | 38 | b | 0.7 | a |
| 03N02 | 152 | 145 | 8.45 | 8.5 | NC | 49 | b | 0.9 | a |
| 03N03 | 152 | 150 | 8.45 | 8.5 | NC | 25 | b | 1 | a |
| 03N04 | 152 | 150 | 8.45 | 9.0 | NC | 31 | b | 0.8 | a |
| 03N05 | 137.8 | 100 | 6.5 | 7.0 | NC | 9 | a | 0.9 | a |
| 03N06 | 137.8 | 100 | 6.5 | 6.0 | NC | 21 | a | 0.7 | a |
| 03N07 | 137.8 | 100 | 6.5 | 5.0 | NC | 13 | a | 0.8 | a |
| 03N13 | 170.3 | 90 | 9.72 | 6.0 | NC | 6 | a | 0.6 | a |
| 03N14 | 170.3 | 75 | 9.72 | 5.5 | NC | 9 | a | 0.5 | a |
| 03N15 | 210.6 | 150 | 12.22 | 9.5 | NC | 28 | b | 1.4 | a |
| 03N16 | 210.6 | 155 | 12.22 | 10.0 | NC | 36 | b | 0.8 | a |
| 03N17 | 210.6 | 150 | 12.22 | 10.5 | NC | 35 | b | 0.8 | a |
| 03N18 | 210.6 | 150 | 12.22 | 10.0 | NC | 46 | b | 0.7 | a |
| 03N19 | 179.4 | 160 | 10.92 | 9.0 | NC | 19 | a | 1.1 | a |
| 03N20 | 130 | 80 | 6.5 | 9.0 | NC | 24 | a | 1.6 | a |
| 03N21 | 130 | 100 | 6.5 | 8.0 | NC | 22 | a | 0.9 | a |
| 03N22 | 139 | 150 | 9.23 | 8.5 | NC | 1 | a | 1.1 | a |
| 03N23 | 139 | 100 | 9.23 | 6.5 | NC | 17 | a | 0.6 | a |
| 04N01 | 157.2 | 65 | 8.45 | 6.1 | NC | 0 | a | 0.8 | a |
| 04N02 | 98.8 | 70 | 6.72 | 4.5 | NC | 7 | a | 0.4 | a |
| 04N03 | 98.8 | 90 | 6.72 | 5.0 | NC | 25 | b | 0.8 | a |
| 04N04 | 137.8 | 120 | 6.5 | 7.0 | NC | 10 | a | 1.1 | a |
| 04N05 | 137.8 | 110 | 6.5 | 5.5 | NC | 20 | a | 1 | a |

