OVERSIZE PAGES

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1505-9902220002

BWX Technologies, Inc.
Babcock & Wilcox, a McDermott company

Babcock & Wilcox of Ohio, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030
(937) 865-4020

ESC-039/99
February 15, 1999

99-TC/02-15

Mr. Richard B. Provencher, Director
Miamisburg Environmental Management Project
U.S. Department of Energy
P.O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Dewain Eckman

SUBJECT: Contract No. DE-AC24-97OH20044
MAGAZINES 52 & 64: RELEASE OF BUILDING DATA PACKAGE FOR REGULATOR REVIEW

REFERENCE: Statement of Work Requirement C 7.1e -- Regulator Reports

Dear Mr. Provencher:

The attached Building Data Package for Magazines 52 & 64 has been authorized for release to USEPA, OEPA, and ODH by Ron Church of MEMP. In review of 40CFR300.415(b)(2), the demolition of these buildings has been determined to be a non-CERCLA event. Also attached is a copy of the newspaper ad announcing the availability of this Building Data Package at the Public Reading Room. BWO will distribute copies of this Building Data Package to the Public Reading Room and MMCIC before February 17, 1999.

Please advise if additional copies are required for distribution within DOE. If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,

Linda R. Bauer, Ph.D.
Manager, Environmental Safeguards & Compliance

LRB/nmg

Enclosures as stated

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandergrift, ODH, (1) w/attachments
Terrence Tracy, USEPA, (1) w/attachments
Art Kleinrath, MEMP, (1) w/attachments
Joe Bartee, BWO, (1) w/attachments
Larry Lamsa, BWO (1) w/attachments
Dann Bird, MMCIC, (1) w/attachments
Public Reading Room, (5) w/attachments
Administrative Record, (2) w/attachments
DCC

MOUND

Environmental
Restoration
Program

MOUND PLANT
BUILDING DATA PACKAGE
Information Notice

Magazines 52 & 64 will soon be dismantled. A Building Data Package describing Magazines 52 & 64 and their dismantlement is available in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio.

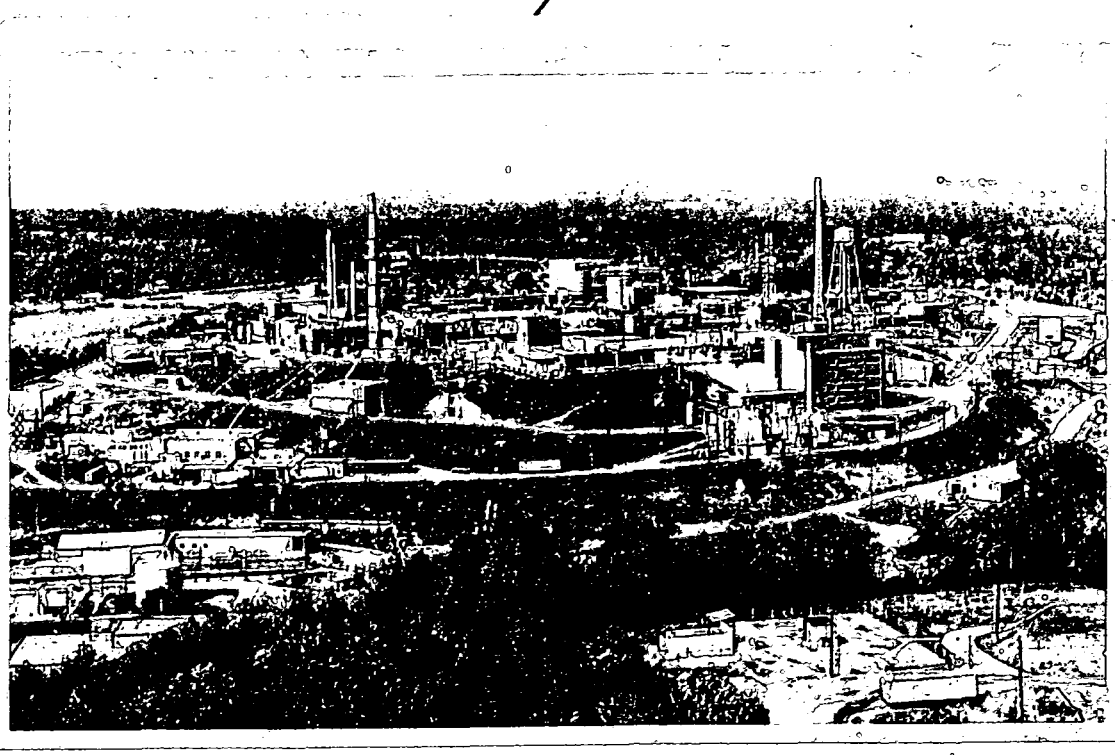
Questions can be referred to Paul Lucas at (937) 865-4578.

1505-9902220002

MOUND

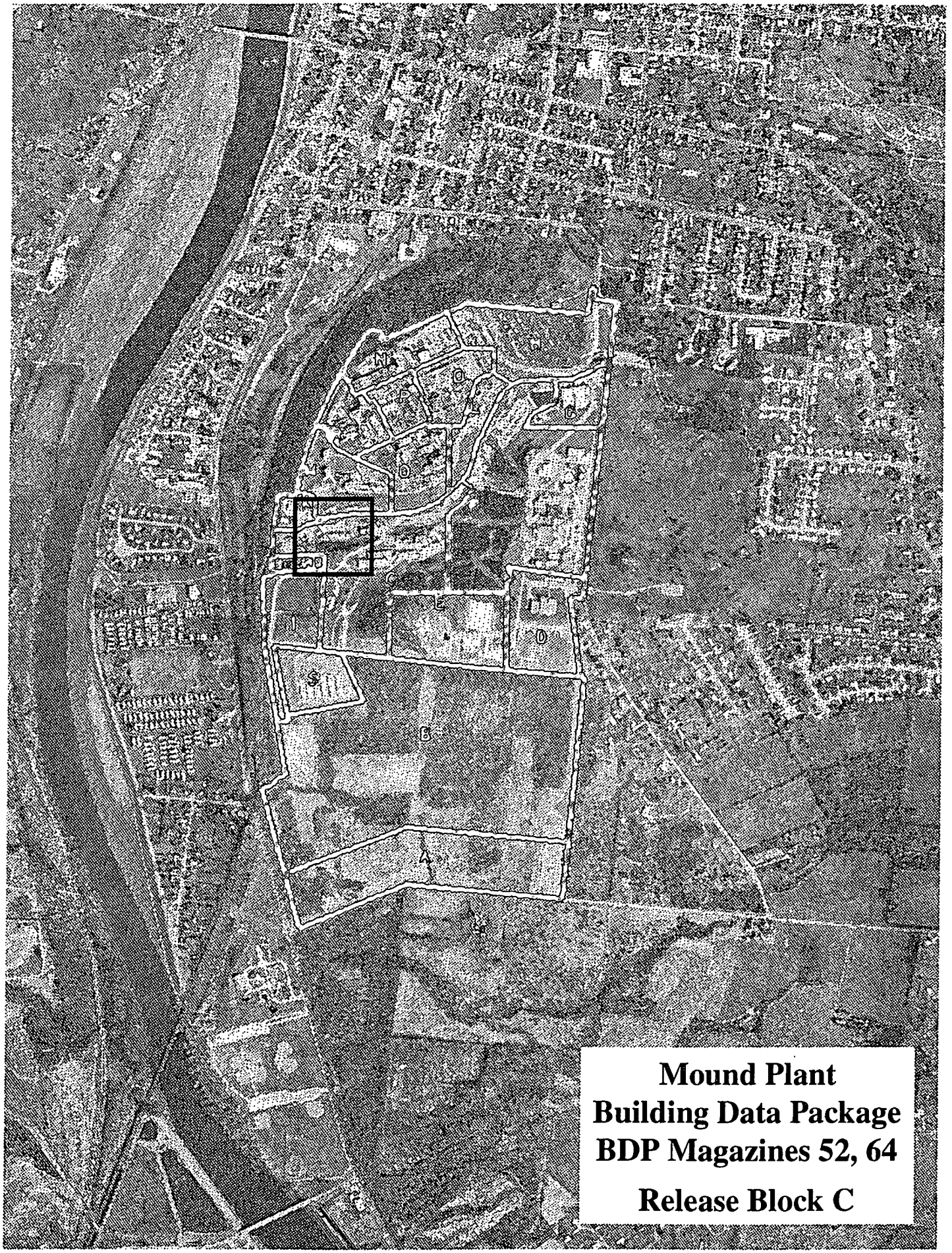
Environmental Restoration Program

MOUND PLANT
Building Data Package
Magazines 52, 64
Located within Release Block C



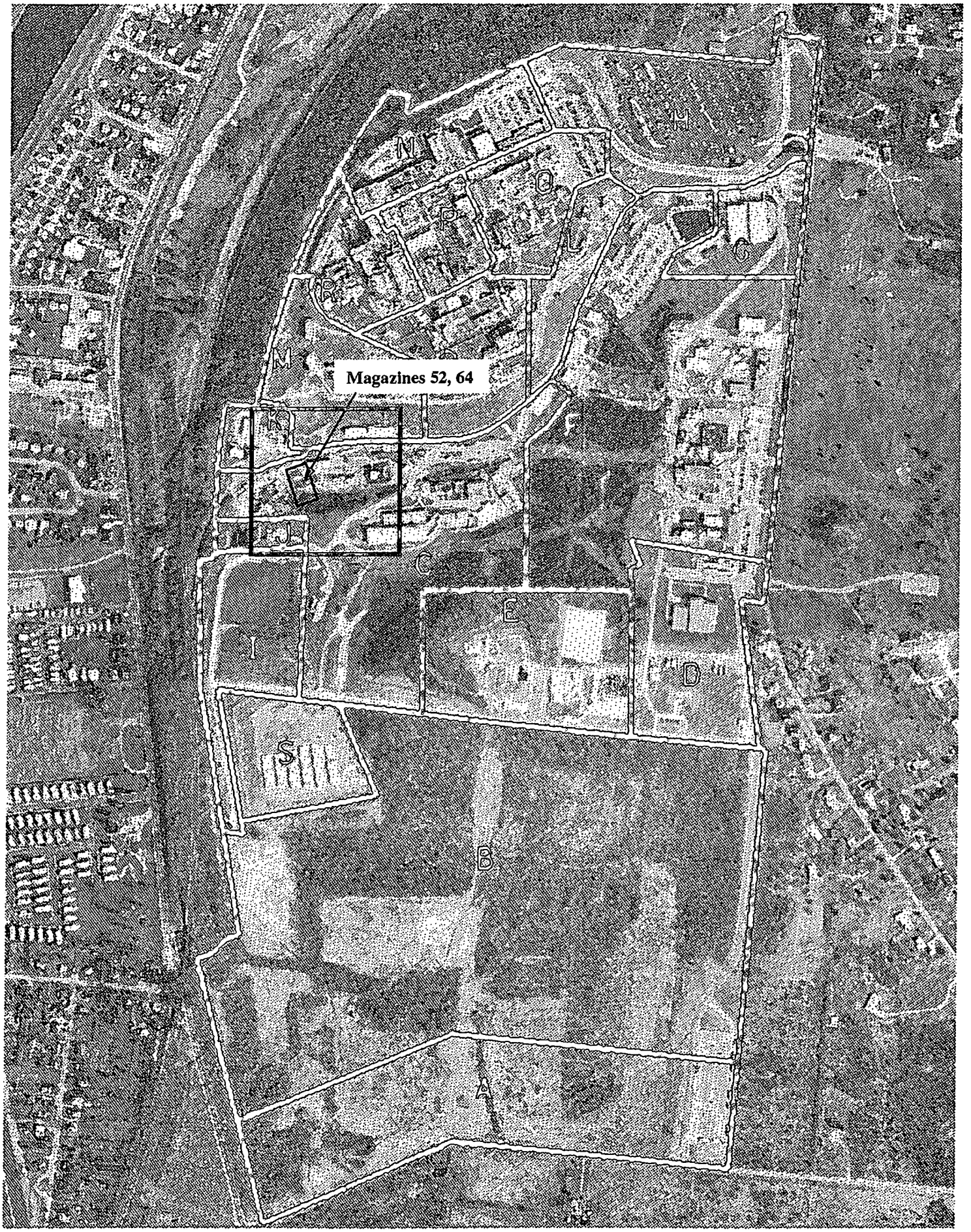
BDP MAGAZINES 52 AND 64

REV	DESCRIPTION	DATE
WORKING DRAFT		Jan. 28, 1999
DRAFT		Feb. 10, 1999
DRAFT PROPOSED FINAL		Feb. 10, 1999
PUBLIC REVIEW DRAFT		Feb. 10, 1999
FINAL		Feb. 10, 1999



Mound Plant
Building Data Package
BDP Magazines 52, 64

Release Block C


Magazines 52, 64
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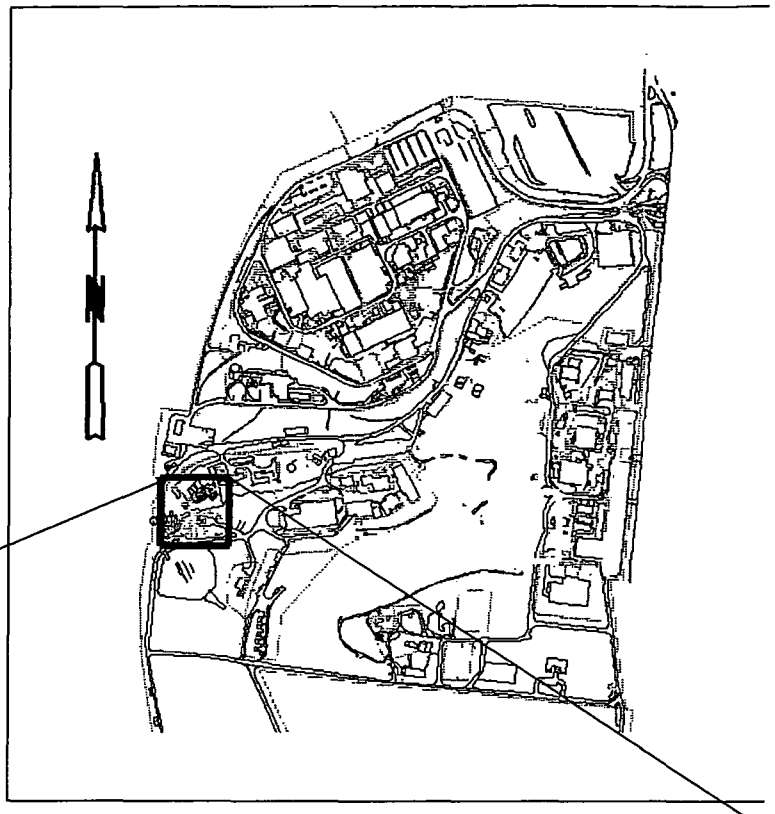
Mound Plant

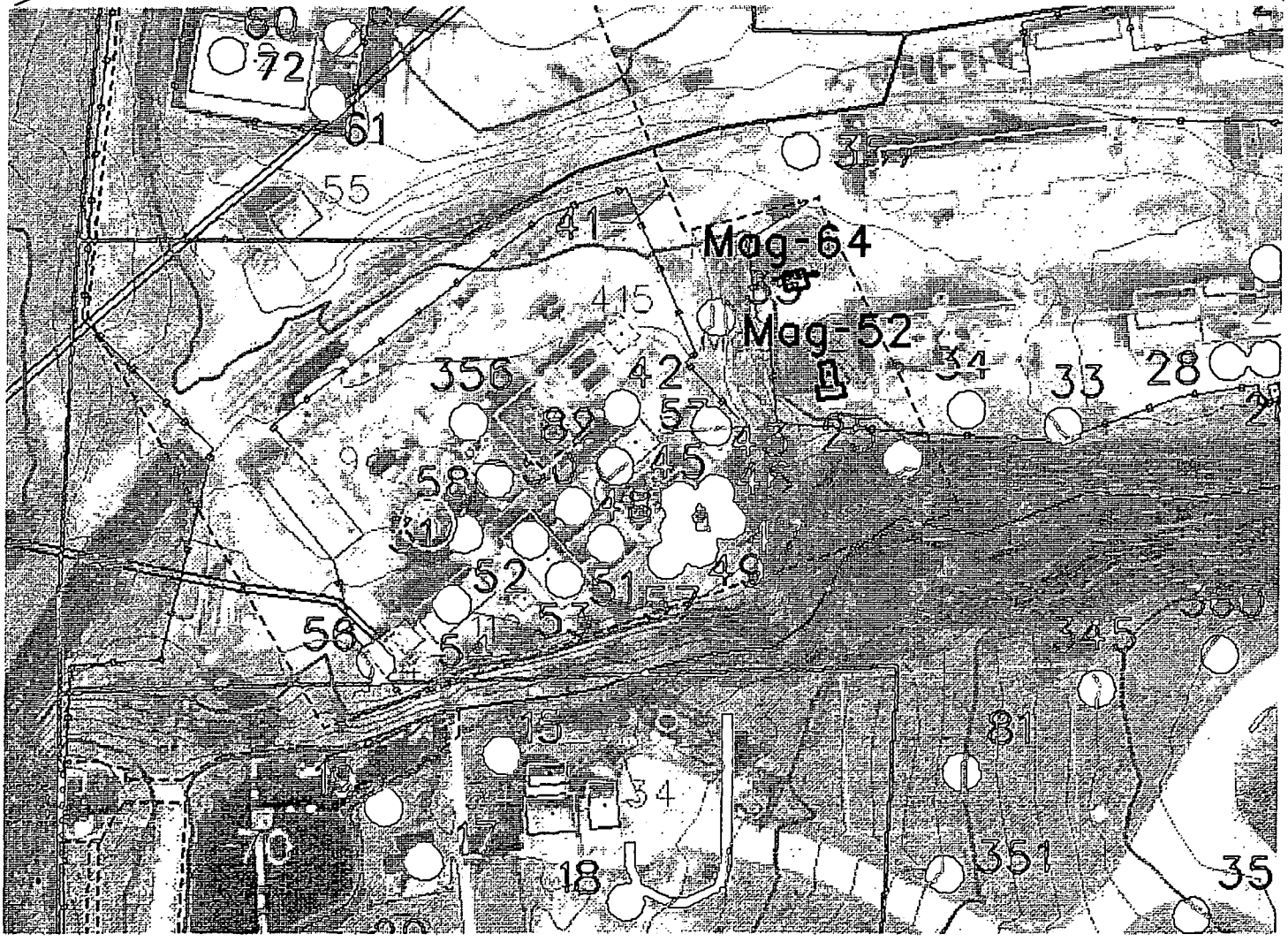
Magazines 52, 64

Materials Storage

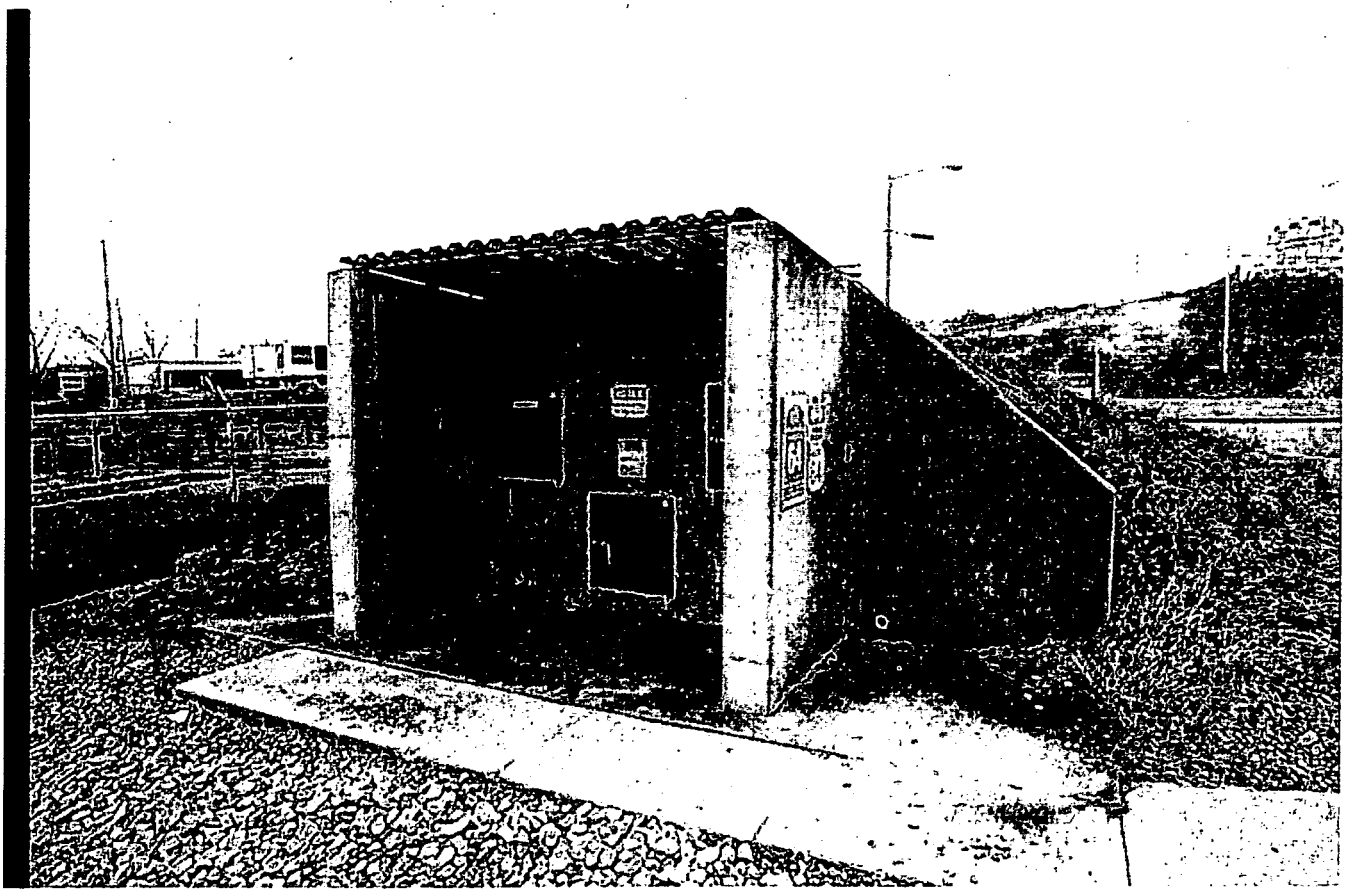
Release Block C

On the map below:
- Other building numbers and locations shown in tan
- PRS numbers and locations shown in blue
- Fencing shown in red
- Elevation contours shown in brown





52, magazine, southeast corner *981687



03/06/96 Bldg. 64 *960669

BUILDING DATA PACKAGE (BDP)

MAGAZINES 52 AND 64

(NON-CERCLA DEMOLITION)

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

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Appendix L	Noted Soil Sampling, Vicinity
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Appendix O	Work Plan

Note: Not all appendices are populated. Only if relevant information is available will an appendix be referenced in the narrative. Where relative information is unavailable, the corresponding appendix will be noted as "No data available."

1.0 General Overview

1.1 Introduction

The purpose of this Building Data Package is to identify, if possible, any recognized environmental conditions (defined below) that may affect the demolition of the subject properties.

Recognized Environmental Condition – The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a likely release, a past release, or a material threat of a release of any hazardous substances or petroleum into structures or into the air, ground, ground water, or surface water near the magazines.

1.2 Scope

This document has been prepared in accordance with agreements and requirements as specified in the Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach. It is a Building Data Package of Magazines 52 and 64 located at the DOE Mound Plant in Miamisburg, Ohio. This investigation was performed to support procedures as found in ASTM Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process (Designation E 1527-94).

The scope of the investigation included the magazines, the soils beneath, and a 15-foot wide perimeter border around the magazines. Soil Sampling results are noted in Appendix L. This perimeter includes roadways, sidewalks, pavement, and grass covered areas. The investigation of Magazines 52 and 64 included the following.

1) A building and perimeter inspection
2) An examination of historical aerial photographs and maps.
3) A review of federal and state regulatory agency records.
4) Personnel interviews.
5) A review of Mound Plant records for:
   A) History of spills and releases
   B) Past sampling data

- Radiological survey
- Soil Sampling
- Lead paint
- Asbestos
- Radon

Investigations were conducted by BWO personnel on August 6, 1998.

This report used a variety of previous assessments completed by BWO Mound and/or its subcontractors. The reports used were as follows:

- OU-9 Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994.
- EDR Report - Radius Map
- Building Prints
- MD-222153, Mound Site Radionuclides By Location, July 1995
- Contaminant Surveys
- Environmental Appraisal Report of the Mound Plant, March 1996
- Appropriate Potential Release Site (PRS) Documents
- Title Search

2.0 Building Specific Overview

Mound Plant is located in the southern portion of the corporation limits of Miamisburg, Ohio. The entire Mound Plant facility is situated on 306 acres of land and contains approximately 130 buildings. The subject properties consist of Mound Plant Magazines 52 and 64, the soil beneath, and a 15-foot wide perimeter around the magazines. Magazine 52 covers approximately 1,250 square feet and contains one cell 7'-0" wide, 11'-8" deep, and 10'-6" tall. It was constructed in 1970. Magazine 64 covers approximately 200 square feet and contains three cells having dimensions of 2'-8" wide, 2'-10" deep, and 2'-8" tall. It was constructed in 1974. Both magazines are reinforced concrete structures covered with earth.

2.1 Current/Past Uses of Magazine 52

Magazine 52 was used for the purpose of storing quantities of containerized explosives. Detonators, high explosive powders, detonator cords, pyrotechnic powders, hexanitrotilbene, and primary explosives were stored in sealed containers on the floor and on shelves. Procedures prohibited open containers in the magazine with the exception of open containers in the desiccators. There is equipment outside the magazine that was used to control the atmosphere in the magazine. The magazine has been used for only this purpose since construction. Appendix L notes soil sampling around the magazine.

No operations are being conducted in Magazine 52 and the magazine is empty except for six desiccators and eight empty drums. The desiccators have energetic materials decontamination tags stating they have been cleaned to "XXX Decontaminated" level, but there is the potential for explosives in the vacuum lines.

2.2 Current/Past Uses of Magazine 64

Magazine 64 was used for the purposes of storing quantities of containerized explosives. Detonators, high explosive powders, detonator cords, pyrotechnic powders, hexanitrotilbene, and primary explosives were stored in sealed containers in the three cells. Procedures prohibited open containers in the magazine. The building has been used for only this purpose since construction. Appendix L notes soil sampling around the magazine.

No operations are being conducted in Magazine 64 and the magazine is empty.

2.3 Summary of Environmental Concerns and Findings

2.3.1 Magazine 52

DESCRIPTION	COMMENT	RESOLUTION
Asbestos	Explosion proof light fixtures have ACM gaskets.	The fixtures will be removed intact and placed in double bags and disposed of as directed by Waste Management. This will be done prior to demolition of the structures.
Lead	N/A	
Lead Paint	N/A	
HVAC	Freon	Freon will be recycled.
Mercury	Two mercury switches are located outside of the magazine.	Waste Management will dispose of the mercury switches.
Chemicals	Explosives were stored in the magazine. All explosive materials were stored in sealed containers except for containers placed in the desiccators. Bulk storage of powders was never permitted. Vacuum lines may contain explosives.	If visible residue is observed, all work will stop and sampling will be conducted. Lines with potential explosives will be dismantled per an explosive safety representative's direction and then smelted.
Radiological	Sampling within release limits.	Concrete to spoils area. Other demolition debris to landfill.
Radon	N/A	
Fluorescent Lamps	N/A	
Septic System	N/A	
Drains & Sumps	N/A	
Waste Water	N/A	
Stains & Corrosion	N/A	
Space	N/A	
Storage Tanks	N/A	
Solid Waste Disposal	Magazine debris.	Will be monitored prior to disposal.
Migratory Hazards	N/A	

2.3.2 Magazine 64

DESCRIPTION	COMMENT	RESOLUTION
Asbestos	Paint on roof has asbestos.	Asbestos-trained workers with lead awareness training will remove the roof. Waste Management will dispose of waste off-site.
Lead	N/A	
Lead Paint	Roof has lead paint.	Asbestos-trained workers with lead awareness training will remove the roof. Waste Management will dispose of waste off-site.
HVAC	N/A	
Mercury	N/A	
Chemicals	Explosives were stored in the magazine. All explosive materials were stored in sealed containers. Bulk storage of powders was never permitted.	If visible residue is observed, all work will stop and sampling will be conducted.
Radiological	Sampling within release limits.	Concrete to spoils area. Other demolition debris to landfill.
Radon	N/A	
Fluorescent Lamps	N/A	
Septic System	N/A	
Drains & Sumps	N/A	
Waste Water	N/A	
Stains & Corrosion	N/A	
Space	N/A	
Storage Tanks	N/A	
Solid Waste Disposal	Magazine debris.	Will be monitored prior to disposal.
Migratory Hazards	N/A	

2.4 Radiological Characterization Summary

2.4.1 Magazine 52

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm2)	5400.5 Guidelines for Groups 1, 3, 4 (fixed + loose) (dpm/100 cm2)	NUREG 1500 Guidelines (loose) (dpm/100 cm2)	Attachment 1 Limit (fixed + loose) (See Note 2.) (dpm/100 cm2)	COMMENTS
Highest Alpha Smearable Activity	98-TF-506	South Wall	6	20	211	20	No Action Necessary
Highest Alpha Fixed Activity	98-TF-506	All	<100	100	Note 1	100	No Action Necessary
Highest Beta Smearable Activity	98-TF-506	North Wall	4	1,000	9,940	1,000	No Action Necessary
Highest Beta Fixed Activity	98-TF-506	All	<500	5,000	Note 1	5,000	No Action Necessary
Highest Tritium Smearable Activity	98-TF-506	North Wall	6	1,000	Note 1	1,000	No Action Necessary

Note 1: NUREG-1500 gives guidelines for loose beta and alpha only.
Note 2: The limits referenced above are based on MD-80043, Radiological work Requirements Procedure 400 "Transfer of Radioactive Material and Unrestricted Release of Property/Waste," Attachment 1.

2.4.2 Magazine 64

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm2)	5400.5 Guidelines for Groups 1, 2, 4 (fixed + loose) (dpm/100 cm2)	NUREG 1500 Guidelines (loose) (dpm/100 cm2)	Attachment 1 Limit (fixed + loose) (See Note 2.) (dpm/100 cm2)	COMMENTS
Highest Alpha Smearable Activity	98-TF-1100	Bottom of Center Window	5	20	211	20	No Action Necessary
Highest Alpha Fixed Activity	98-TF-1100	All	<100	100	Note 1	100	No Action Necessary
Highest Beta Smearable Activity	98-TF-1100	Wall	7	1,000	9,940	1,000	No Action Necessary
Highest Beta Fixed Activity	98-TF-1100	All	<5,000	5,000	Note 1	5,000	No Action Necessary
Highest Tritium Smearable Activity	98-TF-1100	Wall	17	1,000	Note 1	1,000	No Action Necessary

Note 1: NUREG-1500 gives guidelines for loose beta and alpha only.
Note 2: The limits referenced above are based on MD-80043, Radiological work Requirements Procedure 400 "Transfer of Radioactive Material and Unrestricted Release of Property/Waste," Attachment 1.

2.5 Associated PRS Table for Magazines 52 and 64

See Paragraph 4.2.3.

PRS#	CERCLA or Bldg. Related	Binning Status	Comments
41	CERCLA	FA/Hold	Magazines 52 and 64 are located within PRS 41
33, 34, 35	Building Related (Building 57)	TBD	Underground Sanitary Sewer Pipelines/proximity
25	CERCLA	TBD	Building 27 Leach Pit (RCRA Closure)/proximity

3.0 Site Description

3.1 Site/Vicinity Location and Characteristics

Magazines 52 and 64 are located at the U.S. Department of Energy Facility known as Mound Plant. Mound is situated in the city of Miamisburg, Miami Township, Montgomery County, state of Ohio.

