OVERSIZE PAGES

LOCATED AT

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DOCUMENT

Admin. Record
1505-9903080002

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-054/99
March 3, 1999

99-TC/03-03

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
PAINT SHOP: 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 the Paint Shop has been authorized for release to USEPA, OEPA, ODH, and the Public Reading Room by Frank Schmaltz of MEMP. In review of 40CFR300.415(b)(2), the demolition of this building 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.

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/attachment
Brian Nickel, OEPA, (1) w/attachment
Kathy Lee Fox, OEPA, (1) w/attachment
Ruth Vandergrift, ODH, (1) w/attachment
Terrence Tracy, DOE/HQ, (1)w/attachment
Art Kleinrath, MEMP, (1) w/attachment
Budd Thompson, BWO, (1) w/attachment
Bob Ransbottom, BWO, (1) w/attachment
Dann Bird, MMCIC, (1) w/attachment
Public Reading Room, (5) w/attachment
Administrative Record, (2) w/attachment
DCC

MOUND

Environmental
Restoration
Program

MOUND PLANT
BUILDING DATA PACKAGE
Information Notice

The Paint Shop will soon be dismantled. A Building Data Package describing the Paint Shop and its 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.

1505-9903080002

MOUND

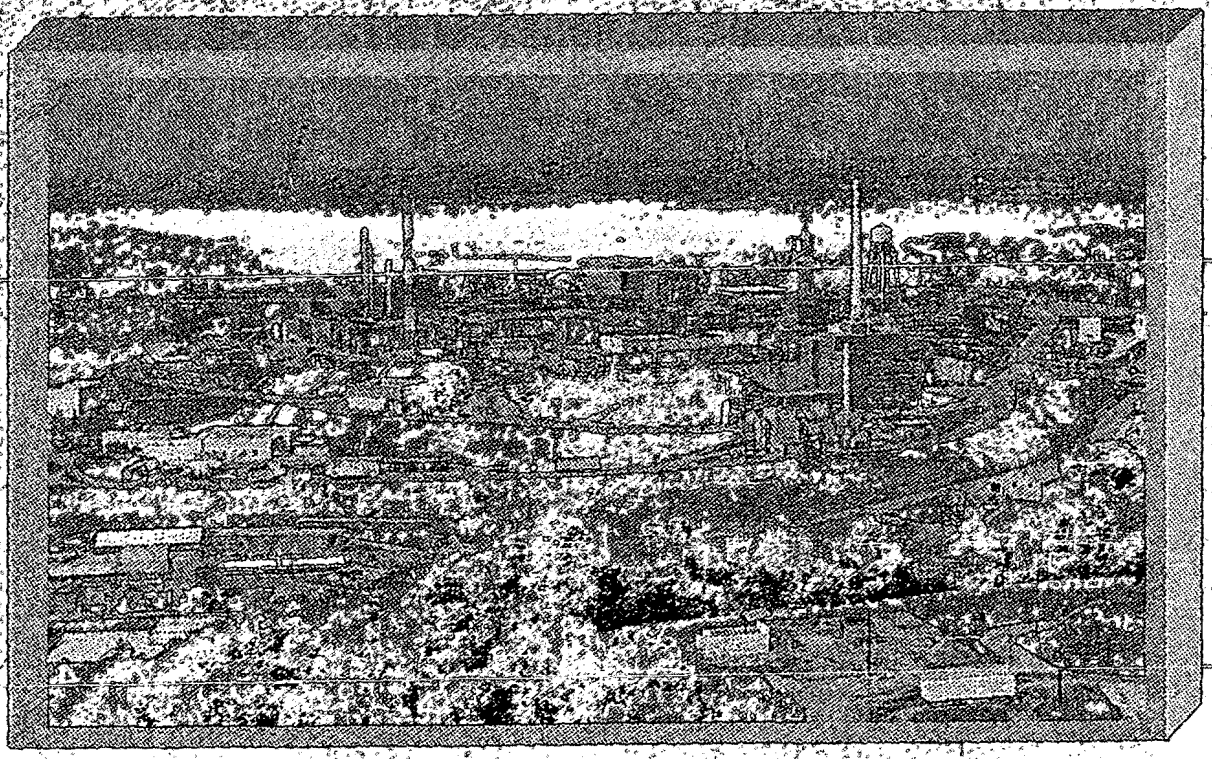
Environmental Restoration Program

MOUND PLANT

Building Data Package

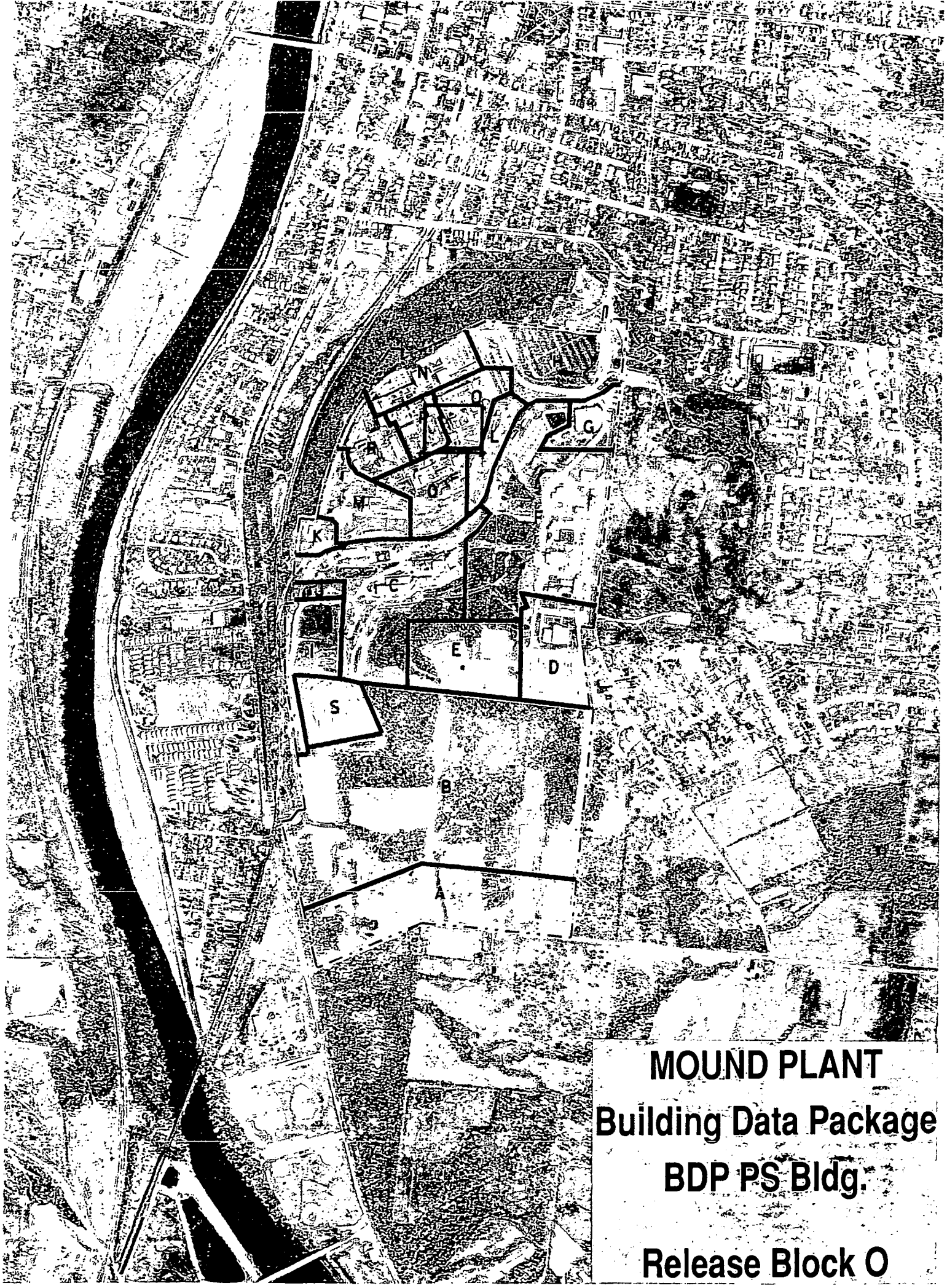
PS Building

Located within Release Block O



BDP PS Building

REV	DESCRIPTION	DATE
WORKING DRAFT		MAR. 1, 1999
DRAFT		Mar. 3, 1999
DRAFT PROPOSED FINAL		Mar. 3, 1999
PUBLIC REVIEW DRAFT		Mar. 3, 1999
FINAL		Mar. 3, 1999

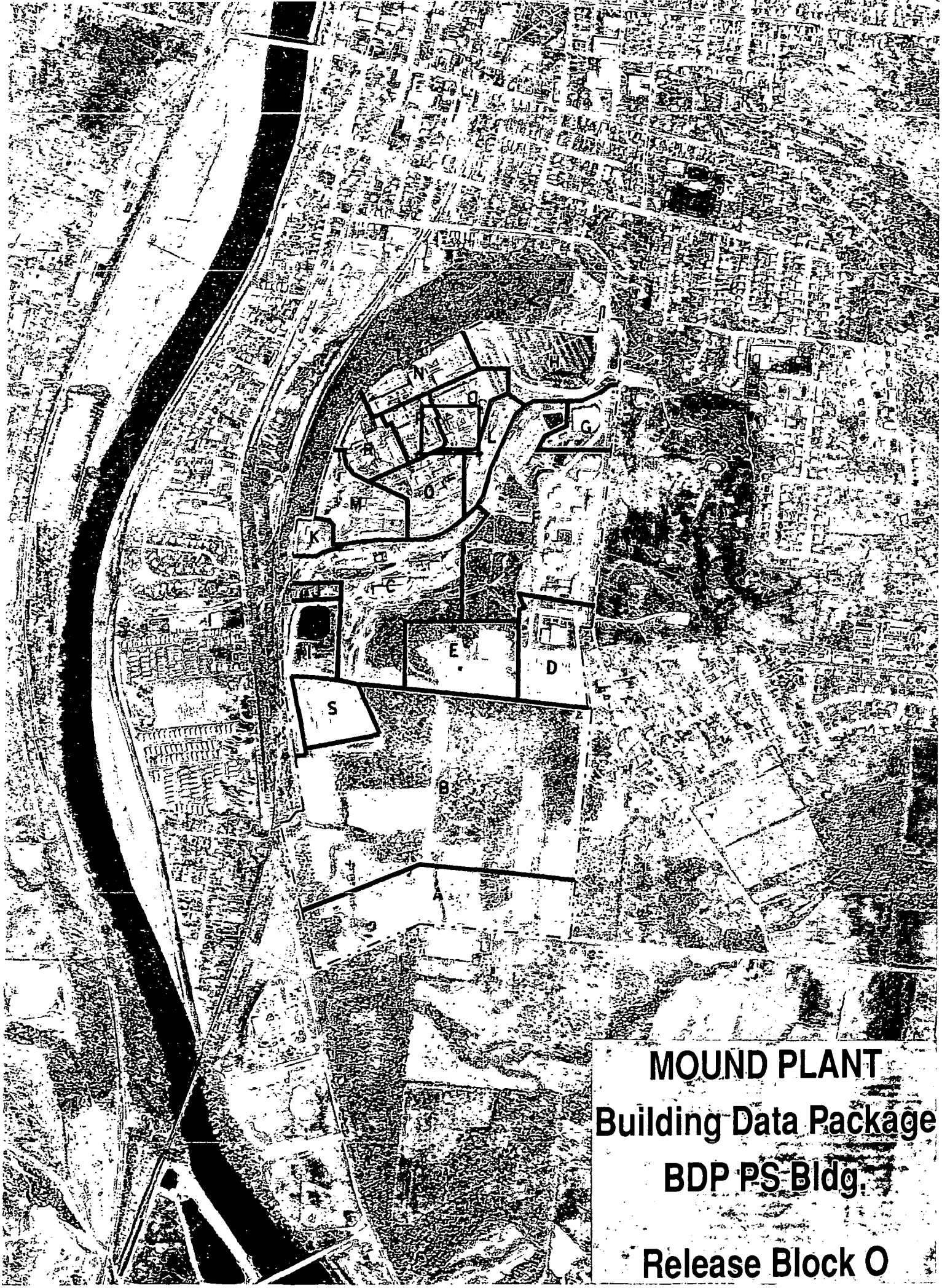


MOUND PLANT

Building Data Package

BDP PS Bldg.

Release Block O

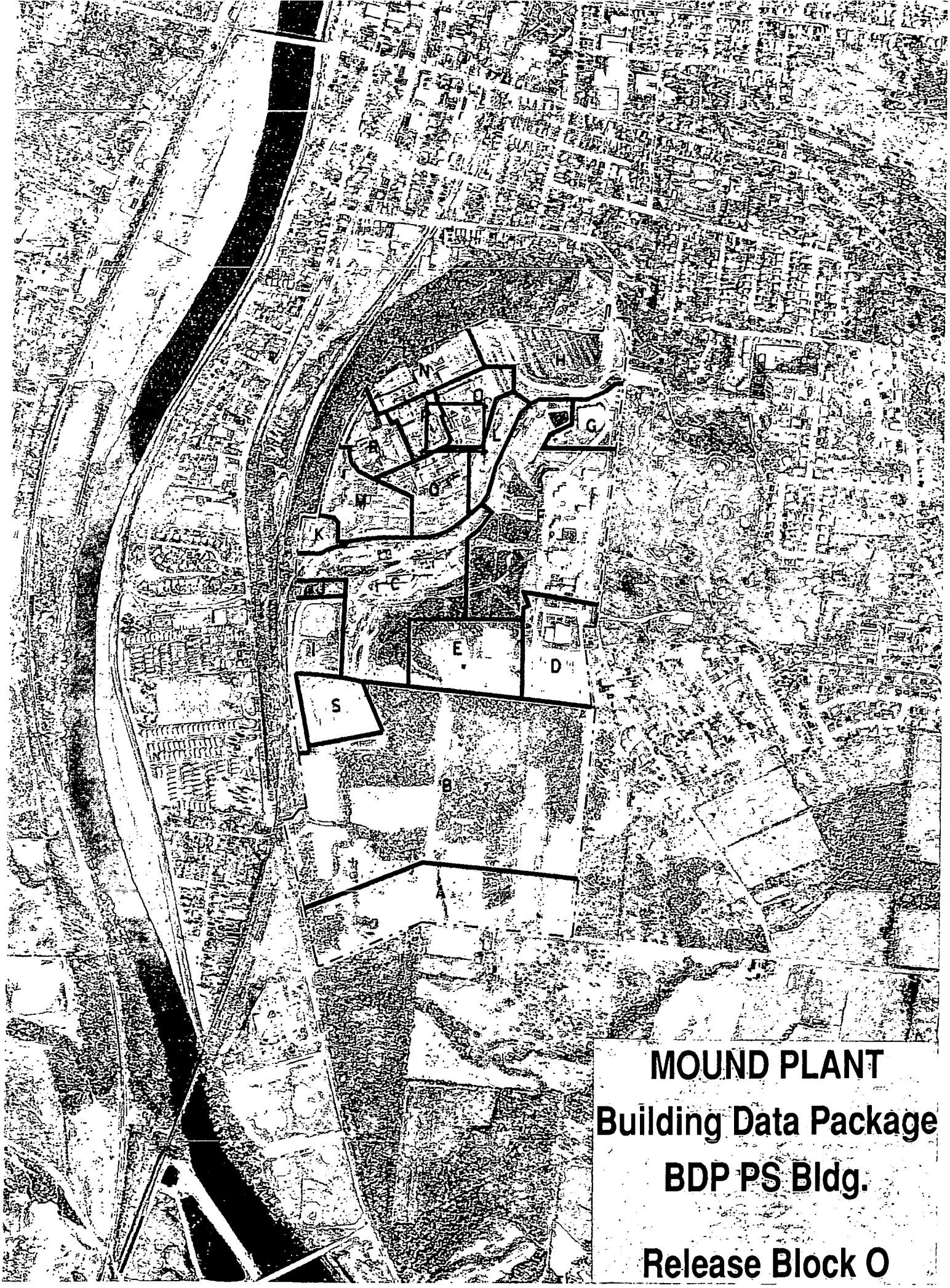


MOUND PLANT

Building Data Package

BDP PS Bldg.

Release Block O



MOUND PLANT

Building Data Package

BDP PS Bldg.

Release Block O

H
N
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PS Bldg.
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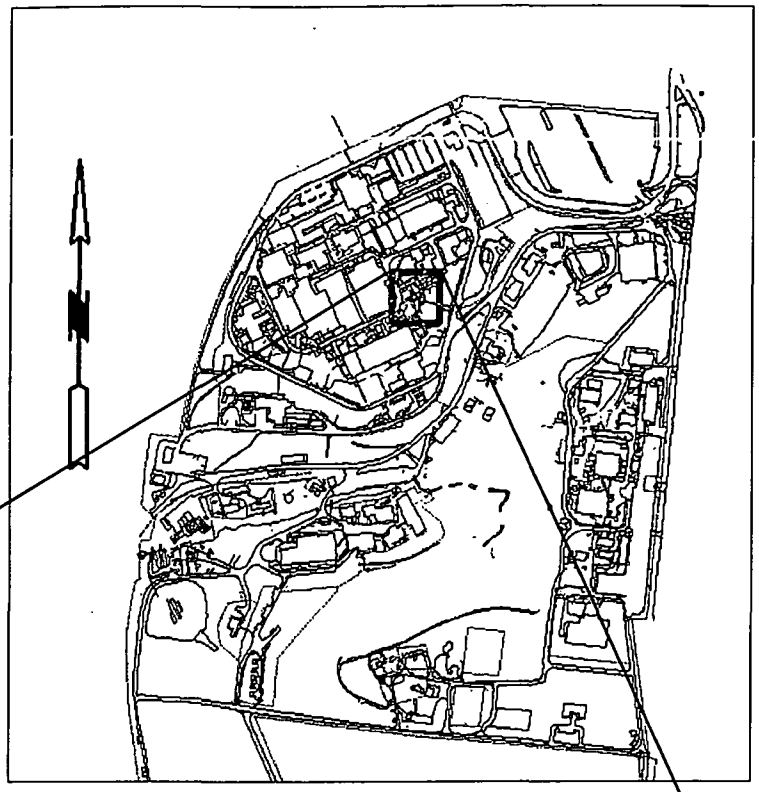
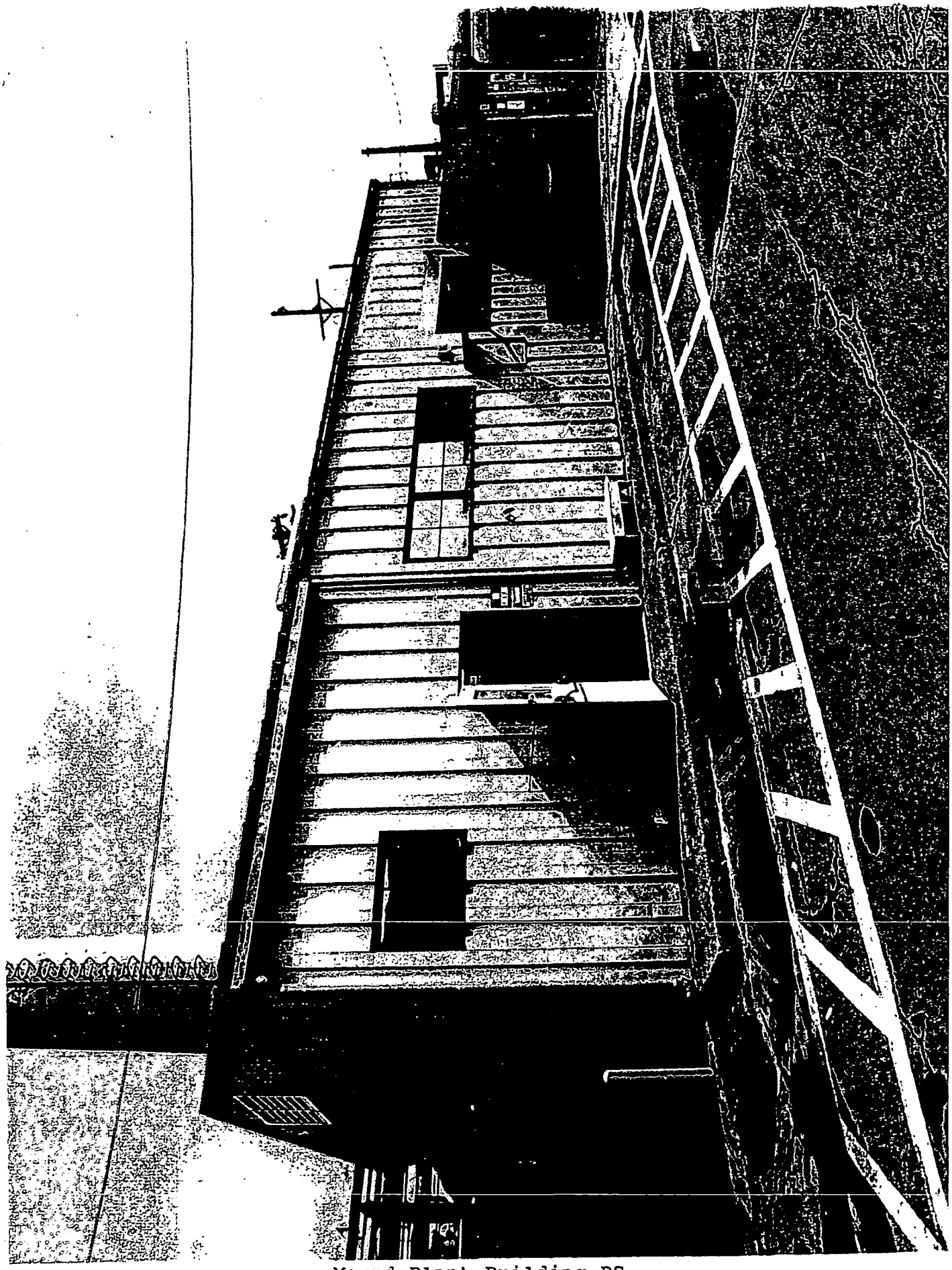
Mound Plant

PS Building
Paint Shop

Release Block O

On the map below:
- Building number and location shown in black
- PRS locations and numbers shown in blue
- Surrounding buildings shown in green
- Fencing shown in red
- Elevation contours shown in brown





Mound Plant Building PS

9.24-69

BUILDING DATA PACKAGE (BDP)

PS BUILDING (PAINT SHOP)

(Non-CERCLA Demolition)

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

Babcock & Wilcox of Ohio
Contract #DE-AC24-97OH2004

Final
March, 1999

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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 subject property.

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 building.

1.2 Scope

This document has been prepared in accordance with agreements and requirements as specified in the *Work Plan for Environmental Restoration the DOE Mound Site, Mound 2000 Approach*. It is a Building Data Package of Building PS Building 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 building and a 15-foot wide perimeter border around the building. This perimeter includes roadways, sidewalks, pavement, and grass covered areas. The investigation of PS Building 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
      - Chemical history

- Soil sampling
- Lead paint
- Asbestos
- Radon

The building investigation was conducted by BWO personnel on 1/12/98.

This report used a variety of previous assessments completed by B&W of Ohio 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 Plan, November 1994.
- EDR Report - Radius Map
- Building Prints
- MD-222153, Mound Site Radionuclides By Location, July 1995
- Contaminant Surveys
- Environmental Appraisal of the Mound Plant, March 1996
- Appropriate Potential Release Site (PRS) Documents
- Title Search

1.3 Limitations and Exceptions of Assessment

This data package addresses the structure only. Soil contamination in the vicinity is noted in Appendix L.

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 property consists of Mound Plant PS Building footprint, and a 15-foot wide perimeter around the building. PS Building contains 2,288-square feet. It was constructed in 1963.

2.1 Current and Past Uses of PS Building

PS Building houses a paint shop with an Ohio Environmental Protection Agency (EPA) permitted paint spray booth. The paint shop contains processes conventional to painting: brush painting, and spray painting, storage of supplies (latex, and non-latex paints), sanding, priming, and drying. The paint shop also houses a sign fabrication area that makes computer-generated signs. The building has been used for the same purpose since construction. Appendix L notes soil contamination around the building.

2.2 Summary of Environmental Concerns and Findings

DESCRIPTION	COMMENT	RESOLUTION
Asbestos	Explosion-proof lighting fixture seals Transite panels on a shed attached to PS Building and sweat tape on a water line	Have been removed. To be removed prior to building demolition.
Lead	N/A	N/A
Lead Paint	Lead containing paint/coating on walls	TCLP test results satisfactory (Appendix J). Disposed with building debris.
HVAC	Window type unit steam fed system Roof mounted paint booth exhaust units	Window unit has been removed. Steam fed unit & paint booth exhaust unit disposed with building debris.
Mercury	N/A	N/A
Chemicals	Paints and Solvent	Have been removed.
Radiological	Sampling within release limits	Demolition debris to landfill.
Radon	See Appendix H. Sampling indicates 1.2 pCi/l (EPA comparison value 4 pCi/l).	None (below values).
Fluorescent Lamps	PCBs in ballasts	Have been removed.
Septic Systems	N/A	N/A
Drains & Sumps	Floor drain to storm sewer	Will be sealed during demolition
Waste Water	Storm water sewer	All run-off collected.
Stains & Corrosion	Paint over spray	Disposed with building debris.
Space	Paint booth with in-floor turntable	Disposed with building debris.
Storage Tanks	N/A	N/A
Solid Waste Disposal	Building debris	Will be monitored prior to disposal. Metal to be recycled.
Migratory Hazards	Run-off water	See waste water.

2.3 Radiological Characterization Summary For PS Building Structure

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm2)	Surface Contamination Guideline (dpm/100cm² Note 2)	COMMENTS
Highest Alpha Smearable Activity	99-PS-02	Room 5	3.60	20	
Highest Alpha Fixed Activity	Note 1	Note 1	<100	100	
Highest Beta Smearable Activity	99-PS-02	Room 2	6.50	1,000	
Highest Beta Fixed Activity	Note 1	Note 1	<5,000	5,000	
Highest Tritium Smearable Activity	99-PS-02	Room 6	179.89	10,000	

Note 1: All RSDS' associated with the confirmatory survey were <100 dpm/100 cm² alpha and <5,000 dpm/100 cm² data. RSDS' include: 99-PS-02, 99-PS-03, and 99-PS-04.

Note 2: Core Team Determined Values

RSDS: Data sheet that provides radiological field monitoring survey results.

Associated PRS Table for PS Building (See paragraph 4.2.1.)

PRS #	CERCLA or BLDG. RELATED	Binning Status	Status/Comments
112	BLDG. RELATED	TBD	See Appendix N.
368	BLDG. RELATED	TBD	See Appendix N.
411	CERCLA	RA	See Appendix M.

RA: Response Action
FA: Further Assessment Required
NFA: No Further Assessment Required

3.0 Site Description

3.1 Site/Vicinity Location and Characteristics

PS Building is 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. PS Building is located on the Main Hill. 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.

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 Related to PS Building

The subject property consists of Mound Plant PS Building footprint, and a 15-foot wide perimeter around the building. PS Building contains 2,288-square feet. It was constructed in 1963. PS Building houses a paint shop with an Ohio Environmental Protection Agency (EPA) permitted paint spray booth. The paint shop contains processes conventional to painting: brush painting, and spray painting, storage of supplies (latex, and non-latex paints), sanding, priming, and drying. The paint shop also houses a sign fabrication area that makes computer-generated signs. The building

has been used for the same purpose since construction.

Potable water was provided to a drinking fountain and discharged to a storm drain. HVAC was provided by portable wall mounted units that currently remain installed in the building. There are no other structures, roads, or improvements that would impact the environmental condition of the building.

3.3 Current and Past Uses of Buildings Adjacent To PS Building

Proximity to PS Building	Building Area (Sq. Ft.)	Current Use	Past Use	Direction From Building
P Building	15,143	Power House	N/A	North
Argon Tank	N/A	Glove box Supply	N/A	South
Building 25	430	Weather Station	N/A	South
EG-4	240	Supports GP-1	N/A	East
M Building	56,000	Storage	Machine Shop/ Electroplating	West

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 indicated that no chemicals are stored in PS Building.

The Mound Plant site was identified as a contaminated site 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 and 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 buildings.

4.2 Specific Record Sources

4.2.1 Occurrence Reports

There was one occurrence report associated with PS Building. The report number was EGGMAT03-1997-005, "Discovery of Radioactive Material in the Paint Shop". These items were decontaminated and removed from the building. See Appendix O.

4.2.2 Spills and Releases

No spills or releases of the magnitude that would require an occurrence report are associated with PS Building. The building floor drains showed no evidence of spills or scaring that might indicate the presence of solvents.

4.2.1 Associated PRS Overview

As a result of the investigations and documentation conducted to comply with the CERCLA cleanup process via the FFA/DOE ER program, DOE and EG&G Mound Applied Technologies have tabulated all the Potential Release Sites (PRSs) identified under the various regulatory program in effect at the site. Of these 420 PRSs, PRSs 112 and 368 are attributed to operations in and around the building. PS Building is also identified with PRS 411 by proximity. See Appendices M and N.

4.3 Review of Building Prints

Building prints were reviewed and are included in Appendix D.

4.4 Aerial Photographs

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

PS Building is visible in the photographs dated 1965 and after.

4.5 Interviews

Discussions were conducted with the Building Manager on 2/12/98. He indicated that radioactive contaminated material was found in the building, but has since been deconed and removed. He stated no spills or releases requiring an occurrence report were associated with PS Building. Interviews with both Pat Levangie and Sharon Peyton, long time employees in the Paint Shop revealed no spills or releases. They did indicate that barrels were brought to the Paint Shop monthly to be washed out and repainted. The rinsate was swept outside the building.

