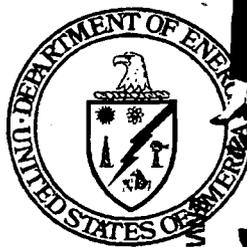


MOUND



**Environmental
Restoration
Program**

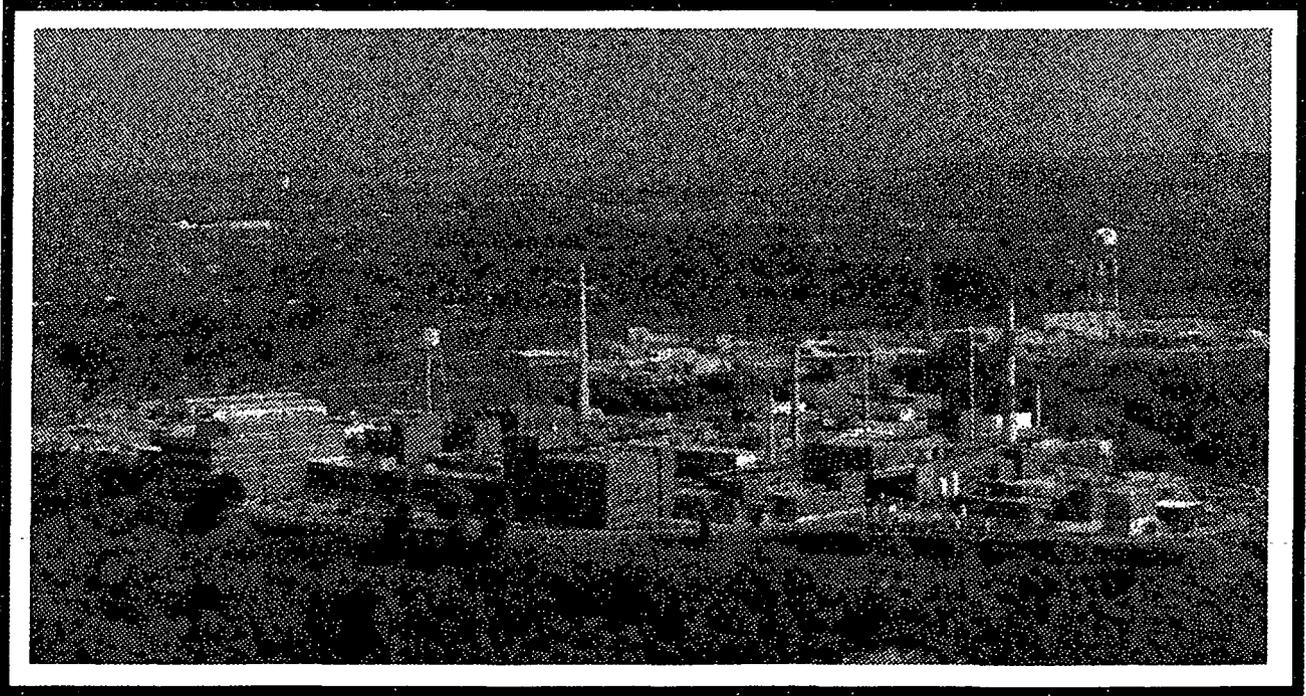


OhioEPA

MOUND PLANT

Potential Release Site Package

PRS # 354



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 May 8, 1997. Public comment will be accepted on these packages from May 8, 1997, through June 9, 1997.

- PRS 40: Soil Contamination - Bldg. 66 Parking Lot Area
- PRS 110: Soil Contamination - I Building
- PRS 113/114/115/116/117: Soil Contamination - Powerhouse/Former Tank Site - Powerhouse Fuel Oil Storage Tank
- PRS 235: Soil Contamination - Area southwest of Building 98
- PRS 304/313: Disposal Site for Contaminated Soils - Area southwest of Bldg. 105/Soil Contamination - Radiological Survey Site location S0982
- PRS 354: Soil Contamination
- PRS 356: Soil Contamination

Questions can be referred to Mound's Community Relations at (937) 865-4140.

MOUND



Environmental
Restoration
Program

MOUND PLANT POTENTIAL RELEASE SITE PACKAGE

Notice of Public Review Period



The following potential release site (PRS) packages have been placed in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. The public comment period has been extended on these packages to June 16, 1997.

- PRS 40: Soil Contamination - Bldg. 66 Parking Lot Area
- PRS 110: Soil Contamination - I Building
- PRS 113/114/115/116/117: Soil Contamination - Powerhouse/Former Tank Site - Powerhouse Fuel Oil Storage Tank
- PRS 235: Soil Contamination - Area southwest of Building 98
- PRS 304/313: Disposal Site for Contaminated Soils - Area southwest of Bldg. 105/Soil Contamination - Radiological Survey Site location S0982
- PRS 354: Soil Contamination
- PRS 356: Soil Contamination

Questions can be referred to Mound's Community Relations at (937) 865-4140.

PRS 354

REV	DESCRIPTION	DATE
0 PUBLIC RELEASE	Available for comments.	Mar. 11, 1997
1 FINAL	Comment period expired. Comments. Recommendation page annotated.	July 28, 1997



The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

cc. Sub, Jim,
Ken, Gary,
Denny,
Joe, Mary
7/21/97

July 17, 1997

Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Building 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team consisting of the U.S. Department of Energy Miamisburg Environmental Management Project (DOE-MEMP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) appreciates the input provided by the public stakeholders of the Mound facility. The public stakeholders have significantly contributed to the forward progress that has been made on the entire release block strategy for establishing the safety of the Mound property prior to its return to public use after remediation and residual risk evaluation.

Attached please find responses to your June 16, 1997 comments on PRS packages 110, 113-117, 235, 304/313, 354, and 356, as well as the "Residual Risk Evaluation - Release Block H, April, 1997, Revision 0." Document revisions in accordance with the attached responses are expected to be completed in August, 1997.

