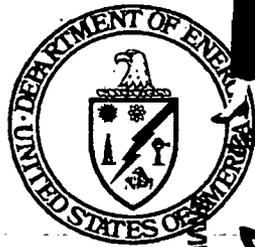


# MOUND



**Environmental  
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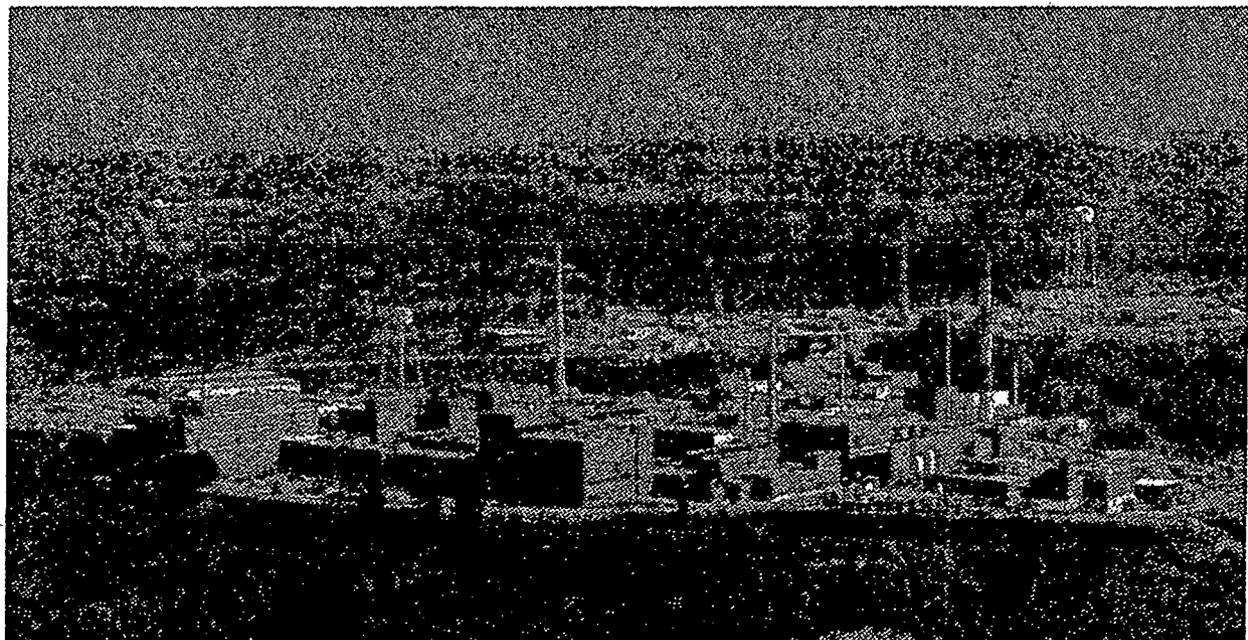


**OhioEPA**

# MOUND PLANT

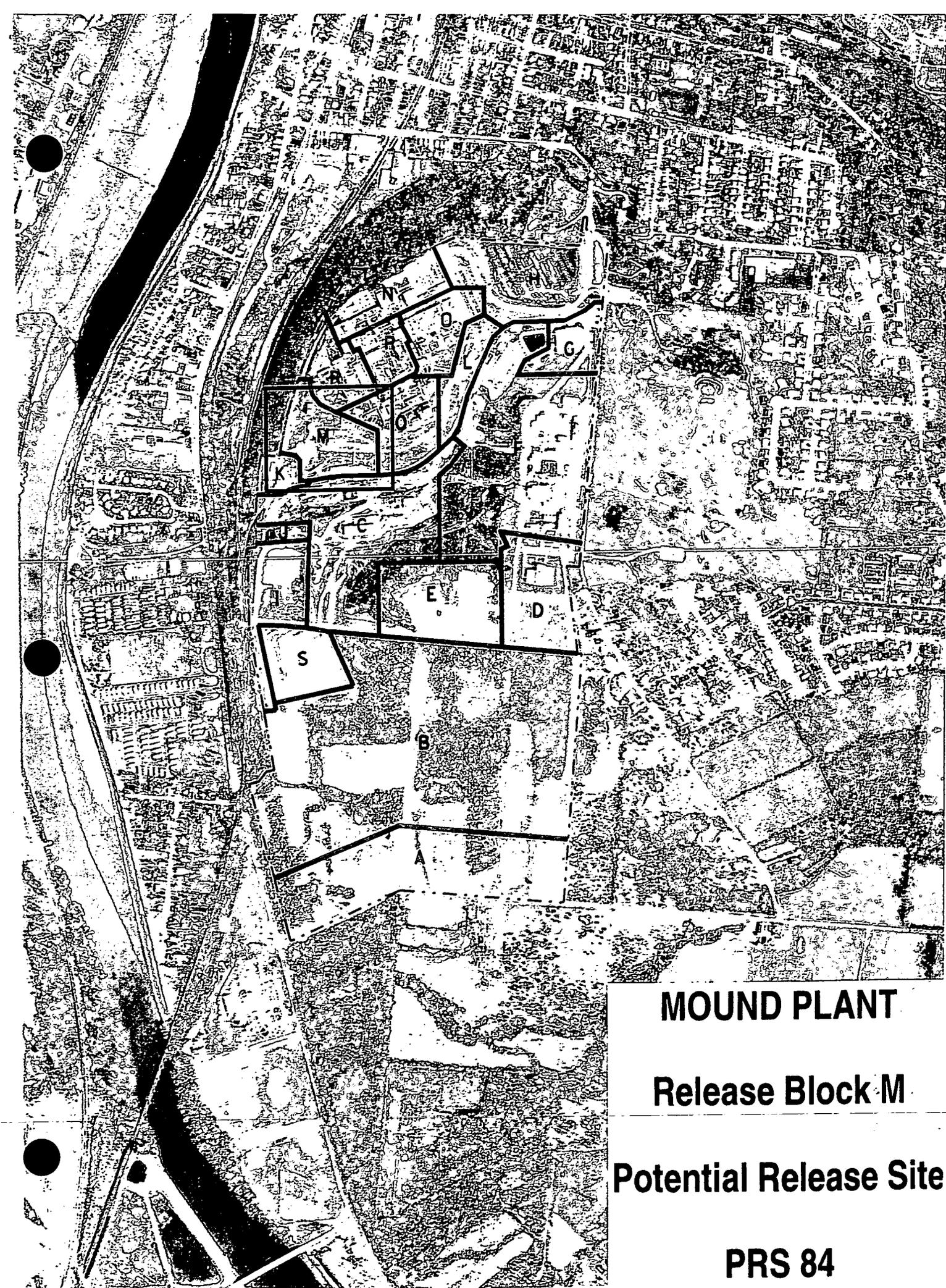
## Potential Release Site Package

### PRS # 84



PRS 84

| REV                        | DESCRIPTION   | DATE                 |
|----------------------------|---|----------------------|
| 0<br><b>PUBLIC RELEASE</b> | Available for comments.   | <b>Aug. 20, 1996</b> |
| 1<br><b>FINAL</b>          | Comment period expired. No comments. Recommendation page annotated. | <b>Oct. 16, 1996</b> |
| 2<br><b>FINAL</b>          | Signature page changed to show correct review period.               | <b>Nov. 19, 1996</b> |



**MOUND PLANT**

**Release Block M**

**Potential Release Site**

**PRS 84**

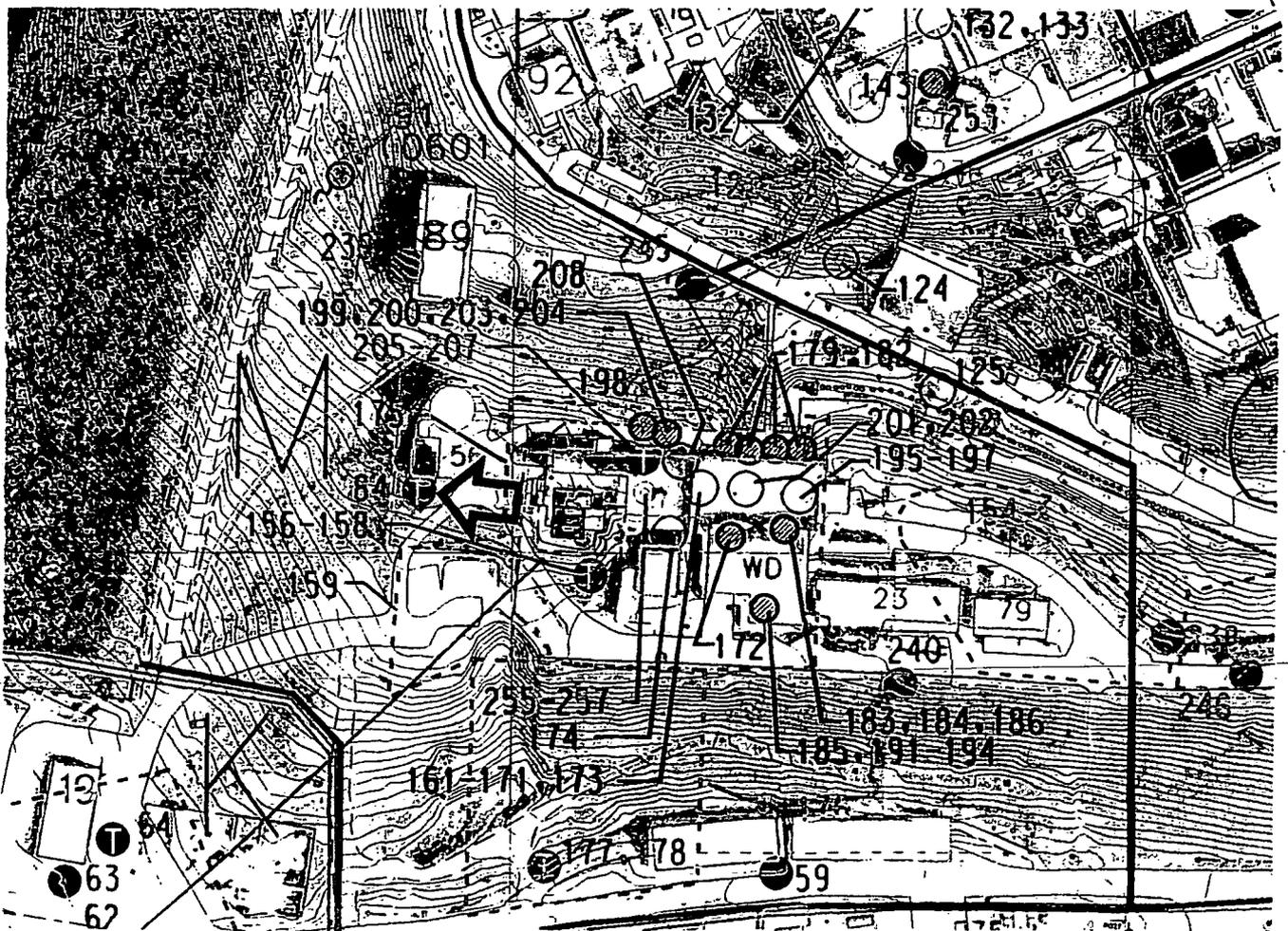
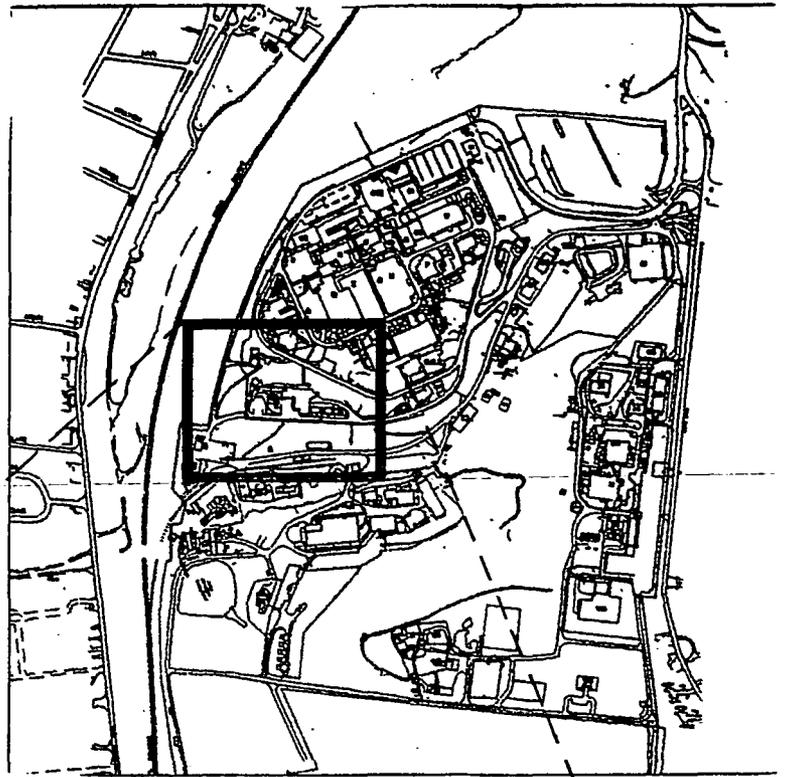