Appendix A

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
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
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

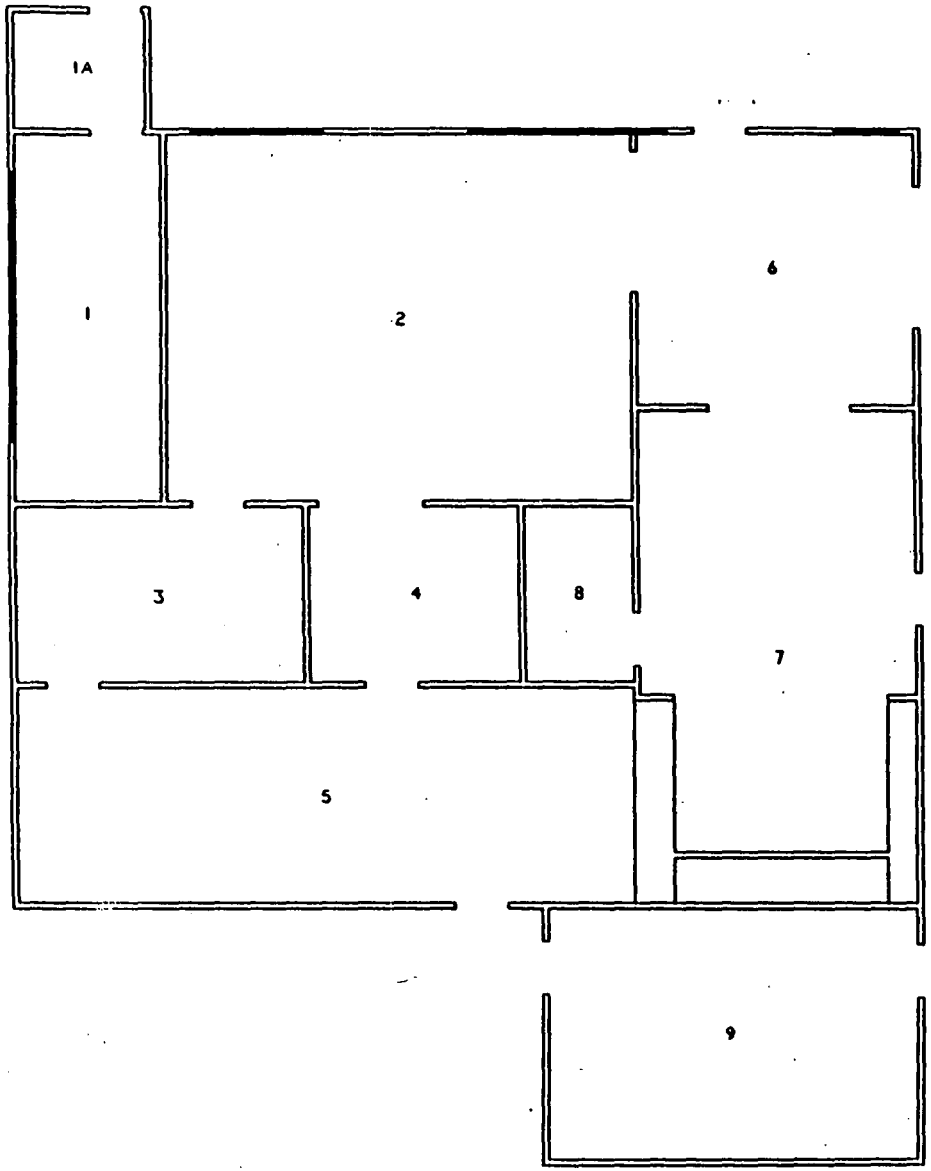
Appendix C

Site Plan

Appendix D

Building Drawings

ISS	DATE	REVISION	BY	CHKD			APVD	N
0	12/12/91	ASBUILT ISSUE	DCW				DVD	



PS BLDG
FIRST FLOOR
BLDG CODE:3524

SHEET	1	2	3	4	5	6
TITLE	0					

TITLE: PS BLDG FLOOR PLANS

(U) TITLE CLASSIFICATION

FIRST CLASSIFICATION

SECURITY CLASSIFICATION: UNCLASSIFIED

STATE: C

DRAWING NUMBER: FSC911319

JOB NUMBER: 12335

DWG TYPE: SFP

FROM: PS BLDG

CODE: 14863

SCALE AS NOTED

SHEET 1 OF 1

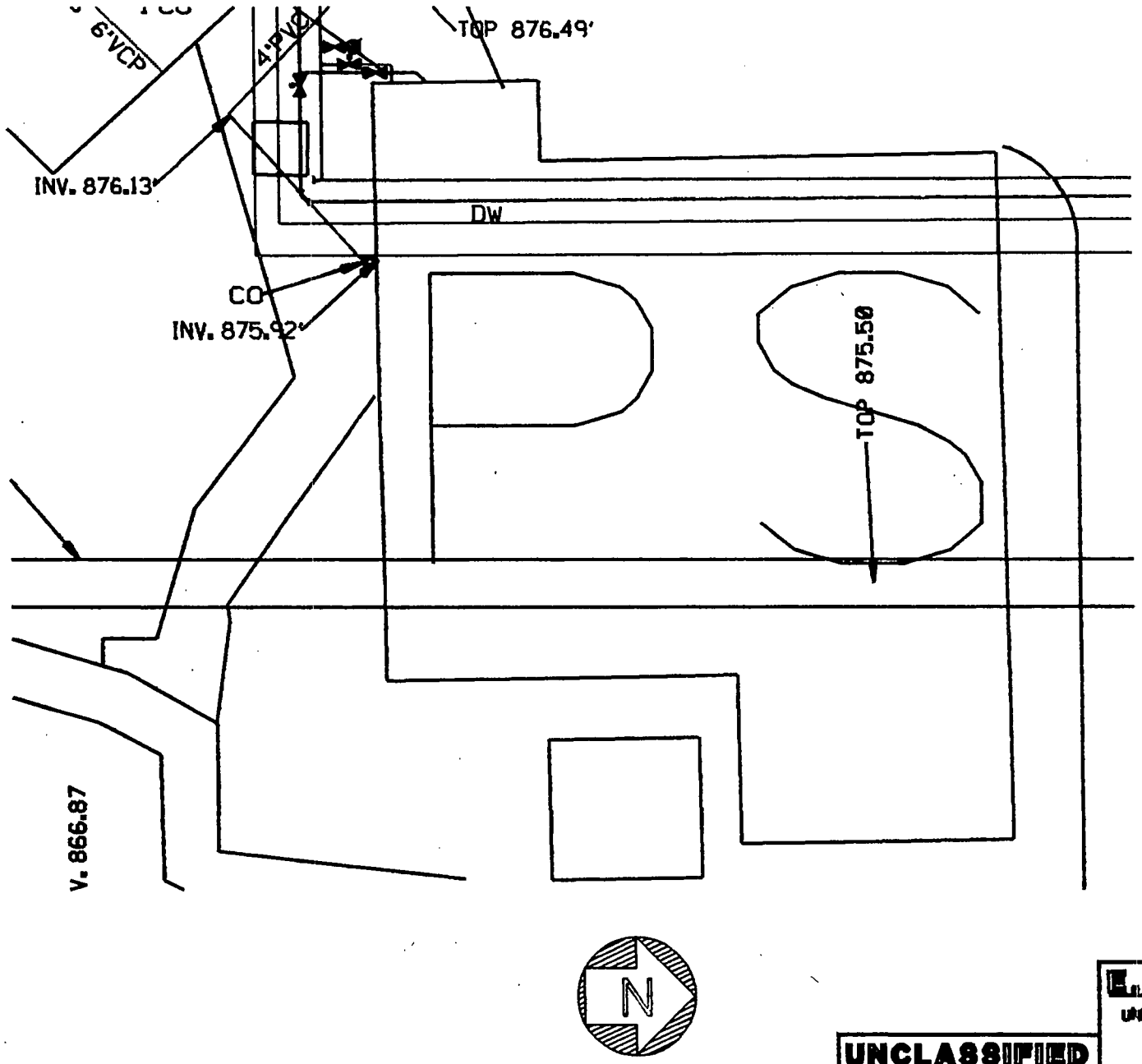
GRAPHIC: MD-REL-12/12/91

GRIDDER: MD-GRJ-V3.0

DESIGN ENG | PROJ MGR | SPONS | ENG MGR | LP & EC | PROJ REV | ENG MGR | APVD | DATE

APPROVALS: SAFETY COMMITTEE REVIEWED: DATE

9.24-61



FIRE
POTABLE
RAW
SANITARY
STORM
RADIOLOGICAL

UNCLASSIFIED

E.G. & G. - MOUND

UNDERGROUND WATER & WASTE LINES
PS BLDG.

DATE: 5-5-96

Appendix E

Aerial Photographs

Appendix F

Environmental Appraisal Report of the Mound Plant (Extract)

9.24 BUILDING PS

9.24.1 Scope of Building PS 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 performed a walk-through of Building PS on February 28, 1996. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is found in Attachment 1 (Section 9.24.6.1). The appraisers were accompanied by knowledgeable personnel such as the process owner. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.24.6.2).

9.24.2 Description of Building PS

Building PS is a one-story, 2,288-square-foot, metal building with a metal roof. Its location is shown in Attachment 3 (Section 9.24.6.3). The building is bordered by a sidewalk on all sides. Adjacent buildings are Building P to the north, Building M to the west, a cooling tower to the east, and Building 93 to the south. Floor plans are presented as Appendix 5. The building is serviced by central steam for heat, chilled water, and electrical service (*Mound Facility Physical Characterization*, 12-1-93).

Building PS was constructed in 1963. The building has been used for the same purpose since construction. The building is not contaminated with radioactive or energetic materials (*Mound Facility Physical Characterization*, 12-1-93).

9.24.3 Summary of Findings

Building PS houses a paint shop with an Ohio Environmental Protection Agency (EPA) permitted paint spray booth. The paint shop contains processes conventional to painting: brush painting and spray painting, storage of supplies (latex and non-latex paints), sanding, priming, and drying. The paint shop also houses a sign fabrication area that makes computer-generated signs. The building is well-maintained, but has several issues of environmental concern identified during the walk-through or during review of reference materials.

9.24.4 Observations

9.24.4.1 Air Emissions

The air emission sources are identified on the EAC, in Attachment 1 (Section 9.24.6.1). There is an existing air permit for the building (No. 0857091196K001). It is also listed in Mound's air

emissions inventory. The terms and conditions of the permit are being followed. The process owner showed the team the log that is being used to record chemical usage in the paint spray booth. There are two solvent rinse tanks containing mineral spirits. These should be evaluated to determine air permit applicability. There are no fuel-burning units in the building. There is no evidence of fugitive dust.

9.24.4.2 Wastewater Emissions

The Mound Facility has three wastewater collection systems: a sanitary wastewater system; a storm water system; and a radioactively contaminated process wastewater system. Sanitary wastewater is treated at an onsite tertiary treatment plant and subsequently discharged by hard pipe to the Great Miami River. Storm water and any non-process wastewater, single pass cooling water, and softener backwash may be discharged directly to the Great Miami River, via the Miami-Erie Canal, or may be diverted to a 3.1-million-gallon holding pond for settling prior to discharge. Radioactively contaminated wastewater is treated in Building WD by physical-chemical treatment. If appropriate, wastewater may be discharged by hard pipe to the Great Miami River. If concentrations of radioactive contaminants cannot be reduced to acceptable levels, wastewater is solidified and shipped to the Nevada Test Site or Envirocare for disposal. All outfalls are permitted under an active NPDES permit. Routine monitoring activities are in place. Based on NPDES monitoring report data reviewed, it appears that the facility is in compliance with qualitative and quantitative conditions of the permit.

9.24.4.2.1 Sanitary Wastewater

The building does not have sanitary services. According to a diagram of underground lines, presented as Attachment 5 (Section 9.24.4.2.1), the building is not serviced by a sanitary line.

9.24.4.2.2 Storm Wastewater

The building does appear to be serviced by storm drains according to Attachment 5 (Section 9.24.4.2.1). Exterior grates and drains were not tested to confirm that they connect to the storm drainage system. Roof drains are not piped directly to a storm drain. Storm water is either absorbed into the ground or flows down hill as surface water to the nearest storm water drain. Inspection of the surrounding area showed no sign of odors, colored discharges, or scarring which would indicate that any materials other than storm water has entered the storm drainage system.

9.24.4.2.3 Chemicals

A list of chemicals found in Building PS is included in the BMQ. The information was gathered as part of the chemical inventory which is conducted annually. The inventory information dates to 1994, as 1995 data were not yet available when the appraisal was conducted. Confirmation of the 1994 inventory by the appraisal team was not attempted, as the 1995 inventory was in progress. However, storage, handling, and disposal of chemicals in the BMQ were reviewed to assure conformance to regulations related to 40 CFR 122, 40 CFR 261-265, 268, and 29 CFR 1910.

There is asbestos and xylene in the building. Asbestos is identified as a Clean Water Act (CWA) toxic pollutant and xylene is identified as a hazardous substance in 40 CFR Part 122, Appendix D, Table V. Chemical storage and handling procedures are in place for proper disposal of chemicals. There is no evidence that chemicals enter the storm or sanitary drains. There have been no reported spills from Building PS.

9.24.4.3 Potable and Service Water

Potable water is supplied to the building. There are no visible cross connections. There is one Oasis water fountain. The fountain that supplies drinking water has not been tested for lead. According to EPA protocol, annual sampling criteria do not require testing of each fountain. There is a safety shower/eyewash station.

9.24.4.4 Chemical Storage and Hazardous Materials

Chemicals used in the paint shop and associated processes are stored in Building PS. There are several flammable storage cabinets which meet standard National Fire Protection Association (NFPA) requirements. Chemicals are stored in the building in accordance with applicable standards. Material Safety Data Sheets (MSDS's) were available in the building.

The building is equipped with appropriate emergency response equipment such as an eyewash, safety shower, and fire extinguisher. Extinguishers are bar-coded. The inspection date database is maintained in the Fire Station, Building 98. The safety shower and eyewash unit is inspected and flushed quarterly. There is an Emergency Evacuation Plan, and signs were posted in work areas.

Housekeeping in the paint storage room was excellent. Although storage of paints was organized and orderly and the volume had been reduced in October 1995, as a result of an audit, there still appeared to be an excessive amount of stored paint. Latex water-based paint was stored on the lower shelves of a flammable storage cabinet. Thinners and other extremely flammable materials were stored on the upper shelves. Although equipment in the paint booth area was grounded, no bonding straps were used in transferring flammable chemicals from one container to another. Several containers of 1,1,1-trichloroethane were stored in the facility.

There are two aboveground storage tanks at the south end of the building. One tank contains argon and one tank contains helium. The aboveground tanks contain gaseous products and do not have containment. They are identified on the BMQ, in Attachment 2 (Section 9.24.6.2), because of their proximity, not utilization. The tanks are inspected and maintained by an outside contractor. There are no sumps, separators, or catch basins, in or around the building. There are no underground storage tanks associated with this building.

The building was tested and does contain asbestos-containing building material (MD-10391, *Asbestos Program Manual*, 9-6-95). There is no evidence of friable asbestos.

There are no capacitors or transformers containing polychlorinated biphenyls (PCB's) located in the building (1995 PCB Annual Document Log).

9.24.4.5 Solid, Hazardous, and Radioactive Wastes

Solid wastes generated are primarily empty paint cans. Solid wastes are removed by janitorial personnel to a site collection point, then shipped offsite to a local landfill by a contractor. Aluminum cans, glass, and cardboard are removed by janitorial personnel to specific collection points, then sent offsite to be recycled by a contractor. White paper is collected, compacted, and sent offsite for recycling by a contractor. Scrap metal is collected at a specific site, then sent offsite to be recycled by a contractor. These service contracts are maintained by Waste Management. There is no evidence that hazardous materials or wastes are mixed with solid waste streams.

Some materials required for the sign fabrication and painting are stored in Building PS. If partially used containers of these materials needed to be disposed of, Waste Management is contacted. Some aerosols used in the paint shop contain 1,1,1-trichloroethane. Small quantities are sprayed on, and either remain on the metal or are wiped off with rags which are thrown into the trash. Further investigation into the characterization, storage, and disposal of the rags should be performed.

Solid hazardous wastes generated by the process, maintenance and cleaning, are stored in a Satellite Accumulation Area (SAA) located inside the building near to and within eye contact of the work area. Liquid hazardous wastes generated by the process, maintenance, and cleaning are stored in a SAA located adjacent to the building in a 55-gallon drum that is kept locked except when adding wastes. The SAA procedures and appearance conform to RCRA requirements. Wastes are collected and transported by a representative of the EG&G Waste Management Group, and are stored in Building 72 for ultimate disposal. There is no onsite treatment of waste. All is disposed of under a service contract. Waste disposal manifests and Certificates of Disposal are maintained by the EG&G Waste Management Group. They conform to RCRA requirements.

9.24.4.6 Waste Minimization and Pollution Prevention

At Mound, there is an active program to minimize waste streams, in accordance with state and federal requirements and Executive Order 12856. Programs for waste minimization include replacing oil-based paints with latex paints and replacement of chlorinated solvents with mineral spirits. There are several hundred gallons of paint stored in the facility which could be evaluated for volume reduction. An ozone-depleting compound, 1,1,1-trichloroethane, could also be evaluated for non-essential use.

9.24.5 Findings and Recommendations

Photographs were taken to document the environmental appraisal. They are included as Attachment 6 (Section 9.24.6.6). The environmental appraisal of Building PS indicates that the

following action items, in priority order, should be planned and scheduled for accomplishment thus assuring that best management and operating practices are in place.

PS-1 Evaluate air sources that are not permitted and document *de minimis* determinations in accordance with OAC 3745-15.

PS-2 Disposal practice of cleaning rags needs to be reviewed. Some of the materials placed on the rags contain 1,1,1-trichloroethane and methylene chloride. This waste stream should be stored and disposed of in accordance with Mound's Part B Permit Application and OAC 3745-52-11, OAC 3745-52-34(c), and OAC 3745-59.

PS-3 Evaluate characterization of paint waste streams, how determination is made, and who maintains the documentation in accordance with OAC 3745-52-40.

PS-4 Segregate latex paint and store in cabinets that are not designated for flammable chemicals.

PS-5 Provide training in bonding, as well as grounding to reduce the potential of fire.

PS-6 Use bonding straps when transferring flammable chemicals from one container to another.

PS-7 Perform a needs assessment and consider reducing the amount of paint purchased.

PS-8 Restrict the use of products containing 1,1,1-trichloroethane, an ozone depleting chemical.

9.24.6.1 Environmental Appraisal Checklist

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name PAINT SHOP

Appraisers:

Name Discipline

Name Discipline

Name Discipline

Name Discipline

Building Manager: JEFFREY L. BOSTON

Process Manager: JAMES E. BROWN

Date: 2/28/96

ENVIRONMENTAL APPRAISAL CHECKLIST

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Environmental A, . .sal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Clean Water Act (CWA) Screening Checklist

Question	Response	Comments
Does the outside drain spouting of the building discharge directly to a storm sewer/sanitary system?	Y / (N)	If the answer to any of these questions is yes, proceed with the following checklist.
Are there sinks, toilets and floor drains in the building?	(Y) / N	
Are chemicals being used in the building?	(Y) / N	
Is there a process which discharges to the storm or sanitary system?	Y / (N)	

CWA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 122 Appendix D Table V	If chemicals are used/stored in the building, are they on the attached list? Are they properly contained?	(Y) / N (Y) / N	asbestos xylene
	Is the building in operation? What are the processes and where do they discharge to?	(Y) / N _____ _____	paint spray booth
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y) / N	no toilets
OAC 3745-33	Do the floor drains and sinks drain to a sanitary or storm sewer?	Sanitary Storm	yes
	Is there a sump/pit in the building? If so, what does it contain? How often is it pumped out? Does water collect in sump? Does sump have secondary containment?	Y / (N) _____ _____ Y / N Y / N	
	Are there any manholes, catch basins, drains, or fill pipes in or around the building? If so, are there any unusual appearances, colors, and/or odors? Describe in comment section. Can chemicals flow into the drain?	(Y) / N Y / (N) (Y) / N	if there's a spill.

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Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Clean Air Act (CAA) Screening Checklist

Regulatory Guideline	Question	Response	Comments
	Are there any rooms that have air emissions sources that vent to the outside of the building, e.g., fumehoods, equipment? If so, note the rooms.	(Y)/N	Rm. 7 - spray booth - parts cleaners
OAC 3745-35	Using the air emissions inventory reference for this building, are there any sources in the building that are not documented?	(Y)/N	
	Is there evidence of fugitive dust emissions inside or outside of the building	Y/(N)	

CAA Checklist

Regulatory Guideline	Question	Response	Comments
	Are there existing air permits or applications applicable to the building?	(Y)/N	Source K001.
OAC 3745-31,35	If yes, are the terms and conditions of the permit or the information included on the application (see air emissions database) being followed? Note any differences and update the air emissions database.	(Y)/N	excellent paint/thinner usage log.
OAC 3745-31	Are there any sources that are not included in the air emissions database? If so, note the room, hood number, active or not, POC, and applicable air emission database information on Table B.	(Y)/N	
OAC 3745-31-03	Are there sources which are lab equipment of lab fumeheads used exclusively for chemical or physical analyses and bench scale lab equipment? These sources do not require a permit. However, the air emissions database should be updated.	Y/(N)	
	Has there been any release of air contaminants from this building?	Y/(N)	no accidents!

Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

CAA Checklist

Comments: Note the number of sources/hoods per room, the number that are active, and the POC on the reference document.

TABLE A

Process Source	Room Number	Hood Number	In Database	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Hours/Yr. Operation	Air Emissions lb. VOC
spray booth	7	PS0020001	(Y) / N	(Y) / N	paint - thinner				104.75 c/95
Justrite Safety Rinse Tank	7	22 gal. cap. 35" x 16"	Y / (N)	(Y) / N	Allpro Lacquer thinner	about 25 gal/yr for both	about 19.5 gal from		about 5.5 gal VOC from
Justrite Safety Rinse tank	7	11 gal. cap. 24" x 16"	Y / (N)	(Y) / N		tanks.	both tanks.		both tanks.
paint baking oven	8		Y / (N)	Y / (N)	NA →				
			Y / N	Y / N					

lid closed when not in use

inner used lid too dry

Source: Pat Levangie

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Hazardous Materials (HM) Screening Checklist

Question	Response	Comments
Are any chemicals used or stored in this building, now or in the past?	(Y) / N	If the answer is yes, proceed with the following checklist.

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.1200(b,f)	All containers of hazardous chemicals shall be labeled as to the identity of the chemical and the appropriate hazard warnings.	(Y) / N	
29 CFR 1910.1200(g)	MSDS shall be available to the employees in close proximity to the work area.	(Y) / N	
29 CFR 1910.22, 1910.106, 1910.176	All places of employment, passageways, storerooms and service areas shall be kept clean and orderly and in a sanitary manner. Aisles shall be unobstructed. Drums and containers are not leaking and are tightly sealed.	(Y) / N	
29 CFR 1910.106	Storage cabinets for flammable materials are constantly kept closed, are fire resistant and are labeled "FLAMMABLE - Keep Fire Away". Containers inside should be labeled and closed. No spills inside cabinet.	(Y) / N	NON-FLAMMABLE PAINTS ARE STORED IN FLAMMABLE CABINETS, THEY ARE IN THE PROCESS OF REMOVING NON-FLAMMABLES TO
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	Y / (N)	PERFORMANCE ASSURANCE AUDIT IDENTIFIED FINDING
29 CFR 1910.106(d)(4)	Inside Flammable/combustible storage rooms must meet the following: 4 in. raised sill or trench that drains to a safe area, liquid tight wall/floor joints, self-closing doors, gravity or mechanical exhaust providing 6 room changes/hr., exhaust switch located outside room, at least one 3 ft. aisle; no cracks in secondary containment.	Y / N	N/A

Environmental A[illegible]sal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.106(d)(7)	All flammable/combustible storage locations have at least one 12-B portable fire extinguisher located outside and within 10 ft. of a door opening into any room for storage. No smoking signs are posted.	Y / N	
29 CFR 1910.151	Eyewashes/showers shall be provided within the work area. Ensure unit is operational.	Y / N	
CGA P-1 3.3 & 3.3.10	All gas cylinders (full or empty) shall carry a legible label or marking identifying the contents.	Y / N	
CGA P-1 3.5.3	Full and empty containers should be stored separately with the storage layout planned so that containers comprising of old stock can be removed first with a minimum handling of other containers.	Y / N	
CGA P-1 3.5.8	All compressed gas containers in service or in storage shall be stored standing upright and the container shall be secured.	Y / N	
CGA P-1 4.2.2	Oxygen cylinders shall be separated from flammable gas containers or combustible materials a minimum of 20 ft. or a noncombustible barrier 5 ft. high.	Y / N	
29 CFR 1910.104(2)(10)	Oxygen stored as a liquid shall be on a noncombustible surface. Asphalt is considered combustible. Wood and long dry grass shall be cut back 15 ft. from the container.	Y / N	
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N	
	Is there a sign posted in each work area regarding emergency egress and emergency response action?	Y / N	
	Is there an emergency response plan available?	Y / N	

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

HM Checklist

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	Y / (N)	
	Does it have proper containment?	Y / (N)	
	Is there a liquid bulk transfer area?	Y / (N)	
	Is there proper containment?	Y / N	N/A
	Is there an above ground storage tank? If so, complete Table B.	(Y) / N	

Above Ground Storage Tanks Inventory

TABLE B—Above Ground Storage Tanks Inventory

Building	Capacity (Gal.)	Contents	Estimated Volume	In Service	Containment	Visual Stains/ Contamination	If Empty, Flushed
OUTSIDE PS	6000	ARGON (T-20)		Y / N	Y / N	Y / N	Y / N
OUTSIDE PS	0.4 10,000 - 99,999	HELIUM (T-23)	10,000-99,999	(Y) / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N

Source: _____

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Safe Drinking Water Act (SDWA) Screening Checklist

Does this facility have potable water?	Y / N	If yes, conduct the following survey.

SDWA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 95-02 (A)	Do actual or potential cross-connections exist between potable (light green) and service water (dark green)?	Y / N	No apparent service water lines.
OAC 3745 95-04 (B)(C)	Are backflow prevention devices installed where cross connections (hoses connected to faucets, hot water tank vented directly to a drain) exist?	Y / N	NA
	Are sources of service water (janitorial and laboratory faucets, or outdoor spigots) posted as non-potable water sources?	Y / N	NA
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	Y / N	See below.

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
PS	2	PLF32P	Ser. No. 9128193473 OASIS

Source: _____

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Environmental Appraisal Checklist

Building Name: Paint Shop

Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore

Date: 2/28/96

RCRA Screening Checklist

Does this facility generate waste or use chemicals?	Y / N	If yes, conduct the following survey.

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 52-11	Has any material generated been characterized RCRA hazardous?	Y / N	
	Was charactarization by analysis or by process knowledge?	analysis / process	Process Knowledge
	Are lab results or documentation of process knowledge readily available?	Y / N	N/A
	Note any uncharacterized material in comment section.		N/A
	Is it waste?	Y / N	
	If yes, proceed with next section.		
OAC 3745 52-11	Are any of the materials noted RCRA hazardous waste?	Y / N	
	If no, note and stop here.		
	If yes, note the location of the management unit, and the method of management, and proceed with the appropriate section below.		

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
I. HAZARDOUS WASTE STORED IN CONTAINERS			
	Is there an area in the building that could qualify as a Satellite Accumulation Area?	(Y) / N	
	Is it treated as such?	(Y) / N	
OAC 3475-52-34 (C)	Has any of the RCRA hazardous waste in this building been managed in Satellite Accumulation Areas? If no, proceed to the next section. If yes, answer the following.	(Y) / N	
	Are the containers marked with the words hazardous waste, or other words denoting the hazard?	(Y) / N	
	Are the containers in good condition?	(Y) / N	
	Are the waste compatible with the containers?	(Y) / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the plant site boundary?	(Y) / N	
	Are containers kept closed and locked except during filling?	(Y) / N	
	Are containers moved within 3 days of being filled?	(Y) / N	

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-52-11 (A)	If a Satellite accumulation area has been abandoned and/or if waste left in place, and the containers may be subject to the 90-day-storage exclusion. If this exclusion does not apply, go to the next section. If the containers have been in storage under this exclusion, answer the following:		
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are the containers kept closed except during filling?	Y / N	
	Are the containers managed in such a way, that they are not ruptured, or leaks caused?	Y / N	
	Is the area inspected at least once weekly?	Y / N	
	Is the inspection recorded? Where is the log? Is it properly completed, dated, and signed?	Y / N _____ Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the facility boundary?	Y / N	
	Are incompatible wastes managed in such a way that they will not react with another incompatible waste?	Y / N	
OAC 3745-52-34(B)	Has any of the waste (except in Building 23, Building 72 and the Burn Area) been managed in excess of 90-days?	Y / N	
	If no go to next section.		
	If yes, note.		
	For Building 23, Building 72 & Burn Area use special checklist.		

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
II. HAZARDOUS WASTE STORED IN TANKS			
OAC 3745-52-32 (B)	Has any chemical waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:	Y / N	
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Is there a sump?	Y / N	
	Is it dry?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Has any hazardous waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:		
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Is there a closure plan?	Y / N	
	If yes, then note.		
OAC 3745-67	Has any of the waste been managed in a surface impoundment? If yes, then note. Go to the next section.	Y / N	

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-68	Has any of the waste been managed in a Landfill? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in an Incinerator (other than Burn area units)? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in a Thermal treatment Unit (other than Burn area units)? If yes, then note. Go to the next section	Y / N	
OAC 3745-69	Has any of the waste been managed in a Miscellaneous Treatment Unit (other than Burn area units)? If yes, then not. Go to the next section.	Y / N	
OAC 3745-56	Has any of the waste been managed in a Waste Pile? If yes, then note. Go to the next section.	Y / N	

General Comments:

Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Asbestos Screening Checklist

Does this facility contain ACBM?	(Y) / N	If yes, conduct the following survey.

Asbestos Checklist

Note: Routinely, the asbestos standard for ACBM in schools has been applied to facilities for purpose of cleanup. In addition to AEHERA, there are additional standards in the NESHAPS that may be of importance.

Regulatory Guideline	Question	Response	Comments
ADAPTED FROM TSCA ACBM IN SCHOOLS:			
	Has this building been characterized either through process knowledge, by analyses, or by inspection to determine if it contains asbestos?	(Y) / N	INSPECTION AND ANALYSIS
	If no for this building or area note this conclusion in the comment section.		
	Is there any evidence of friable asbestos?	Y / (N)	
	Is the asbestos removal properly managed? (See questions listed below)	Y / N	If there is no asbestos removal, do not complete the following section.
NESHAPS FOR ASBESTOS FOR ANY ONGOING ASBESTOS REMOVAL:			
40 CFR 61.156	There are no discharges of visible emissions to the outside air from collection, processing, packaging, transporting, or deposition of ACBM during the removal.	Y / N	
40 CFR 61.152(b) (1)	ACBM is treated with water in accordance with 40 CFR 152(b)?	Y / N	
40 CFR 61.154	Is friable asbestos adequately wetted during stripping? Or, has an adequate ventilation and collection system been installed?	Y / N	
40 CFR 61.152	Is wetting continued until the waste friable asbestos is collected for disposal?	Y / N	

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9.24-24

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Toxic Substances and Control Act (TSCA) PCB's Screening Checklist

Does this facility potentially contain any PCB's or PCB contaminated equipment?	Y / N	If yes, are transformers labeled (Blue or Yellow stickers)? If yes, conduct the following survey.