The Mound facility is situated on 306 acres of land and contains approximately 130 buildings with a total of approximately 1.4 million square feet of floor space (the number of buildings is constantly diminishing as buildings are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineer District in 1946, consists of two hills and an intervening valley that runs approximately east and west. Magazines 52 and 64 are located on the lower southwest area of this original Mound site. The 124-acre tract, acquired in 1981, is an undeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working on-site. See introductory maps.

To the west lies a Conrail Railroad line and the north south trending Miami-Erie Canal. The northern boundaries of the site abut the residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border against the facility along Mound Road. Benner Road forms the southern property line of the Mound Plant, with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, Other Improvements

3.2.1 Magazine 52

The subject property consists of the Mound Plant Magazine 52 footprint, the soil beneath, and a 15-foot wide perimeter around the magazine. Magazine 52 contains 1,250 square feet. It was constructed in 1970 with reinforced concrete footers, foundations, and walls and 12 gauge steel plate which was covered with a minimum of three feet of earth. The magazine has been used for the same purpose since construction. Currently the magazine is not in use.

Magazine 64 is adjacent to Magazine 52.

There are no other structures, roads, or improvements that would impact the environmental condition of the magazine.

3.2.2 Magazine 64

The subject property consists of the Mound Plant Magazine 64 footprint, the soil beneath, and a 15-foot wide perimeter around the magazine. Magazine 64 contains 200 square feet. It was constructed in 1970 with reinforced concrete footers, foundations, and walls. Magazine 64's three steel cells were set in a concrete wall and were covered with a minimum of three feet of earth. The magazine has been used for the same purpose since construction. Currently the magazine is not in use. Magazine 52 is adjacent to Magazine 64.

There are no other structures, roads, or improvements that would impact the environmental condition of the magazine.

3.3 Current and Past Uses of Buildings Adjacent To Magazines 52 and 64

Proximity to Magazines 52 and 64	Building Area (Sq. Ft.)	Current Use	Past Use	Direction From Magazines
Bldg. 42	2,892	Vacant	HE Production	East
Bldg. 67	3,787	Vacant	Office Building	NE

Note: Magazines 52 and 64 abut against each other, north and south, with Magazine 52 situated to the south. See introductory maps.

4.0 Records Review

4.1 General/Historical CERCLA Information

In compliance with permit requirements under RCRA, the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant is currently operating a hazardous waste treatment and storage facility under a RCRA Part B permit dated October 18, 1996. Mound Plant also maintains a NPDES surface water discharge permit with Facility I.D. number OH 009857. Permits for the open burning of wastes involving explosives and other fuels have been issued by the Regional Air Pollution Control Agency (RAPCA). Other operations that produce particulate or vaporous emissions are registered with RAPCA and OEPA. Mound Plant also submits annual Emergency and Hazardous Chemical Inventory forms to the OEPA, pursuant to SARA, Title III, the Emergency Planning and Community Right-to-Know Act. The 1998 version of this report indicates that no chemicals are stored in Magazines 52 and 64.

The Mound Plant site was placed on the National Priority List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed as a consequence of VOC contamination in the western end of the lower valley area. The clean-up of the Mound Site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize clean-up areas. As the clean-up effort went forward, it became apparent that the Mound Site did not fit the profile for a clean-up strategy based on the operable units. The Department of Energy (DOE), the United States Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) designed a new decision making process for the clean-up of Mound. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 process." The Mound 2000 process system divided Mound in 19 Release Blocks containing over 400 Potential Release Sites (PRSs) with approximately 200 concerned with potentially contaminated soils, and the balance with potential contamination in or associated primarily with building operations.

4.2 Specific Record Sources

4.2.1 Occurrence Reports

There are no occurrence reports associated with Magazines 52 and 64.

4.2.2 Spills and Releases

No spills or releases of the magnitude that would require an occurrence report are associated with Magazines 52 and 64.

4.2.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the FFA/DOE ER program, DOE and BWO have tabulated all the Potential Release Sites (PRSs) identified under the various regulatory programs in effect at the site. Of these 420 PRSs, none are attributed to Magazines 52 and 64. The magazines are located within PRS 41, identified as "Area 3, Thorium Drum Storage/Redrum." PRS 41 is an extensive land area and was binned Further Assessment/Hold on October 2, 1996. See Appendix N. Also, PRSs 33, 34, and 35, identified as "Underground Sanitary Sewer Pipe Lines" are in the vicinity and may pose a demolition consideration. PRS 25, "Waste Treatment Site - Building 27 Leach Pit," is located just south of Magazine 52. Again, see Appendix N. None of these PRSs are expected to impact demolition activities.

4.3 Review of Magazine Prints

Building prints were reviewed and are included in Appendix D.

4.4 Aerial Photographs

Aerial photographs from 1994, 1983, 1973, 1968, 1965, 1959, and 1949 were reviewed and copies are found in Appendix E.

4.5 Interviews

The current Building Manager, Mr. Robert Ward, was interviewed on December 1, 1998. Mr. Ward has been employed at the Mound Plant for 30+ years and has been the Building Manager of these magazines for the last 4 years.

Mr. Ward knows of no occurrence reports or spills and releases connected with these magazines and states that it would be unlikely because of the activities performed at the two magazines. Mr. Ward warned of a domestic water line that is in poor condition that runs through the site and that there is an Underground Radioactive Material Area (URMA) immediately to the west of the site. See Appendix F. These situations are addressed in Appendix O, the Job Specific Work Plan.

Appendix A

General Listing of Acronyms

AEA	Atomic Energy Act of 1954
AEC	Atomic Energy Commission
ACM	Asbestos Containing Materials
AL	Action Level
ASTM	American Society for Testing and Materials
BUSTR	Bureau of Underground Storage Tank Regulations
CAA	Clean Air Act
CEG	Conditionally Exempt Generator
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
COD	Chemical Oxygen Demand
CWA	Clean Water Act
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DPM	Disintegrations Per Minute
EMF	Electromagnetic Field
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration (Program)
ERDA	Energy Research and Development Administration
ERNS	Emergency Response Notification System
FFA	Federal Facility Agreement
FINDS	Facility Index System
FS	Feasibility Study

GSA	General Services Administration
HEPA	High Efficiency Particulate Air
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
M&O	Maintenance and Operations
MAT	Mound Applied Technologies
MCC	Monsanto Chemical Company
MEMP	Mound Environmental Management Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MRC	Monsanto Research Corporation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OEPA	Ohio Environmental Protection Agency
ORPS	Occurrence Reporting and Processing System
PADS	PCB Activity Database
PCB	Polychlorinated Biphenyls
PRS	Potential Release Site
RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RSDS	Radiological Survey Data Sheet

SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SQG	Small Quantity Generator
SWMU	Solid Waste Management Unit
TRIS	Toxic Chemical Release Inventory System
TSD	Treatment, Storage, & Disposal Facility
UST	Underground Storage Tank
VOC	Volatile Organic Compound

Appendix B

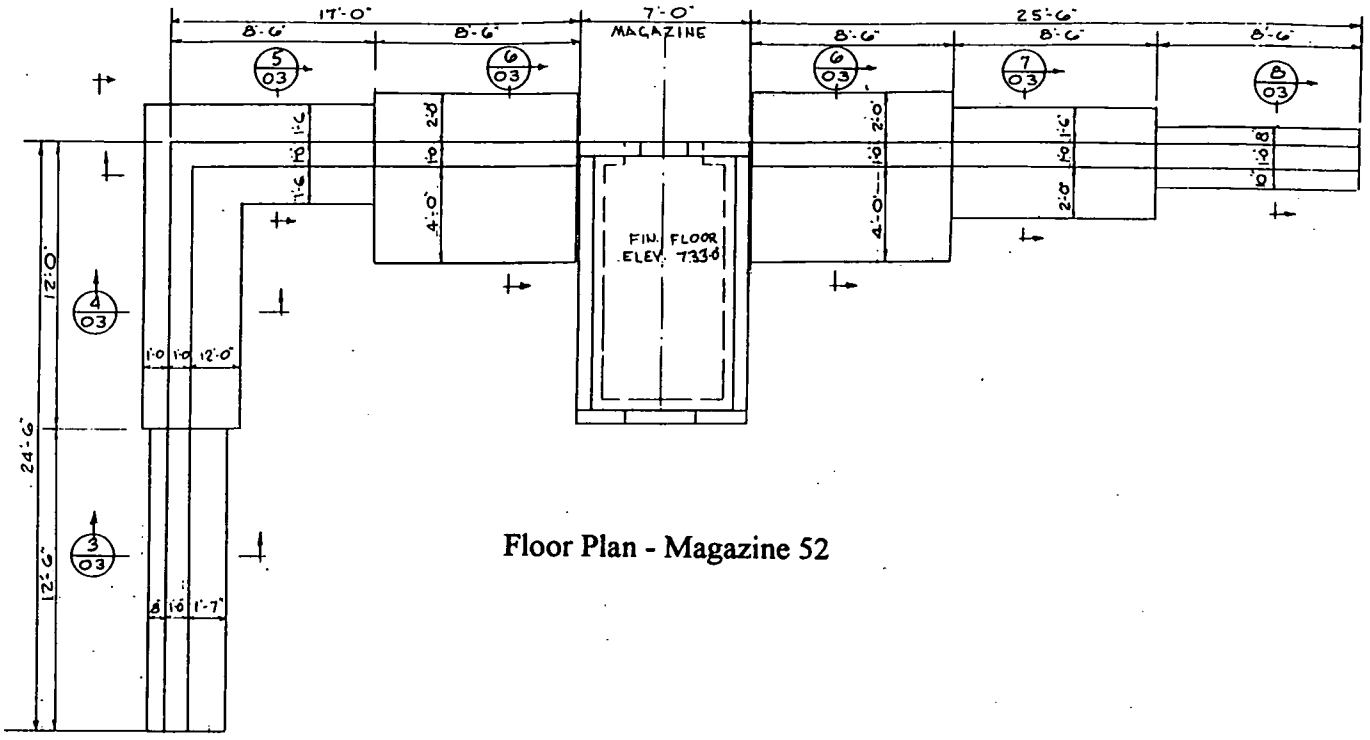
Map of Montgomery County

Appendix C

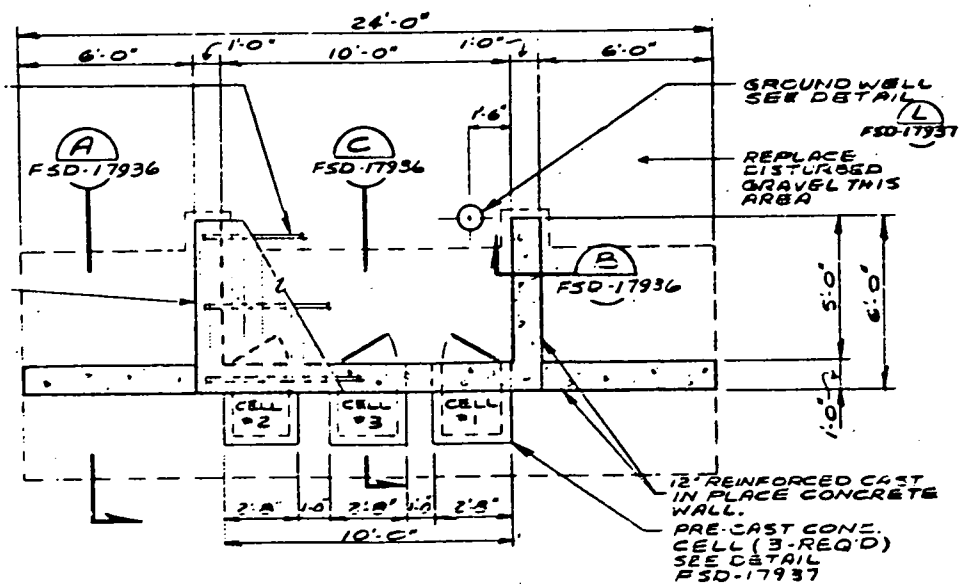
Site Plan and PRS Release Blocks

Appendix D

Building Drawings



Floor Plan - Magazine 52



Floor Plan - Magazine 64

Appendix E

Aerial Photographs

Appendix F

Environmental Appraisal Report of the Mound Plant (Extract)

Appendix F

Environmental Appraisal Report of the Mound Plant ~~for DS Building~~ (Extract)

9.124 MAGAZINE 52

9.124.1 Scope of Magazine 52 Report

In late 1995 and the early months of 1996, EG&G MAT performed a review of environmental conditions at the Mound Plant. The purpose was to develop a performance baseline, and to identify areas for improvement on a building and a sitewide basis. EG&G MAT did not perform a "due diligence" or Phase I Environmental Site Assessment as specified by ASTM 1527 or ASTM 1528. The scope of the appraisal effort and a discussion of the appraisal methodology are detailed in Sections 2.0 and 5.0, found in Volume 1 of this report.

The appraisal team prepared to perform a walk-through of Magazine 52 on the morning of January 29, 1996; however, it was confirmed by the building manager that the magazine had been leased to the City of Miamisburg. Therefore, an environmental appraisal was not conducted. No Building Manager's Questionnaire (BMQ) was available and the Environmental Appraisal Checklist (EAC) was not completed since the magazine was leased.

9.124.2 Description of Magazine 52

Magazine 52 is a single compartment unit. It is a reinforced concrete box structure classified as a nonstandard, earth-covered magazine. The compartment area is less than 200 square feet. Its location is shown in Attachment 1 (Section 9.124.4.1). The magazine is immediately adjacent to, and built to support, Building 42 to the east, Magazine 64 to the north, and the Mound boundary, which is an open area, in the other two directions. The magazine has electrical service for outside electrical lighting and the alarm system (*Mound Facility Physical Characterization*, 12-1-93).

Magazine 52 was constructed in 1970 (*Capital Assets Management Process, CAMP Report, FY96*). The magazine had been used for the same purpose since construction. No research, development, or production activities using radioactive or energetic materials have occurred in the magazine. The magazine was used for the storage of energetic materials. (*Mound Facility Physical Characterization*, 12-1-93).

9.124.3 Summary of Findings

Photographs were taken to document the building. They are included as Attachment 2 (Section 9.124.4.2). Magazine 52 has undergone Safe Shutdown which includes removal of wastes and other materials plus equipment which can not be released. A health physics safety determination and a liabilities assessment was made. An Environmental Site Assessment (ASTM E 1527-94 or ASTM E 1528-93) was not conducted. The building has been leased by the Department of Energy (DOE) to the City of Miamisburg which accepted the liabilities assessment. The General Purpose Lease between the DOE and the City of Miamisburg requires the sub-lessee to obtain and comply with regulatory agency permits.

Since the magazine has been leased, an Appraisal Checklist was not prepared and no further action was taken concerning this building.

9.127 MAGAZINE 64

9.127.1 Scope of Magazine 64 Report

In late 1995 and the early months of 1996, EG&G MAT performed a review of environmental conditions at the Mound Plant. The purpose was to develop a performance baseline, and to identify areas for improvement on a building and a sitewide basis. EG&G MAT did not perform a "due diligence" or Phase I Environmental Site Assessment as specified by ASTM 1527 or ASTM 1528. The scope of the appraisal effort and a discussion of the appraisal methodology are detailed in Sections 2.0 and 5.0, found in Volume 1 of this report.

The appraisal team prepared to perform a walk-through of Magazine 64 on the morning of January 29, 1996; however, it was confirmed by the building manager that the magazine had been leased to the City of Miamisburg. Therefore, an environmental appraisal was not conducted. No Building Manager's Questionnaire (BMQ) was available and the Environmental Appraisal Checklist (EAC) was not completed since the magazine was leased.

9.127.2 Description of Magazine 64

Magazine 64 is a one-story, 72-square-foot reinforced concrete structure. The roof is also of reinforced concrete covered with earth. Location is shown in Attachment 1 (Section 9.127.4.1). Magazine 52 is adjacent. The building has electrical service of 240V (*Mound Facility Physical Characterization*, 12-1-93).

Magazine 64 was constructed in 1974 (MD-10391, *Asbestos Program Manual*, 9-14-95). The building has been used for the same purpose, i.e. storage of pyrotechnics and energetic materials, since construction. (*Mound Facility Physical Characterization*, 12-1-93). It was emptied under the Safe Shutdown program.

9.127.3 Summary of Findings

Magazine 64 has undergone Safe Shutdown which includes removal of wastes and other materials plus equipment which cannot be released. A health physics safety determination and a liabilities assessment were made. An Environmental Site Assessment (ASTM E 1527-94 or ASTM E 1528-93) was not conducted. The building has been leased by the Department of Energy (DOE) to the City of Miamisburg which accepted the liabilities assessment. The General Purpose Lease between the DOE and the City of Miamisburg requires the sub-lessee to obtain and comply with regulatory agency permits.

Photographs were taken to document the building. They are included as Attachment 2 (Section 9.127.4.2). Since the magazine has been leased, an EAC was not prepared and no further action was taken concerning this building.

Appendix G

Radiological Summary/Information

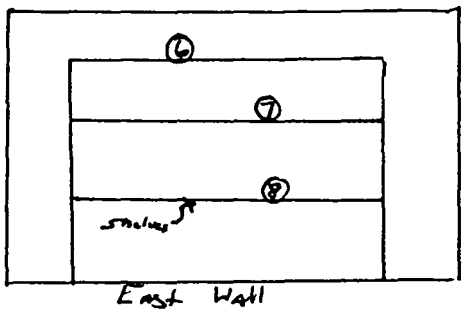
RADIOLOGICAL SURVEY DATA SHEET

KH 30-10 HL15

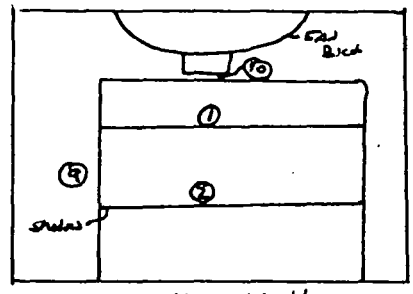
LOCATION: (BLDG./AREA/ROOM) 52	SURVEY NO. 98-TF-506
PURPOSE: Annual Routine Survey	RWP NO. N/A
	DATE: 4/29/98
	TIME: 0930

MAP/DRAWING

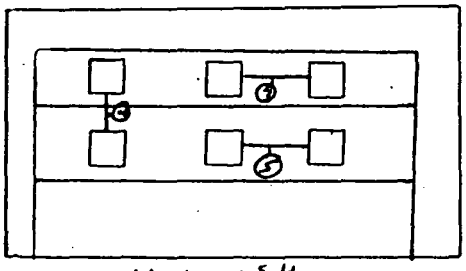
COPY



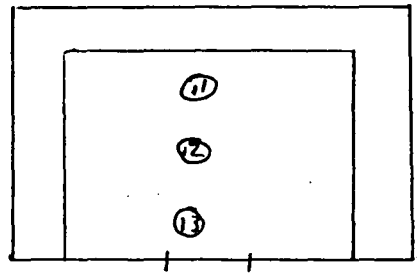
East Wall



North Wall

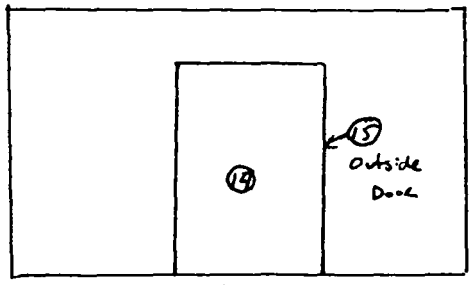


West Wall



Floor

Dose Rate < 0.05 mrem/hr.



South Wall

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NEElectra	5394/5414	10-27-98
Micro R	3929	10-8-98

Completed by: (Signature) [redacted]	HP# 2639 8258	Date: 4-27-98
Completed by: (Print Name) [redacted]	[redacted]	
Counted by: (Signature) [redacted]	HP# 5268	Date: 4/29/98
Counted by: (Print Name) [redacted]		
Reviewed/Approved by: (Signature) [redacted]	HP# 6015	Date: 5/11/98
Reviewed/Approved by: (Print Name) [redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1				Floor
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				Floor

N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

MMENTS:

TES:

See MD-80036 10002 for calculations of WB, extremity and skin dose rates.

To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.

Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

9620 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR059
Batch Ended: 4/29/98 13:01
Cal. Due Date: 3/9/99
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: T 98-TF-506 BD. 52-WOOLEY/ATKINSON

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.05	<MDA	0.58	2.01	<MDA
A2	2	1.80	2.13	<AL	0.00	1.51	<MDA
A3	3	1.73	1.97	<AL	0.00	1.43	<MDA
A4	4	0.00	2.00	<MDA	0.00	1.44	<MDA
B1	5	0.00	2.20	<MDA	0.00	1.62	<MDA
B2	6	0.00	2.14	<MDA	0.00	1.51	<MDA
B3	7	0.00	1.99	<MDA	0.32	1.93	<MDA
B4	8	0.00	2.01	<MDA	1.75	2.28	<MDA
D1	9	1.74	2.11	<AL	4.30	3.05	<AL
D2	10	0.00	2.07	<MDA	0.59	1.99	<MDA
D3	11	0.00	1.91	<MDA	1.81	2.29	<MDA
D4	12	3.49	2.71	<AL	0.24	1.87	<MDA
A1	13	0.00	2.06	<MDA	1.92	2.42	<MDA
A2	14	0.00	2.13	<MDA	0.00	1.51	<MDA
A3	15	5.63	3.39	<AL	0.00	1.43	<MDA

30 Apr 1998 13:01 ALPHA/BETA - 1.08 ~~Page #1~~
Protocol #: 4 Pw H3 20cc #405828 User : 5268

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL Quench Set: SMVIAL
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	8.44
Region B:	2.0	- 18.6	0	0.0	7.82
Region C:	40.0	- 2000	0	0.0	8.90

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
98-TF-506 BD. 52-WOOLEY(30-10 A1-15)
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT1.DAT
Count Data Filename: c:\data\SDATA4.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.44	7.82	1	B	644.76		0.00	8.90
0	2.00	1510.19	1403.11	0		610.06	3373.72	284.49	7.60
1	2.00	2.56	1.98	0		562.06	5.99	11.80	0.00
2	2.00	0.00	0.00	0		603.65	0.00	0.00	0.10
3	2.00	0.99	1.28	0		634.57	2.17	10.31	0.10
4	2.00	0.00	0.00	0		650.70	0.00	0.00	2.10
5	2.00	2.06	2.18	0		645.34	4.48	10.75	0.00
6	2.00	0.24	0.56	0		619.71	0.53	10.09	2.40
7	2.00	0.56	0.33	0		641.55	1.21	10.06	0.00
8	2.00	0.00	0.00	0		517.24	0.00	0.00	1.60
9	2.00	0.00	0.00	0		613.65	0.00	0.00	2.10
10	2.00	0.00	0.00	0		527.37	0.00	0.00	0.00
11	2.00	0.00	0.00	0		583.12	0.00	0.00	0.00
12	2.00	0.00	0.00	0		541.61	0.00	0.00	0.60
13	2.00	0.00	0.00	0		637.65	0.00	0.00	2.10
14	2.00	0.75	0.86	0		590.48	1.70	10.60	0.96
15	2.00	0.00	0.00	0		628.77	0.00	0.00	0.00

M1/H20 30-11

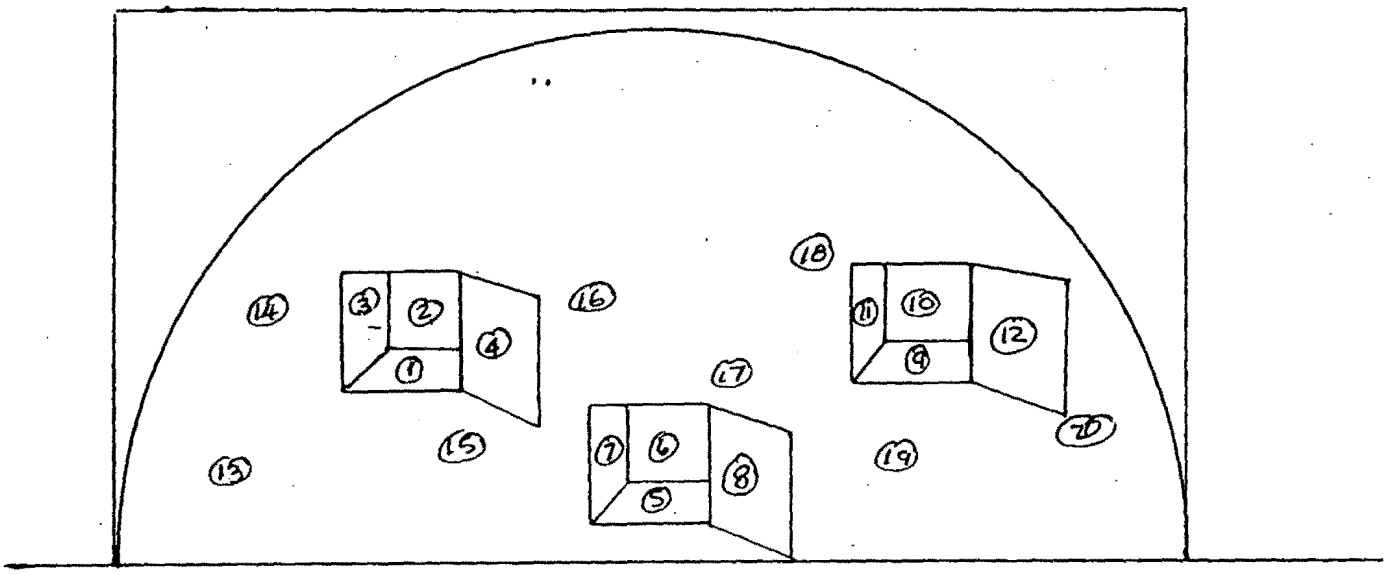
RADIOLOGICAL SURVEY DATA SHEET

P4

LOCATION: (BLDG./AREA/ROOM) MAGAZINE 64	SURVEY NO. 98-TF-1100
PURPOSE: Release (Characterization)	RWP NO. N/A
	DATE: 10-26-98
	TIME: 0930

MAP/DRAWING

COPY



DIRECT READINGS
< 100 DPM/100CM² α
< 5000 DPM/100CM² β⁻

MICRO.R READINGS
ALL ≤ BKG
BKG = 8-10 μrem

micro.R # 3927 CAL DUE 3/9/99

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE	5301/5321	4/19/99
	A	
	V	

Completed by: (Signature [redacted]	HP# 8254	Date: 10/22/98
Completed by: (Print Name [redacted]		
Counted by: (Signature [redacted]	HP# 5681	Date: 10/26/98
Counted by: (Print Name) [redacted]		
Reviewed by: (Signature) [redacted]	HP# 6015	Date: 10/27/98
Reviewed by: (Print Name) [redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1				SEE MAP
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

SEE ATTACHED

N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

OMMENTS:

OTES:

See MD-80036 10002 for calculations of WB, extremity and skin dose rates.

To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.

Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Health Physics Counting Lab -- Wipe Analysis

Date: 10/26/98
Counting Unit id: 2
Data file name: C:\LBXL\UNIT2\Sme2E009.csv
Batch Ended: 10/26/98 3:55
Crosstalk Correction: Applied
Cal. Due Date: 11/26/98

Alpha activity action level (DPM): 20.00
Beta activity action level (DPM): 200.00

System Serial #: 59544
Batch ID: T 98-TF-1100 STONE MAGAZINE 64 GR.E (20) CYR

		Alpha Activity			Beta Activity			Count	Completion
Carrier	Sample	DPM	σ	flags	DPM	σ	flags	time (min)	Date - Time
143	1	2.475	2.74	<MDA	2.57	3.17	<MDA	1.50	10/26/98 3:23
6	2	0.000	2.02	<MDA	4.45	3.51	<AL	1.50	10/26/98 3:25
29	3	0.685	1.99	<MDA	1.24	2.78	<MDA	1.50	10/26/98 3:26
124	4	2.547	2.73	<MDA	1.06	2.78	<MDA	1.50	10/26/98 3:28
65	5	0.000	1.97	<MDA	0.00	1.77	<MDA	1.50	10/26/98 3:30
36	6	0.685	1.99	<MDA	1.24	2.78	<MDA	1.50	10/26/98 3:31
59	7	0.542	2.02	<MDA	4.27	3.51	<AL	1.50	10/26/98 3:33
40	8	0.000	1.97	<MDA	0.00	1.77	<MDA	1.50	10/26/98 3:35
94	9	0.000	1.97	<MDA	0.00	1.77	<MDA	1.50	10/26/98 3:37
70	10	0.614	2.01	<MDA	2.75	3.17	<MDA	1.50	10/26/98 3:38
128	11	0.000	2.01	<MDA	2.93	3.17	<MDA	1.50	10/26/98 3:40
33	12	2.547	2.73	<MDA	1.06	2.78	<MDA	1.50	10/26/98 3:42
37	13	0.398	2.04	<MDA	7.30	4.11	<AL	1.50	10/26/98 3:43
136	14	0.685	1.99	<MDA	1.24	2.78	<MDA	1.50	10/26/98 3:45
58	15	4.552	3.29	<AL	0.00	1.77	<MDA	1.50	10/26/98 3:47
88	16	2.403	2.74	<MDA	4.09	3.51	<AL	1.50	10/26/98 3:48
65	17	0.000	1.99	<MDA	1.41	2.78	<MDA	1.50	10/26/98 3:50
30	18	0.000	1.98	<MDA	0.00	2.33	<MDA	1.50	10/26/98 3:52
119	19	2.403	2.74	<MDA	4.09	3.51	<AL	1.50	10/26/98 3:54
21	20	4.480	3.30	<AL	0.00	2.33	<MDA	1.50	10/26/98 3:55

ae: 2.00
ta Mode: DPM Nuclide: SM VIAL Quench Set: SM VIAL
ckground Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
gion A:	0.5 -	18.6	0	0.0	7.83
gion B:	2.0 -	18.6	0	0.0	7.39
gion C:	40.0 -	2000	0	0.0	12.51

ench Indicator: tSIE/AEC
Ext Std Terminator: Count
-TF-1100 STONE MAGAZINE 64 (30-11 A1-A20) CYR
minescence Correction On
incidence Time(ns): 18
lay Before Burst(ns): Normal
otocol Data Filename: C:\DATA\PROT1.DAT
unt Data Filename: C:\DATA\SDATA4.DAT
ectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	7.83	7.39	4	B	537.35		0.000	12.51
0	2.00	1300.26	1179.82	0		555.58	2769.55	180.673	0.00
1	2.00	4.21	2.98	4		491.68	9.64	11.983	5.99
2	2.00	3.92	4.11	8		447.73	9.29	12.248	2.99
3	2.00	2.95	2.09	5		535.98	6.43	10.855	2.99
4	2.00	5.90	5.52	4		497.00	13.44	12.637	2.49
5	2.00	2.17	1.28	5		508.19	4.89	10.841	0.00
6	2.00	2.88	3.18	5		472.51	6.72	11.580	0.00
7	2.00	0.44	0.37	6		475.91	1.02	10.342	1.49
8	2.00	0.00	0.34	6		414.72	0.00	0.000	0.00
9	2.00	1.94	2.16	5		565.43	4.11	10.082	1.99
10	2.00	4.65	3.27	4		533.62	10.16	11.617	0.00
11	2.00	3.37	2.69	4		575.50	7.06	10.613	2.49
12	2.00	3.57	2.63	4		424.61	8.58	12.259	0.00
13	2.00	4.30	2.85	8		544.56	9.27	11.313	0.99
14	2.00	6.72	4.97	7		552.29	14.36	12.165	0.00
15	2.00	0.00	0.00	13		563.46	0.00	0.000	0.00
16	2.00	0.00	0.00	14		552.93	0.00	0.000	0.00
17	2.00	0.00	0.00	13		562.61	0.00	0.000	0.00
18	2.00	7.91	5.26	3		551.19	16.91	12.627	0.00
19	2.00	2.52	1.55	9		558.01	5.35	10.397	0.00
20	2.00	0.67	0.61	12		578.67	1.41	9.402	0.00

Appendix H

Radon Summary/Information

(No data available.)