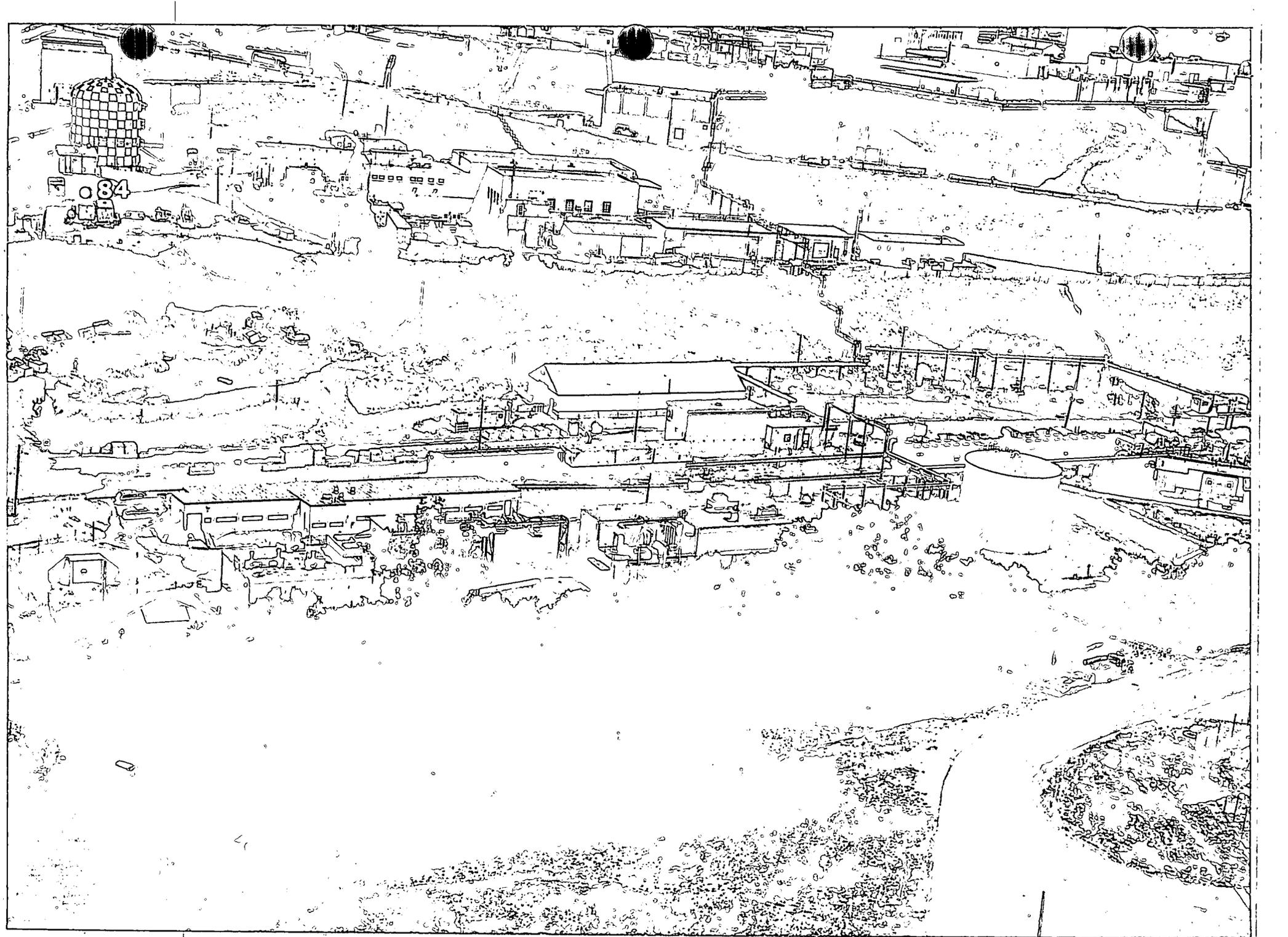
# MOUND PLANT

## Release Block M

### Potential Release Site

PRS 84





## PRS 84

### PRS HISTORY:

Potential Release Site (PRS) 84<sup>1</sup> was identified in the Mound Plant Underground Storage Tank Program Plan and Regulatory Status Review<sup>2</sup> as the site of an 825-gallon tank that was used to supply diesel fuel to an emergency generator for Building 56. The tank (No. 223) was located immediately south of Building 56 on the southwest flank of the Main Hill. The tank was initially, but erroneously identified as an unlined steel tank. It was closed by removal in 1989<sup>5</sup> and is not included in the Mound Active Underground Storage Tank Plan (Mound AUST<sup>6</sup>). During removal and cleaning, it was found to be a double-walled, fiberglass tank that contained product fuel in the interstitial space.

### CONTAMINATION:

During closure and removal, 3 soil samples were collected from the base and walls of the open excavation.<sup>5</sup> Laboratory analyses for total petroleum hydrocarbons (TPH) indicated no contamination above the detection limit of 5 micrograms per gram<sup>5</sup> (parts per million).

Well 0028, which lies directly downgradient of PRS 84, only detected 1,1,1-trichloroethane at 0.7 ug/l; below the MCL of 200 ug/l.<sup>3</sup>

Soil gas sample location 1208 was located approximately 35 ft. east of the south corner of Building 56.<sup>4</sup> No positive detections for volatile organic compounds were reported for this location.<sup>4</sup>

Radiological analyses of soil samples collected during and after the tank removal by the Mound soil screening facility indicated no plutonium-238 or thorium-232 above the Mound as low as reasonably achievable (ALARA) goals of 25 and 5 pCi/g, respectively.<sup>7</sup>

### READING ROOM REFERENCES:

- 1) OU9, Site Scoping Report: Volume 12 - Site Summary Report, Final, December 1994. (pages 6-10)
- 2) ERP, Mound Plant Underground Storage Tank Program Plan and Regulatory Status Review, Final, November 1992. (pages 11-13)
- 3) OU2, Technical Memorandum 1: Preinvestigation Evaluation of Remedial Action Technologies (PERAT), Draft, August 1991. (pages 42-43)
- 4) Soil Gas Survey & Geophysical Investigations Main Hill and SM/PP Hill Areas, Reconnaissance Sampling, February 1993. (pages 32-37)

**OTHER REFERENCES:**

- 5) Final Report, Underground Tank Removal, Hoosier Environmental Services, Inc., January 1990. (pages 14-29)
- 6) Active Underground Storage Tank Plan, July 1994. (pages 30-31)
- 7) Mound Soil Screening Facility - Daily Report, December 1989 and January 1990. (pages 38-41)

**PREPARED BY:**

George W. Wooten, Member of EG&G Technical Staff  
Alec Bray, Member of EG&G Technical Staff

**MOUND PLANT  
PRS 84  
FORMER TANK SITE  
BUILDING 56 DIESEL FUEL TANK**

**RECOMMENDATION:**

This former location of a diesel fuel tank was identified as a Potential Release Site (PRS) because of its inclusion in the Mound Plant Underground Storage Tank Program Plan and Regulatory Status Review. Components of diesel fuel are the contaminants of concern associated with this PRS.

Laboratory analysis for Total Petroleum Hydrocarbon (TPH) indicated no contamination above the detection limit of 5 ppm as compared to the Bureau of Underground Storage Tank Regulations (BUSTR) guideline criteria of 105 ppm. Soil sampling conducted during removal indicated no evidence of residual contamination above guideline criteria. Furthermore, quantitative soil gas sampling, radiological soil sampling and groundwater monitoring well sampling also indicated no evidence of contamination above guideline criteria.

Therefore, since no evidence of contamination exists, PRS 84 requires NO FURTHER ASSESSMENT.

**CONCURRENCE:**

DOE/MB:

Arthur W. Kleinrath 8/20/96  
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 8/20/96  
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 8/20/96  
Brian K. Nickel, Project Manager (date)

**SUMMARY OF COMMENTS AND RESPONSES:**

Comment period from 9/15/96 <sup>9/16/96</sup> to 10/15/96

No comments were received during the comment period.

Comment responses can be found on page \_\_\_\_\_ of this package.