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761	Has any waste generated in, or from, this building been characterized either through process knowledge or by analyses to determine if it contains PCB's ? If the answer is no, note . If the answer is yes, proceed with next section.	Y / N	
	Based on an inspection, are any of the materials or equipment potentially PCB contaminated? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed.	Y / N	
40 CFR 761.65 (c) (5)	Are PCB articles or containers stored in this building checked for leaks at least once every 30 days?	Y / N	
	If yes, are auditable records maintained.	Y / N	
40 CFR.30 (a) (1) (ix)	Are any PCB transformers in use, or stored for possible reuse, that contain PCB's at concentrations of 500 ppm or greater?	Y / N	
	Are they visually inspected quarterly? If yes, are auditable records maintained?	Y / N	

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.30 (a) 1,viii	Are all combustible materials (i.e., paints, solvents, plastics, paper, sawn wood, etc.) cleared from areas containing PCB transformers to a distance of five meters?	Y / N	
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	Are labeled PCB articles and containers stored so that the labels can be referenced?	Y / N	
40 CFR 761.65 (a)	Are all PCB's and PCB contaminated items at concentrations above 50 PPM, that are stored for disposal, stored no longer than one year from the date they were placed in storage?	Y / N	
40 CFR 761.62 (b) (1) (i)	Do all PCB storage areas have an adequate roof and walls to prevent rainwater from reaching the stored items?	Y / N	
40 CFR 761.62 (b) (1) (iv)	Are storage are floors curbed and constructed of continuous smooth and impervious materials?	Y / N	
40 CFR 761.62 (b) (1) (i)	Are the curbs at least 6 inches high?	Y / N	
40 CFR 761.62 (b) (1) (iii)	No drains are allowed in storage areas. Are there drains in the storage areas?	Y / N	

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Environmental Appraisal Checklist

Building Name: PAINT Shop

Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore

Date: 2/28/96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.65 (c) (2)	Only non-leaking and undamaged large high voltage PCB's capacitators and PCB-containing electrical equipment are allowed to be stored outside of PCB storage areas, on pallets if stored outside, with containment for 10 percent of the volume of the equipment. Do all PCB's stored in this configuration conform with this requirement?	Y / N	
40 CFR 761.45 and .65	Are all PCB storage areas marked with a large PCB mark as described in 40 CFR 761.45 (a)?	Y / N	
40 CFR 761.65 (c) (5)	Have all leaking PCB articles and containers been transferred to non-leaking containers?	Y / N	
40 CFR 761.65 (c) (6)	Do all PCB storage containers for the storage of liquid and non-liquid PCB's comply with DOT shipping container specifications?	Y / N	

GENERAL COMMENTS:

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Low-Level Waste and Transuranic Waste Screening Checklist

Does this facility contain radioactive waste ?	Y (N)	If yes, conduct the following survey.

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
Low-Level Waste			
DOE Order 5820.2A Chapter III	Can any waste generated in, or from, this building be characterized either through process knowledge or by analyses to determine if it is LLW ? If the answer is no, note. If the answer is yes, proceed with next section.	Y / N	
DOE Order 5820.2A Chapter III.	Are any of the materials noted by inspection LLW? If no, The audit would stop here, because there are no LLW. If yes, note the location of the management unit, and the method of management, and proceed with the section below.	Y / N	
DOE Order 5820.2A Chapter III, 3.a.	Have the storage configurations in use in this area been taken into account for keeping external exposures to the general public below 25 mrem/yr?	Y / N	
	Is the waste stored in a configuration that protects ground-water resources?	Y / N	
DOE Order 5820.2A Chapter III, 3.b.	Has monitoring been conducted in this area in accordance with DOE Order 5820.2A in order to evaluate the area against the performance standard?	Y / N	
	Based on field data, does the monitoring conducted in this area conform to the performance standard?	Y / N	

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A Chapter III, 3.d.	Based on field data, is the characterization of the materials in this area sufficient to assure proper segregation to assure proper segregation, treatment, storage, and disposal?	Y / N	
	Based on field data does the characterization as documented at the time of generation of the waste ensure that the actual physical and chemical characteristics, and major radionuclide content of this material are recorded and known at all stages of the waste management process?	Y / N	
	Do characterization data include the following:		
	Physical and chemical characteristics of the waste?	Y / N	
	Volume of the waste (including solidification and absorbent material)?	Y / N	
	Weight of the waste (including solidification and absorbent material)?	Y / N	
	Major radionuclides and their concentrations?	Y / N	
	Packaging date, package weight, external volume?	Y / N	
	How were the concentration of radionuclides determined? Direct methods?	_____	
	How were the concentrations of radionuclides determined? Indirect methods?	_____	
DOE Order 5820.2A Chapter III, 3.h	Is the storage configuration in long term storage sufficient to meet the performance standard?	Y / N	
	Are records maintained at the facility enabling this waste to be traced from its origin?	Y / N	

Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
TRU WASTE			
	Can any waste generated in, or from this building be characterized either through process knowledge or by analyses to determine if it is TRU waste? If no, note and stop. If yes, proceed with the next section.	Y / N	
	Are any of the materials noted as being TRU waste during an inspection? If no, note and stop. If the answer is yes, note the location of the management unit, and the method of management and proceed with the appropriate section below.	Y / N	
DOE Order 5820.2A, Chapter II, 3.a	Was this material evaluated as soon as possible in the generating process, to determine if it is TRU (>100nCi/g), if it is recoverable, or if it is waste? (Note if the activity level is less than 100nCi/g, the waste is not TRU, and can be managed as LLW.)	Y / N	
	Did the determination of TRU radionuclide concentration include the mass of the container, including shielding? These should be included in calculating the specific activity of the waste.	Y / N	

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II, 3.b	Has the TRU waste been assayed or otherwise evaluated to determine its radioactive content prior to storage?	Y / N	
	Has the TRU waste been characterized or otherwise evaluated to determine if hazardous waste is present?	Y / N	
	Has classified TRU waste been treated to destroy the classified characteristics?	Y / N	
DOE Order 5820.2A, Chapter II 3.d	Has all newly generated TRU waste been packaged in non-combustible packaging that meets DOT requirements?	Y / N	
	Have all Type A TRU waste packages been equipped with a method to prevent pressure buildup?	Y / N	
	Have all TRU packages been marked, labeled and sealed in accordance with 40 CFR 261 Subpart C and 49 CFR 172 Subparts D, E and 49 CFR 173 Subpart I?	Y / N	

Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II 3.e	Has the TRU waste been segregated in manner that will not permit commingling of TRU waste with LLW or high-level waste?	Y / N	
	Has the TRU waste been protected from unauthorized access?	Y / N	
	Has the TRU waste been monitored periodically to ensure that it is not releasing its radioactive and/or hazardous constituents?	Y / N	
	Has this TRU waste storage area been designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	
	Does the facility have a contingency plan designed to minimize the adverse impacts of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	

GENERAL COMMENTS:

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Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Waste Minimization/Pollution Prevention Activities Screening Checklist

Does this facility generate waste or use chemicals?	(Y) / N	If yes, conduct the following survey.

Waste Minimiaztion/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Based on available information and a walk through, are there any apparent opportunities to curtail the consumption of raw materials (including but not limited to paper, chemicals, electricity, and etc.). If yes, list candidate areas in the comment section.	(Y) / N	
	Are there solvent wastes?	(Y) / N	PAINT THINNERS / TCE
	Is vehicle maintenance performed?	Y / (N)	
	Are oils used ?	Y / (N)	
	Are these corrosive wastes?	Y / (N)	
	Are there sludges?	Y / (N)	
	Are there halogenated organic (nonsolvent) wastes?	Y / (N)	PAINT WASTE IS LATEX
	Are metals recovered from wastewater?	Y / (N)	
	Is waste sludge generated?	Y / (N)	
	Are any waste minimization practices used that reduce the generation of sludge?	Y / N	N/A
	Ion exchange process?	Y / (N)	
	Lead in gasoline lowered to reduce tank sludge toxicity?	Y / (N)	
	Storage tank agitators installed?	Y / (N)	
	Corrosive resistant materials used?	(Y) / N	PAINTS / RUSTOLEUM
	Prevention of crude oil oxidation ?	Y / (N)	
	Drying?	Y / (N)	

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, Mary-Louis Hoagland, John Puckett, Mary Sizemore Date: 2/28/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
HALOGENATED ORGANIC (NONSOLVENT) WASTES			
	Are halogenated organic wastes used as fuel in cement kilns?	Y / N	
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	
	Are solid wastes generated from the collection of baghouse dust?	Y / N	
	Wet instead of dry grinding used?	Y / N	
	The output spray dried?	Y / N	
	Has baghouse emptying and recycling of baghouse fines been scheduled?	Y / N	
	Have operations been evaluated to improve procedures such as handling, storage and spill prevention for increased efficiency?	Y / N	
METAL WASTES			
	Are any technologies for the recovering of metals from waste rinsewater used?	Y / N	
	Evaporation of waste rinsewater?	Y / N	
	Reverse osmosis?	Y / N	
	Ion exchange?	Y / N	
	Electrolysis?	Y / N	
	Agglomeration?	Y / N	
CORROSIVE WASTES			
	Are acidic or basic cleaning solutions used as treatment for pH adjustment chemicals?	Y / N	

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Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are ion exchange resins used to remove heavy metals and cyanides from acid and base solutions?	Y / N	
	Is crystallization used to remove corrosives from solution by cooling?	Y / N	
	Is the process of evaporation of liquid wastes by heating used to leave behind a more concentrated solution?	Y / N	
CYANIDE AND REACTIVE WASTES			
	Has non-cyanide or low concentration of cyanide process replaced zinc cyanide bath ?	Y / N	
	Are any of these processes used to recycle cyanide wastes?	Y / N	
	Refrigeration/crystallization?	Y / N	
	Evaporation?	Y / N	
	Ion exchange?	Y / N	
	Membrane separation which includes reverse osmosis or electrodialysis?	Y / N	
VEHICLE MAINTENANCE			
	How are auto parts cleaned?	Y / N	
	Solvent sink?	Y / N	
	Solvent dunk bucket?	Y / N	
	Solvent dip tank?	Y / N	
	Are parts cleaning solvents used for anything else besides cleaning parts?	Y / N	
	Are spills reduced by locating sinks or dunk buckets near auto service bays?	Y / N	

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	N/A
	Are drip tanks used to capture losses?	Y / N	N/A
	Is a solvent sink used for mineral solvents rather than a dunk bucket or dip tank?	(Y) / N	FOR PAINT SPRAY
	Does a waste hauler collect solvent waste for recycling or treatment?	Y / N	N/A
OILS			
	What kind of oils are used?		
	Hydraulic oil?	Y / N	
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	
	Can the process be modified or changed to use water-based fluids?	Y / N	
	Are these good housekeeping and operation practices used to minimize oil waste production?		YES
	Use oils not contaminated with other liquids?	Y / N	
	Oil spills prevented?	Y / N	
	Drip pans installed?	Y / N	
	Oil soaked rags laundered?	Y / N	
	Rags and absorbants used to their limit?	Y / N	

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Environmental Appraisal Checklist

Building Name: PAINT Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		
	Reclaiming process to remove water and solvents by heat?	Y / N	
	Gravity setting?	Y / N	
	Screening?	Y / N	
	Centrifugation?	Y / N	
	Filtration?	Y / N	
SOLVENT WASTES			
	Has there been an attempt to reduce volume or toxicity by:		
	Eliminating solvents?	(Y) / N	
	Reducing the use of solvents?	Y / N	
	Reducing the loss of solvents?	Y / N	
	Increasing recyclability?	(Y) / N	
	Are solvents segregated?	(Y) / N	
	Are waste solvents free from water and garbage?	(Y) / N	
	Are recycled solvent containers labeled as such?	Y / N	N/A
	Are containers kept closed?	(Y) / N	
	Free and sheltered from the elements?	(Y) / N	
	Are solvent tanks kept as free from contaminations as possible so that the waste can be recycled?	(Y) / N	
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N	N/A

Environmental Appraisal Checklist

Building Name: Paint Shop Appraisers: Terry Glander, John Puckett, Mary-Louis Hoagland, Mary Sizemore Date: 2/28/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	If there is a recycling program, what technique is used?	Y / N	
	Distillation?	Y / N	
	Solids removal?	Y / N	
	Dispersion breaking?	Y / N	
	Dissolved and emulsified organics recovery?	Y / N	
	Are any of these housekeeping procedures used to minimize the production of solvent wastes?		
	Separators cleaned and checked?	Y / N	
	Parts not allowed to enter the degreaser while wet?	Y / N	
	Sludge from the bottom of the tank not allowed to accumulate?	Y / N	
	Lids kept on tanks?	Y / N	
	Freeboard space on tanks increased?	Y / N	
	Are better operating practices used to reduce waste?	Y / N	
	How long is solvent waste stored and where?	_____	

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9.24.6.2 Building Manager's Questionnaire

Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: 3262 Date: 12-07-95
Alternate: Phone:

1. What are the access requirements (training, clearance, etc.)?
   None

2. What protective equipment is required to enter the building?
   SAFETY GLASSES
   SAFETY SHOES

3. Are there any restricted areas? (Yes) No Rm 5
   Where are they?
   CABINET EQUIP IN CABINET
   to check Rad moisture. Label
   RADIOACTIVE MATERIAL (LOCK)

4. Provide a physical description of the building.

Building PS is a prefabricated metal building with a metal roof. Total area is 2,288 ft². It has central steam service. The building contains asbestos and it may be contaminated with solvents and paints. The building contains an EPA-permitted paint spray booth, with specially designed ventilation and filtration system to trap volatiles.

Source: Mound Facility Physical Characterization, 12-1-93

5. Provide a drawing of the building.

Attached

6. What is the current building use?

The building is used for storage and as a paint shop.

Source: Mound Buildings, 5-9-95

7. What is the history of building use other than that described in #6?

Source: Mound Buildings, 5-9-95

Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

8. What are ongoing operations or processes? What are the raw materials and waste streams from each process? Who is the best contact for each process?

Process(es) Housed: Paint shop

How Wastes Are Generated:

Spray painting in PS is done in an enclosed booth. A filter system in the booth captures the overspray. Until recently, a wet filter system was used. In this system, the overspray was trapped in circulating water, and that water was disposed of as a hazardous waste. The wet filter system has been replaced by a dry one. When the dry filters are removed, the paint on them is allowed to dry, and then the filter is put in the trash.

Contact:
Phone #:

Source: Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, (8-15-90).

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Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

9. In the last six months, have any modifications been made to the building or to processes in the building? Yes (No)

10. Does the building have air emission sources? Yes

Process Source	Room Number	Hood Number	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Lbs./Yr. Operation	Air Emissions
Paint spray Booth			Y		0.0863		179.92	
			Y / N					
			Y / N					
			Y / N					
			Y / N					

Source: Mound Air Emissions Database 11/30/95

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Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

11. Describe air pollution control equipment used to reduce emissions for each source.

Process Source	Emissions	Control Equipment	Functioning
Paint spray booth		Fabric filter	Y / N
			Y / N
			Y / N

Source: Air Permits 2/4/95

12. For existing permits are emissions monitored? At what frequency? Where are the records maintained?

Process Source	Permit	Log	Permit Conditions & Frequency of Monitoring
Paint spray booth	857091196K001	Y / N	Daily records of paint and thinner quantities maintained for 2 years. Do not exceed 6.5 gal/day VOC. Do not exceed ~~25 TPY~~ organic compound 2.5 TPY emissions.
		Y / N	
		Y / N	

Source: Air Permits 2/4/95

13. Does the building have domestic water service? (Yes) No
Is there bottled water? Yes (No)

14. Does the building discharge to the storm sewer? Yes No ?
Where?

15. Does the building discharge to the sanitary sewer? Yes (No)
Where?

16. Has an asbestos survey been conducted? Yes
What are the results? Yes

Source: Technical Manual MD-10391, Issue 3 Asbestos Program Manual 9/6/95

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Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? NO

Source: PCB ANNUAL DOCUMNET LOG

18. Has the building been identified as containing PCBs? NO

How Wastes Are Generated:

Source: PCB ANNUAL DOCUMENT LOG

19. What chemicals are used or stored inside or outside of the building? Include compressed gasses not in large tanks.

Chemical Name	State	Amount (MAX)
LOCTITE ANTISLIP TREAD COMPD	L	8
MICRO		8/G

Source: Chemical Inventory 1994

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Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

20. Has there been a reported spill, leak, or other release of any chemical? Yes (No)
What, how much, and what clean-up measures were followed?

Chemical	Amount	Clean-up Measures

Source: _____

21. Where do waste chemicals go?

See ATTACHED

22. What janitorial supplies are stored inside or outside of the building?

NONE

23. Where do excess janitorial supplies go?

N/A

Source: _____

24. Are pesticides or herbicides stored or used in or around the building? Yes (No)

Chemical	Amount	Chemical	Amount

Source: _____

9.24-46

Building Manager's Questionnaire

me: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

oes the building contain active or inactive above ground storage tanks? Yes (No)
or each tank, list the content, quantity, last inspection, registration number.

stration umber	Content	Quantity	Last Inspection Date	Preventive Maintenance Performed	Inside Or Outside
	ARGON	6000 GAL		Y/N	
	HELIUM	60000 SQ FT (ERROR?)		Y/N	
				Y/N	

ource: Emergency and Hazardous Chemical Inventory Form - Chemical Storage Tanks on EGG Mound Site Owned and Maintained by Outside Contractors 8/8/94

Is there a sump or pit or underground tank in or around the building?
Yes (No) Unknown
Is it double-walled? What does it contain? How many days per year is it filled?
Is there an emergency overflow tank? Have there been previous overflows?

ouble-Walled	Contents	Days/Year In Use	Overflow Tank	Previous Overflow
Y / N			Y / N	Y / N

Source: _____

. Does the building generate, store, or dispose of hazardous waste? Yes No

Materials	Amount
Attached	

Source: Characterization of Mounds Hazardous, Radioactive, and Mixed Wastes 08/15/90

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PAINT SHOP	HICKMAN WET PATCH	D001	18.4
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	HK ELASTIC	NONE	55.0
PAINT SHOP	KOPPER TAR ROOF CEMENT	D001	165.0
PAINT SHOP	LAP SEALANT	D001	3.0
PAINT SHOP	MARLITE ADHESIVE	D001	10.0
PAINT SHOP	NAZ-DAR KC	NONE	10.0
PAINT SHOP	NITRIC ACID	D001	2.0
PAINT SHOP	NON SLIP COATING	D001	15.0
PAINT SHOP	PAINT RAGS, FILTERS, SOLVENT BASED	F002 F003 F005	101.8
PAINT SHOP	PAINT RAGS, FILTERS, SOLVENT BASED	F002 F003 F005	100.9
PAINT SHOP	PAINT RAGS, SOLVENT BASED	F002 F003 F005	92.9
PAINT SHOP	PAINT RAGS, SOLVENT BASED	NONE	84.3
PAINT SHOP	PAINT RAGS, SOLVENT BASED	NONE	84.0
PAINT SHOP	PAINT RAGS, SOLVENT BASED	NONE	83.8
PAINT SHOP	PAINT RAGS, SOLVENT BASED	NONE	88.3
PAINT SHOP	PAINT WASTE WITH PETROLEUM DISTILLATES	D001	50.0
PAINT SHOP	PAINT WASTE WITH PETROLEUM DISTILLATES	D001	50.0
PAINT SHOP	PAINT WASTE WITH PETROLEUM DISTILLATES	D001	50.0
PAINT SHOP	PAINT WASTE WITH PETROLEUM DISTILLATES	D001	50.0
PAINT SHOP	PAINT WASTE WITH PETROLEUM DISTILLATES	D001	50.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002 F003 F005	284.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002 F003 F005	172.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002 F003 F005	443.7
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002 F003 F005	326.1
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002 F003 F005	401.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001	200.5
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001	171.2
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	496.5
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	332.2
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	334.4
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	583.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	450.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	554.4
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	398.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001 F002	400.0
PAINT SHOP	PAINT WASTE, SOLVENT BASED	D001	3.6
PAINT SHOP	PAINT WASTE, SOLVENT WASTE	D001 F002	330.4
PAINT SHOP	PAINT WASTE, SOLVENT, LEAD BASED	D001 D008	135.8
PAINT SHOP	PAINT WASTE, WATER BASED	NONE	209.0
PAINT SHOP	PAINT WASTE, WATER BASED	NONE	202.4
PAINT SHOP	PAINT WASTE, WATER BASED	NONE	175.2
PAINT SHOP	PAINT WASTE, WATER BASED	NONE	214.6
PAINT SHOP	PAINT WASTE, WATER BASED	NONE	212.5
PAINT SHOP	PORTER MCR 65 PART A	D001 F003	51.0
T SHOP	PORTER MCR 65 PART B	NONE	15.0

PAINT SHOP	ALUMINUM PAINT	D001	14.8
PAINT SHOP	AMSCO DESCALER	D002	8.8
[illegible]T SHOP	BRU-TONE	D001	10.0
[illegible] SHOP	BRUNING 1200	D001	8.0
[illegible] SHOP	BRUNING 1215	D001	5.3
PAINT SHOP	BRUNING 1407	D001	9.6
PAINT SHOP	BRUTECH	D001	10.0
PAINT SHOP	BRUTECH II PART A	D001	7.0
PAINT SHOP	CLEAR LAQUER SEALER	D001	45.0
PAINT SHOP	COLOR GUARD- TOLUENE, TRICHLOROETHANE	D001 F002 F005	8.4
PAINT SHOP	COPOLYMER RESIN	NONE	25.0
PAINT SHOP	DUPONT 2245 CONVERSION COATING	D002	6.3
PAINT SHOP	FIBER ROOF COATING 215	D001 F003	35.6
PAINT SHOP	FIBER ROOF FILLING 202	D001	66.9
PAINT SHOP	FIBER ROOF FILLING 202	D001	40.0
PAINT SHOP	FIBER ROOF FILLING 202	D001	40.0
PAINT SHOP	FIBERED ASHPALT EMULSION	NONE	35.3
PAINT SHOP	FIBERED ASHPALT EMULSION	NONE	78.0
PAINT SHOP	FIBERED ASHPALT EMULSION	NONE	35.0
PAINT SHOP	FIBERED ROOF COATING	D001	126.2
PAINT SHOP	HAMMERITE	F002	1.8
PAINT SHOP	HAMMERITE	F002	1.0
PAINT SHOP	HICKMAN MASTIC	D001 F003	110.0
PAINT SHOP	HICKMAN WET PATCH	D001	220.0
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	HICKMAN WET PATCH	D001	10.0
P[illegible] SHOP	HICKMAN WET PATCH	D001	10.0
[illegible] SHOP	HICKMAN WET PATCH	D001	10.0
PAINT SHOP	ROOF-FLEX 176 PART A	D001 D035 F003 F005	36.6
PAINT SHOP	RUST-O-THANE	D001	11.4
PAINT SHOP	RUST-O-THANE	D001	9.2
[illegible]T SHOP	RUSTOLEUM	D001	5.5
PAINT SHOP	TILE ADHESIVE WITH TOLUENE	D001 F005	45.2

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

28. Does the building have abandoned process equipment such as tanks, piping, containers, etc.? Yes (No)

29. Is waste material stored in or around the building for more than 90 days?
Yes (No)

30. Has the building been identified as a 90-day waste accumulation area?
Yes (No)

31. Has any area in the building been identified as a satellite accumulation area?
Yes (No)

32. Is mixed waste generated, stored, or disposed of from the building? Yes (No)
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

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Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

33. Is TRU radioactive waste generated, stored, or disposed of from the building?
Yes (No)
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

9.24-51

Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

34. Is low-level radioactive waste generated, stored, or disposed of from the building? Yes (No)
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

35. Identify all administrative orders, temporary or permanent injunctions, civil administrative penalties, or criminal activities issued against the building.

9.24-52

Building Manager's Questionnaire

Building Name: PS Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

36. Is there a waste minimization program in the building? Yes No
Discuss your ideas about how to minimize waste.

37. Has a pollution prevention program been developed for the building? Yes No

9.24-53

Appendix G

Radiological Summary/Information

RADIOLOGICAL SURVEY PLAN AND RESULTS

FOR THE

DEMOLITION OF THE PAINTSHOP

February 24, 1999 (Rev.0)

1.0 Introduction

This document defines the radiological sampling and analysis requirements for the survey plan for the Paintshop (PS) Building. The final disposition of the PS is demolition. The debris from the PS demolition activities will be taken to offsite recycling and/or disposal facilities. The intent of this document is to release the building, indicating that it is free of radiological contamination.

This plan will describe the methodology for obtaining radiological data and the criteria from which to evaluate the radiological data. All structural components will be radiologically evaluated and surveyed as appropriate. Survey methods will include direct and removable contamination surveys and radiation surveys. Soil sampling will not be performed until Phase 2 of the project, at which time the PS slab will be removed. Phase 2 is scheduled to occur in 2002. The results of the data obtained will be used to determine if the building can be released from a radiological standpoint. This survey is considered to be the final radiological survey prior to the PS building demolition.

2.0 Scope

The scope of the radiological surveys includes the building structure only. The scope of this plan does not include the fifteen-foot perimeter surrounding the exterior of the buildings, as this will be included in Phase 2 of the project.

Site characterization efforts in 1997 discovered radiological contamination on tools located in a tool box in the Paintshop. (See Occurrence Report OH-MB-BWO-BWOO3-1997-0001) These tools were disposed as radioactive waste. The contamination is believed to have only been located on the equipment and not on the structure of the building.

There are also two fixed contamination areas in the asphalt to the north of the Paintshop, which are believed to have resulted from a spill. However, the cleanup of the fixed contamination areas is outside the scope of this survey plan and is being addressed independently as a CERCLA cleanup.

A confirmatory survey would demonstrate if unexpected radiological contamination were present. The survey focused on evaluating only those areas, which have a high potential for unexpected contamination. Confirmatory surveys were performed on the interior of the building's floors, air vents and floor drains. Radiation dose rate measurements were performed as well.

3.0 Building Description

PS Building is a one-story, 2,288 square-foot, metal building with a metal roof. It was constructed in 1963 and an addition put on in 1964. The building was used for storage as well as a paint shop. It is physically located south of the Power House (P Building), west of M Building, and is immediately adjacent to utilities which service T Building.

4.0 Confirmation Survey Requirements

There are two main purposes to the confirmatory surveys. One purpose is to provide the Mound Building Disposition Core Team (DOE, USEPA and OEPA) with radiological data. This information can then be used by the Core Team in making a decision regarding building disposition as part of the Mound Building Disposition Process.

A secondary purpose of the confirmatory survey is to verify that the building is radiologically clean to the surface contamination criteria and dose requirements in DOE Order 5400.5 "Radiation Protection of the Public and the Environment" as specified in the "Generic Process for the Disposition of Buildings that have Potential or Actual Radiological Contamination."

The surveys performed were non-destructive surveys. The confirmatory survey:

1) Provides a final check that a building does not have unexpected radiological contamination;
2) Identifies anomalies (e.g. elevated readings or readings above background which indicate potential existence of unexpected contamination) which indicate that the building may not be radiologically clean;
3) Fills existing data gaps and focuses on building survey characterization
4) Provides the level of data preferred by state regulators to support that the building is clean prior to release.

A confirmation survey was planned for those areas with the highest potential for contamination. The areas interior to the PS were surveyed for direct and removable radiological contamination and included the floors, air vents and floor drains. In addition, direct contamination measurements were taken on the walls of the structures. The swipes taken were analyzed for gross alpha, beta and tritium radioactivity. Radiation dose measurements were taken in the interior and exterior of the building to determine the levels of gamma radiation.

If no anomalies (e.g. elevated readings) are detected, then this survey should be adequate to verify that the building is radiologically clean. If anomalies are detected, then the Project Manager would assess the significance and determine appropriate action based on input from project members.

5.0 Sampling

The main objectives of this radiological survey plan are to:

1. Verify that the surface contamination release criteria for building disposition agreed upon by the Mound Radiological Decision Tools Team is met.

2. Verify that any surface contamination values are below the guidelines of Figure IV-1 of DOE 5400.5.

3. Verify that no radiation dose measurements exceed the dose limits specified in DOE 5400.5. (<0.02 mr/hr)

The need for a rigorous sampling assessment in the case of PS should not be necessary, since the building did not typically involve radiological processes. The only exception to this is tools found to be contaminated in the PS in the 1997 timeframe, as described in Section 2.0 above. Since there is no process history of radiological activities or accidental spills that occurred in this building, a more cost effective radiological survey plan is proposed. This data will be used as the final confirmatory survey, prior to its release. It should be noted that during the demolition process, that radiological surveys will be performed on the turntable and other suspect areas.

The sampling performed will validate the historical process knowledge and provide data to demonstrate that criteria has been met. If contamination is detected above the established criteria, then the given process knowledge must be reassessed and the level of sampling increased to provide confidence on the level and extent of contamination.

5.1 Interior and Exterior Sample Selection

Direct measurements were performed for direct alpha and beta contamination on 100 % of the floor area, using portable NE Electra instrumentation. Twenty-seven swipes were taken within the building for removable alpha, beta and tritium contamination. Biased swipe samples were taken on the floor drains and overhead vent ducts as part of the twenty-seven swipes. The biased sampling included four floor drains and nine overhead vent ducts.

Radiation surveys were performed in the interior and exterior of the building.

6.0 Discussion of Results

The existing results of the radiological survey efforts support the "radiological release" of PS Building. The surface contamination release criteria agreed upon by the Radiological Decision Tools Team has been met. The radiation dose rates are below the 0.02 mrem/hour criteria specified in DOE 5400.5. All of the direct and removable contamination surveys are below DOE 5400.5 criteria and Mound's Radiological Control Program criteria. Radiological surveys of the turntable and other suspect areas will be performed during the demolition process.

7.0 References

1) DOE Order 5400.5 Radiation Protection of the Public and the Environment, 1/7/93.

2) Generic Process for the Disposition of Buildings that have Potential or Actual Radiological Contamination, March 1997.