# APPENDIX D

## RADIOLOGICAL DATA (FIDLER SURVEY MOUND SOIL SCREENING FACILITY DATA) FOR NON-AOC POINTS

| | FIDLER SURVEY DATA | | | | | MOUND SOIL SCREENING FACILITY DATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| SMPID | Contamination Criteria CH1 | FIDLER Readings CH1 | Contamination Criteria CH2 | FIDLER Readings CH2 | FIDLER Readings Out Channel | Plutonium - 238 | | Thorium - 232 | |
| | Units: CPM | Units: CPM | Units: KCPM | Units: KCPM | Units: KCPM | Units: pCi/g | | Units: pCi/g | |
| | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | Note: | RESULTS | Note: |
| 04N06 | 137.8 | 100 | 6.5 | 5.0 | NC | 0 | a | 0.3 | a |
| 04N6.5 | 137.8 | 1000 | 6.5 | 80 | 45 | NC | | NC | |
| 04N07 | 137.8 | 100 | 6.5 | 6.0 | NC | 19 | a | 0.8 | a |
| 04N08 | 179.4 | 100 | 10.92 | 8.5 | NC | 0 | a | 1.1 | a |
| 04N13 | 170.3 | 130 | 9.72 | 8.5 | NC | 13 | a | 0.7 | a |
| 04N14 | 170.3 | 110 | 9.72 | 6.0 | NC | 16 | a | 1.4 | a |
| 04N15 | 179.4 | 170 | 10.92 | 8.5 | NC | 19 | a | 1.2 | a |
| 04N16 | 179.4 | 140 | 10.92 | 8.0 | NC | 31 | b | 0.8 | a |
| 04N17 | 179.4 | 170 | 10.92 | 8.0 | NC | 15 | a | 1 | a |
| 04N18 | 179.4 | 160 | 10.92 | 8.5 | NC | 37 | b | 1 | a |
| 04N19 | 179.4 | 150 | 10.92 | 9.5 | NC | 35 | b | 1.5 | a |
| 04N20 | 130 | 75 | 6.5 | 5.5 | NC | 21 | a | 1.1 | a |
| 4N21 | 130 | 50 | 6.5 | 4.5 | NC | 11 | a | 0.1 | a |
| 4N22 | 157.3 | 120 | 8.45 | 8.0 | NC | 0 | a | 0.9 | a |
| 4N23 | 139 | 100 | 9.23 | 6.5 | NC | 16 | a | 0.6 | a |
| 5N02 | 253.5 | 115 | 12.48 | 9.0 | NC | 30 | b | 1.2 | a |
| 5N03 | 253.5 | 95 | 12.48 | 5.5 | NC | 16 | a | 1.3 | a |
| 5N04 | 253.5 | 115 | 12.48 | 7.5 | NC | 27 | b | 1.1 | a |
| 5N05 | 253.5 | 105 | 12.48 | 7.0 | NC | 1 | a | 0.8 | a |
| 05N06 | 184.6 | 70 | 11.7 | 4.0 | NC | 0 | a | 0.3 | a |
| 05N07 | 184.6 | 160 | 11.7 | 6.5 | NC | 0 | a | 0.8 | a |
| 05N08 | 184.6 | 125 | 11.7 | 8.5 | NC | 18 | a | 1.2 | a |
| 05N13 | 179.4 | 145 | 10.92 | 9.5 | NC | 16 | a | 1.2 | a |
| 05N14 | 179.4 | 120 | 10.92 | 7.0 | NC | 25 | b | 0.2 | a |
| 05N15 | 179.4 | 140 | 10.92 | 9.5 | NC | 41 | b | 0.5 | a |
| 05N16 | 210.6 | 140 | 12.22 | 11.0 | NC | 16 | a | 1.1 | a |
| 05N17 | 210.6 | 145 | 12.22 | 9.0 | NC | 18 | a | 1 | a |
| 05N18 | 210.6 | 165 | 12.22 | 10.5 | NC | 39 | b | 0.8 | a |
| 05N19 | 130 | 105 | 6.5 | 9.5 | NC | 7 | a | 0.9 | a |

