

MOUND

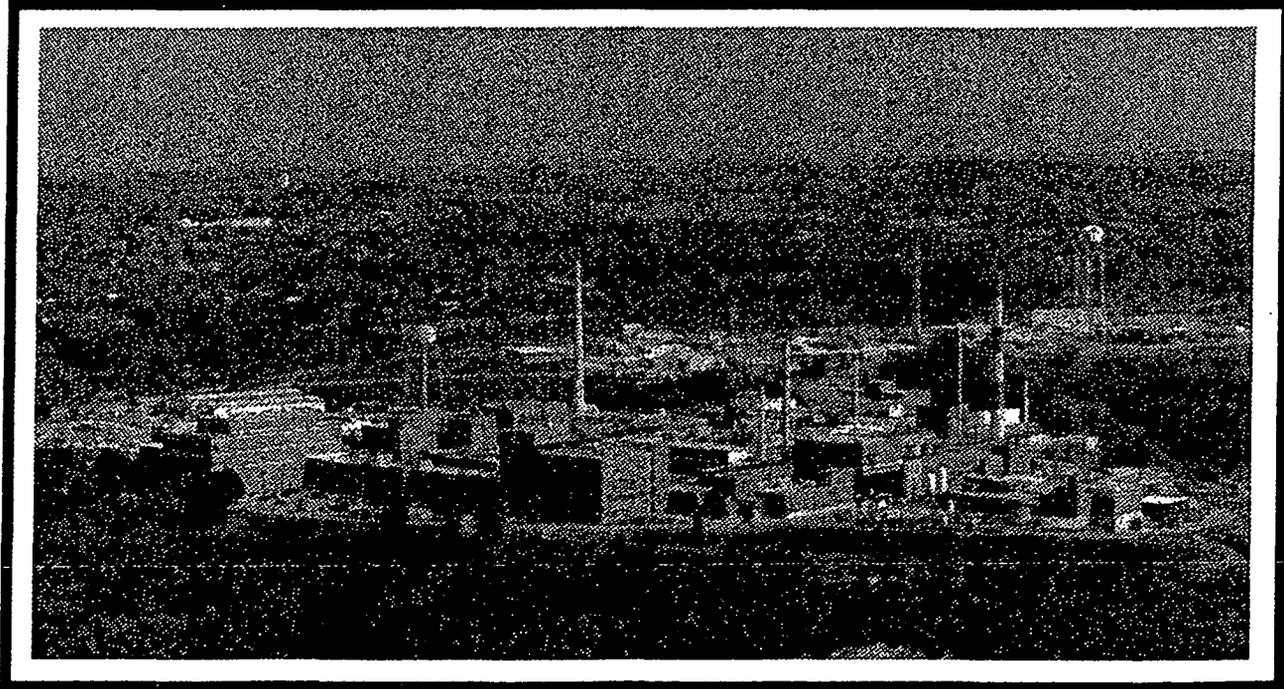


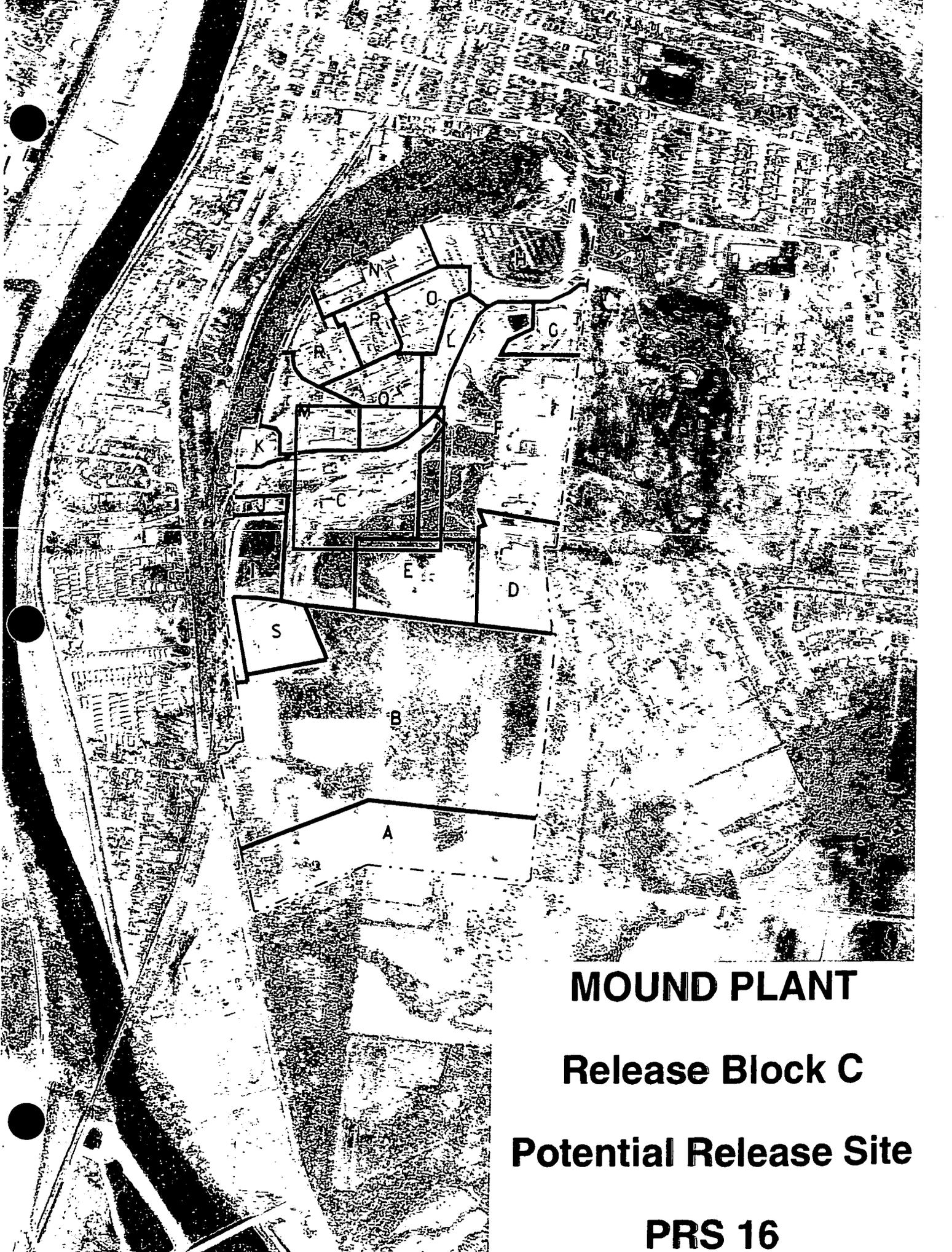
**Environmental
Restoration
Program**



OhioEPA

MOUND PLANT Potential Release Site Package PRS # 16





MOUND PLANT

Release Block C

Potential Release Site

PRS 16



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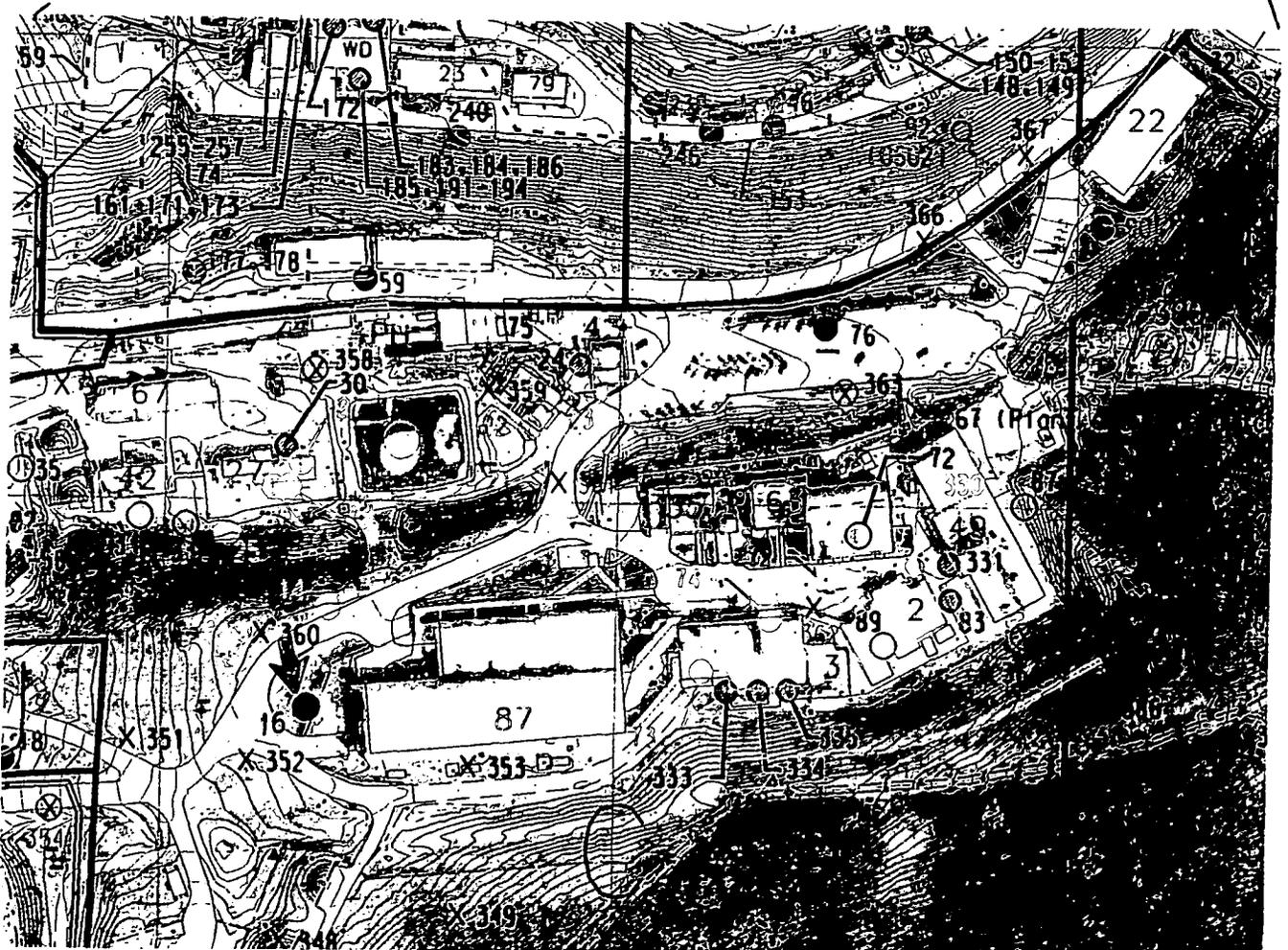
E

MOUND PLANT

Release Block C

Potential Release Site

PRS 16





PRS 16

PRS HISTORY:

PRS 16 is the Past RCRA Hazardous Waste Storage Area. The structure began operation in 1982, and the Ohio EPA approved a RCRA closure plan August 8, 1985 to remove the facility. The expansion of Building 87 require the removal of the structure. During the expansion efforts, the area was regraded and Building 87 was expanded over the location of the facility. The structure was dismantled in early 1986.² It was decommissioned under an Ohio Environmental Protection Agency (OEPA) approved closure plan.³

PROCESS DESCRIPTION:

The building was used for storage prior to off-plant shipment of hazardous waste generated at the Mound facility. This hazardous waste included combustible and flammable liquids and waste oils, solvent containing wastes, ignitable wastes, plating waste, photoprocessing wastes, polymeric wastes, and toxic wastes. Wastes were stored in sealed 55-gallon drums. The storage structure was a 60 ft. by 40 ft. covered structure (Old Building 72) with a concrete floor divided into four drum storage bays to segregate incompatible wastes. Three of the bays were used for storage. The fourth bay was used to hold defective containers and to prepare waste containers for off-plant shipment. The bays had sloped floors and 6 to 15 inch dikes.

CONTAMINATION:

Under the OEPA approved closure plan, the contents of the facility were temporarily relocated while the new facility was being constructed. The physical integrity of the facility was confirmed and the structure was dismantled. Soil samples were taken around the parameter of the concrete slab at a depth of 0 to 6 inches. One composite sample was made for each of the four sides of the facility. The samples were analyzed for halogenated volatile organic compounds (VOCs). Soils with concentrations above the detection limit were considered to be contaminated with hazardous waste. Results indicated VOCs above detectable concentrations, therefore, contaminated soil was removed and containerized on the west, east, and south side of old Building 72 on February 7, 1986. Confirmatory samples were taken of the newly exposed and formerly underlying soil. Analytical data showed no detectable halogenated VOCs on the west, east, and south sides. Subsequently, soil was removed from the north side of the facility. This was completed July 1, 1986 and once again confirmatory samples were taken whose results indicated no detectable contamination. The concrete pad was then removed and taken to a landfill and the Past RCRA Hazardous Waste Storage Area was certified as being closed.³ Three surface soil samples were taken in the vicinity of the Past Hazardous Waste Storage Facility during the Radiological Site Survey. Results were below Mound ALARA (As Low As Reasonably Achievable) levels for plutonium and thorium.⁶ In 1994, soil gas sampling was conducted for Operable Unit 5 (OU5) which included the area around PRS 16. This analysis provided relative data which indicated whether the sample locations had elevated levels compared to surrounding areas. The results did not show elevated levels of halogenated hydrocarbons, but there was elevated levels of petroleum hydrocarbons and semivolatile

hydrocarbons in the area. Since the OU5 soil gas samples was conducted after construction and grading work in the area, the hydrocarbons will be addressed as a separate potential release site (PRS 352).⁵

READING ROOM REFERENCES:

- 1) Operable Unit 9 (OU9), Site Scoping Report: Volume 12 - Site Summary Report, Final, December 1994 (pages 6-7)
- 2) OU9, Site Scoping Report: Volume 7 - Management, Final, February 1993 (pages 8-10)