**REFERENCE MATERIAL**  
**PRS 84**

Environmental Restoration Program

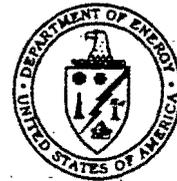
**OPERABLE UNIT 9 SITE SCOPING REPORT:  
VOLUME 12 – SITE SUMMARY REPORT**

**MOUND PLANT  
MIAMISBURG, OHIO**

December 1994

Final

**U.S. Department of Energy  
Ohio Field Office**



EG&G Mound Applied Technologies

| No. | Site Name   | Location   | Status             | Operational Jurisdiction        |                      |                | SWMU | Historic Activities |                    |                            | FFA OU |
|-----|---|------------|--------------------|---------------------------------|----------------------|----------------|------|---------------------|--------------------|----------------------------|--------|
|     |   |            |                    | Regulated Units                 | Regulatory Authority | Spill Response |      | Evidence Of Release | Response Authority | Further Action Recommended |        |
| 69  | Overflow Pond   | H-5<br>I-5 | Waters of the U.S. | (Cont.)                         | (Cont.)              | (Cont.)        | SWMU | No                  | CERCLA             | Yes                        | 9      |
| 70  | Retention Basins and Weir Basin                         | H-5        | Waters of the U.S. |                                 |                      |                | SWMU | No                  | CERCLA             | Yes                        | 9      |
| 71  | Building 85 Waste Solvent Tank (Tank 136)               | I-5        | Inactive           | PBR                             | RCRA                 | RCRA           | SWMU | No                  | CERCLA             | No                         | 5      |
| 72  | Area 13, Polonium-Contaminated Wood from Dioxon Unit IV | H-7        | Historical         | Blowoff to plant drainage ditch | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 5      |
| 73  | Evaporator Storage Area                                 | H-7        | Historical         |                                 | NA                   |                |      | No                  | CERCLA             | No                         | 5      |
| 74  | Quonset Hut (former)                                    | H-7        | Historical         |                                 | NA                   |                |      | No                  | CERCLA             | No                         | 5      |
| 75  | Railroad Siding   | G-6 G-7    | Inactive           |                                 | AEA                  | AEA            |      | Yes                 | AEA                | D&D                        | 5      |
| 76  | Warehouse 9   | G-7        | Historical         |                                 | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 5      |
| 77  | Warehouse 10  | G-9        | Historical         |                                 | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 5      |
| 78  | Warehouse 13  | G-9        | Historical         |                                 | NA                   |                |      | Yes                 | AEA                | D&D                        | 5      |
| 79  | Warehouse 14  | E-8        | Historical         |                                 | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 5      |
| 80  | Warehouse 15A   | F-8        | Historical         |                                 | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 5      |
| 81  | Drilling Mud Ditch Storage Areas (3 locations)          | H-4        | Historical         |                                 | NA                   |                | SWMU | No                  | CERCLA             | No                         | 5      |
| 82  | Building 1 Diesel Fuel Storage Tank (Tank 118)          | H-5        | In service         |                                 | BUSTR                | BUSTR          |      |                     | NA                 | OM                         |        |
| 83  | Building 2 Propane Storage Tank (Tank 122)              | H-7        | Inactive           |                                 | AEA                  | NA             |      | No                  | NA                 | OM                         |        |
| 84  | Building 56 Diesel Fuel Storage Tank (Tank 223)         | F-5        | Historical         |                                 | NA                   |                |      | No                  | CERCLA             | Yes                        | 2      |
| 85  | Building 29 Solvent Storage Shed                        | E-8        | Inactive           | PBR                             | RCRA                 | RCRA           | SWMU | No                  | NA                 | OM                         |        |
| 86  | Building 29 Septic Tank (Tank 224)                      | F-9        | Historical         |                                 | NA                   |                |      | Yes                 | AEA                | Yes                        | 6      |
| 87  | Building 4 Solvent Storage Shed                         | G-7        | Inactive           | PBR                             | RCRA                 | RCRA           | SWMU | No                  | NA                 | OM                         |        |
| 88  | Tritium Buried Valley Aquifer                           | H-4        | Historical         |                                 | SDWA                 |                |      | Yes <sup>d</sup>    | AEA                | OM                         |        |
| 89  | Test Fire Residual Storage Area                         | H-7        | In service         | PBR                             | RCRA                 | RCRA           | SWMU | No                  | NA                 | OM                         |        |
|     | Site Survey Project Potential Hot Spots                 | G-8        | Grounds            |                                 | AEA                  | NA             |      | Yes                 | AEA                | Yes                        | 6      |
|     |   | F-5        | NA                 |                                 | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 2      |
|     |   | G-7        | NA                 |                                 | NA                   |                |      | Yes                 | CERCLA             | Yes                        | 2      |

| 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 <sup>a</sup> | Results   | Ref |
| 72  | Area 13, Polonium-Contaminated Wood from Dayton Unit IV | H-7        | Historical | Polonium-210  | 1, 4, 5  | None Suspected                     | S     | 6   | 14                    | Tables B.1 and B.9  | 6   |
| 73  | Evaporation Storage Area (AKA Levee storage area)       | H-7        | Historical | Actinium-227, Cesium-137, Radium-226  | 4        |                                    |       |     | 14, 15, 16            | Table B.9<br>RSS <sup>c</sup> Locations S0692 and S0687<br>(Appendix E in Ref. 6)         | 6   |
| 74  | Quonset Hut (former)                                    | H-7        | Historical | Polonium-210, cobalt-60, bismuth  |          |                                    |       |     | 14                    | Table B.9<br>RSS <sup>c</sup> Locations S0684, S0685, and S0689<br>(Appendix E in Ref. 6) | 6   |
| 75  | Railroad Siding   | G-6<br>G-7 | Inactive   | Thorium and daughters   | 4        | Suspected thorium                  | S     | 4   |                       | Table B.1   | 6   |
| 76  | Warehouse 9   | G-7        | Historical | Thorium-232   |          | Suspected thorium                  | S     | 4   | No Data               |   |     |
| 77  | Warehouse 10  | G-9        | Historical | Polonium-210  | 4        | None suspected                     |       |     | No Data               |   |     |
| 78  | Warehouse 13  | G-9        | Historical | Radioactive waste including Strontium-90, Cesium-137, and Nickel-63                             | 4        | Cesium 137                         | S     | 4   | No Data               |   |     |
| 79  | Warehouse 14  | E-8        | Historical | Radioactive waste<br><br>Plutonium-238 wastes and sludge<br><br>Thorium sludge constituents (c) | 4        | Suspected                          | S     | 4   | See Appendix (N-10)   | Table B.9   |     |
| 80  | Warehouse 15A   | H-8        | Historical | Plutonium-238, thorium  | 4        |                                    |       |     |                       |   |     |
| 81  | Drilling Mud Drum Storage Areas (3 locations)           | H-5<br>I-4 | Historical | Barium  | 4, 5, 18 | None Suspected                     |       |     | No Data               |   |     |
| 82  | Building 57 Diesel Fuel Storage Tank (Tank 118)         | H-5        | In service | Diesel fuel   | 3        |                                    |       |     | No Data               |   |     |
| 83  | Building 2 Propane Storage                              | H-7        | Inactive   | Propane   | 3        |                                    |       |     | No Data               |   |     |
| 84  | Building 56 Diesel Fuel Storage Tank (Tank 223)         | F-5        | Historical | Diesel fuel   | 3        | Tank Removed                       |       |     | No Data               |   |     |

Table V.1. Potential Release Sites Recommended for Inclusion in the ER Program,  
Listed by Operable Unit

| No. | Site Name  | Evidence of Release <sup>a</sup> | Further Action Recommended <sup>a</sup> | FFA/OU |
|-----|--|----------------------------------|---|--------|
| 8   | Site Sanitary Landfill   | No                               | Yes                                     | 1      |
| 9   | Area 18, Site Sanitary Landfill Cover                                | Yes                              | Yes                                     | 1      |
| 10  | Historic Landfill  | Yes                              | Yes                                     | 1      |
| 11  | Area 2, Thorium and Polonium-Contaminated Wastes (AKA Crushed Drums) | Yes                              | Yes                                     | 1      |
| 12  | Area B Drum Storage Area   | No                               | Yes                                     | 1      |
| 84  | Building 56 Diesel Fuel Storage Tank (Tank 223)                      | No                               | Yes                                     | 2      |
| 92  | Main Hill Seep 0602  | Yes                              | Yes                                     | 2      |
| 93  | Main Hill Seep 0603  | Yes                              | Yes                                     | 2      |
| 94  | Main Hill Seep 0604  | Yes                              | Yes                                     | 2      |
| 95  | Main Hill Seep 0605  | Yes                              | Yes                                     | 2      |
| 96  | Main Hill Seep 0606  | Yes                              | Yes                                     | 2      |
| 97  | Main Hill Seep 0607  | Yes                              | Yes                                     | 2      |
| 98  | Main Hill Seep 0608  | Yes                              | Yes                                     | 2      |
| 99  | Area 6, W/D Building Filter Cleaning Waste                           | No                               | Yes                                     | 2      |
| 100 | Area 7, Chromium Trench  | No                               | Yes                                     | 2      |
| 101 | Cooling Tower Basin  | Yes                              | Yes                                     | 2      |
| 103 | E Building Soils   | Yes                              | Yes                                     | 2      |
| 104 | E Building Solvent Storage Shear                                     | Yes                              | Yes                                     | 2      |
| 106 | G Building Soils (AKA Garage Area)                                   | Yes                              | Yes                                     | 2      |
| 107 | G Building Gasoline Tank (Tank 202)                                  | Yes                              | Yes                                     | 2      |
| 108 | G Building Gasoline Tank (Tank 203)                                  | Yes                              | Yes                                     | 2      |
| 109 | G Building Gasoline Tank (Tank 204)                                  | Yes                              | Yes                                     | 2      |
| 110 | I Building Soils   | Yes                              | Yes                                     | 2      |
| 111 | Monitor Well 0034  | Yes                              | Yes                                     | 2      |
| 112 | Paint Shop Area  | Yes                              | Yes                                     | 2      |
| 113 | Powerhouse Soils   | Yes                              | Yes                                     | 2      |
| 114 | Powerhouse Fuel Oil Storage Tank (Tank 113)                          | Yes                              | Yes                                     | 2      |
| 115 | Powerhouse Fuel Oil Storage Tank (Tank 114)                          | Yes                              | Yes                                     | 2      |
| 116 | Powerhouse Fuel Oil Storage Tank (Tank 115)                          | Yes                              | Yes                                     | 2      |

- 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 Scoping 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 Scoping 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 1992i "Closure Report, Building 34 - Aviation Fuel Storage Tank."
23. DOE 1992j "Closure Report, Building 51 - Waste Storage Tank."
24. DOE 1994 "Operable Unit 1, Remedial Investigation Report."
25. EG&G 1994 "Active Underground Storage Tank Plan."

**ENVIRONMENTAL RESTORATION PROGRAM**

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**MOUND PLANT UNDERGROUND STORAGE TANK  
PROGRAM PLAN AND REGULATORY  
STATUS REVIEW**

**MOUND PLANT  
MIAMISBURG, OHIO**

**NOVEMBER 1992**

**DEPARTMENT OF ENERGY  
ALBUQUERQUE OPERATIONS OFFICE**

**ENVIRONMENTAL RESTORATION PROGRAM  
EG&G MOUND APPLIED TECHNOLOGIES**

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**FINAL (REVISION 0)**

from the Operable Unit 3 sampling of the site are documented in the ER Program report "Closure Report, Building 56-Waste Storage Tank." This "Closure Report" was submitted to the BUSTR with a request to close the file on the tank in September 1992.

#### 2.3.10. Building 43: Solvent Storage Tank (Tank 221)

This 1,000-gallon stainless-steel tank was originally constructed to store acetone or alcohol solvents for use in Building 43. The stainless-steel tank reportedly has never been used and at removal still contained the water used in hydrostatic testing when the tank was installed (Burdg, 1991b). Laboratory results confirm the contents to be deionized water (Bowser-Morrner, 1991). The tank was closed by removal on November 29, 1990, in accordance with BUSTR requirements. Accordingly, because the tank has been removed and has only contained water, the tank should be deleted as a concern as a UST.