# APPENDIX D

## RADIOLOGICAL DATA (FIDLER SURVEY MOUND SOIL SCREENING FACILITY DATA) FOR NON-AOC POINTS

| | FIDLER SURVEY DATA | | | | | MOUND SOIL SCREENING FACILITY DATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| SMPID | Contamination Criteria CH1 | FIDLER Readings CH1 | Contamination Criteria CH2 | FIDLER Readings CH2 | FIDLER Readings Out Channel | Plutonium - 238 | | Thorium - 232 | |
| | Units: CPM | Units: CPM | Units: KCPM | Units: KCPM | Units: KCPM | Units: pCi/g | | Units: pCi/g | |
| | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | Note: | RESULTS | Note: |
| 05N20 | 130 | 105 | 6.5 | 6.5 | NC | 18 | a | 0.9 | a |
| 05N21 | 130 | 95 | 6.5 | 6.0 | NC | 3 | a | 0.6 | a |
| 05N22 | 157.3 | 65 | 8.45 | 4.0 | NC | 20 | a | 0.9 | a |
| 05N23 | 139 | 105 | 9.23 | 6.5 | NC | 23 | a | 0.8 | a |
| 06N02 | 157.3 | 75 | 8.45 | 6.5 | NC | 19 | a | 1.3 | a |
| 06N03 | 157.3 | 120 | 8.45 | 9.0 | NC | 1 | a | 1.1 | a |
| 06N05 | 253.5 | 90 | 12.48 | 5.0 | NC | 14 | a | 1 | a |
| 06N06 | 122.2 | 90 | 5.59 | 4.5 | NC | 11 | a | 0.8 | a |
| 06N07 | 122.2 | 140 | 5.59 | 9.0 | NC | 0 | a | 1.7 | a |
| 06N08 | 184.6 | 115 | 11.7 | 9.5 | NC | 24 | a | 1.4 | a |
| 06N09 | 184.6 | 150 | 11.7 | 9.5 | NC | 33 | b | 1 | a |
| 06N11 | 179.4 | 150 | 10.92 | 9.5 | NC | 20 | a | 0.8 | a |
| 06N12 | 179.4 | 175 | 10.92 | 10.0 | NC | 10 | a | 0.8 | a |
| | | | | | | 13 | a | 0.8 | a |
| 06N13 | 179.4 | 190 | 10.92 | 9.5 | NC | 13 | a | 0.8 | a |
| 06N14 | 179.4 | 160 | 10.92 | 11.0 | NC | 30 | b | 1.3 | a |
| 06N15 | 179.4 | 165 | 10.92 | 10.0 | NC | 6 | a | 1 | a |
| 06N16 | 179.4 | 140 | 10.92 | 10.0 | NC | 29 | b | 0.8 | a |
| 06N17 | 179.4 | 150 | 10.92 | 10.0 | NC | 25 | b | 1.3 | a |
| 06N18 | 130 | 125 | 6.5 | 9.0 | NC | 7 | a | 0.9 | a |
| 06N19 | 130 | 155 | 6.5 | 7.5 | NC | 39 | b | 1.2 | a |
| 06N20 | 130 | 130 | 6.5 | 6.5 | NC | 18 | a | 1.1 | a |
| 06N21 | 130 | 80 | 6.5 | 6.5 | NC | 1 | a | 0.7 | a |
| 06N22 | 139 | 125 | 9.23 | 5.5 | NC | NR | | NR | |
| 06N23 | 139 | 85 | 9.23 | 4.0 | NC | 18 | a | 0.5 | a |
| 07N01 | 253.5 | 140 | 12.48 | 8.5 | NC | 22 | a | 1.3 | a |
| 07N02 | 115.7 | 65 | 6.11 | 4.5 | NC | 24 | a | 0.7 | a |
| 07N03 | 253.5 | 140 | 12.48 | 9.5 | NC | 21 | a | 1.5 | a |
| 07N04 | 253.5 | 135 | 12.48 | 8.5 | NC | 0 | a | 1.2 | a |