Appendix I

Asbestos Summary/Information

Date: November 24, 1998

From: Christopher Ahlquist

To: John Schneider

Re: Magazines 52 & 64

The survey of Magazines 52 & 64 for beryllium, lead, and asbestos concerns has been completed by Industrial Hygiene (IH). The referenced structures were compared against a list maintained by IH of areas at Mound known to have had beryllium processes. The referenced structures were not among those known to have had beryllium. A screen for lead-based paint was conducted using a Niton XRF lead detector and the only paint coating found to contain lead at or above the Department of Housing and Urban Development (HUD) and Ohio Department of Health level of concern (1.0 mg/cm^2) was the gray paint applied to the corrugated roof of Magazine 64. Samples of materials considered suspect for containing asbestos in accordance with USEPA prescribed protocol were collected and analyzed for asbestos by polarized-light microscopy. The gray roof paint on Magazine 64 was found to contain greater than 5% but less than or equal to 10% asbestos (chrysotile form).

The roof of Magazine 64 will have to be removed by asbestos-trained workers who have lead awareness training prior to demolishing said structure. As an alternative, the referenced roof paint sample may be re-submitted to the analyzing laboratory for "point-count" analysis in the event that such analysis indicates that the specific asbestos content of the roof paint is less than 1% and, therefore, an unregulated material.

Enclosed with this summary report is a copy of the original Survey Request form which you submitted, a copy of the asbestos bulk sample data sheet, a copy lab report for the asbestos analyses performed, and a copy of the readout generated by the Niton XRF for the lead readings accomplished.

Please call with any questions or concerns.

Respectfully,

Christopher Ahlquist

ASBESTOS/LEAD/BERYLLIUM SURVEY REQUEST

A. Project Engineer Completes This Section

Project Title: Magazines 52 and 64

Charge No.: J00528

Location (Crawl space ,Penthouse, etc.) and type of material to be sampled:

The structures and utilities in the immediate area.

Known historical asbestos, beryllium and lead information (Review the drawings for this project, if asbestos is identified briefly indicate location, quantity and identity.)

None known

Project Engineer: Larry Lamsa	Phone: 4182	Date Submitted: 8/6/98

B. Industrial Hygiene Completes this section

Findings:

No Be

Asbestos in Magazine 64 roof paint

Lead in Magazine 64 roof paint.

If hidden asbestos is encountered during this project, stop work and call Industrial Hygiene.

Is all asbestos accounted for according to past surveys?

☒ Yes ☐ No

Abatement action required:

Magazine 64 roof - asbestos/lead trained workers to remove roof prior to demolition. Exception - if analysis by "point-counting" indicates <1% asbestos content.

Date: 11/24/98	Approved: [signature] Industrial Hygiene Rep.

ASBESTOS BULK SAMPLE DATA SHEET

PROJECT TITLE: J00528

Page No. 1 of 1

BUILDING/LOCATION: Magazines 52 & 64

SURVEY DATE: 11-11-98

SAMPLED BY: [redacted]

HP NUMBER: 7961

HOMO AREA #	SAMPLE NUMBER	AMT.	SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NONFRI.	COND.	SAMPLE RESULTS	COMMENTS
1	98111101		Mag. 52 floor	Floor tile 9x9 terrazzo pattern	NF		ND	Black mastic 50 sf
2	98111102		Mag. 64 Roof	Gray roof paint	NF	Alligatoring	Chrysotile ~5-10%	Paint/Surface Material

ADDITIONAL COMMENTS:

ML-9706

NVLAP Accredited

DATACHEM LABORATORIES
FiberFAX℠
Polarized Light Microscopy Asbestos Analysis Summary

Client: Babcock & Wilcox of Ohio, Inc. Date: 11/22/98
Sample Set ID Number: 98-A-7569 Page: 1

Client Sample #:	98111101	98111102
DataChem Laboratories Sample #:	98-44930	98-44931
MACROSCOPIC EXAMINATION:		
Sample Accepted or Rejected:	Accepted	Accepted
Homogeneity:	Layered Inseparable	Layered Inseparable
Color:	Brn/Wht/Blu	Brown/Grey
Texture:	Flexible	Crmby/Rsns
Sample Description:	Material	Material
Analysis:	PLM	PLM
ASBESTIFORM MINERALS:		
% Chrysotile:		>5≤10
% Amosite:		
% Crocidolite:		
% Tremolite-Actinolite:		
% Anthophyllite:		
% **Total Asbestos**	**ND**	>5≤10
OTHER MATERIALS:		
% Cellulose:		
% Fibrous Glass:		
% Other Fibers:	>5≤10	
% Resin/Binder:	>5≤10	>40≤50
% Other Non-Fibrous:	>70≤80	>30≤40

Special Prep. Procedures:
*Notes:

Post-it® Fax Note 7671	Date 11/23	# of pages ▶ 2
To Evan Kirk	From Sharon Sanzone	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

Gara Creamer
Microscopist

All values are in percent by area by visual estimate. The Federal Register/Vol. 55, No. 224/Tuesday, November 20, 1990/Rules and Regulations states..."If the asbestos content is estimated to be less than 10% by a method other than point counting...(the analysis) be repeated using the point counting technique with PLM." Any of the above samples can be reanalyzed by point counting at the client's request, if deemed necessary by the client. Separate phases are analyzed and reported individually.
ND=Non-Detected Trace= <1%

©1988 DataChem Laboratories

Site: Date: 11/11/98
Ranges (NEG<INC<POS): Device PCS

No	Site	XLNo	Insp	Flr	Room	Side	Strc	Feat	Cnd	Sub	Clr	PbL(mg/cm²)	RES	PbK	Combined	DI	Siec	Date
1		1			Shutter Cal-1							0.00 ± 0.00	...	0.0 ± 0.0	0.0 ± 0.0	0.0	35.8	11/11/98
2		2			Calibrate							1.03 ± 0.12	POS	0.6 ± 0.8	1.0 ± 0.2	1.0	22.3	11/11/98
3		3			Calibrate							1.16 ± 0.26	POS	0.7 ± 0.9	1.2 ± 0.2	2.5	20.3	11/11/98
4	Mag52	4			Outside	South	Door frame		Peeling	Metal	Black	0.12 ± 0.10	NEG	0.8 ± 0.8	0.1 ± 0.2	2.0	37.0	11/11/98
5	Mag52	5			Outside	South	Door		Peeling	Metal	Black	0.05 ± 0.10	NEG	0.1 ± 1.1	0.0 ± 0.2	1.0	20.7	11/11/98
6	Mag64	6			Outside	South	Door		Good	Metal	Green	0.22 ± 0.22	NEG	-2.6 ± 2.4	0.2 ± 0.2	1.9	6.0	11/11/98
7	Mag64	7			Outside	Top-W	Roof		Cracked	Metal	Gray	0.25 ± 0.16	NEG	0.4 ± 0.6	0.4 ± 0.6	10.0	52.1	11/11/98
8	Mag64	8			Outside	Top-mid	Roof		Cracked	Metal	Gray	1.01 ± 0.27	POS	1.1 ± 0.8	1.0 ± 0.2	4.0	30.3	11/11/98
9	Mag64	9			Outside	Top-E	Roof		Cracked	Metal	Gray	1.55 ± 0.59	POS	1.4 ± 1.5	1.5 ± 0.6	3.8	10.9	11/11/98

Appendix J

Lead Summary/Information

(See Appendix I.)

Appendix K

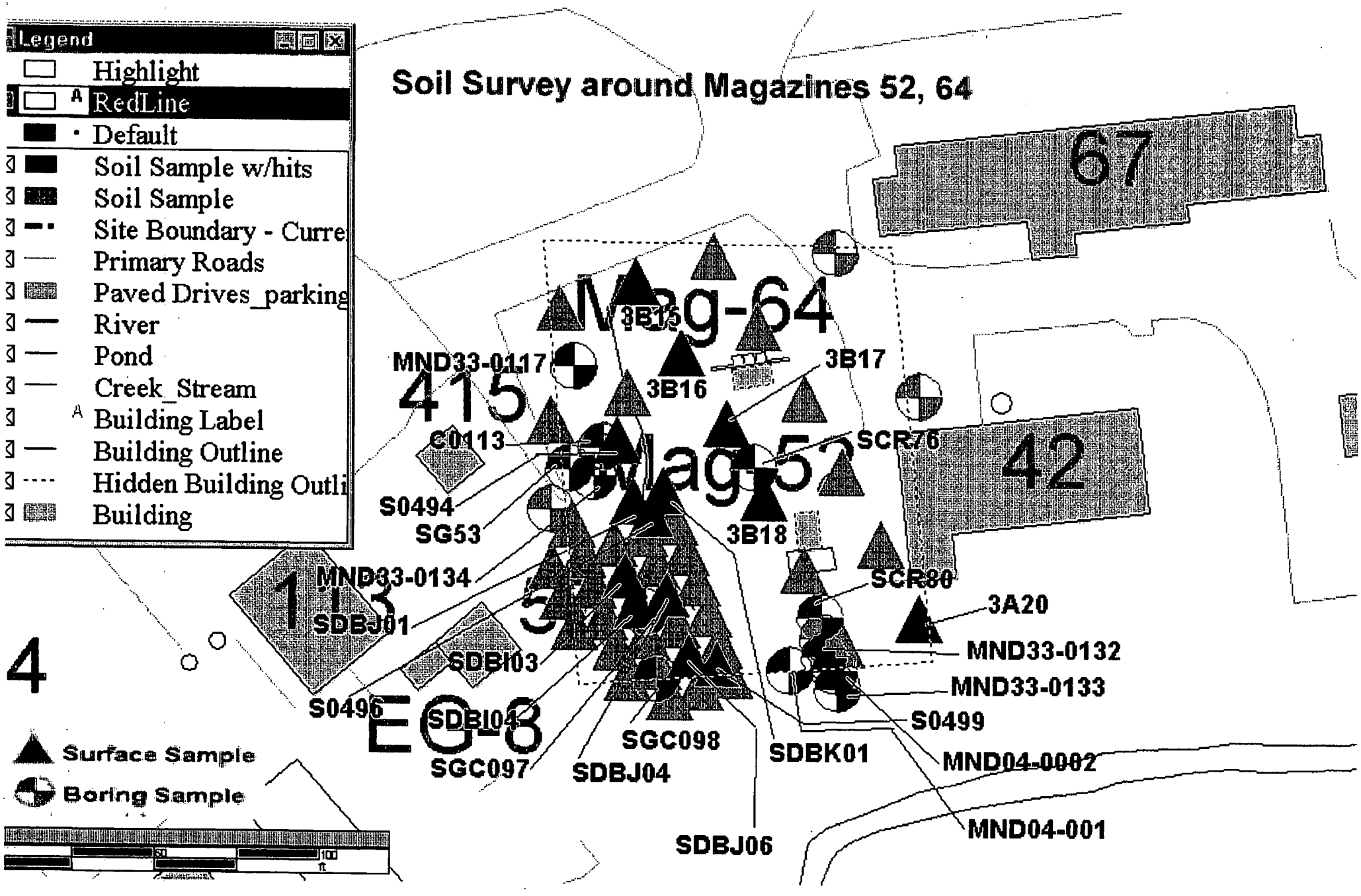
Chemical History

(No data available.)

Appendix L

Noted Soil Sampling, Vicinity

Samples that exceed comparison values are highlighted in bold text in the "Measured Value" column of the spreadsheet GP1COMP.XLS. The comparison value exceeded is identified in the "Comments" column of the same spreadsheet. The numerical value of the comparison value is in the following table that lists the parameter name, comparison value, and "comp_no" or type of comparison (Risk Based Guide Value, Background, MCL, etc.)


Soil Survey around Magazines 52, 64
Legend
Highlight
RedLine
Default
Soil Sample w/hits
Soil Sample
Site Boundary - Curre
Primary Roads
Paved Drives_parking
River
Pond
Creek_Stream
Building Label
Building Outline
Hidden Building Outli
Building
Mag-64
Mag-52
67
42
415
113
MND33-0117
3B15
3B16
3B17
C0113
SCR76
S0494
SG53
3B18
MND33-0134
SDBJ01
SCR80
3A20
MND33-0132
MND33-0133
S0499
MND04-0002
MND04-001
SDBI03
S0496
SDBI04
SGC098
SGC097
SDBJ04
SDBK01
SDBJ06
Surface Sample
Boring Sample

Location_name	Sample_id	Location_	Collection_	Media	Value_name	Measured_vali	Value_un	Detection_	Chem_cla	Start	End_	Dept	Cas_number	Lab	Project_cod	Dat	Comments
MND33-0117	0117-0001	Borehole	19920129	Soil	Chloride	109.70	MG/KG	0.50	ANION	9	13	FT	CL		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	4-Methyl-2-pentanone	13.00	UG/KG	12.00	ORVOA	9	13	FT	108-10-1		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Bis(2-ethylhexyl)phthalate	370.00	UG/KG	780.00	ORSVO	9	13	FT	117-81-7	J	MND33	J	
MND33-0117	0117-0001	Borehole	19920129	Soil	Aluminum	8730.00	MG/KG	6.00	INORG	9	13	FT	7429-90-5		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Iron	18200.00	MG/KG	1.00	INORG	9	13	FT	7439-89-6		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Lead	11.40	MG/KG	0.20	INORG	9	13	FT	7439-92-1		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Magnesium	19100.00	MG/KG	5.00	INORG	9	13	FT	7439-95-4	*	MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Manganese	441.00	MG/KG	0.20	INORG	9	13	FT	7439-96-5	*	MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Nickel	26.90	MG/KG	2.00	INORG	9	13	FT	7440-02-0		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Potassium	892.00	MG/KG	10.00	INORG	9	13	FT	7440-09-7		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Silver	**9.60**	MG/KG	1.00	INORG	9	13	FT	7440-22-4		MND33		Exceeds background value.
MND33-0117	0117-0001	Borehole	19920129	Soil	Sodium	**345.00**	MG/KG	10.00	INORG	9	13	FT	7440-23-5		MND33		Exceeds background value.
MND33-0117	0117-0001	Borehole	19920129	Soil	Thallium	**0.55**	MG/KG	0.20	INORG	9	13	FT	7440-28-0		MND33	J	Exceeds background value.
MND33-0117	0117-0001	Borehole	19920129	Soil	Antimony	14.70	MG/KG	3.00	INORG	9	13	FT	7440-36-0		MND33	J	
MND33-0117	0117-0001	Borehole	19920129	Soil	Arsenic	6.00	MG/KG	0.20	INORG	9	13	FT	7440-38-2		MND33	J	
MND33-0117	0117-0001	Borehole	19920129	Soil	Barium	64.00	MG/KG	0.20	INORG	9	13	FT	7440-39-3		MND33	J	
MND33-0117	0117-0001	Borehole	19920129	Soil	Beryllium	**0.77**	MG/KG	0.20	INORG	9	13	FT	7440-41-7		MND33		Exceeds soil 10-6 GV.
MND33-0117	0117-0001	Borehole	19920129	Soil	Cadmium	**3.70**	MG/KG	0.20	INORG	9	13	FT	7440-43-9		MND33	J	Exceeds background value.
MND33-0117	0117-0001	Borehole	19920129	Soil	Chromium	**22.70**	MG/KG	1.00	INORG	9	13	FT	7440-47-3		MND33		Exceeds background value.
MND33-0117	0117-0001	Borehole	19920129	Soil	Cobalt	12.10	MG/KG	1.00	INORG	9	13	FT	7440-48-4		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Copper	20.80	MG/KG	1.00	INORG	9	13	FT	7440-50-8		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Vanadium	**27.90**	MG/KG	1.00	INORG	9	13	FT	7440-62-2		MND33		Exceeds background value.
MND33-0117	0117-0001	Borehole	19920129	Soil	Zinc	50.00	MG/KG	0.50	INORG	9	13	FT	7440-66-6		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Calcium	40000.00	MG/KG	2.00	INORG	9	13	FT	7440-70-2		MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	2-Butanone	21.00	UG/KG	12.00	ORVOA	9	13	FT	78-93-3	B	MND33		
MND33-0117	0117-0001	Borehole	19920129	Soil	Nitrate	4.20	MG/KG	0.10	ANION	9	13	FT	NO3		MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Chloride	106.09	MG/KG	0.50	ANION	9	13	FT	CL		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	4-Methyl-2-pentanone	2.00	UG/KG	12.00	ORVOA	9	13	FT	108-10-1	J	MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Bis(2-ethylhexyl)phthalate	190.00	UG/KG	800.00	ORSVO	9	13	FT	117-81-7	J	MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Aluminum	7360.00	MG/KG	6.00	INORG	9	13	FT	7429-90-5		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Iron	14000.00	MG/KG	1.00	INORG	9	13	FT	7439-89-6		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Lead	12.30	MG/KG	0.20	INORG	9	13	FT	7439-92-1		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Magnesium	35400.00	MG/KG	5.00	INORG	9	13	FT	7439-95-4	*	MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Manganese	358.00	MG/KG	0.20	INORG	9	13	FT	7439-96-5	*	MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Nickel	25.20	MG/KG	2.00	INORG	9	13	FT	7440-02-0		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Potassium	837.00	MG/KG	10.00	INORG	9	13	FT	7440-09-7		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Silver	**13.30**	MG/KG	1.00	INORG	9	13	FT	7440-22-4		MND33		Exceeds background value.
MND33-0117	0117-1001	Borehole	19920129	Soil	Sodium	**333.00**	MG/KG	10.00	INORG	9	13	FT	7440-23-5		MND33		Exceeds background value.
MND33-0117	0117-1001	Borehole	19920129	Soil	Thallium	**0.60**	MG/KG	0.20	INORG	9	13	FT	7440-28-0		MND33	J	Exceeds background value.
MND33-0117	0117-1001	Borehole	19920129	Soil	Antimony	21.00	MG/KG	3.00	INORG	9	13	FT	7440-36-0		MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Arsenic	6.20	MG/KG	0.20	INORG	9	13	FT	7440-38-2		MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Barium	55.40	MG/KG	0.20	INORG	9	13	FT	7440-39-3		MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Beryllium	**0.77**	MG/KG	0.20	INORG	9	13	FT	7440-41-7		MND33		Exceeds soil 10-6 GV.
MND33-0117	0117-1001	Borehole	19920129	Soil	Cadmium	**5.60**	MG/KG	0.20	INORG	9	13	FT	7440-43-9		MND33	J	Exceeds background value.
MND33-0117	0117-1001	Borehole	19920129	Soil	Chromium	**24.70**	MG/KG	1.00	INORG	9	13	FT	7440-47-3		MND33		Exceeds background value.
MND33-0117	0117-1001	Borehole	19920129	Soil	Cobalt	9.70	MG/KG	1.00	INORG	9	13	FT	7440-48-4		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Copper	19.10	MG/KG	1.00	INORG	9	13	FT	7440-50-8		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Vanadium	**27.50**	MG/KG	1.00	INORG	9	13	FT	7440-62-2		MND33		Exceeds background value.
MND33-0117	0117-1001	Borehole	19920129	Soil	Zinc	40.50	MG/KG	0.50	INORG	9	13	FT	7440-66-6		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Calcium	69300.00	MG/KG	2.00	INORG	9	13	FT	7440-70-2		MND33		
MND33-0117	0117-1001	Borehole	19920129	Soil	Di-n-butyl Phthalate	90.00	UG/KG	800.00	ORSVO	9	13	FT	84-74-2	J	MND33	J	
MND33-0117	0117-1001	Borehole	19920129	Soil	Nitrate	3.35	MG/KG	0.10	ANION	9	13	FT	NO3		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	1200.00	UG/KG	840.00	ORSVO	8	12	FT	117-81-7		MND33		
MND33-0132	0132-0003	Borehole	19920211	Soil	Aluminum	8880.00	MG/KG	6.00	INORG	8	12	FT	7429-90-5		MND33		
MND33-0132	0132-0003	Borehole	19920211	Soil	Iron	20600.00	MG/KG	1.00	INORG	8	12	FT	7439-89-6	*	MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Lead	3.70	MG/KG	0.20	INORG	8	12	FT	7439-92-1		MND33		
MND33-0132	0132-0003	Borehole	19920211	Soil	Magnesium	24400.00	MG/KG	5.00	INORG	8	12	FT	7439-95-4		MND33		
MND33-0132	0132-0003	Borehole	19920211	Soil	Manganese	449.00	MG/KG	0.20	INORG	8	12	FT	7439-96-5		MND33		
MND33-0132	0132-0003	Borehole	19920211	Soil	Mercury	**0.12**	MG/KG	0.12	INORG	8	12	FT	7439-97-6		MND33		Exceeds background value.
MND33-0132	0132-0003	Borehole	19920211	Soil	Nickel	27.20	MG/KG	2.00	INORG	8	12	FT	7440-02-0		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Potassium	1730.00	MG/KG	10.00	INORG	8	12	FT	7440-09-7		MND33		
MND33-0132	0132-0003	Borehole	19920211	Soil	Silver	**16.80**	MG/KG	1.00	INORG	8	12	FT	7440-22-4		MND33	J	Exceeds background value.
MND33-0132	0132-0003	Borehole	19920211	Soil	Sodium	**261.00**	MG/KG	10.00	INORG	8	12	FT	7440-23-5	B	MND33		Exceeds background value.
MND33-0132	0132-0003	Borehole	19920211	Soil	Antimony	21.60	MG/KG	3.00	INORG	8	12	FT	7440-36-0		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Arsenic	1.70	MG/KG	0.20	INORG	8	12	FT	7440-38-2		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Barium	25.20	MG/KG	0.20	INORG	8	12	FT	7440-39-3	B	MND33		

MND33-0132	0132-0003	Borehole	19920211	Soil	Beryllium	**0.78**	MG/KG	0.20	INORG	8	12	FT	7440-41-7	B	MND33	J	Exceeds soil 10-6 GV.
MND33-0132	0132-0003	Borehole	19920211	Soil	Cadmium	**4.60**	MG/KG	0.20	INORG	8	12	FT	7440-43-9		MND33	J	Exceeds background value.
MND33-0132	0132-0003	Borehole	19920211	Soil	Chromium	**42.10**	MG/KG	1.00	INORG	8	12	FT	7440-47-3		MND33	J	Exceeds background value.
MND33-0132	0132-0003	Borehole	19920211	Soil	Cobalt	12.90	MG/KG	1.00	INORG	8	12	FT	7440-48-4		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Copper	17.80	MG/KG	1.00	INORG	8	12	FT	7440-50-8		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Vanadium	23.60	MG/KG	1.00	INORG	8	12	FT	7440-62-2		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Zinc	45.30	MG/KG	0.50	INORG	8	12	FT	7440-66-6		MND33	J	
MND33-0132	0132-0003	Borehole	19920211	Soil	Calcium	101000.00	MG/KG	2.00	INORG	8	12	FT	7440-70-2		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	290.00	UG/KG	780.00	ORSVO	3	8	FT	117-81-7	J	MND33	J	
MND33-0132	0132-0002	Borehole	19920211	Soil	Aluminum	10900.00	MG/KG	6.00	INORG	3	8	FT	7429-90-5		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Iron	30200.00	MG/KG	1.00	INORG	3	8	FT	7439-89-6	*	MND33	J	
MND33-0132	0132-0002	Borehole	19920211	Soil	Lead	6.10	MG/KG	0.20	INORG	3	8	FT	7439-92-1		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Magnesium	15500.00	MG/KG	5.00	INORG *	3	8	FT	7439-95-4		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Manganese	449.00	MG/KG	0.20	INORG	3	8	FT	7439-96-5		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Mercury	**0.12**	MG/KG	0.12	INORG	3	8	FT	7439-97-6		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Nickel	**35.30**	MG/KG	2.00	INORG	3	8	FT	7440-02-0		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Potassium	**2290.00**	MG/KG	10.00	INORG	3	8	FT	7440-09-7		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Silver	**13.60**	MG/KG	1.00	INORG	3	8	FT	7440-22-4		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Sodium	190.00	MG/KG	10.00	INORG	3	8	FT	7440-23-5	B	MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Antimony	19.40	MG/KG	3.00	INORG	3	8	FT	7440-36-0		MND33	J	
MND33-0132	0132-0002	Borehole	19920211	Soil	Arsenic	1.60	MG/KG	0.20	INORG	3	8	FT	7440-38-2		MND33	J	
MND33-0132	0132-0002	Borehole	19920211	Soil	Barium	18.50	MG/KG	0.20	INORG	3	8	FT	7440-39-3	B	MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Beryllium	**0.78**	MG/KG	0.20	INORG	3	8	FT	7440-41-7	B	MND33		Exceeds soil 10-6 GV.
MND33-0132	0132-0002	Borehole	19920211	Soil	Cadmium	**3.90**	MG/KG	0.20	INORG	3	8	FT	7440-43-9		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Chromium	**31.30**	MG/KG	1.00	INORG	3	8	FT	7440-47-3		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Cobalt	17.90	MG/KG	1.00	INORG	3	8	FT	7440-48-4		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Copper	**37.80**	MG/KG	1.00	INORG	3	8	FT	7440-50-8		MND33	J	Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Vanadium	**25.40**	MG/KG	1.00	INORG	3	8	FT	7440-62-2		MND33		Exceeds background value.
MND33-0132	0132-0002	Borehole	19920211	Soil	Zinc	50.80	MG/KG	0.50	INORG	3	8	FT	7440-66-6		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Calcium	73800.00	MG/KG	2.00	INORG	3	8	FT	7440-70-2		MND33		
MND33-0132	0132-0002	Borehole	19920211	Soil	Selenium	**0.75**	MG/KG	0.75	INORG	3	8	FT	7782-49-2		MND33		Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	3700.00	UG/KG	810.00	ORSVO	0	3	FT	117-81-7		MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Benzo(a)anthracene	100.00	UG/KG	810.00	ORSVO	0	3	FT	56-55-3	J	MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Cyanide	**0.14**	MG/KG	0.10	INORG	0	3	FT	57-12-5	B	MND33	J	Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Aluminum	8410.00	MG/KG	6.00	INORG	0	3	FT	7429-90-5		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Iron	20900.00	MG/KG	1.00	INORG	0	3	FT	7439-89-6	*	MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Lead	10.30	MG/KG	0.20	INORG	0	3	FT	7439-92-1		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Magnesium	18800.00	MG/KG	5.00	INORG	0	3	FT	7439-95-4		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Manganese	307.00	MG/KG	0.20	INORG	0	3	FT	7439-96-5		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Mercury	**0.48**	MG/KG	0.02	INORG	0	3	FT	7439-97-6		MND33	J	Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Nickel	31.50	MG/KG	2.00	INORG	0	3	FT	7440-02-0		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Potassium	1590.00	MG/KG	10.00	INORG	0	3	FT	7440-09-7		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Silver	**13.20**	MG/KG	1.00	INORG	0	3	FT	7440-22-4		MND33		Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Sodium	141.00	MG/KG	10.00	INORG	0	3	FT	7440-23-5	B	MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Fluoranthene	230.00	UG/KG	810.00	ORSVO	0	3	FT	206-44-0	J	MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Chrysene	120.00	UG/KG	810.00	ORSVO	0	3	FT	218-01-9	J	MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Pyrene	190.00	UG/KG	810.00	ORSVO	0	3	FT	129-00-0	J	MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Antimony	18.30	MG/KG	3.00	INORG	0	3	FT	7440-36-0		MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Arsenic	2.40	MG/KG	0.20	INORG	0	3	FT	7440-38-2		MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Barium	22.50	MG/KG	0.20	INORG	0	3	FT	7440-39-3	B	MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Beryllium	0.64	MG/KG	0.20	INORG	0	3	FT	7440-41-7	B	MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Cadmium	**4.90**	MG/KG	0.20	INORG	0	3	FT	7440-43-9		MND33		Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Chromium	**35.00**	MG/KG	1.00	INORG	0	3	FT	7440-47-3		MND33		Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Cobalt	11.90	MG/KG	1.00	INORG	0	3	FT	7440-48-4	B	MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Copper	**446.00**	MG/KG	1.00	INORG	0	3	FT	7440-50-8		MND33	J	Exceeds background value.
MND33-0132	0132-0001	Borehole	19920211	Soil	Vanadium	23.00	MG/KG	1.00	INORG	0	3	FT	7440-62-2		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Zinc	125.00	MG/KG	0.50	INORG	0	3	FT	7440-66-6		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Calcium	56300.00	MG/KG	2.00	INORG	0	3	FT	7440-70-2		MND33		
MND33-0132	0132-0001	Borehole	19920211	Soil	Phenanthrene	130.00	UG/KG	810.00	ORSVO	0	3	FT	85-01-8	J	MND33	J	
MND33-0132	0132-0001	Borehole	19920211	Soil	Pentachlorophenol	1900.00	UG/KG	3900.00	ORSVO	0	3	FT	87-86-5	J	MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	940.00	UG/KG	810.00	ORSVO	0	3	FT	117-81-7		MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Aluminum	4210.00	MG/KG	6.00	INORG	0	3	FT	7429-90-5		MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Iron	9910.00	MG/KG	1.00	INORG	0	3	FT	7439-89-6	*	MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Lead	11.00	MG/KG	0.20	INORG	0	3	FT	7439-92-1		MND33		
MND33-0133	0133-0001	Borehole	19920211	Soil	Magnesium	**70700.00**	MG/KG	5.00	INORG	0	3	FT	7439-95-4		MND33	J	Exceeds background value.
MND33-0133	0133-0001	Borehole	19920211	Soil	Manganese	209.00	MG/KG	0.20	INORG	0	3	FT	7439-96-5		MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Mercury	**0.53**	MG/KG	0.02	INORG	0	3	FT	7439-97-6		MND33	J	Exceeds background value.