It should be noted that the Mound UST Plan (NUS, 1989) identified a 500-gallon solvent tank immediately adjacent to Building 43. When Mound Plant engineers visited the area to plan closure activities they found that there were two tanks in proximity to Building 43. The first was a 500-gallon concrete settling basin formerly used to process explosives production wastewaters from Building 43. The second was a 1,000-gallon stainless-steel tank installed to store solvents, but was never used. Consequently, there is no "500-gallon solvent tank," and Mound Plant has identified the 500-gallon concrete settling basin as Tank 201 and the 1,000-gallon stainless-steel tank as Tank 221 for the purpose of this document.

#### 2.3.11. Building 58: Diesel Fuel Storage Tank (Tank 222)

This 3,000-gallon unlined, steel tank was formerly used to supply diesel fuel to Emergency Generator Number 1. The tank is reported by Mound Plant personnel to have been closed by removal in December 1989 (Andersen, 1990c). As a closed tank site, the location will be investigated by the ER Program (FFA) in Operable Unit 2 to determine if evidence of a release exists.

#### 2.3.12. Building 56: Diesel Fuel Storage Tank (Tank 223)

This 825-gallon, unlined steel tank was formerly used to supply diesel fuel to an emergency power generator. The tank is reported by Mound Plant site personnel to have been closed by removal in December 1989 (Andersen, 1990c). As a closed tank site, the location will be investigated by the ER Program (FFA) in Operable Unit 2 to determine if evidence of a release exists.

APPENDIX A (continued)  
 UST OWNERSHIP/SPONSORSHIP AND PRIMARY REGULATORY JURISDICTION

| Tank # | NUS#*               | Capacity (gallons) | Location                   | Purpose                             | Comments   | Last date used*                      | Tentative Tank Sponsor | Spill Jurisdiction | Primary Regulatory Jurisdiction |
|--------|---------------------|--------------------|----------------------------|-------------------------------------|--|--------------------------------------|------------------------|--------------------|---------------------------------|
| 222    | <del>1.3-2 #6</del> | <del>3,000</del>   | <del>Bldg. 58</del>        | <del>Diesel fuel storage tank</del> | <del>Unlined steel tank used to supply diesel fuel to Emergency Generator No.</del>                      | <del>Unknown (c/r Dec. 1989)</del>   | <del>ER (2')</del>     | <del>FFA</del>     | <del>FFA</del>                  |
| 223    | 1.3-2 #8            | 825                | Bldg. 56                   | Diesel fuel storage tank            | Unlined steel tank used to supply diesel fuel to an emergency generator.                                 | Unknown (c/r Dec. 1989)              | ER (2')                | FFA                | FFA                             |
| 224    | <del>N/A</del>      | <del>1,500*</del>  | <del>East of Bldg. 9</del> | <del>Historic septic tank</del>     | <del>Poured concrete septic tank. Used in late 1950s for disposal of radioactive soil.</del>             | <del>Unknown (c/r late 1950s*)</del> | <del>ER (5')</del>     | <del>AEA</del>     | <del>FFA</del>                  |
| 225    | <del>N/A</del>      | <del>350</del>     | <del>M-38</del>            | <del>Metal plating rinse sump</del> | <del>Concrete* sump sanitary waste line. Used for NPDES sampling.</del>                                  | <del>1990 (I/I)</del>                | <del>Operations</del>  | <del>AEA</del>     | <del>AWA (NPDES)</del>          |
| 226    | <del>N/A</del>      | <del>60*</del>     | <del>SW-1</del>            | <del>Beta waste-water sump</del>    | <del>Stainless-steel* sump used to collect beta waste-water from floor drains in SW-10.</del>            | <del>Unknown (I/I)</del>             | <del>Operations</del>  | <del>AEA</del>     | <del>AEA</del>                  |
| 227    | <del>N/A</del>      | <del>350</del>     | <del>T-23</del>            | <del>Beta waste-water sump</del>    | <del>Steel-lined concrete* sump used to collect beta waste-waters.</del>                                 | <del>Unknown (c/r 1975')</del>       | <del>Operations</del>  | <del>AEA</del>     | <del>AEA</del>                  |
| 228    | <del>N/A</del>      | <del>350</del>     | <del>T-3</del>             | <del>Floor drain sump</del>         | <del>Steel-lined concrete* sump used to collect nonradiological waste-water from floor drains.</del>     | <del>Unknown (c/r 1985')</del>       | <del>Operations</del>  | <del>AEA</del>     | <del>AEA</del>                  |
| 229    | <del>N/A</del>      | <del>350</del>     | <del>T-40</del>            | <del>Alpha waste-water sump</del>   | <del>Steel-lined concrete* sump used to collect alpha waste-waters from process area floor drains.</del> | <del>Unknown (c/r)</del>             | <del>Operations</del>  | <del>AEA</del>     | <del>AEA</del>                  |
| 230    | <del>N/A</del>      | <del>350</del>     | <del>T-41</del>            | <del>Alpha waste-water sump</del>   | <del>Steel-lined concrete* sump used to collect alpha waste-waters from process area floor drains.</del> | <del>Unknown (c/r)</del>             | <del>Operations</del>  | <del>AEA</del>     | <del>AEA</del>                  |
| 231    | <del>N/A</del>      | <del>60*</del>     | <del>T-50</del>            | <del>Alpha waste-water sump</del>   | <del>Sump used to collect process alpha waste-waters.</del>  | <del>Unknown (c/r 1975')</del>       | <del>Operations</del>  | <del>AEA</del>     | <del>AEA</del>                  |

January 28, 1990

Mr. Richard Blauvelt  
EG & G Mound Applied Technologies, Inc.  
P.O. Box 3000  
Miamisburg, Ohio 45343-0987

Re: Final Report  
Underground Tank Removal  
EG&G Quote No.: 511278-5541  
Miamisburg, Ohio  
Hoosier Project Number 90017B

Dear Mr. Blauvelt,

Hoosier Environmental Services, Inc. (Hoosier) has completed the removal of two underground storage tanks at the above-referenced facility. All tanks were removed and cleaned in accordance with American Petroleum Institute and National Fire Protection Association guidelines and disposed of as scrap. The excavation area for each tank was also assessed for releases in accordance United States Environmental Protection Agency, the Ohio Environmental Protection Agency (OEPA) and the Ohio Bureau of Underground Storage Tank Regulations (BUSTR) guidelines. The following report describes all activities performed relative to this project.

I apologize for any inconvenience the timing of this project has caused you and appreciate the opportunity to work with you on this project. Please feel free to contact us if you have any questions.

Sincerely,



Bryan K. Petriko, P.E.  
Senior Environmental Engineer

~~Tank 222 AUSTR '94 3000gal Diesel No. 2 BDES~~  
Tank 223 AUSTR '94 825gal Diesel No. 2 BDES

FINAL REPORT  
UNDERGROUND STORAGE TANK REMOVAL  
EG&G MOUND APPLIED TECHNOLOGIES  
MIAMISBURG, OHIO  
HOOSIER PROJECT NUMBER 90017B

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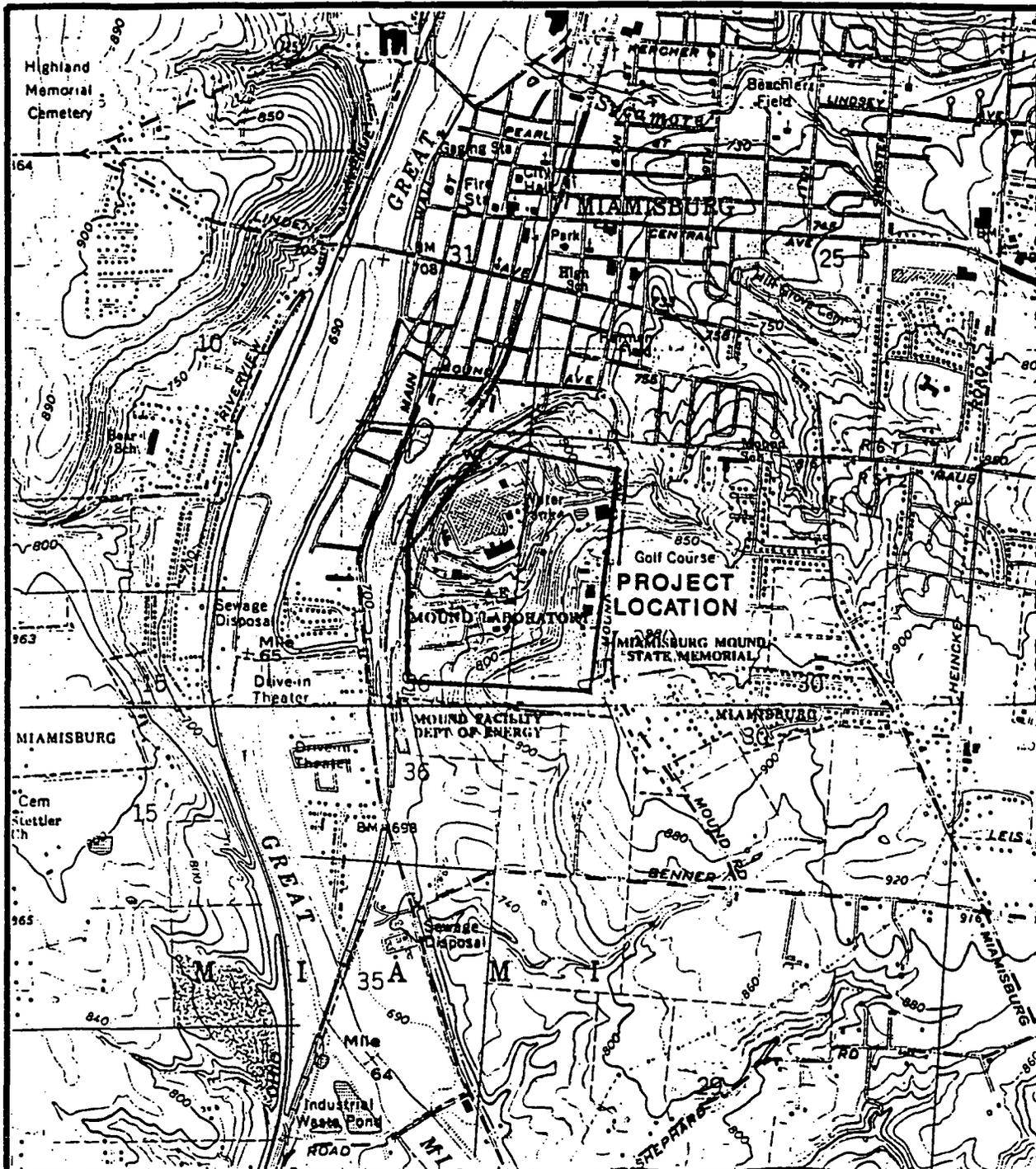
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**HOOSIER ENVIRONMENTAL SERVICES, INC.**