3) Work Plan for Environmental Restoration of the DOE Mound Site, Public Review Draft, Rev. 0

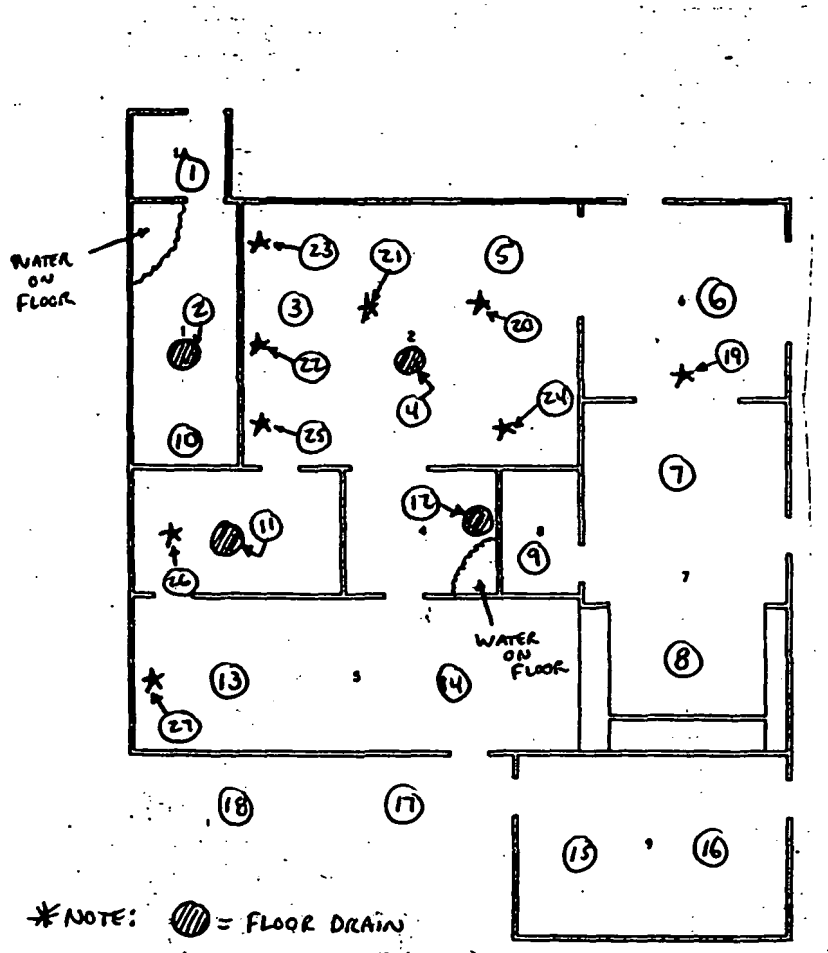
RADIOLOGICAL SURVEY DATA SHEET

K-1/K-27 P3

R-215

LOCATION: (BLDG/AREA/ROOM) PAINT SHOP	SURVEY NO. 99-PS-02
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 021199
	TIME: 1400

MAP/DRAWING



DIRECT READINGS WERE TAKEN ON ALL ACCESSIBLE FLOOR AREAS EXCEPT AREAS SHOWN TO HAVE STANDING WATER. DIRECTS ALSO TAKEN ON ALL FLOOR DRAINS AND VENT DUCTS.

ALL READINGS = < 100 DPM/100 cm² α
< 5000 DPM/100 cm² β γ

DOSE RATES = < 0.02 MR/HR

MLM 021199

PS BLDG
FIRST FLOOR
BLDG CODE:3524

*NOTE: ▨ = FLOOR DRAIN
★ = OVERHEAD VENT DUCTS

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+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
BICRON NR	3928	030999
NE ELECTRA	5370 / 5371	080299
↓	5305 / 5315	060999
↓	5396 / 5279	061599
N/A	N/A	N/A

Completed by: (Signature) [redacted]	HPS 7072/7073/7079	Date: 021199
Completed by: (Print Name) [redacted]	HPS 5394	Date: 02-15-99
[redacted]		
F[redacted]ature)	HPS 5996	Date: 2-18-99
Re[redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments
1-27	SEE	ATTACHED	→	
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: NONE

NOTES:
1. See MD-80036.10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR019
Batch Ended: 2/15/99 14:30

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

Crosstalk correction performed.

Certainty level for MDA and flags: 95.00%
Recalibration Date: 8/13/99
Serial Number: 26966-2

Batch ID: T 99-PS-02 MURPHY/NEAL [27] 02-15-99 TAS

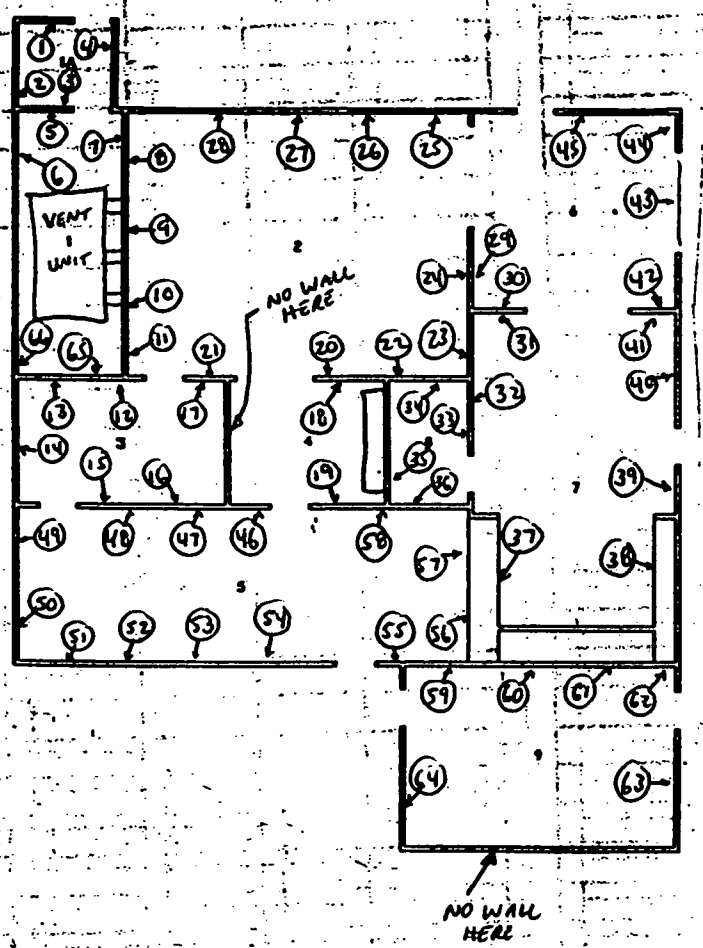
Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.1	<MDA	1.7	2.3	<MDA
A2	2	0.0	2.0	<MDA	0.0	1.3	<MDA
A3	3	0.0	1.9	<MDA	0.0	1.2	<MDA
A4	4	0.0	1.9	<MDA	0.4	1.7	<MDA
B1	5	0.0	2.1	<MDA	0.0	1.4	<MDA
B2	6	0.0	2.0	<MDA	2.8	2.7	<MDA
B3	7	0.0	2.0	<MDA	1.6	2.2	<MDA
B4	8	0.0	1.9	<MDA	0.0	1.8	<MDA
C1	9	0.0	2.0	<MDA	2.7	2.6	<MDA
C2	10	1.7	2.0	<AL	0.5	1.7	<MDA
C3	11	0.0	1.9	<MDA	1.5	2.0	<MDA
C4	12	0.0	1.8	<MDA	0.0	1.2	<MDA
D1	13	0.0	2.2	<MDA	1.5	2.2	<MDA
D2	14	0.0	2.2	<MDA	0.5	2.3	<MDA
D3	15	0.0	2.0	<MDA	0.4	1.8	<MDA
D4	16	0.0	2.0	<MDA	0.0	1.2	<MDA
A1	17	0.0	2.0	<MDA	0.0	1.3	<MDA
A2	18	0.0	2.0	<MDA	0.3	1.8	<MDA
A3	19	0.0	1.9	<MDA	0.0	1.2	<MDA
A4	20	0.0	1.9	<MDA	1.6	2.1	<MDA
B1	21	0.0	2.1	<MDA	0.0	1.4	<MDA
B2	22	0.0	2.0	<MDA	1.5	2.3	<MDA
B3	23	0.0	2.0	<MDA	0.0	1.3	<MDA
B4	24	0.0	2.0	<MDA	6.5	3.5	<AL
C1	25	0.0	2.0	<MDA	3.9	2.9	<AL
C2	26	0.0	2.0	<MDA	1.8	2.1	<MDA
C3	27	3.6	2.7	<AL	2.4	2.3	<MDA

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) PAINT SHOP	SURVEY NO. 99-PS-04
PURPOSE: REA RELEASE SURVEY - VERTICAL SURFACES	RWP NO. N/A
	DATE: 022399
	TIME: 1350

mm 022399

MAP/DRAWING



N

* NOTE: DIRECT READINGS ONLY TAKEN AT EACH SURVEY POINT. NO REMOVABLE. SURVEY ON WALLS + DOORS. ALL DIRECT READINGS = < 100 DPM/100 cm² α < 5000 DPM/100 cm² β-γ

mm 022399 PS BLDG FIRST FLOOR BLDG CODE:3524

LEGEND: # = mrem/hr (γ) whole body; # E = mrem/hr (β+n+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 ELECTRA	5303/5315	060999
↓	5370/5371	080299
N/A	N/A	N/A

Completed by: (Signature) [redacted]	HPM 7872/7821	Date: 022399
Completed by: (Print Name) [redacted]		
Counted by: (Signature) [redacted]	HPM	Date:
Counted by: (Print Name) [redacted]		
R[redacted]re)	HPM 5996	Date: 2-24-99
Revie[redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COMMENTS: NONE

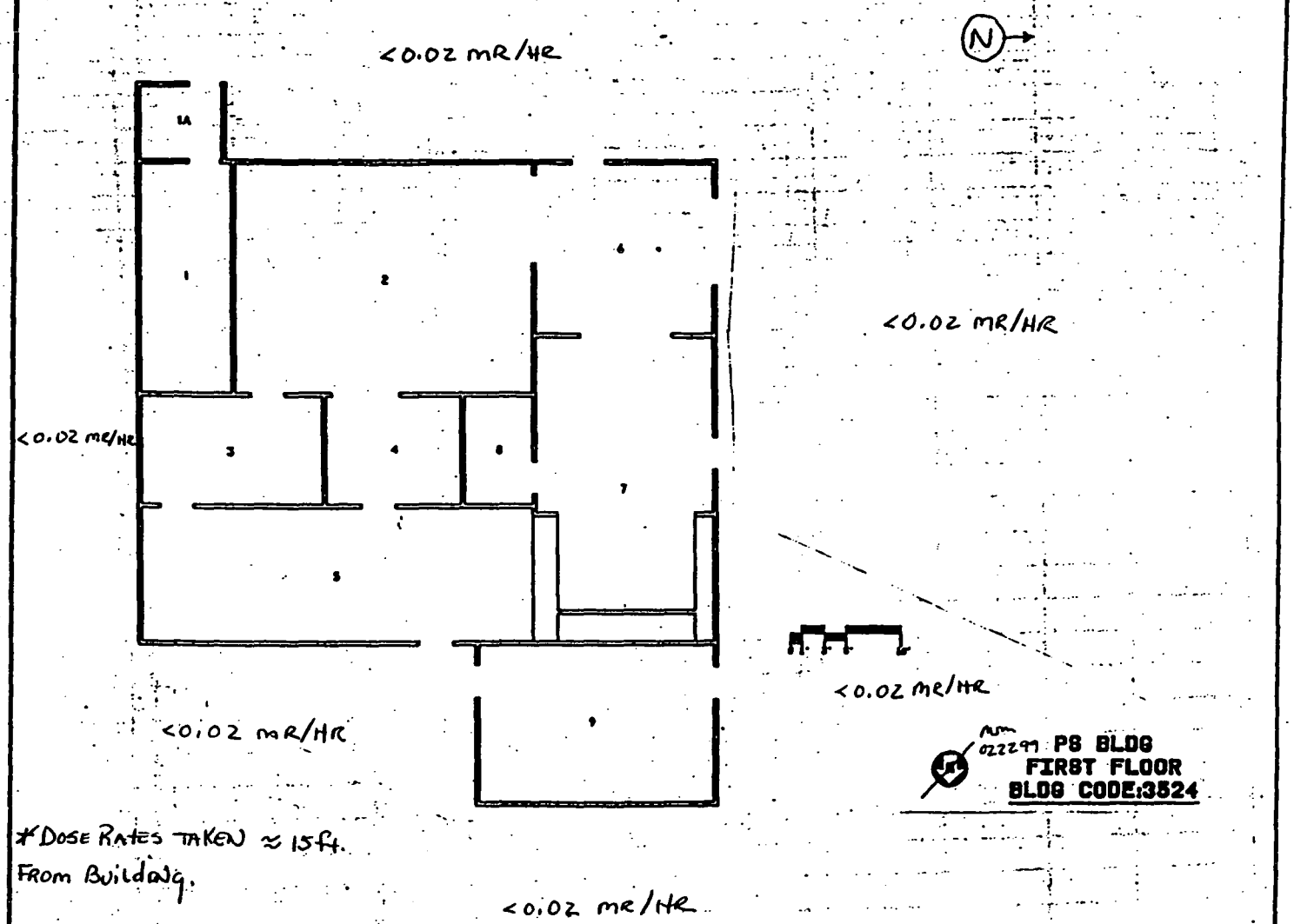
NOTES:

1. See MD-80036,10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) PAINT SHOP	SURVEY NO. 99-PS-03
PURPOSE: EXTERIOR RADIATION SURVEY	RWP NO. N/A
	DATE: 02/22/99
	TIME: 0843

MAP/DRAWING



*DOSE RATES TAKEN ≈ 15ft. FROM BUILDING.

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
BICRON μR	3928	03/09/99
	A	
N		

Con[redacted]	HP# 7873	Date: 02/22/99
Completed by: (Print Name) [redacted]		
Counted by: (Signature) N/A	HP#	Date:
Counted by: (Print Name) N/A		
R[redacted]	HP# 5996	Date: 2-22-99
Review[redacted]		

ML-0620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COMMENTS: NONE

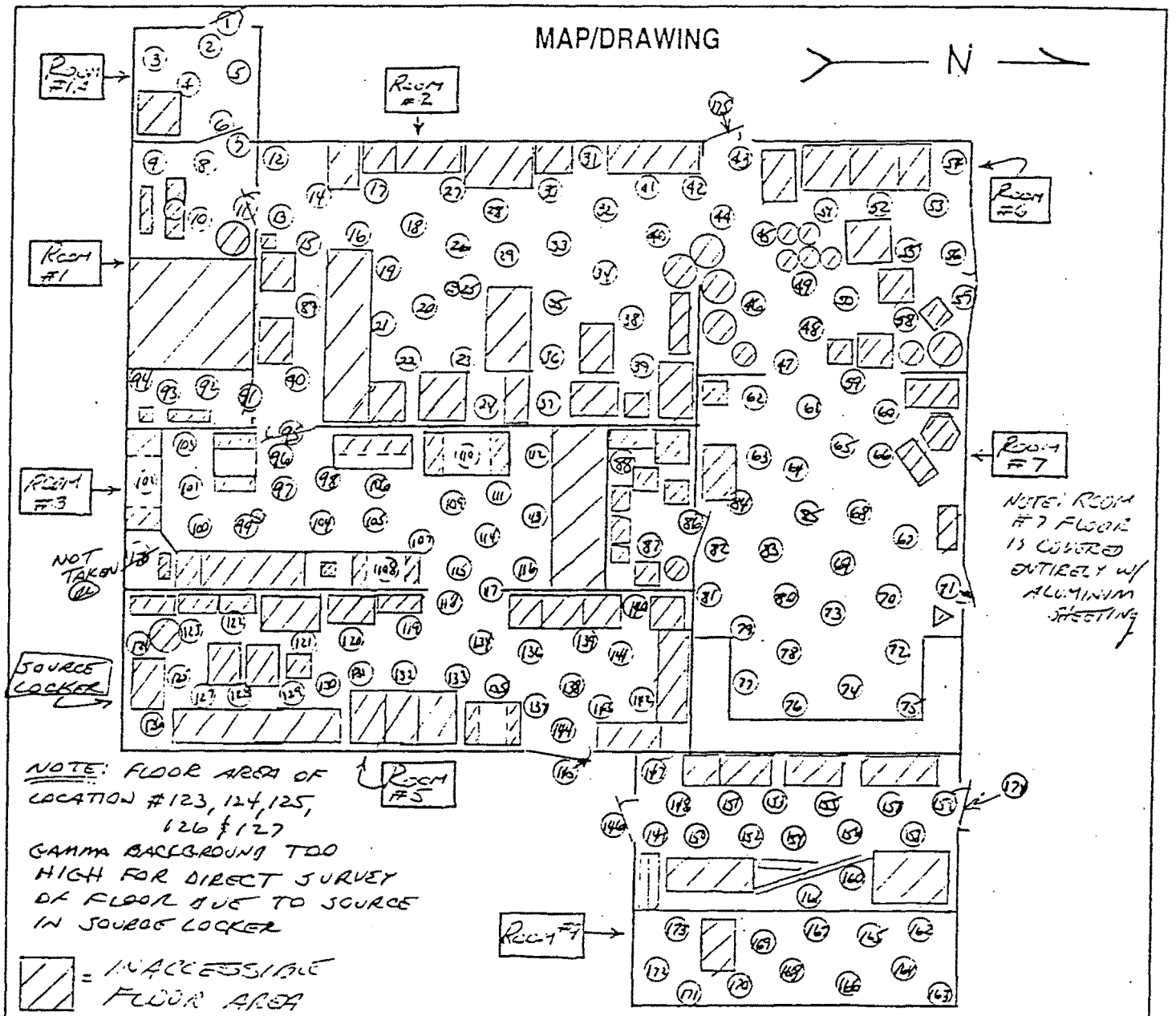
NOTES:
1. See MD-60036.10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

K-149 D-1 B-175 P3

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) BUILDING "PS"	SURVEY NO. 97-PS-039-SC
PURPOSE: SITE CHARACTERIZATION	RWP NO. SW-142-97
	DATE: 10/30/97
STRUCTURAL SURVEY	TIME: 1530

MAP/DRAWING



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 ELECTRA	5372/5373	11/28/97

[redacted] ture/HP#) [redacted] 839 6	Date: 10/30/97
[redacted] HP#) [redacted] 5379	Date: 11/3/97
Reviewed/Approved by (Signature/HP#) [redacted] 6031	Date: 11-5-97

ML-9620 (10-95)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Charge Authorization No. _____

☑ Removable Contamination ☐ Airborne Activity (check one)

Swipes (dpm/100cm^2) or Airborne (µCi/cc)

Sample #	β/γ	Alpha	Tritium	Comments
61				FLOOR
62				☆
63				☆
64				☆
65				☆
66				☆
67				☆
68				☆
69				☆
70				☆
71				DOOR HANDLE
72				☆
73				☆
74				☆
75	SEE ATTACHED			☆
76				☆
77				☆
78				☆
79				☆
80				☆
81				☆
82				☆
83				☆
84				☆
85				☆
86				DOOR HANDLE
87				☆
88				☆
89				☆
90				☆

☑ Removable Contamination ☐ Airborne Activity (check one)

Swipes (dpm/100cm^2) or Airborne (µCi/cc)

Sample #	β/γ	Alpha	Tritium	Comments
91				DOOR HANDLE
92				☆
93				☆
94				☆
95				DOOR HANDLE
96				☆
97				☆
98				☆
99				FLOOR DRAIN
100				☆
101				☆
102				☆
103				☆
104				☆
105	SEE ATTACHED			☆
106				☆
107				☆
108				☆
109				☆
110				☆
111				☆
112				☆
113				☆
114				☆
115				☆
116				☆
117				☆
118				☆
119				☆
120				☆

COMMENTS: SEE PAGE 2

Max. Activity on Large Area Wipe (dpm)	Tritium Airborne Activity (µCi/m^3)
N	A

NOTES:
1. LSC results #3 corresponds to Sample #1 on this RSDS.
2. See MD-80036 10002 for calculations of WB, extremity and skin dose rates
3. 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.
4. Annotate special sample type (e.g. soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Charge Authorization No. _____

☑ Removable Contamination ☐ Airborne Activity (check one)

Swipes (dpm/100cm^2) or Airborne (µCi/cc)

Sample #	β/γ	Alpha	Tritium	Comments
121				FLOOR
122				☆
123				☆
124				☆
125				☆
126				☆
127				☆
128				☆
129				☆
130				☆
131				☆
132				☆
133				☆
134				☆
135	SEE ATTACHED			☆
136				☆
137				☆
138				☆
139				☆
140				☆
141				☆
142				☆
143				☆
144				☆
145				DOOR HANDLE
146				DOOR HANDLE
147				☆
148				☆
149				☆
150				☆

☑ Removable Contamination ☐ Airborne Activity (check one)

Swipes (dpm/100cm^2) or Airborne (µCi/cc)

Sample #	β/γ	Alpha	Tritium	Comments
151				FLOOR
152				☆
153				☆
154				☆
155				☆
156				☆
157				☆
158				☆
159				DOOR HANDLE
160				☆
161				☆
162	SEE ATTACHED			☆
163				☆
164				☆
165				☆
166				☆
167				☆
168				☆
169				☆
170				☆
171				☆
172				☆
173				☆
174				DOOR HANDLE
175				DOOR HANDLE
~~176~~ 176 10/20/97				☆
	A		N	A
	N			

COMMENTS: SEE PAGE 2

Max. Activity on Large Area Wipe (dpm)	Tritium Airborne Activity (µCi/m^3)
N	A

NOTES:
1. LSC results #3 corresponds to Sample #1 on this RSOS.
2. See MD-80036 10002 for calculations of WB, extremity and skin dose rates
3. 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.
4. Annotate special sample type (e.g. soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 11/3/97 8:18

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Batch ID: T 97-PS-039-SC ROGERS [175] [1 - 96] 11-3-97 TAS

Recalibration Date: 8/20/98
Serial Number: 26966-1

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.73	2.15	<AL	0.42	2.27	<MDA
A2	2	0.00	2.13	<MDA	1.16	2.26	<MDA
A3	3	0.00	2.02	<MDA	0.42	1.73	<MDA
A4	4	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	5	0.00	2.04	<MDA	1.12	2.15	<MDA
B2	6	0.00	2.05	<MDA	3.47	2.76	<AL
B3	7	1.76	1.94	<AL	0.04	1.66	<MDA
B4	8	0.00	1.91	<MDA	5.78	3.06	<AL
C1	9	0.00	2.12	<MDA	0.00	1.83	<MDA
C2	10	0.00	2.17	<MDA	0.00	1.33	<MDA
C3	11	0.00	1.99	<MDA	0.36	1.69	<MDA
C4	12	0.00	1.96	<MDA	0.06	1.70	<MDA
D1	13	0.00	2.10	<MDA	0.00	1.25	<MDA
D2	14	0.00	2.07	<MDA	0.00	1.46	<MDA
D3	15	0.00	1.95	<MDA	1.40	1.98	<MDA
D4	16	0.00	1.91	<MDA	0.40	2.03	<MDA
A1	17	0.00	2.15	<MDA	0.57	2.27	<MDA
A2	18	0.00	2.14	<MDA	2.46	2.61	<MDA
A3	19	0.00	2.03	<MDA	1.63	2.12	<MDA
A4	20	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	21	0.00	2.01	<MDA	0.00	1.26	<MDA
B2	22	1.69	2.02	<AL	0.00	1.75	<MDA
B3	23	0.00	1.95	<MDA	1.36	2.03	<MDA
B4	24	0.00	1.90	<MDA	4.63	2.83	<AL
C1	25	0.00	2.11	<MDA	0.00	1.30	<MDA
C2	26	0.00	2.17	<MDA	0.00	1.33	<MDA
C3	27	0.00	1.98	<MDA	0.00	1.20	<MDA
C4	28	0.00	1.99	<MDA	4.82	2.93	<AL
D1	29	0.00	2.13	<MDA	1.25	2.14	<MDA
D2	30	1.84	2.10	<AL	3.27	2.89	<AL
D3	31	0.00	1.94	<MDA	0.26	1.62	<MDA
D4	32	0.00	1.89	<MDA	0.00	1.19	<MDA
A1	33	0.00	2.16	<MDA	1.87	2.61	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 11/3/97 8:18

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 8/20/98
Serial Number: 26966-1

Batch ID: T 97-PS-039-SC ROGERS [175] [1 - 96] 11-3-97 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	0.00	2.12	<MDA	0.00	1.85	<MDA
A3	35	0.00	2.02	<MDA	0.42	1.73	<MDA
A4	36	0.00	1.97	<MDA	4.63	2.94	<AL
B1	37	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	38	0.00	2.01	<MDA	0.00	1.75	<MDA
B3	39	0.00	1.92	<MDA	0.00	1.19	<MDA
B4	40	0.00	1.87	<MDA	1.18	2.00	<MDA
C1	41	0.00	2.12	<MDA	0.00	1.83	<MDA
C2	42	0.00	2.18	<MDA	0.00	1.86	<MDA
C3	43	0.00	2.00	<MDA	1.55	2.07	<MDA
C4	44	0.00	1.96	<MDA	0.06	1.70	<MDA
D1	45	0.00	2.10	<MDA	0.00	1.25	<MDA
D2	46	1.84	2.10	<AL	3.27	2.89	<AL
D3	47	0.00	1.92	<MDA	0.00	1.15	<MDA
D4	48	0.00	1.95	<MDA	5.06	3.09	<AL
A1	49	1.73	2.13	<AL	0.00	1.33	<MDA
A2	50	0.00	2.11	<MDA	0.00	1.32	<MDA
A3	51	0.00	2.01	<MDA	0.00	1.23	<MDA
A4	52	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	53	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	54	0.00	2.04	<MDA	2.24	2.47	<MDA
B3	55	0.00	1.95	<MDA	1.36	2.03	<MDA
B4	56	0.00	1.88	<MDA	2.33	2.31	<MDA
C1	57	0.00	2.13	<MDA	1.22	2.23	<MDA
C2	58	0.00	2.17	<MDA	0.00	1.32	<MDA
C3	59	0.00	1.98	<MDA	0.00	1.20	<MDA
C4	60	0.00	1.96	<MDA	0.06	1.70	<MDA
D1	61	0.00	2.14	<MDA	2.48	2.47	<MDA
D2	62	0.00	2.07	<MDA	0.00	1.46	<MDA
D3	63	1.74	1.94	<AL	0.10	1.62	<MDA
D4	64	0.00	1.91	<MDA	0.40	2.03	<MDA
A1	65	0.00	2.14	<MDA	0.00	1.86	<MDA
A2	66	1.90	2.14	<AL	2.31	2.61	<MDA
A3	67	0.00	2.01	<MDA	0.00	1.24	<MDA
A4	68	0.00	1.95	<MDA	1.04	2.08	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 11/3/97 8:18

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Batch ID: T 97-PS-039-SC ROGERS [175] [1 - 96] 11-3-97 TAS

Recalibration Date: 8/20/98
Serial Number: 26966-1

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	69	0.00	2.01	<MDA	0.00	1.26	<MDA
B2	70	1.69	2.03	<AL	0.87	2.14	<MDA
B3	71	0.00	1.93	<MDA	0.19	1.66	<MDA
B4	72	1.42	1.90	<MDA	4.51	2.83	<AL
C1	73	0.00	2.15	<MDA	2.51	2.57	<MDA
C2	74	0.00	2.18	<MDA	0.00	1.86	<MDA
C3	75	0.00	1.98	<MDA	0.00	1.20	<MDA
C4	76	0.00	1.97	<MDA	2.44	2.39	<MDA
D1	77	0.00	2.12	<MDA	0.02	1.75	<MDA
D2	78	0.00	2.10	<MDA	3.45	2.89	<AL
D3	79	0.00	1.92	<MDA	0.00	1.15	<MDA
D4	80	0.00	1.95	<MDA	5.06	3.09	<AL
A1	81	0.00	2.13	<MDA	0.00	1.33	<MDA
A2	82	0.00	2.13	<MDA	1.16	2.26	<MDA
A3	83	0.00	2.03	<MDA	1.63	2.12	<MDA
A4	84	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	85	0.00	2.01	<MDA	0.00	1.26	<MDA
B2	86	0.00	2.03	<MDA	1.02	2.14	<MDA
B3	87	0.00	1.95	<MDA	1.36	2.03	<MDA
B4	88	0.00	1.86	<MDA	0.03	1.64	<MDA
C1	89	0.00	2.12	<MDA	0.00	1.83	<MDA
C2	90	0.00	2.18	<MDA	0.00	1.86	<MDA
C3	91	0.00	2.00	<MDA	1.55	2.07	<MDA
C4	92	0.00	1.97	<MDA	1.25	2.07	<MDA
D1	93	0.00	2.10	<MDA	0.00	1.25	<MDA
D2	94	1.84	2.08	<AL	0.39	2.05	<MDA
D3	95	0.00	1.95	<MDA	1.40	1.98	<MDA
D4	96	0.00	1.89	<MDA	0.00	1.19	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR002
Batch Ended: 11/3/97 8:57

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 8/20/98
Serial Number: 26966-1

Batch ID: 97-PS-039-SC ROGERS CONTD [97- 175] 11-3-97 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	97	1.73	2.14	<AL	0.00	1.86	<MDA
A2	98	0.00	2.11	<MDA	0.00	1.32	<MDA
A3	99	1.90	2.04	<AL	1.48	2.12	<MDA
A4	100	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	101	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	102	0.00	2.01	<MDA	0.00	1.75	<MDA
B3	103	0.00	1.95	<MDA	1.36	2.03	<MDA
B4	104	0.00	1.88	<MDA	2.33	2.31	<MDA
C1	105	0.00	2.16	<MDA	3.79	2.88	<AL
C2	106	0.00	2.22	<MDA	5.20	3.21	<AL
C3	107	0.00	1.98	<MDA	0.00	1.20	<MDA
C4	108	0.00	1.97	<MDA	2.44	2.39	<MDA
D1	109	0.00	2.13	<MDA	1.25	2.14	<MDA
D2	110	0.00	2.10	<MDA	3.45	2.89	<AL
D3	111	0.00	1.98	<MDA	3.67	2.55	<AL
D4	112	0.00	1.92	<MDA	1.57	2.34	<MDA
A1	113	0.00	2.14	<MDA	0.00	1.86	<MDA
A2	114	0.00	2.12	<MDA	0.00	1.85	<MDA
A3	115	0.00	2.03	<MDA	1.63	2.12	<MDA
A4	116	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	117	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	118	0.00	2.00	<MDA	0.00	1.25	<MDA
B3	119	0.00	1.95	<MDA	1.36	2.03	<MDA
B4	120	0.00	1.86	<MDA	0.03	1.64	<MDA
C1	121	0.00	2.11	<MDA	0.00	1.30	<MDA
C2	122	0.00	2.18	<MDA	0.00	1.86	<MDA
C3	123	0.00	1.99	<MDA	0.36	1.69	<MDA
C4	124	0.00	1.96	<MDA	0.06	1.70	<MDA
D1	125	0.00	2.13	<MDA	1.25	2.14	<MDA
D2	126	0.00	2.07	<MDA	0.00	1.46	<MDA
D3	127	0.00	1.92	<MDA	0.00	1.15	<MDA
D4	128	1.59	1.89	<AL	0.00	1.19	<MDA
A1	129	0.00	2.14	<MDA	0.00	1.86	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR002
Batch Ended: 11/3/97 8:57

