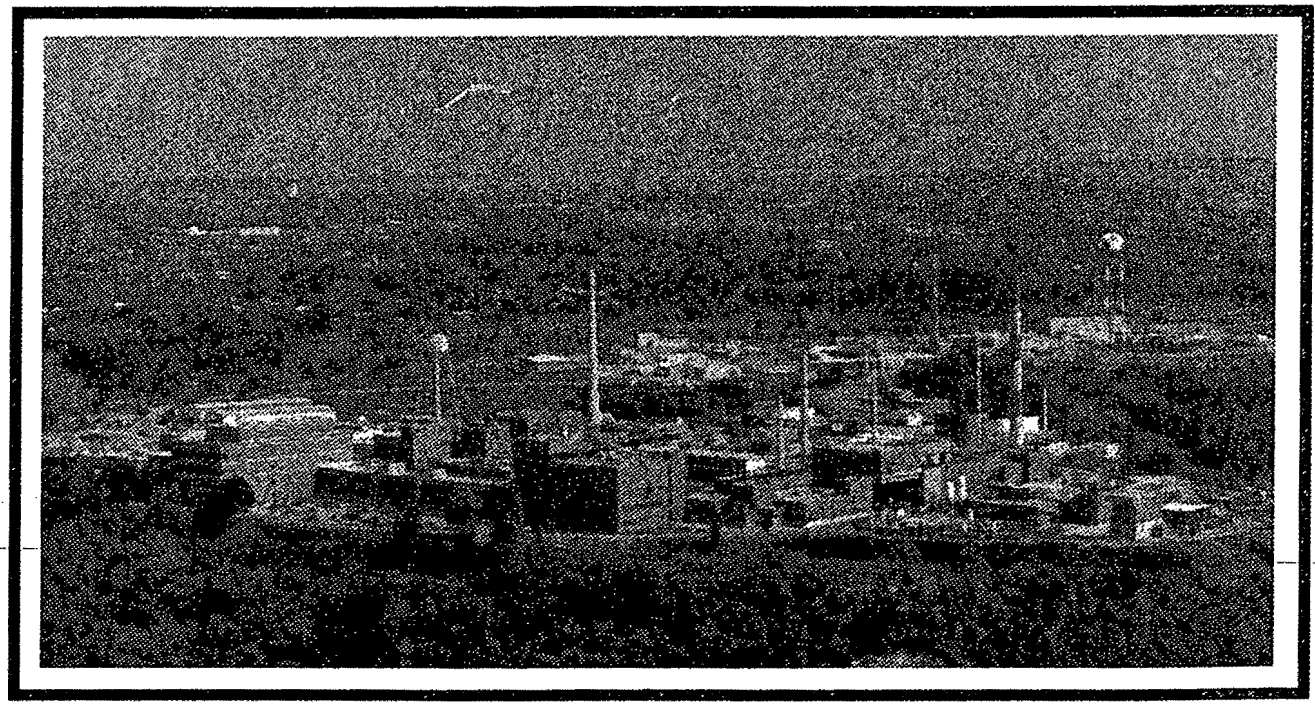
EG&G MOUND-30-03-04-02--9702030048

MOUND

Environmental Restoration Program

MOUND PLANT
Potential Release Site Package
PRS # 85



REV	DESCRIPTION	DATE
PUBLIC RELEASE **0**	Available for comment.	**Nov. 21, 1996**
FINAL **1**	Comment period expired. No comments. Recommendation page annotated.	Jan. 6, 1997

Miamisburg News
Miamisburg, OH
(W = 7,000)

THE MIAMISBURG/WEST CARROLLTON NEWS
November 27, 1996

MOUND

Environmental Restoration Program

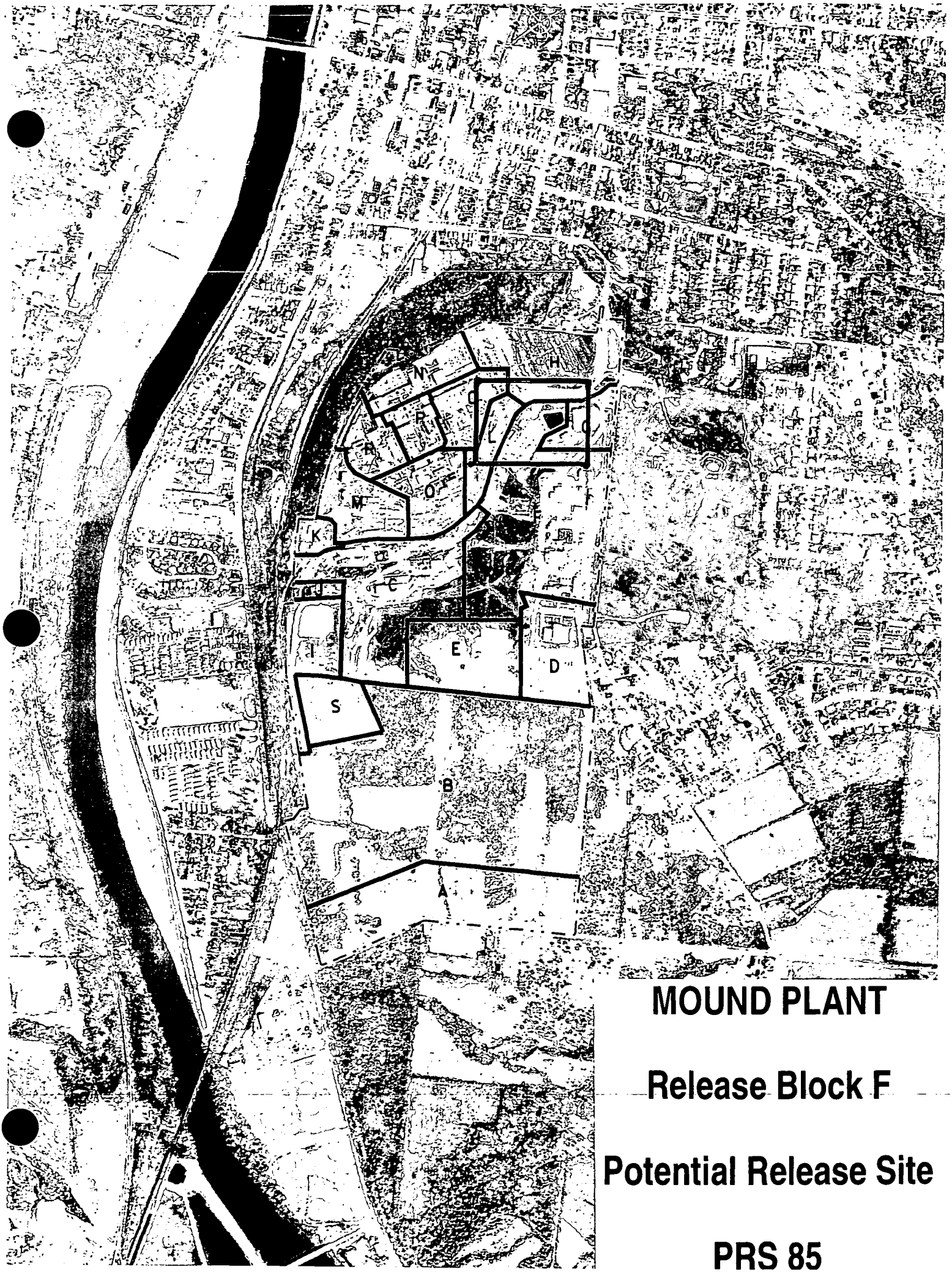
MOUND PLANT POTENTIAL RELEASE SITE PACKAGE

Notice of Public Review Period

The following potential release site (PRS) packages will be available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio beginning November 29, 1996. Public comment will be accepted on these packages from November 29, 1996, through January 1, 1997.

PRS 37/399, 57, 58, 65/402/403/404, 75, 85, 86

Questions can be referred to Mound's Community Relations at (513) 865-4140.