**VICINITY MAP**  
**EG&G MOUNDS**  
**MIAMISBURG, OHIO**

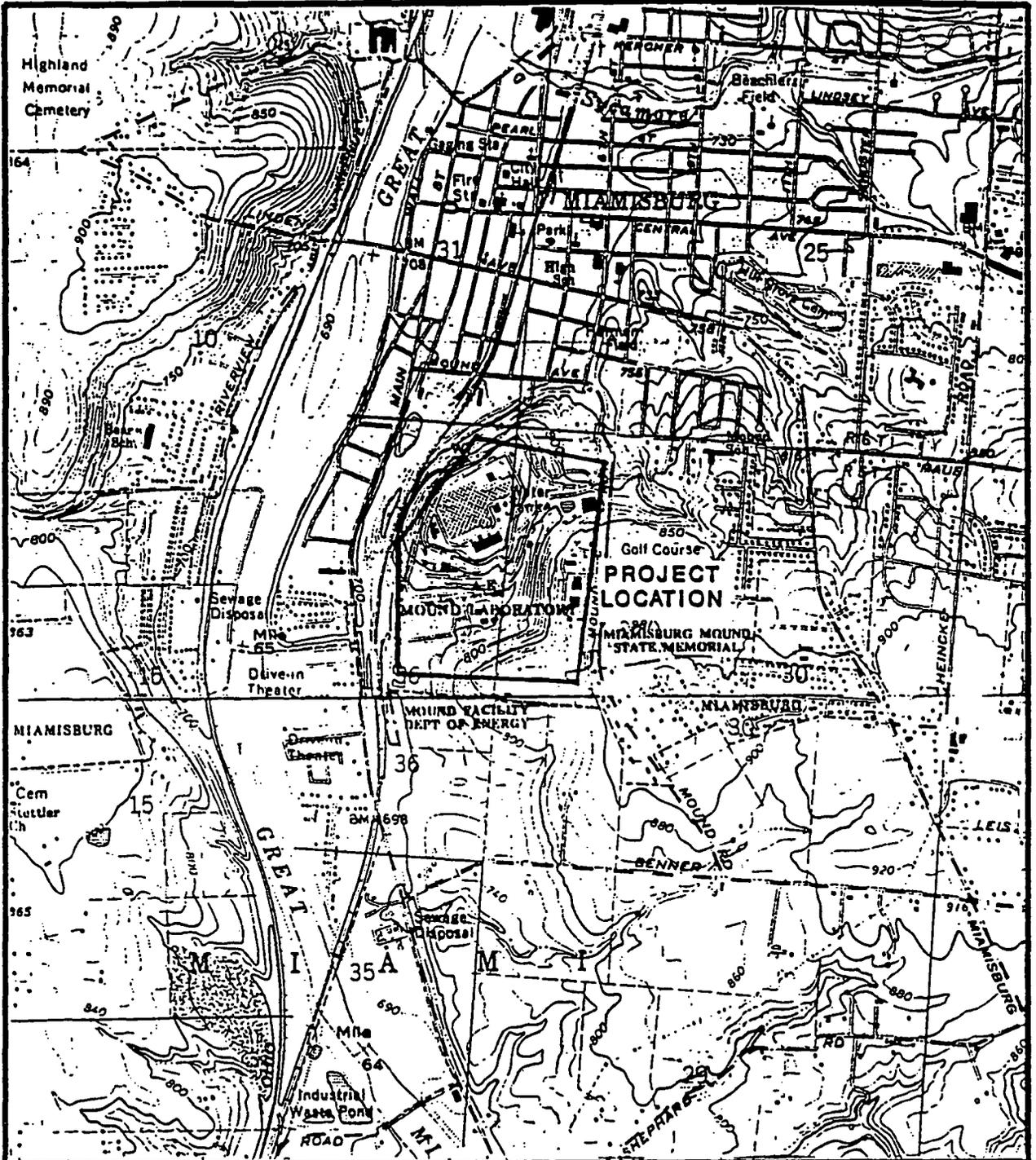
**PROJECT NO.**  
**90017**

**SCALE** 1:24000

**FIGURE NO.**  
**1**

Final Report  
Underground Storage Tank Removal  
EG&G Mound Applied Technologies  
Miamisburg, Ohio

This report serves to document all activities relating to the removal of two underground storage tanks at the United States Department of Energy's (DOE's) facility located on Mounds Rd. in Miamisburg, Ohio (see Figure 1). The tanks consisted of one double-walled fiberglass tank with a capacity of approximately 800 gallons and one steel tank with the capacity of ~~TANK 223-AUSTP94~~ <sup>TANK 223-AUSTP94</sup> 3,000 gallons. Both tanks were used to store diesel fuel to operate emergency power generators. The removal was performed due to the failure of these tanks during Petro-Tite integrity testing. The tanks were removed from separate excavations and cleaned in accordance with the guidelines established by the American Petroleum Institute (API) in its publication Number 1604 entitled "Recommended Practice for Abandonment or Removal of Used Underground Service Station Tanks", with the requirements established by the United States Environmental Protection Agency (EPA) in 40 CFR Part 280 and with the requirements set forth by the Ohio Bureau of Underground Storage Tank Regulations (BUSTR). Each



|  |   |   |
|--|---|---|
|  <p><b>HOOSIER ENVIRONMENTAL SERVICES, INC.</b></p> | <p><b>VICINITY MAP</b></p> <p><b>EG&amp;G MOUNDS</b></p> <p><b>MIAMISBURG, OHIO</b></p> | <p><b>PROJECT NO.</b></p> <p><b>90017</b></p> |
|  |   | <p><b>SCALE</b> 1:24000</p>                   |
|  |   | <p><b>FIGURE NO.</b></p> <p><b>1</b></p>      |

-2-

of these activities is described in detail below along with a discussion on the management of all residuals generated during this project.

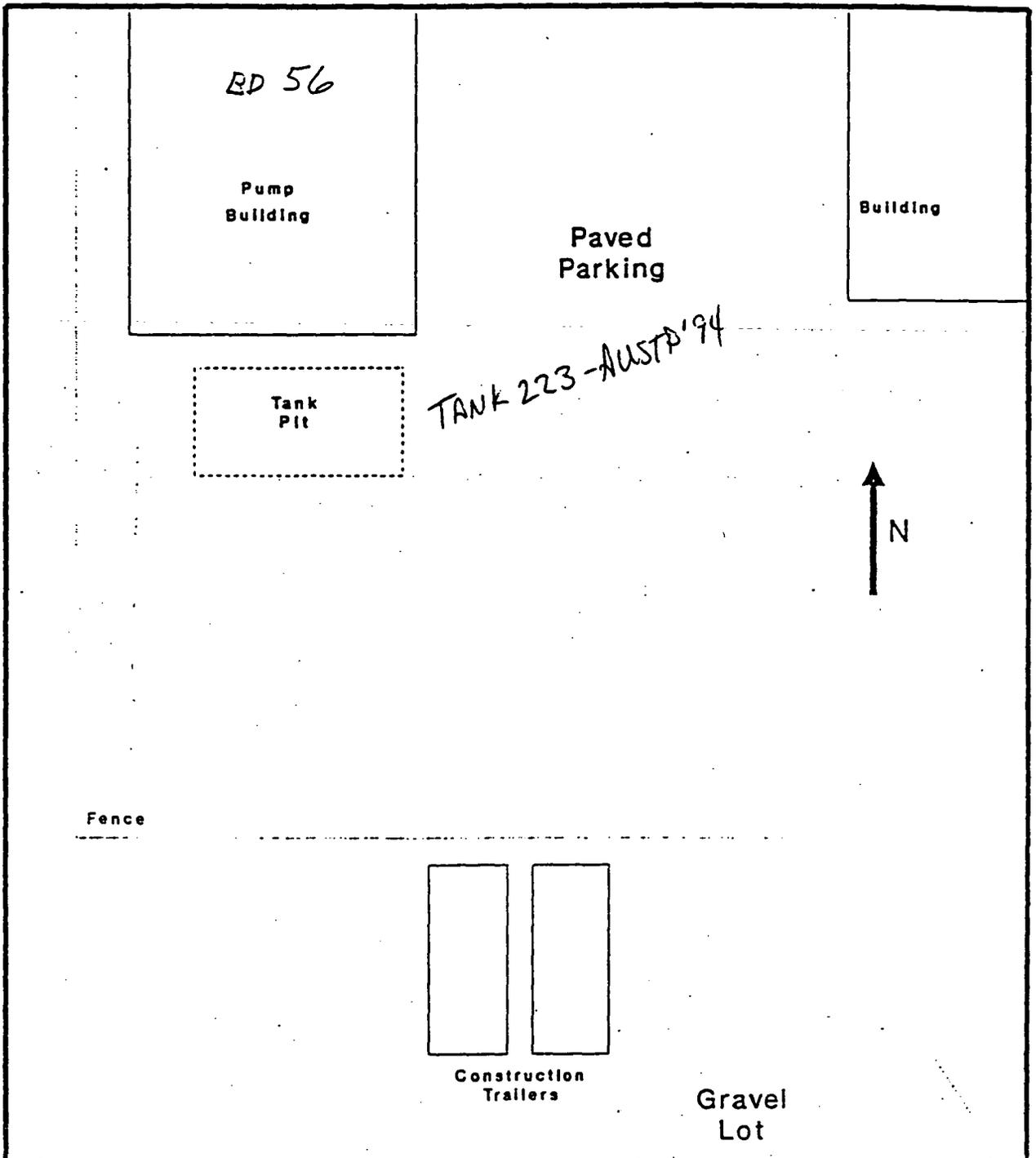
### TANK REMOVAL, CLEANING AND INSPECTION

Work crews arrived on site with a Case 580 "Extendahoe" Backhoe. All safety precautions necessary on this job were reviewed at this time. The tank area was inspected for access and the routes of exit and entry were designated along with work zones. A site plan of each of the tank areas are provided in Figures 2 and 3.

#### Removal Activities

The tanks were each located directly adjacent to the building housing the emergency generators. The <sup>TANK 223-AUSTP'94</sup> 800 gallon tank provided fuel for the generator located in building 56 and the <sup>TANK 222-AUSTP'94</sup> 3,000 gallon tank provided fuel for the generator located in building 58. <sup>TANK 223-AUSTP'94</sup> Tank #1 (800 gallon) was approximately 2 feet south of the building and was covered with approximately 18-24 inches of soil. Tank #2 (3,000 gallon) was approximately 3

*Tank 222-AUSTP'94*



|   |   |                                 |
|---|---|---------------------------------|
|  <p>HOOSIER ENVIRONMENTAL SERVICES, INC.</p> | <p>TANK PIT #1</p> <p>TANK 223-AUSTP '94</p> <p>EG&amp;G MOUNDS</p> <p>MIAMISBURG, OHIO</p> | <p>PROJECT NO.</p> <p>90017</p> |
|   |   | <p>SCALE N.T.S.</p>             |
|   |   | <p>FIGURE NO.</p> <p>2</p>      |

feet south of the generator building and was covered with approximately 6-10 inches of concrete and 12-18 inches of soil. The soil covering the tanks was visually inspected for evidence of contamination as it was removed. Inspection of the soil indicated no evidence of contamination and was stockpiled on site to be used as backfill material.

In order to remove the tanks from the excavations, a chain was attached to the tank either through the lift lugs used to install the tank or by removing the plugs from adjacent bungs and running the chain through the two bung holes. The tanks were removed from the excavations by wrapping the chain around the arm of the backhoe and lifting them out of the excavations.

