EG&G MOUND-30-03-04-02--9611260089

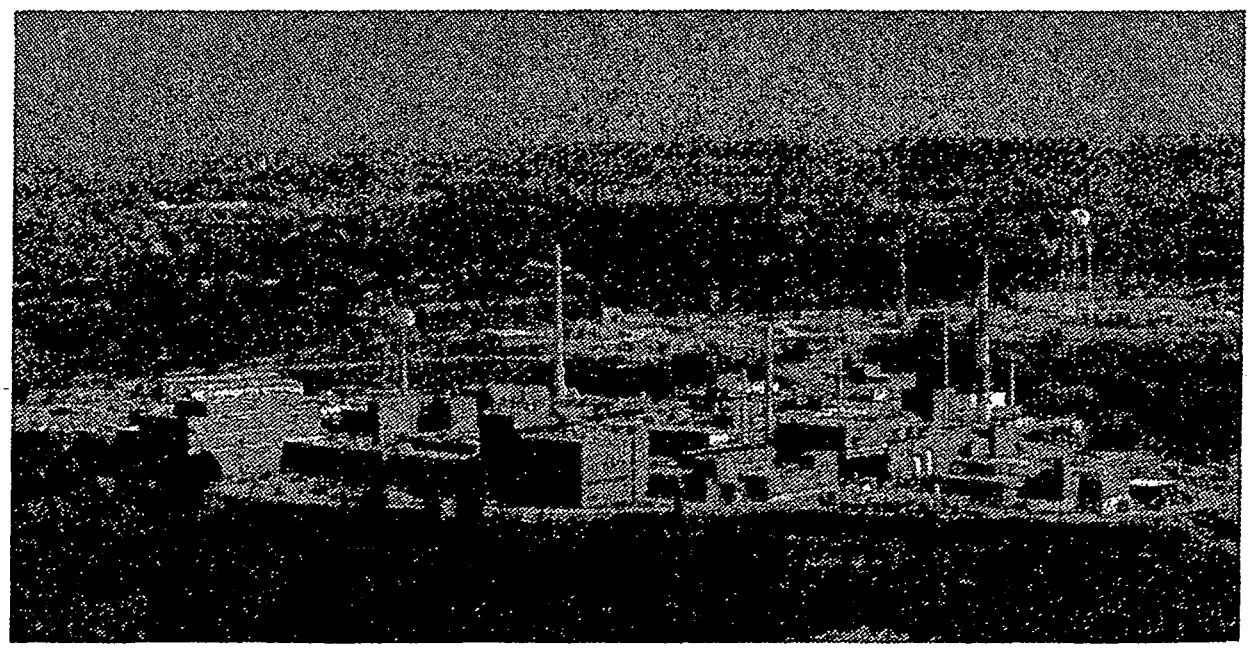
MOUND

Environmental Restoration Program

MOUND PLANT

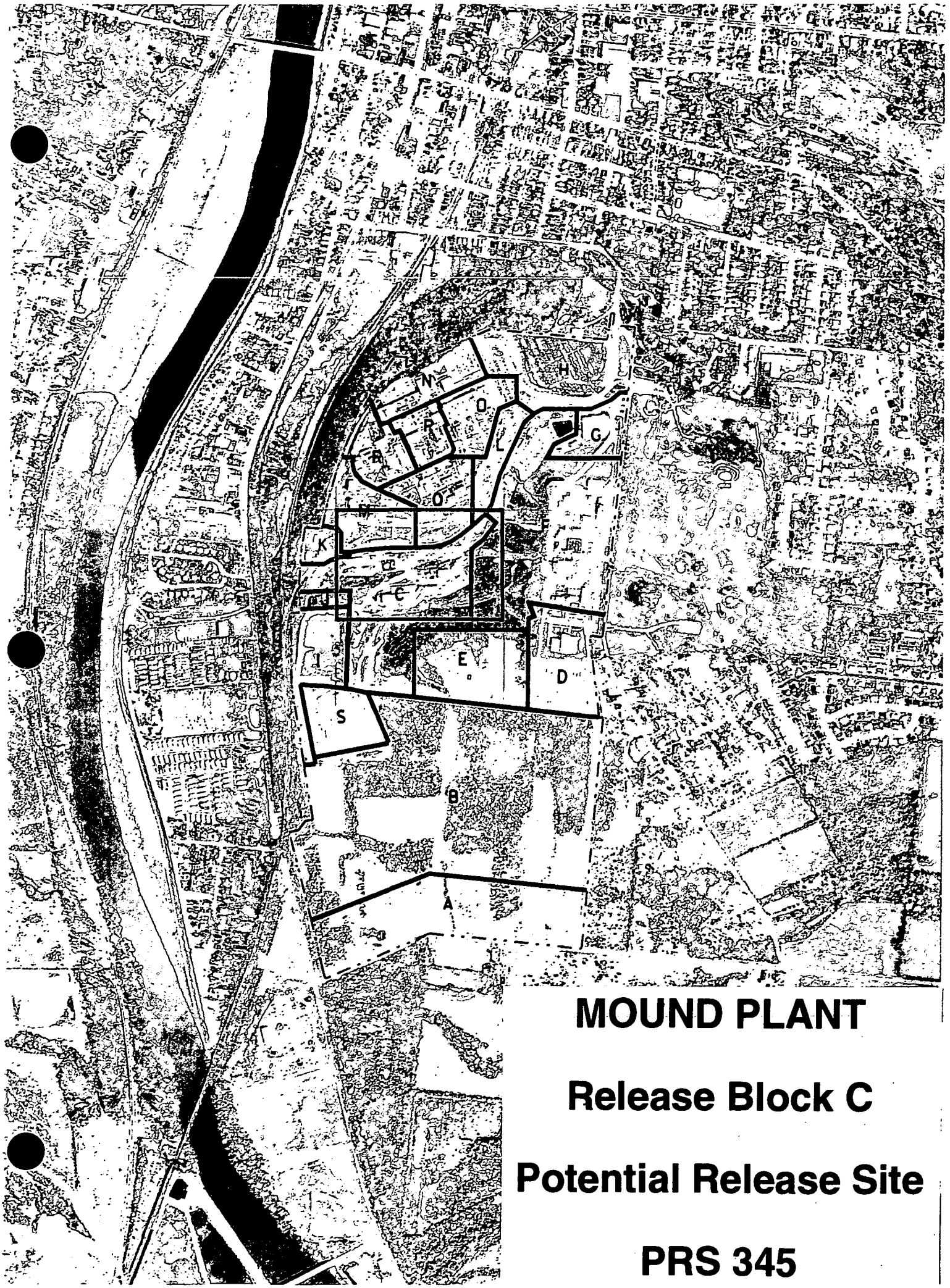
Potential Release Site Package

PRS # 345



PRS 345

REV	DESCRIPTION	DATE
PUBLIC RELEASE 0	Available for comments.	May 8, 1996
FINAL 1	Comment period expired. No comments. Recommendation page annotated.	Oct. 10, 1996
FINAL 2	Signature page changed to show correct review period.	Nov. 19, 1996