MOUND PLANT

Release Block F

Potential Release Site

PRS 85

N
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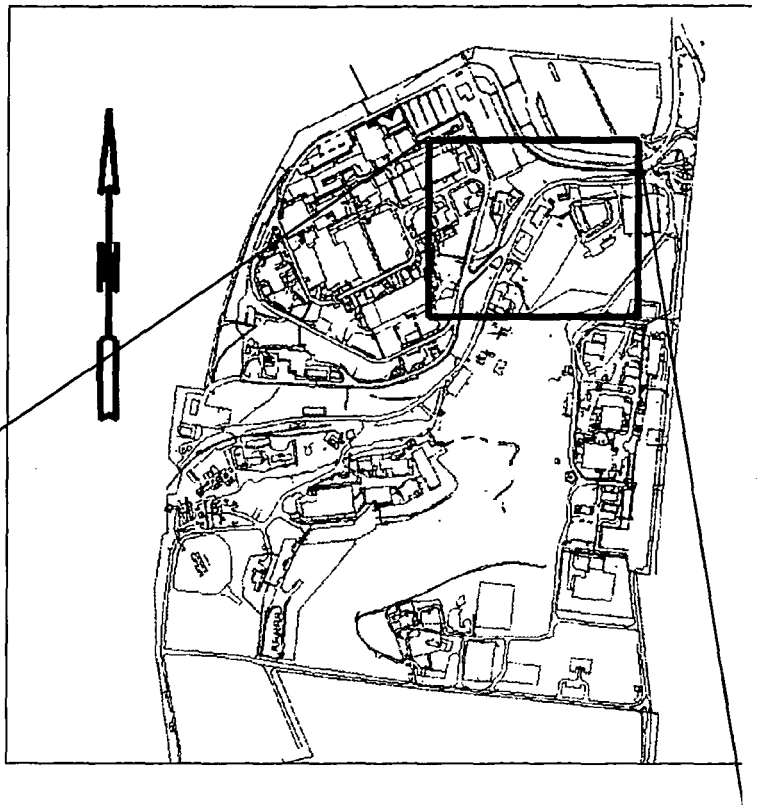
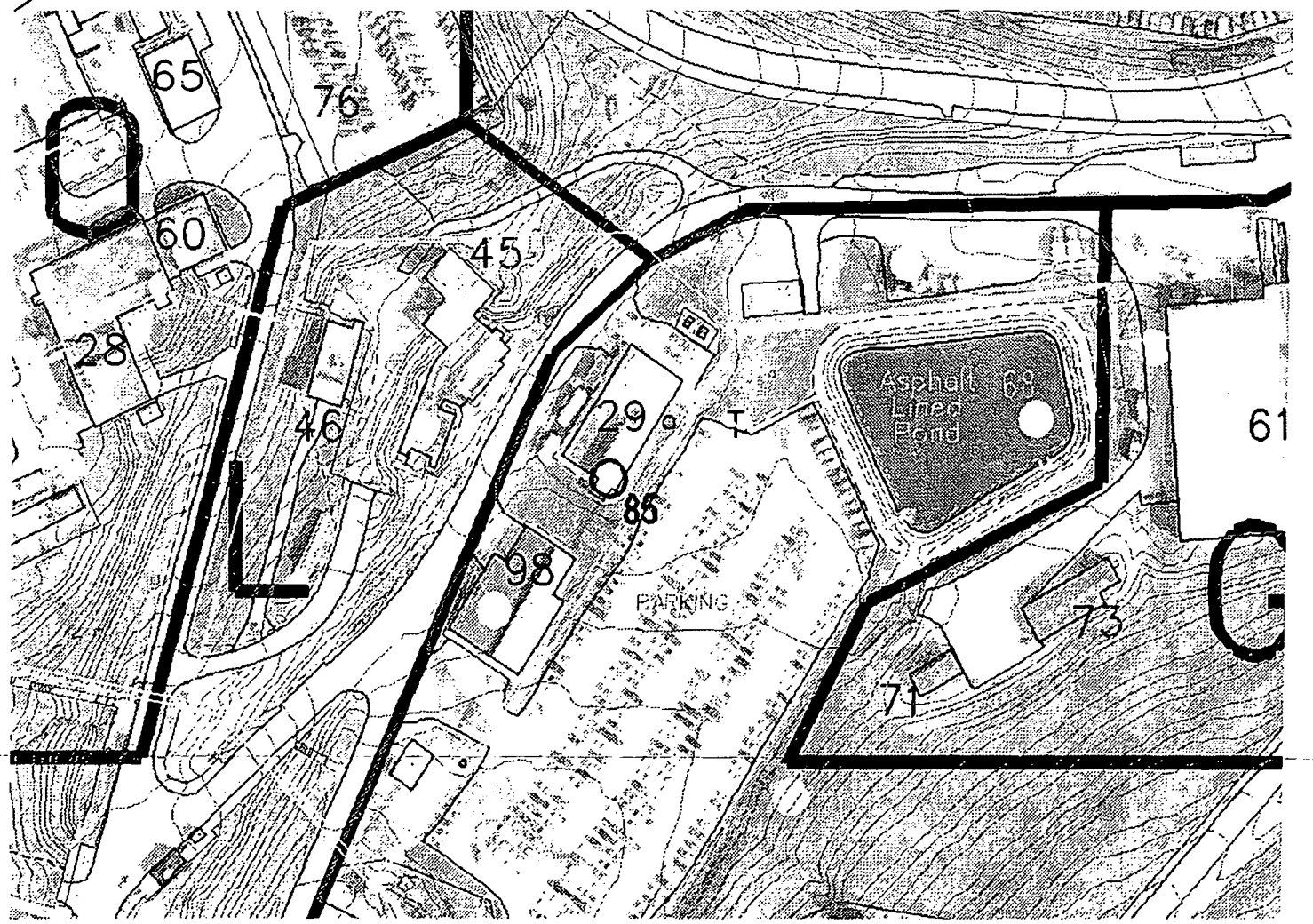
Mound Plant

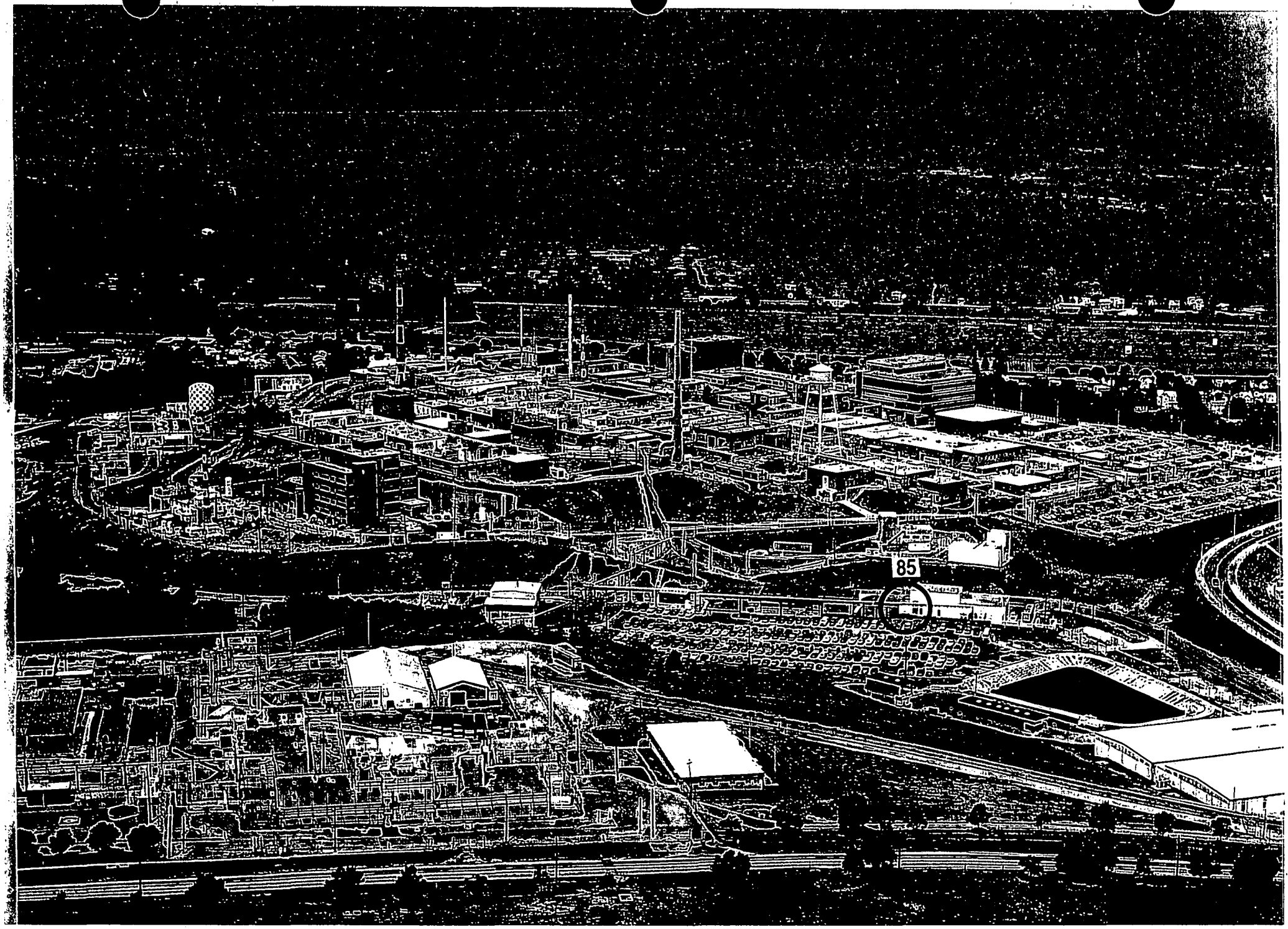
Release Block F

Potential Release Site

PRS 85






85

PRS 85

PRS HISTORY:

Potential Release Site (PRS) 85 is the area at the west end of Building 29 which contains the Building 29 solvent storage shed. The solvent storage shed is an inactive stand-alone building, approximately 11 feet wide by 10 feet high, and is constructed of sheet metal. It is placed on a concrete pad which is curbed on three sides. The construction and operation of the shed began in 1972 and it became inactive in 1990. Acetone was stored inside the shed in 55-gallon drums and was pumped into Building 29 through overhead transfer lines. Spent solvent was pumped from Building 29 back into the solvent shed and into drums for disposal. Mound personnel indicated that acetone was the only solvent stored in the shed and that the time length of storage was short term, approximately two weeks. There is no history of spills.[2] There is no history of radiological processes occurring in Building 29 or the solvent storage shed. Due to the history of storing solvent (acetone) in the shed, the area west of Building 29 was identified as potential release site 85.[1]

CONTAMINATION:

In August of 1992, the *Soil Gas and Geophysical Investigations Survey* was conducted. This survey included the area west of Building 29. The results indicated detections of Freon 11 at 32 ppb, Freon 113 at 4 ppb, cis-1,2 dichloroethene (DCE) at 3 ppb, 111 trichloroethane (TCA) at 6 ppb, and toluene at 242 ppb.[3] Detections of DCE, TCA, and toluene are well below calculated acceptable values and do not pose a threat to groundwater from this PRS.[6] No guideline values are available for Freon 11 or Freon 113.

In 1984, one surface soil sample was analyzed for plutonium and thorium, as part of *the Site Radiological Survey*. The results indicated Pu-238 at 0.29 pCi/g and Thorium less than 2 pCi/g.[4] Both are below the established guideline values of 25 pCi/g for Pu-238 (ALARA) and 5 pCi/g for thorium.[7]

In 1994, the *OU5, Operational Area Phase I Investigation* was conducted to further assess the area for chemical, metal, explosives, pesticides/PCBs and radioactive contamination.[5] Two borings were taken in the vicinity of PRS 85. Results indicated no levels of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/PCBs, metals, or radionuclides above established guideline values.[7, 8] PETREX soil gas analysis was not performed in the area.[9]

READING ROOM REFERENCES:

1) OU9, Site Scoping Report: Volume 12 - Site Summary Report, December 1994. (pages 6-9)
2) OU9, Site Scoping Report: Volume 7 - Waste Management, February 1993. (pages 10-12)
3) Soil Gas Survey and Geophysical Investigations, Main Hill and SM/PP Hill Areas Reconnaissance Sampling, February 1993. (pages 13-15)
4) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey, June 1993. (pages 16-18)
5) OU5, Operational Area Phase I Investigation, Area 7 Field Report, June 1995. (pages 19-30)
8) Risk Based Guideline Values, December 1995, Final, Rev 0.
9) OU5, Operational Area Phase I Investigation, Non-AOC Field Report, Volume II, Appendices A-G, June 1995. (pages 33-37)

OTHER REFERENCES:

6) Comparison of Actual Soil Gas Values with Calculated Acceptable Soil Gas Values. (pages 31-32)
7) Code of Federal Regulations 40 CFR 192.12 and 40 CFR 192.41.