- 3) OU9 Site-Wide Work Plan, May 1992, -Appendix-B: "Closure Plan for Hazardous Waste Storage Facility - Building 72", August 12, 1985 (pages 11-27)
- 4) USEPA Region V, Preliminary Review/Visual Site Inspection - U.S. DOE Mound, July 1988. (pages 28-30)
- 5) OU5, Operational Area Phase I Investigation Non-AOC Field Report, Volume II - Appendices A-G, June 1995. (pages 35-39)
- 6) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey, Final, June 1993. (pages 31-34)

PREPARED BY:

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

**MOUND PLANT
PRS 16
FORMER WASTE STORAGE SITE - AREA C
(OLD BUILDING 72)**

RECOMMENDATION:

This became a Potential Release Site (PRS) because it was a Past Hazardous Waste Storage Area. The old building 72 facility was removed when Building 87 was expanded which then occupied the same location. The storage area was dismantled in accordance with an Ohio Environmental Protection Agency (OEPA) approved RCRA closure plan. Under the plan, any detectable halogenated volatile organic compounds in the soils were considered to be contaminated with hazardous waste and removed. Contaminated soils were excavated and confirmational sampling showed that the remaining soils were below the detection limits. Radiological sampling in the area showed levels of plutonium-238 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-232 concentrations are below the accepted regulatory standard of 5 pCi/g. The Past Hazardous Waste Storage Area completed an OEPA approved RCRA closure plan and the radiological levels were below the Mound guideline values, therefore, PRS 16 is recommended for NO FURTHER ASSESSMENT.

CONCURRENCE:

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

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

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

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____.

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

Reference Material
PRS 16

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 |
| 11 | Area 2, Thorium and Polonium-Contaminated Wastes (AKA Crusted Drums) | I-4 I-5 | Historical | Polonium-210, thorium-contaminated drums, Polonium-210 contaminated sand and debris Thorium sludge constituents, Plutonium-238 | 1, 4, 5, 18 | Thorium and daughters | S | 1, 4 | 14 2, 3, 4, 5, 6 10, 11, 14, 16 | Table B.1 (Table III.1 in Ref. 6) Tables B.6, B.7, B.8 and B.9 | 6 24 |
| 12 | Area B Drum Storage Area | I-5 | Historical | Chemical wastes | 4 | None Suspected | | | 2, 3, 4, 5, 6 10, 11, 14, 16 | Tables B.6, B.7, B.8 and B.9 | 24 |
| 13 | Trash Incinerator | J-5 | Historical | Solid Waste | 4 | None Suspected | | | No Data | | |
| 14 | Area C, Waste Storage Area (AKA Drum Staging Area and Chemical Waste Storage Area) | H-6 | Historical | VOCs | 4, 5, 7 | Suspected, not confirmed | S | 7 | 3, 4, 5, 6 14 | Tables B.6, B.7, B.8, and B.9 RSS ^c Location S0518 (Appendix E in Ref. 6) | 7 6 |
| 15 | Area C, Lithium Burn Area (AKA Lithium Carbonate Disposal) | H-5 | Historical | Lithium Hydride | 4 | Possible lithium residues, not confirmed | S | 4, 7 | 2, 3, 4, 5, 6, 7, 8, 9, 10 14 | Tables B.6, B.7, B.8, and B.9 RSS ^c Locations S0552 and S0553 (Appendix E in Ref. 6) | 7 6 |
| 16 | Area C, Past Hazardous Waste Storage Area (AKA old Building 72) see related site 345 | H-6 | Historical | Potential contaminants listed under Hazardous Waste Storage Area | 4, 5, 18 | Minor, historically remediated | S | 18 | 4 | Table B.6 | 18 |
| 17 | Oil Burn Structure | H-5 | Inactive | Aviation fuel, benzene, toluene, ethyl benzene, xylenes | 5, 7, 18 | Confirmed EPH, dioxin/furans | | 7, 18 | 2, 3, 4, 5, 6, 7, 8, 9, 10 | Tables B.6, B.7, B.8, and B.9 | 7 |
| 18 | Building 34, Fire Fighting Training Facility Pits | H-5 | Inactive | Diesel Fuel | 5, 7, 18 | Confirmed EPH | | 7, 18 | 3, 4, 5, 6, 7, 8, 9, 10 14 | Tables B.6, B.7, B.8, and B.9 RSS Location S0556 (Appendix E in Ref. 6) | 7 6 |
| 19 | Building 34, Historical Firefighting Training Pit | H-5 | Historical | Diesel Fuel | | Suspected Confirmed dioxin/furan | S, SW S | 10 7 | 2, 3, 4, 5, 6, 7, 8, 9 | Tables B.6, B.7, B.8, and B.9 | 7 |