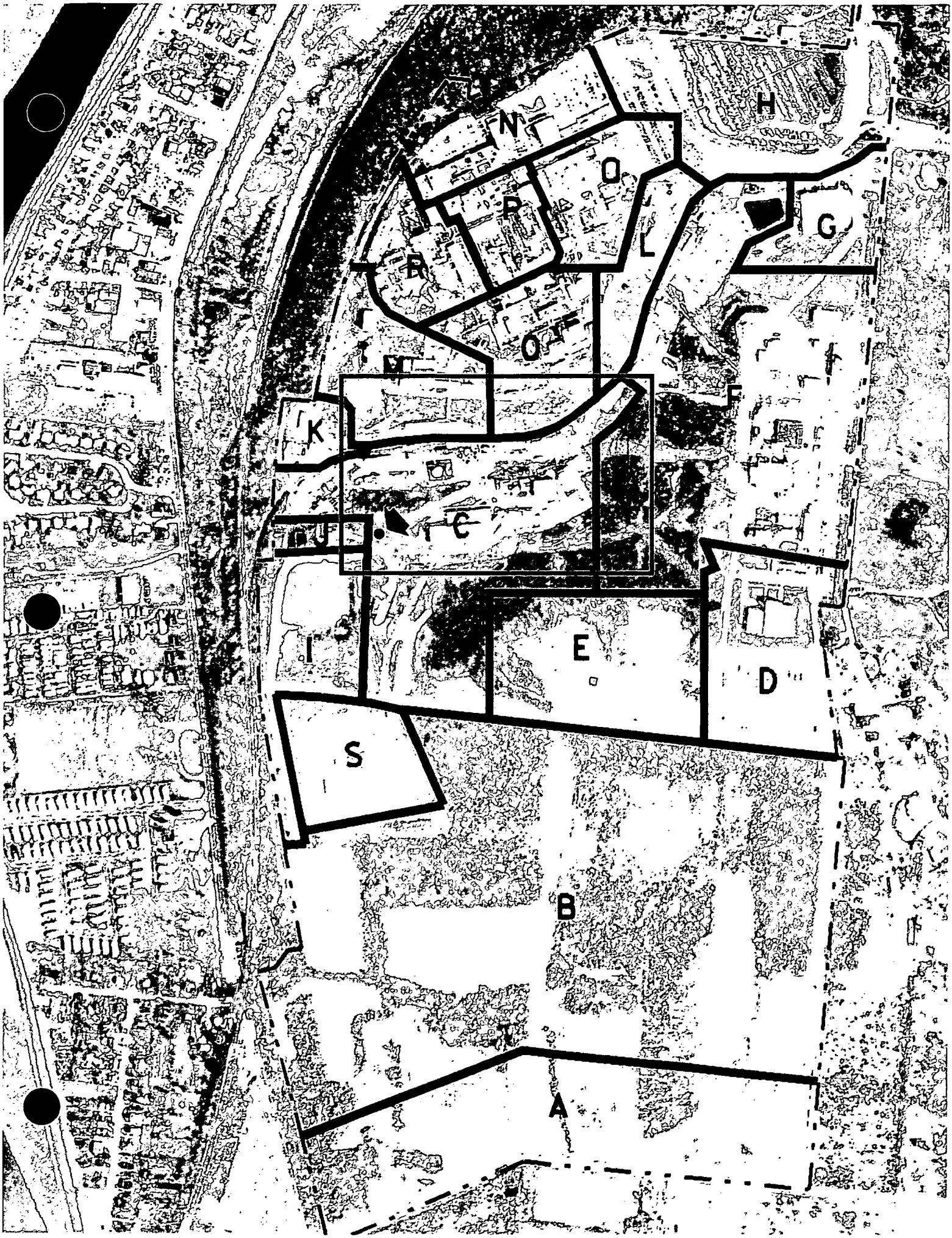


MOUND PLANT

Release Block C

Potential Release Site

PRS 345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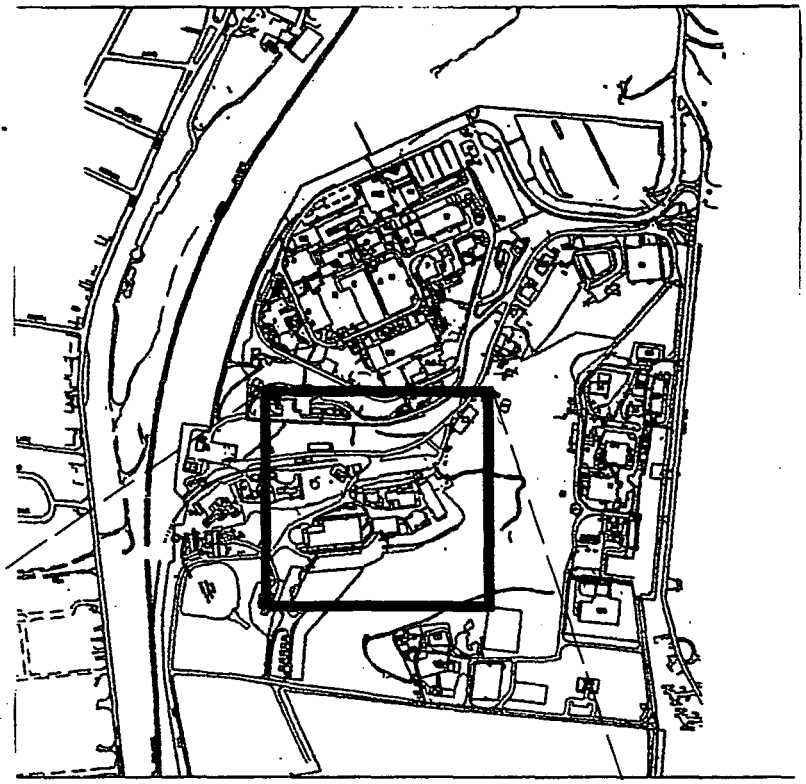
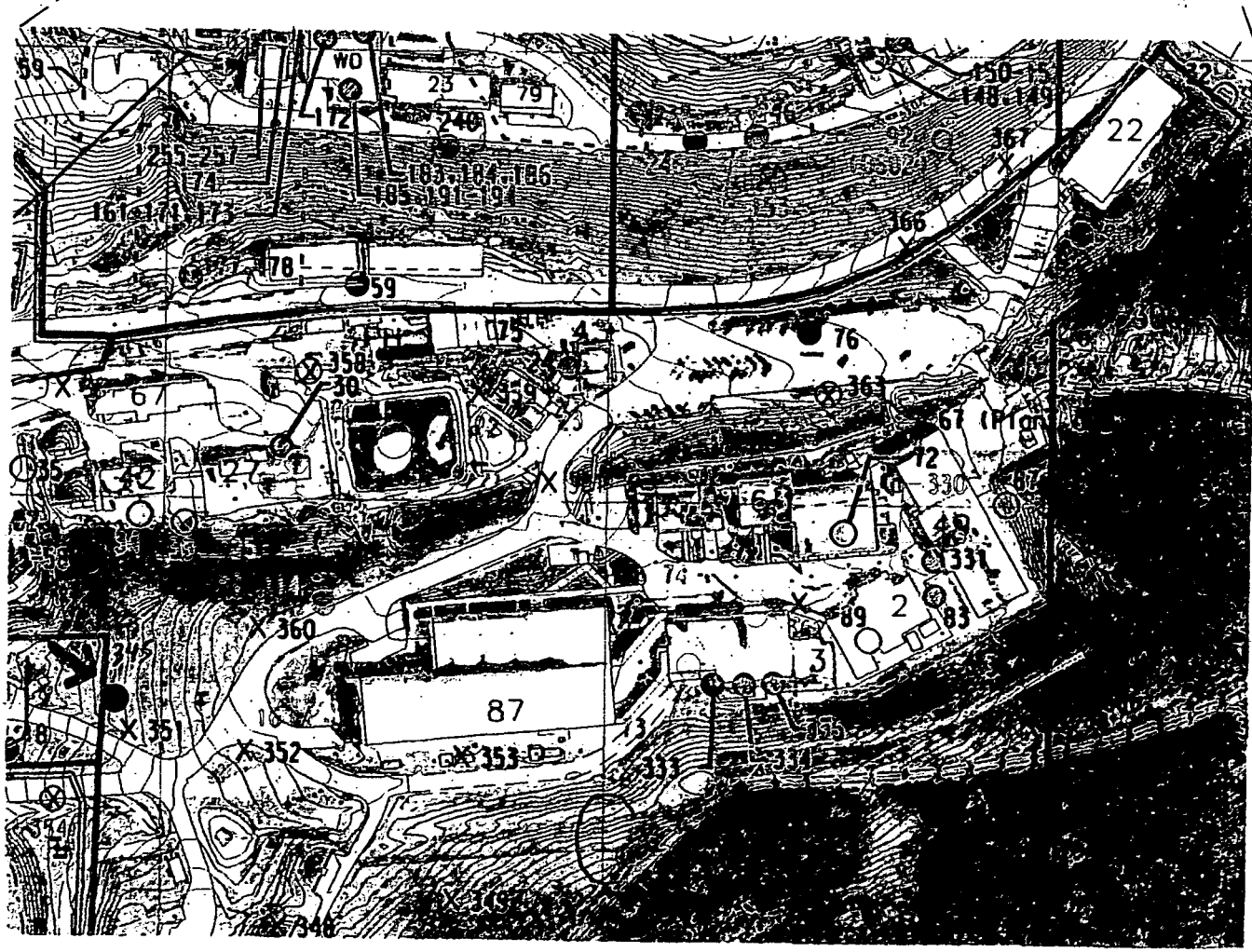
MOUND PLANT