PREPARED BY:

Gary L. Coons, Member of EG&G Technical Staff

MOUND PLANT
PRS 85
BUILDING 29 SOLVENT STORAGE SHED AREA

RECOMMENDATION:

Potential Release Site (PRS) 85 was identified due to its use as a solvent storage shed. Construction and operation of the shed began in 1972 and the shed became inactive in 1990. Acetone was the only solvent stored in the shed.

Subsequent to the removal of the shed, the 1992 Soil Gas and Geophysical Investigation and the OU5 Operational Area Phase I Investigation indicated that organic contaminants are below their applicable guideline or calculated guideline criteria. Additionally, there is no history of spills or radiological processes in the area.

Therefore, since no evidence of contamination exists, PRS 85 is recommended for NO FURTHER ASSESSMENT.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager 11/21/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager 11/19/96 (date)

OEPA: Brian K. Nickel, Project Manager 11/21/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 11/29/96 to 01/01/97

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

Page R

REFERENCE MATERIAL
PRS 85

Document Control No. _____

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

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
85	Building 29 Solvent Storage Shed	E-8	Inactive	Acetone	4	Suspected	S	4	1 14	SGS[b] Table B.3 Location 2137 Table B.9 RSS Location S0275	12 6
86	Building 29 Septic Tank (Tank 224)	E-9	Historical	Actinium-227, Radon-222, Thorium-228, Radium-226	3, 4, 6	Suspected	S	4, 6	2	Table B.9 (See discussion for Area 7 in Ref. 6)	6
87	Building 49 Solvent Storage Shed	G-7	Inactive	Organic solvents (including trichloroethene, isopropanol, ethanol, freon-TF, hexane)	4 9	Suspected	S	4	No Data		
88	Tritium in Buried Valley Aquifer	H-4	Historical	Tritium	1 18	Tritium, historically remediated	GW	18	16	Table B.9	11 18
89	Test Fire Residual Storage Area	H-7	In service	Unexploded detonation devices	4, 5, 18	None Suspected		5	No Data		
90	Site Survey Project Potential Hot Spot Location S0425	G-8	Grounds	Thorium	6	Unknown			14	Table B.9 (Appendix E in Ref. 6)	6
91	Main Hill Seep 0601	F-5	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	3, 4, 5, 10, 11, 16	Tables B.6, B.7, B.8, and B.9	18
[illegible]	Main Hill Seep 0602	G-7	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	3, 4, 5, 10, 11, 16	Tables B.6, B.7, B.8, and B.9	18
	Main Hill Seep 0603	D-8	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	No Data		
	Main Hill Seep 0604	D-6	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	No Data		
	Main Hill Seep 0605	D-6	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	3, 4, 5, 10, 11, 16	Tables B.6, B.7, B.8, and B.9	18
	Main Hill Seep 0606	C-7	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	No Data		
	Main Hill Seep 0607	C-7	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	3, 4, 5, 10, 11, 16	Tables B.6, B.7, B.8, and B.9	18
	Main Hill Seep 0608	D-6	NA	Tritium, VOCs	5, 18	Tritium, VOCs	SW	13	3, 4, 5, 10, 11, 16	Tables B.6, B.7, B.8, and B.9	18

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 1992e "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."

Table B.9. Summary of Radiological Data[a,b]

Site Name	Radiological Contaminants															
	Potassium-40	Plutonium-239	Plutonium-238	Cesium-137	Thorium-Total	Tritium	Thorium-232	Cobalt-60	Radium-224, -226, -228	Radon-222	Americium-241	Actinium-227	Uranium-233, -234, -238	Bismuth-210m	Bismuth-207	Reference
79. Warehouse 15			0.52		<2		10.									6
80. Warehouse 15A			0.7				10.									6
85. Building 29 Solvent Storage Shed	NA	NA	0.29	NA	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6
86. Building 29 Septic Tank (Tank 224)				1.2					2.0			1,400				6
88. Tritium in Buried Valley Aquifer						20										11,18
90. Site Survey Project Potential Hot Spot Location 80425			1.08		5.74											6
91. Main Hill Seep 0601 (f)				10		1033		82								18
92. Main Hill Seep 0602 (f)						16.17										18
95. Main Hill Seep 0605 (f)						56.60										18
97. Main Hill Seep 0607 (f)						89.56										18

(a) - All units are reported in pCi/g unless otherwise noted.
(b) - Blank spaces implies not sampled.
(c) - Additional data on other analytes are available in reference 16.
(d) - Groundwater data. Unit of measure is pCi/L.
(e) - This site is the same as Site #19.
(f) - Groundwater data. Unit of measure is nCi/L.

LDL - Lower Detection Limit.
ND - Not detected.
NA - Not analzyed for.
NR - No result reported.

References:
6) DOE 1993d
7) DOE 1993c
11) Styron and Meyer 1981
13) DOE 1993d
18) DOE 1992a
24) DOE 1994

Document Control No. _____

Environmental Restoration Program

EG&G MOUND-29-01 -01 -07 -07 -9502080001

OPERABLE UNIT 9, SITE SCOPING REPORT: VOLUME 7 - WASTE MANAGEMENT

MOUND PLANT
MIAMISBURG, OHIO

February 1993

FINAL
(Revision 0)

Department of Energy
Albuquerque Field Office

Environmental Restoration Program
EG&G Mound Applied Technologies

to be free of contaminants prior to the construction of the building addition. The quantity of solvents used in the E Building has since been reduced. Since the removal of the solvent storage shed, these solvents are kept inside the E Building in appropriate cabinets (Pardieck 1991).

5.3.15. Building 29 Solvent Storage Shed (Inactive)

The Building 29 solvent storage shed is on the west end of Building 29, in the north-central portion of Mound (Figure 5.1). The solvent storage shed is a stand-alone building, approximately 11 ft wide by 10 ft high, and is constructed with sheet metal walls and roof. It is placed on a concrete pad. The floor is contained on three sides by a 4-inch-high curb, the remaining side of the floor is uncurbed.

Construction and operation of the solvent storage shed began in 1972. Acetone stored inside the shed in 55-gallon drums is pumped from the drums through transfer lines into Building 29 where it is used. Spent solvent is pumped from Building 29 back into the solvent shed and into drums for disposal. Acetone is the only solvent that has been stored in the shed for use in Building 29. A 55-gallon drum of propanol was delivered by mistake and is currently stored in the shed. However, Mound personnel indicated that acetone is the only solvent intentionally used and stored in the shed.

Prior to construction of the shed, acetone was stored in drums in Room 7 of Building 29. The acetone was used in the building. Waste acetone was drummed for disposal. The drummed waste was picked up by waste management personnel.

The solvent storage shed became inactive approximately two years ago when the process using acetone in Building 29 was shut down. The shed is in a standby mode and may go operational depending upon future plans. This shed was not described in the RFA (EPA 1988).

5.4. STORM WATER RETENTION AND DISCHARGE SYSTEM

The Storm Water Retention and Discharge System (SRDS) consists of three engineered structures constructed along the plant drainage ditch to control the movement of surface water and sediments contaminated with low-levels of plutonium-238. The SRDS surface impoundments include the asphalt-lined pond, the retention basins and weir basin, and the overflow pond. Surface water and sediment samples were collected from the surface impoundments of the SRDS in 1987 as part of the DOE Water and Sediment Sampling/Analysis Program performed by International Technology Corporation (IT 1987). A description of each impoundment and a summary of analysis results are presented in the following sections.

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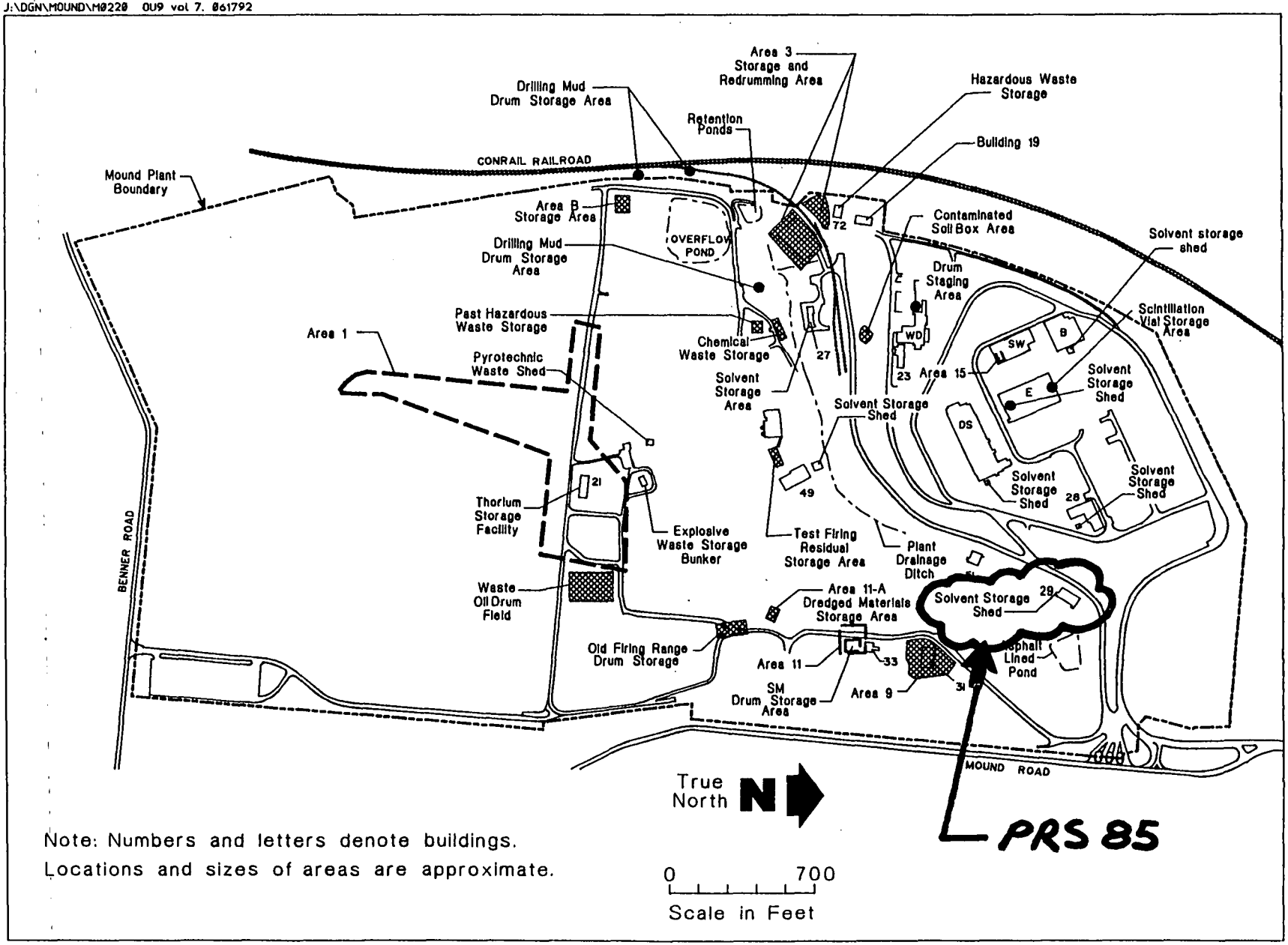


Figure 5.1 Waste storage areas.