Environmental Restoration Program

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

**MOUND PLANT
MIAMISBURG, OHIO**

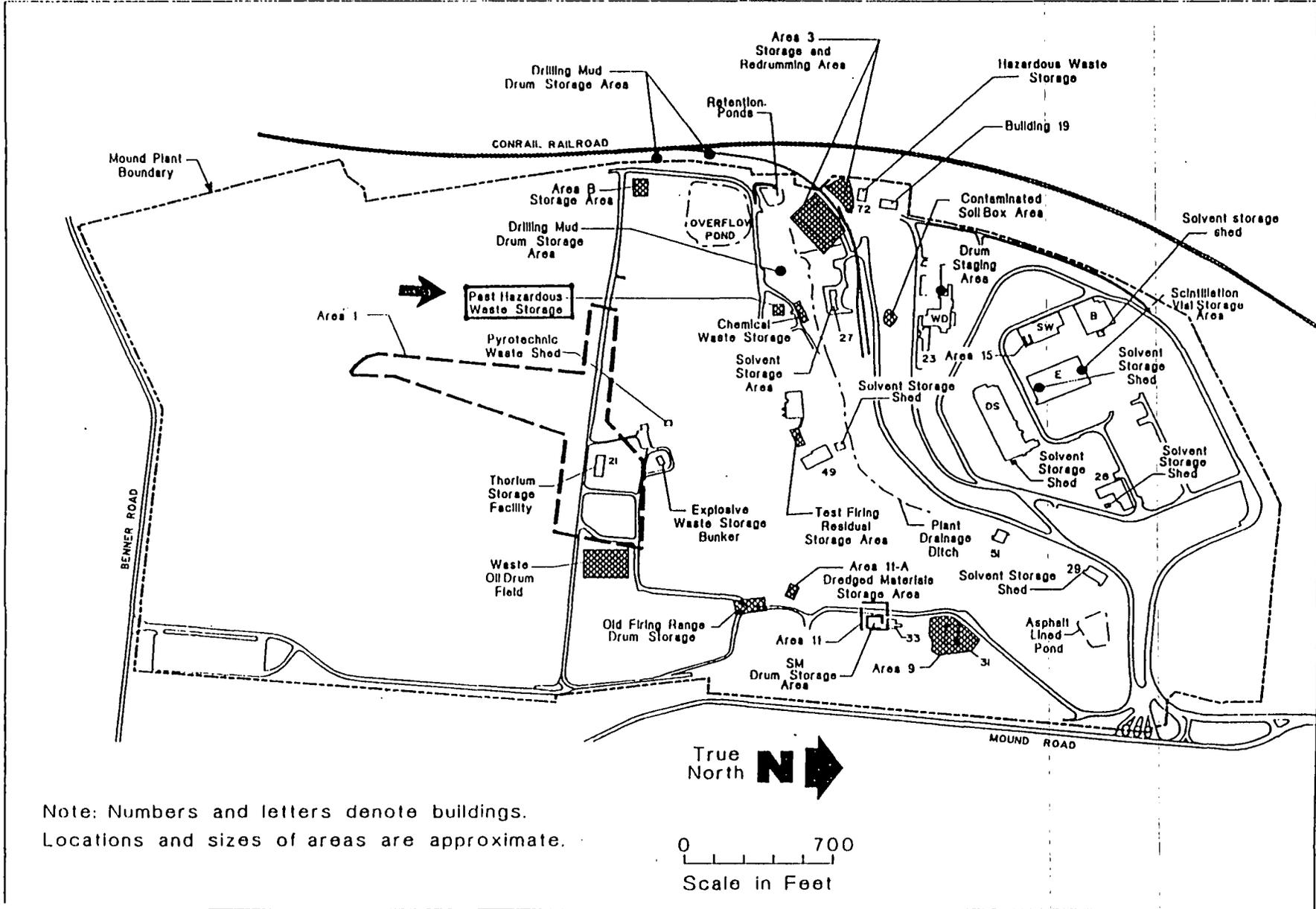
February 1993

**FINAL
(Revision 0)**

**Department of Energy
Albuquerque Field Office**

Environmental Restoration Program
EG&G Mound Applied Technologies





Note: Numbers and letters denote buildings.
 Locations and sizes of areas are approximate.

Figure 5.1 Waste storage areas.

~~the ground throughout this area. Stormwater runoff from the area probably flows westward toward the overflow pond.~~

➔ 5.3.13. Past Hazardous Waste Storage Area (Historical)

The past hazardous waste storage area is the former location of Building 72 and is immediately west of Building 87, in the test fire area of Mound (Figure 5.1). The building began operation in 1982, and the Ohio EPA approved the closure plan August 8, 1985. The building was used for storage, prior to off-plant shipment, of combustible and flammable liquids and waste oils, solvent-containing wastes, ignitable wastes, plating wastes, photoprocessing wastes, polymeric wastes, and toxic wastes generated at the facility. Wastes were stored in sealed 55-gallon drums. The storage structure was a 60-ft by 40-ft covered structure (Building 72) with a concrete floor that was divided into four drum storage bays to segregate incompatible wastes. Three of the bays were 13 ft by 40 ft. The fourth bay measured 24 ft by 9 ft and was used to hold defective containers and to prepare waste containers for off-plant shipment. The bays had sloped floors and 6- to 15-inch dikes. The expansion of Building 87 required removal of the structure. During closure, the concrete floor was broken up and disposed of and soil samples were collected and analyzed for contamination by halogenated volatile chemicals (DOE 1992g). Contaminated soils were identified, excavated, and shipped off-plant for disposal. Additional soil samples were collected from newly exposed soil, but no contamination was found. The building was dismantled and moved to its present location in early 1986. During the time it took to move the building, the contents were staged at the waste oil drum field.

5.3.14. Building E Solvent Storage Shed (Historical)

~~The Building E solvent storage shed was on the south side of Building E, on the Main Hill, in the north-central portion of Mound (Figure 5.1). The start-up date is unknown. It was taken out of service in April 1988 when the new addition to E Building was completed. The shed was used for the temporary storage of waste solvents (most likely ethanol, methanol, and trichloroethene) generated in Building E. Waste solvent was pumped from Building E directly into 55-gallon drums inside the shed. Filled drums were transferred weekly to the hazardous waste storage area in Building 72, near the western edge of the Mound boundary (MRC 1983). The shed was a metal-roofed and walled structure with a concrete floor and a surface area of approximately 144 ft². The concrete floor was sloped to a drain that routed spilled materials to storm sewers and to the plant drainage ditch. During operation, the unit had no curbing or other structures to contain spills. The building and pad were removed to allow construction of the E Building addition. During dismantling operations, trichloroethene was discovered around the floor drain. The soil was excavated to a depth of approximately 10 ft, drummed, and shipped off-plant for disposal (DOE 199~~

Environmental Restoration Program

**REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPERABLE UNIT 9, SITE-WIDE
WORK PLAN**

**MOUND PLANT
MIAMISBURG, OHIO**

May 1992

FINAL

**Department of Energy
Albuquerque Field Office**

Environmental Restoration Program
Technical Support Office
Los Alamos National Laboratory



APPENDIX B

**CLOSURE DOCUMENTS FOR PAST
HAZARDOUS WASTE STORAGE AREA
(OLD BUILDING 72)**

U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE
DAYTON AREA OFFICE

memorandum

DATE: August 12, 1985

REPLY TO
ATTN OF: DAO:DSI

SUBJECT: Approval of Closure Plan for Hazardous Waste Storage
Facility - Bldg. 72

TO: Mr. H. L. Turner, Director
Administrative Services
Mound

12 Aug 8/16

ran

Attached is a copy of a letter from Warren W. Tyler, Director, Ohio EPA, approving subject closure plan. Please note the additional conditions imposed by the Ohio EPA and the submission of the "certifications" upon completion.