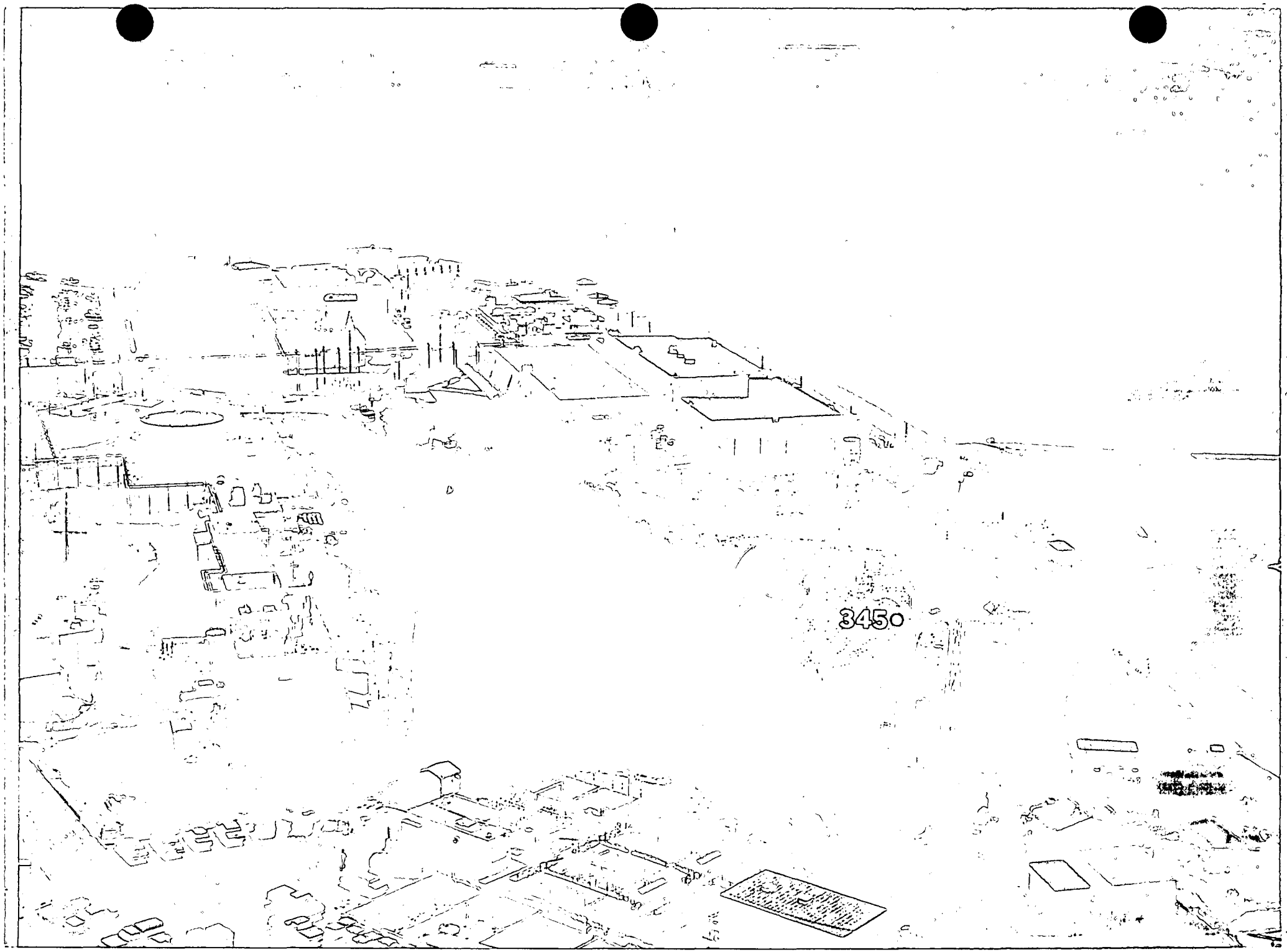
Release Block C

Potential Release Site

PRS 345



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PRS 345

PRS HISTORY:

PRS 345 is the Former Equipment Storage Area. Prior to the 1960s there were two farm buildings located in the area described as PRS 345.[2] These buildings were demolished in the early 1960s. This location became a PRS in 1980s when the grassy field was used as a contractor's equipment yard and staging area for nonhazardous material, such as semi-trailers and rebar. Storage of contractor's equipment was discontinued in the 1990s.[3] It remained an undeveloped grassy area until the Environmental Restoration Group constructed a Bioremediation Facility on the area in 1995.

Note: This area has been erroneously associated with both Area C (Lithium Burn Area) and the Past Hazardous Waste Storage Facility. The actual location of the Area C Lithium Burn Area has been determined to be further to the west and downgradient of the area identified as PRS 345. OU9 Site Scoping Report: Volume 12 - "Site Summary Report" stated that PRS 345 and the Past Hazardous Waste Storage Facility were related. The erroneous relationship occurred because Figure 3.15 on page 3-33 of the OU9 Site -Wide Work Plan showed the Past Hazardous Storage Facility about 100 ft. further west than it's actual location. This would have put the Past Hazardous Storage Facility and PRS 345 at approximately the same location. There is no relationship between the operations at the Past Hazardous Waste Storage Facility (Old Bldg. 72) and the Former Equipment Storage Area.