Should the responses require additional detail, please contact Art Kleinrath at (937) 865-3587 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MEMP:

Arthur W. Kleinrath
Arthur W. Kleinrath, Remedial Project Manager

USEPA:

Timothy J. Fischer
Timothy J. Fischer, Remedial Project Manager

OHIO EPA:

Brian K. Nickel
Brian K. Nickel, Project Manager

Reference: Responses to June 16, 1997 Miamisburg Mound Community Improvement Corporation Comments Regarding PRS Packages 113-117, 235, 304/313, 354, and 356

PRS 354

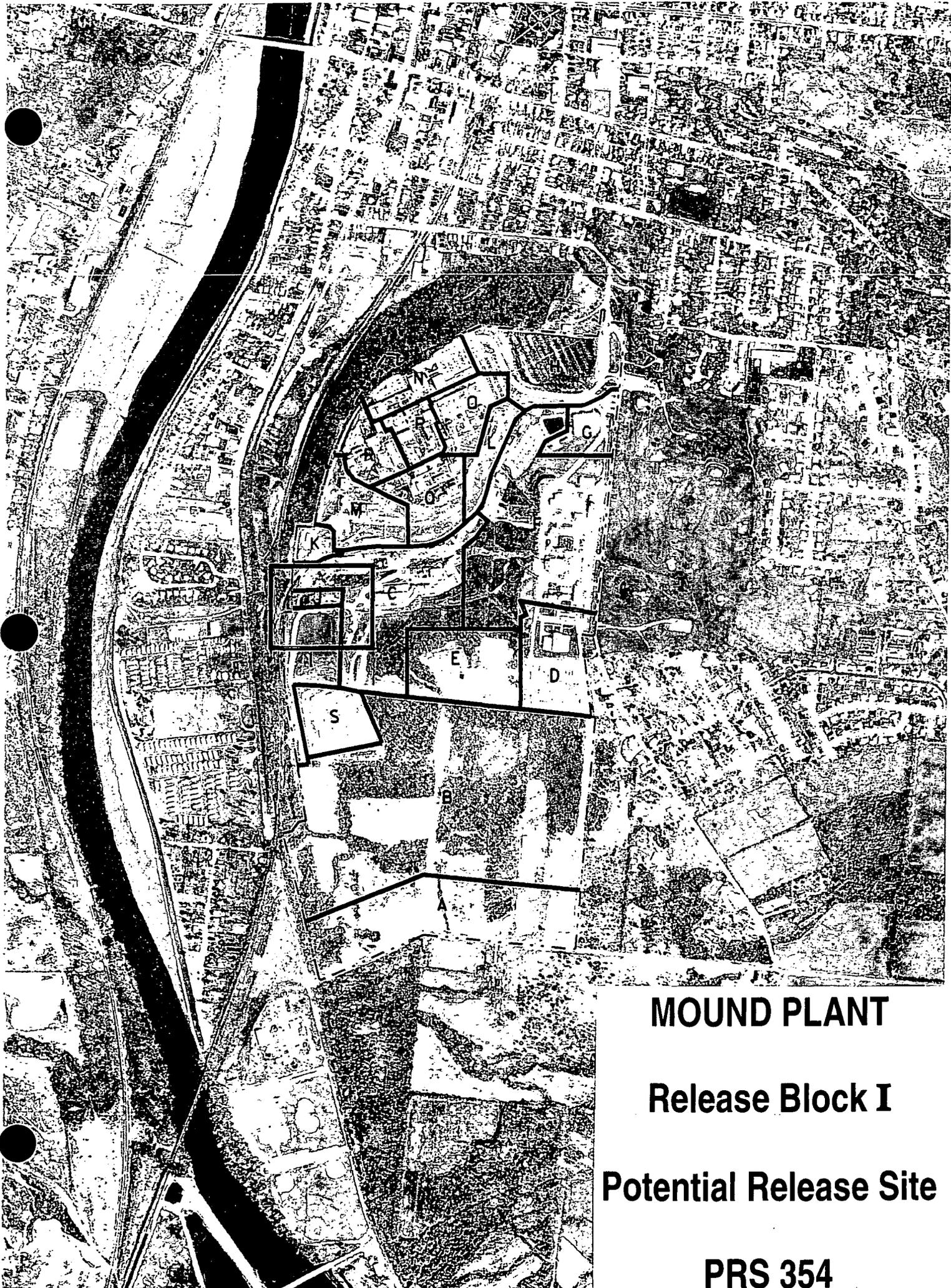
Errata Comments:

- 1) The PRS recommendation page should read "All measured thorium concentrations are below regulatory criteria and plutonium concentrations are at or below the 10^{-5} Risk Based Guideline Value."
- 2) The PRS package reported that the OU5 Operational Area Pentrex soil gas survey revealed no elevated hydrocarbon levels. However, the supporting documentation shows ion counts of 49,050 for Total Aromatic Hydrocarbons and 182,582 for Total C5 to C11 petroleum hydrocarbons.

What is the ion count threshold correlating to an elevated hydrocarbon concentration?