If you have any questions, please contact D. S. Ingle, X-3597.

R. M. Munson
R. M. Munson, Chief
Administrative Branch

Attachment: 1 cy

cc: R. K. Blauvelt, MRC, w/cy

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

August 8, 1985

By: Linda Dando Date 8/8/85

Mr. James Morley
Area Manager
Department of Energy
P.O. Box 66
Miamisburg, Ohio 45342

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

AUG 8 1985

Mr. Morley:

SUBJECT: U.S. Department of Energy, Mound Facility (05-57-0677)

On January 24, 1985, the U.S. Department of Energy, Mound Facility, submitted to Ohio EPA a partial closure plan for the hazardous waste storage area on Mound Road, Miamisburg, Ohio. The partial closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that U.S. DOE, Mound's proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the partial closure plan of U.S. DOE, Mound in accordance with OAC Rule 3745-66-12. No comments were received by Ohio EPA in this matter.

Based upon review of the company's submittal, I conclude that the closure plan for the hazardous waste facility at U.S. DOE, Mound meets the performance standard contained in OAC Rule 3745-66-11 and complies with the pertinent parts of OAC Rule 3745-66-12.

The closure plan submitted to Ohio EPA U.S. DOE, Mound is hereby approved, with the following conditions:

- (1) Soil samples should be taken from near the edges of the drum storage area's concrete. Samples should be taken at a depth of 0-6 inches. At least one composite soil sample should be taken on each of the four sides of the storage area. Each composite sample should be composed of a minimum of four grab samples.
- (2) At a minimum, analyses should be conducted for halogenated volatile organics as in U.S. EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846).
- (3) Soils with concentrations of these compounds above the detection limit as defined by SW-846 methods shall be considered to be contaminated with hazardous waste.

Mr. James Morley, Area Manager
Department of Energy
Page 2
August 8, 1985

You are notified that this action of the Director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address:

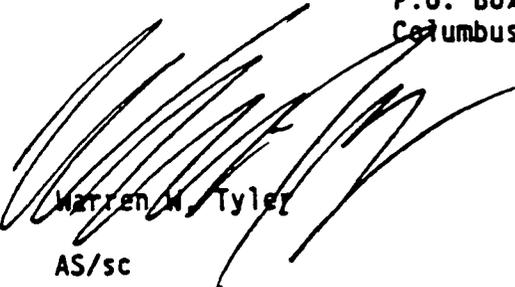
Environmental Board of Review
250 East Town Street
Room 101
Columbus, Ohio 43266-0557

When closure is completed, the Ohio Administrative Code Rule 3745-66-15 requires the owner or operator of a facility to submit to the Director of the Ohio EPA certification by the owner or operator and a registered professional engineer that the facility has been closed in accordance with the approved closure plan. These certifications should be submitted to:

Ohio Environmental Protection Agency
Division of Solid and Hazardous Waste Management
Attn: Thomas E. Crepeau, Manager
Data Management Section
P.O. Box 1049
Columbus, Ohio 43266-0149

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

AUG 8 1985


Warren H. Tyler

AS/sc

cc: Tom Crepeau, DSHMM
Tom Carlisle, DSHMM
Chris Bowers, DSHMM
Dan Banaszek, U.S. EPA, Region V
Rebecca Strom, U.S. EPA, Region V
Don Marshall, SWDO, Ohio EPA

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Virginia Davis Date 8/8/85

CERTIFIED MAIL

1306U



October 9, 1986

Mr. James A. Morley
Area Manager
U.S. Department of Energy
Dayton Area Office
P. O. Box 66
Miamisburg, OH 45342

Dear Mr. Morely:

Closure of Former Waste Storage Facility

Enclosed is a summary of Actions Completed for Closure and a laboratory report from Bowser-Morner, Inc. dated July 31, 1986 to be forwarded to:

Mr. Don Marshall
Ohio Environmental Protection Agency
Southwest District Office
7 East Fourth Street
Dayton, OH 45402-2086

Mr. Marshall requested the enclosed information on October 3 in a telephone conversation with Mr. Munson.

This information had been included in the package sent to your office on August 8.

Very truly yours,

Richard K. Blauvelt

Richard K. Blauvelt
Sr. Waste Management Specialist

Approval _____
L. R. Baird
Associate Director, Mound
Director, Administration

bc: R. A. Neff, w/o enc
C. S. Friedman, w/o enc
R. K. Blauvelt, w/enc
R. J. Janowiecki, w/enc.

RKB:km
Enclosure

cc: J. A. Morley (2)

FORMER HAZARDOUS WASTE STORAGE FACILITY

To allow the construction of new facilities, the former hazardous waste storage facility (Bldg. 72) had to be relocated to another area of our site. The old unit was closed and a new facility of equivalent capacity was constructed. The partial closure plan approved by the Ohio EPA was followed to the extent necessary, as determined by the findings during the closure process. The following actions were completed:

1. Some of the waste formerly stored in the old unit was shipped offsite for disposal while the remainder was placed in the relocated storage facility.
2. The diked concrete bays where waste was formerly stored, the electrical service, and the steel roof-support beams of the former facility were examined for evidence of contamination but none was found. Occasional discolorations or stains were observed and found to be superficial. Decontamination of the old facility was not necessary. No major cracks or evidence of waste penetration through the concrete was noted. We plan to remove and landfill the concrete base, after closure is considered completed.
3. A small concrete floor sump, located in a small diked area in one corner of the old facility, was found to be partially full of essentially rainwater. The sump liquid was removed and containerized for future analysis and disposal. No cracks or other evidence of waste penetration through the sump walls or base was noted. Stains on the sump concrete were superficial.
4. Ohio EPA's letter of August 8, 1985, requested that soil sampling and analysis be conducted around the former storage facility. On September 5, 1985, soil samples from each side of the building were composited and analyzed using prescribed EPA test methods. Soil analytical results and quality control data are provided in the enclosed Bowser-Morner letter dated April 15, 1986.
5. Based on the data reported by Bowser-Morner and the criterion established by OEPA for contaminated soil, we removed and containerized some of the soil adjacent to the west, east, and south sides of old Bldg. 72 on February 7, 1986. In addition, we had confirmatory samples taken of the newly exposed and formerly underlying soil. Analytical data, shown in Bowser-Morner's letter dated April 18, 1986, indicated that no halogenated volatile organic compounds were detected.

... of the sampling ...
... of the former ...
... Marshall of the ...
... meeting at Mound on 11/9, 1986. Mr. ...
... that the soil adjacent to the fourth ...
... of the facility also be removed and that the new ...
... underlying soil be resampled. This was completed ...
... July 1, 1986. Analytical results, shown in ...
... Lower-Morner's letter dated July 31, 1986, show that no ...
... hydrogenated-volatile-organic-compounds were detected.

C E R T I F I C A T I O N

I certify that the former waste storage facility (Bldg. 72) has been closed in accordance with the approved partial closure plan as noted above.