PROCESS DESCRIPTION:

No radioactive or hazardous waste generating processes are known to have occurred at this location.

CONTAMINATION:

Analyses for VOCs (Volatile Organic Compounds) from well 125 in the northwest downgradient corner of the area have shown no detectable contamination. Field screening of the soil during the OU3 Limited Field Investigation in the area resulted in detector readings not greater than 1.0 unit above background for all samples and therefore, as specified in the OU3 Work Plan, no samples were retained for laboratory analysis.[3] Prior to the construction of the Bioremediation Facility native soil samples were taken to determine the existing condition of the area. The samples were analyzed for benzene, toluene, ethylbenzene, and xylene (BETX) and the results were below the detection limit of the instrument. The Radiological Site Survey indicated no Plutonium or Thorium concentrations above Mound action levels of 25 pCi/g for plutonium and 5 pCi/g for thorium.[4]

READING ROOM REFERENCES:

1) OU9 Site Scoping Report: Volume 12 - Site Summary Report, December 1994 (pages 5-7)
2) OU9, Site Scoping Report Volume 5 - Topographic Map Series, February 1992 (pages 8-10)
3) OU3, Miscellaneous Sites Limited Field Investigation Report, July 1993 (pages 11-17)
4) OU9 Site Scoping Report: Volume 3 - Radiological Site Survey, June 1993 (pages 18-22)

PREPARED BY:

Dennis J. Gault, Member of EG&G Technical Staff

MOUND PLANT
PRS 345
FORMER EQUIPMENT STORAGE SITE
NEAR AREA C

RECOMMENDATION:

The area became a Potential Release Site (PRS) because it was used by contractors in the 1980s as an equipment yard and staging area. The area was erroneously associated with both the Area C (Lithium Burn Area) and the Past Hazardous Waste Storage Facility in the OU9 Site Scoping Report: Volume 12 - Site Summary Report. There is no relationship between this location and operations conducted at either the Past Hazardous Waste Storage Facility or Area C. No radioactive or hazardous waste generating processes are known to have occurred at this location. Sampling investigations within this PRS resulted in no detections for all volatile organic compounds (VOCs). Additionally, plutonium-238 is below the Mound As Low As Reasonably Achievable (ALARA) goal of 25 pCi/g and the 10^{-5} Guideline Value of 55 pCi/g. Thorium concentrations were below the regulatory standard of 5 pCi/g surface. Therefore, it is recommended that NO FURTHER ASSESSMENT is required for PRS 345.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager — 5/8/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 5/8/96 (date)

OHIO EPA: Brian K. Nickel, Project Manager — 5/8/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/18/96 6/19/96 to 7/18/96 7/17/96.

☒ No comments were received during the comment period.

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

REFERENCE MATERIAL
PRS 345

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
336	Building 37 Waste Tank (AKA Low Risk Waste Tank) (Tank 267)	F-10	Inactive	Wastewater	25	None Suspected Never used for low-risk wastewaters			No Data		
337	Building H Condensate Sump (Tank 268)	E-6	In Service	Condensate wastewater	25	None Suspected			No Data		
338	Building 29 Septic Tank (Tank 270)	E-9	Inactive	Sanitary wastewater	25	None Suspected (Abandoned in place?)			No Data		
339	T-44 Wastewater Sump (Tank 250)	F-7	Historical	Wastewater	25	Unknown - filled with concrete			No Data		
340	T-16b Wastewater Sump (Tank 251)	F-7	Historical	Wastewater	25	Unknown - filled with concrete			No Data		
341	T-90 Condensate Sump (Tank 269)	F-7	In Service	Condensate wastewater	25	None Suspected			No Data		
342	T-1 Hot Side Fire Water Tank (Tank 271)	F-7	In Service	Wastewater/Radioactive wastewater	25	None Suspected			No Data		
343	T-20 Fire Water Sump (Tank 272)	F-7	In Service	Wastewater/Radioactive wastewater	25	None Suspected			No Data		
344	T-37 Fire Water Sump (Tank 273)	F-7	In Service	Wastewater/Radioactive wastewater	25	None Suspected			No Data		
345	Former Equipment Storage Area see related site 16	H-6	Historical	Potential contaminants listed under Hazardous Waste Storage Area	4, 5, 18	Historically related to site 16	S	7, 18	No Analytical Data		7

[a]Analyte List Codes
[b]SGS, Soil Gas Survey
[c]RSS, Radiological Site Survey

				Operational Jurisdiction				Historic Activities			
No.	Site Name	Location	Status	Regulated Units	Regulatory Authority	Spill Response	SWMU	Evidence Of Release	Response Authority	Further Action Recommended	FFA OU
336	Building 37 Waste Tank (AKA Low RiskWaste Tank (Tank 267)	F-10	In Service	effluent to wastewater treatment (Building 57)	CWA	AEA		No	NA	OM	
337	Building H Condensate Sump (Tank 268)	E-6	In Service		CWA	AEA		No	NA	OM	
338	Building 29 Septic Tank (Tank 270)	E-9	Inactive		AEA	AEA		No	CERCLA	No	5
339	T-44 Wastewater Sump (Tank 250)	F-7	Historical		NA	NA		No	AEA	D&D	
340	T-16b Wastewater Sump (Tank 251)	F-7	Historical		NA	NA		No	AEA	D&D	
341	T-90 Condensate Sump (Tank 269)	F-7	In Service		CWA	AEA		No	NA	OM	
342	T-1 Hot Side Fire Water Tank (Tank 271)	F-7	In Service		AEA	AEA		No	NA	OM	
343	T-20 Fire Water Sump (Tank 272)	F-7	In Service		AEA	AEA		No	NA	OM	
344	T-37 Fire Water Sump (Tank 273)	F-7	In Service		AEA	AEA		No	NA	OM	
345	Area C, Former Equipment Storage Area	H-6	Historical		NA			No	CERCLA	No	5

AEA - Atomic Energy Act of 1954
AKA - Also known as
BUSTR - Bureau of underground storage tank regulation
CAA - Clean Air Act
CWA - Clean Water Act
D&D - Action to be taken by Mound Plant Decomission and Decontamination Program
FUSRAP - Formerly Utilized Sites Remedial Action Program
HWMU - Hazardous waste management unit
NA - Not applicable
[a] - Highest plutonium-238 concentration 31.4 pCi/g.
[b] - Tank closed August 1992 (DOE 1992i).
[c] - To be included as part of Area 3 (#41) investigation.
[d] - Actual location unknown, maintained non-public water supply source under SDWA.
[e] - Five gallon release less than reportable quantity. (RQ)

NESHAP - National Emission Standard for Hazardous Air Pollutants
NPDES - Nation Pollution Discharge Elimination System
OM - Action to be taken by Mound Plant operations and maintainence
PBR - permit by rule
RAPCA - Regional Air Pollution Control Authority
RCRA - Resources Conservation and Recovery Act
SDWA - Safe Drinking Water Act
SWMU - Solid waste Management unit