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

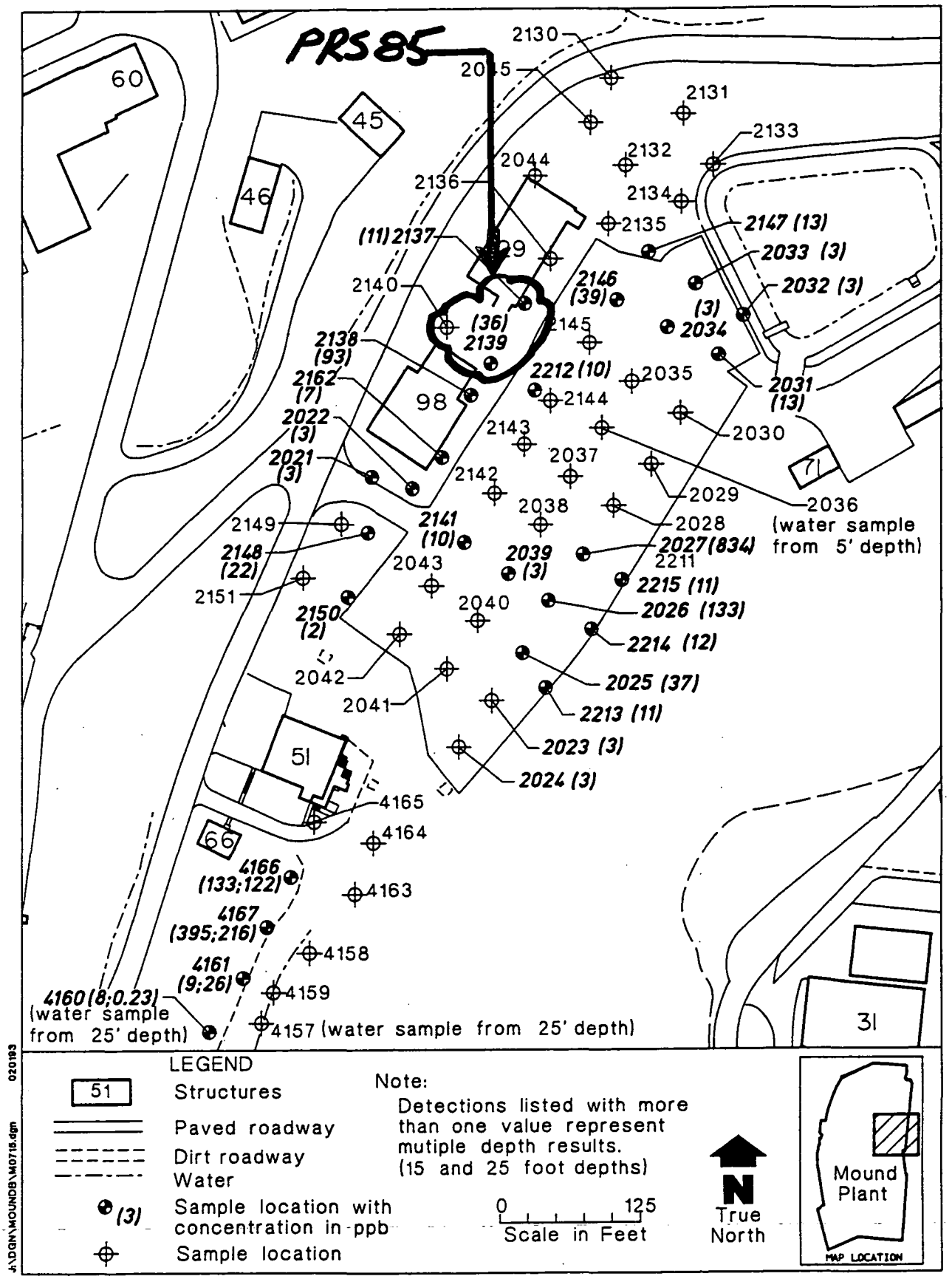


Figure 2.36. Total VOCs detection map for Area 7 and Building 51.

TABLE II.10 SUMMARY OF POSITIVE DETECTIONS–AREA 7
(ppb)

SAMPLE ID	SAMPLE DATE	FREON 11	FREON 113	TRAN–12DCE	CIS–12DCE	111TCA	PCE	TCE	TOLUENE
MND–01–2021–0005	1 AUG 92	---	---	---	---	---	---	---	3
MND–01–2022–0005	1 AUG 92	---	---	---	---	---	---	---	3
MND–01–2023–0005	1 AUG 92	---	---	---	---	---	---	---	3
MND–01–2024–0005	1 AUG 92	---	---	---	---	---	---	---	3
MND–01–2025–0005	1 AUG 92	---	---	---	---	---	---	---	37
MND–01–2026–0005	1 AUG 92	---	---	---	---	---	---	---	133
MND–01–2027–0005	1 AUG 92	---	---	---	---	9	---	---	825
MND–01–2031–0005	1 AUG 92	---	---	---	---	---	---	---	13
MND–01–2032–0005	2 AUG 92	---	---	---	---	---	---	---	3
MND–01–2033–0005	2 AUG 92	---	---	---	---	---	---	---	3
MND–01–2034–0005	2 AUG 92	---	---	---	---	---	---	---	3
MND–01–2034–1005	2 AUG 92	---	---	---	---	---	---	---	3
MND–01–2036–0005w	3 AUG 92	---	---	---	---	---	---	---	242 *
MND–01–2036–1005w	3 AUG 92	---	---	---	---	---	---	---	218 *
MND–01–2039–0005	2 AUG 92	---	---	---	3	---	---	---	---
MND–01–2044–0005	3 AUG 92	---	---	---	---	---	---	---	13 *
MND–01–2137–1005	24 AUG 92	---	---	---	---	6	---	---	5
MND–01–2138–0005	24 AUG 92	11	---	---	---	2	---	---	80
MND–01–2139–0005	25 AUG 92	32	4	---	---	---	---	---	3 *
MND–01–2141–0005	25 AUG 92	---	---	---	10	---	---	---	5 *
MND–01–2142–0005	25 AUG 92	---	---	---	---	---	---	---	11*
MND–01–2142–1005	25 AUG 92	---	---	---	---	---	---	---	11*
MND–01–2145–0005	25 AUG 92	---	---	---	---	---	---	---	5 *
MND–01–2146–0005	25 AUG 92	---	33	---	---	---	6	---	---
MND–01–2147–0005	25 AUG 92	---	13	---	---	---	---	---	---
MND–01–2148–0005	26 AUG 92	---	---	---	---	22	---	---	---
MND–01–2149–0005	26 AUG 92	---	---	---	---	---	---	---	5 *
MND–01–2149–1005	26 AUG 92	---	---	---	---	---	---	---	5 *
MND–01–2150–0005	26 AUG 92	---	---	---	---	2	---	---	5 *
MND–01–2162–0005	30 AUG 92	7	---	---	---	---	---	---	---
MND–01–2212–0015	26 SEP 92	---	10	---	---	---	---	---	---
MND–01–2213–0005	26 SEP 92	---	---	---	---	---	---	---	11
MND–01–2214–0005	26 SEP 92	---	---	---	---	---	7	---	5
MND–01–2215–0005	26 SEP 92	---	---	---	---	---	---	---	11

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.

ENVIRONMENTAL RESTORATION PROGRAM

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

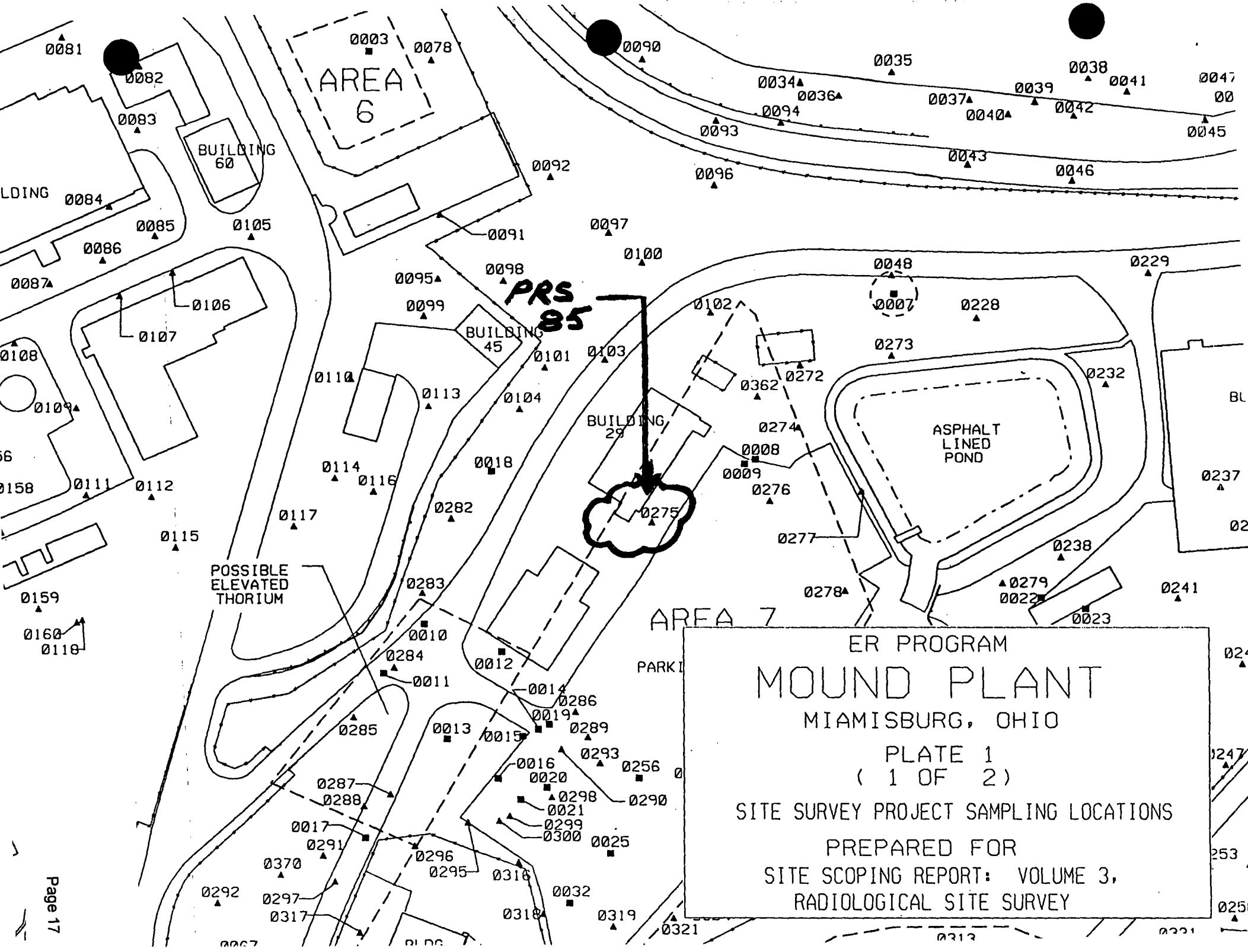
MOUND PLANT
MIAMISBURG, OHIO

June 1993

DEPARTMENT OF ENERGY
ALBUQUERQUE FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL


AREA 6
BUILDING 60
BUILDING 45
BUILDING 29
PRS 85
ASPHALT LINED POND
POSSIBLE ELEVATED THORIUM
AREA 7
PARKI
ER PROGRAM
MOUND PLANT
MIAMISBURG, OHIO
PLATE 1
(1 OF 2)
SITE SURVEY PROJECT SAMPLING LOCATIONS
PREPARED FOR
SITE SCOPING REPORT: VOLUME 3,
RADIOLOGICAL SITE SURVEY

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)
			10720	09-85	126	NR	NR		LDL	LDL	0.6	LDL
			(Note: 20 pCi/g of Ac-227 was detected in this sample using gamma spec.)									
			10721	09-85	144	NR	NR					
			10722	09-85	156	NR	NR		LDL	LDL	0.7	LDL
			10723	09-85	180	NR	NR					
			10724	09-85	198	NR	NR		LDL	LDL	0.8	LDL
S0275	1900	2135	5970	07-84	0	0.29	b					
C0010	1900	2350	1734	05-83	18	0.36	b					
			1735	05-83	36	0.16	11.15					
			1736	05-83	54	NR	18.00					
			1737	05-83	90	0.03	14.41					
			1738	05-83	108	0.03[c]	27.83[c]					
			1739	05-83	162	0.01	5.76					
			1740	05-83	180	0.01	b					
			1741	05-83	198	<0.01	b					
			1742	05-83	216	0.01	5.44					
			1743	05-83	228	<0.01	b					
S0276	1925	2035	5973	07-84	0	1.27	b		LDL[e]	LDL[e]	1.5[e]	LDL[e]
C0011	1925	2400	1784	05-83	18	8.97[c]	37.69[c]		LDL	LDL	1.5	LDL
			1785	05-83	72	0.42	4.43					
			1786	05-83	90	0.20	b					
			[illegible]	[illegible]	[illegible]	[illegible]	b					

[a]C denotes core location and S denotes surface sample location on Plate 1.
[b]Thorium results of ≤ 2 pCi/g are listed as "b".
[c]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]The depth for this sample was given as "SS". For mapping purposes (Plates 1 and 5), this is assumed to be a surface sample.
[g]Sample 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.

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Environmental Restoration Program

OPERABLE UNIT 5
OPERATIONAL AREA PHASE I INVESTIGATION
AREA 7 FIELD REPORT

MOUND PLANT
MIAMISBURG, OHIO

VOLUME I - TEXT

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Final (Revision 0)

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies

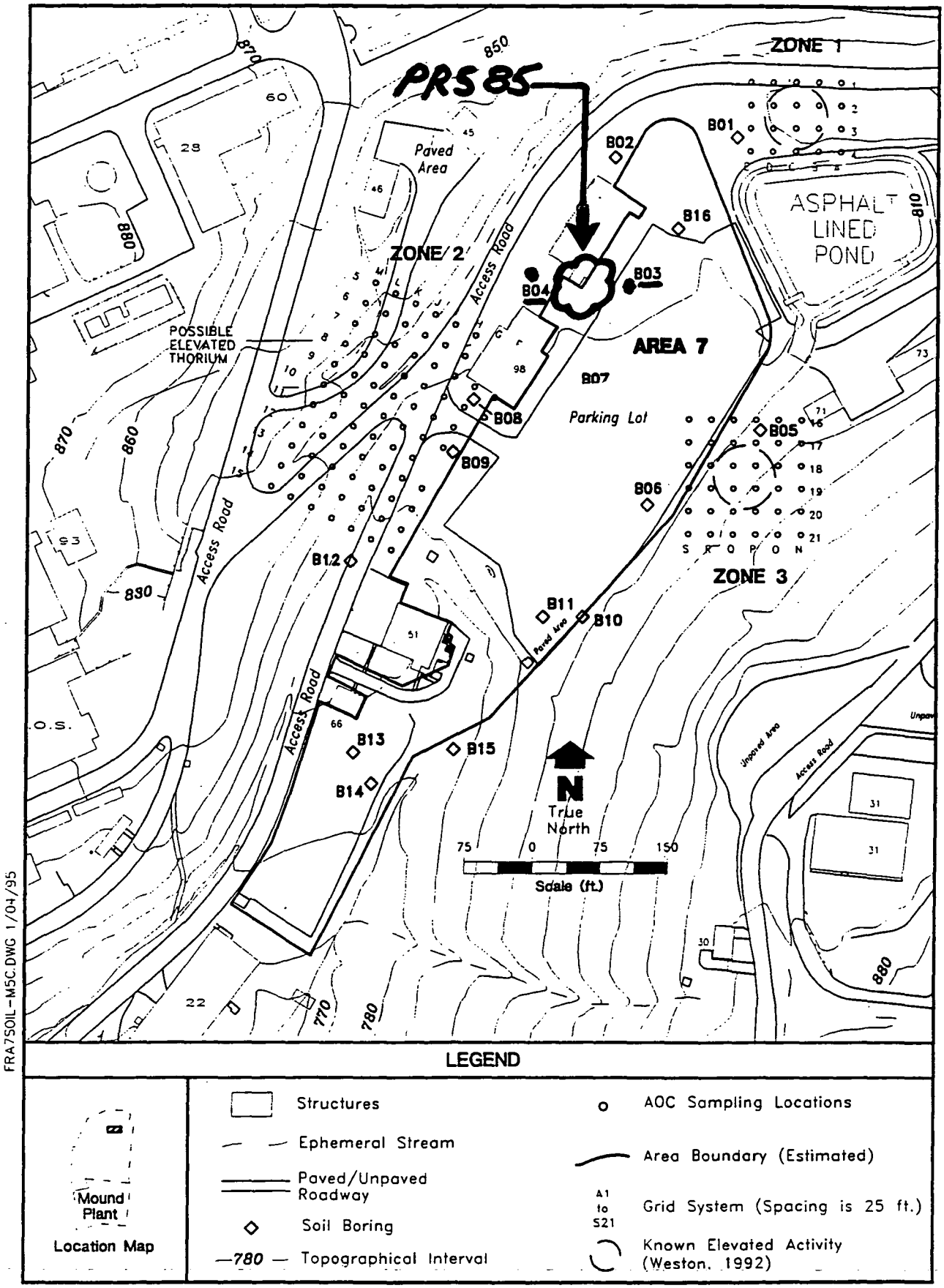


Figure 2.1. Data Collection Points for Area 7 Phase 1 and Phase 2 Investigations

Groundwater Organic Data

VOCs detected in groundwater samples include chloroform, TCE, cis-1,2-dichloroethene (cis-1,2-DCE), and trans-1,2-dichloroethene (trans-1,2-DCE). Only one contaminant was detected at each of the following locations: 1.00J micrograms per liter (µg/L) chloroform from B03, 5.00 µg/L TCE from B13, 0.27J µg/L cis-1,2-DCE from B14, and 0.03J µg/L trans-1,2-DCE from B14.

SVOCs detected in groundwater samples include benzoic acid, bis(2-ethylhexyl)phthalate, and phenol. Benzoic acid was detected in B13 and B14; maximum concentration was 6.00 µg/L from B13. Bis(2-ethylhexyl)phthalate was detected in B11 and B14; maximum concentration was 3.00J ug/L from B14. Phenol was detected only in B14 at a concentration of 3.00J µg/L.

The only pesticide/PCB detected in groundwater samples was aroclor-1254 which was found in B14 at a concentration of 0.38J µg/L.

Explosives detected in groundwater samples include 1,3,5-trinitrobenzene; 1,3-dinitrobenzene; 2-amino-4,6-dinitrotoluene; and RDX. 1,3,5-Trinitrobenzene was detected in B11 and B13; maximum concentration was 1.10J µg/L from B11. 1,3-Dinitrobenzene was detected only in B14 at a concentration of 0.19J µg/L. 2-Amino-4,6-dinitrotoluene was detected only in B13 at a concentration of 2.20J µg/L. RDX was detected only in B11 at a concentration of 0.90 µg/L.

Groundwater Inorganic Data

Anions detected in groundwater samples include chloride, fluoride, sulfate, and nitrate/nitrite. They were each detected in all four of the samples analyzed for chemical parameters. Maximum concentrations were 866.00 milligrams per liter (mg/L) chloride and 0.58 mg/L fluoride from B03, 75.20J mg/L sulfate from B13, and 1.22J mg/L nitrate/nitrite from B03.

Groundwater samples were collected from B03, B11, B13, and B14 and sent to the laboratory for metals analyses. However, analysis of the sample from B03 is incomplete at this time (except for bismuth), and so no B03 groundwater metals data is presented or discussed (except for bismuth).