8/8/86
Date

Fredrick G. Krach
Fredrick G. Krach
Registered Professional Engineer

SAMPLE LOCATION PLAN

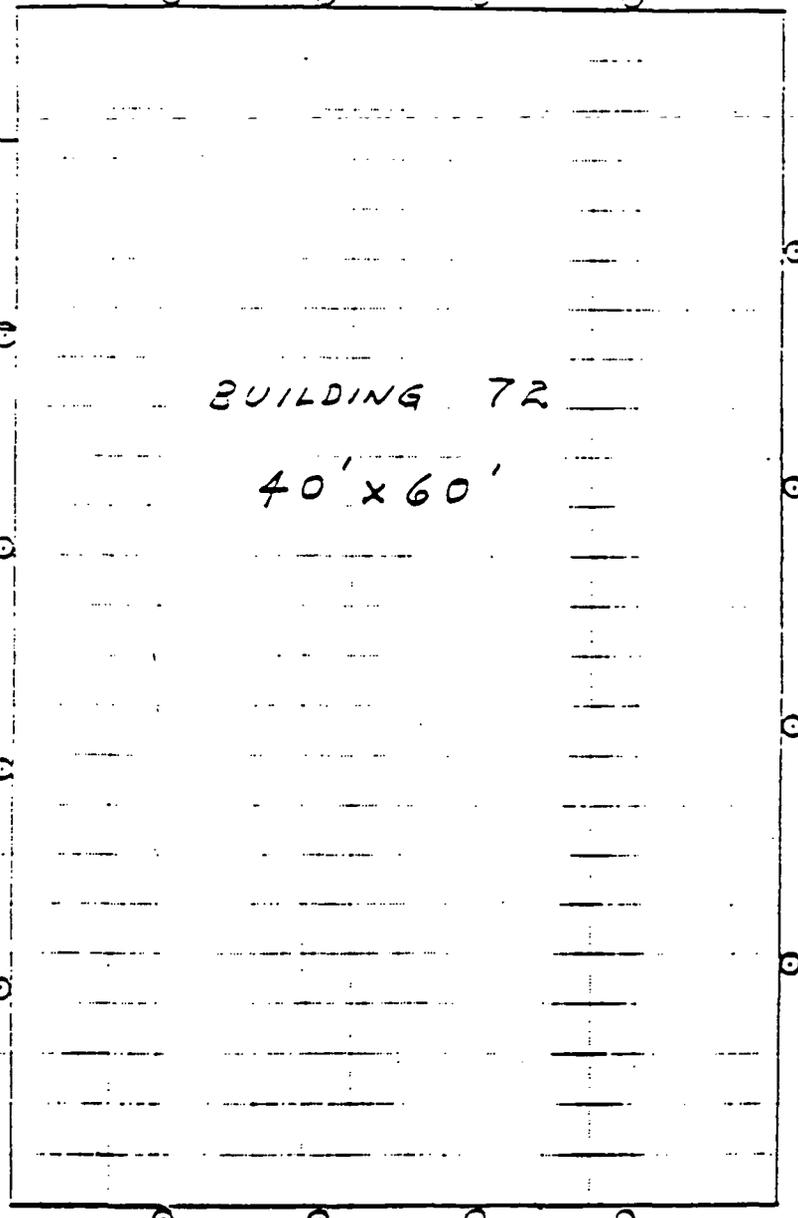
CONCRETE
DRIVE

BUILDING 72
40' x 60'



SCALE: 1" = 10'

○ SAMPLE LOCATIONS



BOWSER-MORNER, INC.

420 DAVIS AVENUE, P.O. BOX 51, DAYTON, OHIO 45401

REPORT TO: Monsanto Research Corporation
P.O. Box 32
Miamisburg, Ohio 45342

REPORT DATE: November 4, 1985

REPORT NO.: 28561-1185-552

Attention: Mr. Rick Hampel

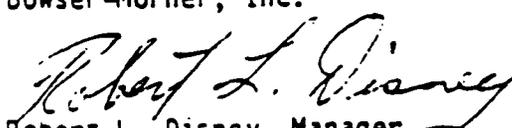
REPORT ON: Quality Control, Bowser-Morner, Inc., Report Number 28561-1085-531
dated October 21, 1985

Internal GC Standard Recovery values:

| | | |
|-----------------------|-------------------------|------|
| Composite sample 06 - | Bromochloromethane | 103% |
| | 2-bromo-1-chloropropane | 79% |
| | 1,4-Dichlorobutane | 89% |
| Composite sample 10 | Bromochloromethane | 106 |
| | 2-bromo-1-chloropropane | 99 |
| | 1,4-Dichlorobutane | 95 |
| Composite sample 15 | Bromochloromethane | 108 |
| | 2-bromo-1-chloropropane | 108 |
| | 1,4-Dichlorobutane | 84 |
| Composite sample 20 | Bromochloromethane | 100 |
| | 2-bromo-1-chloropropane | 108 |
| | 1,4-Dichlorobutane | 91 |

Respectfully submitted,

Bowser-Morner, Inc.


Robert L. Disney, Manager
Soil Exploration Department

RLD/wcw(#1)
2-Client
2-File



FOUNDED 1911

420 Davis Ave. • P.O. Box 51 • Dayton, OH 45401-0051 • 513/253-8805

November 26, 1985

Mr. Rich Hample
Monsanto Research Corporation
P. O. Box 32
Miamisburg, Ohio 45342

Dear Mr. Hample:

In response to our telephone conversation of November 25, 1985 the following are answers through Howard Laboratory on the analyses of volatile organics in soil.

1) All EPA reconized volatile organics are tested for; approximately 30 compounds. Only those found are listed along with the determined values.

2) Detection limits are as follows

Halogenated Compounds - 0.6 mg/kg
Non-Halogenated Compounds - 1.2 mg/kg

3) EPA procedures used are:

Preparation - EPA #5030
Analyses - EPA #8240.

4) The three (3) standards used for QC are those recommended by the EPA with exceptable recovery limits of ± 20% (80% - 120%). *ACCEPTABLE*

I am enclosing a copy of our Quality Assurance Manual.. Please fill out and detach lower half of the third page and return to:

BOWSER-MORNER, INC.
P. O. Box 51
Dayton, Ohio 45401
Attn: Mr. Leon Miller

BOWSER-MORNER, INC.
Testing Division

BOWSER-MORNER ASSOCIAT
Engineering Division

Respectfully Submitted,

BOWSER-MORNER, INC.



Mark A. Bingman, Manager
Technical Services
Analytical Sciences Division

MAB/pc
enclosure:

BOWSER-MORNER, INC.

CORPORATE 420 Lewis Ave. • P.O. Box 81 • Dayton, Ohio 45401 • Tel. 513-233-1111
CLEVELAND DISTRICT 122 S. St. Clair St. • P.O. Box 898 • Toledo, Ohio 43601 • Tel. 419-241-2011

REVISED LABORATORY REPORT

Monsanto Research Corporation
Account: P. O. Box 32
Miamisburg, Ohio 45342
Attn: Mr. Rick Hampel

Date: April 15, 1986
Laboratory No. R 090649
Authorization:

Report on Four (4) Soil Samples from each of Four (4) locations received for compositing and analysis of halogenated volatile organic compounds, on September 6, 1985.

SAMPLE IDENTIFICATION:

The sampling locations were identified as;

North Bldg. 72
South Bldg. 72
East Bldg. 72
West Bldg. 72

ANALYTICAL METHODS:

The samples were analyzed by method 8010 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" EPA SW-846.

TEST RESULTS:

The composite samples are listed one at a time, with the compounds detected and the concentrations of compounds detected.

1. North Bldg. 72 Composite Sample - 1,1,1-trichloroethane 0.500 mg/kg
No other compounds detected.
2. South Bldg. 72 Composite Sample - 1,1,1-trichloroethane 0.750 mg/kg
Trichloroethene 0.813 mg/kg
3. East Bldg. 72 Composite Sample - 1,1,1-trichloroethane 18.0 mg/kg
Trichloroethene 7.56 mg/kg
4. West Bldg. 72 Composite Sample - 1,1,1-trichloroethane 0.438 mg/kg
Trichloroethene 4.00 mg/kg

- continued -

The remaining compounds listed in Method 8010 were not detected in the samples. The detection limit for all compounds was 0.3 mg/kg.

QUALITY ASSURANCE:

To each of the composited samples, known concentrations of three organic compounds were added. The percent recoveries for each compound in the composite samples are given in the following table.

| | <u>North Bldg.</u> <u>72 Composite</u> | <u>South Bldg.</u> <u>72 Composite</u> | <u>East Bldg.</u> <u>72 Composite</u> | <u>West Bldg.</u> <u>72 Composite</u> |
|-------------------------|---|---|--|--|
| Bromochloromethane | 103 | 106 | 108 | 100 |
| 2-Bromo-1-chloropropane | 79 | 99 | 108 | 108 |
| 1,4-dichlorobutane | 89 | 95 | 84 | 91 |

Respectfully Submitted,

BOWSER-MORNER, INC.

James M. Kemper
James M. Kemper, Chemist
Analytical Sciences Division

1-Client
2-File
JMK/dc

All samples recovered for this project will be retained at this laboratory for a period of 30 days unless we are informed to the contrary.

BOWSER-MORNER, INC.