#### Tank Cleaning Activities

After removal from the excavations, the tanks were set adjacent to the excavation and prepared for cleaning. It was discovered that the 800 <sup>TANK 223-AUSTP'94</sup> gallon tank was a double-walled fiberglass tank which had contained product in the interstitial (containment) zone and that the ancillary equipment had been improperly installed. ~~The 3,000 gallon tank was constructed of steel and exhibited signs of corrosion.~~ While no specific

~~TANK 222 AUSTP'94~~

failure location was observed, many potential failure locations existed. The tanks were cut and cleaned on site.

Once set for cleaning, the level of oxygen and combustible vapors within the vessels were measured. These measurements revealed that levels were within the acceptable ranges. The tanks were purged of any remaining vapors using a small gas exhauster. An access port was then cut into the sides of each tank so that the inside could be cleaned. Cleaning involved removing as much residual material as possible with a compressed air powered vacuum and then scraping up the remaining material with shovels and scrapers. The final cleaning step involved spreading absorbent material along the interior walls of the tank, allowing it to soak up the residuals and then collecting the material by sweeping. All residuals were contained and placed in United States Department of Transportation (DOT) approved Type 17H 55-gallon capacity drums for reclamation and/or disposal as special waste. The fiberglass tank was demolished and disposed of as tank debris ~~and the steel tank was then discarded as scrap as~~ evidenced by the documentation provided in Appendix A.

## EXCAVATION AREA ASSESSMENT

Following removal of the tanks, Hoosier visually inspected the two excavations and collected soil samples from the base and sidewalls for field screening. Visual inspection of both of the excavations revealed clean fill sand material throughout the excavation zones. Reddish brown sandy clay exists immediately below the fill material to the bottom of the excavation of tank #1 and ~~a concrete slab was discovered~~ <sup>TANK 223-AUSTP 94</sup> ~~at the bottom of the excavation at tank #2.~~

~~TANK 222-AUSTP 94~~

Initially, samples were screened in the field using a model P101A H-Nu Photoionizable vapor monitor to measure total photoionizable vapors (TPVs). Head space analysis was performed on the collected samples. In order to prepare the samples for headspace analysis, an aliquot was placed in a 250 ml glass sample container until it was three quarters full and the container was sealed with aluminum foil and capped. Following placement in the sample container, the concentration of TPVs within the headspace above the sample was allowed to equilibrate for ten minutes. The TPV monitoring probe was then inserted through the aluminum foil seal into the sample container and the maximum instrument response was recorded as the TPV level.

Tank Pit #1 Inspection

TANK 223-AUSTP 94

During the initial tank pit investigation, TPV readings at building 56 ranged from 5 parts per million (ppm) to 40 ppm. It has been our experience that TPV concentrations below 100 ppm do not represent gross contamination. Furthermore, the product losses observed during the integrity testing of this system can be accounted for by the discovery of product in the interstitial zone of the tank therefore, the decision was made to backfill this excavation.

~~Tank Pit #2 Inspection~~

~~TANK 222-AUSTP '94~~

~~Initial TPV readings in the excavation at building 58 ranged from 5 ppm to 20 ppm. Although these readings indicated only minor contamination, the results of the integrity testing of the system reveal that some contamination should be present. It was therefore determined that further excavation was necessary to determine any migration paths for this product. The excavation investigation revealed sand and gravel material in all directions and was ceased due to the possibility of structural failure in the area. Also during the excavation, a clay-tile sewer line was uncovered. The sewer~~

line had failed and arrangements were made to repair the line prior to backfilling. Based upon this field information, it was decided to backfill this area and perform further investigation using a drill rig equipped with hollow stem augers for sampling.

These field screening results represent an approximate concentration of the TPH in soil and provide only a general indication of soil conditions at the time of tank removal. Accurate quantification of petroleum hydrocarbon concentrations can only be provided by laboratory analysis. Therefore, the samples collected from the north wall, west wall and base of tank #1 excavation ~~and from the north wall, east wall and the base of tank #2 excavation~~ were transported to NET Midwest, Incorporated in Indianapolis, Indiana for analysis. These samples were chosen based on the exhibition of the highest potential for contamination during field screening.

#### Testing Results

BUSTR has set standards of 100 ppm TPH in soils as a level which requires reporting to them. Given the conditions at this site and the guidance referenced above, a 100 ppm

limit for TPH was selected as the maximum level of residual petroleum hydrocarbons in the excavation areas.

Each of the three samples from the tank #1 excavation (BASE, NORTH WALL, WEST WALL) and each of the three samples from the west excavation (BASE, NORTH WALL, EAST WALL) were analyzed for TPH by a gas chromatograph with a flame ionization detector (GC/FID) (See Appendix B for Laboratory Results). NET Midwest, Inc. reported no concentrations of petroleum hydrocarbons above a quantification limit 5.0 ppm in any of the collected samples. Since these laboratory results do not indicate hydrocarbon concentrations above the established limits for this project, it is believed that the environment has not been adversely affected due to previous operations of these tank systems.

#### BACKFILLING OF THE EXCAVATIONS AND SITE RESTORATION

TANK 223-AUSTP 94

Following soil sample collection, the tank #1 excavation was backfilled with sand and excavated soil. ~~The tank #2 excavation was backfilled with fill sand.~~ ~~Following backfilling, B&S replaced the concrete over the tank #2 excavation area.~~ ~~TANK 222 AUSTP '94~~  
~~TANK 223~~  
~~AUG 94~~

---

**APPENDIX B**  
**Laboratory Test Results**



NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.  
Indianapolis Division  
6964 Hillside Court  
Indianapolis, IN 46250  
Tel: (317) 842-4261  
Fax: (317) 842-4286

ANALYTICAL REPORT

Mr. Mike Casper  
HOOSIER ENV. SERVICES, INC  
8021 Castleton Road  
Indianapolis, IN 46250

01-11-90

Sample No.: SEE BELOW

P.O. NO.: 90017

*EG+G TANK #1*

*TANK 223 AUSTP'94*

Sample Description: SEE BELOW

Date Taken: SEE BELOW

Date Received: 01-05-90

PARAMETER: TPH (by GC/FID)\*

| <u>Sample No.</u> | <u>Sample I.D.</u> | <u>Results</u> | <u>Units</u> | <u>Sample Date</u> |
|-------------------|--------------------|----------------|--------------|--------------------|
| 19804             | BASE               | <5.            | ug/g         | 01-04-90           |
| 19805             | NORTH              | <5.            | ug/g         | 01-04-90           |
| 19806             | WEST               | <5.            | ug/g         | 01-04-90           |

\* Semivolatle analysis quantitated against alkane standards.

*J. D. Shafer*

Joseph D. Shafer  
Division Manager





# EG&G MOUND APPLIED TECHNOLOGIES

Final Draft

## *Active Underground Storage Tank Plan*

July 20, 1994

*Prepared for:*

Project Management and Planning  
EG&G Mound Applied Technologies  
One Mound Road  
Miamisburg, Ohio

DAMES & MOORE - INSPECTION & DOCUMENT REVIEW NOTES

|  |                                |                            |                                    |
|--|--------------------------------|----------------------------|------------------------------------|
| CLIENT<br>EG&G Mound Applied Technologies            |                                | JOB NUMBER<br>10805-794    | DATE<br>4/21/94                    |
| JOB TITLE<br>Active Underground Storage Tank Program |                                | D&M TEAM<br>Giantelli      |                                    |
| TANK NO.<br>223                                      | BLDG LOCATION<br>56            | EG&G SPONSOR<br>ER Program | OWNER<br>U.S. DOE                  |
| TANK STATUS<br>Closed                                | TANK CAPACITY (gallons)<br>825 | INSTALLATION DATE<br>1972  | INTERVIEWED WITH<br>INTERVIEW DATE |

TANK DESCRIPTION, Purpose of Tank Diesel Fuel Storage Tank

|   |  |  |  |
|---|--|--|--|
| <b>Tank Material</b><br><input checked="" type="checkbox"/> Bare Steel (unprotected)<br><input type="checkbox"/> Composite (steel & FRP)<br><input type="checkbox"/> Fiberglass Reinforced Plastic<br><input type="checkbox"/> Stainless Steel Lined Concrete<br><input type="checkbox"/> Steel Lined Concrete<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Other - Specify<br><input type="checkbox"/> Unknown | <b>Tank Cathodic Protection</b><br><input type="checkbox"/> Internal Lining - Specify<br><input type="checkbox"/> Sacrificial Anodes<br><input type="checkbox"/> Impressed Current<br><input type="checkbox"/> Composite (Steel & FRP)<br><input type="checkbox"/> Other - Specify<br><input type="checkbox"/> Unknown<br><input checked="" type="checkbox"/> None | <b>Inlet of Tank</b><br>Full Cap<br><br><b>Outlet of Tank</b><br>fuel for emergency enter in Bldg 56 | <b>History of Spills Release</b><br>No<br><br><b>Spill/Overfill Prevention</b><br><input type="checkbox"/> Float Vent Valve<br><input type="checkbox"/> High Level Alarm<br><input type="checkbox"/> Auto Shutoff<br><input type="checkbox"/> Other - Specify n/a<br><input type="checkbox"/> None |
|---|--|--|--|

|   |  |   |  |
|---|--|---|--|
| <b>Piping Material</b><br><input type="checkbox"/> Cathodically Protected Steel<br><input type="checkbox"/> Bare Steel (unprotected)<br><input type="checkbox"/> Fiberglass Reinforced Plastic<br><input type="checkbox"/> Double Walled or Jacketed<br><input type="checkbox"/> Other - Specify<br><input checked="" type="checkbox"/> Unknown | <b>Substance Currently/Last Stored</b><br><input type="checkbox"/> Gasoline<br><input checked="" type="checkbox"/> Diesel<br><input type="checkbox"/> Kerosene<br><input type="checkbox"/> Used Oil<br><input type="checkbox"/> Hazardous Substances - Specify<br><input type="checkbox"/> Other - Specify<br><input type="checkbox"/> Unknown | <b>Tank Site Description</b><br><input type="checkbox"/> Indoor<br><input checked="" type="checkbox"/> Outdoor<br><input type="checkbox"/> Soil<br><input type="checkbox"/> Asphalt/Concrete<br><input type="checkbox"/> Storm Drains, Potential Surface water runoff<br><input type="checkbox"/> Soil Staining | <b>DOE / AEC / PM No:</b><br>n/a<br><br><b>Calibration Records</b><br><br><b>Maintenance Records</b> |
|---|--|---|--|

|   |   |  |   |
|---|---|--|---|
| <b>Tank Release Detection Method</b><br><input type="checkbox"/> Inventory Control<br><input type="checkbox"/> Manual Tank Gauging<br><input type="checkbox"/> Tank Tightness Testing<br><input type="checkbox"/> Automatic In-Tank Monitor & Inventory Control<br><input type="checkbox"/> Vapor Monitoring<br><input type="checkbox"/> Groundwater Monitoring<br><input type="checkbox"/> Secondary Containment with Interstitial Monitoring<br><input type="checkbox"/> Other - Specify<br><input type="checkbox"/> None n/a | <b>Piping Release Detection Method</b><br><input type="checkbox"/> Pressure Piping Automatic Line Flow Restrictor<br><input type="checkbox"/> Pressure Piping Automatic Line Shutoff Device<br><input type="checkbox"/> Line Tightness Test (Pressure Annual, Suction Every 3 yrs)<br><input type="checkbox"/> Vapor Monitoring<br><input type="checkbox"/> Groundwater Monitoring<br><input type="checkbox"/> Approved Suction Piping<br><input type="checkbox"/> Other - Specify<br><input type="checkbox"/> None n/a | <b>Closure</b><br>Date of Last use ~12/19/89<br>Intended Replacement ~1/15/90<br>Closure Plan<br><br>Part of Operable Unit 042 | <b>Primary Regulatory Jurisdiction</b><br>FFA<br><br><b>Spill Jurisdiction</b><br>FFA<br><br><b>Regulated Units</b> |
|---|---|--|---|

DOCUMENTS, REFERENCES USED: DOE, 1992a; DOE, 1993; UST Inspection Sheet; NUS, 1989; "Final Report Underground Storage Tank Removal," January 28, 1990; Dwg No M-4

COMMENTS: Formerly used to supply diesel fuel to an emergency power generator. The tank was closed by removal in December, 1989. (The tank was removed, cut up and disposed of as scrap. The soils were checked but no visible contamination.) The tanks were removed and cleaned in accordance w/ API & Nat'l Fire Protection Assoc. Guidelines. The location is now a part of ER Program, OUG. December 19, 1984 tank was found to leak - removed by January 15, 1990.