Response:

- 1) *The text will be revised to read "All measured thorium concentrations are below Regulatory Criteria and plutonium concentrations are at or below the 10^{-5} Risk Based Guideline Value."*
- 2) *As part of the Operable Unit 5 investigations, the Mound ER Program conducted an extensive soil gas survey for possible organic chemical contamination in the soils. While the soil gas survey identified areas where concentrations of organic chemicals were elevated in comparison to the other soils, it did not quantify the results in terms that could be directly compared to clean up guidelines. The Soil Gas Confirmation Sampling effort in February 1996 performed sampling at the locations with the highest soil gas ion counts. No contamination above the 10^{-5} risk range was discovered during the Soil Gas Confirmation Sampling in the quadrant where PRS 354 is located. This implies PRS 354 has similar or lower health risk than the confirmation sample locations. Therefore, the hydrocarbon concentration has been determined to fall within the acceptable risk range of 10^{-4} to 10^{-6} per the National Contingency Plan (NCP).*



MOUND PLANT

Release Block I

Potential Release Site

PRS 354



354

S

B

D

E

C

K

G

B

N

P

M

O

A

F

J

I

H

L

M

N

O

P

Q

R

S

T

U

V

W

X

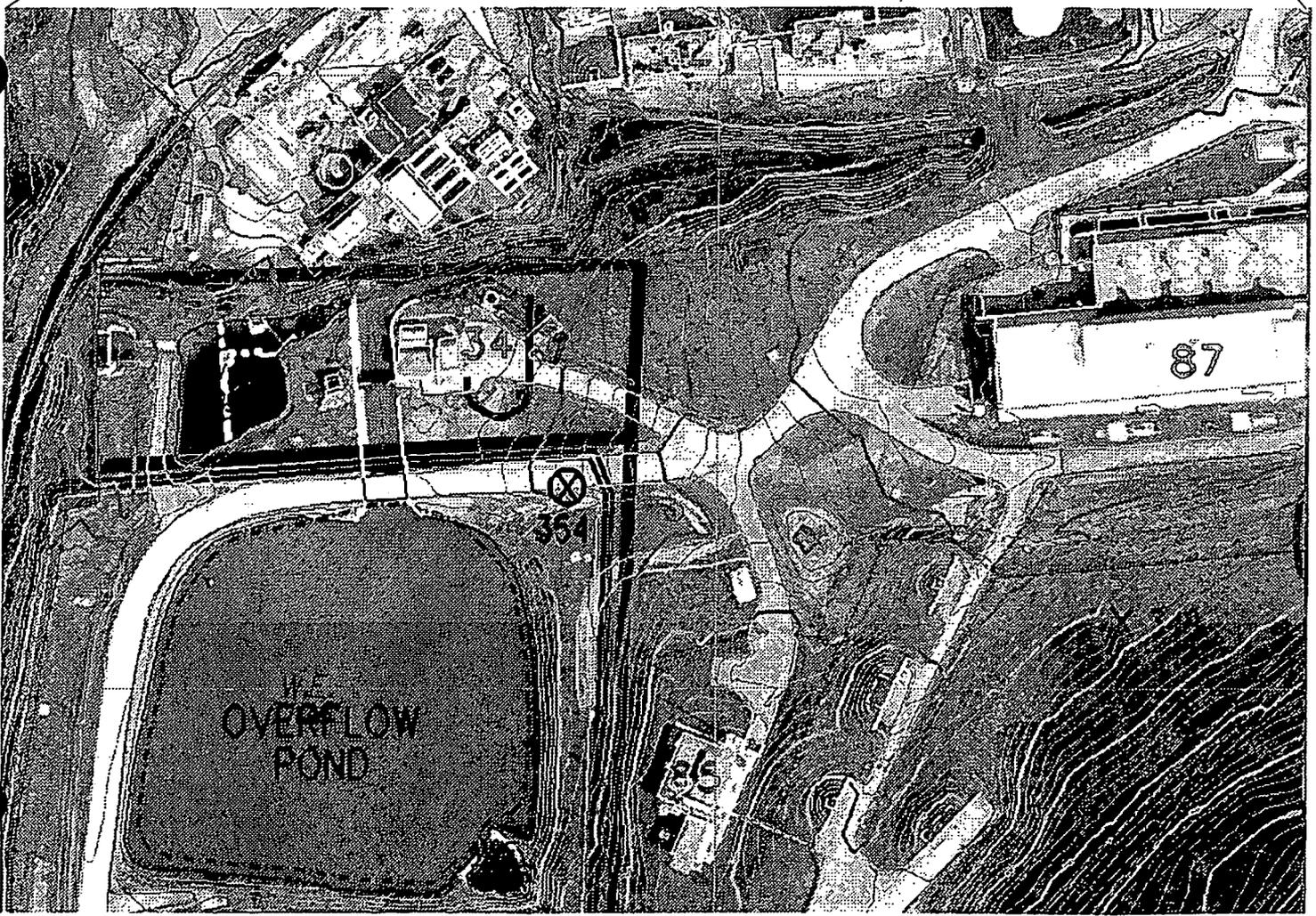
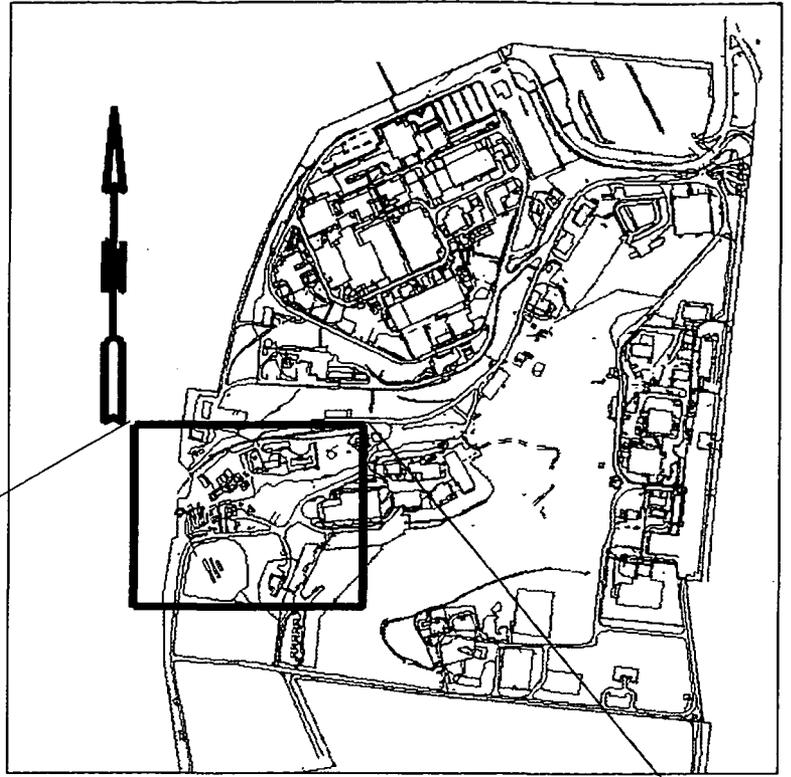
Y