CORPORATE 400 Davis Ave. • P.O. Box 100 • Columbus, OH 43240 • 613 258-8810
SOLECO DISTRICT 100 S. St. Clair St. • Columbus, OH 43266 • 419 258-8001

LABORATORY REPORT

Report to: Monsanto Research Corporation
P. O. Box 32
Miamisburg, Ohio 45342
Attn: Mr. Rick Hampel

Date: April 18, 1986
Laboratory No.: S 021046
Authorization:

Report on: Four (4) Soil Samples from each of Three (3) locations received for
compositing and analysis of halogenated volatile organic compounds, on
February 7, 1986.

SAMPLE IDENTIFICATION:

The sampling locations were identified as;

South Bldg. 72
East Bldg. 72
West Bldg. 72

ANALYTICAL METHODS:

The samples were analyzed by method 801C in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" EPA SW-846.

TEST RESULTS:

No compounds were detected; the detection limits for all compounds ranged from 0.05 mg/kg to 1.00 mg/kg. Specifically, 1,1,1-trichloroethane and trichloroethene were not detected; detection limits were 0.10 mg/kg.

QUALITY ASSURANCE:

To one of the composited samples, known concentrations of four organic compounds were added. The percent recoveries for each compound in the composite sample are given in the following table.

| | <u>% Recovery</u> |
|---------------------|-------------------|
| Benzyl Chloride | 68 |
| Chlorobenzene | 69 |
| 1,3 Dichlorobenzene | 72 |
| Chlorotoluene | 74 |

Replicate analysis performed on one of the composited samples indicated no compounds were detectable.

Respectfully Submitted,

BOWSER-MORNER, INC.

James M. Kemper
James M. Kemper, Chemist
Analytical Sciences Division

1-Client
2-File
JMK/pc

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BOWSER-MORNER, INC.

CORPORATE 420 Davis Ave.
COLEDO DISTRICT 122 S. St. Clair St.

MIAMI, OH 45151 • 513/253-8808
Box 880 • Cincinnati, OH 45220 • 513/253-8200

LABORATORY REPORT

Report to: Monsanto Research Corporation
P. O. Box 32
Miamisburg, OH 45342
Attn: Mr. Rick Hampel

Date: July 31, 1986
Laboratory No.: S070139
Authorization:

Report on: Four (4) Soil Samples from One (1) Location Received for Compositing and Analysis of Halogenated Volatile Organic Compounds, on July 1, 1986.

SAMPLE IDENTIFICATION:

The sample location was identified as North Bldg. 72.

ANALYTICAL METHOD:

The sample was analyzed by Method 8010 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," EPA SW-846.

TEST RESULTS:

No compounds were detected; the detection limits for all compounds ranged from 0.05 mg/kg to 1.00 mg/kg. Specifically, 1,1,1-trichloroethane was not detected; the detection limit was 0.10 mg/kg.

QUALITY ASSURANCE:

To the composited sample, known concentrations of seven (7) organic compounds were added. The percent recoveries for each compound in the composite sample are given in the following table.

| | <u>% Recovery</u> |
|----------------------------|-------------------|
| 1,1-dichloroethane | 123 |
| 1,2-dichloroethane | 123 |
| 1,1-dichloroethylene | 57 |
| Trans-1,2-dichloroethylene | 107 |
| 1,1,1-trichloroethane | 120 |
| Trichloroethylene | 141 |

- Continued -

Replicate analysis performed on the composite sample indicated no compounds were detectable.

Respectfully Submitted,

BOWSER-MORNER, INC.

James M. Kemper

James M. Kemper
Chemist
Analytical Sciences Division

JMK/lu
1-Client
2-File

All samples recovered for this project will be retained at this laboratory for a period of 30 days unless we are informed to the contrary.

PRELIMINARY REVIEW/VISUAL SITE INSPECTION

U.S. DOE MOUND
Miamisburg, Ohio

EPA I.D. OH6899008984

PREPARED FOR

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN STREET
CHICAGO, IL 60604

PREPARED BY

A. T. KEARNEY, INC.
225 REINEKERS LANE
ALEXANDRIA, VA 22313

AND

DPRA, INC.
245 EAST 6TH STREET
SUITE 813
ST. PAUL, MN 55101

EPA CONTRACT NUMBER 68-01-7374

WORK ASSIGNMENT NUMBER R25-01-21

JULY 1988

Unit No.: CS-8

Unit Name: Past Hazardous Waste Storage Area

Unit Description: The Past Hazardous Waste Storage Area is an inactive unit located east of the Fire Training Area. It was used for storage of combustible and flammable liquids and waste oils generated at the facility, prior to off-site shipment. Wastes were stored in 55-gallon drums (Ref. 41). The maximum storage capacity was 38,500 gallons if drums were stacked two-high (Ref. 37). The Past Hazardous Waste Storage Area was a 60 foot by 40 foot covered structure. Its concrete floor had four drum storage bays which were diked and sloped (Ref. 37). The diked areas were used for segregating incompatible wastes (Ref. 55, p. V-11). Three of the diked areas were approximately 40 feet by 13 feet with capacity for approximately seventy 55-gallon drums and adequate aisle space. The floor was sloped and the dike height ranged from 6 to 15 inches. The fourth diked area was approximately 24 feet by 9 feet and was used to hold defective containers and prepare waste containers for off-site shipment (Ref. 55, p. V-11). A closure plan was submitted on January 18, 1985 (Ref. 41). During closure, the roof was dismantled and the concrete broken up and disposed. The contaminated soil around the base of the facility was excavated, sampled, and analyzed for halogenated volatile organic compounds. Halogenated volatile organic compounds were not detected in the newly exposed soil. Ohio EPA approved the closure plan on August 8, 1985 (Ref. 65).

Date of Start-up: 1982.

Date of Closure: The Ohio EPA approved closure of the unit in August, 1985 (Ref. 65).

Wastes Managed: The Past Hazardous Waste Storage Area was used to store combustible and flammable liquids and waste oils (Ref. 37), solvent-containing wastes, ignitable wastes, plating wastes, photo processing wastes, polymeric wastes, and toxic wastes (Ref. 66, p. 4-3). EPA listed wastes included D001, D002, D004, D005, D006,

D007, D008, D009, D010, D011, F002, F003, F004, F005, F007, F008, F009, and U158 (Ref. 37).

Release Controls: The building had a concrete floor with four bays which were diked and sloped to collect spills of hazardous wastes. The separate diked areas were used to segregate incompatible wastes. Drums in the unit were covered with a roof to protect them from sunlight and precipitation (Ref. 55).

History of Releases: During closure, the concrete floor was broken up and disposed. Soil around the base of the facility was excavated, sampled, and analyzed for halogenated volatile organic compounds. The newly exposed soil contained no detectable levels of halogenated volatile organic constituents.  During the VSI, the area was noted to be graded and vegetated. There was no evidence of past releases.

Conclusions: Soil/Groundwater: The potential for release to soil and groundwater is low since the unit and the underlying soil has been excavated. No remaining contaminants were detected following cleanup.

Surface Water: There is no potential for release to surface water since the unit has been dismantled and underlying soil removed.

Air: There is no potential for release to the air since the unit was dismantled and underlying soil excavated.

Subsurface Gas: There is no potential for generation of subsurface gas since the unit was dismantled and underlying soil excavated.