# APPENDIX D

## RADIOLOGICAL DATA (FIDLER SURVEY MOUND SOIL SCREENING FACILITY DATA) FOR NON-AOC POINTS

| | FIDLER SURVEY DATA | | | | | MOUND SOIL SCREENING FACILITY DATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| SMPID | Contamination Criteria CH1 | FIDLER Readings CH1 | Contamination Criteria CH2 | FIDLER Readings CH2 | FIDLER Readings Out Channel | Plutonium - 238 | | Thorium - 232 | |
| | Units: CPM | Units: CPM | Units: KCPM | Units: KCPM | Units: KCPM | Units: pCi/g | | Units: pCi/g | |
| | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | RESULTS | Note: | RESULTS | Note: |
| 07N05 | 253.5 | 125 | 12.48 | 8.5 | NC | 11 | a | 0.8 | a |
| 07N06 | 122.2 | 85 | 5.59 | 4.5 | NC | 3 | a | 0.3 | a |
| 07N07 | 122.2 | 120 | 5.59 | 5.5 | NC | 12 | a | 0.9 | a |
| 07N11 | 179.4 | 170 | 10.92 | 9.5 | NC | 0 | a | 0.7 | a |
| 07N12 | 179.4 | 175 | 10.92 | 10.5 | NC | 24 | a | 0.9 | a |
| 07N13 | 179.4 | 120 | 10.92 | 6.5 | NC | 7 | a | 0.6 | a |
| 07N14 | 179.4 | 100 | 10.92 | 8.5 | NC | 27 | b | 0.8 | a |
| 07N15 | 179.4 | 140 | 10.92 | 9.5 | NC | 6 | a | 1.2 | a |
| 07N16 | 179.4 | 170 | 10.92 | 10.0 | NC | 13 | a | 0.9 | a |
| 07N17 | 179.4 | 150 | 10.92 | 8.5 | NC | 0 | a | 0.8 | a |
| 07N18 | 130 | 150 | 6.5 | 10.0 | NC | 26 | b | 1.3 | a |
| 07N19 | 130 | 85 | 6.5 | 5.5 | NC | 20 | a | 1.1 | a |
| 07N20 | 157.3 | 120 | 8.45 | 6.0 | NC | 12 | a | 0.6 | a |
| 07N21 | 157.3 | 90 | 8.45 | 7.5 | NC | 7 | a | 0.7 | a |
| 07N22 | 143 | 95 | 6.63 | 5.0 | NC | 5 | a | 0.4 | a |
| | | | | | | 12 | a | 0.8 | a |
| 07N23 | 143 | 115 | 6.63 | 8.0 | NC | 11 | a | 0.8 | a |
| | | | | | | 25 | b | 1.0 | a |
| 07N24 | 143 | 100 | 6.63 | 5 | NC | 12 | a | 0.5 | a |
| | | | | | | 19 | a | 0.6 | a |
| 07N25 | 143 | 70 | 6.63 | 5 | NC | 10 | a | 0.5 | a |
| 07N26 | 143 | 90 | 6.63 | 4.5 | NC | 4 | a | 0.3 | a |
| | | | | | | 0 | a | 0.5 | a |
| 07N27 | 143 | 110 | 6.63 | 8.5 | NC | 10 | a | 0.9 | a |
| | | | | | | 3 | a | 0.7 | a |
| 08N01 | 253.5 | 175 | 12.48 | 9.5 | NC | 4 | a | 0.9 | a |
| 08N02 | 122.2 | 75 | 5.59 | 4.5 | NC | WIPE | c | WIPE | c |
| 08N03 | 122.2 | 85 | 5.59 | 4.0 | NC | WIPE | c | WIPE | c |
| 08N04 | 130 | 80 | 6.5 | 3.5 | NC | WIPE | c | WIPE | c |

Document Control No.