MND33-0133	0133-0001	Borehole	19920211	Soil	Nickel	25.00	MG/KG	2.00	INORG	0	3	FT	7440-02-0		MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Potassium	833.00	MG/KG	10.00	INORG	0	3	FT	7440-09-7	B	MND33		
MND33-0133	0133-0001	Borehole	19920211	Soil	Silver	**20.40**	MG/KG	1.00	INORG	0	3	FT	7440-22-4		MND33	J	Exceeds background value.
MND33-0133	0133-0001	Borehole	19920211	Soil	Sodium	223.00	MG/KG	10.00	INORG	0	3	FT	7440-23-5	B	MND33		
MND33-0133	0133-0001	Borehole	19920211	Soil	Antimony	44.60	MG/KG	3.00	INORG	0	3	FT	7440-36-0		MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Arsenic	2.60	MG/KG	0.20	INORG	0	3	FT	7440-38-2		MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Barium	17.70	MG/KG	0.20	INORG	0	3	FT	7440-39-3	B	MND33		
MND33-0133	0133-0001	Borehole	19920211	Soil	Beryllium	**0.75**	MG/KG	0.20	INORG	0	3	FT	7440-41-7	B	MND33	J	Exceeds soil 10-6 GV.
MND33-0133	0133-0001	Borehole	19920211	Soil	Cadmium	**9.30**	MG/KG	0.20	INORG	0	3	FT	7440-43-9		MND33	J	Exceeds background value.
MND33-0133	0133-0001	Borehole	19920211	Soil	Chromium	**31.40**	MG/KG	1.00	INORG	0	3	FT	7440-47-3		MND33	J	Exceeds background value.
MND33-0133	0133-0001	Borehole	19920211	Soil	Cobalt	9.70	MG/KG	1.00	INORG	0	3	FT	7440-48-4	B	MND33	J	
MND33-0133	0133-0001	Borehole	19920211	Soil	Copper	**270.00**	MG/KG	1.00	INORG	0	3	FT	7440-50-8		MND33	J	Exceeds background value.
MND33-0133	0133-0001	Borehole	19920211	Soil	Vanadium	**28.40**	MG/KG	1.00	INORG	0	3	FT	7440-62-2		MND33	J	Exceeds background value.
MND33-0133	0133-0001	Borehole	19920211	Soil	Zinc	62.60	MG/KG	0.50	INORG	0	3	FT	7440-66-6		MND33		
MND33-0133	0133-0001	Borehole	19920211	Soil	Calcium	160000.00	MG/KG	2.00	INORG	0	3	FT	7440-70-2		MND33	J	
MND33-0133	0133-0003	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	530.00	UG/KG	860.00	ORSVO	7	10	FT	117-81-7	J	MND33	J	
MND33-0133	0133-0003	Borehole	19920211	Soil	Aluminum	14500.00	MG/KG	6.00	INORG	7	10	FT	7429-90-5		MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Iron	27500.00	MG/KG	1.00	INORG	7	10	FT	7439-89-6	*	MND33	J	
MND33-0133	0133-0003	Borehole	19920211	Soil	Lead	6.00	MG/KG	0.20	INORG	7	10	FT	7439-92-1		MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Magnesium	14100.00	MG/KG	5.00	INORG	7	10	FT	7439-95-4		MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Manganese	511.00	MG/KG	0.20	INORG	7	10	FT	7439-96-5		MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Mercury	**0.12**	MG/KG	0.12	INORG	7	10	FT	7439-97-6		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Nickel	**37.70**	MG/KG	2.00	INORG	7	10	FT	7440-02-0		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Potassium	**3050.00**	MG/KG	10.00	INORG	7	10	FT	7440-09-7		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Silver	**8.40**	MG/KG	1.00	INORG	7	10	FT	7440-22-4		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Sodium	190.00	MG/KG	10.00	INORG	7	10	FT	7440-23-5	B	MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Antimony	13.70	MG/KG	3.00	INORG	7	10	FT	7440-36-0		MND33	J	
MND33-0133	0133-0003	Borehole	19920211	Soil	Arsenic	3.50	MG/KG	0.20	INORG	7	10	FT	7440-38-2		MND33	J	
MND33-0133	0133-0003	Borehole	19920211	Soil	Barium	21.70	MG/KG	0.20	INORG	7	10	FT	7440-39-3	B	MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Beryllium	**0.87**	MG/KG	0.20	INORG	7	10	FT	7440-41-7	B	MND33		Exceeds soil 10-6 GV.
MND33-0133	0133-0003	Borehole	19920211	Soil	Cadmium	**3.70**	MG/KG	0.20	INORG	7	10	FT	7440-43-9		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Chromium	**59.10**	MG/KG	1.00	INORG	7	10	FT	7440-47-3		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Cobalt	**20.30**	MG/KG	1.00	INORG	7	10	FT	7440-48-4		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Copper	**31.40**	MG/KG	1.00	INORG	7	10	FT	7440-50-8		MND33	J	Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Vanadium	**27.10**	MG/KG	1.00	INORG	7	10	FT	7440-62-2		MND33		Exceeds background value.
MND33-0133	0133-0003	Borehole	19920211	Soil	Zinc	74.10	MG/KG	0.50	INORG	7	10	FT	7440-66-6		MND33		
MND33-0133	0133-0003	Borehole	19920211	Soil	Calcium	30200.00	MG/KG	2.00	INORG	7	10	FT	7440-70-2		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	4-Methyl-2-pentanone	6.00	UG/KG	12.00	ORVOA	3	7	FT	108-10-1	J	MND33	J	
MND33-0133	0133-0002	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	720.00	UG/KG	420.00	ORSVO	3	7	FT	117-81-7	J	MND33	J	
MND33-0133	0133-0002	Borehole	19920211	Soil	Aluminum	11900.00	MG/KG	6.00	INORG	3	7	FT	7429-90-5		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Iron	25300.00	MG/KG	1.00	INORG	3	7	FT	7439-89-6	*	MND33	J	
MND33-0133	0133-0002	Borehole	19920211	Soil	Lead	4.60	MG/KG	0.20	INORG	3	7	FT	7439-92-1		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Magnesium	19400.00	MG/KG	5.00	INORG	3	7	FT	7439-95-4		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Manganese	530.00	MG/KG	0.20	INORG	3	7	FT	7439-96-5		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Mercury	**0.12**	MG/KG	0.12	INORG	3	7	FT	7439-97-6		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Nickel	**32.30**	MG/KG	2.00	INORG	3	7	FT	7440-02-0		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Potassium	**2450.00**	MG/KG	10.00	INORG	3	7	FT	7440-09-7		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Silver	**13.40**	MG/KG	1.00	INORG	3	7	FT	7440-22-4		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Sodium	169.00	MG/KG	10.00	INORG	3	7	FT	7440-23-5	B	MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Antimony	19.00	MG/KG	3.00	INORG	3	7	FT	7440-36-0		MND33	J	
MND33-0133	0133-0002	Borehole	19920211	Soil	Arsenic	2.50	MG/KG	0.20	INORG	3	7	FT	7440-38-2		MND33	J	
MND33-0133	0133-0002	Borehole	19920211	Soil	Barium	18.90	MG/KG	0.20	INORG	3	7	FT	7440-39-3	B	MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Beryllium	**0.84**	MG/KG	0.20	INORG	3	7	FT	7440-41-7	B	MND33		Exceeds soil 10-6 GV.
MND33-0133	0133-0002	Borehole	19920211	Soil	Cadmium	**4.40**	MG/KG	0.20	INORG	3	7	FT	7440-43-9		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Chromium	**32.50**	MG/KG	1.00	INORG	3	7	FT	7440-47-3		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Cobalt	16.70	MG/KG	1.00	INORG	3	7	FT	7440-48-4		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Copper	**54.90**	MG/KG	1.00	INORG	3	7	FT	7440-50-8		MND33	J	Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Vanadium	**26.20**	MG/KG	1.00	INORG	3	7	FT	7440-62-2		MND33		Exceeds background value.
MND33-0133	0133-0002	Borehole	19920211	Soil	Zinc	60.60	MG/KG	0.50	INORG	3	7	FT	7440-66-6		MND33		
MND33-0133	0133-0002	Borehole	19920211	Soil	Calcium	65900.00	MG/KG	2.00	INORG	3	7	FT	7440-70-2		MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Bis(2-ethylhexyl)phthalate	810.00	UG/KG	780.00	ORSVO	0	3	FT	117-81-7		MND33	J	
MND33-0133	0133-1001	Borehole	19920211	Soil	Cyanide	**0.12**	MG/KG	0.10	INORG	0	3	FT	57-12-5	B	MND33	J	Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Aluminum	11500.00	MG/KG	6.00	INORG	0	3	FT	7429-90-5		MND33	J	
MND33-0133	0133-1001	Borehole	19920211	Soil	Iron	23100.00	MG/KG	1.00	INORG	0	3	FT	7439-89-6	*	MND33	J	
MND33-0133	0133-1001	Borehole	19920211	Soil	Lead	7.70	MG/KG	0.20	INORG	0	3	FT	7439-92-1		MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Magnesium	17300.00	MG/KG	5.00	INORG	0	3	FT	7439-95-4		MND33	J	
MND33-0133	0133-1001	Borehole	19920211	Soil	Manganese	374.00	MG/KG	0.20	INORG	0	3	FT	7439-96-5		MND33	J	

MND33-0133	0133-1001	Borehole	19920211	Soil	Nickel	28.50	MG/KG	2.00	INORG	0	3	FT	7440-02-0		MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Potassium	**2040.00**	MG/KG	10.00	INORG	0	3	FT	7440-09-7		MND33		Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Silver	**11.70**	MG/KG	1.00	INORG	0	3	FT	7440-22-4		MND33	J	Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Sodium	126.00	MG/KG	10.00	INORG	0	3	FT	7440-23-5	B	MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Antimony	16.90	MG/KG	3.00	INORG	0	3	FT	7440-36-0		MND33	J	
MND33-0133	0133-1001	Borehole	19920211	Soil	Arsenic	3.40	MG/KG	0.20	INORG	0	3	FT	7440-38-2		MND33	J	
MND33-0133	0133-1001	Borehole	19920211	Soil	Barium	43.40	MG/KG	0.20	INORG	0	3	FT	7440-39-3	B	MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Beryllium	**0.84**	MG/KG	0.20	INORG	0	3	FT	7440-41-7	B	MND33		Exceeds soil 10-6 GV.
MND33-0133	0133-1001	Borehole	19920211	Soil	Cadmium	**3.90**	MG/KG	0.20	INORG	0	3	FT	7440-43-9		MND33	J	Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Chromium	**30.00**	MG/KG	1.00	INORG	0	3	FT	7440-47-3		MND33		Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Cobalt	14.90	MG/KG	1.00	INORG	0	3	FT	7440-48-4		MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Copper	**124.00**	MG/KG	1.00	INORG	0	3	FT	7440-50-8		MND33	J	Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Vanadium	**27.80**	MG/KG	1.00	INORG	0	3	FT	7440-62-2		MND33		Exceeds background value.
MND33-0133	0133-1001	Borehole	19920211	Soil	Zinc	64.50	MG/KG	0.50	INORG	0	3	FT	7440-66-6		MND33		
MND33-0133	0133-1001	Borehole	19920211	Soil	Calcium	56200.00	MG/KG	2.00	INORG	0	3	FT	7440-70-2		MND33	J	
MND33-0134	0134-0002	Borehole	19920212	Soil	Chloride	27.27	MG/KG	0.50	ANION	11	15	FT	CL		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Aluminum	13200.00	MG/KG	12.00	INORG	11	15	FT	7429-90-5		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Iron	24300.00	MG/KG	2.00	INORG	11	15	FT	7439-89-6		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Lead	14.10	MG/KG	0.40	INORG	11	15	FT	7439-92-1		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Lithium	12.70	MG/KG	0.20	INORG	11	15	FT	7439-93-2		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Magnesium	4830.00	MG/KG	10.00	INORG	11	15	FT	7439-95-4		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Manganese	333.00	MG/KG	0.40	INORG	11	15	FT	7439-96-5		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Nickel	**41.10**	MG/KG	4.00	INORG	11	15	FT	7440-02-0		MND33		Exceeds background value.
MND33-0134	0134-0002	Borehole	19920212	Soil	Potassium	978.00	MG/KG	20.00	INORG	11	15	FT	7440-09-7	B	MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Sodium	**354.00**	MG/KG	20.00	INORG	11	15	FT	7440-23-5	B	MND33		Exceeds background value.
MND33-0134	0134-0002	Borehole	19920212	Soil	Antimony	8.00	MG/KG	6.00	INORG	11	15	FT	7440-36-0		MND33	J	
MND33-0134	0134-0002	Borehole	19920212	Soil	Arsenic	**10.70**	MG/KG	0.40	INORG	11	15	FT	7440-38-2		MND33		Exceeds background value.
MND33-0134	0134-0002	Borehole	19920212	Soil	Barium	106.00	MG/KG	0.40	INORG	11	15	FT	7440-39-3		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Beryllium	**0.84**	MG/KG	0.40	INORG	11	15	FT	7440-41-7	B	MND33		Exceeds soil 10-6 GV.
MND33-0134	0134-0002	Borehole	19920212	Soil	Cadmium	**3.60**	MG/KG	0.40	INORG	11	15	FT	7440-43-9		MND33		Exceeds background value.
MND33-0134	0134-0002	Borehole	19920212	Soil	Chromium	**21.20**	MG/KG	2.00	INORG	11	15	FT	7440-47-3		MND33		Exceeds background value.
MND33-0134	0134-0002	Borehole	19920212	Soil	Cobalt	15.70	MG/KG	2.00	INORG	11	15	FT	7440-48-4		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Copper	18.60	MG/KG	2.00	INORG	11	15	FT	7440-50-8		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Vanadium	**34.70**	MG/KG	2.00	INORG	11	15	FT	7440-62-2		MND33		Exceeds background value.
MND33-0134	0134-0002	Borehole	19920212	Soil	Zinc	69.90	MG/KG	1.00	INORG	11	15	FT	7440-66-6		MND33		
MND33-0134	0134-0002	Borehole	19920212	Soil	Calcium	4990.00	MG/KG	4.00	INORG	11	15	FT	7440-70-2		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Chloride	71.66	MG/KG	0.50	ANION	7	11	FT	CL		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Bis(2-ethylhexyl)phthalate	88.00	UG/KG	810.00	ORSVO	7	11	FT	117-81-7	J	MND33	J	
MND33-0134	0134-0001	Borehole	19920212	Soil	Cyanide	**0.16**	MG/KG	0.40	INORG	7	11	FT	57-12-5	B	MND33		Exceeds background value.
MND33-0134	0134-0001	Borehole	19920212	Soil	Aluminum	8780.00	MG/KG	6.00	INORG	7	11	FT	7429-90-5		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Iron	16500.00	MG/KG	2.00	INORG	7	11	FT	7439-89-6		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Lead	22.70	MG/KG	0.40	INORG	7	11	FT	7439-92-1		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Lithium	10.70	MG/KG	0.20	INORG	7	11	FT	7439-93-2		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Magnesium	10400.00	MG/KG	10.00	INORG	7	11	FT	7439-95-4		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Manganese	520.00	MG/KG	0.40	INORG	7	11	FT	7439-96-5		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Nickel	31.10	MG/KG	4.00	INORG	7	11	FT	7440-02-0		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Potassium	1290.00	MG/KG	20.00	INORG	7	11	FT	7440-09-7		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Silver	**6.40**	MG/KG	2.00	INORG	7	11	FT	7440-22-4		MND33	J	Exceeds background value.
MND33-0134	0134-0001	Borehole	19920212	Soil	Sodium	128.00	MG/KG	20.00	INORG	7	11	FT	7440-23-5	B	MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Fluoranthene	160.00	UG/KG	810.00	ORSVO	7	11	FT	206-44-0	J	MND33	J	
MND33-0134	0134-0001	Borehole	19920212	Soil	Chrysene	97.00	UG/KG	810.00	ORSVO	7	11	FT	218-01-9	J	MND33	J	
MND33-0134	0134-0001	Borehole	19920212	Soil	Pyrene	140.00	UG/KG	810.00	ORSVO	7	11	FT	129-00-0	J	MND33	J	
MND33-0134	0134-0001	Borehole	19920212	Soil	Antimony	11.70	MG/KG	6.00	INORG	7	11	FT	7440-36-0		MND33	J	
MND33-0134	0134-0001	Borehole	19920212	Soil	Arsenic	**11.80**	MG/KG	0.40	INORG	7	11	FT	7440-38-2		MND33		Exceeds background value.
MND33-0134	0134-0001	Borehole	19920212	Soil	Barium	65.80	MG/KG	0.40	INORG	7	11	FT	7440-39-3		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Beryllium	**0.75**	MG/KG	0.40	INORG	7	11	FT	7440-41-7	B	MND33		Exceeds soil 10-6 GV.
MND33-0134	0134-0001	Borehole	19920212	Soil	Cadmium	**3.60**	MG/KG	0.40	INORG	7	11	FT	7440-43-9		MND33		Exceeds background value.
MND33-0134	0134-0001	Borehole	19920212	Soil	Chromium	**20.30**	MG/KG	2.00	INORG	7	11	FT	7440-47-3		MND33		Exceeds background value.
MND33-0134	0134-0001	Borehole	19920212	Soil	Cobalt	11.50	MG/KG	2.00	INORG	7	11	FT	7440-48-4	B	MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Copper	20.60	MG/KG	2.00	INORG	7	11	FT	7440-50-8		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Vanadium	**26.40**	MG/KG	2.00	INORG	7	11	FT	7440-62-2		MND33		Exceeds background value.
MND33-0134	0134-0001	Borehole	19920212	Soil	Zinc	68.00	MG/KG	1.00	INORG	7	11	FT	7440-66-6		MND33		
MND33-0134	0134-0001	Borehole	19920212	Soil	Calcium	20400.00	MG/KG	4.00	INORG	7	11	FT	7440-70-2		MND33		
MND04-0001	0001-0001	Borehole	19870310	Soil	Bis(2-ethylhexyl)phthalate	1100.00	UG/KG	500.00	ORSVO	0	1	FT	117-81-7		MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Pyrene	300.00	UG/KG	500.00	ORSVO	0	1	FT	129-00-0	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Benzo(g,h,i)perylene	160.00	UG/KG	500.00	ORSVO	0	1	FT	191-24-2	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Indeno(1,2,3-cd)pyrene	160.00	UG/KG	500.00	ORSVO	0	1	FT	193-39-5	J	MND04		

MND04-0001	0001-0001	Borehole	19870310	Soil	Benzo(b)fluoranthene	190.00	UG/KG	500.00	ORSVO	0	1	FT	205-99-2	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Fluoranthene	1000.00	UG/KG	500.00	ORSVO	0	1	FT	206-44-0		MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Benzo(k)fluoranthene	190.00	UG/KG	500.00	ORSVO	0	1	FT	207-08-9	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Chrysene	290.00	UG/KG	500.00	ORSVO	0	1	FT	218-01-9	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Benzo(a)pyrene	250.00	UG/KG	500.00	ORSVO	0	1	FT	50-32-8	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Acetone	14.00	UG/KG		ORVOA	0	1	FT	67-64-1	J	MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Methylene Chloride	8.50	UG/KG	5.00	ORVOA	0	1	FT	75-09-2		MND04		
MND04-0001	0001-0001	Borehole	19870310	Soil	Phenanthrene	330.00	UG/KG	500.00	ORSVO	0	1	FT	85-01-8	J	MND04		
MND04-0002	0002-0001	Borehole	19870310	Soil	Bis(2-ethylhexyl)phthalate	14000.00	UG/KG	800.00	ORSVO	0	1	FT	117-81-7		MND04		
MND04-0002	0002-0001	Borehole	19870310	Soil	RDX	6.85	MG/KG		OREXP	0	1	FT	121-82-4		MND04		
MND04-0002	0002-0001	Borehole	19870310	Soil	Pyrene	220.00	UG/KG	800.00	ORSVO	0	1	FT	129-00-0	J	MND04		
C0113	7759	Borehole	19840901	Soil	Plutonium-238	**2.83**	PCI/G	0.01	RAD	8	8	FT	13981-16-3		RSS		Exceeds background value.
C0113	7760	Borehole	19840901	Soil	Plutonium-238	0.03	PCI/G	0.01	RAD	15	15	FT	13981-16-3		RSS		
S0494	6874	Surface lo	19840801	Soil	Plutonium-238	**1.48**	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		Exceeds background value.
S0496	6873	Surface lo	19840801	Soil	Plutonium-238	0.02	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		
S0499	2919	Surface lo	19831001	Soil	Plutonium-238	0.04	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		
3B15	3B15	Surface lo	19940810	Soil	Plutonium-238	**39.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
3B16	3B16	Surface lo	19940810	Soil	Plutonium-238	**25.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value.
3B17	3B17	Surface lo	19940810	Soil	Plutonium-238	**29.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
3B18	3B18	Surface lo	19940817	Soil	Plutonium-238	**25.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value.
3A20	3A20	Surface lo	19940720	Soil	Plutonium-238	**31.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SDBJ01	SDBJ01	Surface lo	19940727	Soil	Plutonium-238	**37.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SDBK01	SDBK01	Surface lo	19940721	Soil	Plutonium-238	**58.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SDBI03	SDBI03	Surface lo	19940721	Soil	Plutonium-238	**34.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SDBI04	SDBI04	Surface lo	19940721	Soil	Plutonium-238	**36.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SDBJ04	SDBJ04	Surface lo	19940721	Soil	Plutonium-238	**37.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SDBJ06	SDBJ06	Surface lo	19940721	Soil	Plutonium-238	**28.00**	PCI/G		RAD	0	2	FT	13981-16-3		2680		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SGC097	097SDB	Borehole	19960215	Soil	Percent Soilds	94.30	%	0.10	GENERA	0	3	FT	%SOLIDS		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Bis(2-ethylhexyl)phthalate	38.00	UG/KG		ORSVO	0	3	FT	117-81-7	JB	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Benzo(a)anthracene	160.00	UG/KG		ORSVO	0	3	FT	56-55-3	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Aluminum	3100.00	MG/KG		INORG	0	3	FT	7429-90-5		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Iron	9690.00	MG/KG		INORG	0	3	FT	7439-89-6		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Lead	11.10	MG/KG		INORG	0	3	FT	7439-92-1		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Lithium	11.00	MG/KG		INORG	0	3	FT	7439-93-2	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Magnesium	**58600.00**	MG/KG		INORG	0	3	FT	7439-95-4		SGCSP		Exceeds background value.
SGC097	097SDB	Borehole	19960215	Soil	Manganese	319.00	MG/KG		INORG	0	3	FT	7439-96-5		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Mercury	**0.06**	MG/KG		INORG	0	3	FT	7439-97-6	B	SGCSP		Exceeds background value.
SGC097	097SDB	Borehole	19960215	Soil	Molybdenum	0.97	MG/KG		INORG	0	3	FT	7439-98-7	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Nickel	9.40	MG/KG		INORG	0	3	FT	7440-02-0		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Potassium	562.00	MG/KG		INORG	0	3	FT	7440-09-7	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Silver	1.00	MG/KG		INORG	0	3	FT	7440-22-4	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Sodium	212.00	MG/KG		INORG	0	3	FT	7440-23-5	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Radium-226	**0.63**	PCI/G	0.46	RAD	0	3	FT	13982-63-3		SGCSP		Exceeds soil 10-6 GV.
SGC097	097SDB	Borehole	19960215	Soil	Thorium-230	0.77	PCI/G	0.03	RAD	0	3	FT	14269-63-7		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Thorium-228	0.70	PCI/G	0.03	RAD	0	3	FT	14274-82-9		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Americium-241	0.52	PCI/G	0.00	RAD	0	3	FT	14596-10-2		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Uranium-235	0.04	PCI/G	0.03	RAD	0	3	FT	15117-96-1		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Benzo(g,h,i)perylene	65.00	UG/KG		ORSVO	0	3	FT	191-24-2	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Indeno(1,2,3-cd)pyrene	110.00	UG/KG		ORSVO	0	3	FT	193-39-5	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Benzo(b)fluoranthene	170.00	UG/KG		ORSVO	0	3	FT	205-99-2	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Fluoranthene	330.00	UG/KG		ORSVO	0	3	FT	206-44-0	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Benzo(k)fluoranthene	160.00	UG/KG		ORSVO	0	3	FT	207-08-9	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Acenaphthylene	40.00	UG/KG		ORSVO	0	3	FT	208-96-8	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Chrysene	170.00	UG/KG		ORSVO	0	3	FT	218-01-9	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Benzo(a)pyrene	180.00	UG/KG		ORSVO	0	3	FT	50-32-8	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Dibenz(a,h)anthracene	35.00	UG/KG		ORSVO	0	3	FT	53-70-3	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Anthracene	33.00	UG/KG		ORSVO	0	3	FT	120-12-7	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Pyrene	280.00	UG/KG		ORSVO	0	3	FT	129-00-0	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Potassium-40	14.00	PCI/G	0.00	RAD	0	3	FT	13966-00-2		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Uranium-234	0.57	PCI/G	0.02	RAD	0	3	FT	13966-29-5		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Plutonium-238	**27.50**	PCI/G	0.00	RAD	0	3	FT	13981-16-3		SGCSP		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SGC097	097SDB	Borehole	19960215	Soil	Thorium-232	0.62	PCI/G	0.02	RAD	0	3	FT	7440-29-1		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Antimony	0.25	MG/KG		INORG	0	3	FT	7440-36-0	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Arsenic	8.60	MG/KG		INORG	0	3	FT	7440-38-2		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Barium	24.40	MG/KG		INORG	0	3	FT	7440-39-3	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Beryllium	0.17	MG/KG		INORG	0	3	FT	7440-41-7	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Cadmium	0.16	MG/KG		INORG	0	3	FT	7440-43-9	B	SGCSP		

SGC097	097SDB	Borehole	19960215	Soil	Chromium	9.40	MG/KG		INORG	0	3	FT	7440-47-3		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Cobalt	3.60	MG/KG		INORG	0	3	FT	7440-48-4	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Copper	15.40	MG/KG		INORG	0	3	FT	7440-50-8		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Uranium-238	0.59	PCI/G	0.02	RAD	0	3	FT	24678-82-8		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Vanadium	7.40	MG/KG		INORG	0	3	FT	7440-62-2		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Zinc	66.70	MG/KG		INORG	0	3	FT	7440-66-6		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Calcium	164000.00	MG/KG		INORG	0	3	FT	7440-70-2		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Methylene Chloride	12.00	UG/KG		ORVOA	0	3	FT	75-09-2	B	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Diethyl Phthalate	20.00	UG/KG		ORSVO	0	3	FT	84-66-2	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Di-n-butyl Phthalate	33.00	UG/KG		ORSVO	0	3	FT	84-74-2	JB	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Phenanthrene	150.00	UG/KG		ORSVO	0	3	FT	85-01-8	J	SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Plutonium-239/240	0.10	PCI/G	0.00	RAD	0	3	FT	PU-239/240		SGCSP		
SGC097	097SDB	Borehole	19960215	Soil	Nitrate-Nitrite-N	2.70	MG/KG	0.21	ANION	0	3	FT	NO2/NO3		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Percent Soilds	88.60	%	0.10	GENERA	0	3	FT	%SOLIDS		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Toluene	70.00	UG/KG		ORVOA	0	3	FT	108-88-3		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Bis(2-ethylhexyl)phthalate	31.00	UG/KG		ORSVO	0	3	FT	117-81-7	JB	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Benzo(a)anthracene	100.00	UG/KG		ORSVO	0	3	FT	56-55-3	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Acetone	11.00	UG/KG		ORVOA	0	3	FT	67-64-1		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Aluminum	11500.00	MG/KG		INORG	0	3	FT	7429-90-5		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Iron	27200.00	MG/KG		INORG	0	3	FT	7439-89-6		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Lead	5.80	MG/KG		INORG	0	3	FT	7439-92-1		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Lithium	**39.30**	MG/KG		INORG	0	3	FT	7439-93-2		SGCSP		Exceeds background value.
SGC098	098SDB	Borehole	19960215	Soil	Magnesium	24600.00	MG/KG		INORG	0	3	FT	7439-95-4		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Manganese	768.00	MG/KG		INORG	0	3	FT	7439-96-5		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Nickel	28.20	MG/KG		INORG	0	3	FT	7440-02-0		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Potassium	1120.00	MG/KG		INORG	0	3	FT	7440-09-7	B	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Sodium	**276.00**	MG/KG		INORG	0	3	FT	7440-23-5	B	SGCSP		Exceeds background value.
SGC098	098SDB	Borehole	19960215	Soil	Radium-226	**0.49**	PCI/G	0.46	RAD	0	3	FT	13982-63-3		SGCSP		Exceeds soil 10-6 GV.
SGC098	098SDB	Borehole	19960215	Soil	Thorium-230	0.64	PCI/G	0.03	RAD	0	3	FT	14269-63-7		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Thorium-228	0.79	PCI/G	0.03	RAD	0	3	FT	14274-82-9		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Uranium-235	0.05	PCI/G	0.03	RAD	0	3	FT	15117-96-1		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Benzo(g,h,i)perylene	46.00	UG/KG		ORSVO	0	3	FT	191-24-2	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Indeno(1,2,3-cd)pyrene	62.00	UG/KG		ORSVO	0	3	FT	193-39-5	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Benzo(b)fluoranthene	96.00	UG/KG		ORSVO	0	3	FT	205-99-2	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Fluoranthene	350.00	UG/KG		ORSVO	0	3	FT	206-44-0	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Benzo(k)fluoranthene	95.00	UG/KG		ORSVO	0	3	FT	207-08-9	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Chrysene	130.00	UG/KG		ORSVO	0	3	FT	218-01-9	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Benzo(a)pyrene	92.00	UG/KG		ORSVO	0	3	FT	50-32-8	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Dibenz(a,h)anthracene	22.00	UG/KG		ORSVO	0	3	FT	53-70-3	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Anthracene	39.00	UG/KG		ORSVO	0	3	FT	120-12-7	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Pyrene	240.00	UG/KG		ORSVO	0	3	FT	129-00-0	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Dibenzofuran	28.00	UG/KG		ORSVO	0	3	FT	132-64-9	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Potassium-40	19.80	PCI/G	0.00	RAD	0	3	FT	13966-00-2		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Uranium-234	0.50	PCI/G	0.03	RAD	0	3	FT	13966-29-5		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Plutonium-238	**0.50**	PCI/G	0.00	RAD	0	3	FT	13981-16-3		SGCSP		Exceeds background value.
SGC098	098SDB	Borehole	19960215	Soil	Thorium-232	0.60	PCI/G	0.02	RAD	0	3	FT	7440-29-1		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Arsenic	3.60	MG/KG		INORG	0	3	FT	7440-38-2	B	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Barium	16.00	MG/KG		INORG	0	3	FT	7440-39-3	B	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Beryllium	0.57	MG/KG		INORG	0	3	FT	7440-41-7		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Chromium	16.40	MG/KG		INORG	0	3	FT	7440-47-3		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Cobalt	14.80	MG/KG		INORG	0	3	FT	7440-48-4		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Copper	19.30	MG/KG		INORG	0	3	FT	7440-50-8		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Uranium-238	0.65	PCI/G	0.03	RAD	0	3	FT	24678-82-8		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Vanadium	14.70	MG/KG		INORG	0	3	FT	7440-62-2		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Zinc	59.20	MG/KG		INORG	0	3	FT	7440-66-6		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Bismuth	**1.20**	MG/KG		INORG	0	3	FT	7440-69-9	B	SGCSP		Exceeds background value.
SGC098	098SDB	Borehole	19960215	Soil	Calcium	89400.00	MG/KG		INORG	0	3	FT	7440-70-2		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Methylene Chloride	21.00	UG/KG		ORVOA	0	3	FT	75-09-2		SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Acenaphthene	19.00	UG/KG		ORSVO	0	3	FT	83-32-9	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Di-n-butyl Phthalate	51.00	UG/KG		ORSVO	0	3	FT	84-74-2	JB	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Phenanthrene	340.00	UG/KG		ORSVO	0	3	FT	85-01-8	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Fluorene	27.00	UG/KG		ORSVO	0	3	FT	86-73-7	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Carbazole	50.00	UG/KG		ORSVO	0	3	FT	86-74-8	J	SGCSP		
SGC098	098SDB	Borehole	19960215	Soil	Nitrate-Nitrite-N	0.94	MG/KG	0.23	ANION	0	3	FT	NO2/NO3		SGCSP		
SCR76	8808113	Borehole	19880811	Soil	Plutonium-238	**49.00**	PCI/G		RAD	2	2	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SCR76	8808113	Borehole	19880811	Soil	Thorium-232	**2.50**	PCI/G		RAD	2	2	FT	7440-29-1		SCRDATA		Exceeds background value.
SCR76	8808116	Borehole	19880811	Soil	Plutonium-238	**36.00**	PCI/G		RAD	2	2	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.