SIGNATURE *John Giantelli*

ENVIRONMENTAL RESTORATION PROGRAM

SOIL GAS SURVEY AND GEOPHYSICAL INVESTIGATIONS  
MAIN HILL AND SM/PP HILL AREAS  
RECONNAISSANCE SAMPLING

MOUND PLANT  
MIAMISBURG, OHIO

February 1993

DEPARTMENT OF ENERGY  
ALBUQUERQUE OFFICE

ENVIRONMENTAL RESTORATION PROGRAM  
EG&G MOUND APPLIED TECHNOLOGIES

## 2. SOIL GAS SURVEY

### 2.1. SOIL GAS SAMPLING AND ANALYSIS PROCEDURE

All soil gas sampling was performed by driving 5-foot sections of drill rod and steel points into the subsurface and drawing soil vapor to a gas collection system mounted on a soil gas collection rig. As described in Appendix A of the February 1992 work plan, a vacuum pump draws soil vapors through the sampling apparatus at a flow rate of 100 ml/min. After at least three purge volumes have been vacuumed, a sample cartridge containing a 3-layer carbon sorption tube is attached and used to collect the soil gas sample.

During this investigation, most soil gas probes were installed using a truck-mounted hydraulic hammer. A few locations required manual hammering due to rig access difficulty; however, all sample collection activities were consistent and utilized the truck-mounted soil gas collection rig. Soil gas sampling depths varied according either to planned objectives or to probe penetration refusal which was frequently caused by shallow bedrock or the presence of buried rock/debris.

The five groundwater samples collected during this study were retrieved using 3/8-inch stainless steel bailers and nylon cord lowered down the inside of each probe. Each water sample was carefully poured into laboratory-prepared 40 ml VOA vials for subsequent analysis. Water samples were collected at sample locations 1065 and 1105 (Main Hill at 5 feet in depth), 2036 (Area 7 at 5 feet), and 4157 and 4160 (Building 51 at 25 feet).

All sampling equipment was decontaminated between locations using the procedures described in the work plan. Following the collection of each sample, the probes were pulled from the ground and the remaining hole backfilled with bentonite pellets.

All soil vapor and groundwater samples were analyzed in an on-site mobile laboratory for VOCs using U.S. EPA Method 8021. During the first 10-day field work shift the samples were analyzed for the six compounds described in the PAW. These included Freon 11, 1,2-dichloroethene (cis and trans), TCE, 111TCA, and toluene. Peaks on the gas chromatograph curves showed the presence of additional solvent-type VOCs. Consequently, the laboratory chemist added standards for Freon 113 and PCE, which were the most prevalent of the additional VOCs detected. Quality control samples were collected and analyzed throughout the field effort to monitor VOC interference, check data accuracy, and instrument calibrations, and evaluate purging efficiencies.

Prior to each day's soil gas sampling, field blanks of the entire sampling apparatus were taken and analyzed to check background contamination in the sampling system and cartridges. Duplicate soil gas or shallow groundwater samples were collected from each sampling location. Duplicate analyses were performed on at least 10% of the samples collected. For trip blanks, an unused sample cartridge was transported into the field with the sampling equipment. The trip blank cartridge was handled in the same manner as a sample, but a sample was not collected through this cartridge. The trip blank was returned to the lab with the other samples and analyzed. For ambient blanks, a randomly selected sampling cartridge was analyzed at the first daily location to detail interferences from cartridges or the analytical system.

Table II.1 summarizes the sample identification plan along with a description of quality control samples.

## 2.2. SAMPLE LOCATIONS AND DEPTHS

Table II.2 summarizes the sampling effort performed during this investigation, including a description of the collection dates, locations, depths, QA/QC identifications, and miscellaneous comments. The samples identified in Table II.2 were analyzed by the mobile laboratory. The variability of the identifications presented in the table is due to the discretion of the laboratory chemist, who for quality control purposes, would analyze some or all of the investigative, duplicate, or quality control samples collected at each location. Factors such as sample volume and sample dilution dictated whether the investigative or duplicate sample was analyzed. For ease of presentation, the base map included as Plate A is divided into six individual base maps within the text. These six base maps consist of Main Hill West, Main Hill East, Area J, Building 51 and Area 7, Main Parking Lot, and southwest of Main Hill. Sample locations within each of these areas are illustrated on Figures 2.1 through 2.6, respectively.

The discretionary sample locations and target depths were selected following completion of the sampling effort described in the PAW. Preliminary analytical results were distributed to personnel from U.S. EPA, OEPA, DOE, EG&G, and WESTON for review. Discussions were then held to select the additional 45 discretionary sample locations. Rationale for selection included the characterization of undefined areas, the better definition of nearby detected vapors, and the vertical profiling of contaminated areas.

Some deviations from the original work plan occurred during the field effort. The most common deviation was sampling depth, which was controlled by soil gas probe refusal depth. Table II.3 summarizes these deviations.

TABLE II.4. SUMMARY OF POSITIVE DETECTIONS—MAIN HILL  
(pjb)

| SAMPLEID         | SAMPLE DATE | FREON 11 | FREON 113 | TRAN-12DCE | CIS-12DCE | 111TCA | PCE | TCE  | TOLUENE |
|------------------|-------------|----------|-----------|------------|-----------|--------|-----|------|---------|
| MND-01-1113-0005 | 17 AUG 92   | ---      | ---       | ---        | ---       | ---    | --- | 11   | ---     |
| MND-01-1114-0005 | 17 AUG 92   | ---      | 9         | ---        | ---       | 315    | 10  | 357  | 5*      |
| MND-01-1114-1005 | 17 AUG 92   | ---      | ---       | ---        | ---       | 259    | 9   | 263  | 3*      |
| MND-01-1115-0005 | 17 AUG 92   | ---      | ---       | ---        | ---       | 58     | --- | 13   | ---     |
| MND-01-1117-0005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | 12  | 8    | ---     |
| MND-01-1117-1005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | 15  | 9    | ---     |
| MND-01-1118-0005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | 3   | ---  | ---     |
| MND-01-1119-0005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 213     |
| MND-01-1122-0005 | 18 AUG 92   | 001      | 13        | ---        | ---       | ---    | --- | ---  | ---     |
| MND-01-1123-0005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 5*      |
| MND-01-1124-0005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 8884*   |
| MND-01-1127-0005 | 18 AUG 92   | ---      | ---       | ---        | ---       | ---    | 4   | ---  | 27*     |
| MND-01-1129-0005 | 18 AUG 92   | ---      | 10        | ---        | ---       | 37     | 12  | 4    | 11*     |
| MND-01-1190-0005 | 24 SEP 92   | 240      | 477       | ---        | ---       | ---    | --- | ---  | 3*      |
| MND-01-1190-1005 | 24 SEP 92   | 287      | 707       | ---        | ---       | ---    | --- | ---  | 3*      |
| MND-01-1192-0005 | 24 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 5*      |
| MND-01-1193-0005 | 24 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 16*     |
| MND-01-1196-0005 | 25 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | 4    | 64      |
| MND-01-1197-0002 | 25 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | 23   | 5       |
| MND-01-1198-0008 | 25 SEP 92   | ---      | 24        | 13         | 518       | 33     | --- | 474  | 5       |
| MND-01-1199-0002 | 25 SEP 92   | ---      | 10218     | ---        | 120       | ---    | --- | 478  | ---     |
| MND-01-1201-0007 | 25 SEP 92   | ---      | 4716      | 13         | 811       | ---    | --- | 130  | 48      |
| MND-01-1201-1007 | 25 SEP 92   | ---      | 5895      | ---        | 612       | ---    | --- | 117  | 43      |
| MND-01-1202-0002 | 25 SEP 92   | ---      | 6419      | 68         | 2499      | 9      | --- | 1821 | 3       |
| MND-01-1202-1002 | 25 SEP 92   | ---      | 9301      | 41         | 1708      | ---    | --- | 1737 | ---     |
| MND-01-1203-0002 | 25 SEP 92   | ---      | 1475      | ---        | 334       | ---    | --- | 45   | 182     |
| MND-01-1204-0005 | 25 SEP 92   | ---      | 453       | ---        | ---       | ---    | --- | 11   | 5       |
| MND-01-1205-0005 | 25 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 21      |
| MND-01-1206-0005 | 25 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 23142   |
| MND-01-1207-0005 | 26 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 90      |
| MND-01-1227-0005 | 28 SEP 92   | ---      | 10        | ---        | ---       | ---    | --- | ---  | 4700    |
| MND-01-1228-0005 | 28 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 11      |
| MND-01-1230-0005 | 28 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 13      |
| MND-01-1230-1005 | 28 SEP 92   | ---      | ---       | ---        | ---       | ---    | --- | ---  | 5       |
| MND-01-1231-0005 | 28 SEP 92   | ---      | 48        | ---        | ---       | ---    | 34  | 21   | 5       |
| MND-01-1232-0005 | 28 SEP 92   | ---      | 4         | ---        | ---       | ---    | 13  | 8    | 24      |
| MND-01-1233-0002 | 29 SEP 92   | ---      | 29        | ---        | ---       | ---    | --- | ---  | 72      |
| MND-01-1233-1002 | 29 SEP 92   | ---      | 29        | ---        | ---       | ---    | --- | ---  | 64      |

location  
1208 not  
list Fed  
therefore  
No  
positive  
detections

Notes:

- Only sample locations having positive detections are shown.
- \*: Associated trip, ambient, equipment or field blank contained specified compound.
- B: Indicates blank sample.
- w: Indicates water sample.
- \*\* : Freon 113 & TCE Off-Scale