F.1 Tables of Validated Detected Analytes in Soil and Groundwater

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

Table F.1.1 Radionuclides in Surface Soil Samples from Area 7 Soil Borings

	B01	B02	B03	B04
	Value	Value	Value	Value
RADIONUCLIDES (pCi/g)				
Pu-238	ND	ND	ND	0.19
Ra-226	ND	ND	ND	0.49
Th-228	0.650 J	0.26	0.25	0.39
Th-230	1.310 J	0.1	ND	0.390 J
Th-232	0.450 J	ND	ND	0.290 J
U-235	0.060 J	0.12	0.050 J	0.04
U-238	0.910 J	0.39	0.380 J	0.62

	B05	B06	B07	B08
	Value	Value	Value	Value
RADIONUCLIDES (pCi/g)				
K-40	19.52	23.720 J	13.94	13.17
Pu-238	0.24	ND	1.36	ND
Pu-239/40	ND	ND	0.12	ND
Ra-226	ND	0.7	0.66	0.4
Th-228	1.21	ND	1.530 J	ND
Th-230	1.040 J	0.74	0.92	ND
Th-232	1.020 J	0.560 J	1.000 J	0.060 J
Tritium	ND	ND	4.7	3.4
U-234	1.19	0.79	0.44	0.63
U-235	0.23	ND	ND	0.12
U-238	1.23	0.690 J	0.790 J	0.710 J

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

TABLE F.1.2 Radionuclides in Subsurface Soil Samples from Area 7 Soil Borings

	B01				B02			
	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM	
	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)
RADIONUCLIDES (pCi/g)								
K-40	11.000	15.0-17.0	19.570	10.0-12.0	34.080	5.0-7.0	34.080	5.0-7.0
Pu-238	0.180 J	5.0-7.0	0.210	10.0-12.0	ND	NA	ND	NA
Ra-226	0.580	25.0-27.0	0.720	20.0-22.0	0.680	5.0-7.0	0.680	5.0-7.0
Th-228	0.290 J	25.0-27.0	0.540	20.0-22.0	0.580	5.0-7.0	0.580	5.0-7.0
Th-230	0.180	5.0-7.0	0.540	20.0-22.0	0.430	5.0-7.0	0.430	5.0-7.0
Th-232	0.050 J	25.0-27.0	0.300	20.0-22.0	0.430	5.0-7.0	0.430	5.0-7.0
U-235	0.030 J	15.0-17.0	0.250	5.0-7.0	0.110 J	5.0-7.0	0.110 J	5.0-7.0
U-238	0.650	10.0-12.0	1.000	30.0-32.0	1.140 J	5.0-7.0	1.140 J	5.0-7.0

	B03				B04			
	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM	
	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)
RADIONUCLIDES (pCi/g)								
K-40	11.650	25.0-28.0	25.590	10.0-13.0	24.230	5.0-9.0	25.750	5.0-9.0
Th-228	0.540	5.0-7.0	1.060 J	15.0-19.0	0.550 J	5.0-9.0	0.690 J	5.0-9.0
Th-230	0.260 J	10.0-13.0	1.190 J	25.0-28.0	0.250 J	5.0-9.0	0.530 J	5.0-9.0
Th-232	0.290 J	10.0-13.0	0.730 J	15.0-19.0	0.240 J	5.0-9.0	0.420 J	5.0-9.0
U-235	0.060 J	25.0-28.0	0.140 J	5.0-7.0	0.040	5.0-9.0	0.040	5.0-9.0
U-238	0.740 J	5.0-7.0	0.790 J	10.0-13.0	0.740 J	5.0-9.0	0.850	5.0-9.0

	B05				B06			
	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM	
	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)
RADIONUCLIDES (pCi/g)								
K-40	25.680	5.0-7.0	25.680	5.0-7.0	24.480 J	10.0-16.0	28.300 J	5.0-10.0
Th-228	0.630 J	5.0-7.0	0.630 J	5.0-7.0	ND	NA	ND	NA
Th-230	0.460 J	5.0-7.0	0.460 J	5.0-7.0	0.810	10.0-16.0	1.230	5.0-10.0
Th-232	0.420 J	5.0-7.0	0.420 J	5.0-7.0	0.750 J	5.0-10.0	0.920 J	10.0-16.0
U-234	ND	NA	ND	NA	0.740	5.0-10.0	0.740	5.0-10.0
U-238	0.710	5.0-7.0	0.710	5.0-7.0	0.870 J	10.0-16.0	1.140 J	5.0-10.0

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

Table F.1.3 Organic Compounds in Surface Soil Samples From Area 7 Soil Borings

	B01	B02	B03	B04
	Value	Value	Value	Value
EXPLOSIVES (µg/kg)				
4,4'-DDT	0.290 J	0.420 J	ND	ND
PESTICIDES/PCBs (µg/kg)				
Aldrin	ND	0.170 J	0.770 J	ND
alpha-Chlordane	ND	ND	ND	7.1
Endrin	0.330 J	ND	0.460 J	ND
Endrin Ketone	ND	ND	2.000 J	ND
gamma-Chlordane	ND	ND	0.780 J	8.5
Heptachlor	0.140 J	ND	ND	0.410 J
Heptachlor Epoxide	0.560 J	ND	ND	ND
p,p'-Methoxychlor	ND	1.800 J	ND	0.780 J

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

Table F.1.3 Organic Compounds in Surface Soil Samples From Area 7 Soil Borings

	B01	B02	B03	B04
	Value	Value	Value	Value
SEMI-VOLATILE ORGANICS (µg/kg)				
2-Methylnaphthalene	ND	ND	58.000 J	ND
Acenaphthene	62.000 J	ND	ND	61.000 J
Acenaphthylene	ND	ND	ND	ND
Anthracene	130.000 J	26.000 J	47.000 J	110.000 J
Benzo(a)anthracene	280.000 J	64.000 J	190.000 J	270.000 J
Benzo(a)pyrene	230.000 J	52.000 J	270.000 J	290.000 J
Benzo(b)fluoranthene	430	120.000 J	460	340.000 J
Benzo(g,h,i)perylene	54.000 J	ND	110.000 J	230.000 J
Benzo(k)fluoranthene	750	210.000 J	780	700
Benzoic Acid	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	80.000 J	67.000 J	ND	ND
Butylbenzylphthalate	ND	ND	ND	ND
Carbazole	60.000 J	ND	37.000 J	57.000 J
Chrysene	240.000 J	60.000 J	230.000 J	300.000 J
Di-n-butylphthalate	66.000 J	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	72.000 J
Fluoranthene	640	140.000 J	430	570
Fluorene	59.000 J	ND	ND	68.000 J
Indeno(1,2,3-c,d)pyrene	75.000 J	ND	120.000 J	200.000 J
Naphthalene	ND	ND	ND	ND
Phenanthrene	520	98.000 J	230.000 J	480
Pyrene	340.000 J	91.000 J	620	480
VOLATILE ORGANICS (µg/kg)				
Hexane	ND	ND	4.000 J	ND

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

Table F.1.4 Organic Compounds in Subsurface Soil Samples from Area 7 Soil Borings

	B03				B04			
	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM	
	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)
PESTICIDES/PCB's (µg/kg)								
4,4'-DDE	0.840 J	15.0-19.0	3.500 J	5.0-7.0	ND	NA	ND	NA
Dieldrin	4.500 J	5.0-7.0	4.500 J	5.0-7.0	ND	NA	ND	NA
Endrin Aldehyde	0.600 J	10.0-13.0	0.600 J	10.0-13.0	ND	NA	ND	NA
Heptachlor Epoxide	0.230 J	15.0-19.0	0.230 J	15.0-19.0	ND	NA	ND	NA
SEMI-VOLATILE ORGANICS (µg/kg)								
Anthracene	48.000 J	5.0-7.0	91.000 J	15.0-19.0	58.000 J	5.0-9.0	58.000 J	5.0-9.0
Benzo(a)anthracene	180.000 J	5.0-7.0	220.000 J	15.0-19.0	160.000 J	5.0-9.0	160.000 J	5.0-9.0
Benzo(a)pyrene	160.000 J	5.0-7.0	200.000 J	15.0-19.0	170.000 J	5.0-9.0	170.000 J	5.0-9.0
Benzo(b)fluoranthene	260.000 J	5.0-7.0	320.000 J	15.0-19.0	200.000 J	5.0-9.0	200.000 J	5.0-9.0
Benzo(g,h,i)perylene	49.000 J	5.0-7.0	73.000 J	15.0-19.0	ND	NA	ND	NA
Benzo(k)fluoranthene	450.000 J	5.0-7.0	550.000	15.0-19.0	420.000 J	5.0-9.0	420.000 J	5.0-9.0
bis(2-Ethylhexyl)phthalate	43.000 J	15.0-19.0	43.000 J	15.0-19.0	ND	NA	ND	NA
Carbazole	47.000 J	15.0-19.0	47.000 J	15.0-19.0	ND	NA	ND	NA
Chrysene	160.000 J	5.0-7.0	210.000 J	15.0-19.0	180.000 J	5.0-9.0	180.000 J	5.0-9.0
Di-n-butylphthalate	44.000 J	15.0-19.0	130.000 J	5.0-7.0	ND	NA	ND	NA
Dibenzo(a,h)anthracene	46.000 J	15.0-19.0	55.000 J	5.0-7.0	ND	NA	ND	NA
Fluoranthene	360.000 J	5.0-7.0	480.000	15.0-19.0	360.000 J	5.0-9.0	360.000 J	5.0-9.0
Fluorene	44.000 J	15.0-19.0	44.000 J	15.0-19.0	ND	NA	ND	NA
Indeno(1,2,3-c,d)pyrene	110.000 J	5.0-7.0	120.000 J	15.0-19.0	ND	NA	ND	NA
Phenanthrene	260.000 J	5.0-7.0	410.000 J	15.0-19.0	260.000 J	5.0-9.0	260.000 J	5.0-9.0
Pyrene	310.000 J	5.0-7.0	420.000	15.0-19.0	360.000 J	5.0-9.0	360.000 J	5.0-9.0
VOLATILE ORGANICS (µg/kg)								
Acetone	22.000 J	15.0-19.0	59.000 J	5.0-7.0	14.000 J	5.0-9.0	40.000 J	5.0-9.0
Acetonitrile	61.000 J	25.0-28.0	61.000 J	25.0-28.0	ND	NA	ND	NA
Methylene Chloride	150.000	15.0-19.0	150.000	15.0-19.0	ND	NA	ND	NA