SCR76	8808119	Borehole	19880811	Soil	Plutonium-238	**49.00**	PCI/G		RAD	2	2	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SCR76	8808119	Borehole	19880811	Soil	Thorium-232	**3.00**	PCI/G		RAD	2	2	FT	7440-29-1		SCRDATA		Exceeds background value.
SCR76	8808118	Borehole	19880811	Soil	Plutonium-238	**109.00**	PCI/G		RAD	2	2	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SCR76	8808118	Borehole	19880811	Soil	Thorium-232	**4.90**	PCI/G		RAD	2	2	FT	7440-29-1		SCRDATA		Exceeds background value.
SCR76	8808114	Borehole	19880811	Soil	Plutonium-238	**73.00**	PCI/G		RAD	2	2	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SCR76	8808114	Borehole	19880811	Soil	Thorium-232	**5.30**	PCI/G		RAD	2	2	FT	7440-29-1		SCRDATA		Exceeds background value. Exceeds other criteria.
SCR76	8808115	Borehole	19880811	Soil	Plutonium-238	**41.00**	PCI/G		RAD	2	2	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SCR80	88032211	Borehole	19880319	Soil	Plutonium-238	**57.00**	PCI/G		RAD	0	0	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SCR80	88032210	Borehole	19880319	Soil	Plutonium-238	**147.00**	PCI/G		RAD	0	0	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.
SG53	SG53	Borehole		Soil	Toluene	0.09	UG/L		ORVOA	0	2		108-88-3		SGS		
SG53	SG53	Borehole		Soil	Benzene	0.41	UG/L		ORVOA	0	2		71-43-2		SGS		

comp_no	par_code	parameter name	comparison value	units
1	7440-41-7	Beryllium	7.00E-01	MG/KG
1	7440-43-9	Cadmium	5.00E+04	MG/KG
1	7440-47-3	Chromium	7.50E+03	MG/KG
1	121-82-4	RDX	2.70E+01	UG/KG
1	72-55-9	4,4'-DDE	9.00E+00	MG/KG
1	50-29-3	4,4'-DDT	9.00E+00	MG/KG
1	12672-29-6	Aroclor-1248	3.85E-01	MG/KG
1	11096-82-5	Aroclor-1260	3.85E-01	MG/KG
1	319-85-7	Beta-BHC	1.65E+00	MG/KG
1	60-57-1	Dieldrin	1.85E-01	MG/KG
1	56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
1	50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
1	205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
1	207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
1	117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
1	218-01-9	Chrysene	4.10E+02	MG/KG
1	53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
1	193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
1	78-59-1	Isophorone	3.15E+03	MG/KG
1	86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
1	87-86-5	Pentachlorophenol	2.50E+01	MG/KG
1	107-06-2	1,2-Dichloroethane	1.10E+01	MG/KG
1	71-43-2	Benzene	3.20E+01	MG/KG
1	75-27-4	Bromodichloromethane	4.80E+01	MG/KG
1	75-25-2	Bromoform	3.75E+02	MG/KG
1	56-23-5	Carbon Tetrachloride	1.20E+01	MG/KG
1	67-66-3	Chloroform	1.55E+01	MG/KG
1	124-48-1	Dibromochloromethane	3.55E+01	MG/KG
1	75-09-2	Dichloromethane	3.95E+02	MG/KG
1	79-01-6	Trichloroethene	1.25E+02	MG/KG
1	AC-227	Actinium-227	1.00E+00	PCI/G
1	14596-10-2	Americium-241	4.95E+00	PCI/G
1	13982-38-2	Bismuth-207	1.75E-01	PCI/G
1	BI-207	Bismuth-207	1.75E-01	PCI/G
1	10045-97-3	Cesium-137	4.60E-01	PCI/G
1	10198-40-0	Cobalt-60	1.00E-01	PCI/G
1	13981-16-3	Plutonium-238	5.50E+00	PCI/G
1	15117-48-3	Plutonium-239	5.50E+00	PCI/G
1	PU239/240	Plutonium-240	5.50E+00	PCI/G
1	13982-63-3	Radium-226	1.40E-01	PCI/G
1	10098-97-2	Strontium-90	3.00E+00	PCI/G
1	14274-82-9	Thorium-228	8.50E-01	PCI/G
1	14269-63-7	Thorium-230	4.40E+01	PCI/G
1	7440-29-1	Thorium-232	5.00E+01	PCI/G
1	10028-17-8	Tritium	2.35E+04	PCI/G
1	U-233	Uranium-233	3.70E+01	PCI/G
1	13966-29-5	Uranium-234	3.75E+01	PCI/G
1	15117-96-1	Uranium-235	3.35E+00	PCI/G
1	24678-82-8	Uranium-238	1.10E+01	PCI/G
2	7429-90-5	Aluminum	19000	MG/KG

comp_no	par_code	parameter name	comparison value	units
2	7440-38-2	Arsenic	8.6	MG/KG
2	7440-39-3	Barium	180	MG/KG
2	7440-69-9	Bismuth	ND	MG/KG
2	7440-41-7	Beryllium	1.3	MG/KG
2	7440-43-9	Cadmium	2.1	MG/KG
2	7440-70-2	Calcium	310000	MG/KG
2	7440-47-3	Chromium	20	MG/KG
2	7440-48-4	Cobalt	19	MG/KG
2	7440-50-8	Copper	26	MG/KG
2	57-12-5	Cyanide	ND	MG/KG
2	7439-89-6	Iron	35000	MG/KG
2	7439-92-1	Lead	48	MG/KG
2	7439-93-2	Lithium	26	MG/KG
2	7439-95-4	Magnesium	40000	MG/KG
2	7439-96-5	Manganese	1400	MG/KG
2	7439-97-6	Mercury	ND	MG/KG
2	7439-98-7	Molybdenum	27	MG/KG
2	7440-02-0	Nickel	32	MG/KG
2	7440-09-7	Potassium	1900	MG/KG
2	7440-22-4	Silver	1.7	MG/KG
2	7782-49-2	Selenium	ND	MG/KG
2	7440-23-5	Sodium	240	MG/KG
2	7440-28-0	Thallium	0.46	MG/KG
2	7440-31-5	Tin	20	MG/KG
2	7440-62-2	Vanadium	25	MG/KG
2	7440-66-6	Zinc	140	MG/KG
2	72-54-8	4,4'-DDD	4.2	MG/KG
2	72-55-9	4,4'-DDE	4.3	MG/KG
2	50-29-3	4,4'-DDT	13	MG/KG
2	309-00-2	Aldrin	ND	MG/KG
2	5103-71-9	Alpha Chlordane	ND	MG/KG
2	319-84-6	Alpha-BHC	ND	MG/KG
2	12672-29-6	Aroclor-1248	ND	MG/KG
2	11097-69-1	Aroclor-1254	58	MG/KG
2	11096-82-5	Aroclor-1260	ND	MG/KG
2	319-85-7	Beta-BHC	ND	MG/KG
2	60-57-1	Dieldrin	ND	MG/KG
2	959-98-8	Endosulfan I	ND	MG/KG
2	1031-07-8	Endosulfan Sulfate	ND	MG/KG
2	72-20-8	Endrin	ND	MG/KG
2	7421-93-4	Endrin Aldehyde	ND	MG/KG
2	53494-70-5	Endrin Ketone	ND	MG/KG
2	5103-74-2	Gamma Chlordane	ND	MG/KG
2	58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
2	76-44-8	Heptachlor	ND	MG/KG
2	1024-57-3	Heptachlor Epoxide	ND	MG/KG
2	72-43-5	Methoxychlor	30	MG/KG
2	77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
2	14596-10-2	Americium-241	ND	MG/KG
2	13982-38-2	Bismuth-207	ND	MG/KG

comp_no	par_code	parameter name	comparison value	units
2	BI-207	Bismuth-207	ND	MG/KG
2	BI-210M	Bismuth-210m	ND	MG/KG
2	10045-97-3	Cesium-137	0.42	PCI/G
2	13981-16-3	Plutonium-238	0.13	PCI/G
2	13966-00-2	Potassium-40	37	PCI/G
2	13982-63-3	Radium-226	2	PCI/G
2	10098-97-2	Strontium-90	0.72	PCI/G
2	14274-82-9	Thorium-228	1.5	PCI/G
2	14269-63-7	Thorium-230	1.9	PCI/G
2	7440-29-1	Thorium-232	1.4	PCI/G
2	10028-17-8	Tritium	1.6	PCI/G
2	13966-29-5	Uranium-234	1.1	PCI/G
2	15117-96-1	Uranium-235	0.11	PCI/G
2	24678-82-8	Uranium-238	1.2	PCI/G
3	7439-92-1	Lead	400	MG/KG
3	13982-63-3	Radium-226	5	PCI/G
3	13981-16-3	Plutonium-238	25	PCI/G
3	7440-29-1	Thorium-232	5	PCI/G
5	7440-36-0	Antimony	0.0006	MG/L
5	7440-38-2	Arsenic	0.05	MG/L
5	7440-39-3	Barium	2	MG/L
5	7440-41-7	Beryllium	0.004	MG/L
5	7440-43-9	Cadmium	0.005	MG/L
5	7440-47-3	Chromium	0.1	MG/L
5	7440-50-8	Copper	1.3	MG/L
5	57-12-5	Cyanide	0.2	MG/L
5	7439-92-1	Lead	0.015	MG/L
5	7439-97-6	Mercury	0.002	MG/L
5	7440-02-0	Nickel	0.1	MG/L
5	7782-49-2	Selenium	0.05	MG/L
5	7440-28-0	Thallium	0.002	MG/L
5	16984-48-8	Flouride	4	MG/L
5	NO3	Nitrate	10	MG/L
5	NO2	Nitrite	1	MG/L
5	57-74-9	Chlordane	0.002	MG/L
5	72-20-8	Endrin	0.002	MG/L
5	76-44-8	Heptachlor	0.0004	MG/L
5	1024-57-3	Heptachlor Epoxide	0.0002	MG/L
5	72-43-5	Methoxychlor	0.04	MG/L
5	8001-35-2	Toxaphene	0.003	MG/L
5	120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
5	95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
5	50-32-8	Benzo(a)pyrene	0.002	MG/L
5	118-74-1	Hexachlorobenzene	0.001	MG/L
5	77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
5	87-86-5	Pentachlorophenol	0.001	MG/L
5	71-55-6	1,1,1-Trichloroethane	0.2	MG/L
5	79-00-5	1,1,2-Trichloroethane	0.005	MG/L
5	75-35-4	1,1-Dichloroethene	0.007	MG/L
5	156-59-2	1,2-cis-Dichloroethene	0.07	MG/L

comp_no	par_code	parameter name	comparison value	units
5	107-06-2	1,2-Dichloroethane	0.005	MG/L
5	78-87-5	1,2-Dichloropropane	0.005	MG/L
5	106-46-7	1,4-Dichlorobenzene	0.075	MG/L
5	108-90-7	Chlorobenzene	0.1	MG/L
5	96-12-8	Dibromochloropropane	0.0002	MG/L
5	106-93-4	1,2-Dibromoethane	0.00005	MG/L
5	95-50-1	1,2-Dichlorobenzene	0.6	MG/L
5	75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
5	88-85-7	Dinoseb	0.007	MG/L
5	1746-01-6	Dioxin	0.00000003	MG/L
5	94-75-7	2,4-D	0.07	MG/L
5	156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
5	71-43-2	Benzene	0.005	MG/L
5	75-27-4	Bromodichloromethane	0.008	MG/L
5	75-25-2	Bromoform	0.008	MG/L
5	56-23-5	Carbon Tetrachloride	0.005	MG/L
5	67-66-3	Chloroform	0.008	MG/L
5	100-41-4	Ethylbenzene	0.07	MG/L
5	58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
5	117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
5	100-42-5	Styrene	0.1	MG/L
5	127-18-4	Tetrachloroethene	0.005	MG/L
5	108-88-3	Toluene	1	MG/L
5	79-01-6	Trichloroethene	0.005	MG/L
5	75-01-4	Vinyl Chloride	0.002	MG/L
5	1330-20-7	Xylenes, Total	10	MG/L
5	AC-227	Actinium-227	0.4	PCI/L
5	14596-10-2	Americium-241	1.2	PCI/L
5	13982-38-2	Bismuth-207	1200	PCI/L
5	10045-97-3	Cesium-137	120	PCI/L
5	10198-40-0	Cobalt-60	400	PCI/L
5	13981-16-3	Plutonium-238	1.6	PCI/L
5	13982-63-3	Radium-226	4	PCI/L
5	10098-97-2	Strontium-90	40	PCI/L
5	14274-82-9	Thorium-228	16	PCI/L
5	14269-63-7	Thorium-230	12	PCI/L
5	7440-29-1	Thorium-232	2	PCI/L
5	10028-17-8	Tritium	20000	PCI/L
5	U-233	Uranium-233	20	PCI/L
5	13966-29-5	Uranium-234	20	PCI/L
5	15117-96-1	Uranium-235	24	PCI/L
5	24678-82-8	Uranium-238	24	PCI/L
6	7440-47-3	Chromium	1.10E+03	MG/KG
6	7440-36-0	Antimony	8.50E+01	MG/KG
6	7440-38-2	Arsenic	6.40E+01	MG/KG
6	7440-39-3	Barium	1.50E+04	MG/KG
6	7440-41-7	Beryllium	1.10E+03	MG/KG
6	7440-43-9	Cadmium	2.10E+02	MG/KG
6	57-12-5	Cyanide	4.30E+03	MG/KG
6	7439-96-5	Manganese	2.70E+04	MG/KG

comp_no	par_code	parameter name	comparison value	units
6	7439-97-6	Mercury	6.40E+01	MG/KG
6	7440-02-0	Nickel	4.30E+03	MG/KG
6	7440-22-4	Silver	1.10E+03	MG/KG
6	7440-62-2	Vanadium	1.50E+03	MG/KG
6	7440-66-6	Zinc	6.40E+04	MG/KG
6	2691-41-0	HMX	1.10E+04	UG/KG
6	121-82-4	RDX	6.40E+04	UG/KG
6	50-29-3	4,4'-DDT	1.10E+02	MG/KG
6	11097-69-1	Aroclor-1254	4.30E+00	MG/KG
6	60-57-1	Dieldrin	1.10E+01	MG/KG
6	106-44-5	4-Methylphenol	1.10E+03	MG/KG
6	120-12-7	Anthracene	6.40E+04	MG/KG
6	65-85-0	Benzoic Acid	8.50E+05	MG/KG
6	117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
6	85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
6	84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
6	117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
6	206-44-0	Fluoranthene	8.50E+03	MG/KG
6	78-59-1	Isophorone	4.30E+04	MG/KG
6	87-86-5	Pentachlorophenol	6.40E+03	MG/KG
6	108-95-2	Phenol	1.30E+05	MG/KG
6	129-00-0	Pyrene	6.40E+03	MG/KG
6	75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
6	156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
6	108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
6	67-64-1	Acetone	2.10E+04	MG/KG
6	75-27-4	Bromodichloromethane	4.30E+03	MG/KG
6	75-25-2	Bromoform	4.30E+03	MG/KG
6	75-15-0	Carbon Disulfide	2.80E+02	MG/KG
6	56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
6	75-00-3	Chloroethane	1.60E+02	MG/KG
6	67-66-3	Chloroform	2.10E+03	MG/KG
6	124-48-1	Dibromochloromethane	4.30E+03	MG/KG
6	75-09-2	Dichloromethane	1.00E+03	MG/KG
6	100-41-4	Ethylbenzene	4.80E-01	MG/KG
6	110-54-3	Hexane	9.10E+01	MG/KG
6	127-18-4	Tetrachloroethene	2.10E+03	MG/KG
6	108-88-3	Toluene	2.50E+02	MG/KG
6	75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
6	1330-20-7	Xylenes, Total	4.30E+05	MG/KG
6	78-93-3	2-Butanone	9.30E+03	MG/KG

1 Value is 10-6 Risk-Based Guide Value
2 Value is OU9 Soil Background Value
3 Value is other criteria, i.e. 5 pCi/g for certain radionuclides
25 pCi/g plutonium
5 Value is MCL
6 Value is the Guide Value based on the hazard index

Appendix M

Occurrence Reports

(No data available.)

S

Appendix N

PRS Information

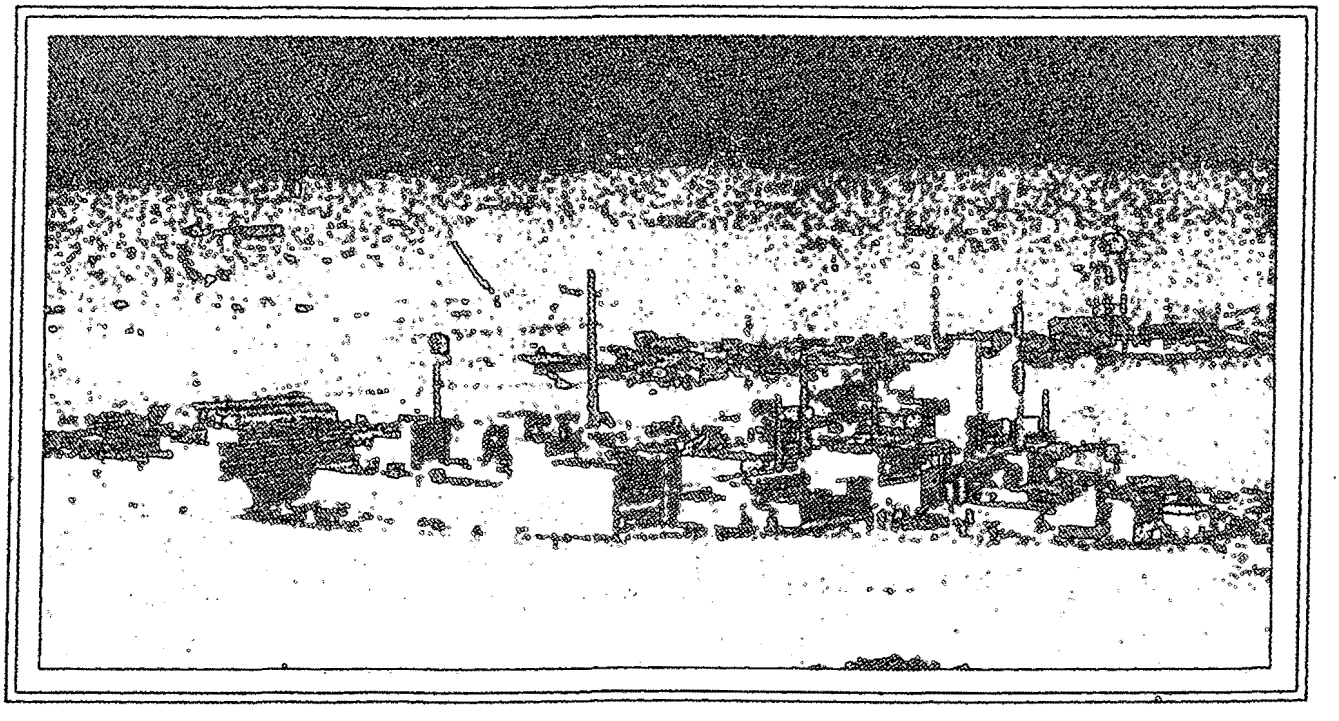
MOUND

Environmental
Restoration
Program

MOUND PLANT

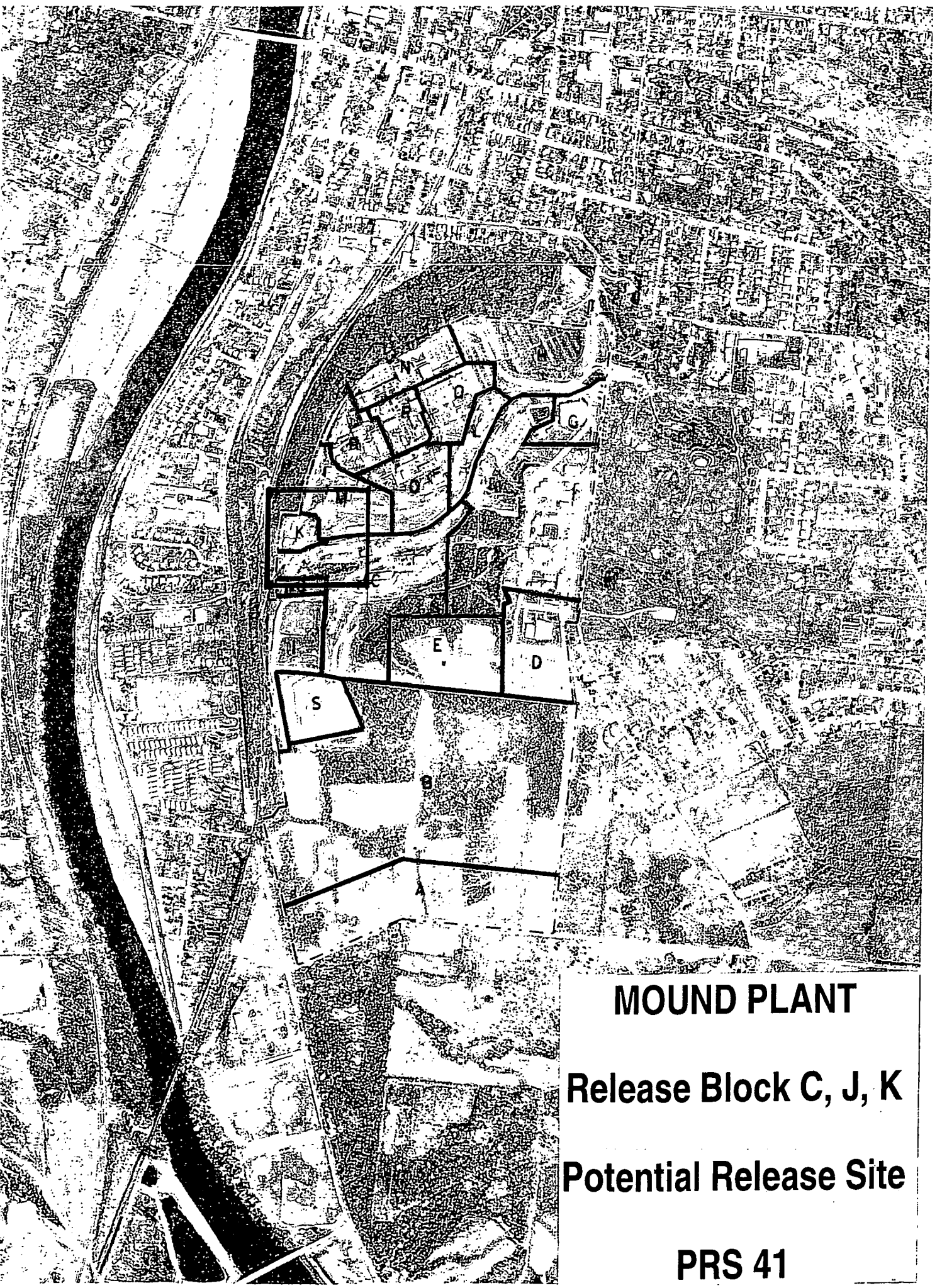
Potential Release Site Package

PRS # 41



PRS 41 (FILE)

REV	DESCRIPTION	DATE
DRAFT		**Mar. 5, 1996**
REGULATOR RELEASE **A**	CHANGED: - Wording in contamination section. - Guideline criteria for thorium-228 and trichloroethene (in tables). ADDED: - Definition of TT (total at tap).	**Apr. 9, 1996**
BINNING REVISION (MADE POST BINNING) **A1**	ADDED: - Soil Gas Confirmation Results - Additional clarification to narrative	**Dec. 04, 1996**
PUBLIC RELEASE **0**		

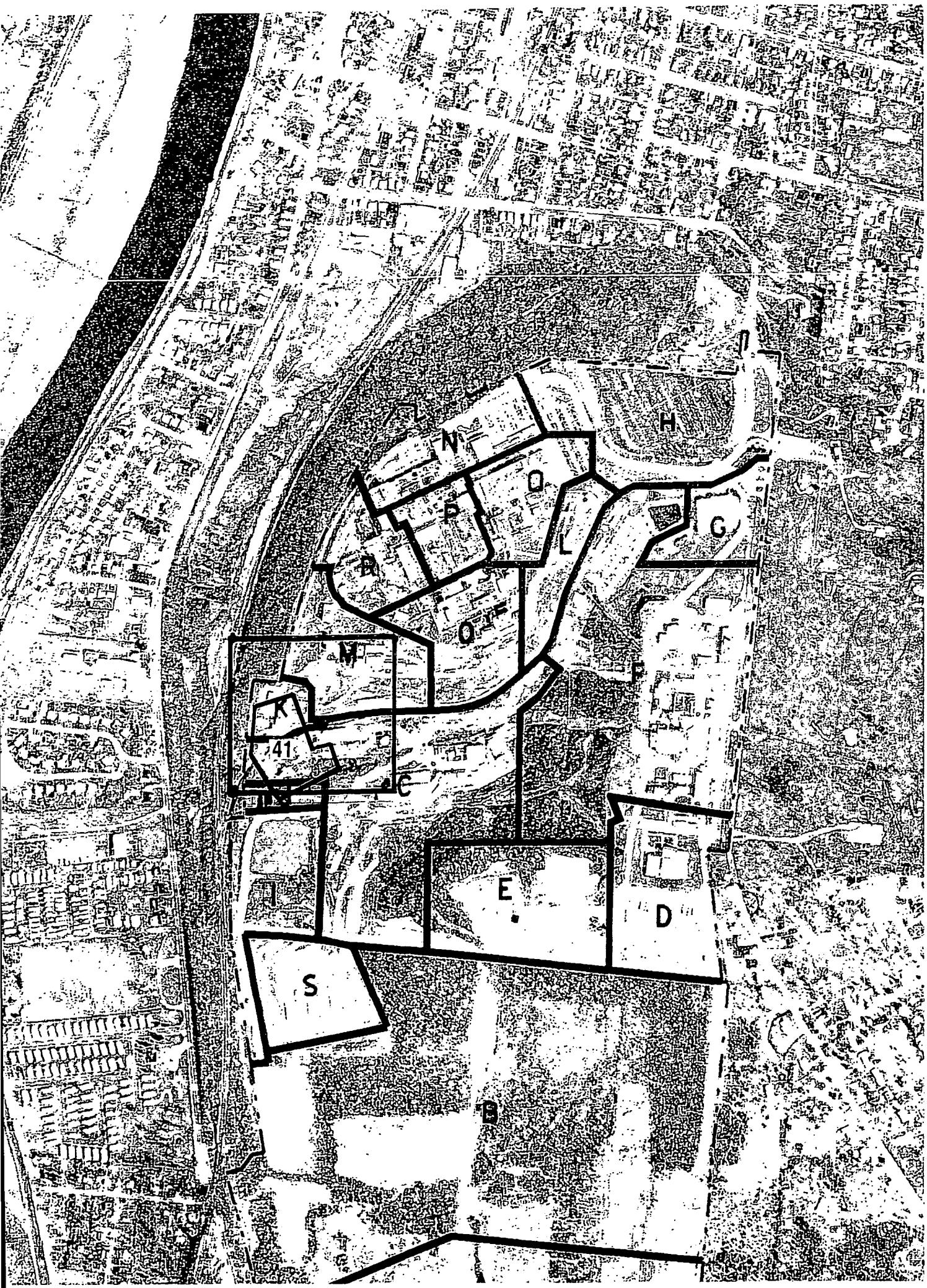


MOUND PLANT

Release Block C, J, K

Potential Release Site

PRS 41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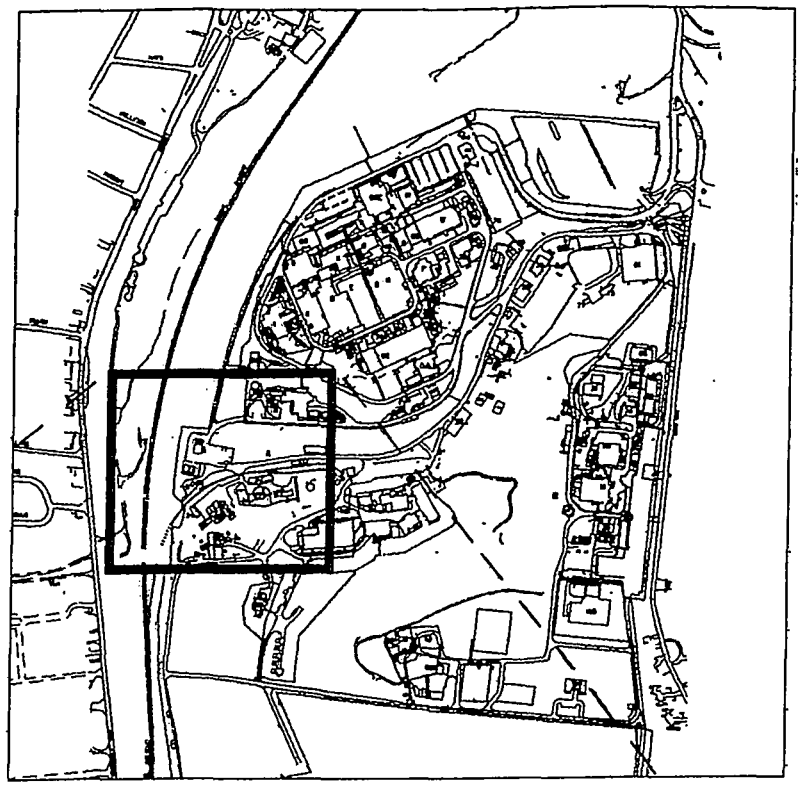
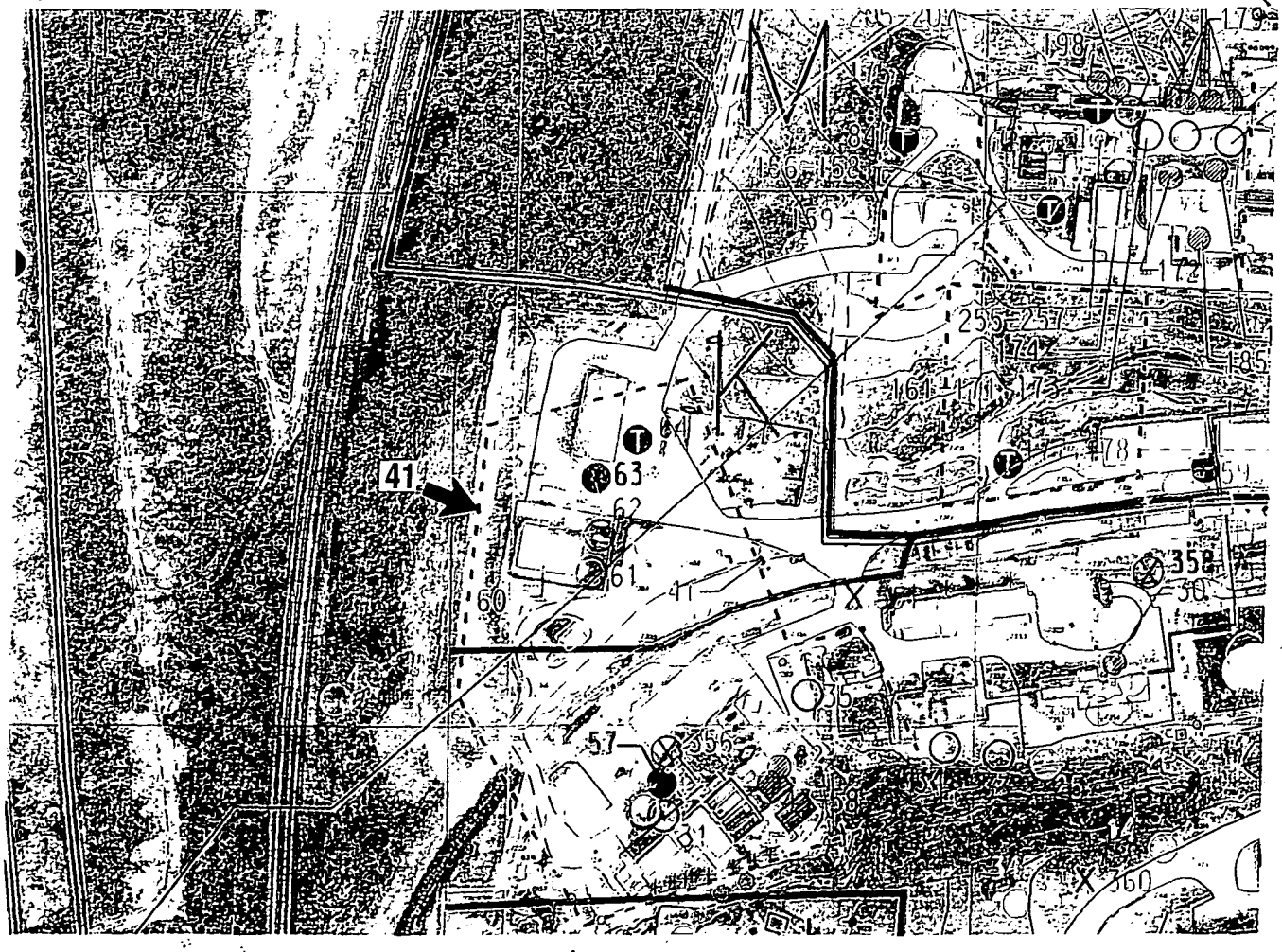
MOUND PLANT

Release Block C, J, K

Potential Release Site

PRS 41





41

PRS 41

PRS HISTORY:

In the mid-1950s, the Atomic Energy Commission directed Mound Plant to develop a process for the extraction of thorium from Brazilian monazite sludge and other thorium-bearing materials. The goal was to construct a refinery that would recover thorium from the sludge and other ores and provide a thorium salt suitable for preparing high purity thorium metal.[2,8] The thorium ore processing program was very short lived. Mound Plant began to receive sludge materials in early 1955 and the program was canceled in May 1955. [4] However, before the Commission canceled the program, the Mound Plant had received 5,900 55-gallon drums of thorium containing sludge and ore.[8]

From 1955 to 1965, the thorium ore and sludges were repackaged almost annually and the drums were stored in large groups throughout the plant grounds. As many as 20,000 empty, but corroded drums were buried. In 1966, the thorium was moved to a bulk-type storage silo (Building 21) and then was removed from the silo in 1974.