Z

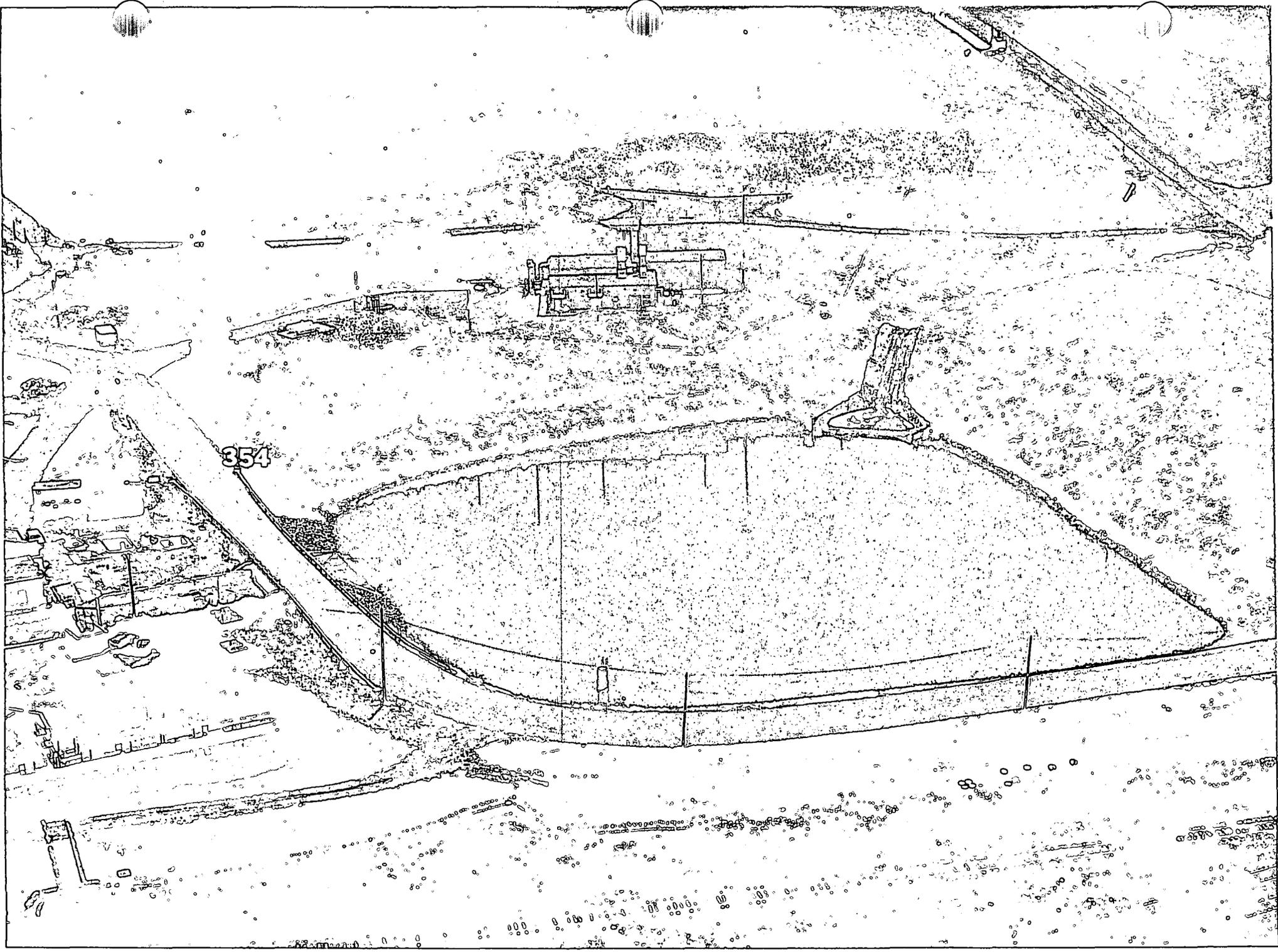
Mound Plant Release Block I

Potential Release Site

PRS 354



354



PRS 354

PRS HISTORY:

PRS 354 is a soils location that was identified as a potential release site due to a single elevated radiological detection found during the Operable Unit 5, Operational Area Phase I Investigation.² No radioactive or hazardous waste processes are known to have occurred at this location.

CONTAMINATION:

The Radiological Site Survey¹ analyzed 4 surface soil samples (S0557, S0558, S0562 and S0564) within 50 feet of PRS 354. The maximum radiological soil concentrations measured from these samples were 1.66 pCi/g plutonium-238 and less than 2 pCi/g of surface thorium. These concentrations are below the respective Mound ALARA guideline criteria for plutonium of 25 pCi/g and the regulatory guideline criteria for thorium of 5 pCi/g.^{ref 3}

The OU5 Operational Area Phase I Investigation² reported on data collected from samples that were analyzed for plutonium-238 and thorium-232. The maximum surface soil concentration found at PRS 354 was 25 pCi/g for plutonium-238 and 1 pCi/g for thorium-232. The guideline criteria for plutonium and thorium are 25 pCi/g and 5 pCi/g^{ref 3} respectively. The OU5, Operational Area Phase I Investigation² also performed a qualitative PETREX Soil Gas Survey at PRS 354. Sample results from the PETREX survey revealed no elevated hydrocarbon levels.