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 8/20/98
Serial Number: 26966-1

Batch ID: 97-PS-039-SC ROGERS CONTD [97- 175] 11-3-97 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	130	1.90	2.12	<AL	0.00	1.85	<MDA
A3	131	3.90	2.84	<AL	0.00	1.23	<MDA
A4	132	0.00	1.96	<MDA	3.44	2.69	<AL
B1	133	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	134	0.00	2.04	<MDA	2.24	2.47	<MDA
B3	135	0.00	1.93	<MDA	0.19	1.66	<MDA
B4	136	1.42	1.90	<MDA	4.51	2.83	<AL
C1	137	0.00	2.11	<MDA	0.00	1.30	<MDA
C2	138	0.00	2.20	<MDA	2.59	2.62	<MDA
C3	139	0.00	1.98	<MDA	0.00	1.20	<MDA
C4	140	0.00	1.97	<MDA	1.25	2.07	<MDA
D1	141	0.00	2.10	<MDA	0.00	1.25	<MDA
D2	142	0.00	2.07	<MDA	0.00	1.46	<MDA
D3	143	0.00	1.95	<MDA	1.40	1.98	<MDA
D4	144	0.00	1.91	<MDA	0.40	2.03	<MDA
A1	145	0.00	2.13	<MDA	0.00	1.33	<MDA
A2	146	0.00	2.11	<MDA	0.00	1.32	<MDA
A3	147	1.91	2.02	<AL	0.26	1.73	<MDA
A4	148	0.00	1.95	<MDA	1.04	2.08	<MDA
B1	149	1.88	2.01	<AL	0.00	1.26	<MDA
B2	150	0.00	2.01	<MDA	0.00	1.75	<MDA
B3	151	1.77	1.92	<AL	0.00	1.19	<MDA
B4	152	0.00	1.88	<MDA	2.33	2.31	<MDA
C1	153	0.00	2.12	<MDA	0.00	1.83	<MDA
C2	154	0.00	2.17	<MDA	0.00	1.32	<MDA
C3	155	0.00	2.02	<MDA	2.74	2.38	<AL
C4	156	0.00	1.95	<MDA	0.00	1.21	<MDA
D1	157	0.00	2.10	<MDA	0.00	1.25	<MDA
D2	158	0.00	2.08	<MDA	0.57	2.05	<MDA
D3	159	0.00	1.94	<MDA	0.26	1.62	<MDA
D4	160	0.00	1.90	<MDA	0.00	1.66	<MDA
A1	161	0.00	2.13	<MDA	0.00	1.33	<MDA
A2	162	0.00	2.12	<MDA	0.00	1.85	<MDA
A3	163	0.00	2.01	<MDA	0.00	1.24	<MDA
A4	164	0.00	1.95	<MDA	1.04	2.08	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR002
Batch Ended: 11/3/97 8:57

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 8/20/98
Serial Number: 26966-1

Batch ID: 97-PS-039-SC ROGERS CONTD [97- 175] 11-3-97 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	165	0.00	2.04	<MDA	1.12	2.15	<MDA
B2	166	0.00	2.03	<MDA	1.02	2.14	<MDA
B3	167	0.00	1.95	<MDA	1.36	2.03	<MDA
B4	168	0.00	1.86	<MDA	0.03	1.64	<MDA
C1	169	0.00	2.13	<MDA	1.22	2.23	<MDA
C2	170	0.00	2.18	<MDA	0.00	1.86	<MDA
C3	171	0.00	1.98	<MDA	0.00	1.20	<MDA
C4	172	0.00	1.98	<MDA	3.63	2.67	<AL
D1	173	0.00	2.12	<MDA	0.02	1.75	<MDA
D2	174	0.00	2.08	<MDA	0.57	2.05	<MDA
D3	175	0.00	1.95	<MDA	1.40	1.98	<MDA

Protocol #: 3 Name:Pw H3 #401393 03-Nov-97 12:41
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=20.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 97-PS-039-SC ROGERS [B1-B175] 11-03-97 RLH
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On

S#	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	2Sigma
-1	10.00	9	B	8.40	8.10	13.00	636.		0.00
0	2.00	0		457.10	432.90	0.50	632.	912.36	91.72
1	2.00	19		0.00	0.00	0.00	579.	0.00	0.00
2	2.00	0		0.00	0.00	3.00	451.	0.00	0.00
3	2.00	0		4.10	2.90	0.50	604.	8.31	10.81
4	2.00	8		0.00	0.00	0.00	597.	0.00	0.00
5	2.00	22		0.00	0.00	0.00	338.	0.00	0.00
6	2.00	0		0.00	0.00	0.00	543.	0.00	0.00
7	2.00	20		0.00	0.00	0.00	384.	0.00	0.00
8	2.00	40		0.00	0.00	0.50	438.	0.00	0.00
9	2.00	19		0.00	0.00	0.50	429.	0.00	0.00
10	2.00	8		0.00	0.00	0.00	369.	0.00	0.00
11	2.00	6		0.10	0.40	0.00	600.	0.20	9.60
12	2.00	11		0.10	0.90	0.00	500.	0.22	10.92
13	2.00	0		0.00	0.00	0.00	388.	0.00	0.00
14	2.00	54		0.00	0.00	5.50	481.	0.00	0.00
15	2.00	10		0.00	0.00	3.00	462.	0.00	0.00
16	2.00	18		0.00	0.00	0.00	474.	0.00	0.00
17	2.00	7		0.00	0.00	0.00	481.	0.00	0.00
18	2.00	0		0.00	0.00	0.00	591.	0.00	0.00
19	2.00	9		0.00	0.00	0.00	521.	0.00	0.00
20	2.00	6		0.60	0.90	0.00	429.	1.48	11.95
21	2.00	12		0.00	0.40	1.50	457.	0.00	0.00
22	2.00	6		0.00	0.00	3.00	443.	0.00	0.00
23	2.00	0		0.00	0.00	1.00	476.	0.00	0.00
24	2.00	0		0.00	0.00	0.00	344.	0.00	0.00
25	2.00	27		0.00	0.00	4.00	382.	0.00	0.00
26	2.00	0		0.00	0.00	4.00	498.	0.00	0.00
27	2.00	8		0.00	0.00	0.50	550.	0.00	0.00
28	2.00	33		0.00	0.00	0.00	533.	0.00	0.00
29	2.00	10		0.00	0.00	3.00	522.	0.00	0.00
30	2.00	14		0.00	0.00	0.00	586.	0.00	0.00
31	2.00	0		0.60	0.40	5.00	525.	1.30	9.99
32	2.00	0		0.00	0.00	0.00	508.	0.00	0.00
33	2.00	5		1.10	1.40	0.00	508.	2.42	10.84
34	2.00	14		0.00	0.00	0.00	558.	0.00	0.00
35	2.00	23		0.00	0.00	0.00	540.	0.00	0.00
36	2.00	11		0.10	0.40	0.00	475.	0.23	11.22
37	2.00	9		19.60	16.40	3.50	511.	42.93	18.78
38	2.00	0		0.00	0.00	0.00	512.	0.00	0.00
39	2.00	0		0.00	0.00	1.00	534.	0.00	0.00
40	2.00	0		1.10	0.40	0.00	427.	2.73	11.73
41	2.00	11		5.10	5.40	0.00	525.	11.02	13.06
42	2.00	30		0.00	0.00	0.00	453.	0.00	0.00
43	2.00	0		0.00	0.00	0.00	472.	0.00	0.00
44	2.00	16		0.60	1.40	0.00	530.	1.29	11.25

120ffs

S#	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	2Sigma
45	2.00	7		0.00	0.00	0.00	475.	0.00	0.00
46	2.00	22		0.00	0.00	0.00	469.	0.00	0.00
47	2.00	11		0.00	0.00	4.50	400.	0.00	0.00
48	2.00	9		0.00	0.00	0.00	461.	0.00	0.00
49	2.00	24		0.00	0.00	0.00	521.	0.00	0.00
50	2.00	30		0.00	0.00	0.00	312.	0.00	0.00
51	2.00	12		0.00	0.00	1.50	528.	0.00	0.00
52	2.00	0		1.10	1.40	0.00	548.	2.33	10.02
53	2.00	13		0.00	0.00	0.00	541.	0.00	0.00
54	2.00	7		0.00	0.00	0.00	524.	0.00	0.00
55	2.00	0		2.10	1.90	0.00	578.	4.32	10.16
56	2.00	7		0.00	0.00	0.00	556.	0.00	0.00
57	2.00	15		1.10	0.90	0.50	546.	2.34	11.31
58	2.00	0		0.00	0.00	0.00	580.	0.00	0.00
59	2.00	9		0.00	0.00	0.00	542.	0.00	0.00
60	2.00	16		0.60	1.40	0.00	446.	1.44	12.59
61	2.00	8		0.00	0.00	0.00	548.	0.00	0.00
62	2.00	16		0.00	0.00	0.00	468.	0.00	0.00
63	2.00	9		2.60	2.90	0.00	388.	6.90	14.39
64	2.00	5		2.60	2.90	0.00	514.	5.68	11.43
65	2.00	24		0.00	0.00	0.00	535.	0.00	0.00
66	2.00	15		0.60	0.90	2.00	519.	1.30	11.37
67	2.00	18		0.00	0.00	0.00	360.	0.00	0.00
68	2.00	8		0.00	0.00	6.50	430.	0.00	0.00
69	2.00	17		0.00	0.00	2.50	462.	0.00	0.00
70	2.00	6		0.00	0.00	0.00	449.	0.00	0.00
71	2.00	42		0.00	0.00	0.00	492.	0.00	0.00
72	2.00	7		0.00	0.00	0.00	434.	0.00	0.00
73	2.00	7		0.00	0.00	0.00	557.	0.00	0.00
74	2.00	43		0.00	0.00	0.50	381.	0.00	0.00
75	2.00	7		0.00	0.00	0.00	426.	0.00	0.00
76	2.00	0		0.00	0.00	0.00	450.	0.00	0.00
77	2.00	0		0.10	0.00	0.00	474.	0.23	10.27
78	2.00	8		0.00	0.00	0.00	481.	0.00	0.00
79	2.00	14		0.00	0.00	0.00	397.	0.00	0.00
80	2.00	12		0.00	0.00	0.00	490.	0.00	0.00
81	2.00	8		0.00	0.00	1.50	587.	0.00	0.00
82	2.00	18		0.00	0.00	0.00	496.	0.00	0.00
83	2.00	8		0.00	0.00	1.50	461.	0.00	0.00
84	2.00	25		0.00	0.00	1.50	379.	0.00	0.00
85	2.00	38		0.00	0.00	0.00	489.	0.00	0.00
86	2.00	18		0.00	0.00	0.00	615.	0.00	0.00
87	2.00	13		0.00	0.00	0.00	469.	0.00	0.00
88	2.00	0		0.60	0.40	0.00	511.	1.31	10.12
89	2.00	5		1.10	0.90	0.00	497.	2.44	10.96
90	2.00	43		0.00	0.00	0.00	488.	0.00	0.00
91	2.00	22		0.00	0.00	0.00	682.	0.00	0.00
92	2.00	6		0.00	0.00	0.00	537.	0.00	0.00
93	2.00	0		0.00	0.00	0.00	426.	0.00	0.00
94	2.00	6		0.00	0.00	0.00	524.	0.00	0.00
95	2.00	11		0.10	0.40	0.00	681.	0.19	9.80
96	2.00	0		0.00	0.00	1.50	475.	0.00	0.00
97	2.00	0		0.00	0.00	0.00	445.	0.00	0.00
98	2.00	0		0.00	0.00	0.00	394.	0.00	0.00
99	2.00	9		0.00	0.00	1.00	520.	0.00	0.00
100	2.00	7		0.00	0.00	0.00	408.	0.00	0.00

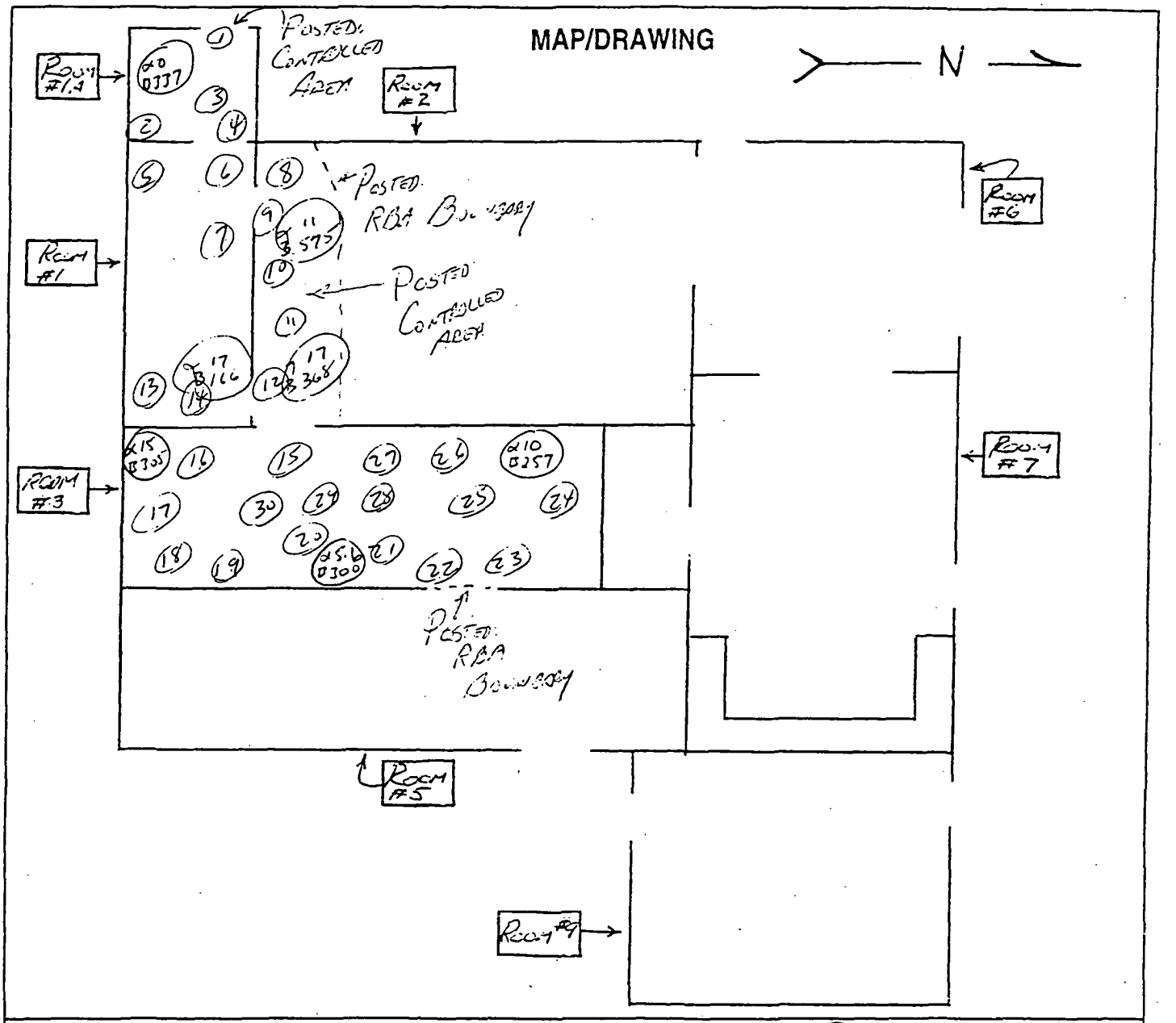
S#	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	2Sigma
101	2.00	8		0.00	0.00	0.50	408.	0.00	0.00
102	2.00	0		0.00	0.00	2.00	381.	0.00	0.00
103	2.00	14		0.00	0.00	2.00	464.	0.00	0.00
104	2.00	29		0.00	0.00	0.00	422.	0.00	0.00
105	2.00	10		0.00	0.00	0.00	412.	0.00	0.00
106	2.00	12		0.00	0.00	0.00	426.	0.00	0.00
107	2.00	0		1.10	1.40	0.00	489.	2.46	10.59
108	2.00	16		0.00	0.00	2.50	421.	0.00	0.00
109	2.00	10		0.00	0.00	1.00	410.	0.00	0.00
110	2.00	5		2.60	2.40	0.00	437.	6.35	12.78
111	2.00	7		0.00	0.00	0.00	439.	0.00	0.00
112	2.00	22		0.00	0.00	0.50	369.	0.00	0.00
113	2.00	9		0.00	0.00	1.00	429.	0.00	0.00
114	2.00	7		0.00	0.00	1.50	393.	0.00	0.00
115	2.00	7		0.00	0.00	5.50	500.	0.00	0.00
116	2.00	16		0.00	0.00	1.50	450.	0.00	0.00
117	2.00	12		0.00	0.00	0.50	515.	0.00	0.00
118	2.00	20		0.00	0.00	0.00	463.	0.00	0.00
119	2.00	6		0.00	0.00	0.00	427.	0.00	0.00
120	2.00	24		0.00	0.00	0.00	459.	0.00	0.00
121	2.00	0		0.00	0.00	4.50	366.	0.00	0.00
122	2.00	0		0.00	0.00	3.00	376.	0.00	0.00
123	2.00	24		0.00	0.00	1.00	394.	0.00	0.00
124	2.00	16		0.00	0.00	0.00	484.	0.00	0.00
125	2.00	0		0.00	0.00	2.00	472.	0.00	0.00
126	2.00	7		0.00	0.00	0.00	541.	0.00	0.00
127	2.00	6		0.00	0.00	2.00	457.	0.00	0.00
128	2.00	8		0.00	0.00	0.00	395.	0.00	0.00
129	2.00	7		0.00	0.00	0.00	552.	0.00	0.00
130	2.00	20		0.00	0.00	0.00	526.	0.00	0.00
131	2.00	9		0.00	0.00	0.00	502.	0.00	0.00
132	2.00	14		0.00	0.00	1.50	444.	0.00	0.00
133	2.00	7		0.00	0.00	0.00	395.	0.00	0.00
134	2.00	0		0.00	0.00	0.00	483.	0.00	0.00
135	2.00	41		0.00	0.00	0.00	482.	0.00	0.00
136	2.00	14		0.00	0.00	0.00	414.	0.00	0.00
137	2.00	10		1.60	1.40	0.00	483.	3.61	11.79
138	2.00	23		0.00	0.00	0.00	418.	0.00	0.00
139	2.00	6		0.60	0.90	0.00	455.	1.41	11.34
140	2.00	17		0.00	0.00	1.00	435.	0.00	0.00
141	2.00	14		0.00	0.00	0.00	419.	0.00	0.00
142	2.00	5		2.60	1.40	0.00	542.	5.54	11.15
143	2.00	8		0.00	0.00	0.00	457.	0.00	0.00
144	2.00	20		0.60	0.90	3.50	608.	1.21	10.96
145	2.00	34		0.00	0.00	3.00	658.	0.00	0.00
146	2.00	6		0.60	0.40	0.00	657.	1.17	9.45
147	2.00	0		1.60	1.40	0.00	613.	3.23	9.75
148	2.00	0		1.10	1.40	0.00	620.	2.21	9.51
149	2.00	8		0.00	0.00	0.50	574.	0.00	0.00
150	2.00	0		0.00	0.00	3.00	553.	0.00	0.00
151	2.00	0		0.00	0.00	2.00	527.	0.00	0.00
152	2.00	12		0.00	0.00	0.50	503.	0.00	0.00
153	2.00	10		1.60	1.40	0.00	595.	3.26	10.65
154	2.00	16		0.10	0.40	0.00	611.	0.20	10.37
155	2.00	6		0.10	0.00	1.00	588.	0.20	9.66
156	2.00	0		0.10	0.00	0.50	597.	0.20	9.18

S#	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	2Sigma
157	2.00	0		2.10	1.90	0.00	572.	4.35	10.23
158	2.00	18		0.00	0.00	0.00	658.	0.00	0.00
159	2.00	8		0.00	0.00	0.00	615.	0.00	0.00
160	2.00	0		2.10	1.40	0.00	613.	4.24	9.96
161	2.00	0		0.00	0.00	2.00	612.	0.00	0.00
162	2.00	5		1.60	1.40	0.00	595.	3.26	10.25
163	2.00	0		1.60	0.40	0.00	601.	3.25	9.81
164	2.00	0		2.60	0.90	0.00	635.	5.18	10.04
165	2.00	6		0.10	0.00	0.00	629.	0.20	9.45
166	2.00	10		1.60	2.40	0.00	639.	3.18	10.40
167	2.00	0		0.00	0.00	0.00	556.	0.00	0.00
168	2.00	6		0.60	0.40	0.50	603.	1.22	9.80
169	2.00	18		0.00	0.00	2.00	524.	0.00	0.00
170	2.00	0		6.60	5.90	4.00	632.	13.17	11.57
171	2.00	10		1.60	0.40	0.00	643.	3.17	10.37
172	2.00	6		0.00	0.00	1.50	639.	0.00	0.00
173	2.00	23		0.00	0.00	0.00	632.	0.00	0.00
174	2.00	7		0.00	0.00	0.00	656.	0.00	0.00
175	2.00	4		4.10	2.40	0.00	627.	8.21	11.04

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BUILDING "PS"	SURVEY NO. 97-PS-013-SC
PURPOSE: Floor Office Release Survey. Downposting Paint Shop	RWP NO. N/A
	DATE: 10/20/97
	TIME: 1445

MAP/DRAWING



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 Electra	5305/5316	2/11/98
	A	
	N	

Completed by: (Signature/HP#) [redacted] 827 [redacted] 6-FF	Date: 10/20/97
Counted by: (Signature/HP#) [redacted] 5379	Date: 10/21/97
Reviewed/Approved by: (Signature/HP#) [redacted] 6031	Date: 10/22/97

ML-9620 (10-95)

P-7

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Charge Authorization No. _____

❑ Removable Contamination ❑ Airborne Activity (check one)				
Swipes (dpm/100cm^2) or Airborne (µCi/cc)				
Sample #	β/γ	Alpha	Tritium	Comments
1			* 1	See
2	See	Results		MAP
3	Attached			on
4			x 2	Front
5				
6				
7			* 3	
8				
9				
10			x 4	
11				
12				
13			* 5	
14				
15				
16				
17			* 6	
18				
19				
20			* 7	
21				
22				
23			x 8	
24				
25				
26			* 9	
27				
28				
29			* 10	
30				30

❑ Removable Contamination ❑ Airborne Activity (check one)				
Swipes (dpm/100cm^2) or Airborne (µCi/cc)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: FLOOR AREA IN ROOM 1, 1A, 3 AND SOUTH PART OF 2 DOWN-PASTED FROM CONTAMINATION AREA TO CONTROLLED AREA.

Max. Activity on Large Area Wipe (dpm)	Tritium Airborne Activity (µCi/m^3)
N A	N A

NOTES:
1. LSC results #3 corresponds to Sample #1 on this RSDS.
2. See MD-80036 10002 for calculations of WB, extremity and skin dose rates
3. 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.
4. Annotate special sample type (e.g. soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR007
Batch Ended: 10/21/97 8:32

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 8/20/98
Serial Number: 26966-1

Batch ID: T 97-PS-013-SC SMITH / BURGE [30] 10-21-97 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.73	2.13	<AL	0.00	1.33	<MDA
A2	2	0.00	2.13	<MDA	1.16	2.26	<MDA
A3	3	1.90	2.05	<AL	2.70	2.45	<MDA
A4	4	0.00	1.94	<MDA	0.00	1.71	<MDA
B1	5	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	6	0.00	2.03	<MDA	1.02	2.14	<MDA
B3	7	0.00	1.92	<MDA	0.00	1.19	<MDA
B4	8	1.42	1.86	<MDA	0.00	1.64	<MDA
C1	9	0.00	2.15	<MDA	2.51	2.57	<MDA
C2	10	0.00	2.18	<MDA	0.00	1.86	<MDA
C3	11	0.00	2.00	<MDA	1.55	2.07	<MDA
C4	12	0.00	1.95	<MDA	0.00	1.21	<MDA
D1	13	1.93	2.14	<AL	2.33	2.47	<MDA
D2	14	0.00	2.07	<MDA	0.00	1.46	<MDA
D3	15	0.00	1.94	<MDA	0.26	1.62	<MDA
D4	16	0.00	1.90	<MDA	0.00	1.66	<MDA
A1	17	1.73	2.15	<AL	0.42	2.27	<MDA
A2	18	0.00	2.11	<MDA	0.00	1.32	<MDA
A3	19	1.91	2.02	<AL	0.26	1.73	<MDA
A4	20	0.00	1.93	<MDA	0.00	1.22	<MDA
B1	21	0.00	2.03	<MDA	0.00	1.76	<MDA
B2	22	1.69	2.05	<AL	3.32	2.76	<AL
B3	23	1.76	2.01	<AL	7.05	3.32	<AL
B4	24	0.00	1.88	<MDA	2.33	2.31	<MDA
C1	25	0.00	2.15	<MDA	2.51	2.57	<MDA
C2	26	1.87	2.17	<AL	0.00	1.32	<MDA
C3	27	0.00	1.99	<MDA	0.36	1.69	<MDA
C4	28	0.00	1.96	<MDA	0.06	1.70	<MDA
D1	29	0.00	2.14	<MDA	2.48	2.47	<MDA
D2	30	3.89	2.94	<AL	3.10	2.89	<MDA

TS 10/22/97

21 Oct 97 15:24 ALPHA/BETA - 1.01 Page #1
Protocol #: 7 PW H3 403728 User : 3950

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

	LL	UL	LCR	1SS	BKG
Region A:	0.5 - 18.0		0	0.0	6.20
Region B:	2.0 - 18.0		0	0.0	6.30
Region C:	20.0 - 2000		0	0.0	15.00

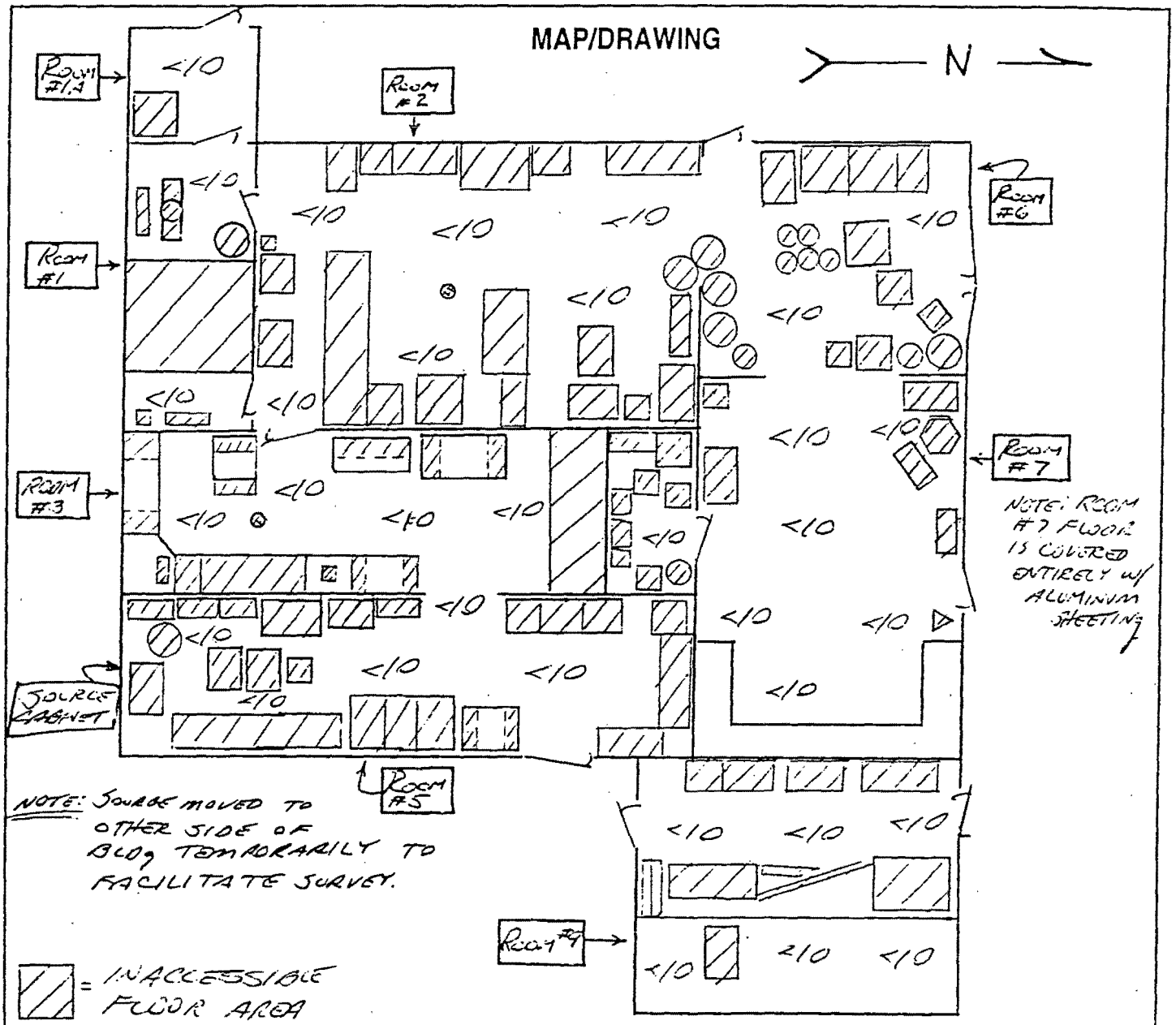
Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 97-PS-013-EC SMITH/BLADE (11-110) 10-21-97 JM
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT7.DAT
Count Data Filename: c:\data\SDATA7.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.20	3	B	641.43		0.00	15.00
0	2.00	432.80	0		624.32	853.66	77.77	4.50
1	2.00	3.80	76		562.66	7.85	23.25	1.00
2	2.00	4.80	77		569.83	9.86	24.86	0.00
3	2.00	0.00	83		528.28	0.00	0.00	2.50
4	2.00	1.80	70		567.96	3.70	17.75	0.00
5	2.00	2.30	67		487.60	5.20	18.03	4.50
6	2.00	2.80	62		571.33	5.74	16.21	0.00
7	2.00	4.30	56		547.76	9.08	17.10	0.00
8	2.00	0.30	75		522.69	0.66	19.03	0.00
9	2.00	3.80	58		561.75	7.86	16.87	0.00
10	2.00	0.00	58		584.23	0.00	0.00	1.50

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BUILDING "PS"	SURVEY NO. 97-PS-035-SC
PURPOSE: SITE CHARACTERIZATION STRUCTURAL SURVEY	RWP NO. JCW-142-97
	DATE: 10/29/97
	TIME: 1500

MAP/DRAWING



LEGEND:
= ~~mrem/hr~~ microrem/HA (γ) whole body (AL) 10/29/97
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 ELECTRA	5372/5373	1/28/98
GICRON FIDLER	3870/3881	1/30/98
MICRONAIR	3864	12/10/97
	N/A	

Counted by: (Signature/HP#) [redacted] 8396	Date: 10/29/97
Counted by: (Signature/HP#) NA	Date: NA
Reviewed/Approved by: (Signature/HP#) [redacted] 603	Date: 11-5-97

ML-9620 (10-95)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Charge Authorization No. ____________

❑ Removable Contamination ❑ Airborne Activity (check one)

Swipes (dpm/100cm^2) or Airborne (µCi/cc)

Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

❑ Removable Contamination ❑ Airborne Activity (check one)

Swipes (dpm/100cm^2) or Airborne (µCi/cc)

Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: GAMMA WALKTHROUGH SURVEY PERFORMED USING BICRON FIDLER ON CHANNEL "OUT" AND "ONE". RESULTS < 2 X √BKGD. NOTE: γ SOURCE IN SOURCE LOCKER TEMPORARILY MOVED TO FACILITATE SURVEY

Max. Activity on Large Area Wipe (dpm)	Tritium Airborne Activity (µCi/m^3)
N/A	

NOTES:
1. LSC results #3 corresponds to Sample #1 on this RSDS.
2. See MD-80036 10002 for calculations of WB, extremity and skin dose rates
3. 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.
4. Annotate special sample type (e.g. soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Appendix H

Radon Summary/Information

UNC Geotech

UNC Geotech
2597 B 3/4 Road
P.O. Box 14000
Grand Junction, Colorado 81502-5504
303/242-8621

April 12, 1990

Dennis Murphy
EG&G Mound Applied Technonogies
P.O. Box 3000
Mound Road
Miamisburg, OH 45343-3000

File

Dear Mr. Murphy:

I have enclosed the results of the radon measurements made at your site as part of the DOE Indoor Radon Study. A copy of these results can be provided in electronic format if desired. The results will be forwarded to the study sponsor, the DOE Office of Projects and Facilities Management, by the end of April.