Environmental Restoration Program

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OPERABLE UNIT 9,
SITE SCOPING REPORT
VOLUME 5 - TOPOGRAPHIC MAP SERIES

MOUND PLANT
MIAMISBURG, OHIO

February 1992

FINAL

Department of Energy
Albuquerque Field Office

Environmental Restoration Program
Technical Support Office
Los Alamos National Laboratory

ER PROGRAM

MOUND PLANT

Miamisburg, Ohio

PLATE 3

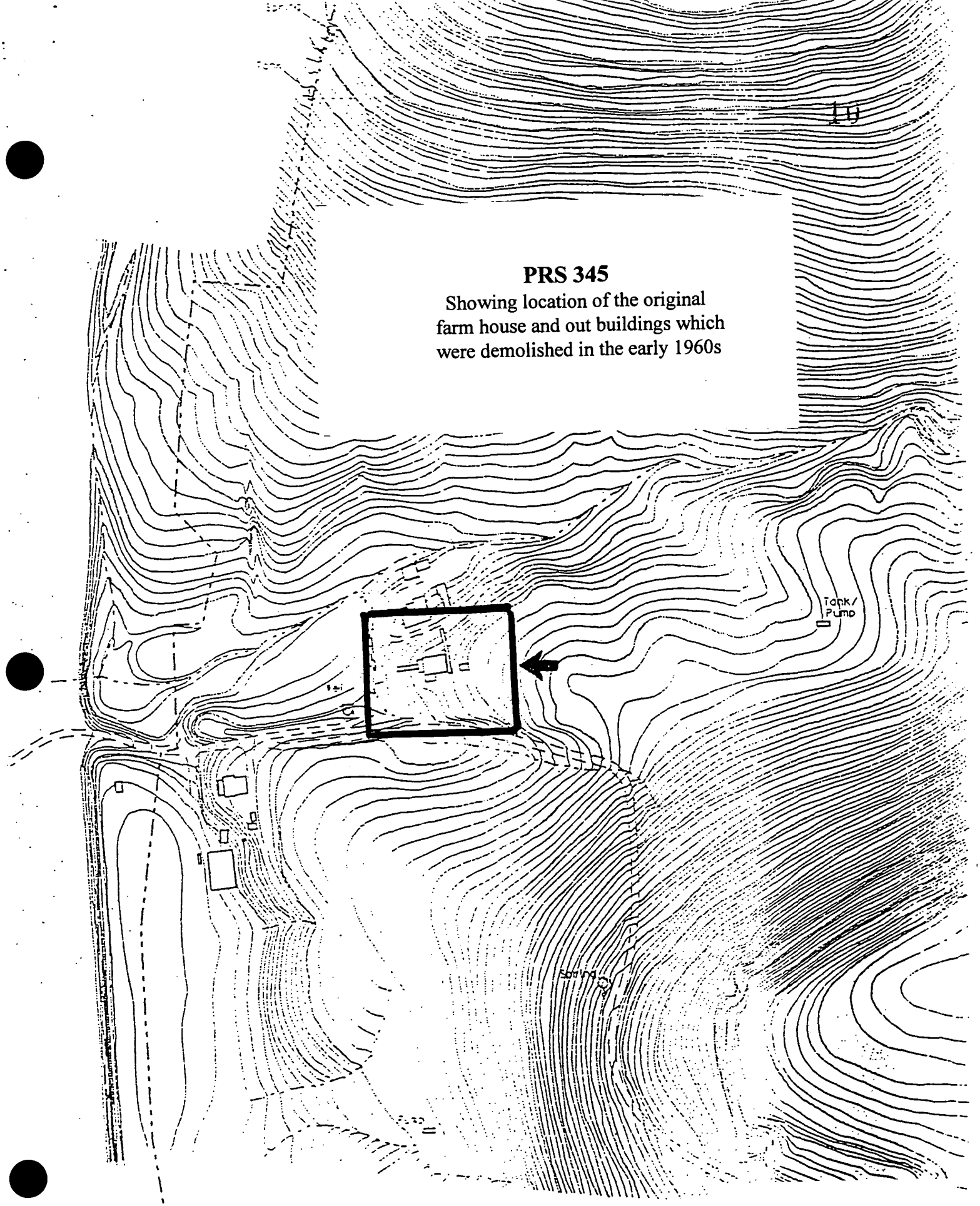
Historic Topographic Map of Main Hill, 1946

Prepared for

Site Scoping Report: Volume 5
Topographic Maps

PRS 345

Showing location of the original farm house and out buildings which were demolished in the early 1960s



Environmental Restoration Program

OPERABLE UNIT 3, MISCELLANEOUS SITES LIMITED FIELD INVESTIGATION REPORT

MOUND PLANT
MIAMISBURG, OHIO

VOLUME I LFI REPORT TEXT (SECTIONS 1-6)

July 1993

FINAL

(Revision 0)

Department of Energy

EG & G Mound Applied Technologies

823-9670

Every effort was made to comply with approved sampling protocol, however, some deviations were necessary in order to obtain the required sample. A summary of deviations for the Building 34 Former Aviation Fuel Tank sample collection is presented below:

- The sampling depth for all surface soil samples at the Building 34 Former Aviation Fuel Tank sites were extended deeper than 3 to 6 inches as specified in the Work Plan at the request of OEPA because of the possible loss of VOCs following tank excavation.
- The sampling protocol for soil samples was modified to include four locations along the sides of the in-place concrete tank foundation pad and one location below the discharge pipe.

2.16. AREA C FORMER EQUIPMENT STORAGE AREA

2.16.1. Site History

2.16.1.1. Description of the Area C Former Equipment Storage Area

Area C is located in the Mound Plant lower central valley (Figure 2.16(a)). "Area C" is the name given to a site where lithium carbonate containers were treated and disposed of. From its identification by the CEARP Program in 1986 through mid 1991, this area was believed to be in the location described in the OU 3 Work Plan, east of Building 34, as shown in Figure 2.16(a). However, in 1991 it was determined that the disposal area was more nearly centered around the current location of Building 34. In this subsection, the investigation of the erroneously located "Area C" is described. This area was investigated despite new information about its correct location, because geophysical surveys had identified subsurface anomalies in the area.

In the 1980s, Area C was a grassy field that was used as a contractors' equipment yard and staging area for nonhazardous material, such as semi-trailers and rebar. Storage of contractors' equipment was discontinued in the area in the 1990s and the area currently is an undeveloped grassy field. Structures west of Area C include Building 34, a drop tank, a submergence tank, and a test burn facility. The Building 34 Oil Burn Structure, Former Aviation Fuel Tank, Fire-Fighting Training Pits, and retention basins are also located to the west of Area C.

Located within Area C is monitor well 0125. Located to the east of Area C and southwest of the former location of Old Building 72 is monitor well 0151 as shown in Figure 2.16(a).