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

Table F.1.5 Inorganic Compounds in Surface Soil Samples from Area 7 Soil Borings

	B01	B02	B03	B04
	Value	Value	Value	Value
ANIONS (mg/kg)				
Chloride	55.400 J	153.000 J	69.5	61.6
Fluoride	2.330 J	8.320 J	2.64	4.090 J
Sulfate	208.000 J	250.000 J	67.6	222.000 J
Nitrate-Nitrite-N	1.080 J	ND	ND	ND
TOTAL ORGANIC CARBON (mg/kg)				
Organic Carbon	18300	27700	102000	21200
METALS (mg/kg)				
Aluminum	7800.000 J	2440.000 J	2760.000 J	6510.000 J
Antimony	2.100 J	2.600 J	3.000 J	2.100 J
Arsenic	8.000 J	4.200 J	4.200 J	11.500 J
Barium	50.900 J	11.700 J	22.000 J	46.400 J
Beryllium	0.38	0.12	0.14	0.35
Bismuth	141	ND	ND	ND
Cadmium	0.220 J	ND	ND	ND
Calcium	69600	171000	151000	171000
Chromium	10.100 J	4.200 J	11.500 J	8.700 J
Cobalt	5.500 J	1.900 J	2.600 J	5.700 J
Copper	13	4.4	6.8	13
Iron	12000	4870.000 J	6110.000 J	11600
Lead	9.800 J	5.000 J	8.800 J	11.900 J
Lithium	10.500 J	ND	6.400 J	11.200 J
Magnesium	35600	89900	60300	27600
Manganese	367.000 J	163.000 J	219.000 J	401.000 J
Mercury	ND	ND	ND	ND
Molybdenum	2.000 J	ND	ND	3.600 J
Nickel	11.4	4.3	9.3	11
Potassium	1090.000 J	701.000 J	694.000 J	1030.000 J
Sodium	170	369	260	205
Tin	ND	ND	ND	ND
Vanadium	16.600 J	6.100 J	14.300 J	12.200 J
Zinc	44.600 J	12.000 J	17.600 J	37.300 J

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater

Table F.1.5 Inorganic Compounds in Surface Soil Samples from Area 7 Soil Borings

	B01	B02	B03	B04
	Value	Value	Value	Value
LANTHANIDES (mg/kg)				
Erbium	ND	7.500 J	ND	7.200 J
Europium	ND	ND	ND	1.4
Gadolinium	53.900 J	ND	ND	ND
Lanthanum	7.2	ND	6.1	9.7
Neodymium	ND	ND	16.9	13.2
Praseodymium	ND	13.6	13.8	ND

APPENDIX F.1 Tables of Validated Detected Analytes in Soil and Groundwater
Table F.1.6 Inorganic Compounds in Subsurface Soil Samples from Area 7 Soil Borings

	B03				B04			
	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM	
	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)	Value	Depth (ft BGS)
ANIONS (mg/kg)								
Chloride	80.000	5.0-7.0	128.000	15.0-19.0	62.200	5.0-9.0	69.700	5.0-9.0
Fluoride	2.490	25.0-28.0	4.920	15.0-19.0	2.740 J	5.0-9.0	5.580 J	5.0-9.0
Sulfate	116.000	25.0-28.0	513.000	10.0-13.0	159.000 J	5.0-9.0	621.000 J	5.0-9.0
Nitrate-Nitrite-N	1.180 J	15.0-19.0	1.180 J	15.0-19.0	26.500 J	5.0-9.0	26.500 J	5.0-9.0
TOTAL ORGANIC CARBON (mg/kg)								
Organic Carbon	847.000 J	15.0-19.0	19100.000	5.0-7.0	460.000 J	5.0-9.0	3900.000 J	5.0-9.0
METALS (mg/kg)								
Aluminum	7340.000 J	5.0-7.0	12200.000	10.0-13.0	12700.000	5.0-9.0	14800.000	5.0-9.0
Antimony	2.300 J	10.0-13.0	3.000 J	15.0-19.0	2.200 J	5.0-9.0	3.500 J	5.0-9.0
Arsenic	2.600 J	15.0-19.0	21.500	10.0-13.0	4.500 J	5.0-9.0	26.600	5.0-9.0
Barium	19.000 J	10.0-13.0	61.500 J	25.0-28.0	22.000 J	5.0-9.0	44.600 J	5.0-9.0
Beryllium	0.370	5.0-7.0	0.630	10.0-13.0	0.630	5.0-9.0	0.730	5.0-9.0
Bismuth	8.500	25.0-28.0	10.100	15.0-19.0	10.700	5.0-9.0	12.000	5.0-9.0
Calcium	39600.000	25.0-28.0	121000.000	15.0-19.0	57600.000	5.0-9.0	69800.000	5.0-9.0
Chromium	9.900 J	5.0-7.0	13.900 J	10.0-13.0	15.400 J	5.0-9.0	16.400 J	5.0-9.0
Cobalt	5.800 J	5.0-7.0	10.800 J	10.0-13.0	11.900	5.0-9.0	13.600 J	5.0-9.0
Copper	10.100	10.0-13.0	17.400	25.0-28.0	17.200	5.0-9.0	20.500	5.0-9.0
Iron	12400.000	5.0-7.0	20800.000	10.0-13.0	21500.000	5.0-9.0	24500.000	5.0-9.0
Lead	5.900 J	15.0-19.0	15.800 J	5.0-7.0	8.200 J	5.0-9.0	15.400 J	5.0-9.0
Magnesium	13900.000	15.0-19.0	36100.000	5.0-7.0	7540.000 J	5.0-9.0	13600.000	5.0-9.0
Manganese	317.000 J	5.0-7.0	420.000 J	15.0-19.0	572.000 J	5.0-9.0	588.000 J	5.0-9.0
Nickel	12.100	5.0-7.0	19.500	10.0-13.0	22.900	5.0-9.0	23.100	5.0-9.0
Potassium	1230.000 J	5.0-7.0	3080.000 J	10.0-13.0	1560.000 J	5.0-9.0	3100.000 J	5.0-9.0
Sodium	206.000	10.0-13.0	346.000	5.0-7.0	185.000	5.0-9.0	208.000	5.0-9.0
Vanadium	11.700 J	15.0-19.0	21.200 J	25.0-28.0	15.100 J	5.0-9.0	17.000 J	5.0-9.0
Zinc	37.200 J	5.0-7.0	46.100 J	25.0-28.0	48.500 J	5.0-9.0	50.800 J	5.0-9.0
LANTHANIDES (mg/kg)								
Dysprosium	4.000	25.0-28.0	4.100	15.0-19.0	3.800	5.0-9.0	3.900	5.0-9.0
Erbium	8.000 J	5.0-7.0	8.000 J	5.0-7.0	ND	NA	ND	NA
Europium	1.100	15.0-19.0	1.400	5.0-7.0	1.700	5.0-9.0	1.800	5.0-9.0
Lanthanum	6.000	5.0-7.0	9.000	15.0-19.0	12.100	5.0-9.0	15.100	5.0-9.0
Lutetium	0.630	5.0-7.0	0.990	10.0-13.0	0.960	5.0-9.0	0.960	5.0-9.0
Neodymium	14.700	10.0-13.0	17.700	15.0-19.0	23.200	5.0-9.0	27.100	5.0-9.0
Praseodymium	44.300	5.0-7.0	60.200	15.0-19.0	ND	NA	ND	NA

COMPARISON OF ACTUAL SOIL GAS VALUES WITH CALCULATED ACCEPTABLE SOIL GAS VALUES

Typical chemicals that are detected with soil gas sampling are:					
NAME	H	Kd	Calculated Acceptable	Calculated Acceptable	Calculated Acceptable
			Soil Screening Level Value	Soil Gas Reading	Soil Gas Reading
		ml/g	mg/kg (ppm)	ng/ml	ppb
Toluene	2.52E-01	3.42	22.06	1.56E+03	414600
Trichloroethene (TCE)	4.35E-01	2.24	0.07	1.26E+01	2400
111 Trichloroethane (TCA)	7.63E-01	2.2	3.01	9.46E+02	173400
Trans-1,2 Dichloroethene (DCE)	2.29E-01	1	0.70	1.41E+02	35700
cis-1,2 Dichloroethene (DCE)	1.85E-01	2.78	0.31	1.97E+01	5000
Freon 11	NA	NA			
Freon 113	NA	NA			
Tetrachloroethene (PCE)	7.09E-01	2.78	0.09	2.13E+01	3100

na not available

IF THE SOIL GAS READING IS BELOW THE VALUES IN THE CALCULATED SOIL GAS READING COLUMN (SHADED), THEN THERE IS NO THREAT TO GROUNDWATER FROM THIS PRS.

The soil screening level values are calculated using the Soil Screening Methodology. The Potential Release Site is assumed to be more than 100 meters from a potential drinking water source with an aquifer thickness of 15 meters and a source size of 10 meters. The hydraulic gradient is assumed to be 0.01 which is conservative for most of the Mound Plant PRSs. In special instances where the PRS lies less than 100 meters from a potential drinking water source, or the hydraulic gradient is much less than 0.01, new SSL values and new acceptable soil gas values will be calculated for that particular PRS.