Please contact me at FTS 326-6293 or commercial (303) 248-6293 if you have any questions.

Sincerely yours,

Mark D. Pearson

Mark D. Pearson
Project Manager
UNC Geotech

cc: DOE Points of Contact

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Nonid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	21		ABOVE AIR SAMPLER	161.1	125.0	1678055	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	21		ABOVE AIR SAMPLERS	116.7		1668508		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
		SM	19 MID EAST WALL	4.0		1661547		12/12/89	2/19/90	HISTORY OF ELEVATED READINGS
	48		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/89	2/19/90	
	19		ROOM 1	2.6		1678051		12/13/89	2/19/90	
		OLD SO BLDG	BASEMENT RIGHT CABINET	2.4		1681595		12/14/89	2/19/90	
	55		1 BELOW THEMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
	57		ROOM 1	1.9		1681565		12/12/89	2/19/90	
	87		143	1.5		1681563		12/13/89	2/19/90	
	998	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654460		12/12/89	2/19/90	
	24		ROOM 1 PLANT NORTH WALL	1.3		1672087		12/12/89	2/19/90	
		PAINT SHOP	PS 4	1.2		1661516		12/12/89	2/16/90	
	30		ROOM 3 EAST	1.1		1671262		12/12/89	2/16/90	
	100		103 MIDDLE OF NORTH WALL	1.0		1678060		12/12/89	2/19/90	
	37		6 NORTH WALL	1.0		1678046		12/12/89	2/19/90	
	34		34 A WEST WALL	.9	.6	1672062	1672042	12/12/89	2/19/90	MET
	102		123	.9		1681577		12/14/89	2/19/90	
	61		RM 221 MIDDLE OF NORTH WALL	.9		1681585		12/13/89	2/19/90	
	67		101 H	.9		1678029		12/12/89	2/19/90	
	G-13	LOG	G-514 WEST WALL	.9		1661544		12/12/89	2/16/90	
		T	CORRIDOR 28	.8		1678039		1/15/90	2/19/90	
		T	153	.8		1678067		1/15/90	2/19/90	
		T	78	.8		1678077		1/15/90	2/19/90	
		T	38	.8		1681586		1/15/90	2/19/90	
	105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 127	.8		1681564		12/12/89	2/19/90	
	25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/15/89	2/19/90	
	60		1 ON DOOR TO ROOM 3	.8		1678049		12/12/89	2/19/90	
		A	153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90	
		C BUILDING OLD CAFETERIA	NORTHEAST SECTION INTERNAL WALL RM2	.8		1672052		12/12/89	2/16/90	
		R BUILDING	68 NORTH WALL	.8		1678068		12/13/89	2/16/90	
		SM	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90	
		WO BLDG	WO 8	.8		1678045		12/18/89	2/16/90	
	87		124	.8		1678032		12/12/89	2/19/90	
	88		ROOM 116 ON NORHT WALL RIGHT OF CEN	.7	.5	1661524	1661535	12/12/89	2/19/90	
	89		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666783	1668532	12/15/89	2/19/90	
	22		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1678070		12/13/89	2/19/90	
	56	FIRE PUMP HOUSE	ROOM 1 THERE IS ONLY 1 ROOM	.7		1678066		12/12/89	2/19/90	
		E ANNEX	E 225 EAST WALL	.7		1681552		12/19/89	2/16/90	
		POWER HOUSE PH-1	REPAIR SHOP NORTH EAST CORNER	.7		1678040		12/12/89	2/19/90	
		W BLDG	W-135	.7		1681553		12/12/89	2/16/90	
	26		ROOM 84 SOUTH WEST WALL	.6	.9	1672048	1667159	12/13/89	2/16/90	
	69		RM 7 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/19/90	
	26		ROOM 84 SOUTH WEST WALL	.6		1671279		12/13/89	2/16/90	
	35		RM 7	.6		1654459		12/14/89	2/19/90	
	38	PP BLDG	PP CORR 136	.6		1678016		12/14/89	2/19/90	
	72		ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/19/90	
	93		HALLWAY 107 (MIDWAY)	.6		1681629		12/13/89	2/20/90	
	98	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
		COS	NW STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/19/90	
		OSW	120 C	.6		1681573		12/12/89	2/16/90	
		SW	150 WEST END GAS BOX	.6		1678043		12/11/89	2/16/90	
		A	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90	
	47		102 MIDDLE OF EAST WALL	.5	.5	1658110	1666819	12/12/89	2/16/90	

a	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
		R BUILDING	163 NEXT TO NORTH WALL	.5	.5	1668533	1666816	12/13/89	2/16/90	
	101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.5		1671288		12/12/89	2/19/90	
		"B" 175	175 WEST WALL	.5		1678040		12/12/89	2/16/90	
	36		ELECTRICAL PANEL RM IN ELECTRONICS	.5		1678062		12/12/89	2/19/90	
	40		100	.6		1654480		12/13/89	2/16/90	
	43		1 EAST WALL OVER WATER DISPENSER	.5		1678076		12/12/89	2/20/90	
	44		ON BULLETTIN BOARD	.5		1678047		12/12/89	2/16/90	
	47		102 MIDDLE OF EAST WALL	.5		1678059		12/12/89	2/16/90	
	50		CELL 113	.5		1661582		12/13/89	2/19/90	
	79		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1661605		12/18/89	2/16/90	
	89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678079		12/15/89	2/19/90	
	91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
	91		2ND FLOOR OUTSIDE RM215	.5		1661593		12/15/89	2/16/90	
	92		HALLWAY RIGHT OFF ROOM 8	.5		1661509		12/12/89	2/19/90	
	94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/19/90	
		A	215 WEST WALL	.5		1661572		12/14/89	2/16/90	
		A	108D WEST WALL	.5		1661580		12/14/89	2/16/90	
		COS	119 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/19/90	
		COS	319 WALL CABINET TO RIGHT OF SINK	.5		1661590		12/12/89	2/19/90	
		E BUILDING	158 WEST WALL	.5		1678033		12/14/89	2/16/90	
		E BUILDING	103 WEST WALL	.6		1678072		12/14/89	2/16/90	
		E ANNEX	E 212 NORTH WALL	.5		1661587		12/19/89	2/16/90	
		GH BUILDING	ROOM 2	.6		1678065		12/12/89	2/16/90	
		GP B1	1A MIDDLE OF WEST WALL	.6		1678054		12/12/89	2/19/90	
		H BLDG	ROOM 127	.5		1661571		12/12/89	2/16/90	
		HH	HH-8	.5		1671269		12/19/89	2/19/90	
		I BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
		M BUILDING	M 108	.5		1678056		12/15/89	2/19/90	
		OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
		OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/90	
		OSW	4HT FLOOR	.5		1678020		12/12/89	2/16/90	
		OSE	CORR 212 SOUTH WALL NEAR 218 DOOR	.5		1678036		12/15/89	2/16/90	
		OSW	319	.5		1678069		12/13/89	2/16/90	
		OSW	2ND FLOOR	.5		1661611		12/12/89	2/16/90	
		POWER HOUSE PH-1	STATIONARY BOARD CORNER	.5		1678073		12/12/89	2/19/90	
		R BUILDING	145 WEST WALL ABOVE BALANCE	.5		1654538		12/14/89	2/16/90	
		SM/R TRITIUM COMPLEX	128 OVER LARGE METAL FLOOR DISC	.5		1678019		12/12/89	2/16/90	
		W BLDG	W135 WEST CENTRAL WALL	.5		1671293		12/12/89	2/16/90	
		WO BLDG	WOA 110	.5		1671301		12/18/89	2/16/90	
		"B" 124	EAST WALL	.5		1667189		12/12/89	2/16/90	
		OSE	113 BULLETIN BOARD OPPOSITE ELEVATO	.5		1678027		12/15/89	2/16/90	
	TF-2		114 EAST WALL CENTER OF ROOM	.4		1678064		12/12/89	2/19/90	
		HH	HH-24	.4		1667187		12/14/89	2/19/90	
		DS BUILDING	CORRIDOR 7 NEXT TO ROOM 216	.4		1661614		12/13/89	2/19/90	
		GP B1	1A MIDDLE OF WEST WALL	.4	.5	1672135	1661542	12/12/89	2/19/90	
	105	PARTS MACHINING BUILDING	136 QC OFFICE	.4		1678017		12/12/89	2/19/90	
	27		CELL 8 - HALL	.4		1661583		12/12/89	2/19/90	
	28	CERAMIC PRODUCTION	101	.4		1672061		12/12/89	2/19/90	
	29		HALLWAY	.4		1672105		12/14/89	2/19/90	
		TEST FIRE BUILDING 3	3-315	.4		1672036		12/12/89	2/19/90	
	38	PP BLDG	PP CORR 16/BAY 2 WALL	.4		1661570		12/14/89	2/19/90	
	39		BREAK RM	.4		1678050		12/14/89	2/19/90	
	42		101 B EAST WALL	.4		1678031		12/13/89	2/19/90	

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	45		WORK STATION AREA	.4		1681568		12/14/89	2/19/90	
	46		81 EAST WALL	.4		1672070		12/12/89	2/19/90	
	49		HALL OUTSIDE RM 125	.4		1678020		12/14/89	2/19/90	
	51		107 TOP OF FUME HOOD	.4		1681575		12/12/89	2/19/90	
	63		ROOM 134	.4		1672059		12/13/89	2/20/90	
	63W		RM 4	.4		1678078		12/14/89	2/19/90	
	65		ROOM 10 CONFERANCE ROOM	.4		1671284		12/14/89	2/19/90	
	66		OFFICE AREA	.4		1681554		12/12/89	2/19/90	
	68		EAST WALL CENTER BEAM	.4		1681555		12/14/89	2/19/90	
	69		RM 10A	.4		1681576		12/12/89	2/19/90	
	70		17D MEETING ROOM CENTER WALL	.4		1678041		12/12/89	2/19/90	
	88		ROOM 116	.4		1671285		12/12/89	2/19/90	
	95	SN/PP	95- BLD-ROOM81	.4		1661531		12/12/89	2/20/90	
		OS BUILDING	CORRIOOR 2 - 6 FT. ABOVE FLOOR	.4		1678071		12/13/89	2/19/90	
		I	I HALLWAY	.4		1667184		12/12/89	2/19/90	
		N BUILDING	N 21 WEST WALL	.4		1678057		12/15/89	2/20/90	
		POWER HOUSE PH-1	OFFICE SUPERVISOR	.4		1678035		12/12/89	2/19/90	
		R BUILDING	12 SOUTH WALL	.4		1681566		12/13/89	2/19/90	
	34		BURN ROOM			1654481		12/12/89		BURNT (NOT AVAILABLE)
	61		RM 151			1681567		12/13/89		MISSING

Appendix I

Asbestos Summary/Information

COPY

LEAD/ASBESTOS SURVEY REQUEST

A. PROJECT ENGINEER COMPLETES THIS SECTION

PROJECT TITLE: MAIN HILL NON-RAD

CHARGE NO.: E00194

LOCATION (CRAWL SPACE, PENTHOUSE, ETC.) AND TYPE OF MATERIAL TO BE SAMPLED:

REQUEST LEAD & ASBESTOS SURVEY FOR BLD P.S.
BUILDING SCHEDULED FOR REMOVAL AUG '98.

KNOWN HISTORICAL ASBESTOS INFORMATION (Review the drawings for this project, if asbestos is identified briefly indicate the location, quantity, and identity.)

Yes

PROJECT ENGINEER:	PHONE:	DATE SUBMITTED:
G. GALLAWAY	3124	~~4/98~~ 11/13/97

B. INDUSTRIAL HYGIENE COMPLETES THIS SECTION

FINDINGS:

- ~ 30ft of copper piping is insulated utilizing positive asbestos containing pipe tape.
- Flooring materials assumed to contain asbestos.
- Three paint samples collected of interior cream/white paint, grey floor paint, and silver exterior paint. Sample results indicate all three paints are lead containing.

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:

No material to be disturbed without Industrial Hygiene notification. Submittal of OEPA / RAPCA asbestos demolition notifications are required to be submitted prior to demolition of the building.

DATE:	APPROVED:
2-16-98	[signature] AHAS, AHES INDUSTRIAL HYGIENE REP.

ML-8682 (3-94)

LEAD

~~ASBESTOS~~ BULK SAMPLE DATA SHEET

PROJECT TITLE: Paint Shop Demolition

Page No. 1 of 1

BUILDING/LOCATION: P.S.

SURVEY DATE: 2-9-98

SAMPLED BY: [redacted] / [redacted]

HP NUMBER: 8378

HOMO AREA #	SAMPLE NUMBER	AMT.	SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NONFRI.	COND.	SAMPLE RESULTS	COMMENTS
1	980209 12		East Room South wall	Cream & White layers interior bldg. paint	N/A	Poor		
2	980209 13		South entrance of Bldg. on West side.	Exterior Grey Paint	N/A	Poor		
3	980209 14		South entrance of Bldg. on West side	Grey floor paint	N/A	Poor		

ADDITIONAL COMMENTS:

ML-9706

DATA CHEM LABORATORIES
A SORENSON COMPANY

2/13/98

Submitted To:
Matthew Uelen
Babcock & Wilcox of Ohio
1 Mound Ave.
Miamisburg, OH
45342

Reference Data:	Lead
Sample Location:	Not Available
Sample Type:	Paint Chip
Client Sample No.:	98020912 through 98020914
PO #:	Not Available
Method Reference:	3050 / 6010
Sample Set ID#:	98-S-0783
DATACHEM Lab No.:	98-04426 through 98-04428
Preparation Date:	02/13/98
Analysis Date:	02/13/98

The samples were prepared in accordance with EPA method 3050. The samples were then analyzed in accordance with EPA method 6010 using a Perkin Elmer 3000XL ICP spectrometer.

The results are in the enclosed data table.

Robert R. Liversage
Analyst

Reviewer

SALT LAKE CITY OFFICE
960 WEST LeVOY DRIVE
SALT LAKE CITY, UTAH 84123-2547
801 266-7700, FAX 801 268-9592

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

MARYLAND OFFICE
17524 MACOUFF AVENUE
OLNEY, MARYLAND 20832
301 924-1987, FAX 301 924-1981

LEADING ANALYTICAL CHEMISTRY INTO THE 21ST CENTURY

98-S-0785

Results
mg/Kg (ppm)

Client #	DCL #	Pb
98020912	98-04426	76.
98020913	98-04427	19000.
98020914	98-04428	61.
LOD		20.

ND indicates the value is below the limit of detection (LOD)

Robert R. Liversage
Analyst

Reviewer

EG&G MOUND APPLIED TECHNOLOGIES

REQUEST FOR LABORATORY ANALYTICAL SERVICES AND CHAIN-OF-CUSTODY

96-S-0705

REPORT RESULTS TO

Name: Matt Uelen Title: IH

~~EG&G Mound Applied Technologies~~ BWO

P.O. Box 3000 Bldg. ~~B-157~~ AZ73

Miamisburg, Ohio 45343-3000

Telephone No. ~~(513)~~ [redacted] 937-865-5922 FAX No. (513) 865-~~4645~~ 4730

Date Results Required: RUSH Phone Results: ☐

Special Instructions: (method, limit of detection, etc.)

Rush analysis
Fax results ASAP

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request. Enter a 'P' if preservative added.)

SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Lead Content										FOR LAB USE ONLY (task #, QC #, etc.)
980209 12	2-9-98	Bulk	—	X										0L1D6
980209 13	↓	↓	—	X										0L1D7
980209 14			—	X										0L1D8
														CMW

CHAIN OF CUSTODY

Relinquished by: [signature]	Date/Time 2-12-97
Received by:	Date/Time
Relinquished by:	Date/Time
Received by:	Date/Time
Method of Shipment:	

Preservation Method:

Analyzed by: Date:

Received at Lab By: [signature] Date/Time 2-12-98

Name of Lab:

ML-9222 (9-94)

Appendix J

Lead Summary/Information

Inorganic Analysis
LSDG 16987 PAINT SHED
Sampled 2/18/98

3/5/98

Sample Id	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Copper	Zinc	Dilution
Reg Limit mg/L	5.0	100	1.0	5.0	5.0	1.0	5.0	0.2			
Inst Det Limit	0.0013	0.0004	0.0004	0.0006	0.0009	0.0022	0.0008	0.0001	0.0031	0.0013	
CLEAR_METAL	<0.0052	1.170	0.0609	<0.0024	0.06	<0.0088	<0.0032	<0.0004	<0.0124	747	4X
PAINTED_METAL	<0.0052	1.060	0.068	<0.0024	0.172	<0.0088	<0.0032	<0.0004	<0.0124	805	4X
PREP BLK	<0.0052	<0.0016	<0.0016	<0.0024	0.0278	<0.0088	<0.0032	<0.0004	<0.0124	0.020	4X
LCS	101%	99%	100%	100%	99%	99%	84%	102%	103%	97%	

→ Blank
→ Laboratory Control Sample

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Dan Diemunsch
Paint Shed
Samples

Quanterra
Environmental Services

CASE NARRATIVE

Babcox & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

February 27, 1998

Attention: Gene Jendrek

Quanterra Project Number	: 145.04
SDG Name	: 16987
Date Received	: February 20, 1998
Number of Samples	: Two (2)
Sample type	: Solid

INTRODUCTION

The following samples from Babcox & Wilcox for the paint shed exterior project were received at Quanterra Environmental Services, Earth City, MO for TCLP Metals plus Copper and Zinc analyses. The analytical test performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved

Allen M. Field

Allen M. Field
Quanterra Project Manager

The samples were labeled as follows:

CLIENT ID	LAB ID	MATRIX
PAINTED METAL	16987-001	Solid
CLEAR METAL	16987-002	Solid

ANALYTICAL RESULTS/METHODOLOGY

The analytical results are presented by analytical test in the attached packages and summary reports. This report includes information on client identification numbers, lab identification numbers, preparation date, analysis date, results, units, and results for quality control samples.

The following table is a list of the analyses requested, and the methods used for the above samples:

Analysis	Method
TCLP Metals plus Cu, Zn	EPA 1311/6010/7470

QUALITY CONTROL

Method blanks and laboratory control samples were analyzed with the samples listed above per parameter. A sample duplicate, matrix spike and/or matrix spike duplicate was also performed where applicable for each parameter.

NONCONFORMANCES

There were no nonconformances associated with the analysis of this login.

COMMENTS

Receipt

Login 16987 was received at a temperature of 22°C.

Analytical Notes

Metals

The samples were diluted 4-fold prior to analysis for ICAP metals and mercury.

February 27, 1998
Quanterra Project Number : 145.04

QUALIFIERS/DEFINITIONS

•	: Values outside of QC limits.
B	: Analyte was found in blank, as well as sample. (organic)
B	: Results were between the PQL and the IDL. (inorganic)
J	: Denotes an estimated value below the detection limit.
U	: Compound was analyzed for but not detected.
NA	: Not applicable.
UG/L	: Micrograms per liter.
MG/L	: Milligrams per Liter.
%REC	: Percent Recovery.
ND	: Parameter was analyzed for but not detected.
QCBLK	: Laboratory Method Blank.
QCLCS	: Laboratory Control Sample.
Qual.	: Qualifier.
UCL	: Upper Control Limit.
RL	: Reporting Limit
pCi/L	: picoCuries per Liter
pCi/G	: picoCuries per gram
MG/KG	: milligrams per gram
UG/KG	: micrograms per Kilogram

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Sample Date : 02/18/98
Receipt Date : 02/20/98
Report Date : 02/27/98

Client ID: PAINTED METAL

Quanterra ID : 16987-001

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	02/23/98	02/25/98	02/25/98	0.0004	MG/L	U	0.0008	0.20	4
Arsenic	EPA 6010	02/23/98	02/24/98	02/24/98	0.0052	MG/L	U	1.2	5.0	4
Barium	EPA 6010	02/23/98	02/24/98	02/24/98	1.06	MG/L		0.80	100	4
Cadmium	EPA 6010	02/23/98	02/24/98	02/24/98	0.068	MG/L		0.020	1.0	4
Chromium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0024	MG/L	U	0.040	5.0	4
Copper	EPA 6010	02/23/98	02/24/98	02/24/98	0.012	MG/L	U	0.10		4
Lead	EPA 6010	02/23/98	02/24/98	02/24/98	0.17	MG/L	B	0.40	5.0	4
Selenium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0088	MG/L	U	1.0	1.0	4
Silver	EPA 6010	02/23/98	02/24/98	02/24/98	0.0032	MG/L	U	0.040	5.0	4
Zinc	EPA 6010	02/23/98	02/24/98	02/25/98	805	MG/L		0.40		20

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Sample Date : 02/18/98
Receipt Date : 02/20/98
Report Date : 02/27/98

Client ID: CLEAR METAL

Quanterra ID : 16987-002

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	02/23/98	02/25/98	02/25/98	0.0004	MG/L	U	0.0008	0.20	4
Arsenic	EPA 6010	02/23/98	02/24/98	02/24/98	0.0052	MG/L	U	1.2	5.0	4
Barium	EPA 6010	02/23/98	02/24/98	02/24/98	1.17	MG/L		0.80	100	4
Cadmium	EPA 6010	02/23/98	02/24/98	02/24/98	0.061	MG/L		0.020	1.0	4
Chromium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0024	MG/L	U	0.040	5.0	4
Copper	EPA 6010	02/23/98	02/24/98	02/24/98	0.012	MG/L	U	0.10		4
Lead	EPA 6010	02/23/98	02/24/98	02/24/98	0.060	MG/L	B	0.40	5.0	4
Selenium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0088	MG/L	U	1.0	1.0	4
Silver	EPA 6010	02/23/98	02/24/98	02/24/98	0.0032	MG/L	U	0.040	5.0	4
Zinc	EPA 6010	02/23/98	02/24/98	02/25/98	747	MG/L		0.40		20

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Mercury
Matrix : Solid

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Client ID: NA

Quanterra ID : EXTBLK165811-

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	02/23/98	02/25/98	02/25/98	0.0004	MG/L	U	0.0008	0.20	4
Arsenic	EPA 6010	02/23/98	02/24/98	02/24/98	0.0052	MG/L	U	1.2	5.0	4
Barium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0016	MG/L	U	0.80	100	4
Cadmium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0016	MG/L	U	0.020	1.0	4
Chromium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0024	MG/L	U	0.040	5.0	4
Copper	EPA 6010	02/23/98	02/24/98	02/24/98	0.028	MG/L	B	0.10		4
Lead	EPA 6010	02/23/98	02/24/98	02/24/98	0.0036	MG/L	U	0.40	5.0	4
Selenium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0088	MG/L	U	1.0	1.0	4
Silver	EPA 6010	02/23/98	02/24/98	02/24/98	0.0032	MG/L	U	0.040	5.0	4
Zinc	EPA 6010	02/23/98	02/24/98	02/24/98	0.020	MG/L	B	0.08		4

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP ICAP
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Quanterra ID : QCLCS165880-

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Arsenic	EPA 6010	NA	02/24/98	02/24/98	101	%REC				1
Barium	EPA 6010	NA	02/24/98	02/24/98	99	%REC				1
Cadmium	EPA 6010	NA	02/24/98	02/24/98	100	%REC				1
Chromium	EPA 6010	NA	02/24/98	02/24/98	100	%REC				1
Copper	EPA 6010	NA	02/24/98	02/24/98	101	%REC				1
Lead	EPA 6010	NA	02/24/98	02/24/98	99	%REC				1
Selenium	EPA 6010	NA	02/24/98	02/24/98	99	%REC				1
Silver	EPA 6010	NA	02/24/98	02/24/98	84	%REC				1
Zinc	EPA 6010	NA	02/24/98	02/24/98	97	%REC				1

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Quanterra ID : QCLCS165961-1

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	NA	02/25/98	02/25/98	103	%REC				1

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP ICAP
Matrix : Solid

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Client ID: NA

Quanterra ID : QCBLK165880-1

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Arsenic	EPA 6010	NA	02/24/98	02/24/98	-0.0027	MG/L	B	0.30	5.0	1
Barium	EPA 6010	NA	02/24/98	02/24/98	-0.0008	MG/L	B	0.20	100	1
Cadmium	EPA 6010	NA	02/24/98	02/24/98	-0.0014	MG/L	B	0.005	1.0	1
Chromium	EPA 6010	NA	02/24/98	02/24/98	-0.0012	MG/L	B	0.010	5.0	1
Copper	EPA 6010	NA	02/24/98	02/24/98	0.0031	MG/L	U	0.025		1
Lead	EPA 6010	NA	02/24/98	02/24/98	-0.0017	MG/L	B	0.10	5.0	1
Selenium	EPA 6010	NA	02/24/98	02/24/98	-0.0031	MG/L	B	0.25	1.0	1
Silver	EPA 6010	NA	02/24/98	02/24/98	0.0008	MG/L	U	0.010	5.0	1
Zinc	EPA 6010	NA	02/24/98	02/24/98	-0.016	MG/L	B	0.02		1

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Quanterra ID : QCBLK165961-

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	NA	02/25/98	02/25/98	0.0001	MG/L	U	0.0002	0.20	1

Quanterra February 21, 1998 08:37 am
Account: 11091 Project: 145.04 EG & G Mound QAS No. 145.04 Rev. 2
Master Sample Login: 16987

Project Manager: A. Field

Draft: Final Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
16987-001	PAINTED METAL	Solid	18-FEB-98 13:00	20-FEB-98 09:15	27-FEB-98	FED-EX	3*		R6954-002
TCLP METALS PLUS CU, ZN.									
1	GW - Glass Jar-2oz	EXTMETAL/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359333:20)	
1		HG/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359333:20)	
1		ICAP/TCLP/Q4	S	COLD	26-FEB-98	17-AUG-98	S1C	(359333:20)	
1		RAD/CSCREEN/Q4	S	COLD	26-FEB-98	19-AUG-98	S1C	(359333:20)	
16987-002	CLEAR METAL	Solid	18-FEB-98 13:00	20-FEB-98 09:15	27-FEB-98	FED-EX	3*		R6954-001
TCLP METALS PLUS CU, ZN.									
1	GW - Glass Jar-2oz	EXTMETAL/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359334:20)	
1		HG/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359334:20)	
1		ICAP/TCLP/Q4	S	COLD	26-FEB-98	17-AUG-98	S1C	(359334:20)	
1		RAD/CSCREEN/Q4	S	COLD	26-FEB-98	19-AUG-98	S1C	(359334:20)	

3*=Sample has not been rad screened.

Babcock & Wilcox of Ohio (Mound)

CHAIN-OF-CUSTODY RECORD

2/18/98

SAMPLE ID	Project Name / Location	Grid or Serial #	Collection			Sample Waste Type	Comp. or Grab	No. of Containers	Collector	
			Date	Time	Place				Print	Signature
Painted Metal	MH Paint Shed	N/A	2/18/98	13:00		metal squares	Grab	1	Dan Diemunsch	[illegible]
Clear Metal	MH Paint Shed	N/A	2/18/98	13:00		metal squares	Grab	1	Dan Diemunsch	[illegible]

Relinquished by:	Date	Received by:	Date	Relinquished by	Date
Print DAN DIEMUNSCH	2-18-98	Print GEORGE W BYRD	2/20/98	Print	
Signature [illegible]	Time 13:00	Signature [illegible]	Time 0915	Signature	Time
Received by Print	Date	Relinquished by Print	Date	Received by: Print	Date
Signature	Time	Signature	Time	Signature	Time

Chain of Custody record is required documenting the date and time of all persons having possession of the samples from time of collection until the final disposition

Please return copy of Chain of Custody Record with the analytical report

Item 22° WR# 014273

SIC

Analytical Request Form

1 week turnaround time as discussed with Allen Fields

BABCOCK & WILCOX OF OHIO (MOUND)

Sample Destination:	Quanterra
Transport:	Fed Ex
Project Name:	Paint Shed Exterior
Puchase Order:	17052
Waste Type:	metal squares
Sample Method:	Grab
Sample Collector:	Dan Diemunsch
Sample Date:	18-Feb-98

Possible Chemical Hazard
Unknown
Possible Radiological Hazard
none suspected

SAMPLE ID	Sample Size	TCLP VOA	TCLP SVOA	TCLP Metals (+Cu & Zn)	TCLP Herbicides	TCLP Pesticides	PCBs	Total CN	Reactive Sulfides	pH	Paint Filter	Gross Alpha/Beta	Gamm Spec	Alpha Spec (U, Pu & Th)	Comments
Painted Metal	approx 50 g			X											suspect lead
Clear Metal	approx 50 g			X											based paint

Environmental Services

014273

Login No.: 1698

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Babcock & Wilcox OFOH

Date: 2-20-98 Time: 0915

Project No: 145.04

Initiated by: [illegible]

Shipper/No: FEDEX 4186 4806 -1993

RFA/COC Numbers:

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below):

☑ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 22°C

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is".