Environmental Restoration Program

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

**MOUND PLANT
MIAMISBURG, OHIO**

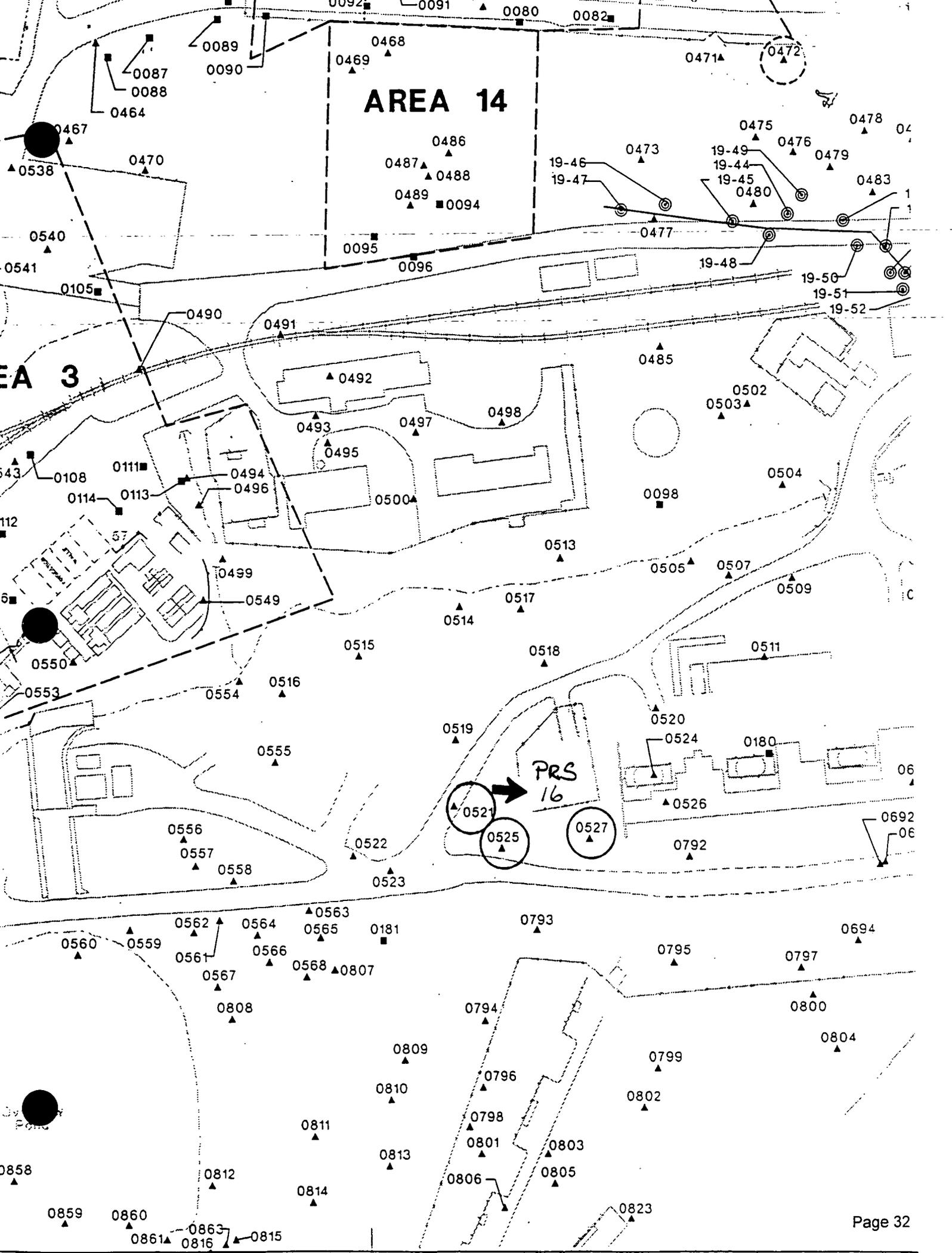
June 1993

FINAL

**Department of Energy
Albuquerque Field Office**

Environmental Restoration Program
EG&G Mound Applied Technologies





AREA 14

AREA 3

PRS 16

| Sample Location ^a | Coordinates | | MRC ID No. | Mo-Yr | Depth (inch) | Pu-239 ^c (pCi/g) | Thorium ^b (pCi/g) | Tritium (pCi/mL) | Co-60 (pCi/g) | Cs-137 (pCi/g) | Ra-226 (pCi/g) | Po-210 (pCi/g) |
|------------------------------|-------------|------|------------|-------|--------------|-----------------------------|------------------------------|------------------|---------------|----------------|----------------|----------------|
| S0508 | 2575 | 3430 | 5882 | 07-84 | 0 | 2.83 ^c | b | | | | | |
| S0509 | 2575 | 3680 | 5885 | 07-84 | 0 | 2.24 | b | | | | | |
| S0510 | 2625 | 3580 | 2990 | 10-83 | 0 | 0.13 ^c | b | 0.19 | | | | |
| S0511 | 2625 | 3730 | 2991 | 10-83 | 0 | 0.89 | b | 1.52 | | | | |
| S0512 | 2675 | 3380 | 2988 | 10-83 | 0 | 0.03 | b | | | | | |
| S0457 | 2675 | 3405 | 2989 | 10-83 | 0 | 0.25 ^c | b | | | | | |
| C0098 | 2470 | 3760 | 7755 | 10-84 | 90 | 0.16 | b | | | | | |
| | | | 7756 | 10-84 | 180 | 0.02 | b | | | | | |
| S0513 | 2475 | 3860 | 5888 | 07-84 | 0 | 4.57 | b | | | | | |
| S0514 | 2475 | 3960 | 5896 | 07-84 | 0 | 0.17 | b | | | | | |
| S0515 | 2475 | 4060 | 5895 | 07-84 | 0 | 0.26 | b | | | | | |
| S0516 | 2475 | 4135 | 5894 | 07-84 | 0 | 1.31 | b | | | | | |
| S0517 | 2500 | 3910 | 5897 | 07-84 | 0 | 1.43 | b | | | | | |
| S0518 | 2550 | 3910 | 5898 | 07-84 | 0 | 1.12 | b | | | | | |
| S0519 | 2575 | 4010 | 2689 | 09-83 | 0 | 7.28 ^c | b | | | | | |
| S0520 | 2625 | 3835 | 2688 | 09-83 | 0 | 0.03 | b | | | | | |
| S0521 | 2625 | 4035 | 5893 | 07-84 | 0 | 1.71 | b | | | | | |
| S0522 | 2625 | 4135 | 2690 | 09-83 | 0 | 0.05 | b | | | | | |
| S0523 | 2650 | 4110 | 5892 | 07-84 | 0 | 1.09 | b | | | | | |
| S0524 | 2675 | 3860 | 5889 | 07-84 | 0 | 0.88 | b | | | | | |

E-4B

| Map Location ^a | Coordinates South | West | MFC 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) |
|---------------------------|----------------------|------|---------------|-------|-----------------|-------------------|---------------------------------|---------------------|------------------|-------------------|-------------------|-------------------|
| → S0525 | 2675 | 4010 | 5891 | 07-84 | 0 | 0.59 ^c | b | | | | | |
| S0526 | 2700 | 3860 | 2687 | 09-83 | 0 | 4.46 | b | | | | | |
| → S0527 | 2700 | 3935 | 5890 | 07-84 | 0 | 0.20 | b | | | | | |
| S0528 | 1875 | 4165 | 7165 | 09-84 | 0 | 0.27 | b | | | | | |
| S0529 | 1875 | 4190 | 7166 | 09-84 | 0 | 0.51 | b | | | | | |
| S0530 | 1900 | 4225 | 10497 | 08-85 | 0 | 0.41 | b | | | | | |
| S0531 | 1900 | 4265 | 2862 | 10-83 | 0 | 1.27 | b | | | | | |
| S0532 | 1905 | 4215 | 10498 | 08-85 | 0 | 0.48 | b | | | | | |
| S0533 | 1905 | 4220 | 10496 | 08-85 | 0 | 1.84 | b | | | | | |
| S0534 | 1910 | 4225 | 10495 | 08-85 | 0 | 1.13 | b | | | | | |
| S0535 | 1920 | 4230 | 10494 | 08-85 | 0 | 0.51 | b | | | | | |
| S0536 | 1950 | 4290 | 7167 | 09-84 | 0 | 2.20 | b | | | | | |
| S0537 | 1950 | 4315 | 2683 | 10-83 | 0 | 0.17 | b | | | | | |
| C0099 | 1965 | 4265 | 10419 | 08-85 | 18 | 31.40 | b | | | | | |
| | | | 10420 | 08-85 | 36 | 14.70 | b | | | | | |
| S0538 | 1975 | 4165 | 7165 | 09-84 | 0 | 5.94 | b | | | | | |
| C0100 | 1975 | 4275 | 10421 | 08-85 | 18 | 32.40 | b | | | | | |
| | | | 10422 | 08-85 | 36 | 17.70 | b | | | | | |
| | | | 10423 | 08-85 | 54 | 12.40 | b | | | | | |
| | | | 10424 | 08-85 | 72 | 10.10 | b | | | | | |

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

^cVerification sample analyzed for QA/QC.