Environmental Restoration Program

# [illegible] INVESTIGATION
# NON-AOC FIELD REPORT

MOUND PLANT
MIAMISBURG, OHIO

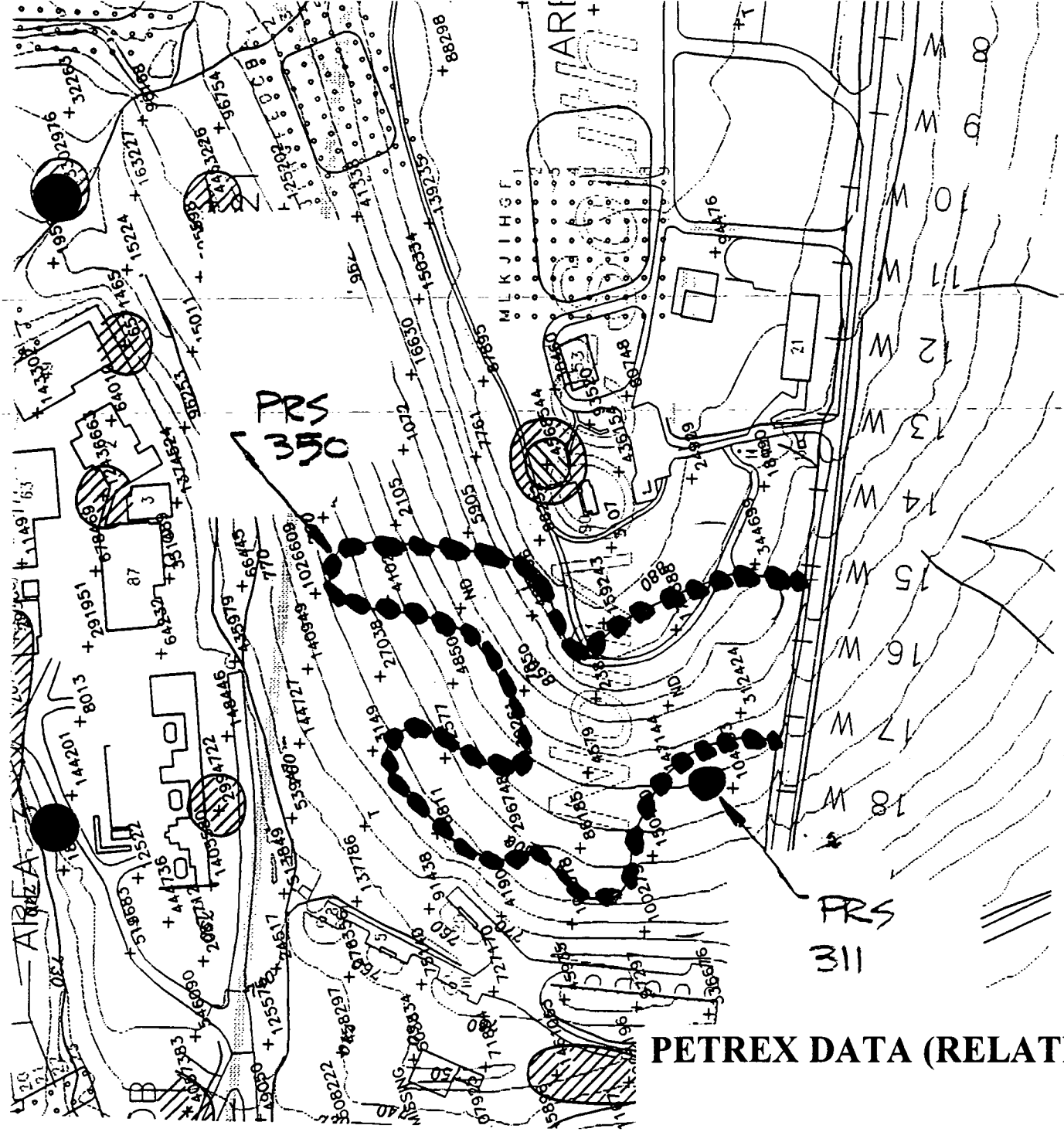
VOLUME II - APPENDICES A-G

June 1995

Final Revision 0

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies

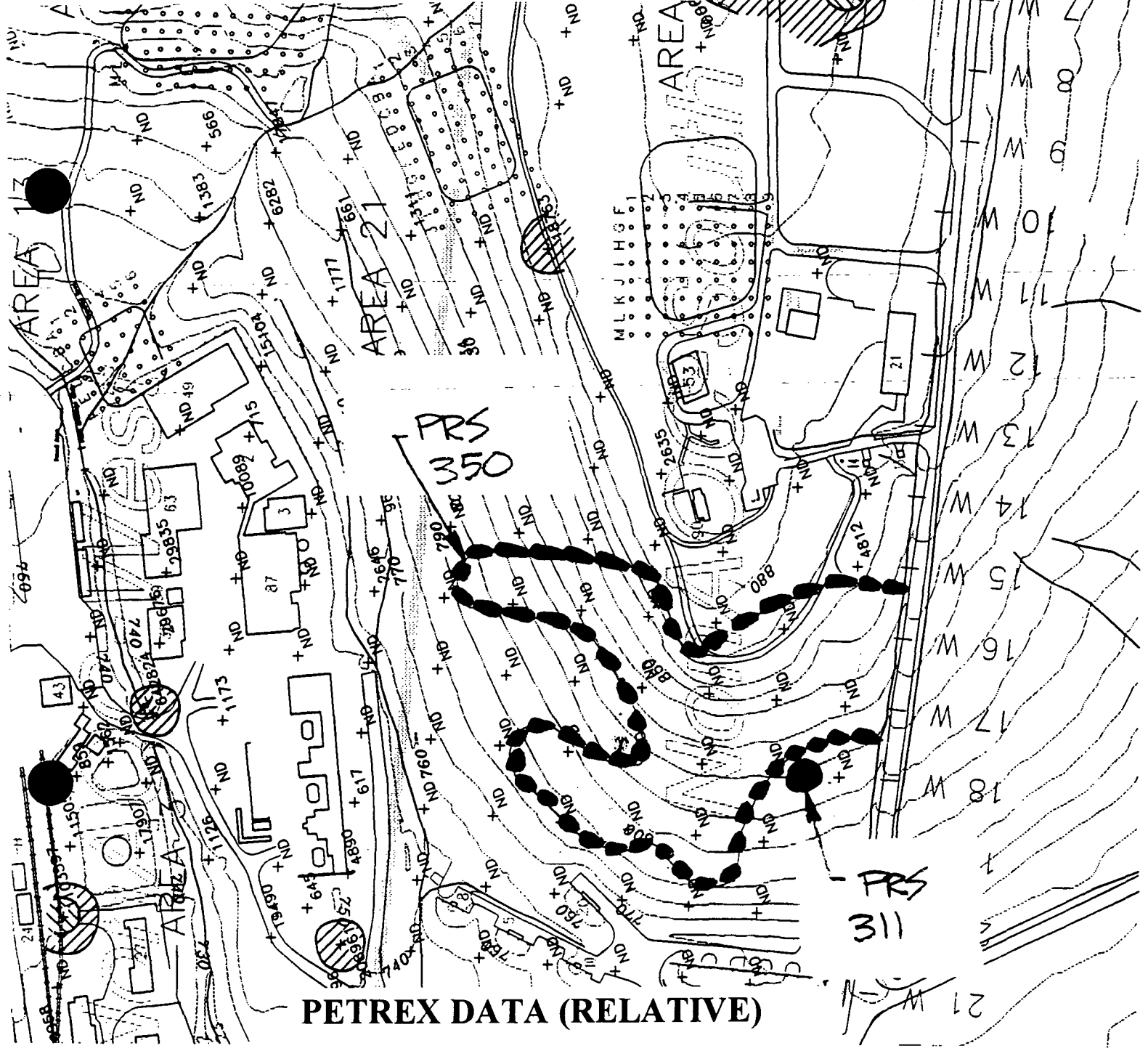



| LEGEND | | | | |
|---|---|---|---|---|
| Relative Response Values (in ion counts): | | | | |
| NonAOC–South | NonAOC–West | NonAOC–East | NonAOC–North | Area 61 |
| ≥ 4,200,000 | ≥ 20,000,000 | ≥ 5,000,000 | ≥ 10,000,000 | ≥ 5,800,000 |
| 850,000–4,199,999 | 2,800,000–19,999,999 | 850,000–4,999,999 | 1,500,000–9,999,999 | 1,400,000–5,799,999 |