Table I.1. Main Hill Sites Contiguous With... Area of Soil Vapor Survey (Page 6 of 6)

| Site Name   | Location           | Potential Contaminants  | Relative Soil Vapor Survey Target Compounds |
|---|--------------------|---|---|
| Room RD-128 Alpha Wastewater Tank (Tank 19)               | R Bldg.            | Alpha wastewater generated in R Bldg.   |   |
| Room SW-8 Beta Wastewater Tank (Tank 20)                  | SW Bldg.           | Beta wastewaters from Rooms SW-8, SW-13, and SW-19, Trilium                   |   |
| Room SW-125 Beta Wastewater Tank (Tank 21)                | SW Bldg.           | Beta wastewaters from Room SW-125, Trilium                                    |   |
| Room SW-143 Beta Wastewater Tank (Tank 22)                | SW Bldg.           | Beta wastewater from production processes in SW Bldg., Trilium                |   |
| R/SW/T Building Stack Diesel Fuel Storage Tank (Tank 117) | R/SW/T Bldg. Stack | Diesel fuel   | Toluene                                     |
| Building 57 Diesel Fuel Storage Tank (Tank 118)           | Bldg. 57           | Diesel fuel   | Toluene                                     |
| TF2 Building Diesel Fuel Storage Tank (Tank 122)          | TF2 Bldg.          | Diesel Fuel   | Toluene                                     |
| WD Building Annex Alpha Effluent Tank (Tank 214)          | WD Bldg. Annex     | Contaminants listed under WD Building Alpha Wastewater Influent Tank (Tank 3) |   |
| WD Building Annex Alpha Effluent Tank (Tank 215)          | WD Bldg. Annex     | Contaminants listed under WD Building Alpha Wastewater Influent Tank (Tank 3) |   |
| WD Building Annex Alpha Effluent Tank (Tank 216)          | WD Bldg. Annex     | Contaminants listed under WD Building Alpha Wastewater Influent Tank (Tank 3) |   |
| Building 58 Diesel Fuel Storage Tank (Tank 222)           | Bldg. 58           | Diesel fuel   | Toluene                                     |
| Building 56 Diesel Fuel Storage Tank (Tank 223)           | Bldg. 56           | Diesel fuel   | Toluene                                     |
| Room T-3 Floor Drain Sump (Tank 228)                      | T Bldg.            | Wastewater from nonradiological work area floor drains                        |   |

Release Site Data Base, April 1992



***MOUND SOIL SCREENING  
FACILITY***

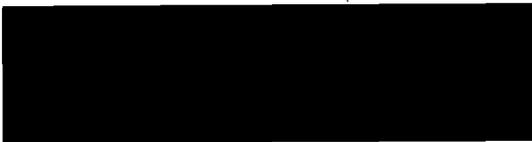
***DAILY REPORTS***

SOIL SCREENING FACILITY  
Data Management System

CONT Sample's, taken by [REDACTED] 5604  
DAILY REPORT FOR December 19, 1989

| SAMPLE NUMBER | DATE               | SAMPLER         | TYPE | TH 232 pCi/g | PU 238 pCi/g | GRID & SAMPLE LOCATION               | WELL ID |
|---------------|--------------------|-----------------|------|--------------|--------------|--------------------------------------|---------|
| 1             | 8912193 : 12/19/89 | [REDACTED] 5604 | CONT | 0.8:         |              | 14: W 3825 X S 1825 #1 SURFACE SAMPL | B       |
| 2             | 8912194 : 12/19/89 | [REDACTED] 5604 | CONT | 1.3:         |              | 3: W 3825 X S 1825 #2 AT 6"          | C       |
| 3             | 8912195 : 12/19/89 | [REDACTED] 5604 | CONT | 0.8:         |              | 17: W 3825 X S 1825 #3 AT 18"        | B       |

Samples taken DURING EXCAVATION OF FUEL TANK AT BLD-56  
 (CHECKER BOARD WATER TOWER) NO SIDLER READINGS ABOVE NORMAL BKG.  
 All samples were within guidelines



NP 5604  
K3937

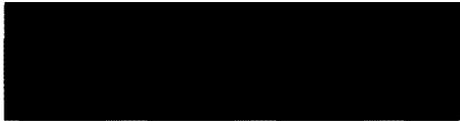
COPY

SOIL SCREENING FACILITY  
Data Management System

CONT Sample's, taken by [REDACTED] 5604  
DAILY REPORT FOR January 4, 1990

| SAMPLE : DATE          | SAMPLER         | SAMPLE : TH 232 | PU 238 | GRID & SAMPLE             | WELL |
|------------------------|-----------------|-----------------|--------|---------------------------|------|
| NUMBER : SCREEN        |                 | TYPE : pCi/g    | pCi/g  | LOCATION                  | ID   |
| 1 9001043 : 01/04/90 : | [REDACTED] 5604 | : CONT :        | 0.7:   | 11: W3825 X S1825 #1 @ 7' | : B  |
| 2 9001044 : 01/04/90 : | [REDACTED] 5604 | : CONT :        | 1.2:   | 8: W3825 X S1825 #2 @ 8'  | : C  |

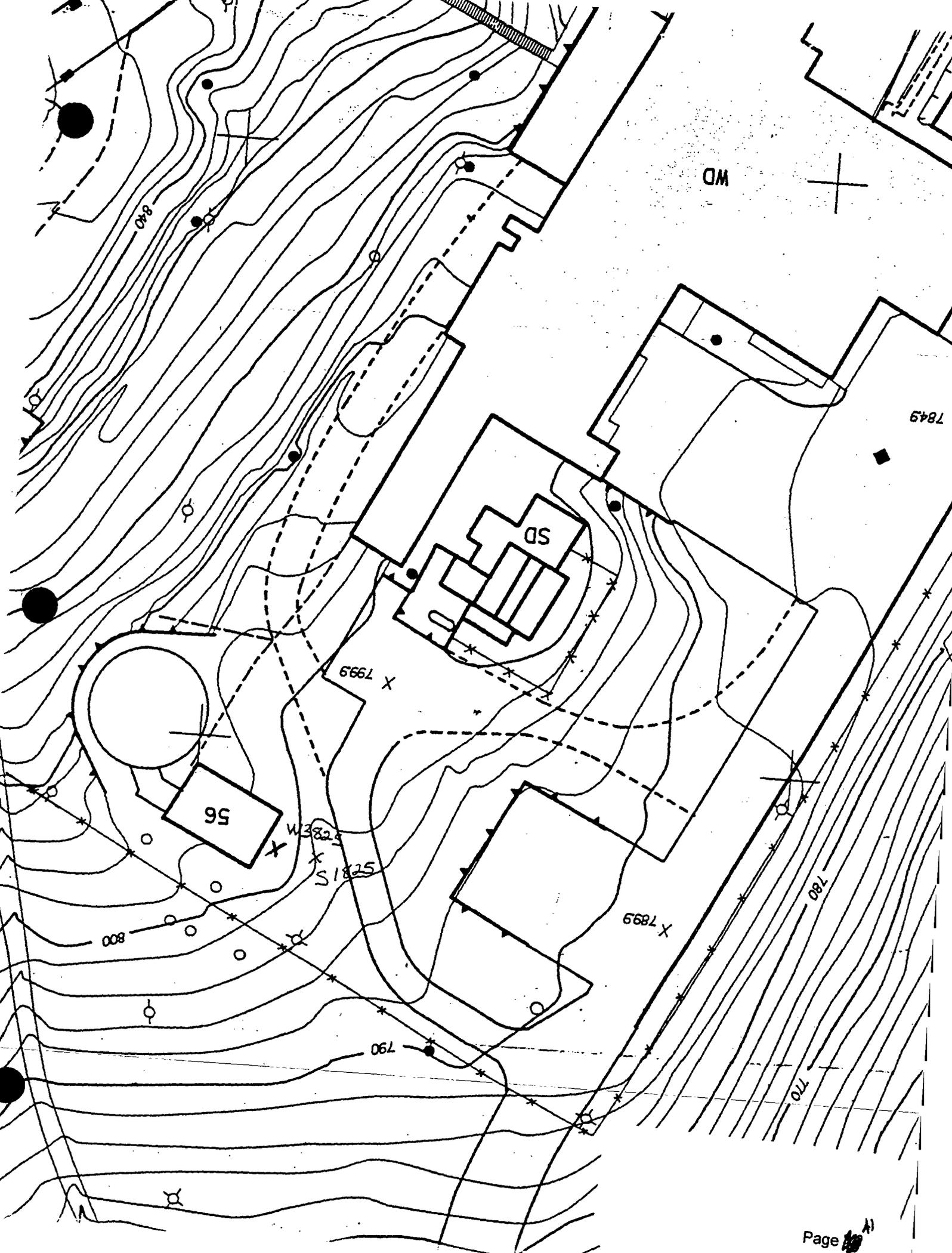
Samples taken after the removal of the fuel tank at  
BLD-56, other samples were taken by Hoosier Environmental  
for analysis of Diesel Fuel Contamination.



HP 5604

X 3937

COPY



DM

7849

SD

56

7999

W 3825

S 1825

7899

780

770

840

800

790

Environmental Restoration Program

**Operable Unit 2, Technical  
Memorandum 1: Preinvestigation  
Evaluation of Remedial Action  
Technologies (PERAT)**

**Mound Plant  
Miamisburg, Ohio**

**August 1991**

**Draft**

**(Revision 0)**

**Department of Energy  
Albuquerque Operations Office**

Environmental Restoration Program  
Technical Support Office  
Los Alamos National Laboratory



**Table II.10. VOC Concentrations ( $\mu\text{g/L}$ )  
in Groundwater Samples Collected from Monitoring Wells on the  
Main Hill from January 1989 to January 1990**

| Well | Parameter                  | 1989 |     |     |                |     | 1990 |     | MCL             |
|------|----------------------------|------|-----|-----|----------------|-----|------|-----|-----------------|
|      |                            | Jan  | Feb | Mar | Apr            | Jul | Oct  | Jan |                 |
| 0028 | 1,1,1-Trichloroethane      | NS   | NS  | NS  | NS             | 0.7 | NS   | NS  | 200             |
| 0115 | 1,2-Dichloroethene (total) | NS   | NS  | NS  | 2 <sup>a</sup> | ND  | ND   | ND  | 70 <sup>b</sup> |
|      | Tetrachloroethene          | NS   | NS  | NS  | ND             | 1   | 0.4  | 0.7 | 5               |
|      | Trichloroethene            | NS   | NS  | NS  | 4 <sup>a</sup> | 3.5 | 1.5  | 1.8 | 5               |
| 0120 | 2-Hexanone                 | NS   | NS  | NS  | 1 <sup>a</sup> | ND  | ND   | NS  | NA              |
| 0122 | Trichloroethene            | NS   | NS  | NS  | 2 <sup>a</sup> | ND  | ND   | ND  | 5               |

<sup>a</sup> Estimated value less than the detection limit

<sup>b</sup> Proposed MCL for *cis*, 70  $\mu\text{g/L}$ ; *trans* 100  $\mu\text{g/L}$

MCL - Maximum Contaminant Level

NA - No current MCL

ND - Contaminant was not detected

NS - Well was not sampled

VOC - Volatile organic compound