Environmental Restoration Program

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

**MOUND PLANT
MIAMISBURG, OHIO**

VOLUME II - APPENDICES A-G

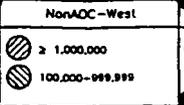
June 1995

Final (Revision 0)

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

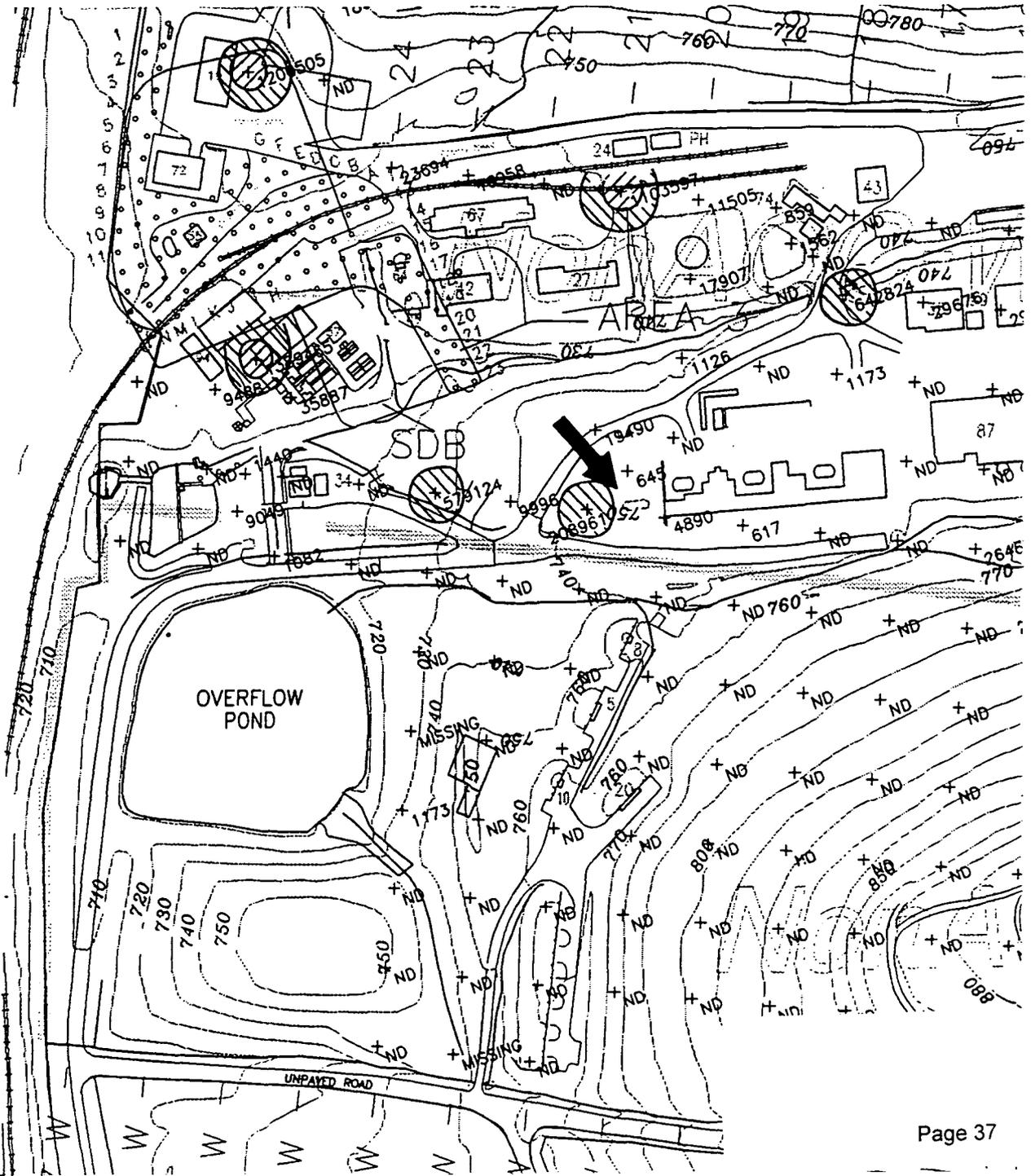


EG&G Mound Applied Technologies

| LEGEND | | | | |
|--|---|---|---|---|
| Relative Response Values (in ion counts): | | | | |
|  NonAOC-South ≥ 1,000,000 100,000-999,999 |  NonAOC-West ≥ 1,000,000 100,000-999,999 |  NonAOC-East ≥ 1,000,000 100,000-999,999 |  NonAOC-North ≥ 1,000,000 100,000-999,999 |  Area 81 ≥ 1,000,000 100,000-1,399,999 |

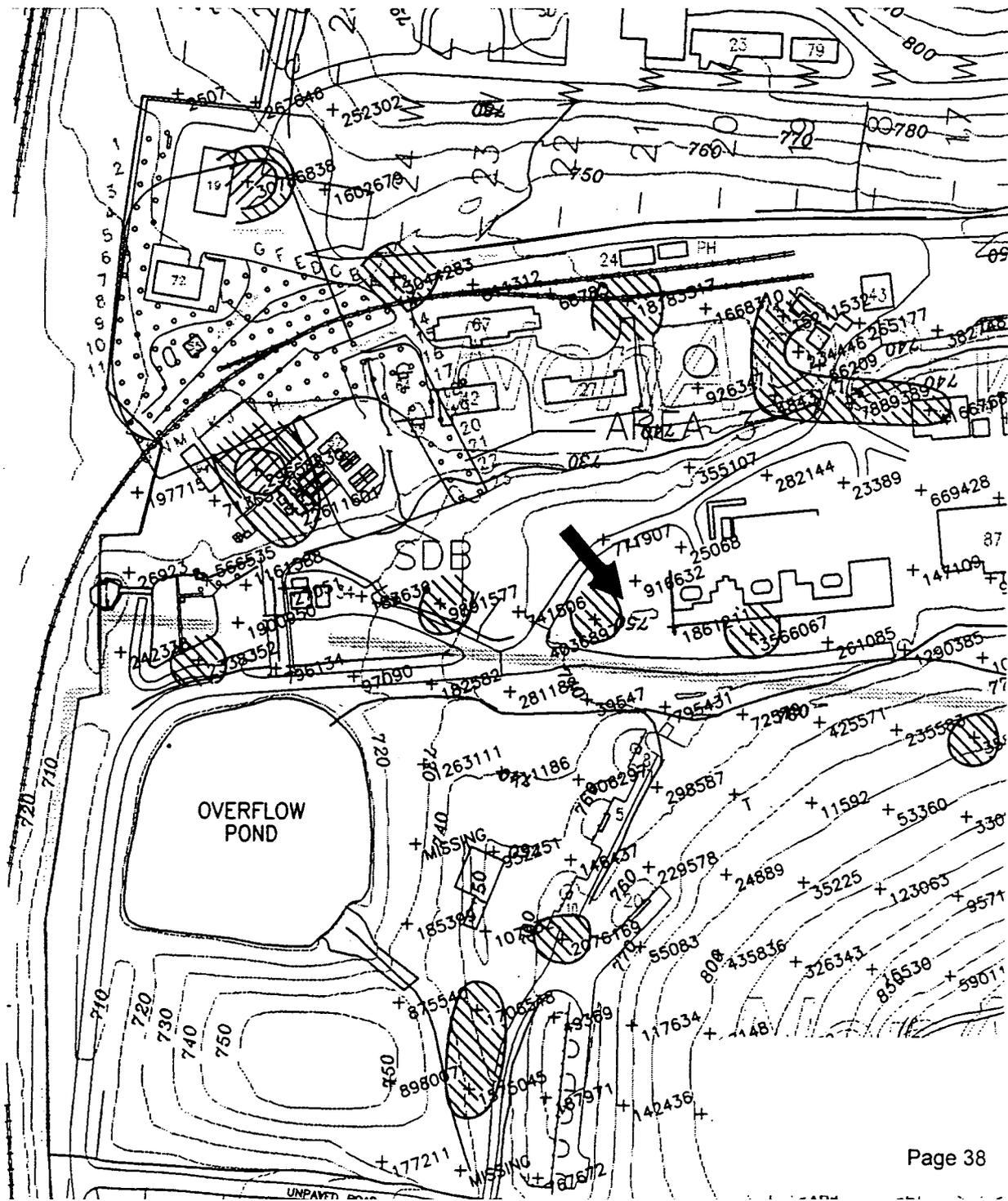
Relative Response
 Total Semivolatile
 Hydrocarbons

 Plate 3



| LEGEND | | | | |
|---|----------------------|---------------------------------|---------------------------------|----------------------|
| Relative Response Values (in ion counts): | | | | |
| NonAOC-South | NonAOC-West | NonAOC-East | NonAOC-North | Area 61 |
| 2 8,000,000 | 2 29,000,000 | 2 11,000,000 | 2 23,000,000 | 2 23,000,000 |
| 3,000,000-7,999,999 | 3,000,000-28,999,999 | 3,000,000-11,999,999 | 3,000,000-22,999,999 | 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 |
| ≥ 2,500,000 | ≥ 500,000 | ≥ 2,500,000 | ≥ 2,500,000 | ≥ 2,500,000 |
| 1,000-499,999 | 50,000-499,999 | 1,000-79,999 | 1,000-199,999 | 1,000-249,999 |

Relative Response
 Total Halogenated
 Hydrocarbons
 Plate 5