READING ROOM REFERENCES:

- 1) OU9, Site Scoping Report, Volume III, Radiological Site Survey, June 1993. (pages 5-7)
- 2) OU5, Operational Area Phase I Investigation Non-AOC Field Report, Volume II, June 1995. (pages 8-15)
- 3) Code of Federal Regulations 40 CFR 192.41 and 40 CFR 192.12.

PREPARED BY:

Ken Hacker, Member of EG&G Technical Staff
John Nichols, Member of EG&G Technical Staff

**MOUND PLANT
PRS 354
SOIL CONTAMINATION**

RECOMMENDATION:

Potential Release Site (PRS) 354 was identified due to detections of plutonium found during the Mound Soil Screening Analysis performed as part of the June 1994 OU5, Operational Area Phase I Investigation. This location is in the southern sector of the Mound Plant, with no known history of radiological or hazardous chemical processes or activities. All measured thorium concentrations are below Regulatory Criteria and plutonium concentrations are at or below the 10^{-5} Risk Based Guideline Value. Therefore, NO FURTHER ASSESSMENT is recommended for PRS 354.

CONCURRENCE:

DOE/MEMP:

Arthur Kleinrath 8/7/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 8/7/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 8/7/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 5/8/97 to 6/16/97

- No comments were received during the comment period.
- Comment responses can be found on page 1, 2 of this package.

REFERENCE MATERIAL
PRS 354

ENVIRONMENTAL RESTORATION PROGRAM

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

**MOUND PLANT
MIAMISBURG, OHIO**

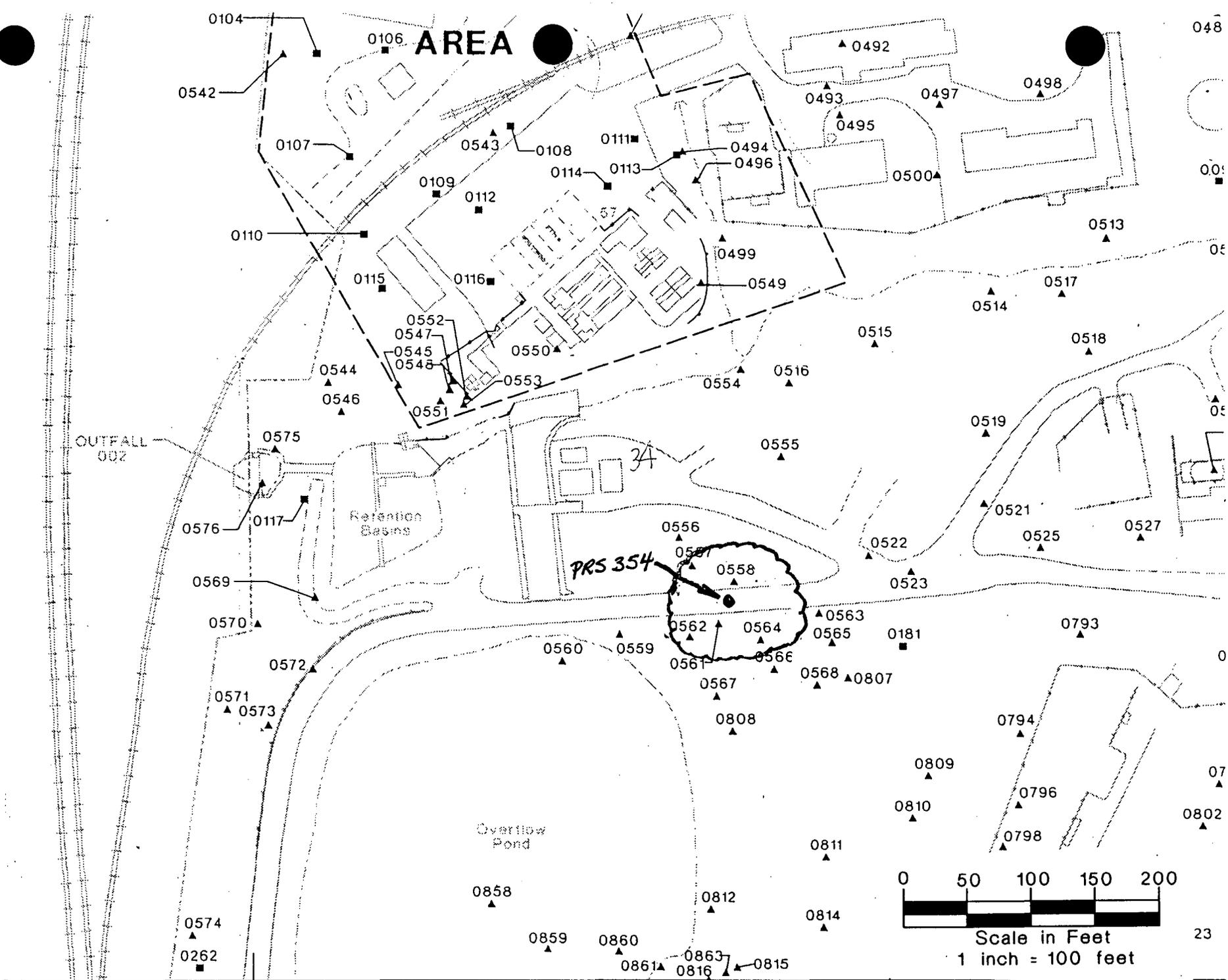
June 1993

**DEPARTMENT OF ENERGY
ALBUQUERQUE FIELD OFFICE**

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

FINAL

AREA



Map Location ^a	Coordinates		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)
---------------------------	-------------	--	------------	-------	--------------	----------------	------------------------------	------------------	---------------	----------------	----------------	----------------

^aC denotes core location and S denotes surface sample location on Plate 1.