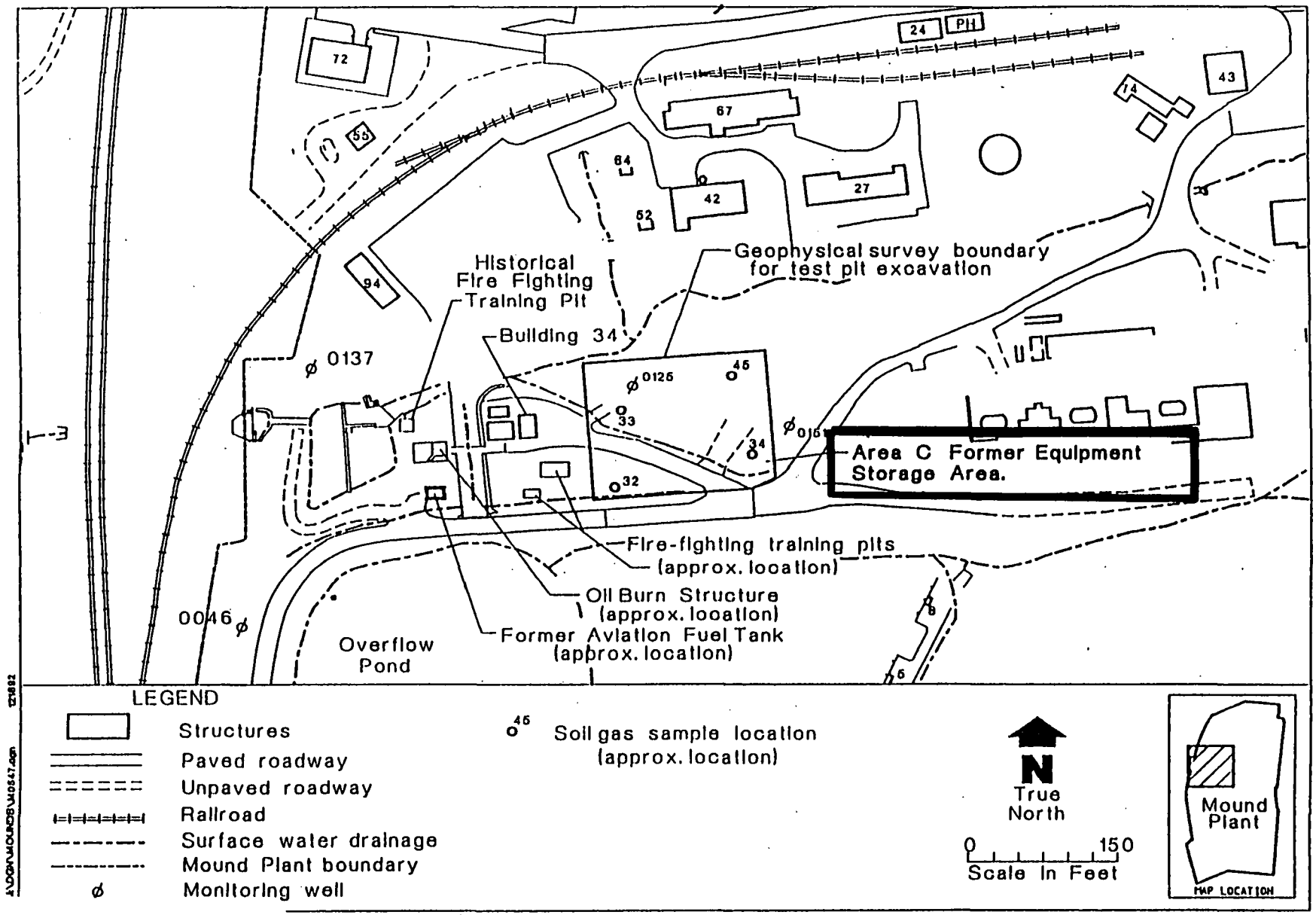


Figure 2.16(a). Area C Former Equipment Storage area.

13

2.16.1.2. Potential Area Contaminants

Metal debris from Area B was reported to have been moved to Area C in 1950 (DOE 1989c). The metal was originally placed in Area B with polonium-210-contaminated wood. The wood was burned in 1950 and the remaining metal debris may have been moved to Area C (DOE 1989b), or to Area 7 (DOE 1991g).

A geophysical investigation was performed in Area C using two techniques, ground penetrating radar (GPR) and magnetic measurement. The objective of the geophysical investigation was to identify locations in Area C where ferrous metal objects were buried. Magnetic anomalies were detected at eight locations in Area C as shown in Figure 2.16(b). Only three of the anomalies were associated with the objects detected on the GPR records. Five of the magnetic anomalies presented in Figure 2.16(b) were located in close proximity to the four soil gas sample stations.

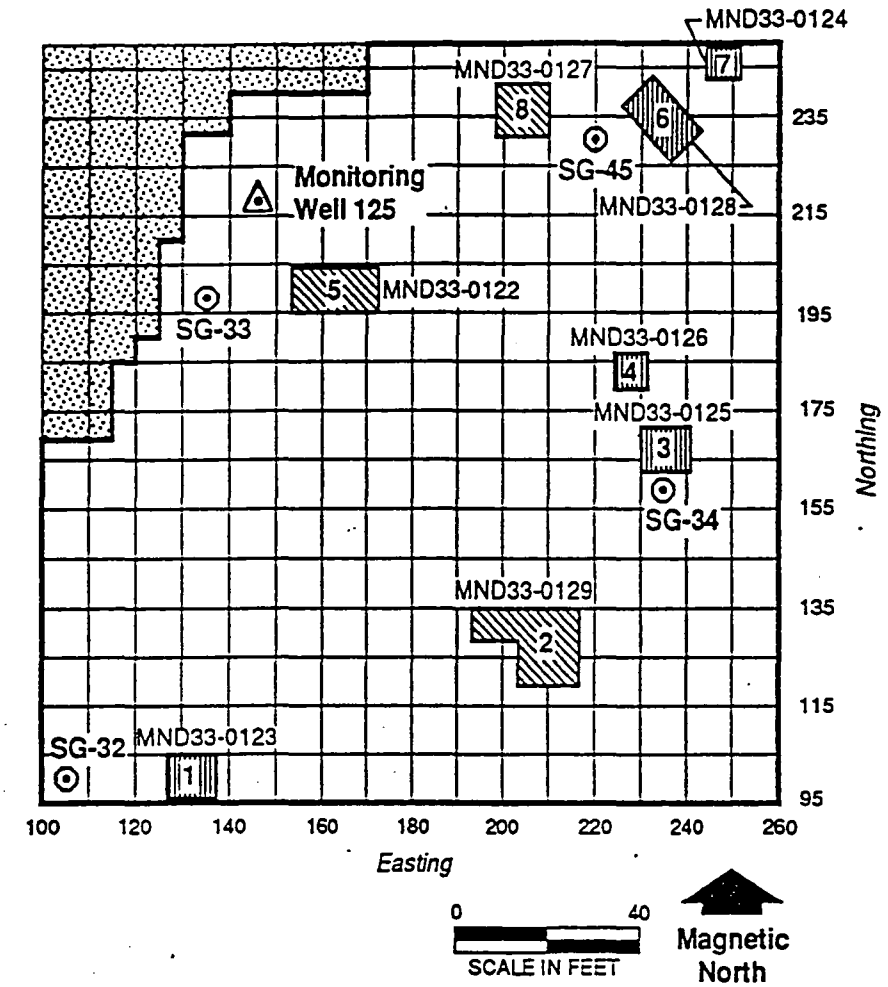
During a site tour William Criswell (WESTON) was informed by Herb Meyer and Joe Garner (formerly with EG&G) that prior to the 1960s there were two farm buildings at the present location of Area C (WESTON letter report 30 July 1991). The buildings were demolished in the early 1960s. Based on this information and the geophysical anomalies identified during the geophysical survey it was assumed that the anomalies were because of the presence of construction debris. The sampling strategy detailed in the OU 3 Work Plan was not modified during the LFI.