Document Control No. _____

Environmental Restoration Program

OPERABLE UNIT 5
OPERATIONAL AREA PHASE I INVESTIGATI
NON-AOC FIELD REPORT

MOUND PLANT
MIAMISBURG, OHIO

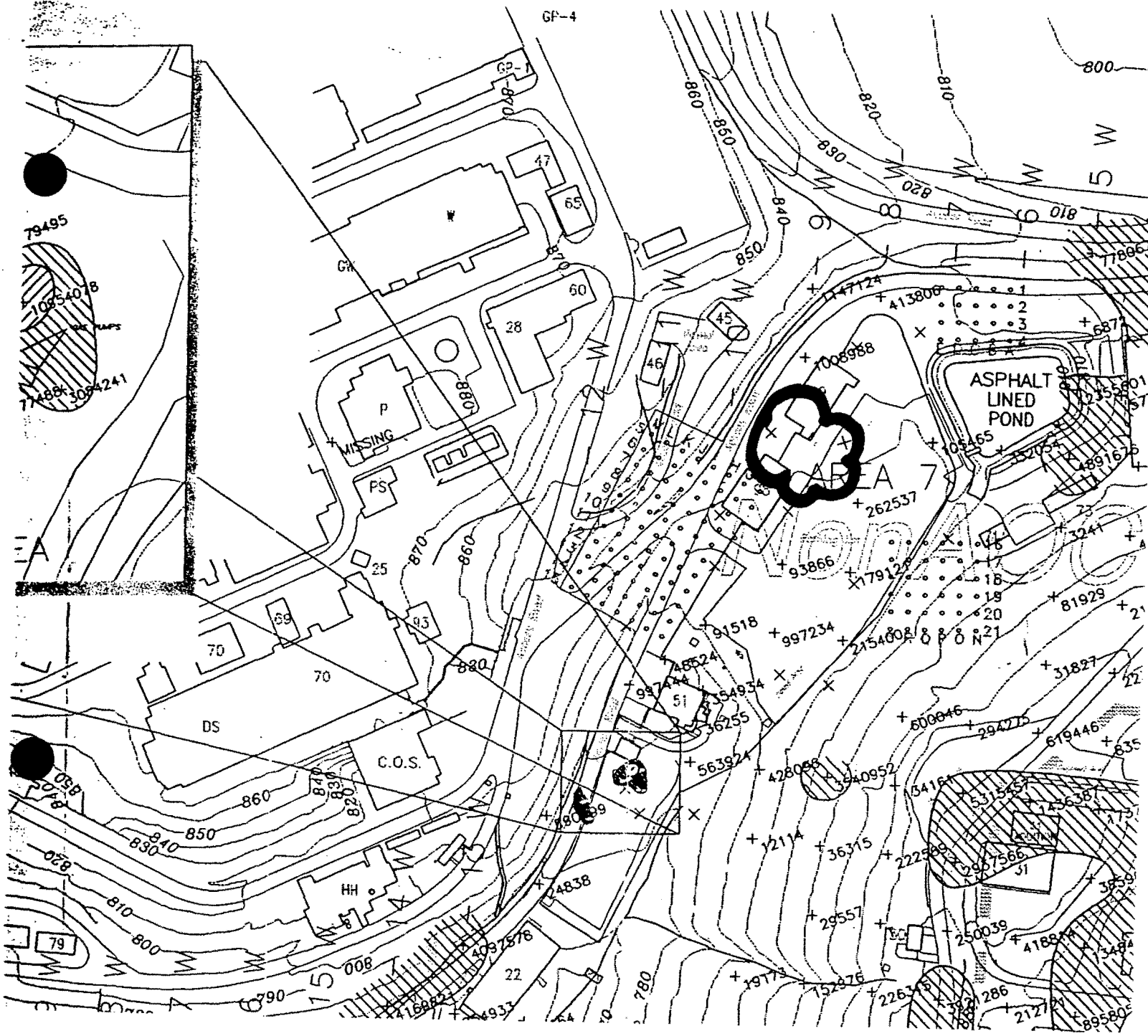
VOLUME II - APPENDICES A-G

June 1995

Final (Revision 0)

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies

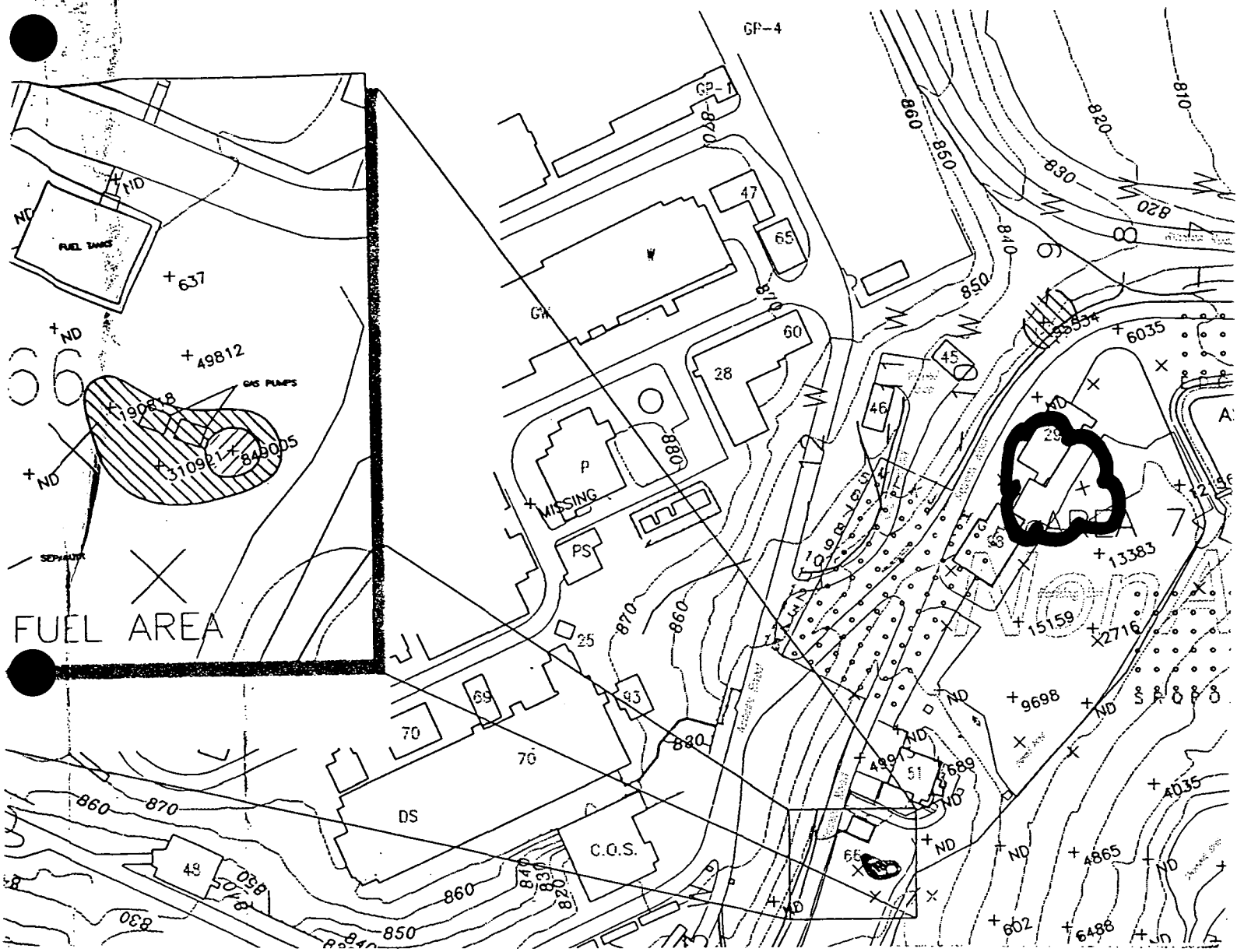


LEGEND				
Relative Response Values (in ion counts):				
NonAOC–South	NonAOC–West	NonAOC–East	NonAOC–North	Area 61
≥ 4,200,000	≥ 20,000,000	≥ 5,000,000	≥ 10,000,000	≥ 5,800,000
550,000–4,199,999	2,600,000–19,999,999	650,000–4,999,999	1,500,000–9,999,999	1,400,000–5,799,999

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

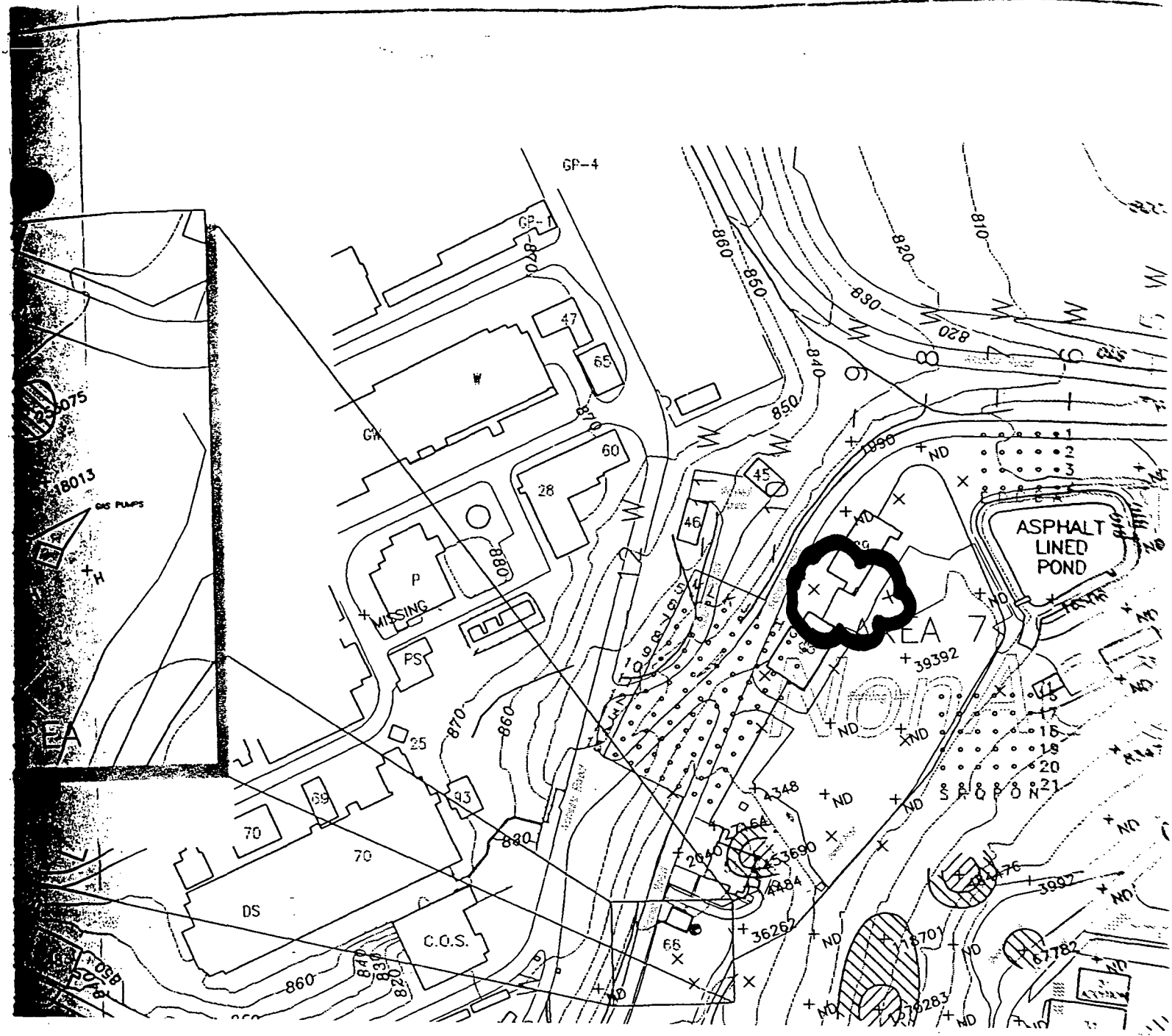
Plate 3

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	1,800,000–11,499,999	4,000,000–22,999,999	3,000,000–24,999,999

Relative Response

Total C5–C11 Petroleum Hydrocarbons

Plate 4



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