^bThorium results of ≤ 2 pCi/g are listed as "b".

^cVerification sample analyzed for QA/QC.

^dNo MRC ID assigned because *in situ* gamma spectrometry was performed for thorium-232.

^eGamma results could not be confirmed using the gamma spectroscopy printout given in this appendix.

^fThe depth for this sample was given as "SS". For mapping purposes (Plates 1 and 5), this is assumed to be a surface sample.

^gSample 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.

	S0555	2525	4165	2578	09-83	0	7.46	b				
	S0556	2550	4265	2576	09-83	0	6.65	b				
→	S0557	2575	4265	6465	08-84	0	0.41	b				
→	S0558	2600	4240	6464	08-84	0	1.66	b				
	S0559	2600	4340	6457	08-84	0	0.58	b				
	S0560	2600	4390	6456	08-84	0	34.20	b				
	S0561	2625	4265	6458	08-84	0	0.25	b				
→	S0562	2625	4290	2575	09-83	0	0.14	b				
	S0563	2650	4190	2574	09-83	0	8.56	b				
→	S0564	2650	4240	6459	08-84	0	0.30 ^c	b				
	S0565	2675	4190	6463	08-84	0	0.71	b				
	S0566	2675	4240	6461	08-84	0	0.35	b	LDL	LDL	1.2	LDL
	S0567	2675	4290	6462	08-84	0	0.06	b				
	S0568	2700	4215	6460	08-84	0	0.26	b				

Environmental Restoration Program

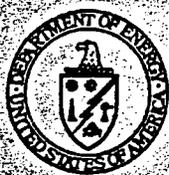
**OPERABLE UNIT 5
OPERATIONAL AREA PHASE I INVESTIGATION
NON-AOC FIELD REPORT**

**MOUND PLANT
MIAMISBURG, OHIO**

VOLUME II - APPENDICES A-G

June 1995

Final (Revision 0)



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

EG&G Mound Applied Technologies

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

Mound Plant ER Program
 Revision 0

OUS Phase 1 Non-AOC Field Report
 December 1994 Vol II

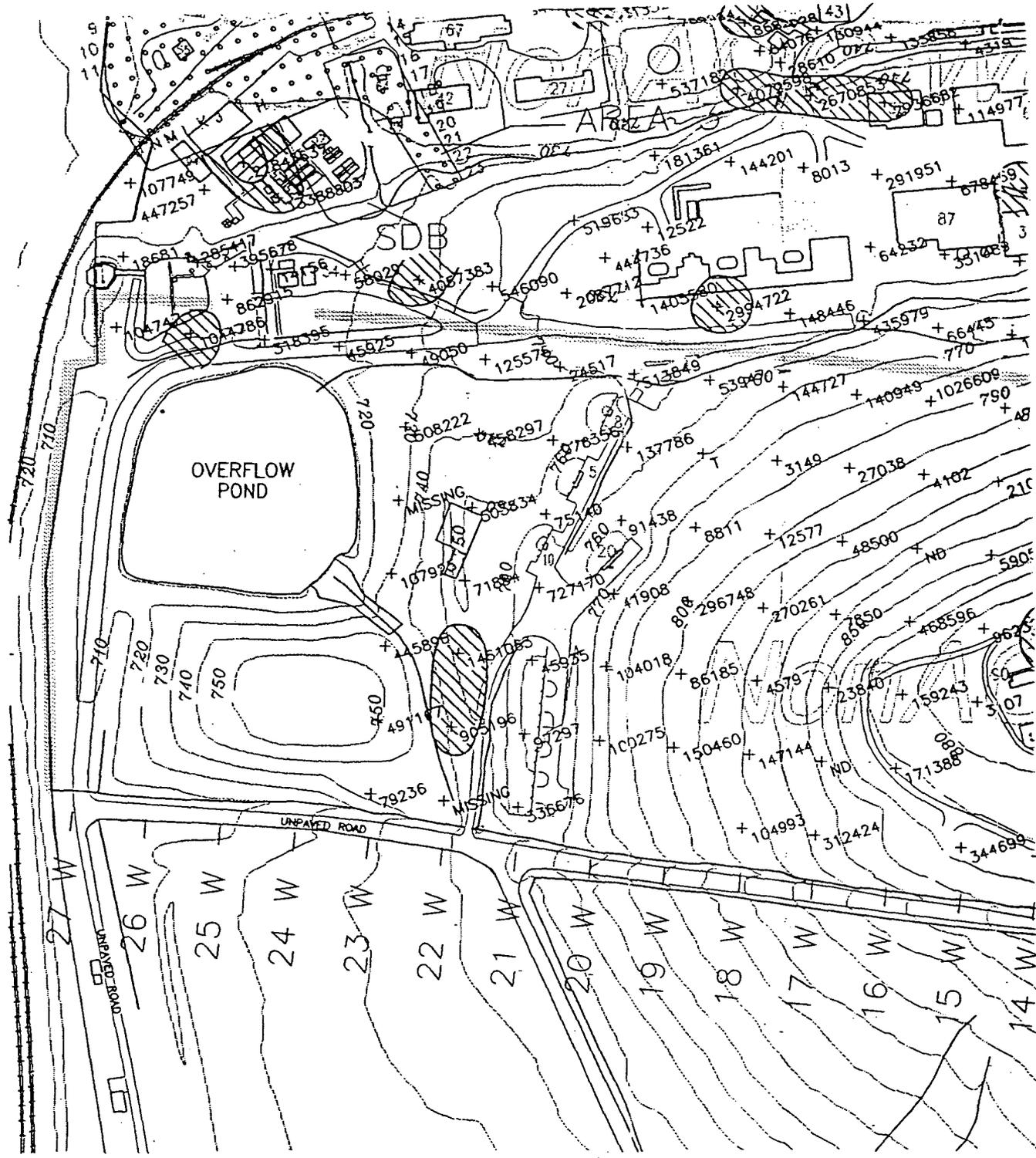
SMPID	FIDLER SURVEY DATA					MOUND SOIL SCREENING FACILITY DATA			
	Contamination Criteria CH1	FIDLER Readings CH1	Contamination Criteria CH2	FIDLER Readings CH2	FIDLER Readings Out Channel	Plutonium - 238		Thorium - 232	
	Units: CPM	Units: CPM	Units: KCPM	Units: KCPM	Units: KCPM	Units: pCi/g		Units: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