Interviews with current and former employees and a search of historical Mound Plant records identified that the thorium ores were stored in Area 3 which is Potential Release Site 41. In 1988, the Mound Site Survey Project[5] confirmed the presence of thorium in Area 3. Historical aerial photos of the plant show evidence of drum storage in this area.[6] Area 3 is located in the area surrounding Buildings 19 and 72 on the western border of Mound Plant. In 1965, thorium-contaminated soil was reportedly scraped, and the area was graded.

In a small section of Area 3, near Building 19, plutonium was detected during the site survey project. This area may have been contaminated by the 1969 plutonium-238 waste line break which contaminated the Miami-Erie Canal and the runoff hollow, west of the fenceline at the western edge of Area 3.

CONTAMINATION:

The major isotope in the Brazilian sludge was thorium-232 with the major daughter products being radium-228, radium-224, and other daughters. Minor amounts of thorium-230 may have also been present in the naturally occurring ores, and thorium-228 would be present due to the decay of radium-228. No analytical data quantifying these isotopes in the original thorium sludges was found. The ores were also found to contain small amounts of a variety of rare earth elements.

Both Scoping Report Volume 3 [2] and the Mound Site Survey report[5] show most of the elevated plutonium-238 activity as being present near Building 19 (core locations 0099, 0100, 0101, 0102, and 0104 on Plate 1; C099, C0100, C0101, C0102, and C0104 on Table V.2) and in the southwest corner of the area (surface locations 0547, 0548, 0550, 0552 on Plate 1; S0547, S0548, S0550, and S0552 on Table V.2). The maximum plutonium-238 concentration reported for

samples collected from Area 3, 50.60 pCi/g, was detected in the sample collected from core location C0104 at a depth of 18 inches. Only five samples contained plutonium-238 concentrations greater than 25 pCi/g.

Only four of the 63 samples collected in Area 3 contained levels of total thorium in excess of 2 pCi/g. The maximum concentration, 5.30 pCi/g, was detected in a surface sample collected from location 0547 (S0547 on Table V.2).

The depth of the core samples collected in Area 3 during the Site Survey Project ranged from 18 inches to a maximum of 180 inches. Most core locations were sampled to a depth of approximately 36 inches.

The Uranium Mill Tailings Reduction Act specifies clean-up guidelines for thorium as 5 pCi/g at the surface and 15 pCi/g in sub-surface soils. For plutonium-238, the Mound Plant attempts to attain an ALARA (As Low As Reasonably Achievable) criteria of 25 pCi/g for soils on the plant site.

As part of the 1974 investigations of plutonium-238 in the Miami-Erie Canal, Mound collected surface and core samples around the plant perimeter and fence line. Some samples were collected at the western border of Area 3. Samples were analyzed only for plutonium-238. Sample results indicate concentrations up to 125 pCi/g in the area where Area 3 borders the run-off hollow and 1 to 2 pCi/g elsewhere.

Mound Plant records[14] show that in 1987 two samples were collected in Area 3. One near building 55 and the other along the railroad near trailer 15. The sample near building 55 contained 13 pCi/g of thorium-232 and the other contained 107 pCi/g of thorium-232.

Elevated levels of plutonium-238 have also been discovered in Area 3 during surveys conducted for construction activities. Since 1985, Mound Plant has routinely conducted gamma ray screening of soils dug during construction activities. In August 1988, during survey of the dismantling of a portion of the sludge drying beds adjacent to the wastewater treatment facility, elevated levels of thorium and plutonium were indicated. An internal memorandum[7] indicates that analysis of 15 samples from bed #3 shows thorium concentrations that range from less than 1 to 63 pCi/g and plutonium-238 concentrations that range from less than 20 to 1,235 pCi/g. Notes on the memo indicate that the samples were collected at the surface, but during interviews with the personnel that collected the samples, it was indicated that the samples were collected below the drying bed at the surface of the underlying soil. As part of the construction, the contaminated soil was removed and boxed for off-site disposal. According to Collins[7] considerable doubt exists that any of the identified contamination actually contained plutonium-238. All of the radioactivity was assumed to be thorium-232, as it is apparent with as much thorium activity as was present in the drying beds, considerable interference occurs on the plutonium-238 channel of the analytical equipment. The 1,235 pCi/g of plutonium-238 were considered to have occurred by this interference. Soil was removed to a level approximating 15 pCi/g thorium according to field screening with a FIDLER (Field Instrument for Detection of Low Energy Radiation). No additional soil samples were taken before the area was backfilled.[2]

No processes, other than perhaps runoff from Area 14 (soils resulting from the 1969 pipeline break, PRS 176), could account for plutonium-238 under the sludge drying beds. The drying beds themselves were constructed in 1974 as part of the wastewater treatment plant. During that era, routine surveys did not accompany construction activities and the beds may have been built over soils contaminated with thorium.[2]

In August 1993, prior to construction of new sewage treatment facilities and a proposed waste storage building, Mound conducted sampling at the construction sites.[8] A variety of polycyclic aromatic hydrocarbons were detected. Benzo(a)pyrene and dibenz anthracene were detected above guideline values. All radionuclides detected were below guideline criteria or background values except for thorium-228. Metals were reported at concentrations below respective guideline criteria or background values. The results above guideline criteria are tabulated below.

Chemical	Maximum concentration	Guideline Criteria	Background Value
benzo(a)pyrene	4.0 mg/kg	0.41 mg/kg	Not available
dibenz anthracene	1.2 mg/kg	0.41 mg/kg	Not available

In 1994, Mound's Environmental Restoration Program conducted a screening investigation at Area 3.[3] The soil samples were analyzed at the Mound Soil Screening Facility for Plutonium and Thorium. Soil Screening detected plutonium above 25 pCi/g in 21 of the 72 samples, and the maximum concentration was 81 pCi/g. The maximum concentration of thorium-232 found was 3.1 pCi/g which is less than the UMTRA guideline of 5 pCi/g surface/ 15 pCi/g sub-surface. FIDLER surveys within Area 3 found several locations where elevated levels of radionuclides are suspected.

PETREX soil gas screening was also performed during the 1994 ER Program investigation[3]. The data obtained from this study is not quantitative but show that petroleum-based, aromatic, halogenated, and semi-volatile organic compounds exist within the area.

In February 1996 nine samples were collected and analyzed to quantify the elevated PETREX soil gas measurements in Area 3.[16] The samples were analyzed for a full suite of chemicals including volatile organic compounds, semi volatile organic compounds, pesticides and PCB's, explosives, metals and radionuclides. The following table lists chemicals that were detected above guideline criteria, background, or where there was no available criteria.

Chemical	Maximum concentration	Guideline Criteria	Background Value
benzo(a)pyrene	850 mg/kg	410 mg/kg	Not available
endosulfan II	4.4 mg/kg	Not available	Not available
magnesium	86,000 mg/kg	Not available	40,000 mg/kg
sodium	464 mg/kg	Not available	240 mg/kg
radium-226	0.88 pCi/g	0.14 pCi/g	2.0 pCi/g
thorium-228	1.18 pCi/g	0.85 pCi/g	1.5 pCi/g
plutonium-238	3.11 pCi/g	5.5 pCi/g	0.13 pCi/g

Reconnaissance sampling conducted in the Soil Gas Survey and Geophysical Investigation [10] collected soil gas samples at two locations in Area 3. Near building 19, elevated levels of Freon 11, Freon 113, trichloroethene, toluene were detected. Comparison of toluene and TCE soil gas values with calculated acceptable soil gas values show the detections are below levels of concern.[15]

Contaminant	Maximum Soil Gas Value	Acceptable Soil Gas Value
Trichloroethene	66 ppb	2400
Toluene	16 ppb	414600

During installation of monitoring wells soil samples were collected at several depths and analyzed for a suite of chemicals.[11] A number of metals were detected in samples collected during installation of well 0347 located within Area 3. All detections were below background or guideline criteria except the following:

Chemical	Maximum concentration	Guideline Criteria	Background Value
bismuth	11.4 mg/kg	Not available	Not available
lithium	36.1 mg/kg	Not available	26 mg/kg
magnesium	57,100 mg/kg	Not available	40,000 mg/kg
potassium	3340 mg/kg	Not available	1900 mg/kg
sodium	272 mg/kg	Not available	240 mg/kg

The samples were also analyzed for volatile organic compound and semi-volatile organic compounds. No organics were detected above guideline values although diethyl phthalate was detected once with a concentration of 47 mg/kg. No comparison values exist for diethyl phthalate. No radionuclides were detected above their respective background or guideline values. Thorium concentrations were below background values.

Monitoring wells 137, 312, 315, 347, 386, and 389 are in or downgradient from Area 3 and were sampled twice during the Operable Unit 9 Groundwater Sweeps Investigation.[13] Subsequent to the Groundwater Sweeps sampling, these wells and peizometer P023 were sampled in June

1995.[12] The following chemicals were detected above Maximum Contaminant Levels (MCL) specified in EPA's drinking water standards.

Chemical	Maximum concentration	MCL	Monitoring wells
lead	23.8 mg/l	15 mg/l (TT)	137, P023
cadmium	7.0 mg/l	5 mg/l	137
nickel	11600 mg/l	100 mg/l	312, 386
trichloroethene	10 mg/l	5 µg/l	312, 315, 347, 386, 389
chromium	13300 mg/l	100 mg/l	312, 315, 386

TT = total at tap

READING ROOM REFERENCES:

1) OU9, Site Scoping Report: Vol. 12 - Site Summary Report, December 1994. (pages 9-12)
2) OU9, Site Scoping Report: Vol. 3 - Radiological Site Survey, June 1993. (pages 13-26)
3) OU5, Operational Area Phase I Investigation Area 3 Field Report. (pages 27-53)
4) OU9, Site Scoping Report: Vol. 7 - Waste Management Report. (pages 54-56)
5) The Mound Site Survey Project for the Characterization of Radioactive Materials in Site Soils, May 1988. (pages 57-61)
6) Site Scoping Report: Volume 6 - Photo History. (pages 62-79)
10) Soil Gas Survey and Geophysical Investigations, February 1993. (pages 122-130)
11) Operable Unit 9 Hydrogeologic Investigation: Soil Chemistry Report, September 1994. (pages 131-140)
13) Operable Unit 9 Hydrogeologic Investigation: Groundwater Sweeps Report, April 1995. (pages 147-157)
16) Further Assessment: Soil Gas Confirmation Sampling, November 1996. (pages 162-173)

OTHER REFERENCES:

7) Collins 1988. (pages 80-81)
8) Options for Disposal of Thorium Ore Residues, April 1973. (pages 82-88)
9) Sampling and Analysis Report, Mound Operable Unit 5, Area 3, August 1993. (pages 89-121)
12) Groundwater Monitoring and Mapping for June 1995, Operable Unit 9, October 1995. (pages 141-146)
14) Pearson, T.J. Mound Plant Internal Memo, Soil Screening Facility. (page 158)
15) Comparison of Actual Soil Gas Values with Calculated Acceptable Soil Gas Values, A. Bray, March 19, 1996. (pages 159-161)

PREPARED BY:

James N. Rigano, Member of EG&G Technical Staff

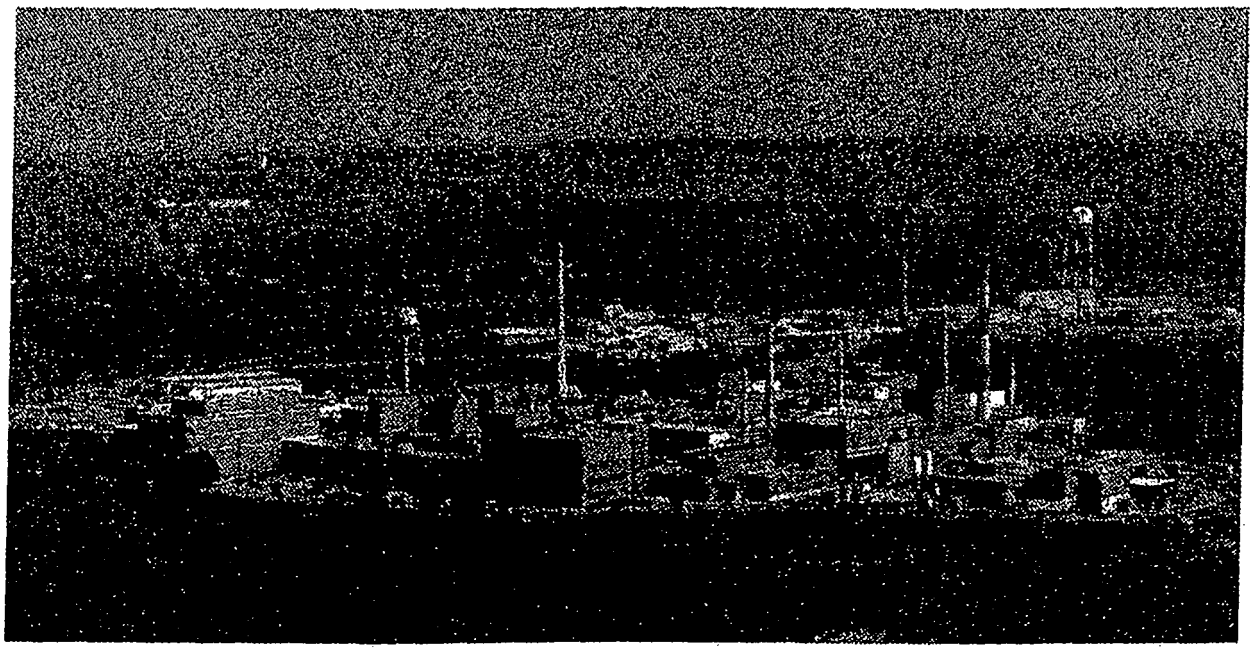
MOUND

Environmental
Restoration
Program

MOUND PLANT

Potential Release Site Package

PRS # 41 Group Supplementary Data

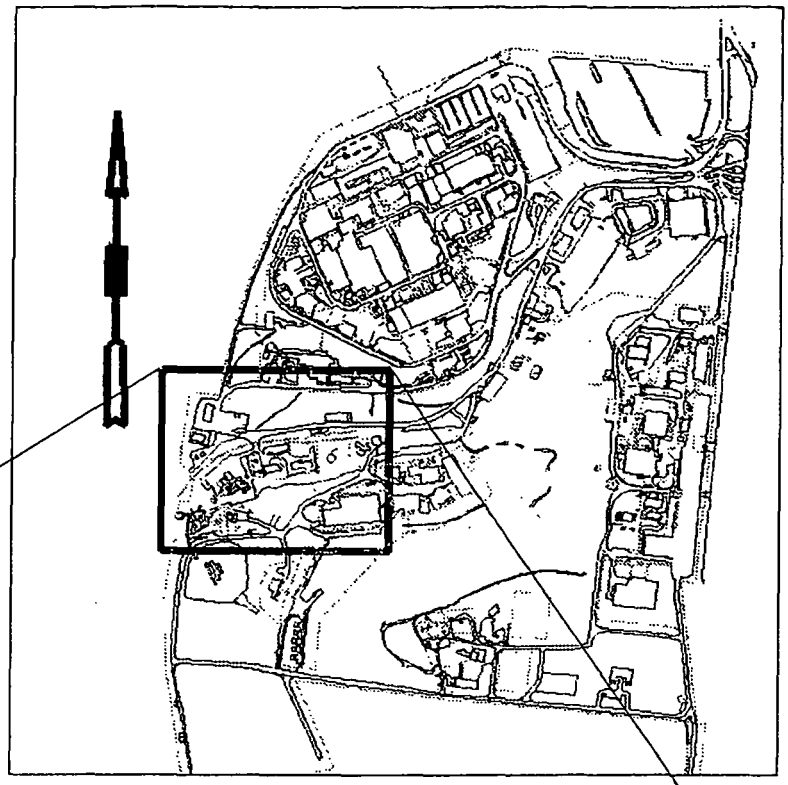


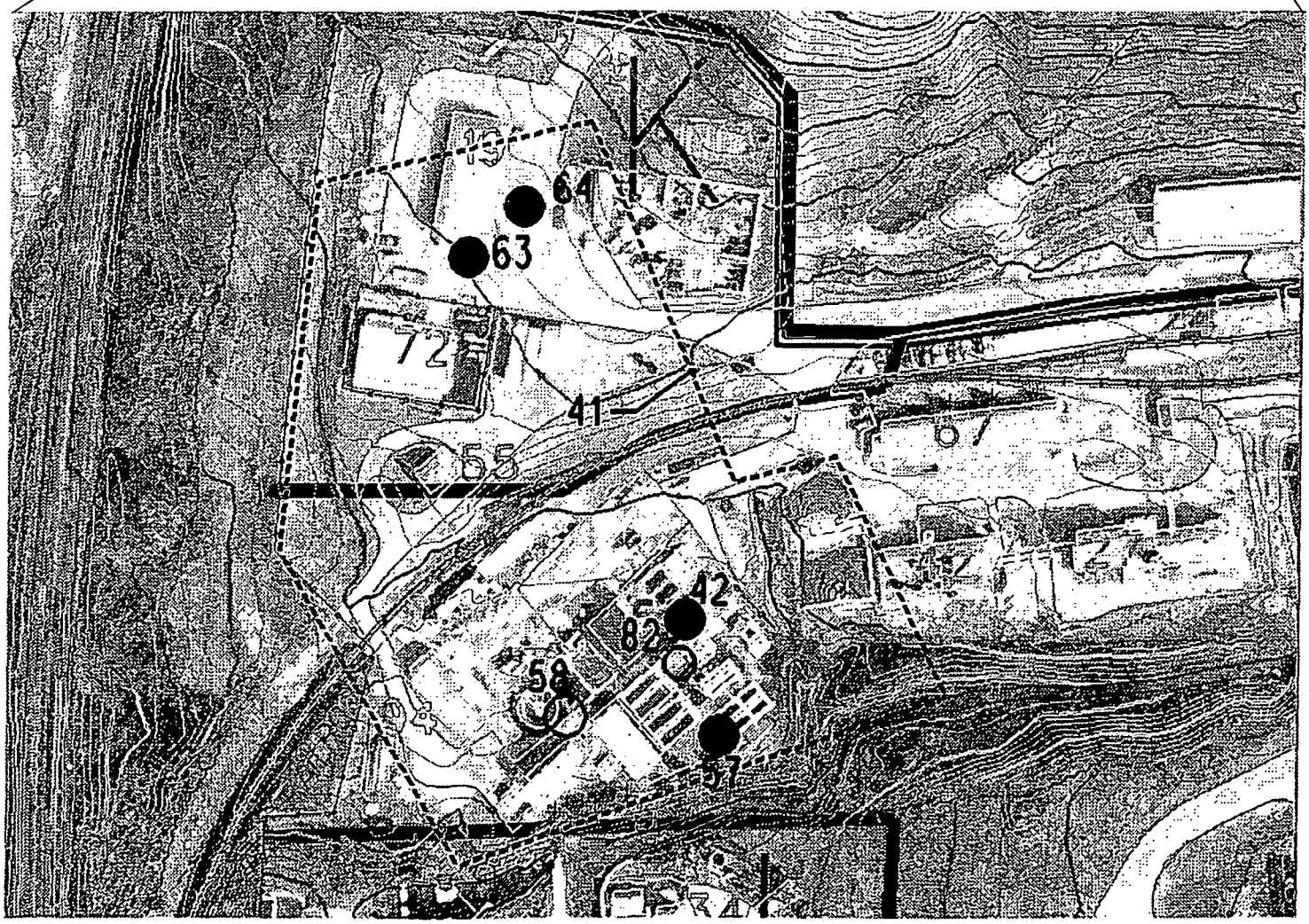
Mound Plant

Release Block C/K/J

Potential Release Site

PRS 41, 42, 57, 58, 63, 64, 82





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PRS 25/26/27/28/29

PRS HISTORY:

This Potential Release Site (PRS) group describes facilities located within Area I, closely adjacent to one another, and all related to Building 27 and the processing of explosive materials assigned thereto.

PRS	Description
25	Leach Pit (unlined)
26	Concrete Flume (U.G. Tank No. 217)
27	Settling Sump (U.G. Tank No. 218)
28	Solvent/Drum Storage Area (Pad)
29	Filtration System (Reconfigured PRS 26, 27, 28)

There is no history of an accidental release from Building 27, however, these facilities were listed as potential sources for a spill or leak of the solvents used to process explosive compounds.[1, 7]

The processing of explosives in Building 27 generated approximately 1000 gallons per year of spent solvent/water mixtures.[7] The solvent wastes from Building 27 were originally discharged through a concrete flume (PRS 26) and settling sump (PRS 27) to a dedicated treatment unit, the Building 27 leach pit (PRS 25). The leach pit was designed to evaporate and/or biodegrade the organic fraction of the spent solvent discharges. When the leach pit was taken out of service in 1985, the spent solvent/water mixtures were pumped from the concrete flume, through filters (PRS 29), into drums for off-site treatment and disposal.[8] Use of the concrete flume as a waste accumulation tank was discontinued in 1991.[3] The concrete pad (PRS 28) on the south side of Building 27 was a temporary storage area for the drums containing solvent wastes.[5]

	RCRA Information				
Item/PRS	25	26	27	28	29
Operation Start Date	1969	1969	1969	1969	1969
Operation Stop Date	1985	1991	1985	1991	1991
Material Concern	ethanol, acetone, high explosives	ethanol, acetone, high explosives	ethanol, acetone, high explosives	ethanol, acetone, high explosives	ethanol, acetone, high explosives
Short Term Storage (< 90 days)	ethanol, acetone, high explosives	ethanol, acetone, high explosives	ethanol, acetone, high explosives	ethanol, acetone, high explosives	None
Long Term Storage	ethanol, acetone, high explosives	ethanol, acetone, high explosives	ethanol, acetone, high explosives	None	None

CONTAMINATION:

Thirty-five soil samples were collected from eleven locations to assess the impact of Building 27 operations.[5] These samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated byphenyls (PCBs), target analyte list (TAL) inorganics, and explosives. Beryllium alone exceeded its soil guideline value of 0.7 mg/kg. The maximum detected concentration of beryllium was 0.99 mg/kg, however, the background value is 1.3 mg/kg.

No radiological processes were performed in Building 27. Soil samples, however, were collected from the surrounding area and analyzed for radioactivity, during the 1983 Radiological Site Survey.[6] The soil concentrations of plutonium were all below Mound's As Low As Reasonably Achievable (ALARA) guideline standard of 25 pCi/g. The maximum soil concentration of thorium was below 5 pCi/g, the Environmental Protection Agency (40 CFR 192.41) standard for thorium byproduct material.

READING ROOM REFERENCES:

1) OU9, Site Scoping Report: Volume 12 - Site Summary Report, December 1994. (pages 6-13)
2) Active Underground Storage Tank Plan, November 1994. (pages 17-20)
3) Mound Plant Underground Storage Tank Program Plan and Regulatory Status Review, Revision 0, November 1992. (pages 14-16)
4) OU3, Miscellaneous Sites Limited Field Investigation Report, July 1991. (pages 24-33)
5) OU3, Miscellaneous Sites Limited Field Investigation Report, July 1993. (pages 34-79)
6) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey, June 1993. (pages 90-94)

OTHER REFERENCES:

7) Preliminary Review/Visual Site Inspection for RCRA Facility Assessment of Mound Plant conducted by A.T. Kearney, May 1988, U.S. EPA, Region V, EPA Contact No. 68-01-7374, Chicago, Illinois, July 1988. (pages 86-89)
8) Closure Plans, Post-Closure Plant, and Financial Requirements - Building 27 Filtration System, January 1993. (pages 80-85)
9) Comprehensive Environmental Assessment and Response Program, Phase I, April 1986. (pages 21-23)

PREPARED BY:

Dean A. Buckner, Member of EG&G Technical Staff

Classification Code: [illegible]
Accession No. 9503280015

ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 9
SITE SCOPING REPORT:
VOLUME 12 - SITE SUMMARY REPORT

Cc Jim Kigano
for Leg. file
[illegible]

MOUND PLANT
MIAMISBURG, OHIO

December 1994

U.S. DEPARTMENT OF ENERGY
OHIO FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL

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
30	Building 27 Diesel Fuel Storage Tank (Tank 123) (AKA Building 27 Propane Tank)	G-8	Inactive	Tank is actually above ground	3				Not Applicable		
31	Underground Sanitary Sewer Line G5	H-5	In service	Organic solvents	5, 18			7, 18	3, 4, 5, 6, 10, 11, 12, 14, 16	Tables B.6, B.7, and B.8	7
32	Underground Sanitary Sewer Line G12	F-8 G-8		Plating solutions, Laboratory chemicals							
33	Underground Sanitary Sewer Line G14 EAST	H-5 H-6				Suspected, not confirmed	S	2, 7	3, 4, 5, 6, 10, 11, 12, 14, 16	Tables B.6, B.7, B.8, and B.9	7
34	Underground Sanitary Sewer Line G14 WEST	H-5 H-6		Nitric acid, Hydrochloric acid							
35	Underground Sanitary Sewer Lines G19 & G14	G-5		Methylene chloride							
36	Underground Sanitary Sewer Line G15	E-9		Strong acids and bases							
37	Building 51 Waste Solvent Storage Tank (Tank 220)	F-8	Historical	Organic solvents, Paints, Waste oils	3, 4, 5, 18	Tank Removed 1991, VOC residuals	S	4, 23	3, 4, 5, 6, 8	Tables B.6, B.7 and B.8	7, 23
38	Building 51 Waste Incinerator	F-8	Historical	Contaminants listed under Bldg. 51 Waste Solvent Storage Tank (Tank 220)	4, 5		A	4	No Data		
39	Building 51 Waste Incinerator Scrubber	F-8	Historical	Combustion products from Bldg. 51 Waste Incinerator	4, 5	Water released to plant drainage ditch	SW	4	No Data		
40	Building 66 Lot	F-8	Grounds	Plutonium-238 from unknown source	6	Plutonium-238	S	6	13	Table B.1 RSS[c] Location S0323 (Appendix E in Ref. 6)	6

Appendix O

Work Plan

JOB SPECIFIC WORK PLAN

FOR

DEMOLITION OF MAGAZINES 52 & 64

TEST FIRE VALLEY PROJECT

Prepared by:
Larry T. Lamsa

Babcock & Wilcox of Ohio

Project Team Review Sheet

Scope of project work activity: This project covers the isolation and demolition of Magazines 52 and 64, removal of debris, and restoring the site to its original condition.

The Job Specific Work Plan and the General Work Plan Checklist associated with the above work scope has been reviewed and hazards have been appropriately addressed.

Reviews:

John M Schneider / 1/19/99
ISH Point of Contact — Date

Robert L. Johnson / 1/19/99
Radiological Controls Point of Contact — Date

C. T. Lamm / 01/19/99
Project Engineer — Date

Chester W Smith / 01/19/99
Project Superintendent/Foreman — Date

Dan Kynde / 01/19/99
Waste Management Point of Contact — Date

Ronald Paulick / 1-19-99
ES&C Point of Contact — Date

_____ / _____
Date

Approved:

Jim Bentz / 1-20-99
Project Manager — Date

1 INTRODUCTION

This Job Specific Work Plan (JSWP) follows the outline of the MD-10502, General Work Plan for Building Decontamination and Demolition or Decontamination and Transition at the Mound Site, Miamisburg, Ohio. Included are a General Work Planning Checklist (ML-9846) and a Job Safety Hazard Analysis (JSHA). A Pre-Job Briefing Form, ML-9657, and the Project Manager's Work Authorization Checklist will be completed to document that the workers were briefed on the activities covered in this JSWP and the JSHA before demolition work begins.

2 PURPOSE

The purpose of this effort is to demolish the earth covered Magazines 52 & 64, remove the debris, and restore the area. This will be accomplished by confirming that all utilities to the two magazines have been isolated, removing miscellaneous equipment, establishing a construction zone, and using heavy duty equipment to demolish the magazines. After this the concrete slabs, foundations, and footers will be demolished/removed down to 3-feet below grade. The last step will be to remove the debris and grade/seed the area. Metal waste will be sent to Franklin Iron & Metal to be recycled. Concrete waste will be sent to Mound's spoils area. Other miscellaneous items will be placed in a roll-off for disposal at a landfill.

3 SITE INFORMATION

Magazine 52 is a single compartment unit. It is a reinforced concrete box structure classified as a nonstandard, earth-covered magazine. The compartment area is less than 200 square feet. Its location and neighboring structures are shown in Attachment A. The magazine has electrical service.

Magazine 52 was constructed in 1970. No research, development, or production activities using radioactive or energetic materials have occurred in the magazine. The magazine has been used only for storage of energetic materials. Magazine 52 had six desiccators, vacuum, humidity, heating, and air conditioning equipment and controls. The desiccators have been cleaned to "XXX Decontamination" level but there is the potential for explosives in the vacuum lines. The magazine itself was never directly energetic material (EM) contaminated.

Magazine 64 is a one-story, 72-square-foot reinforced concrete structure. The roof is also of reinforced concrete covered with earth. Its location and neighboring structures are shown in Attachment A. The magazine has 240v electrical service.

Magazine 64 was constructed in 1974. The magazine has been used only for storage of pyrotechnics and energetic materials and was never directly EM contaminated.

All work is within the Test Fire Valley Project. The demolition work zone is not within but near EG&G Optoelectronics' designated explosive blast and fragment zone. Demolition activities will be coordinated with EG&G Optoelectronics.

This demolition effort will be considered a standard construction demolition and will not be considered a removal under CERCLA and will not be designated as an HAZWOPER.

4 INDUSTRIAL SAFETY AND HEALTH REQUIREMENTS

A Job Specific Hazards Analysis (JSHA) is required for this demolition that will use a hoe mounted hydraulic hammer, shears, bucket, and grapple. The construction zone, as defined in Attachment "A", identifies construction boundaries, evacuation routes, the take shelter area, and the assembly area. Debris will be cleared from the immediate demolition zone as required to provide safe equipment activity. The debris will be disposed of in accordance with Waste Management. Water shall be used as needed for dust control during activities that have the potential for generating dust.