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) [illegible] Date: 2-20-98

Project Management Review: [illegible] Date: 2-23-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

LEAD / ASBESTOS SURVEY REQUEST

COPY

A. PROJECT ENGINEER COMPLETES THIS SECTION

PROJECT TITLE: MAIN HILL NON-RAD

CHARGE NO.: E00194

LOCATION (CRAWL SPACE, PENTHOUSE, ETC.) AND TYPE OF MATERIAL TO BE SAMPLED:

REQUEST LEAD & ASBESTOS SURVEY FOR BLD P.S.
BUILDING SCHEDULED FOR REMOVAL AUG '98.

KNOWN HISTORICAL ASBESTOS INFORMATION (Review the drawings for this project, if asbestos is identified briefly indicate the location, quantity, and identity.)

Yes

PROJECT ENGINEER:	PHONE:	DATE SUBMITTED:
G. GALLAWAY	3124	~~11/8~~ 11/13/97

B. INDUSTRIAL HYGIENE COMPLETES THIS SECTION

FINDINGS:

- ~ 30ft of copper piping is insulated utilizing positive asbestos containing pipetape.
- Flooring materials assumed to contain asbestos.
- Three paint samples collected of interior cream/white paint, gray floor paint, and silver exterior paint. Sample results indicate all three paints are lead containing.

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:

No material to be disturbed without Industrial Hygiene notification. Submittal of OEPA / RAPCA asbestos demolition notifications are required to be submitted prior to demolition of the building.

DATE:	APPROVED:
2-16-98	[signature] AHAS, AHES INDUSTRIAL HYGIENE REP.

ML-8682 (3-94)

LEAD

~~ASBESTOS~~ BULK SAMPLE DATA SHEET

PROJECT TITLE: Paint Shop Demolition	Page No. 1 of 1
BUILDING/LOCATION: P.S.	SURVEY DATE: 2-9-98
SAMPLED BY: [redacted] / [redacted]	HP NUMBER: 8378

HOMO AREA #	SAMPLE NUMBER	AMT.	SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NONFRI.	COND.	SAMPLE RESULTS	COMMENTS
1	980209 12		East Room South wall	Cream & White layers interior bldg. paint	N/A	Poor		
2	980209 13		South entrance of Bldg. on West side.	Exterior Grey Paint	N/A	Poor		
3	980209 14		South entrance of Bldg. on West side	Grey Floor paint	N/A	Poor		

ADDITIONAL COMMENTS:

ML-9706

DATA CHEM LABORATORIES
A SORENSON COMPANY

2/13/98

Submitted To:
Matthew Uelen
Babcock & Wilcox of Ohio
1 Mound Ave.
Miamisburg, OH
45342

Reference Data:	Lead
Sample Location:	Not Available
Sample Type:	Paint Chip
Client Sample No.:	98020912 through 98020914
PO #:	Not Available
Method Reference:	3050 / 6010
Sample Set ID#:	98-S-0785
DATACHEM Lab No.:	98-04426 through 98-04428
Preparation Date:	02/13/98
Analysis Date:	02/13/98

The samples were prepared in accordance with EPA method 3050. The samples were then analyzed in accordance with EPA method 6010 using a Perkin Elmer 3000XL ICP spectrometer.

The results are in the enclosed data table.

Robert R. Liversage
Analyst

Reviewer

SALT LAKE CITY OFFICE
960 WEST LeVOY DRIVE
SALT LAKE CITY, UTAH 84123-2547
801 266-7700, FAX 801 268-9992

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

MARYLAND OFFICE
17524 MACDUFF AVENUE
OLNEY, MARYLAND 20832
301 924-1937, FAX 301 924-1931

LEADING ANALYTICAL CHEMISTRY INTO THE 21ST CENTURY™

98-S-0765

Results
mg/Kg (ppm)

Client #	DCL #	Pb
98020912	98-04426	76.
98020913	98-04427	19000.
98020914	98-04428	61.
LOD		20.

ND indicates the value is below the limit of detection (LOD)

Robert R. Liversage
Analyst

Reviewer

EG&G MOUND APPLIED TECHNOLOGIES

REQUEST FOR LABORATORY ANALYTICAL SERVICES AND CHAIN-OF-CUSTODY

98-S-0765

REPORT RESULTS TO

Name: Matt Uelen Title: IH

~~EG&G Mound Applied Technologies~~ BWO

P.O. Box 3000 Bldg. ~~B-457~~ A273

Miamisburg, Ohio 45343-3000

Telephone No. ~~(513)~~ 937-865-5922 FAX No. (513) 865-4645 4730

Date Results Required: RUSH Phone Results: ☐

Special Instructions: (method, limit of detection, etc.)

Rush analysis
Fax results ASAP

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request. Enter a '✓' if preservative added.)

SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Lead Content										98- FOR LAB USE ONLY (task #, QC #, etc.)
98020912	2-9-98	Bulk	—	X										011156
98020913	↓	↓	—	X										011157
98020914			—	X										011158
														CMW

CHAIN OF CUSTODY

Relinquished by:		Date/Time	9-12-97
Received by:		Date/Time	
Relinquished by:		Date/Time	
Received by:		Date/Time	
Method of Shipment:			

Preservation Method:

Analyzed by: Date:

Received at Lab By: [illegible] Date/Time 2-[illegible]

Name of Lab:

ML-9222 (9-94)

Appendix K

Chemical Summary/Information

(The chemical inventory has been removed from PS.)

Appendix L

Noted Soil Contamination, Vicinity

Samples that exceed comparison values are highlighted in bold text in the "Measured Value" column of the spreadsheet GP1COMP.LXS. 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.)

Location_name	Location_ty	Collection_d	Media	Value_name	Measured_v	Value_un	Detec	Chem_cla	Start_	End_d	Dept	Cas_number	Lab	Sample_id	Project_cc	Da	Comments
4014	Borehole	19940421	Other	1,1,1-Trichloroethane	5263.2	PPB		ORVOA	2.5	2.5	FT	71-55-6		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	1,1-Dichloroethane	12098.8	PPB		ORVOA	2.5	2.5	FT	75-34-3		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	1,2-cis-Dichloroethene	5808.1	PPB		ORVOA	2.5	2.5	FT	156-59-2		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	1,2-trans-Dichloroethene	6818.2	PPB		ORVOA	2.5	2.5	FT	156-60-5		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	Toluene	789.5	PPB		ORVOA	2.5	2.5	FT	108-88-3		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	Total VOC's	42027.7	PPB		ORVOA	2.5	2.5	FT	TVOC		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	Trichlorofluoromethane	11250	PPB		ORVOA	2.5	2.5	FT	75-69-4		4014-0002.5	SVROU2		
4014	Borehole	19940421	Other	Total VOC's	8394.5	PPB		ORVOA	5	5	FT	TVOC		4014-0005.0	SVROU2		
4014	Borehole	19940421	Other	Trichlorofluoromethane	5892.9	PPB		ORVOA	5	5	FT	75-69-4		4014-0005.0	SVROU2		
4015	Borehole	19940425	Other	Total VOC's	5844.4	PPB		ORVOA	5	5	FT	TVOC		4015-0005.0	SVROU2		
4015	Borehole	19940425	Other	Trichlorofluoromethane	3571.4	PPB		ORVOA	5	5	FT	75-69-4		4015-0005.0	SVROU2		
4015	Borehole	19940425	Other	1,1,1-Trichloroethane	2280.7	PPB		ORVOA	7.5	7.5	FT	71-55-6		4015-0007.5	SVROU2		
4015	Borehole	19940425	Other	1,1-Dichloroethane	3456.8	PPB		ORVOA	7.5	7.5	FT	75-34-3		4015-0007.5	SVROU2		
4015	Borehole	19940425	Other	1,2-cis-Dichloroethene	2020.2	PPB		ORVOA	7.5	7.5	FT	156-59-2		4015-0007.5	SVROU2		
4015	Borehole	19940425	Other	Total VOC's	26449.6	PPB		ORVOA	7.5	7.5	FT	TVOC		4015-0007.5	SVROU2		
4015	Borehole	19940425	Other	Trichlorofluoromethane	15892.9	PPB		ORVOA	7.5	7.5	FT	75-69-4		4015-0007.5	SVROU2		
4015	Borehole	19940425	Other	1,1-Dichloroethane	1975.3	PPB		ORVOA	9.2	9.2	FT	75-34-3		4015-0009.2	SVROU2		
4015	Borehole	19940425	Other	Total VOC's	12566.9	PPB		ORVOA	9.2	9.2	FT	TVOC		4015-0009.2	SVROU2		
4015	Borehole	19940425	Other	Trichlorofluoromethane	8571.4	PPB		ORVOA	9.2	9.2	FT	75-69-4		4015-0009.2	SVROU2		
C0253	Borehole	19841201	Soil	Plutonium-238	0.11	PCI/G	0.01	RAD	3	3	FT	13981-16-3		8396	RSS		
MND33-0062	Borehole	19911119	Soil	Aluminum	3560	MG/KG	6	INORG	0	2	FT	7429-90-5		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Antimony	32.3	MG/KG	3	INORG	0	2	FT	7440-36-0		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Arsenic	1.5	MG/KG	0.2	INORG	0	2	FT	7440-38-2		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Barium	32.9	MG/KG	0.2	INORG	0	2	FT	7440-39-3		0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Benzo(a)pyrene	89	UG/KG	400	ORSVO	0	2	FT	50-32-8	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Benzo(g,h,i)perylene	100	UG/KG	400	ORSVO	0	2	FT	191-24-2	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Beryllium	0.69	MG/KG	0.2	INORG	0	2	FT	7440-41-7	B	0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Bis(2-ethylhexyl)phthalate	1400	UG/KG	400	ORSVO	0	2	FT	117-81-7	B	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Butyl Benzyl Phthalate	310	UG/KG	400	ORSVO	0	2	FT	85-68-7	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Cadmium	**7.2**	MG/KG	0.2	INORG	0	2	FT	7440-43-9		0062-0001	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Calcium	175000	MG/KG	2	INORG	0	2	FT	7440-70-2		0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Chromium	**29.8**	MG/KG	1	INORG	0	2	FT	7440-47-3		0062-0001	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Cobalt	7	MG/KG	1	INORG	0	2	FT	7440-48-4		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Copper	19.6	MG/KG	1	INORG	0	2	FT	7440-50-8	*	0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Dibenz(a,h)anthracene	64	UG/KG	400	ORSVO	0	2	FT	53-70-3	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Dimethyl Phthalate	130	UG/KG	400	ORSVO	0	2	FT	131-11-3	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Di-n-butyl Phthalate	54	UG/KG	400	ORSVO	0	2	FT	84-74-2	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Fluoranthene	200	UG/KG	400	ORSVO	0	2	FT	206-44-0	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Hexachlorobenzene	49	UG/KG	400	ORSVO	0	2	FT	118-74-1	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Indeno(1,2,3-cd)pyrene	67	UG/KG	400	ORSVO	0	2	FT	193-39-5	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Iron	9080	MG/KG	1	INORG	0	2	FT	7439-89-6		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Lead	**148**	MG/KG	0.2	INORG	0	2	FT	7439-92-1	*	0062-0001	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Magnesium	**50000**	MG/KG	5	INORG	0	2	FT	7439-95-4	*	0062-0001	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Manganese	361	MG/KG	0.2	INORG	0	2	FT	7439-96-5		0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Nickel	16.7	MG/KG	2	INORG	0	2	FT	7440-02-0		0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Phenanthrene	93	UG/KG	400	ORSVO	0	2	FT	85-01-8	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Potassium	395	MG/KG	10	INORG	0	2	FT	7440-09-7		0062-0001	MND33		
MND33-0062	Borehole	19911119	Soil	Pyrene	340	UG/KG	400	ORSVO	0	2	FT	129-00-0	J	0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Silver	**18.9**	MG/KG	1	INORG	0	2	FT	7440-22-4		0062-0001	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Sodium	**319**	MG/KG	10	INORG	0	2	FT	7440-23-5		0062-0001	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Vanadium	22.7	MG/KG	1	INORG	0	2	FT	7440-62-2		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Zinc	60.4	MG/KG	0.5	INORG	0	2	FT	7440-66-6		0062-0001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Aluminum	4930	MG/KG	6	INORG	3	5	FT	7429-90-5		0062-0002	MND33	J	

MND33-0062	Borehole	19911119	Soil	Antimony	12.6	MG/KG	3	INORG	3	5	FT	7440-36-0		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Arsenic	0.79	MG/KG	0.2	INORG	3	5	FT	7440-38-2		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Barium	30.5	MG/KG	0.2	INORG	3	5	FT	7440-39-3		0062-0002	MND33		
MND33-0062	Borehole	19911119	Soil	Beryllium	**0.74**	MG/KG	0.2	INORG	3	5	FT	7440-41-7	B	0062-0002	MND33		Exceeds soil 10-6 GV.
MND33-0062	Borehole	19911119	Soil	Bis(2-ethylhexyl)phthalate	1700	UG/KG	390	ORSVO	3	5	FT	117-81-7	B	0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Calcium	246000	MG/KG	2	INORG	3	5	FT	7440-70-2		0062-0002	MND33		
MND33-0062	Borehole	19911119	Soil	Chromium	**29**	MG/KG	1	INORG	3	5	FT	7440-47-3		0062-0002	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Cobalt	7.9	MG/KG	1	INORG	3	5	FT	7440-48-4		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Copper	15.3	MG/KG	1	INORG	3	5	FT	7440-50-8	*	0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Iron	13400	MG/KG	1	INORG	3	5	FT	7439-89-6		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Lead	6.4	MG/KG	0.2	INORG	3	5	FT	7439-92-1	*	0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Magnesium	5040	MG/KG	5	INORG	3	5	FT	7439-95-4	*	0062-0002	MND33		
MND33-0062	Borehole	19911119	Soil	Manganese	327	MG/KG	0.2	INORG	3	5	FT	7439-96-5		0062-0002	MND33		
MND33-0062	Borehole	19911119	Soil	Nickel	13.3	MG/KG	2	INORG	3	5	FT	7440-02-0		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Potassium	679	MG/KG	10	INORG	3	5	FT	7440-09-7		0062-0002	MND33		
MND33-0062	Borehole	19911119	Soil	Silver	**20.6**	MG/KG	1	INORG	3	5	FT	7440-22-4		0062-0002	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Sodium	**264**	MG/KG	10	INORG	3	5	FT	7440-23-5		0062-0002	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Vanadium	19.4	MG/KG	1	INORG	3	5	FT	7440-62-2		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Zinc	26.6	MG/KG	0.5	INORG	3	5	FT	7440-66-6		0062-0002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Aluminum	4590	MG/KG	6	INORG	8	11	FT	7429-90-5		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Antimony	17.5	MG/KG	3	INORG	8	11	FT	7440-36-0		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Arsenic	0.83	MG/KG	0.2	INORG	8	11	FT	7440-38-2		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Barium	19	MG/KG	0.2	INORG	8	11	FT	7440-39-3		0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Beryllium	0.66	MG/KG	0.2	INORG	8	11	FT	7440-41-7	B	0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Bis(2-ethylhexyl)phthalate	840	UG/KG	370	ORSVO	8	11	FT	117-81-7	B	0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Cadmium	**2.7**	MG/KG	0.2	INORG	8	11	FT	7440-43-9		0062-0003	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Calcium	202000	MG/KG	2	INORG	8	11	FT	7440-70-2		0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Chromium	**26.9**	MG/KG	1	INORG	8	11	FT	7440-47-3		0062-0003	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Cobalt	8.2	MG/KG	1	INORG	8	11	FT	7440-48-4		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Copper	13.9	MG/KG	1	INORG	8	11	FT	7440-50-8	*	0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Iron	13600	MG/KG	1	INORG	8	11	FT	7439-89-6		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Lead	5.3	MG/KG	0.2	INORG	8	11	FT	7439-92-1	*	0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Magnesium	16400	MG/KG	0.5	INORG	8	11	FT	7439-95-4	*	0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Manganese	390	MG/KG	0.2	INORG	8	11	FT	7439-96-5		0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Nickel	14.3	MG/KG	2	INORG	8	11	FT	7440-02-0		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	N-Nitroso-di-n-propylamine	41	UG/KG	370	ORSVO	8	11	FT	621-64-7	J	0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Potassium	833	MG/KG	10	INORG	8	11	FT	7440-09-7		0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Silver	**18.5**	MG/KG	1	INORG	8	11	FT	7440-22-4		0062-0003	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Sodium	219	MG/KG	10	INORG	8	11	FT	7440-23-5		0062-0003	MND33		
MND33-0062	Borehole	19911119	Soil	Vanadium	18.5	MG/KG	1	INORG	8	11	FT	7440-62-2		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Zinc	30.7	MG/KG	0.5	INORG	8	11	FT	7440-66-6		0062-0003	MND33	J	
MND33-0062	Borehole	19911119	Soil	Aluminum	2920	MG/KG	6	INORG	0	2	FT	7429-90-5		0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Antimony	38	MG/KG	3	INORG	0	2	FT	7440-36-0		0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Arsenic	2	MG/KG	0.2	INORG	0	2	FT	7440-38-2		0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Barium	26.9	MG/KG	0.2	INORG	0	2	FT	7440-39-3		0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Benzo(a)pyrene	64	UG/KG	390	ORSVO	0	2	FT	50-32-8	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Benzo(g,h,i)perylene	72	UG/KG	390	ORSVO	0	2	FT	191-24-2	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Beryllium	0.67	MG/KG	0.2	INORG	0	2	FT	7440-41-7	B	0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Bis(2-ethylhexyl)phthalate	1500	UG/KG	390	ORSVO	0	2	FT	117-81-7	B	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Butyl Benzyl Phthalate	180	UG/KG	390	ORSVO	0	2	FT	85-68-7	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Cadmium	**18**	MG/KG	0.2	INORG	0	2	FT	7440-43-9		0062-1001	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Calcium	174000	MG/KG	2	INORG	0	2	FT	7440-70-2		0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Chromium	**35.8**	MG/KG	1	INORG	0	2	FT	7440-47-3		0062-1001	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Cobalt	7.2	MG/KG	1	INORG	0	2	FT	7440-48-4		0062-1001	MND33	J	

MND33-0062	Borehole	19911119	Soil	Copper	21.9	MG/KG	1	INORG	0	2	FT	7440-50-8	*	0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Dibenz(a,h)anthracene	60	UG/KG	390	ORSVO	0	2	FT	53-70-3	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Dimethyl Phthalate	240	UG/KG	390	ORSVO	0	2	FT	131-11-3	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Di-n-butyl Phthalate	57	UG/KG	390	ORSVO	0	2	FT	84-74-2	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Fluoranthene	140	UG/KG	390	ORSVO	0	2	FT	206-44-0	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Indeno(1,2,3-cd)pyrene	50	UG/KG	390	ORSVO	0	2	FT	193-39-5	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Iron	7410	MG/KG	1	INORG	0	2	FT	7439-89-6		0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Lead	**48.3**	MG/KG	0.2	INORG	0	2	FT	7439-92-1	*	0062-1001	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Magnesium	**63500**	MG/KG	5	INORG	0	2	FT	7439-95-4	*	0062-1001	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Manganese	310	MG/KG	0.2	INORG	0	2	FT	7439-96-5		0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Nickel	18.2	MG/KG	2	INORG	0	2	FT	7440-02-0		0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Phenanthrene	60	UG/KG	390	ORSVO	0	2	FT	85-01-8	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Potassium	284	MG/KG	10	INORG	0	2	FT	7440-09-7		0062-1001	MND33		
MND33-0062	Borehole	19911119	Soil	Pyrene	270	UG/KG	390	ORSVO	0	2	FT	129-00-0	J	0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Silver	**19.1**	MG/KG	1	INORG	0	2	FT	7440-22-4		0062-1001	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Sodium	**326**	MG/KG	10	INORG	0	2	FT	7440-23-5		0062-1001	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Vanadium	23.3	MG/KG	1	INORG	0	2	FT	7440-62-2		0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Zinc	51.8	MG/KG	0.5	INORG	0	2	FT	7440-66-6		0062-1001	MND33	J	
MND33-0062	Borehole	19911119	Soil	Aluminum	3300	MG/KG	6	INORG	3	5	FT	7429-90-5		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Antimony	12.7	MG/KG	3	INORG	3	5	FT	7440-36-0		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Arsenic	0.76	MG/KG	0.2	INORG	3	5	FT	7440-38-2		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Barium	18.8	MG/KG	0.2	INORG	3	5	FT	7440-39-3		0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Beryllium	0.66	MG/KG	0.2	INORG	3	5	FT	7440-41-7	B	0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Bis(2-ethylhexyl)phthalate	1600	UG/KG	370	ORSVO	3	5	FT	117-81-7	B	0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Calcium	279000	MG/KG	2	INORG	3	5	FT	7440-70-2		0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Chromium	**27.7**	MG/KG	1	INORG	3	5	FT	7440-47-3		0062-1002	MND33		Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Cobalt	5.7	MG/KG	1	INORG	3	5	FT	7440-48-4		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Copper	13.7	MG/KG	1	INORG	3	5	FT	7440-50-8	*	0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Iron	8510	MG/KG	1	INORG	3	5	FT	7439-89-6		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Lead	6.2	MG/KG	0.2	INORG	3	5	FT	7439-92-1	*	0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Magnesium	4600	MG/KG	5	INORG	3	5	FT	7439-95-4	*	0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Manganese	302	MG/KG	0.2	INORG	3	5	FT	7439-96-5		0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Nickel	9.6	MG/KG	2	INORG	3	5	FT	7440-02-0		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Potassium	582	MG/KG	10	INORG	3	5	FT	7440-09-7		0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Silver	**21.1**	MG/KG	1	INORG	3	5	FT	7440-22-4		0062-1002	MND33	J	Exceeds background value.
MND33-0062	Borehole	19911119	Soil	Sodium	210	MG/KG	10	INORG	3	5	FT	7440-23-5		0062-1002	MND33		
MND33-0062	Borehole	19911119	Soil	Vanadium	17.2	MG/KG	1	INORG	3	5	FT	7440-62-2		0062-1002	MND33	J	
MND33-0062	Borehole	19911119	Soil	Zinc	18.5	MG/KG	0.5	INORG	3	5	FT	7440-66-6		0062-1002	MND33	J	
MND33-0063	Borehole	19911120	Soil	3,3'-Dichlorobenzidine	48	UG/KG	660	ORSVO	0	0.5	FT	91-94-1	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Acenaphthene	86	UG/KG	330	ORSVO	0	0.5	FT	83-32-9	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Aluminum	6560	MG/KG	6	INORG	0	0.5	FT	7429-90-5		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Anthracene	110	UG/KG	330	ORSVO	0	0.5	FT	120-12-7	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Arsenic	5.5	MG/KG	0.2	INORG	0	0.5	FT	7440-38-2		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Barium	67.1	MG/KG	0.2	INORG	0	0.5	FT	7440-39-3	*	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Benzo(a)anthracene	510	UG/KG	330	ORSVO	0	0.5	FT	56-55-3		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Benzo(a)pyrene	350	UG/KG	330	ORSVO	0	0.5	FT	50-32-8	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Benzo(b)fluoranthene	750	UG/KG	330	ORSVO	0	0.5	FT	205-99-2		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Benzo(g,h,i)perylene	210	UG/KG	330	ORSVO	0	0.5	FT	191-24-2	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Beryllium	0.63	MG/KG	0.2	INORG	0	0.5	FT	7440-41-7	B	0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Bis(2-ethylhexyl)phthalate	510	UG/KG	330	ORSVO	0	0.5	FT	117-81-7		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Butyl Benzyl Phthalate	190	UG/KG	330	ORSVO	0	0.5	FT	85-68-7	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Cadmium	1.1	MG/KG	0.2	INORG	0	0.5	FT	7440-43-9		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Calcium	9540	MG/KG	2	INORG	0	0.5	FT	7440-70-2		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Chromium	17.7	MG/KG	1	INORG	0	0.5	FT	7440-47-3		0063-0001	MND33		

MND33-0063	Borehole	19911120	Soil	Chrysene	730	UG/KG	330	ORSVO	0	0.5	FT	218-01-9		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Cobalt	9.8	MG/KG	1	INORG	0	0.5	FT	7440-48-4		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Copper	22.9	MG/KG	1	INORG	0	0.5	FT	7440-50-8		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Cyanide	**0.16**	MG/KG	0.1	INORG	0	0.5	FT	57-12-5	B	0063-0001	MND33	J	Exceeds background value.
MND33-0063	Borehole	19911120	Soil	Dibenz(a,h)anthracene	70	UG/KG	330	ORSVO	0	0.5	FT	53-70-3	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Di-n-butyl Phthalate	110	UG/KG	330	ORSVO	0	0.5	FT	84-74-2	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Fluoranthene	1300	UG/KG	330	ORSVO	0	0.5	FT	206-44-0		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Fluorene	68	UG/KG	330	ORSVO	0	0.5	FT	86-73-7	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Indeno(1,2,3-cd)pyrene	190	UG/KG	330	ORSVO	0	0.5	FT	193-39-5	J	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Iron	11900	MG/KG	1	INORG	0	0.5	FT	7439-89-6	*	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Lead	33.8	MG/KG	0.2	INORG	0	0.5	FT	7439-92-1		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Magnesium	4660	MG/KG	5	INORG	0	0.5	FT	7439-95-4		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Manganese	521	MG/KG	0.2	INORG	0	0.5	FT	7439-96-5	*	0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Mercury	**0.12**	MG/KG	0.12	INORG	0	0.5	FT	7439-97-6		0063-0001	MND33		Exceeds background value.
MND33-0063	Borehole	19911120	Soil	Nickel	15.8	MG/KG	2	INORG	0	0.5	FT	7440-02-0		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Phenanthrene	830	UG/KG	330	ORSVO	0	0.5	FT	85-01-8		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Potassium	1130	MG/KG	10	INORG	0	0.5	FT	7440-09-7		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Pyrene	1300	UG/KG	330	ORSVO	0	0.5	FT	129-00-0		0063-0001	MND33	J	
MND33-0063	Borehole	19911120	Soil	Silver	**3**	MG/KG	1	INORG	0	0.5	FT	7440-22-4		0063-0001	MND33		Exceeds background value.
MND33-0063	Borehole	19911120	Soil	Sodium	39.4	MG/KG	10	INORG	0	0.5	FT	7440-23-5		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Vanadium	20.7	MG/KG	1	INORG	0	0.5	FT	7440-62-2		0063-0001	MND33		
MND33-0063	Borehole	19911120	Soil	Zinc	104	MG/KG	0.5	INORG	0	0.5	FT	7440-66-6		0063-0001	MND33	J	
S0161	Surface loc	19831001	Soil	Plutonium-238	**1.19**	PCI/G	0.01	RAD	0	0	FT	13981-16-3		3093	RSS		Exceeds background value.

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

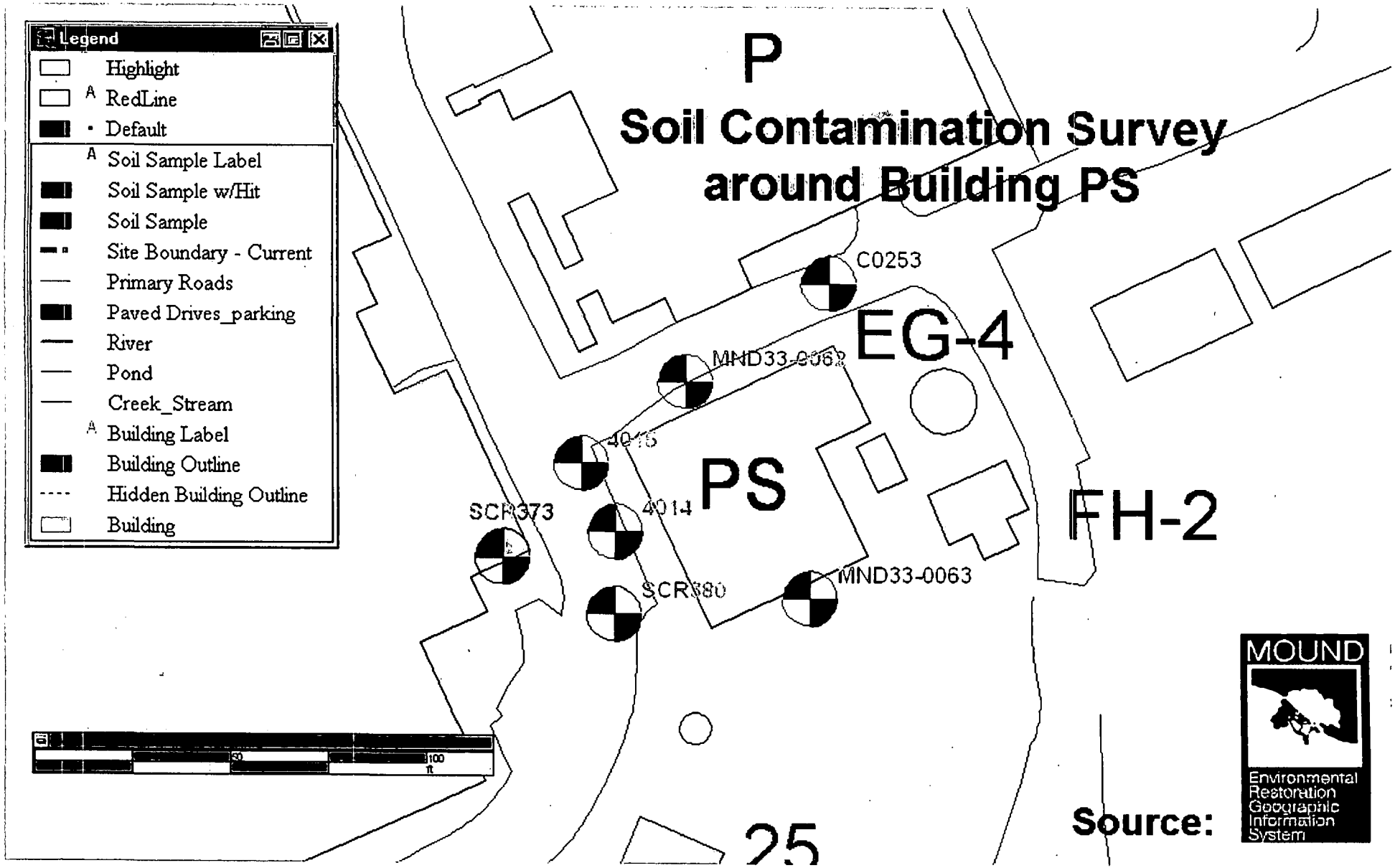
comp_no	par_code	parameter name	comparison value	units
2	BI-207	Bismuth-207	ND	MG/KG
2	BI-210M	Bismuth-210m	ND	MG/KG
2	10045-97-3	Cesium-137	0.42	PCI/G
2	13981-16-3	Plutonium-238	0.13	PCI/G
2	13966-00-2	Potassium-40	37	PCI/G
2	13982-63-3	Radium-226	2	PCI/G
2	10098-97-2	Strontium-90	0.72	PCI/G
2	14274-82-9	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

Soil Contamination Survey around Building PS



Source: MOUND Environmental Restoration Geographic Information System

Appendix M

PRS 411 Recommendation Page

MOUND PLANT
PRS 411
Soil Contamination – Asphalt Roadway (Radiological)

RECOMMENDATION:

Potential Release Site 411 was identified as a potential release site due to elevated FIDLER readings that were discovered during a Health Physics survey. FIDLER readings indicated two small areas of contamination in excess of 500,000 pCi of Plutonium-238. Fixed Plutonium-238 readings of 1,000,000 disintegrations per minute (dpm) per 100 square centimeters exceed the regulatory standard (10 CFR 835) of 500 dpm per 100 square centimeters.