NR - Not recorded
 NC - No sample/reading taken
 NA - Reading not taken; contamination criteria not exceeded.
 a - Mound Soil Screening Facility detection level not exceeded.
 b - Concentration at or above the Mound Soil Screening Facility detection level.
 c - Results of the wipe sample were less than 20 disintegrations per minute.
 CPM - Counts per minute
 KCPM - Counts per minute x 1000
 pCi/g - Picocuries per gram

Table 1: NonAOC-South Petrex Soil Gas Survey Results

NERI Project: 2114-2E
 Site: Operable Unit -5, USDOE Mound Facility
 Analysis: Thermal Desorption - Mass Spectrometry
 Date of Analysis: 8/11/94
 Units: Ion Counts

Sample #	Total Aromatic Hydrocarbons (a)	Total Semivolatile Hydrocarbons (b)	Total C5 to C11 Petroleum Hydrocarbons (c)	Total Halogenated Hydrocarbons (d)
1	69,169	1,264	112,240	ND
2	104,993	ND	205,463	52,256
3	49,050	ND	182,582	ND
7	1,091,996	2,464	1,563,045	ND
8	118,660	ND	256,808	ND
9	160,181	ND	291,233	ND
10	1,118,059	1,092	1,614,551	ND
11	316,701	ND	580,640	ND
12	344,699	4,812	622,337	ND
13	171,388	ND	221,117	ND
14	159,243	ND	212,852	ND
2014 (e)	334,651	ND	390,971	ND
15	468,596	ND	590,114	ND
16	96,232	ND	143,289	ND
17	7,850	ND	15,530	ND
18	270,261	ND	326,343	ND
19	296,748	ND	435,836	ND
2019 (e)	175,326	ND	238,063	ND
20	86,185	ND	98,148	ND
21	4,579	ND	4,579	ND



Prepared by:
Northwest Research Institute LLC
 605 Parfet Street
 Suite 100
 Lakewood, Colorado 80215
 (303) 238-0090

Drawn By:
 JCS

Checked By:

Project Manager:
 PCB

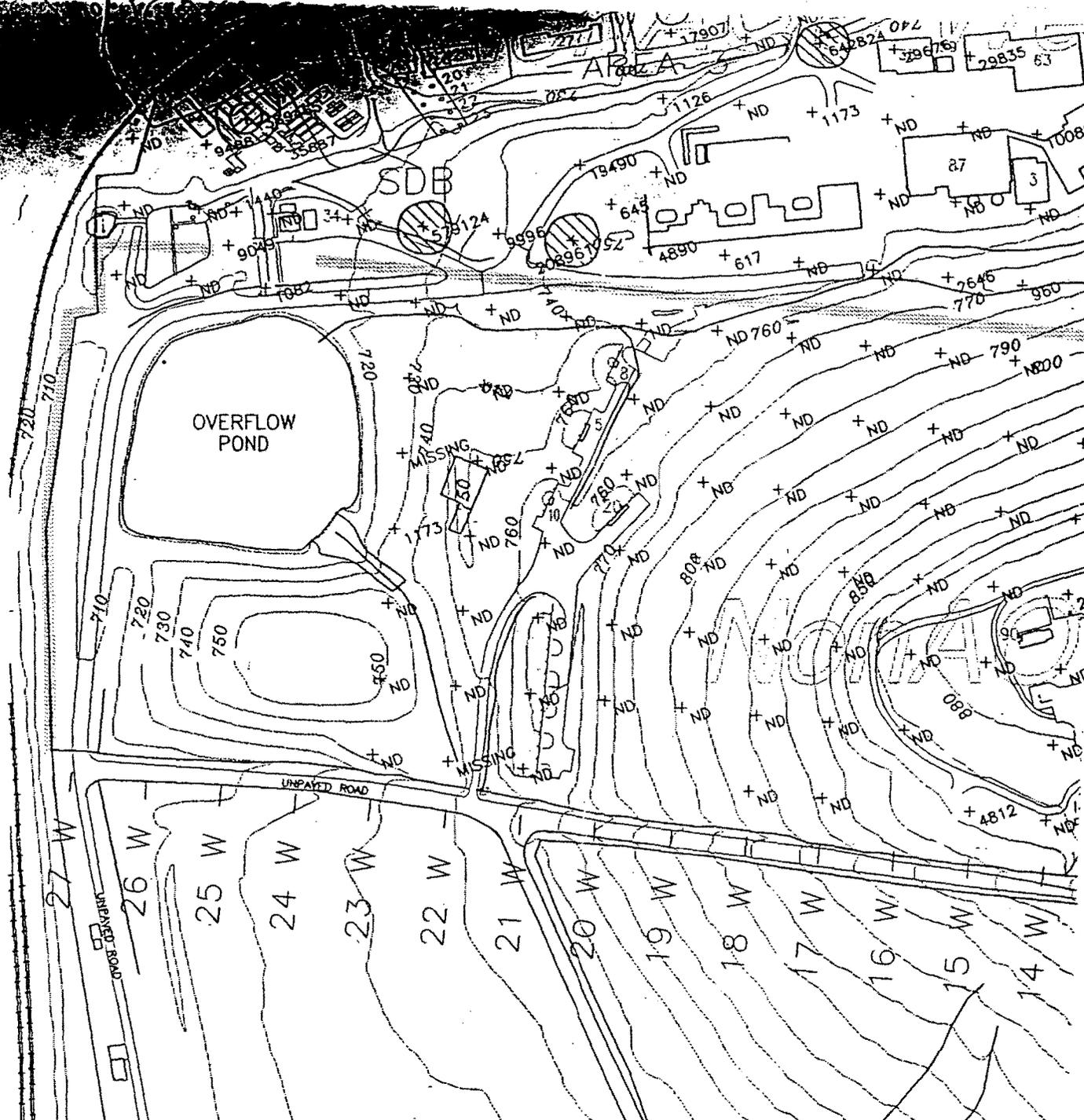
Project #:
 2114E

Date:
 November 2,

File Name:
 2114-2.d

Relative Response
 Total Aromatic
 Hydrocarbons

Plate 2 Page 12



Prepared by:
Northeast Research Institute LLC
 605 Parfet Street
 Suite 100
 Lakewood, Colorado 80215
 (303) 238-0090

Drawn By:
 JCS

Checked By:

Project Manager:
 PCB

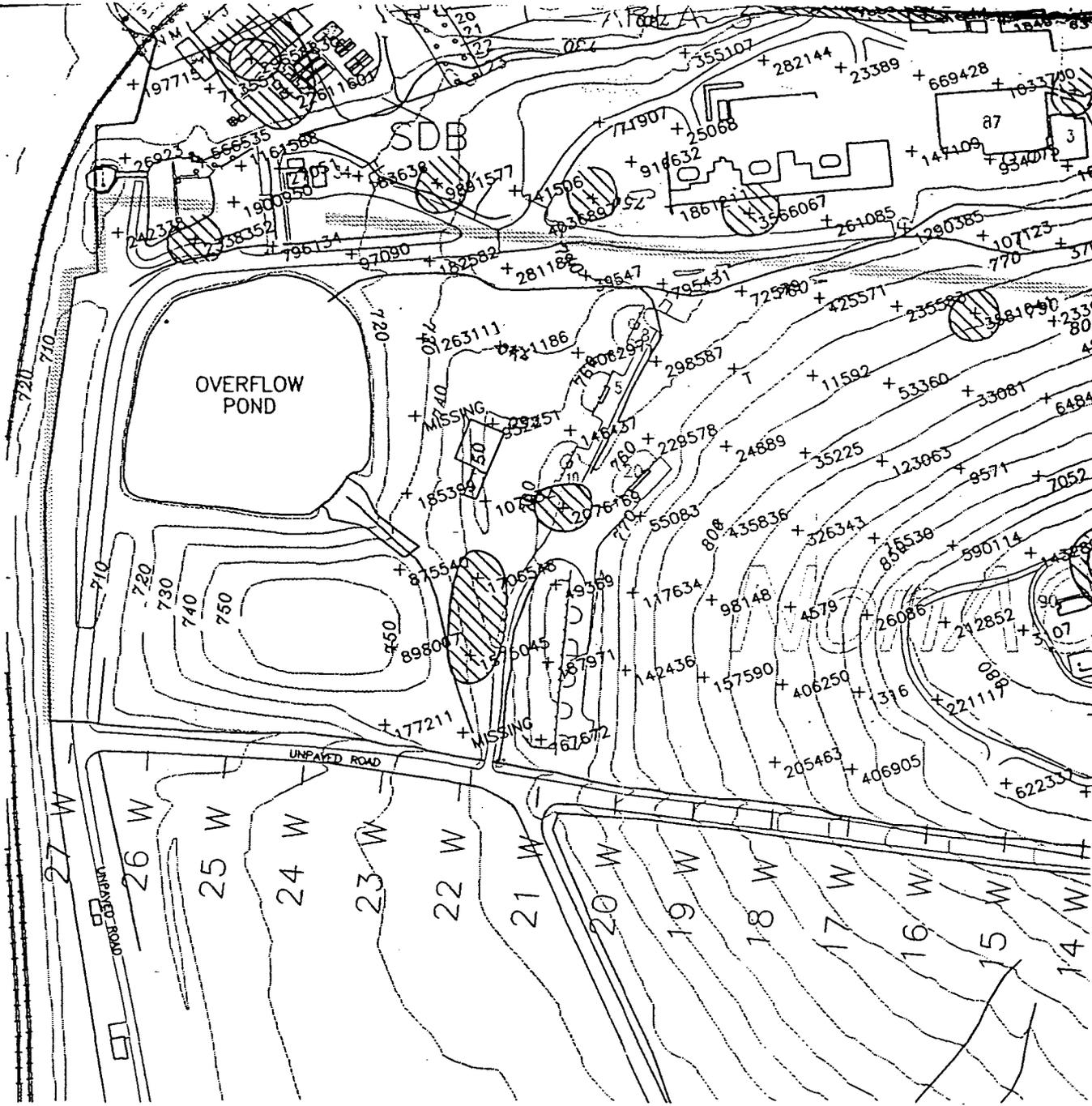
Project #:
 2114E

Date:
 November 2,

File Name:
 2114-3.dwg

NonAQC/Operable Unit-!

Relative Response
 Total Semivolatile
 Hydrocarbons



Prepared by:
Northeast Research Institute LLC
 605 Parfet Street
 Suite 100
 Lakewood, Colorado 80215
 (303) 238-0090

Drawn By:
 JCS

Checked By:

Project Manager:
 PCB

Project #:
 2114E

Date:
 November 2,

File Name:
 2114-4.d

NonAOC/Operable Unit-
 USDÖE Mound Facil

Relative Response
 Total C5-C11
 Petroleum Hydrocarbons