Underground electrical utilities will be identified and field located by scanning the area prior to any activities beginning. Lock-out-tag-out procedures will be followed and electrical energy detection will be performed prior to any electrical demolition activities.

An excavation/soil disturbance permit will be required prior to demolition activities.

Monitoring for crystalline silica (concrete dust) will be performed as determined by previous monitoring results and IS&H staff. IS&H will be notified before the demolition of concrete begins.

Whole body vibration will be administratively controlled using April 13, 1998 letter from Test Fire Valley Team (copy attached to JSHA) and by reviewing topic at Pre-job meeting.

A Hot Work Permit will be required if a torch is used for fence removal.

Monitoring of noise levels will be performed as determined by previous monitoring results and the IS&H staff.

Copper vacuum lines that may contain explosives will not be cut by hand tools or a torch. If they need to be sized reduced, it will be done by heavy-duty equipment with a shear attachment. These vacuum lines will be placed in a metal recyclables roll-off.

5 RADIATION PROTECTION REQUIREMENTS

Based on recent radiological surveys, no radiological controls will be required during work associated with the demolition of Magazines 52 & 64, pads, concrete walkway, foundation, and footers. An excavation/soil disturbance permit that requires Health Physics approval is required. Prior to disposition of concrete at a local landfill or to the on-site crusher, removable and fixed contamination surveys will be performed as required in Section 10.

There is an URMA area immediately west of the project site. In the unlikely event that this area will need to be disturbed, a RWP will be required first.

6 ENVIRONMENTAL COMPLIANCE REQUIREMENTS

A NEPA checklist is required for this demolition project since it is occurring outside the CERCLA process. The categorical exclusion approved by DOE/MEMP on March 23, 1998 applies to Magazines 52 and 64.

Permit to Install/Permits to Operate (PTI/PTO) are not required for temporary projects (project duration <18 months). Dust mitigation techniques will be employed for diffuse dust sources (e.g., soil excavation, dumping, storage piles, and concrete demolition).

Based on the best available radiological data and removal assumptions for this demolition project, the estimated NESHAP radiological dose calculation from air emissions was calculated to be less than the 0.1 mrem dose threshold for EPA approval.

BWO's *Storm Water Pollution Prevention Plan*, OPA980099, will be followed for surface water control, silt control, grading, and seeding. Note, there are drainage creeks immediately to the south and the west of the project site.

A "Notification of Demolition" form will be filed with the Regional Air Pollution Control Agency (RAPCA) two weeks prior to the beginning of demolition.

BWO has determined that Magazines 52 & 64 have no historical significance and do not qualify for inclusion in the National Register of Historic Places (NRHP).

7 CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS

All chemicals and waste will be managed in accordance with the Excess Chemical Disposition Plan and Waste Management Plan for the Mound Exit Project, MD-10499. The Waste Coordinator, (Waste Management POC) will be responsible for ensuring that the Project Team is working on the latest revision of the above documents. All chemicals must be tracked and handled per the Waste Inventory Data System (WIDS). To the best of the Project Team's knowledge, all chemicals have been removed. All waste must be characterized for proper disposal. The Waste Coordinator will ensure that this is accomplished and summarize disposal options for each waste stream in a Job Specific Waste Management Plan, which is included below.

Job Specific Waste Management Plan (Projected Volumes)	
3000 Ft^3	Concrete debris to Spoils Area
150 Ft^3	Scrap Metal to Franklin Iron & Metal
270 Ft^3	Roll-off with debris to construction debris landfill
<0.1 Ft^3	Oil from pumps to Building 72
<0.1 Ft^3	2 mercury switches to Building 72
100 Yd^3	Excess soil to Rail Spur

8 QUALITY ASSURANCE REQUIREMENTS

The Quality Level for this project is III thus a formal written Quality Plan is not required. Risk is expected to be mitigated on a Level III project without any plan or special effort beyond routine practices.

9 EMERGENCY PREPAREDNESS

9.1 Site Notification Procedures

Use **911** for all emergency services on-site. This is the first response for any emergency. If using a cell phone, dial **865-4040**. This number will ring into the plant 911 system.

Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

Employees working will be notified of emergency or abnormal conditions by the plant paging system. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

9.2 Evacuation Route/Assembly Areas

The assembly area is north of the magazines. See map per Attachment "A".

9.3 Take Shelter Area

The take shelter area is in Building 67. See map per Attachment "A".

10 PROJECT EXECUTION/GENERAL SEQUENCE OF WORK

10.1 Structure Characterization

10.1.1 Physical Characterization

An engineering survey was performed and documented for Magazines 52 & 64 to meet the requirements of OSHA 29 CFR 1926.850(a).

10.1.2 Radiological Characterization

Based on the radiological characterization summaries that have been performed for both magazines, there are no radiological concerns and a Radiation Work Permit will not be required.

10.1.3 Chemical and Metals Characterization

Not applicable. All chemicals have been removed. There are 2 mercury switches in a metal box outside of Magazine 52. These switches will be removed and Waste Management will dispose of them.

10.1.4 Asbestos Characterization

Asbestos will be removed prior to the demolition of Magazines 52 & 64 and is not covered by this work plan.

10.2 Safe Shutdown

10.2.1 Hazard Analysis

The Project Engineer, Rad Engineer, Project Superintendent, and representatives from OCAW, Industrial Safety and Hygiene, and Waste Management performed a safety walkdown to identify potential safety or environmental hazards. This was recorded in the Project Engineer's log. No unusual hazards were identified and the basic job steps were incorporated into the attached Job Safety & Health Analysis (JSHA) form.

10.2.2 Property Management

Not applicable. There will be no excess property. See section 9.2.6.

10.2.3 Space Configuration Management

Not applicable. There are no personnel located at the two magazines.

10.2.3 Utility Isolation

It will be confirmed that electric power has been disconnected to project site. If not, it will be locked out/tagged out and disconnected back to its tie-in by an electrician. Unused electric cable will be removed.

10.2.5 Secure and Lock Equipment

There is equipment outside of Magazine 52 that was used to control the atmosphere and to pull a vacuum for the desiccators in this magazine. Any fluids will be drained and disposed of by Waste Management. Any freon will be recycled.

10.2.6 Equipment and Waste Removal

Due to the cost involved and the age of the equipment in section 10.2.5, it will be disposed of as scrap metal instead of being sent to excess. Metal will be sent to Franklin Iron & Metal for smelting. Non metal equipment will be disposed of in a Koogler roll-off.

10.2.7 Chemical Round Up

This has been completed.

10.3 Site Preparation

10.3.1 Site Access Control

The demolition area will be marked off with barricade tape. If fence posts need to be installed by hand using a post driver, the area will be first scanned after obtaining a completed penetration permit.

There will be no entry into the demolition area without notifying the Project Superintendent, attending a pre-job briefing, signing the Pre-job Briefing Record, and signing in with EG&G Optoelectronics because the project site is in their explosive clearance zone. Note: The project site is neither in a blast zone nor a fragment zone.

10.3.2 Clearing and Grubbing

The soil covering the magazines will be cleared using heavy-duty equipment.

10.3.3 Temporary Utilities

The only temporary utility that may be required is electric. A portable generator would supply this.

10.3.4 Temporary Facilities

This project will use the existing Test Fire Valley project trailer and portable toilet that are located in the west end of the Test Fire parking lot.

10.3.5 Temporary Communications

The project trailer has telephones, a cell phone, radios, and speakers for plant announcements and emergency notifications. At the job site plant announcements and emergency notifications can be heard on the Plant Maintenance radio channel.

10.3.6 Staging Areas

The project site will be used as a staging area since the area is large enough to perform this task and the actual demolition area is not that large.

10.4 Interior Decontamination and Demolition

10.4.1 Construction Hazard Abatement

The Project Engineer, Superintendent, Industrial Safety and Health representative, or one of their designees, will perform a safety walkdown prior to the start of work to identify any unsafe conditions which may be present as a result of Safe Shutdown operations.

10.4.2 General Housekeeping

Debris or equipment will be cleared from the perimeter of the magazines as required to provide safe access to the structures and active work areas will be maintained. Housekeeping will be performed so that the project site complies with the *Storm Water Pollution Prevention Plan.*

10.4.3 Regulated Waste Handling

There are 2 mercury switches in a metal box outside of Magazine 52. These switches will be removed and Waste Management will dispose of them.
Pumps located outside of Magazine 52 will be drained of oil by Fab Mechanics. Waste Management will dispose of this oil.
There are 2 units that may contain freon. HVAC personnel will capture any freon for recycling.

10.4.4 Dust Control

Water mist as necessary for dust control during demolition and size reduction. The Project Superintendent will make this determination. The Project Superintendent is responsible for preventing and/or eliminating hazards from icing caused by water misting.

10.4.5 Surface Water Controls

The drainage pattern for the project area provides natural flow of runoff into the drainage ditch located both west and south of the project site. The elevation to the north of the project is 740 feet above sea level. To the east and west it is 730 feet. The drainage ditch to the south and west is 720 feet. The topography of the area is such that runoff from the project site will flow into the collection basin southwest of the project.

In order to minimize solids in the runoff into the drainage ditch, silt fencing will be placed just to the west and south of the project site (see Attachment B, Stormwater Control) after obtaining an excavation permit and RCT coverage. It will be placed in a manner that will maximize the filtering effect of runoff going into the drainage ditch. The silt fencing will be monitored during the project and cleaned if necessary. After site restoration, the silt fencing will be monitored after heavy rains and cleaned if necessary. Once the new ground cover has reached its desired final condition, monitoring of the site will discontinued and the silt fencing will be removed.

Any piles of remaining bare soil are to be tarp covered to prevent soil runoff.

Additional run-off controls (silt fencing) will be employed if project runoff is observed that is not being directed into the silt fence discussed above.

The final restoration of the project site will provide seeding and a more gradual slope of the site towards the drainage ditch compared to its current slope. This will provide for more natural filtering of runoff from the restored site area.

10.5 Existing Utilities and Utilities Isolation

It will be confirmed that electric power has been disconnected to project site. If not, it will be disconnected back to its tie-in by an electrician using LOTO per MD-10444. Disconnected electric cable will be removed.

Drawings of the underground utilities will be available in the Project Trailer before any fieldwork begins. Underground utilities in the area include supply water, domestic water, firewater, electric, storm sewer, and sanitary sewer. Any damage to the underground utilities will be repaired after notifying the Plant Utilities group.

There are no above ground utilities in the project site and the only above ground utilities in the immediate area are lines strung on telephone poles. These lines are located north of the project site where the railroad tracks are crossed to enter the project site. A caution about these above ground lines will be issued during the Prejob.

10.6 Structure Demolition

Drawings of the magazines will be available in the project trailer before demolition work begins.

10.6.1 Work Zone Boundary

Demo Techs will mark off a work zone boundary using barricade tape as directed the Project Superintendent. This zone is not to be entered by anyone not directly involved with the demolition unless they have contacted the Project Superintendent first.

> ***Note: Confirm the disposition of all waste with Waste Management and the Radiological Point of Contact prior to the disposition.***

10.6.2 Preliminary Work, Superstructure Demolition, Debris Sizing, Loading, Hauling and Disposal

1. Confirm electric has been disconnected to Magazine 52 and the one telephone pole.
2. Remove 2 mercury switches and deliver to Waste Management for disposal.
3. Recycle any Freon in air conditioners.
4. Drain any oil in vacuum pumps.

5. Remove fence on west and south side of project site. Cut fence poles down to grade. Obtain burn permit if torch is to be used.
6. Install stilt fencing on west and south side per section 10.4.5, Surface Water Control.
7. Remove any remaining piping. Do not torch pipe. Copper vacuum lines that may contain explosives will not be cut by hand tools or a torch. If they need to be sized reduced, it will be done by heavy-duty equipment with a shear attachment. These vacuum lines will be placed in a metal recyclables roll-off per Waste Management's directions. The activities involving the copper vacuum lines may be performed after the magazine is demolished.
8. Remove any remaining equipment/material and dispose of as directed by Waste Management.
9. Remove steel doors and frames from each magazine, if practical and dispose of as directed by Waste Management.
10. Excavate soil around and above magazines and stage near each magazine or haul to the rail spur as directed by Waste Management.
11. Survey concrete as required by the Radiological Point of Contact.
12. Break apart concrete walls of each magazine and place in hauler. Transport to Mound's spoils area as directed by Waste Management.
13. Roll back electric cables on one telephone pole back to source. With heavy-duty equipment, shear the 2 telephone poles at grade and size reduce for roll-off. Dispose of per Waste Management's direction.

CAUTION: DO NOT INTRUDE INTO URMA AREA IMMEDIATELY WEST OF PROJECT SITE WITHOUT CONTACTING THE RAD ENGINEER.

10.7 Slab & Below Grade Concrete Removal

1. Break apart the slab of each magazine and perform radiological screening. Based on radiological screening results, transport to Mound's spoils area or rail spur as directed by Waste Management.
2. Break apart the foundation of each magazine down to a depth of 3 feet below grade and perform radiological screening. Based on radiological screening results, transport to Mound's spoils area or rail spur as directed by Waste Management.
3. Note: Any concrete from below a 3-foot depth shall go to the rail spur per Waste Management and the Radiological Point of Contact.

10.8 Soil Characterization

Core samples will be taken for radiological characterization in the 15-foot perimeter area around the two magazines per the Rad Engineer's direction. The project engineer will coordinate this activity with the GPS group so this data will be retrievable.

10.9 Soil Remediation and Verification

If soil remediation and verification is required, this work plan will be modified.

10.9.1 Site Restoration

1. Soil remediation and verification is not applicable unless unexpected results are found per section 10.8 in which case this document would be revised.
2. Backfill/grade the project site as required to provide drainage. Seed and cover with straw per "Specifications for Permanent Seeding" in Appendix A of the *Storm Water*

Pollution Prevention Plan. Any excess soil will go to the rail spur per Waste Management's direction.

3. Water as necessary.
4. Remove all barricades, miscellaneous items, and trash.

10.10 Post Activity Feedback

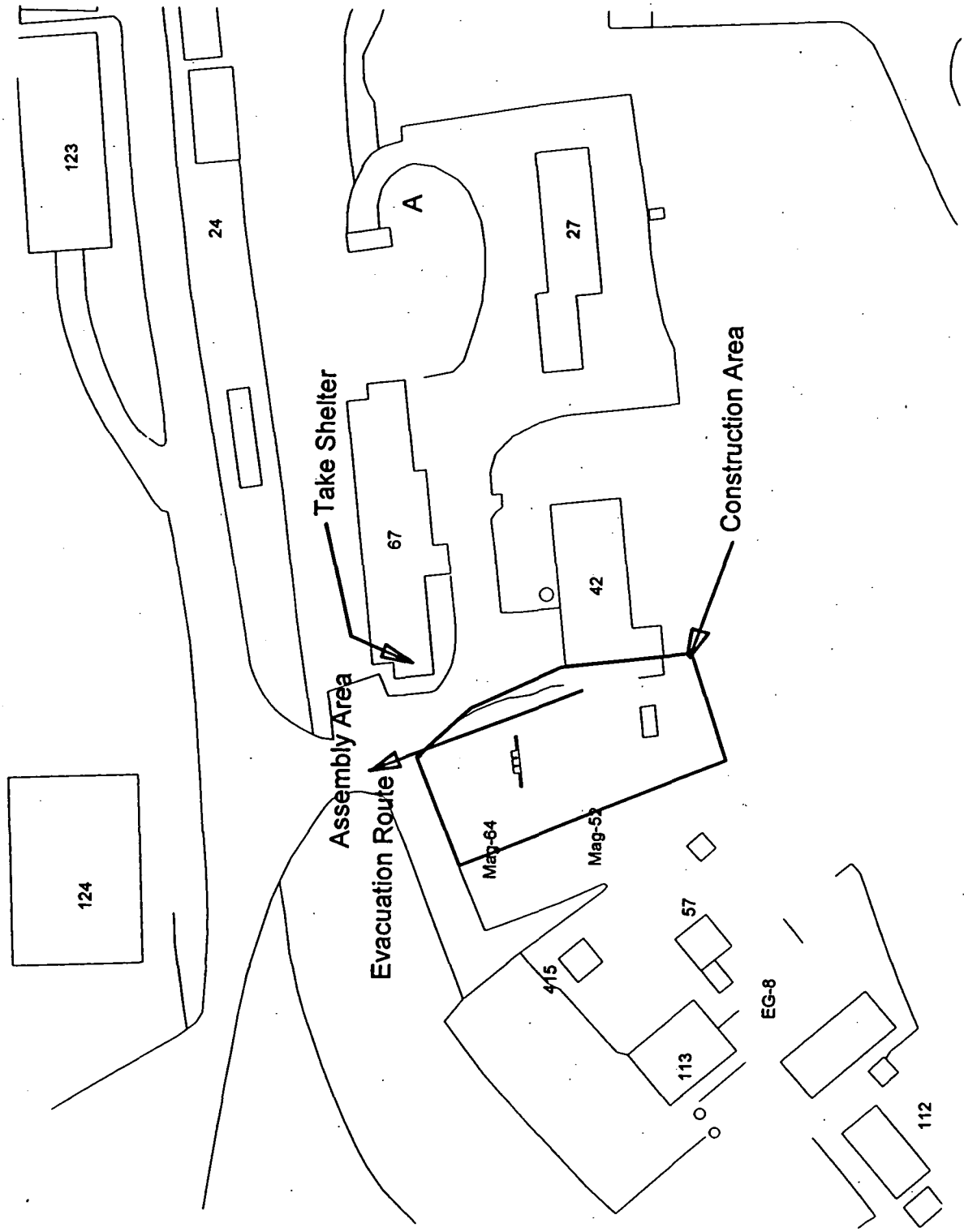
The Project Team, including a representative portion of the workers involved in the project, will have a feedback session to capture any lessons learned. The lesson learned will be captured following the requirements identified in MD-10443, Mound Lesson Learned Program Manual.

10.11 Final Closeout Report/On-Scene Coordinator Report

A Final Closeout Report will be prepared and submitted to MEMP for review after the completion of fieldwork. Once the MEMP review is complete, the Final Closeout Report will be submitted to MEMP for transmittal to DOE, the Regulators, and the Public to document the final condition of the area.

11 ATTACHMENTS

- **Attachment A, Site Layout**
- **Attachment B, Stormwater Control**
- **Attachment C, Schedule**
- **JSHA with copy of "Whole-body Vibration" letter**
- **MSDSs**
- **General Work Plan Checklist**

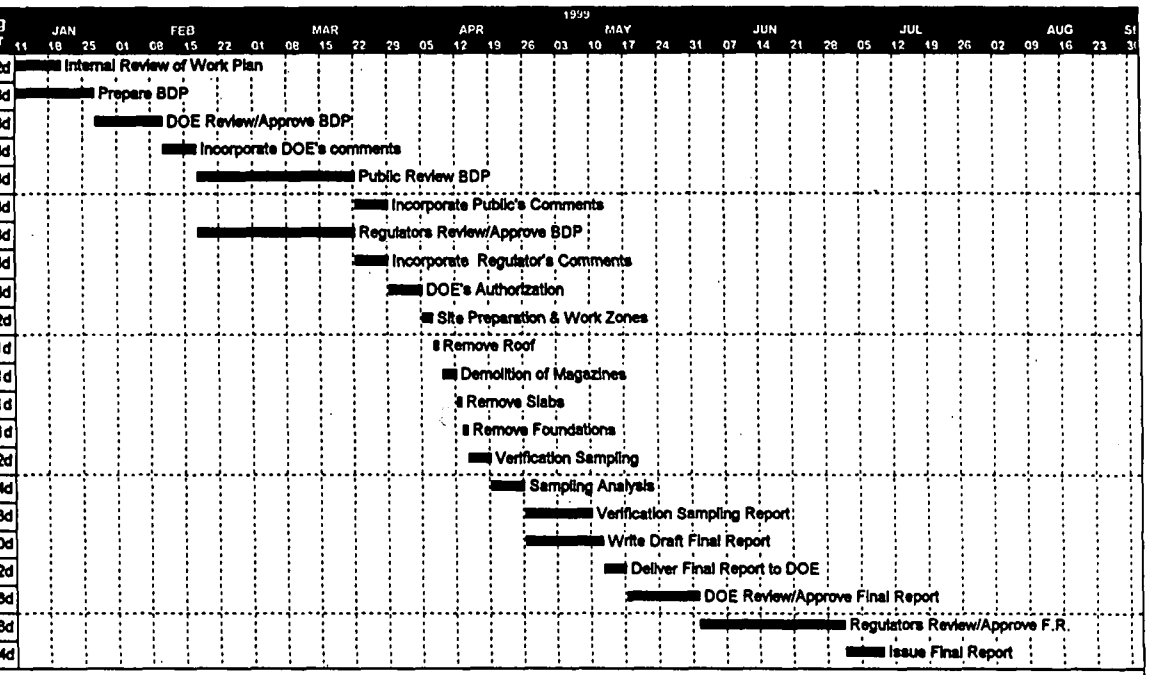


Attachment A, Site Layout

Demolition of Magazines 52 & 64
Final, Revision 0
Date: January 18, 1999

Attachment C, Schedule

Act ID	Description	Orig Dur
1000	Internal Review of Work Plan	12d
1010	Prepare BDP	16d
1020	DOE Review/Approve BDP	8d
1030	Incorporate DOE's comments	4d
1040	Public Review BDP	18d
1050	Incorporate Public's Comments	4d
1060	Regulators Review/Approve BDP	18d
1070	Incorporate Regulator's Comments	4d
1080	DOE's Authorization	4d
1090	Site Preparation & Work Zones	2d
1100	Remove Roof	1d
1110	Demolition of Magazines	1d
1120	Remove Slabs	1d
1130	Remove Foundations	1d
1132	Verification Sampling	2d
1134	Sampling Analysis	4d
1140	Verification Sampling Report	8d
1150	Write Draft Final Report	10d
1160	Deliver Final Report to DOE	2d
1170	DOE Review/Approve Final Report	8d
1180	Regulators Review/Approve F.R.	18d
1190	Issue Final Report	4d



Start date	22DEC98
Finish date	09JUL99
Data date	22DEC98
Run date	18JAN99
Page number	1A

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BWO
Demolition of Magazines 52 & 64

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

DATE: 01/18/99	Rev:	BUILDING: Magazines 52 & 64	JOB: Demolition of Magazines 52 & 64
DEPARTMENT: Test Fire Valley			SECTION:
OCCUPATIONS: Heavy Duty, Electricians, Demo Techs			

ORIGINATOR: Larry Lamsa

REVIEW/REV: John M Ashneider

REVIEW/REV: Robert L Johnson

APPROVED:

APPROVED:

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:	MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:
Hard hats, steel-toed safety shoes, safety glasses	Crystalline Silica (Concrete Dust)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES	SAFE JOB PROCEDURES
Break the job down into basic steps that tell what is done first, what is done next, and so on. Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually, three or four words are sufficient to describe each job step. For example, the job of "replacing a light bulb" may break down into basic steps as follows: 1. Bring and set up ladder 2. Ascend ladder 3. Remove light globe & bulb 4. Replace light bulb 5. Replace light globe 6. Descend ladder 7. Remove and store ladder	Ask yourself for each job what accidents/illnesses could occur to the employee doing the job. Record potential accidents/illnesses by combining one of the abbreviations below with the agent of contact. For example, "struck by a crane hook" is recorded "SB-crane hook." Number each potential accident. SB - Struck by CB - Contacted by SA - Struck against CW - Contact with CI - Caught in CO - Caught on 1B - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness) *Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)	For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness. Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements; e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment. Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)
(1) Pre-job conference to inform all those involved about the hazards.	None.	None.
(2) Locate underground utilities.	None.	None.
(3) Prepare work area: Establish site access control by establishing a construction zone and an evacuation route (see attached sketch). Construct using snow fence and/or caution tape. Note: It is required to sign in at EG&G Optoelectronics before entering the work area.	Contact with underground utilities.	Obtain excavation digging permit (per MD-10286, 05). Scan.
	Heavy lifting - Strain/overexertion.	Use sufficient number of workers.
	Hand abrasions - struck by.	Wear leather gloves.
(4) Remove electrical conduit/light fixtures from inside and outside of Magazine 52. Remove all HVAC, vacuum, miscellaneous equipment from Magazine 52.	Electrical shock.	Perform energy field test. LOTO per MD-10444.
	Exposure to asbestos gasket inside of explosion proof light fixtures.	Remove fixtures intact and place in plastic bag (do not disassemble fixtures) and label appropriately. Use trained asbestos workers.
	Fall hazard.	Use inspected step ladder (per MD-10286 M14). Use fall protection as required.
	Pressurized refrigerant..	Superintendent to verify with HVAC maintenance pump down has been completed.

(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
(5) Remove fence posts and fencing.	Lifting.	Use sufficient number of workers. Use heavy-duty equipment for excessive weight.
	Hand abrasions - struck by.	Wear leather gloves.
	Fire.	Burn Permit/fire watch per MD-10286, 0-2.
	Personnel struck by moving heavy-duty eqiupment.	Maintain safe distance for ground personnel. Orange vests. Vehicle back-up alarms.
(6) Remove 2 telephone poles, shear into shorter sections, transfer to roll-off.	Personnel struck by moving heavy-duty equipment,material, or flying debris.	Maintain safe distance for ground personnel. No one within 75 ft. of operating shear. Vehicle back-up alarms. Orange vests. Limit access to necessary personnel. Barricade project site.
(7) Install silt fencing.	Electrical shock.	Scan area. Excavation permit per MD-10286, O-5.
	Hand abrasions - struck by.	Wear leather gloves.
	Personnel struck by moving heavy-duty equipment.	Maintain safe distance for ground personnel. Orange vest. Vehicle back-up alarms. Limit access to necessary personnel. Barricade project site.
(8) Remove steel doors/frames from Magazine 52 using heavy duty equipment. Stage material for recycling.	Flying and falling debris.	Maintain 75 foot distance.
	Noise from heavy duty equipment.	Hearing protection per IS&H monitoring and previous monitoring results.
	Personnel struck by moving heavy-duty equipment.	Limit access to necessary personnel only. Orange vest. Vehicle back-up alarms. Shutdown roadway during work at Magazines 52 & 64. Coordinate with Optoelectronics & GMS roadway shutdown.

(CONTINUATION SHEET)

(9) Excavate soil immediately around and above each magazine and either stage nearby for reuse or haul to the rail spur.	Personnel struck by moving heavy-duty equipment.	Barricade project site. Limit access to necessary personnel only. Maintain safe distance for ground personnel. Orange vests. Vehicle back-up alarms.
(10) Break up concrete using heavy duty equipment (hydraulic hammer and shear). Place debris in haulers and transport to M-ound's spoils area or send to an off-site landfill.	Flying debris.	Work area access control for a 75 foot diameter.
	Personnel struck by moving heavy-duty equipment.	Shutdown the roadway during operation. Barricade project site. Maintain safe distance for ground personnel. Orange vests. Vehicle back-up alarms.
	Noise from heavy-duty equipment.	Hearing protection per IS&H monitoring and previous monitoring results.
	Concrete dust (crystalline silica).	Respiratory protection per IS&H monitoring and previous monitoring results. Water mist as necessary.
	Whole body vibration.	Admistratively control whole body vibration of the heavy duty worker (see attached letter).
(11) Distribute staged soil over the area, perform final grade using heavy duty equipments(front end loader with bucket), distribute seed/straw.	Personnel struck by moving heavy-duty equipment.	Maintain safe distance for ground personnel. Coordinate with Opto-electronics closing of roadway to magazines. Orange vests. Vehicle back-up alarms.
	Dust.	Water mist as necessary.
(12) Remove construction zone barricades and clean up area.	Heavy lifting - Strain/overexertion.	Ensure sufficient number of personnel.
	Hand abrasions - struck by.	Wear leather gloves.
(13) Crossing railroad tracks.	Struck by moving train.	Coordinate moves with railspur.

Date : April 13, 1998

Subject : Whole-Body Vibration using trackhoes, backhoes and end loaders with attachments

To whom it may concern:

The 1997 ACGIH Threshold Limit Values (TLVs) for chemical substances and Physical agents and Biological Exposure Indices (BEIs) addresses whole body vibrations. Per our Industrial Hygiene department, bullet number 10 of the Whole-Body Vibration section pertains to our operation and states as follows:

> "Whole-Body Vibration controls may include the use of "air-ride" suspended seats, suspended cabs, maintenance of vehicle suspension systems, proper tire inflation, and remote control of vibrating processes. Seats with arm rests, lumbar support, an adjustable seat back, and an adjustable seat pan are also useful."

The trackhoes in use have iso-mounted (rubber) cabs with a spring cushioned seat. The backhoes and end loaders in use have a spring cushioned seat. Heavy Duty Mechanics perform preventative maintenance daily noting any deficiencies. The operator will be working two hours or less at a time and not be constantly operating attachments.

In a discussion with the operators, who have used the equipment with attachments, they stated that the vibration in the cab is very moderate except for bucket clean out.

The topic of Whole-Body Vibration will be discussed at the pre-job meeting and this letter will be posted in the work trailer. The following Whole-Body Vibrations symptoms will be discussed at the pre-job meeting:

Difficulty in reading instruments or print	General discomfort
Interference with fine manipulative movements	Irritability

If any of these symptoms develop inform the site supervisor of the project, stop work, and report to medical.

The supervisor will contact the safety representative who in turn will contact Industrial Hygiene for vibration monitoring of the equipment.

Larry Lamsa, Project Engineer

John Schneider, Site Safety & Health Officer

Joe Bartee, Project Manager

RICCI BROS SAND -- CRYSTALLINE SILICA
MATERIAL SAFETY DATA SHEET
NSN: 535000N042428
Manufacturer's CAGE: RICCI
Part No. Indicator: A
Part Number/Trade Name: CRYSTALLINE SILICA

General Information

Company's Name: RICCI BROS SAND CO INC
Company's P. O. Box: 644
Company's City: PORT NORRIS
Company's State: NJ
Company's Country: US
Company's Zip Code: 08349
Company's Emerg Ph #: 609-785-0166
Company's Info Ph #: 609-785-0166
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SMJ
Date MSDS Prepared: 22JUN89
Safety Data Review Date: 05SEP95
MSDS Serial Number: BSXQV
Hazard Characteristic Code: T7

Ingredients/Identity Information

Proprietary: NO
Ingredient: SILICA, CRYSTALLINE-QUARTZ
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: VV7330000
CAS Number: 14808-60-7
OSHA PEL: 0.1 MG/M3 RDUST
ACGIH TLV: 0.1 MG/M3 RDUST

Physical/Chemical Characteristics

Appearance And Odor: WHITE, GRAY, OR TAN, NO ODOR OR TASTE
Boiling Point: 4046F,2230C
Melting Point: 3050F,1677C
Vapor Pressure (MM Hg/70 F): NONE
Vapor Density (Air=1): NONE
Specific Gravity: 2.65(H2O=1)
Evaporation Rate And Ref: NONE
Solubility In Water: INSOLUBLE

Fire and Explosion Hazard Data

Flash Point: NON FLAMMABLE
Lower Explosive Limit: NONE
Upper Explosive Limit: NONE
Extinguishing Media: NONE REQUIRED; MAY BE USED AS AN EXTINGUISHING MEDIA.
Special Fire Fighting Proc: WEAR NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT (FP N).
Unusual Fire And Expl Hazrds: CRYSTALLINE SILICA IS NEITHER A FIRE NOR AN EXPLOSION HAZARD.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): NONE.
Materials To Avoid: CONT W/POWERFUL OXIDIZING AGENTS SUCH AS FLUORINE, CHLORINE TRIFLUORIDE, MANGANESE TRIOXIDE, OXYGEN (SUPP DATA)
Hazardous Decomp Products: SILICA WILL DISSOLVE IN HYDROFLUORIC ACID AND PRODUCE A CORROSIVE GAS-SILICON TETRAFLUORIDE.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT

Health Hazard Data

LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: NO
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: ACUTE/CHRONIC:PRLNGD EXPOS TO RESPIRABLE CRYSTALLINE QUARTZ MAY CAUSE DELAYED (CHRONIC) LUNG INJURY (SILICOSIS). ACUTE OR RAPIDLY DEVELOPING SILICOSIS MAY OCCUR IN A SHORT PERIOD OF TIME IN HEAVY EXPOS IN CERTAIN OCCUPATIONS SUCH AS SANDBLASTERS. SILICOSIS IS A FORM OF DISABLING PULM FIBROSIS WHICH (EFTS OF OVEREXP)
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: CRYSTALLINE SILICA-QUARTZ: IARC MONOGRAPHS, SUPPLEMENT VOL 7, PG 341, 1987: GRP 2A NTP 6TH ANNUAL REPORT (SUPP DATA)
Signs/Symptoms Of Overexp: HLTH HAZ: CAN BE PROGRESSIVE & MAY LEAD TO DEATH. SIGNS & SYMPS OF EXPOS: SHORTNESS OF BREATH, REDUCED PULMONARY FUNCTION, COUGHING, WHEEZING.
Med Cond Aggravated By Exp: BRONCHITIS, EMPHYSEMA, AND ASTHMA. SMOKING IS KNOWN TO AGGRAVATE THE EFFECTS OF EXPOSURE.
Emergency/First Aid Proc: EYES: IMMED WASH WITH WATER FOR AT LEAST 15 MINUTES. INHAL: REMOVE TO FRESH AIR AND SEEK MEDICAL ATTENTION ACCORDINGLY. INGEST: CALL MD IMMED (FP N). SKIN: FLUSH WITH COPIOUS AMOUNTS OF WATER. CALL MD (FP N).