Prior environmental soil gas samples were collected in the area of Area C in June 1987. The samples were analyzed for six VOCs: TCE, 1,2-trans-dichloroethene, chloroethene, toluene, benzene, and ethylbenzene. The soil gas survey showed detectable concentrations of all six analytes at the Area C locations.

The groundwater table in Area C is expected to vary between depths of 15.0 and 25.0 ft BGS based on the static water level measurements from monitor well 0125. Analyses for VOCs from the monitor well in the area have shown no detectable contamination.

2.16.2. Field Investigation Procedures

The objective of sampling at the Area C Former Equipment Storage Area was to investigate the presence or non-presence of contamination at the site, which was suspect because of the results of previous geophysical surveys. The field investigation was guided by results of the geophysical investigation and interpretation of eight geophysical anomalies. The Area C investigation activities included eight test pit



LEGEND

- Boundaries of test pits
- Test pit location sample ID
- Test pit defined by magnetic data
- Test pit defined by magnetic and GPR data
- Area where site culture interferes with interpretation of magnetic data
- Soil gas location
- Monitoring well location

Note: Coordinates on figure are referenced to magnetic north and to field markers that delineate the perimeter of survey area.

MOUND/TestPit/11-09-92

Figure 2.16(b). Area C Former Equipment Storage Area test pit locati

excavations using a backhoe. The test pit areas were marked according to coordinates as stipulated in the Work Plan and are shown on Figure 2.16(b). Excavation work was conducted by WESTON representatives from 31 January to 4 February 1992. Test pit excavations were performed according to Work Plan guidelines. Three of the test pits (nos. 2, 5, and 8) were associated with anomalies found using GPR techniques. The remaining test pits (nos. 1, 3, 4, 6, and 7) were associated with the anomalies found during the magnetic survey.

Excavation work was performed while wearing Level C personal protection equipment. Readings with direct-reading instruments were taken at each 2.0-ft-depth interval from soil collected from the backhoe bucket as specified in the OU3 Work Plan and Sampling and Analysis Plan. The soil was collected using stainless steel scoops and bowls. Photoionization detector and flame ionization detector instrument readings were not greater than 1.0 unit above background for all samples and therefore, as specified in the OU3 Work Plan, no samples were retained for laboratory analysis.

Debris and any other objects found during the excavation activities were described and were returned to their original locations. Each test pit was backfilled during the same day of excavation. The following subsections describe the materials encountered in each individual test pit. The only deviation from approved protocol was that plastic sheeting was only used for the first excavation (no. 5) for soil placement. The other test pits had soil directly placed onto the native surface soils. This deviation from standard protocol was implemented when problems arose as a result of the saturated condition of the soil. Each test pit was backfilled with excavated soils immediately following completion of excavation and screening activities.

2.16.2.1 Test Pit No. 1

Test pit no. 1 was excavated to an approximate depth of 7.5 ft BGS on 1 February 1992. Groundwater was encountered during test pit operations at a depth of 7.5 ft BGS. Native soil was encountered at approximately 6.5 ft BGS. Nonmetallic objects were found to a depth of approximately 6.0 ft BGS; metal objects were encountered to a depth of approximately 3.0 BGS. The following objects were found in test pit no. 1:

- Nonmetallic
  - Small pieces of charred wood.
  - Small strips of plastic.
- Metallic
  - Metal pipe, 1.5 ft by 1 inch diameter.
  - Strip of metal, flat, 6 inches long.
  - Metal 55-gallon drum lid.

2.16.2.2. Test Pit No. 2

Test pit no. 2 was excavated to an approximate depth of 2.0 ft BGS on 4 February 1992. The pit contained a concrete stormwater drainage pipe which originated upgradient to the east and was oriented east-west across the pit. A change in scope for excavation was executed as a result of uncovering the storm sewer line. The letter dated 11 February 1992 (Mauzy 1992b) documents the change in scope. The L-shaped test pit was divided into two sections by the storm line, one side being approximately twice as large as the other. Extreme care was taken so as not to disturb the pipe. One 6-inch-long piece of metal rebar was uncovered in the long portion of test pit no. 2.

2.16.2.3. Test Pit No. 3

Test pit no. 3 was excavated to a depth between 1.0 and 2.0 ft BGS on 2 February 1992. Within 1 ft of the ground surface, a concrete foundation and flooring containing metal rebar was uncovered. Where possible the test pit was excavated to a depth of 2.0 ft BGS and the configuration of the foundation and flooring was noted in the test pit log.

2.16.2.4. Test Pit No. 4

Test pit no. 4 was excavated where possible to a depth of 2.0 ft BGS on 2 February 1992. Native soils were observed at a depth of approximately 2.5 ft BGS. The following items were found in test pit no. 4:

- Nonmetallic/metallic
  - A concrete foundation and flooring containing metal rebar was uncovered within 1 ft of the ground surface.
- Metallic
  - Metal fence post, 3 ft long with barbed wire.
  - Metal cap from vehicle gasoline tank.
  - Heavy steel pipe, 3 ft long, 1 inch diameter.

2.16.2.5. Test Pit No. 5

Test pit no. 5 was excavated to an approximate depth of 8.0 ft BGS on 31 January 1992. The test pit was completed in two sections. Native soils were encountered in the test pit below 4.0 ft BGS. Four pieces of metal rebar between 1.0 and 1.5 ft long and 0.5 inches in diameter were found in test pit no. 5 within 1 ft of the ground surface.