Relative Response

Total Aromatic Hydrocarbons

Plate 2

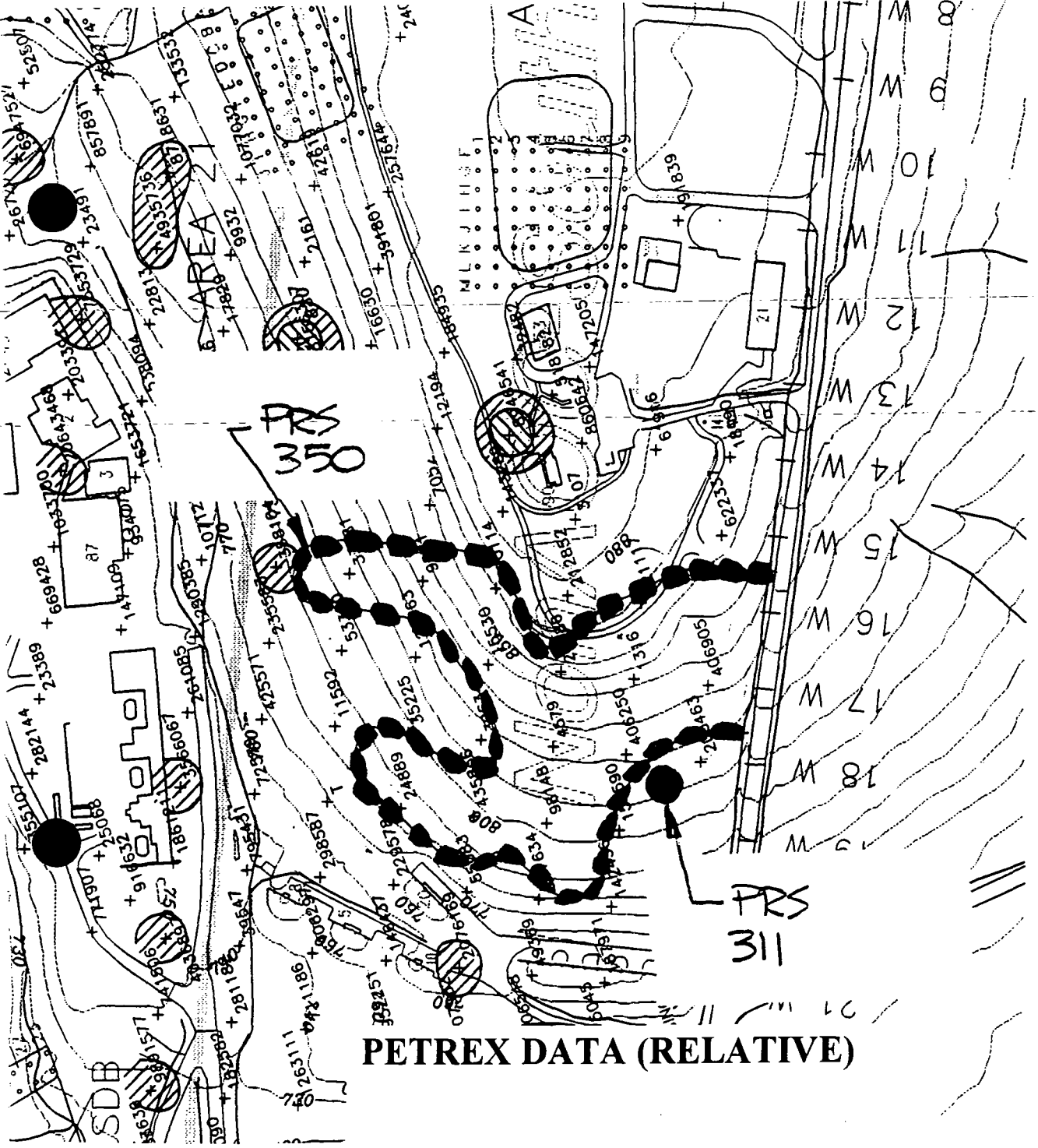



| LEGEND | | | | |
|---|---|---|---|---|
| Relative Response Values (in ion counts): | | | | |
| NonAOC–South | NonAOC–West | NonAOC–East | NonAOC–North | Area 61 |
| ≥ 70,000 | ≥ 1,000,000 | ≥ 300,000 | ≥ 800,000 | ≥ 1,400,000 |
| 7,000–69,999 | 100,000–999,999 | 30,000–299,999 | 80,000–799,999 | 180,000–1,399,999 |