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: USE DUSTLESS METHOD (VACUUM/WATER) IF NOT CONTAMINATED. IF CONTAMINATED, USE RECOMMENDED METHOD FOR CONTAMINATE.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: DISPOSE I/A/W FEDERAL, STATE AND LOCAL REGULATIONS.
Precautions-Handling/Storing: USE ADEQUATE VENTILATION AND DUST COLLECTION. PROPERLY USE AND MAINTIAN RESPIRATORS. EMPLOY GOOD HOUSEKEEPING PROCEDURES & AVOID ACCUMULATING DUST.
Other Precautions: NONE SPECIFIED BY MANUFACTURER.

Control Measures

Respiratory Protection: AS REQUIRED, NIOSH/MSHA APPROVED RESPIRATORS.
Ventilation: LOCAL EXHAUST/MECHANICAL/OTHER: AS NEEDED.
Protective Gloves: IMPERVIOUS GLOVES (FP N).
Eye Protection: CHEMICAL WORKERS GOGGLES (FP N).
Other Protective Equipment: NONE.
Work Hygienic Practices: AVOID CREATING AND BREATHING DUST.
Suppl. Safety & Health Data: MATL TO AVOID: DIFLUORIDE, MAY CAUSE FIRES. EXPLAN OF CARCIN: ON CARCINOGENS, ANTICIPATED TO BE A CARCINOGEN.

Transportation Data

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 04MAY93
Label Date: 04MAY93
Label Status: G
Common Name: CRYSTALLINE SILICA
Chronic Hazard: YES
Signal Word: CAUTION!
Acute Health Hazard-Slight: X
Contact Hazard-None: X
Fire Hazard-None: X
Reactivity Hazard-None: X
Special Hazard Precautions: AVOID CREATING AND BREATHING DUST. ACUTE/CHRONIC: PROLONGED EXPOSURE TO RESPIRABLE CRYSTALLINE QUARTZ MAY CAUSE DELAYED (CHRONIC) LUNG INJURY (SILICOSIS). ACUTE OR RAPIDLY DEVELOPING SILICOSIS MAY OCCUR IN A SHORT PERIOD OF TIME IN HEAVY EXPOSURE IN CERTAIN OCCUPATIONS SUCH AS SANDBLASTERS. SILICOSIS IS A FORM OF DISABLING PULMONARY FIBROSIS WHICH CAN BE PROGRESSIVE AND MAY LEAD TO DEATH. SIGNS &

SYMPS OF EXPOS: SHORTNESS OF BREATH, REDUCED PULMONARY FUNCTION, COUGHING, WHEEZING. CANCER HAZARD. CRYSTALLINE SILICA-QUARTZ IS LISTED AS A LUNG CARCINOGEN OF LAB ANIMALS (FP N).
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: RICCI BROS SAND CO INC
Label P.O. Box: 644
Label City: PORT NORRIS
Label State: NJ
Label Zip Code: 08349
Label Country: US
Label Emergency Number: 609-785-0166

DEMOLITION OF MAGAZINES 52 & 64

General Work Plan Checklist

Both columns of this checklist may be completed for each row, however, the Work Planning column must be completed for non-bold items and the Pre-Job column must be completed for bold items.

	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/Open)
Review Mound Configuration Index #N02008 for a Complete List of Requirements Applicable to Projects Covered by the General Work Plan.		
1.0 FACILITY AND RELATED EQUIPMENT		
1.1 Industrial Safety and Hygiene		
1. Is Isolation of any of the systems (i.e. electrical, mechanical, pressure) required per section 9.2.4 or 9.5 of MD-10502, General Work Plan for Building D&D or D&Tat the Mound Site? List Systems Below:	YES	
ELECTRICAL - CONFIRM IT HAS BEEN	YES	
DISCONNECTED		
2" WATER LINE - PROTECT IF HEAVY DUTY	NO	
NEEDS TO DRIVE OVER		
2. What are the required safety systems? **Are all required physical safety systems operational and functioning?**	NO	
List Systems Below:		
3. Have contingencies been addressed for any potential degradation of the above safety system?	NO	
4. Are required utilities identified? **Are they operational?**	YES	
List Below: PORTABLE GENERATOR		
PORTABLE TOILET		
5. Do ventilation requirements exist(i.e. air changes, velocity, HEPA filter in place, leak testing (formerly DOP testing), pressure differential to surrounding area)? **Is it functioning & available?**	NO	
6. Has the area/facility been adequately characterized to safely perform the work?	YES	
Physical?	YES	
Chemical?	YES	
Radiological?	YES	
Asbestos?	YES	

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/N/A/Open)
7. Based on above characterization, are there any hazardous materials or waste which require abatement?	YES	
8. Have engineering controls been established for the above identified items?	YES	
9. Identify unique or special cleaning materials, equipment or waste disposal requirements. List Below:	YES	
FREON		
EXPLOSIVES		
10. **Is appropriate storage available for flammable material?**	YES	
11. Have materials that require MSDSs been identified? **Are the MSDS sheets available at the worksite?** List Below:	YES	
SILICA		
12. Have lighting and/or emergency lighting requirements been addressed? **Is required lighting available and functioning?**	NO	
WORK IS TO BE PERFORMED DURING DAY LIGHT HOURS ONLY		
13. Has required personal protective clothing been specified in the JSHA, RWP or HASP? **Is it available at the Job Site?**	YES	
14. Will work be impacted by heat/cold stress conditions? (e.g. high temperature and humidity, wearing protective equipment, cold temperatures, etc.) **If so, have work/rest cycles been established and workers briefed.**	YES	
15. Will elevated work surfaces be required? Will fall protection be required? **Training verified?**	YES	
16. Will confined space entry be necessary? **Training verified.**	NO	
17. Will excavating/trenching be necessary? Will shoring be required?	YES, NO	
18. Is scaffolding required? If so, inspection & tagging per MD-10286 M5 is required. **Has inspection been completed?**	NO	

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/Open)
19. Will air sampling and monitoring capabilities be required due to radioactive or Industrial Hygiene concerns?	YES	
FOR SILICA, PER IH		
1.8.2 Traffic/Worksite Control		
1. Any temporary facilities required? (i.e., rest rooms, change rooms, etc.) List Below:	YES	
PORTABLE TOILET		
2. Evaluate roadways, gates, doors, hallways, corridors, etc. for maneuverability of oversized equipment, vehicles, heavy-duty equipment, waste packages, construction tools, etc. **Have traffic flow patterns been identified?**	YES	
3. Have security escort requirements been provided?	NO	
4. Has transport routing of hazardous material been established?	NO	
5. **Are personnel access controls established? (i.e., work zones required and posted)** List Below: CONSTRUCTION AREA	YES	
6. Has impact to adjacent buildings been considered? (i.e., ventilation, utilities, access, etc.)	YES	
1.8 Emergency Preparedness		
1. Has an Emergency Communications system been established? **Is it available and verified to be functioning?**	YES	
PLANT MAINTENANCE RADIO CHANNEL		
2. Has the necessary fire equipment been identified? **Is it in place, functional and properly labeled?**	YES	
A. Sprinklers NA		
B. Pull Boxes NA		
C. Fire/Smoke Alarms NA		
D. Extinguishers AT PROJECT TRAILER		

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/ Open)
E. Hydrants NA		
F. Stand Pipes NA		
G. Unique systems (i.e., Halon, Sand, Foam, etc.) NA		
3. **Are evacuation routes designated and posted or building exit signs clearly visible?** EVACUATION ROUTE IS	YES	
DESIGNATED IN WORK PLAN.		
4. Breathing air required?	NO	
If yes, is it in place?		
5. Warning devices and alarms for safety system malfunction in place, i.e., ventilation.?	NO	
6. Are safety showers, eyewash stations, or decon facilities required? **Are they in place and functional?**	YES	
EYE WASH STATION IS IN PROJECT		
TRAILER.		
7. Does the work affect evacuation routes or assembly areas for adjacent facilities? **Have appropriate notifications been made to affected facilitlies?** OPTIELECTRONICS WILL BE	YES	
NOTIFIED BEFORE ROAD IS BLOCKED		
OR DEMOLITION WORK IS ONGOING.		
3.4 Radioactive Material Handling		
1. Are approved containers available?	NO	
2. Criticality or other alarms identified? (i.e., air monitoring) **Are the alarms in place and operational?**	NO	
3. Are approved storage and/or staging areas available for radioactive materials? RAILSPUR	YES	
4. Is there an approved disposal site and waste profile for all waste to be generated?	YES	
3.5 Radiation Protection		
1. Are radiation surveys required? **Are they current?**	YES	
A. Characterization/Assessment Results	YES	
B. Core Boring Results	NO	
C. Special Survey Results	NO	

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/ Open)
2. Is an ALARA review required? **Have the ALARA review comments been incorporated into the work control process and workers briefed on the ALARA review?**	NO	
3. Will a RWP be required?	NO	
If yes, has it been completed and a copy available at the job site?		
RWP WILL BE REQUIRED IF URMA IS DISTURBED		
4. Will bioassay monitoring be required for personnel working under the projects RWP?	NO	
5. Is personnel or environmental monitoring equipment required for radioactive constituents? **Is it available at the jobsite?** List Below:	NO	
RAD OPERATIONS HAS THE		
OPTION OF MONITORING.		
16. Environmental Protection		
1. Are effluent control systems required? **Are they operational, and do they meet appropriate specifications?** List Below: SILT FENCING	YES	
2. Have environmental liquid and airborne sampling and monitoring needs been identified? List Below: NONE REQUIRED	YES	
3. Are permit modifications/notifications required? **Have modifications/ notifications been completed?** List Below:	NO	
4. OEPA Notification of Demolition & Renovation filed with RAPCA? (10-day or 20-day notification period required) IT WILL	NO	
BE FILED.		

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/ Open)
5. Are NESHAPs calculations required to determine potential dose at the fenceline? **Has the calculation been completed?**	YES	
II/7. Equipment/Hardware/Material		
1. Are any special tools or equipment required to complete activity? List Below: "STANDARD" HEAVY DUTY EQUIPMENT WILL BE USED.	NO	
2. Are items requiring calibration identified? **Is the calibration current?** List Below: NO CALIBRATED EQUIPMENT IS REQUIRED EXCEPT FOR ONES USED BY RAD TECHS AND IH. THEY ARE RESPONSIBLE FOR THE CALIBRATION OF THIS EQUIPMENT.	NO	
3. Are calibration procedures available for the above items? SUPPORT GROUPS MAINTAIN THEIR PROCEDURES.	NO	
4. Has a preventative maintenance program for critical equipment been established? **Is it current and up to date?**	NO	
III/8. PROCEDURES AND MANAGERIAL CONTROLS		
III/8/a. Written Procedures		
1. Have any procedures been identified or written which are not included in the configuration index? **Are they available at the work site?** List Below:	NO	
2. Are any permits required? (i.e., RWP, burn, excavation, penetration, etc.) **Are they available at the work site?** List Below: EXCAVATION HOT WORK (POSSIBLY)	YES	

General Work Plan Checklist

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	Statuses	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/Open)
3. Have the following been developed?		
A. Davis Bacon Determination (contact General Superintendant)	NO	
B. Sub Contractor Evaluation (contact General Superintendant)	NO	
DAVIS BACON NOT REQUIRED FOR		
DEMOLITION PROJECTS.		
4. Hold points identified in procedures where Project Engineer, Project Manager, QA or other person must verify, analyze or witness an activity/data? List Below:	NO	
5. Are permanent records (data sheets, log, etc.) required? List Below: PREJOB RECORDS	YES	
PERMITS		
6. Has a hazard categorization been performed per DOE STD-1027 to determine whether the project could be considered a nuclear facility?	NO	
7. Has a USQ screening process been completed for the Work Scope, Procedures, etc. to ensure that proposed activities fall within the approved safety authorization basis for the site's nuclear facilities?	NO	
II. Managerial Controls		
1. Are changes to any of the following required? **Have the changes been completed?**	NO	
A. Safety Analysis Report (SAR)		
B. Environmental Assessment (EA)		
C. Technical Safety Requirements (TSR)		
D. Basis for Interim Operation (BIO)		
E. Other site regulatory permits		

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/Open)
2. Are any system outages required? **Has coordination with building or site been completed?** List Below:	NO	
3. **Have all necessary reviews been completed?**		
A. ES&H		
B. QA		
C. Fire Protection		
D. Lessons Learned		
E. Peer		
F. Constructability		
G. Other		
4. Have staffing requirements been established? **Is appropriate staff available?**	YES	
5. **Have notifications to site personnel of planned work been completed?**		
6. **Has approval from the appropriate building manager been received prior to start of planned work?**		
II. Procurement		
1. Has a procurement plan been established for key items or services to ensure delivery to job site when needed? List Below:	NO	
III. PERSONNEL READY		
III.1. Training, Testing & Qualification		
1. Have project specific training requirements been identified? **Is training complete and documented records up to date?** List Below:	YES	
PER THE APPLICABLE TRAINING PLANS		

General Work Plan Checklist

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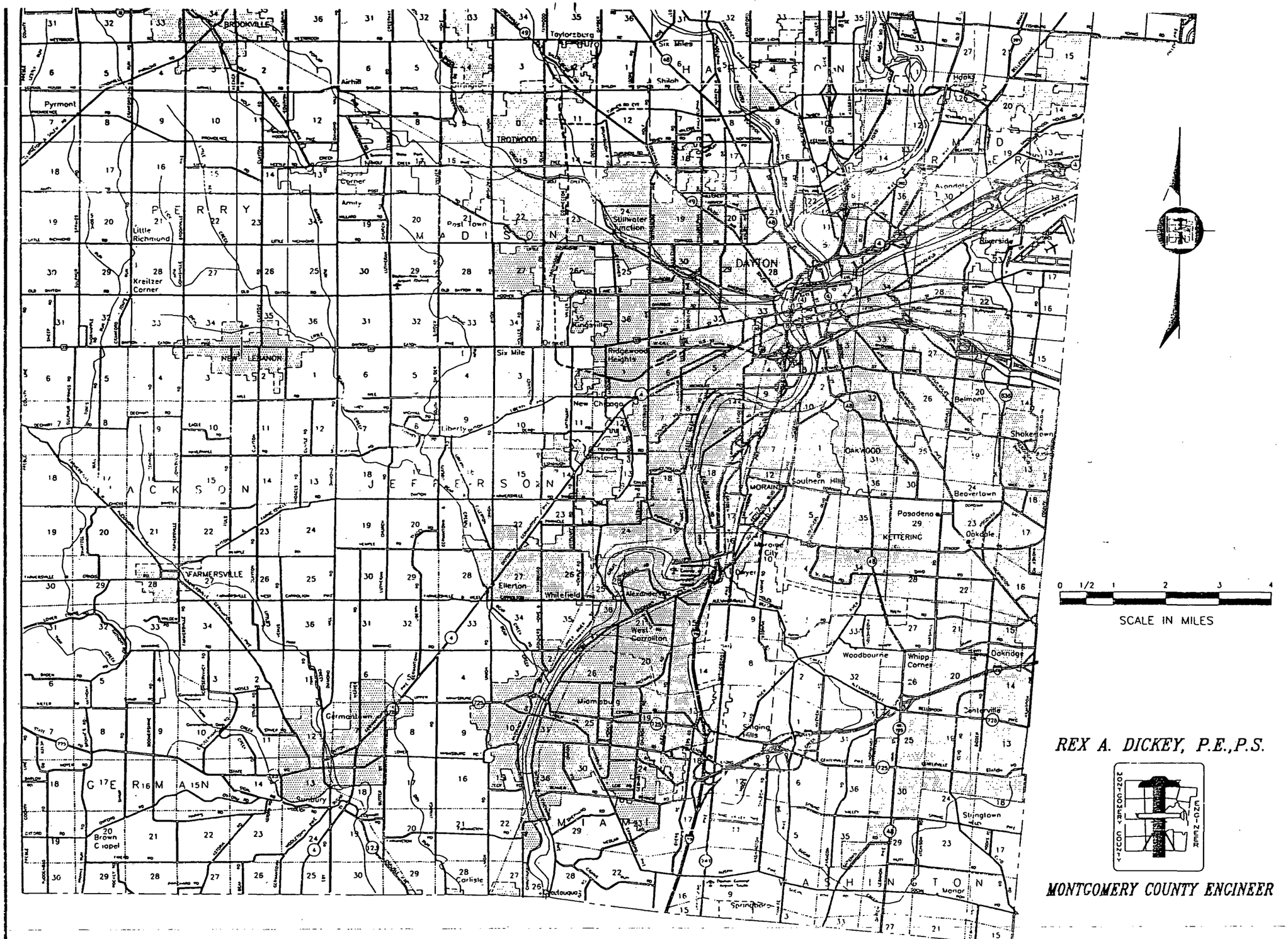
	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/NA/ Open)
2. **Do any training certifications expire within the schedule of the project? List Below:**		
3. Is an evaluation of personnel response to Emergency Drills at the worksite needed? **Has it been completed?**	NO	
4. Is there a need for a "dry-run" or demonstration to prove out all associated hardware and procedures, check for oversights, adjust for the final arrangement and provide for first "hands-on" participation? **Has it been completed?**	NO	
5. Has worker involvement been incorporated in the work planning process?	YES	
6. **Are personnel aware of the 'person-in-charge' concept, i.e,. who is in charge for all field operations? Has an alternate been identified?**		
7. **Does the pre-job conference adequately consider the net effect of recent changes, new hazards, maintenance, etc.?**		
8. **Are personnel aware of their stop work authority?**		
III. 2 Contractors		
1. Have methods to be used for control of contractors performing work been addressed?	NO	
A. Specifications		
B. Purchase Order		
C. Inspections		
D. Others		

Page Redacted

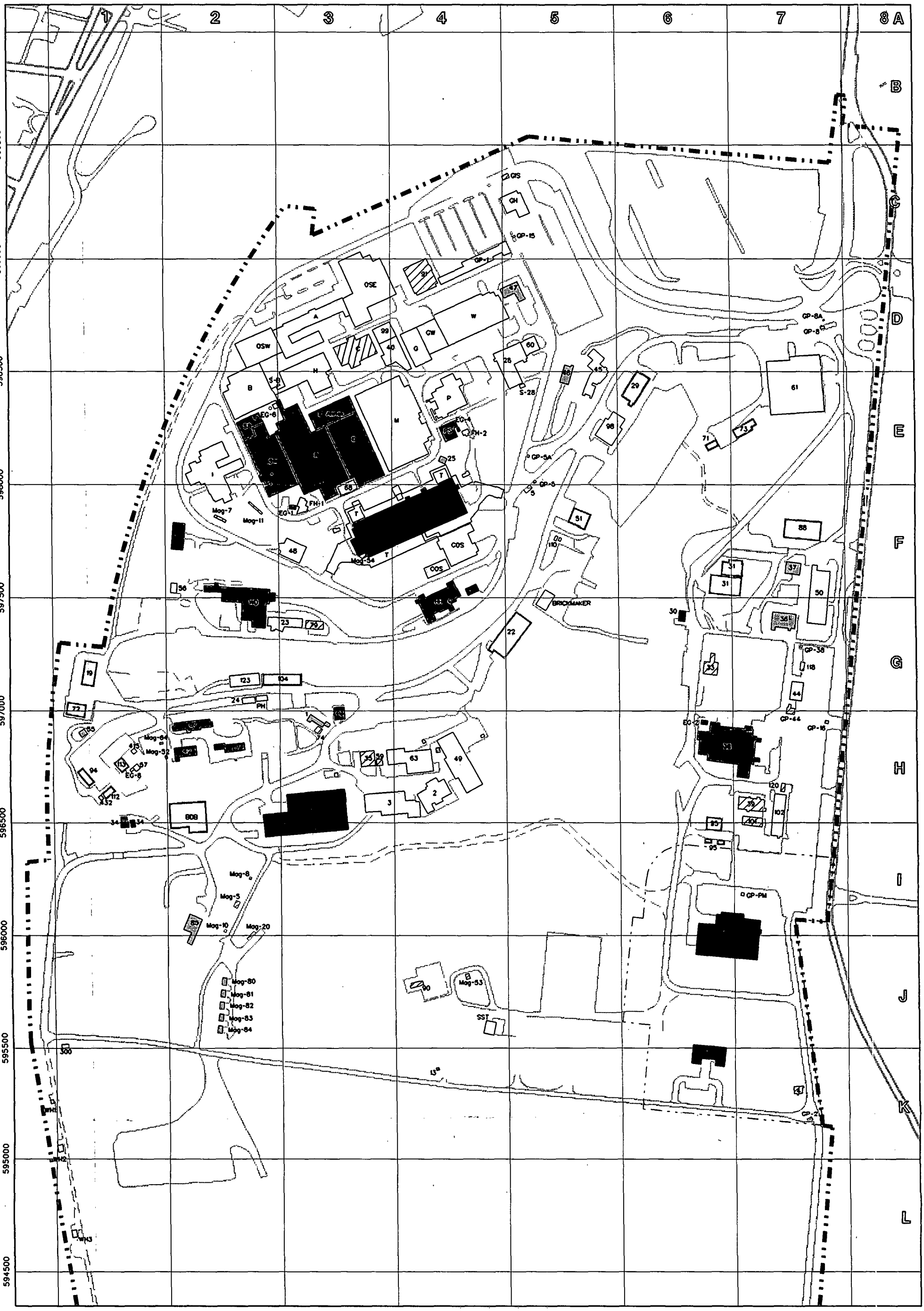
Contains Proprietary Information



REX A. DICKEY, P.E.,P.S.

MONTGOMERY COUNTY ENGINEER

FEBRUARY, 199



Legend

- To Be Demolished (CERCLA)
- To Be Demolished (Construction)
- Personal Property
- Hatch: Removed/Demolished
- Transfer (Waiting Evaluation)
- Transfer (NFA)
- Transfer (FA)
- Transfer (RA)

D&D PRS CERCLA Response Action

0 100 200 400 600 800 1000

Scale in Feet

TN GN MN

ISS	DATE	REVISION	BY	CHKR	ENG	M
	01/19/99	UPDATE	MR			

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					

PART CLASSIFICATION

(U) TITLE CLASSIFICATION

Building Disposition Core Team

01/19/99

DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE: D

DRAWING NUMBER: BLDG DISP

JOB NUMBER

DWG TYPE | PRMG | CAGEC | SCALE | SHEET 1 OF

STATUS | ORIGIN MSTATION 5.0

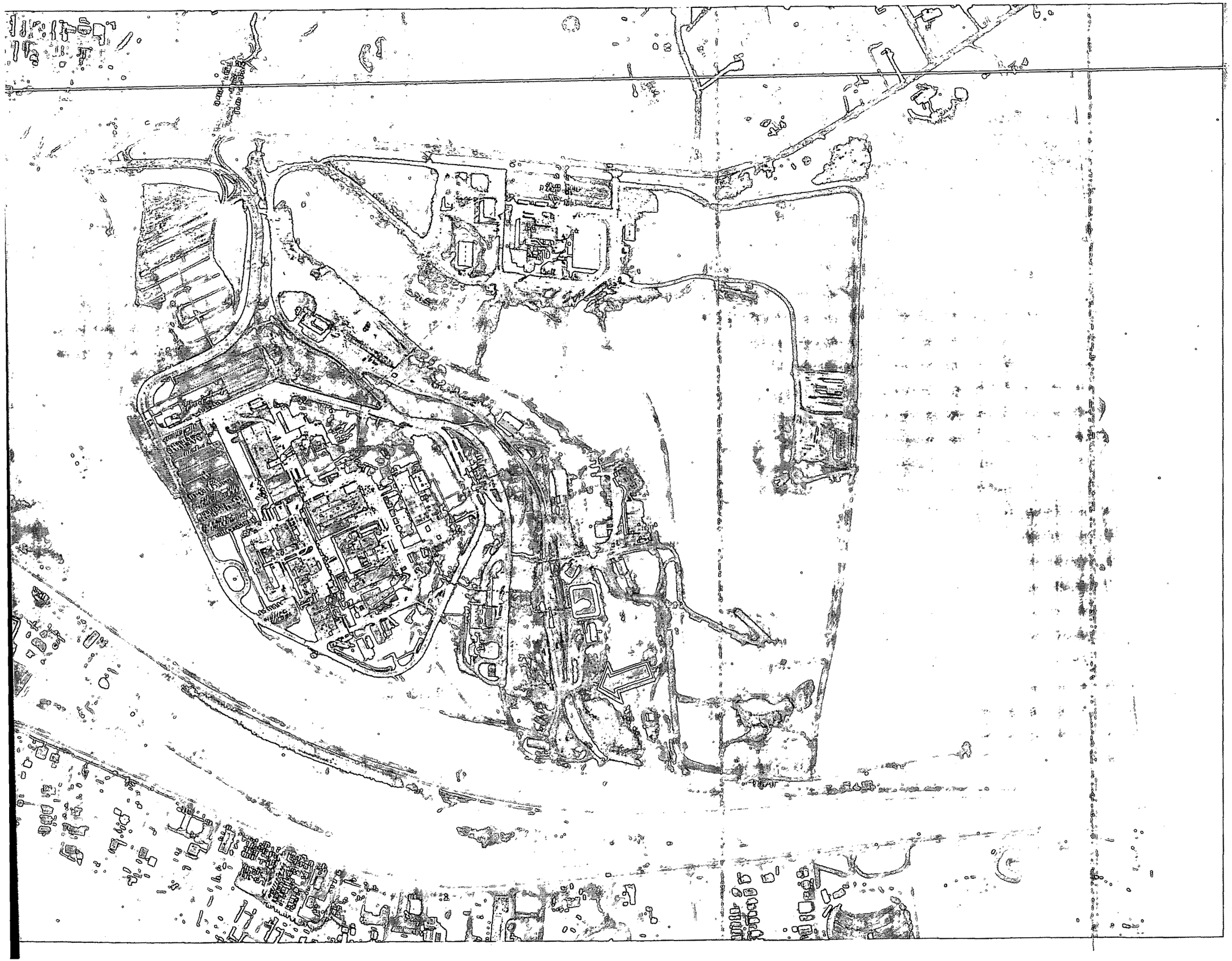
11/08/49

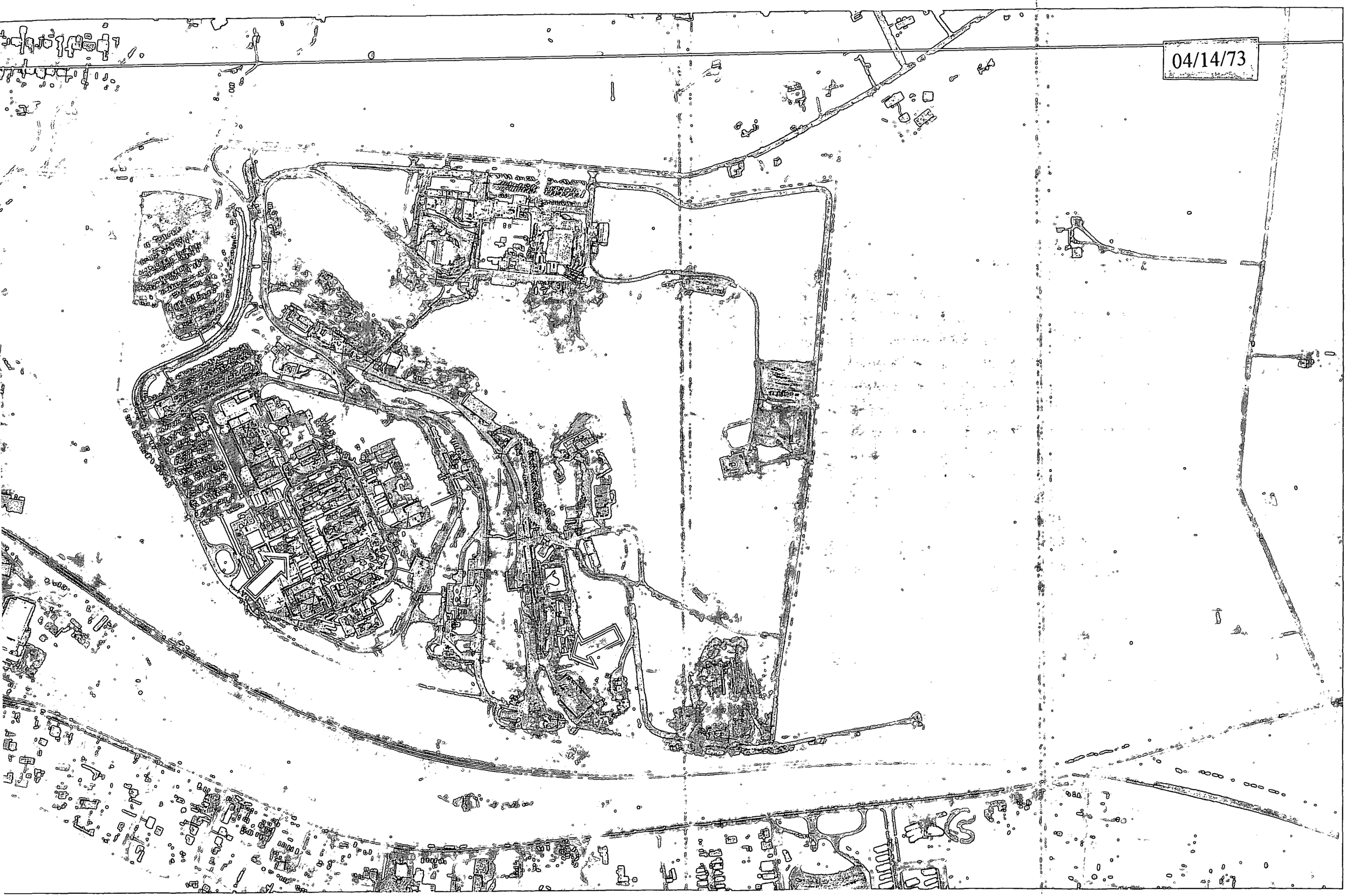
11/19/59
1355-20-

04/07/65

1965

03/30/68

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06/83

04/04/94