Document Control No. _____

Environmental Restoration Program

19

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

MOUND PLANT
MIAMISBURG, OHIO

June 1993

FINAL

Department of Energy
Albuquerque Field Office

Environmental Restoration Program
EG&G Mound Applied Technologies

FOR CIRCULATION

ER PROGRAM

MOUND PLANT

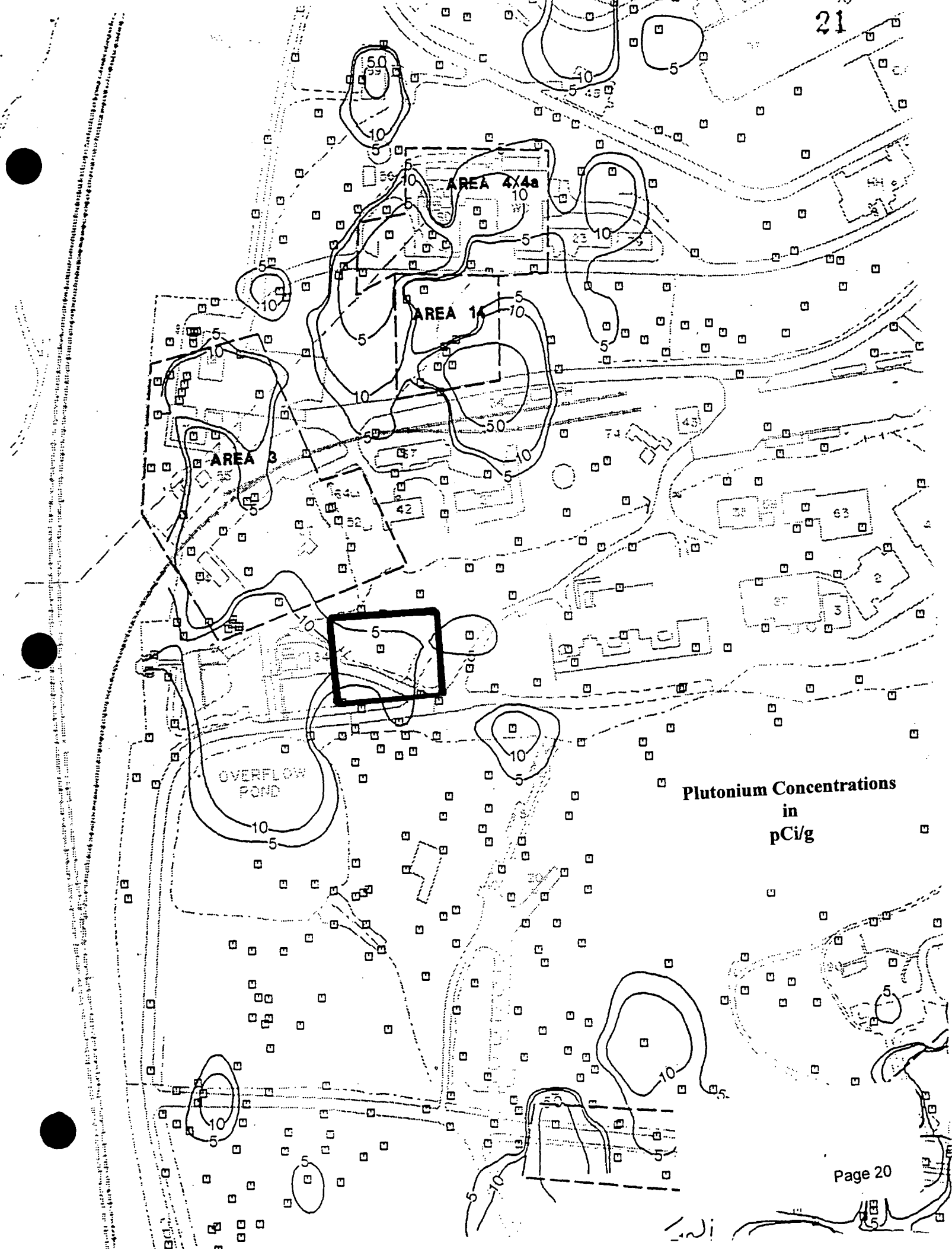
Miamisburg, Ohio

PLATE 4

Site Survey Project
Plutonium Concentrations

Prepared for

Site Scoping Report: Volume 3,
Radiological Site Survey


AREA 4/4a
AREA 1
AREA 3
OVERFLOW POND
Plutonium Concentrations
in
pCi/g

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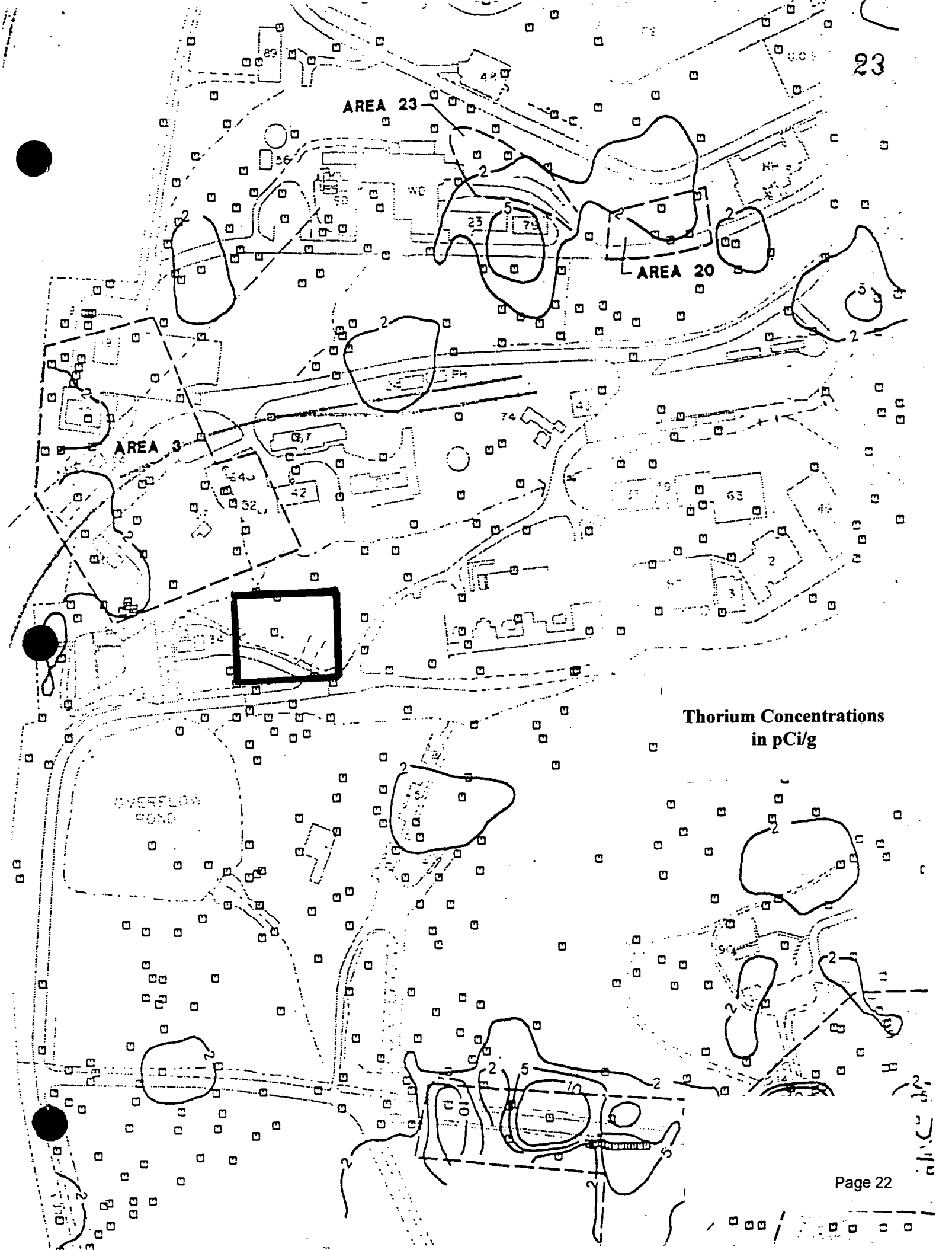
Miamisburg, Ohio

PLATE 5

Site Survey Project
Thorium Concentrations

Prepared for

Site Scoping Report: Volume 3,
Radiological Site Survey


23
AREA 23
AREA 20
AREA 3
OVERFLOW POND
Thorium Concentrations in pCi/g