Relative Response

Total Semivolatile Hydrocarbons

Plate 3

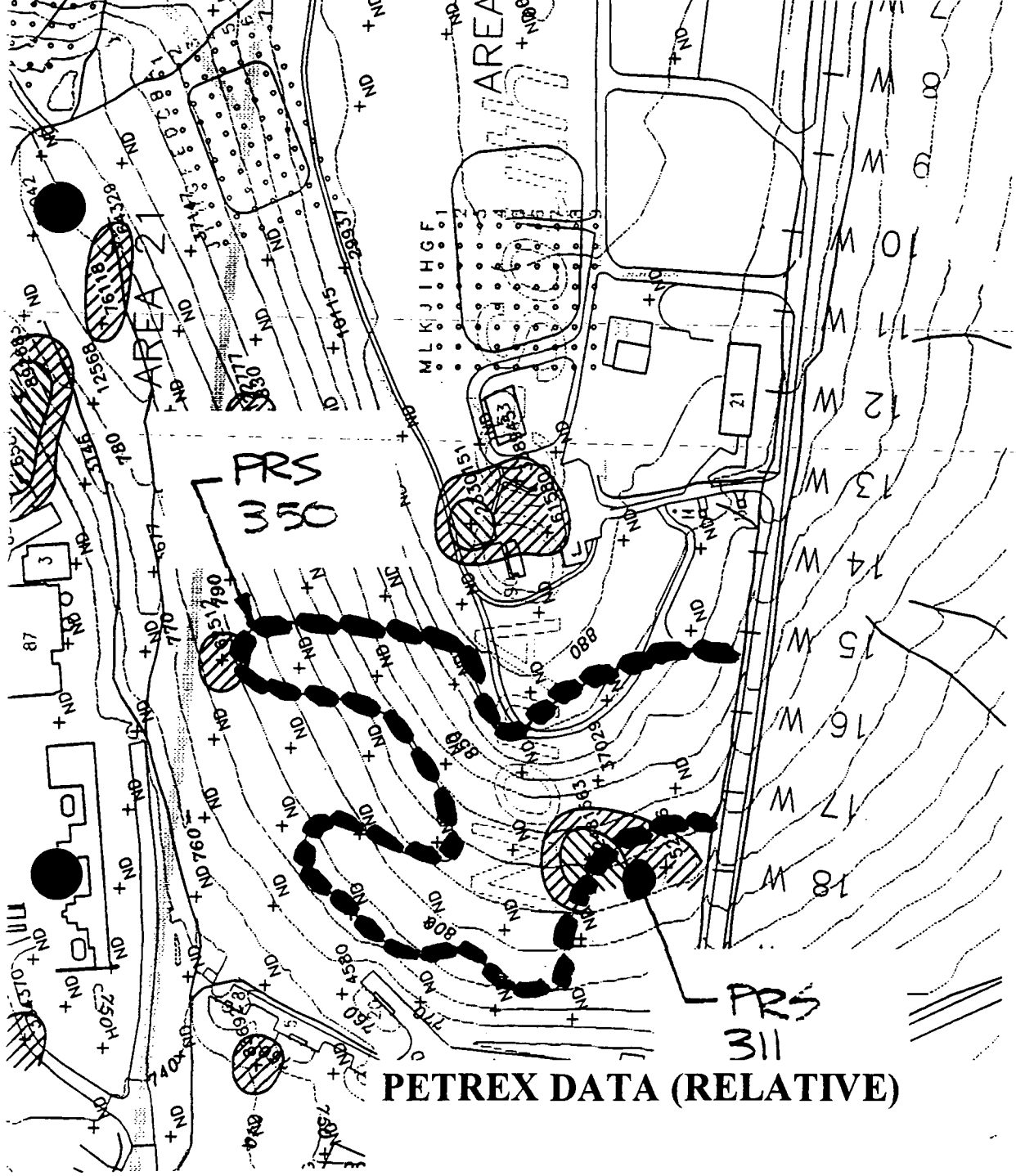



| LEGEND | | | | |
|---|---|---|---|---|
| Relative Response Values (in ion counts): | | | | |
| NonAOC–South | NonAOC–West | NonAOC–East | NonAOC–North | Area 61 |
| ≥ 8,000,000 | ≥ 29,000,000 | ≥ 11,500,000 | ≥ 23,000,000 | ≥ 25,000,000 |
| 1,500,000–7,999,999 | 3,000,000–28,999,999 | 1,600,000–11,499,999 | 4,000,000–22,999,999 | 3,000,000–24,999,999 |

Relative Response

Total C5–C11
Petroleum Hydrocarbons

Plate 4




NonAOC/Operable Unit-5

USDOE Mound Facility

14E

| LEGEND | | | | |
|---|---|---|---|---|
| Relative Response Values (in ion counts): | | | | |
| NonAOC-South | NonAOC-West | NonAOC-East | NonAOC-North | Area 61 |
| ≥ 500,000 | ≥ 500,000 | ≥ 80,000 | ≥ 400,000 | ≥ 250,000 |
| 50,000-499,999 | 50,000-499,999 | 20,000-79,999 | 40,000-399,999 | 35,000-249,999 |

Relative Response

Total Halogenated Hydrocarbons

Plate 5

| REV | DESCRIPTION | DATE |
|---|---|---|
| DRAFT | | Jul. 10, 1995 |
| REGULATOR RELEASE A | | Sep. 12, 1995 |
| REGULATOR RELEASE B | | |
| PUBLIC RELEASE 0 | ADDED:<br><br>* Comparisons of maximum concentrations to guideline criteria.<br>* Revisions to reflect most recent format.<br>* OU9, Volume 12 (reference).<br>* Supplemental Petrex data (reference).<br><br>COMBINED:<br><br>* PRS History and Process Description.<br><br>DELETED:<br><br>* Other Soils Sampling Plan (reference).<br>* References to 2 pCi/g thorium in the contamination field. | Feb. 12, 1996 |
| FINAL 0 | Revised recommendation page to document:<br>(1) The expiration date for the public comment period has expired.<br>(2) The fact that no public comments were received. | Apr. 22, 1996 |