Therefore, a RESPONSE ACTION is recommended for PRS 411.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath 8/6/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 8/6/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 8/6/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 9/15/97 to 10/15/97

☐ No comments were received during the comment period.

☒ Comment responses can be found on page 1-2a of this package.

Appendix N

PRS 112/368 Information

PRS 112/368

PRS HISTORY:

PRS 112 was identified as a potential release site due to results associated with elevated lead in the soil as part of the OU3 Limited Field Investigation around the Paint Shop.[2] PRS 368 was identified as a potential release site due to results of Volatile Organic Compounds (VOC's) detected during the OU2 Soil Vapor Reconnaissance effort around the Paint Shop.[6] Suspected leaks, spills, or dumping of paints and paint wastes, around the Paint shop, as obtained during a RCRA Facility visual inspection and assessment in 1988 also contributed to identifying this area as a potential release site.[4]

PROCESS DESCRIPTION:

The Paint shop, which began operation in 1963, was used for both maintenance and production parts painting. All painting was done inside using spray booths. Waste materials generated at the paint shop included unused paint, solvents, thinner, and solid trash. A waste drum containing waste material was stored outside on the north side of the building. Approximately one drum of waste was generated every three months. No radioactive processes are known to have occurred in or around the Paint Shop location.[2]

CONTAMINATION:

OU3, Limited Field Investigation [2]

During the OU3 Limited Field Investigation conducted in 1992/93 sampling was performed around the Paint Shop. This sampling included surface and subsurface soils analyzed for VOCs, Semi-Volatile Organic Compounds SVOCs, Pesticides/PCBs, inorganics, and tritium.

No samples exceeded guideline values. Magnesium, sodium and lead exceeded background values however, lead is below the USEPA residential soil guidance value of 400 mg/kg. Magnesium and sodium are necessary in our daily diet and do not have guideline values. Tritium was not detected above laboratory reporting limits. Plutonium -238 and Thorium-232 were below Mound ALARA guideline values of 25 pCi/g for Pu-238 and 5 pCi/g for Th-232.

OU2, Soil Vapor Reconnaissance [6]

With the exception of Freon and 1,2-Cis-Dichlorethene, all detected VOC's are above calculated soil screening levels.[7]

Parameter	Soil Gas Reading	Calculated Acceptable Soil Gas Concentrations
1,2-trans-Dichloroethene	6,818 ppb	35, 700 ppb
1,2-cis-Dichloroethene	5,808 ppb	5,000 ppb
1,1-Dichloroethane	12,098 ppb	398,000 ppb
Freon 11	15,892 ppb	NA

OU9, Site Scoping Report: Volume 3 - Radiological Site Survey[8]
As part of the Site Survey Project, soil samples were collected in the area of the Paint Shop in the mid 1980s. Values for plutonium-238 ranged from 0.11 to 1.19 pCi/g which are below the Mound Plant ALARA of 25 pCi/g for Pu-238; values for thorium-232 were below the 5 pCi/g regulatory limit of 2 pCi/g.[8]

READING ROOM REFERENCES:

1) Operable Unit 9, Site Scoping Report, Volume 12 Final, (rev 0), December 1994. (pages 6-13)
2) Operable Unit 3, Miscellaneous Sites, Limited Field Investigation, Volume I, sections 1-6, Final (rev 0), July 1993 (pages 14-24)
3) Operable Unit 9, Site Scoping Report, Volume 7, Waste Management, Final (rev 0), February 1993. (pages 25-28)
4) Preliminary Review/Visual Site Inspection for RCRA Facility of Mound Plant, July 1988. (pages 29-31)
5) Comprehensive Environmental Assessment and Response Program (CEARP), Phase I, Draft, April 1986. (pages 32-33)
6) Operable Unit 2, Soil Vapor Reconnaissance , Main Hill, Phase I, Final (rev 0), February 1995. (pages 34-50)
8) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey, Final, June 1993. (pages 54-58)

OTHER REFERENCES:

7) Soil Gas and Soil Screening level calculations. (pages 51-53)

PREPARED BY:

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

Appendix O

Occurrence Reports(s)

(Name of Facility)

Balance-of-Plant

(Facility Function)

Mound Plant

(Name of Laboratory, Site or Organization)

Name: Jeffrey L. Boston
Title: Building/Property Maanger Telephone No.: (937)865-3262

(Facility Manager/Designee)

Name:
Title: Telephone No.:

(Originator)

Name: D. V. Dixon Date: 12/09/97

(Authorized Classifier (AC))

1. OCCURRENCE REPORT NUMBER: OH-MB-EGGM-EGGMAT03-1997-0005

2. REPORT TYPE AND DATE:

	Date	Time
[ ] Notification	10/22/97	0657
[ ] Initial Update	12/09/97	
[ ] Latest Update		
[X] Final		

3. OCCURRENCE CATEGORY:
[ ] Emergency [ ] Unusual [X] Off-Normal [ ] Cancelled

4. NUMBER OF OCCURRENCES: 1 ORIGINAL OR:

---

5. DIVISION OR PROJECT: B & W of Ohio, Inc.

6. COGNIZANT SECRETARIAL OFFICE: Environmental Management

7. SYSTEM, BLDG., OR EQUIPMENT:
Building PS

8. UCNI?:No

9. PLANT AREA: Main HIll Area

10. DATE AND TIME DISCOVERED:
10/21/97 0815

11. DATE AND TIME CATEGORIZED:
10/21/97 0830

12. DOE NOTIFICATION:
10/21/97 0830(MTZ) Fred Holbrook DOE/MEMP

13. OTHER NOTIFICATIONS:

14. SUBJECT OR TITLE OF OCCURRENCE:
Discovery of Radiological Contamination in the Paint Shop.

---

15. NATURE OF OCCURRENCE:
01) Facility Condition
D. Loss of Control of Radioactive Material/Spread Contamination

---

16. DESCRIPTION OF OCCURRENCE:
During site radiological characterization, contamination was discovered on tools found in a tool box in the Paint Shop in a Radiologically Uncontrolled Area.
A "C-clamp" was found to contain loose alpha contamination of 267.46 dpm/100 cm2, an open-end wrench was found to contain fixed alpha contamination of 600 dpm/100 cm2 direct scanned, and a chisel was found to contain fixed alpha contamination of 3100 dpm/100 cm2 direct scanned, loose alpha contamination of 90.30 dpm/100 cm2 and 54.22 dpm/100 cm2.
Isotopic Analysis was performed on both of the tools, but was inconclusive and unable to determine the isotope involved. Since the isotope involved was not determined, the contamination was discovered in an uncontrolled area, and is greater than twice the values in Table 2-2 of the DOE Radiological Control Manual, it was determined that this incident was a reportable occurrence.

---

17. OPERATING CONDITIONS OF FACILITY AT TIME OF OCCURRENCE:
Normal Operations

---

18. ACTIVITY CATEGORY:
Normal Operations

---

19. IMMEDIATE ACTIONS TAKEN AND RESULTS:
The areas with contamination were roped off and posted as Radiological Control Areas. The building will be sampled 100% for contamination before being released for normal operations.

---

20. DIRECT CAUSE:
8) Radiological/Hazardous Material Problem
A. Legacy Contamination

21. CONTRIBUTING CAUSES:

22. ROOT CAUSE:
8) Radiological/Hazardous Material Problem
A. Legacy Contamination

---

23. DESCRIPTION OF CAUSE:
The direct and root causes are legacy contamination

---

24. EVALUATION: (By Facility Manager/Designee)
The Mound Site Radiological Characterization Program is intended to determine which buildings contain radiological contamination. It is expected that legacy contamination will be discovered.
The use of new and improved detection equipment and lower contamination criteria combine to increase the likelihood of legacy contamination being discovered.

---

25. IS FURTHER EVALUATION REQUIRED? YES [ ] NO [X]

---

26. CORRECTIVE ACTIONS:
01) Post Paint Shop as a Radiologically Controlled Area, Radiological Buffer Area, and Radiological Contamination Area and survey all tools before use

TARGET COMPLETION DATE: 10/21/97 COMPLETION DATE: 10/21/97

---

27. IMPACT ON ENVIRONMENT, SAFETY AND HEALTH:
None

---

28. PROGRAMMATIC IMPACT:
None

---

29. IMPACT UPON CODES AND STANDARDS:
None

---

30. LESSONS LEARNED:
The use of improved detection equipment during site characterization increases the likelihood of the discovery of legacy contamination.

---

31. SIMILAR OCCURRENCE REPORT NUMBERS:
OH-MB-EGGM-EGGMAT03-1997-0006
OH-MB-EGGM-EGGMAT03-1996-0001
OH-MB-EGGM-EGGMAT03-1996-0004
OH-MB-EGGM-EGGMAT03-1996-0005
OH-MB-EGGM-EGGMAT03-1995-0008

---

32. USER FIELD #1:

33. USER FIELD #2

---

34. DOE FACILITY REPRESENTATIVE INPUT:

Entered by: Date:

---

35. DOE PROGRAM MANAGER INPUT:

Entered by: Date:

---

36. SIGNATURES: (FM's original signature on hardcopy)

Approved by: _____ Date: _____
Facility Manager/Designee Telephone No.: _____

Approved by: _____ Date: _____
DOE Facility Representative/Designee Telephone No.: _____

Approved by: _____ Date: _____
DOE Program Manager/Designee Telephone No.: _____

Appendix P

Demolition Work Plan

JOB SPECIFIC WORK PLAN

Title: **PS Building Demolition**		
	JSWP No. MHNR-99-07	**Rev. No. 1**

☒ **Office Master Copy** (Original Approval Signatures) ☐ **Field Master Copy** (Original Field Sign-Offs) ☐ **Review Copy** ☐ **Other Copy**

Reference Drawings	Rev.	Reference Procedures	Rev.
MHNR-PS-010 Demolition of Building	1	MD-10502 General Work Plan Building D&D and D&D at the Mound Site	1
MHNR-PS-005 Traffic Reroute during PS Demo	0	JSHA- MHNR-99-07 PS Building Demolition	1

DOE Project Manager Approval:	Signature: Frank Schmaltz	Date: 3/1/99

Approvals:

Signature	Date	Department
[illegible]	3/1/99	MHNR Project Manager
[illegible]	2/24/99	MHNR Project Engineer
[illegible] Wills for G Galloway	2/24/99	MHNR IS&H
[illegible]	2/25/99	Industrial Hygiene
Douglas W. [illegible]	2/25/99	MHNR Waste Management
[illegible]	2-24-99	MHNR Environmental Compliance
Karen S Kent	2-24-99	MHNR Radiological Control
Kenneth L. Scarce	2-25-99	MHNR Project Superintendent
[illegible]	3/1/99	General Superintendent Foreman
[illegible]	3-1-99	MHNR Building Manager

JOB SPECIFIC WORK PLAN

JSWP No. MHNR-99-07	Rev. No. 1

Additional Approvals:

Signature	Date	Department
Henry F. Nation, Jr.	2-24-99	BWO Trades
John R Koenig	2-25-99	BWO Trades
[illegible]	2-25-99	BWO Trades
Kimberly M Torrey	3-1-99	MEMP Safety
John D. Dentes	3-1-99	MEMP SAFETY
Will Johnson	2/24/99	SITE STRUCTURAL
Bruce S Anderson	3/24/99	SITE ELEC. ENG.

NOTES:

JOB SPECIFIC WORK PLAN

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan No. __ MHNR-99-07___ Rev. __1___

Signature	Date	Department

JOB SPECIFIC WORK PLAN

JSWP No.: MHNR-99-07	Rev. No. 1

1. **Introduction**
   PS Building housed the former Mound Paint Shop. The shop has been deactivated, the building has been cleaned out, and it is slated for demolition. The foundation will be removed at a later date.

2. **Purpose**
   This JSWP details the demolition plans for PS Building.

3. **Site Information**
   PS Building is located south of the Power House (P Building), west of M Building, and is immediately adjacent to utilities which service T Building. Portable standby generator EG-3A is located to the east of PS. In addition, several 12,470 volt electrical feeders run under the foundation of the building. Also, the SM/PP overhead feeder pole line is approximately 25 feet to the southeast of the building and the Benner Road main plant feeder is approximately 45 feet to the southeast of the building

4. **Safety**
   Industrial Safety and Hygiene
   A Job Safety and Health Analysis has been developed and is located in Appendix A.
   - Asbestos will be removed under a separate work package.
   - The building contains lead based paint. It can disposed with the building without abatement. The metal walls indicate some lead composition, but samples passed TCLP testing. (See Appendix D) Industrial Hygiene requirements for handling the metal walls and lead based paint are:
     - Personnel operating the heavy machinery (inside of cabs) will not be required to wear any PPE (relating to lead exposures) as long as they are working inside the cab. Hearing Protection may be required based on the noise levels inside the cabs. Noise surveys need to be conducted to determine if hearing protection will be required.
     - Personnel physically demolishing or involved in handling building debris from the Paint Shop will be required to wear the appropriate PPE for the task assigned. Industrial Hygiene will be involved in the pre-planning of any hand demolition activities. For the worst cases, such as use of cutting torch, angle head grinder, or other tool or process that could release lead paint dust, mist, fume or other aerosol, PPE will include Tyvek suits (caps and booties), full-face respirators w/ HEPA cartridges, shoe covers, gloves, safety shoes, hard hats, and other PPE as required by IH. The respiratory protection may be downgraded if a negative exposure assessment is completed
     - All personnel working inside the construction area will be required to wash their hands and face after leaving the area. IH recommends that personnel shower prior to leaving the site.
     - There needs to be one dedicated entry/exit point so PPE can be collected prior to leaving the construction area. PPE will be treated as Lead Contaminated Waste.
   - Most overhead lines have been moved, however, the street light feeder remains. This line must be locked-out/tagged-out prior to the use of heavy duty equipment in its vicinity.
   - The electrical distribution system and steam and condensate systems must be locked out then disconnected prior to building demolition.
   - Disconnection of the fire and domestic water system will be done on a separate MSR prior to building demolition.
   - Two-way radios will be available at the site for emergency communications.

JOB SPECIFIC WORK PLAN

Authorization Basis

This work could affect adjacent utilities that service T Building. USQD #MHT-1998-124 has been written for this project and is attached. It was found to be negative (See Appendix A). Protection of the adjacent structures will be facilitated through the use of a spotter when heavy duty equipment is used.

5. **Radiation Protection Requirements**

The building has been surveyed and the results are detailed in Appendix B. The only radiological restrictions involve two fixed contamination spots in the asphalt to the north of the building. These will be removed at a later date and are not to be disturbed. Rad surveys will be taken during the demolition process in suspect areas. Industrial Hygiene will determine in the field if any PPE is required due to the lead-containing paint contamination of the building.

6. **Environmental Compliance Requirements**

- Building PS structure will be demolished as a non-CERCLA project based on discussions with the DOE/EPA Core Team. The foundation and slab will be removed at a later date under CERCLA due to concerns about paint and solvent spills. A building data package (BDP) was prepared and submitted for review on Mar. 1, 1999.
- No water or air permits (PTI/PTO) or related notifications are required for this project since the project duration will last less than 18 months. No NPDES permit modification is required as there is no new or increased discharge related to this project. No fugitive dust emissions are expected from this demolition since the building is a prefab metal structure. However, fugitive dust mitigation techniques, such as misting, will be employed if such emissions do occur.
- A NEPA Environmental Checklist is required for the structure demolition. Building PS meets the criteria for a categorical exclusion documented in NEPA Environmental Checklist MDP-98-05, approved March 23, 1998.
- A NESHAPS dose assessment performed by the Environmental Safeguards and Compliance Group indicates that the structure demolition will not cause an offsite dose > 0.1 mrem. Therefore, USEPA approval is not required for this project. Building PS screened out of the NESHAPs evaluation since building rad surveys were below the detectable parameters.
- RAPCA asbestos and demolition notification was submitted on February 23, 1999. Asbestos was removed under a separate Job Specific Work Plan (MHNR-99-04).
- This project will have no adverse impact upon Mound's historic or cultural resources. Building PS is not one of the site's original buildings nor will its demolition impact any of Mound's defined National Register eligible structures. No archeological artifacts will be unearthed during the structure demolition since the slab will be left intact and no soil disturbances are planned.
- The project will comply with the site's Storm Water Pollution Prevention Plan by controlling debris at the project boundaries. The project will utilize techniques outlined in the SWPPP, such as inlet protection and good housekeeping, where appropriate.
- No jurisdictional wetlands will be affected by this project.

7. **Chemical and Waste Management Requirements**

All chemicals have been removed. An analysis of the PS Building walls was done. Although the walls appear to be coated with lead-based paint, they passed a TCLP test. This allows the debris to be buried in a landfill. If insulation or other construction material is permanently affixed to the sheet metal, it will be disposed of as construction debris rather than recycled.

Waste Type	Demolition Debris: Sheet Metal
Quantity expected	91 cu. Yds.
Schedule for waste generation	Apr. 1-Apr. 30, 1999
RCRA characterization	Non-hazardous; TCLP tested for RCRA regulated metals
Radiological characterization	No radiological contamination expected
Packaging requirements	None
Mode of disposal	Metal recycling-transport via rolloff or other suitable transportation
Special requirement	None

Waste Type	Demolition Debris: Construction Debris/Styrofoam Insulation or Sheet Metal with permanently attached construction material
Quantity expected	10 cu. yds.
Schedule for waste generation	Apr. 1-Apr. 30, 1999
RCRA characterization	Non-hazardous
Radiological characterization	No radiological contamination
Packaging requirements	None
Mode of disposal	Load into trash rolloffs
Special requirement	None

8. Quality Assurance Requirements
This is a Quality Level 3 project.

9. Project Execution/General Sequence of Work

- Prior and Limiting Conditions:
  - Asbestos containing transite and pipe insulation are to be removed under JSWP MHNR-99-04.
  - Most overhead lines have been removed or rerouted prior to this project under a separate maintenance MSR. However, the overhead street light circuit must be locked-out/tagged-out prior to the use of heavy duty equipment in its vicinity.
  - EG-4 has been disconnected and drained of fuel, oil, and coolant.
  - The fire suppression system for PS and EG-4 was deactivated and drained after a Fire Hazard Analysis was completed and was drained.
  - The two fixed contamination spots in the asphalt to the north of PS building must be protected from abrasion by the track-hoe. Metal plates may be used to cover the contamination spots.
  - 12,470v main plant feeders and feeders to T Building run under the PS Building slab. In addition, the slab will be removed at the end of the Mound Exit Project as a CERCLA action. The slab must not be disturbed during this demolition.
  - Two-way radios will be available at the work site for emergency communications.
  - The Paint Shop slab is 6" thick with reinforcing. The electrical duct banks are concrete encased approximately 5 feet under the slab. (See Sketches in Appendix D). Per BWO's Registered Professional Engineer, this will withstand the loading of the track-hoe mounted grappler and shear during demolition.

- Establish Work Zones
  - A protective plywood barrier will be built at the southeast corner of the building, where the overhead utilities come closest to the building. This will prevent accidentally damaging the pipe insulation.

- Traffic will be rerouted from the area during demolition. Access by vehicle to DS, T, and other buildings to the west of PS can be accomplished by going west past the lower level of COS then proceeding around I. (See Sketch MHNR-PS-001) An exclusion zone will be set up to keep personnel away from the area. When the shear is in use, a 75 foot exclusion zone radius will be established. The east tower of T building and adjacent entrances into M, 25, and P buildings will be affected.

- Disconnect Electrical Feeds
  - All load wiring will be disconnected at the panel in the PS electrical room. Two circuits will then have new GFCI receptacles connected. This will allow for temporary lighting and the use of a "Sawzall" or other similar piece of equipment to cut the remaining pipes/conduit. When the cutting is completed, the GFCI circuits and associated equipment will be removed.
  - Then electrical lines, which feed power to PS building, will be locked-out/tagged-out then disconnected at their source in the Power House. The cables will be pulled back to the connection source. Electrical panels only will be removed from PS and EG-4 if they have salvage value. Otherwise, they will be disposed of with the building.
- Steam, Condensate, and Air Lines
  - Steam, condensate and air lines have been valved off and DDC controls have been removed. Prior to demolition, these lines must be locked-out/tagged-out, disconnected at the valve, and capped.
- Sanitary Sewer
  - The slab will remain after the building is demolished, so floor drains must be capped.

- Building Demolition
  - After all utilities have been verified to be disconnected, pipes and conduits will be cut at corners and wall penetrations with a "Sawzall" or similar piece of equipment. (See electrical disconnection above) This will aid in pulling the building apart with the grappler.
  - Mound Heavy Duty will break up the structure (not including the foundation) using excavators with grapplers and shears. A spotter will be used to prevent damage to adjacent structures. Debris will be placed in appropriate (i.e. metals, construction debris, etc.) roll-offs for disposal/recycling. The structure will be leveled to the slab, but the slab is to remain until Phase 2 of the project, which is scheduled for 2002. Two adjacent fixed contamination spots in the asphalt must be protected from damage.

  - Demolition Actions
    - Protection of surrounding utilities and buildings
      - Care must be taken not to disturb the steam, condensate, breathing air, brine, natural gas, and electrical lines, which pass behind PS Building on the stanchions and argon and helium compressed tanks to the south of PS. A plywood barrier will be erected at the southeast corner of the building to protect the overhead stanchion lines at their closest approach to the building. A spotter will be present when the heavy duty equipment is in use.
      - The Benner Road 12,500 v feeder line and the T East and T West 12,500v feeders run underneath the building slab at a depth of approximately 5 feet. No jackhammering will be allowed on the slab.
      - The Benner Road feeder overhead pole line is approximately 45 feet to the southeast of the building and the SM/PP feeder overhead pole line is approximately 25 feet to the southeast of the building. Care must be taken not to damage these 12,470v feeders.
      - Adjacent building exits will be blocked if within the 75 foot shear exclusion zone.

JOB SPECIFIC WORK PLAN

- Begin dismantling the walls from the northwest corner of the building using the grappler. If the grappler is ineffective, the shear may be used. The material will be size reduced as needed with the shear and placed in roll-offs for recycling. Some parts of the building may be dismantled by hand methods due to lack of access for the heavy duty equipment. Care must be taken at the southeast corner where the building comes closest to the utilities stanchion line.
- Complete cleanup by cutting off bolts into the slab.
- Remove the paint booth turntable. Removal of the turntable could involve obtaining a confined space permit. This will be evaluated at the time of demolition. After removal of the turntable and mechanism, the turntable pit will be rad surveyed and any oil residue cleaned up. It will then be backfilled with chips and dust level to the slab.
- The remaining slab then will be cleaned of debris.

Appendix A
JSHA
USQ
and
PE Letter

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO: MHNR-99-07

SIGNATURES

ORIGINATOR:	R.C. Ramstetter
REVIEW/REV:	[illegible]
REVIEW/REV:	Kenneth Scearce
APPROVED:	
APPROVED:	

DATE:	___ NEW _1_ REV	**BUILDING:** PS	**JOB:** Paint Shop Demolition
DEPARTMENT/COMPANY: MHNR			**SECTION:** N/A
OCCUPATIONS: Heavy Duty, Electrician, Pipefitter/Welder, Demo Tech, RCT			

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:
Hard Hat, Safety Glasses, Safety Shoes, Orange Vests,
Hearing Protection Tyvek suits, full face respirator, gloves as required by Industrial Hygiene.

MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	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 IB - Caught between F - Fall SO - Strain-overextertion* 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) Disconnection of electrical service	1) Hazard of electrical shock	1) a) LOTO electrical feeders at source
2) Disconnection of exterior steam lines	2) Burns from steam	2) a) Valve off and LOTO steam at nearest valve b) Let lines cool overnight c) Drain lines to be removed d) Disconnect lines at valve and blank off
3) Disconnection of water and air lines	3) Injury from pressurized water or air	3) a) Valve off and LOTO at nearest valve b) Drain lines to be removed c) Disconnect lines at valve and blank off
4) Cut pipe and conduit into smaller sections	4) a) Electric shock b) Metal chips-eye injury c) Falls d))Potential for fire due to no fire suppression systems	4) a) Use GFCI. Ensure all circuits in conduits to be cut are deenergized or removed. (LOTO) b) Wear safety glasses with side shields c) Use proper ladders & tie off as required. d) Fire extinguishers will be available for use.

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
5) Demolish building using shears and grapplers	5) a) Electrical shock from contact with overhead lines. b) Injury from flying debris c) Damage to adjacent structures ~~d) Excessive fugitive dust~~ RCR 2/29/99	5) a) LOTO street lighting electrical circuit. Also stay at least 10 feet away from any other circuits, or LOTO. b) Block of adjacent entrances to M, T, P , and 25 within 75 feet. c) Erect barricades and block vehicular and pedestrian traffic Use a spotter when using heavy duty equipment
6) Demolish building manually and surveying	6) a) Exposure to lead dust	6) a) If demolishing by hand, wear Tyvek suits, caps and booties, full face respirators as required by Industrial Hygiene. A negative assessment could result in a reduction in the PPE. All personnel must wash hands and face after leaving the site. Misting as required by Industrial Hygiene.
7) Removal and survey of paint booth turntable	7) a) Possible confined space entry required b) Possible rad contamination	7) a) Obtain confined space entry permit from Industrial Hygiene b) RCT to perform radiological survey

REVIEW REQUEST FORM

A. Information to be filled out by the Requester

*Charge No.*_____
*OBS No.*_____

REVIEW ITEM TITLE: Paint Shop Removal

MAJOR HAZARDS INVOLVED:	YES	NO	IF APPLICABLE, LIST TYPES INVOLVED
Radionuclide		X	
Chemical		X	
Energetic Material		X	
Nuclear Criticality		X	
Electro-Mechanical		X	
High Pressure	X		Breathing air line
Laser		X	
Environmental Impact	X		Brine (chilled water system)
Other		X	

PERSONNEL INVOLVED IN PREPARATION AND PRIOR REVIEWS:
L. Kent

IS A USQ SCREEN OR USQD APPLICABLE? YES

IF YES, RECORD THE ASSOCIATED USQ NO.: Attached

REQUESTED REVIEW COMPLETION DATE: ~~11/16/98~~

Requester: Linda R. Kent **Ext.** 4153
Print Name
Linda R Kent 10/29/98
Signature *Date*

Responsible Manager: G.D. Thompson
Print Name
G.D. Thompson 11/2/98
Signature *Date*

B. For Use by the PROJECT INDEPENDENT REVIEW OFFICE ONLY

Date Received: 11/24/98	**Review No.:** U-MHT-1998-124
Projected Review Completion Date:	**Date Returned to Requester:**
Comments Requiring Resolution? (Yes/No)	**Date Requester Returns Comment Resolution:**
Date Review Closed: 2/5/99	**Signature:** Eric J. Kuh

Building 38 Authorization Basis Documents

1. MLM-ML-95-41-0001, Revision 1, Final Safety Analysis Report for Building 38, November 1995.

2. MLM-MU-95-61-0002, Revision 1, Technical Safety Requirements for Building 38, Novenber 1995.

3. MLM-MU-94-64-0001, EG&G Mound Building 38 Human Factors Engineering Analysis Results and Findings, EG&G Idaho, Inc., March 1994.

4. MLM-ML-95-42-0001, EG&G Mound Building 38 Accident Analysis of Internal (Operational) Events Results and Findings, EG&G Idaho, Inc., February 1995.

5. INEL-95/05-19, Addendum to MLM-ML-95-41-0001, Mound Building 38 FSAR (Pu-239 Repackaging, Phase 1), Revision 3, June 1996*.

6. Safety Evaluation Report (SER) for the Final Safety Analysis Report (FSAR) and Technical Safety Requirements (TSRs) for Building 38, approved by DOE/OH, J. Phil Hamric, dated June 20, 1996.

7. Safety Evaluation Report (SER) for the Addendum to the Final Safety Analysis Report (FSAR) and Technical Safety Requirements (TSRs) for Building 38, approved by DOE/OH, J. Phil Hamric, dated June 20, 1996*.

8. MLM-MU-96-61-0001, "Fire Hazards Analysis for Building 38," December 1995.

9. Mound Hazard Class Determination for Building 38 (February 18, 1997).

• *Effectivity is only during time periods authorized by the DOE when nuclear material repackaging or characterization operations requiring operation as a hazard category 2 facility are to be performed.*

Building 50 Authorization Basis Documents

1. MLM-ML-91-52-0005, Rev. 02, Final Safety Analysis Report for the Building 50 Radioisotope Thermoelectric Generator Assembly and Testing Facility (November 1995).

2. MD-10296, Issue 2, Operational Safety Requirements (OSR) for Building 50 (January 21, 1997).

U-MHT-1998-124

DESCRIPTION OF PROPOSED ACTIVITY OR ISSUE: The Paint Shop is scheduled to be removed, as it is no longer used. The Paint Shop is a sheet metal type building ("Armco Building") that is fabricated of metal panels that are anchored to the building's foundation. All industrial hazards (such as chemicals and other materials) have been removed from the building.

Several changes and preparations will be made before the Paint Shop is taken down. Live electrical lines in the area will be de-energized (these lines provide power to outdoor lighting and to the deep wells). Also, a 480V line that services the T-Building East Stack fan and an electrical line that services the deep wells will be relocated to a piping stanchion that is east of the Paint Shop. Currently, the east stack fan electrical passes through Emergency Generator 4, which is located next to the Paint Shop, and the deep well electrical runs directly overhead of the Paint Shop. Abandoned electrical lines that run to or over the Paint Shop will be removed. A fire hydrant, fire water valve and meter will be protected with concrete barriers. The fire water lines inside the paint shop will be isolated and drained.

Utilities in the vicinity of the Paint Shop include the electrical as described above, a piping stanchion east of the Paint Shop that carries steam, condensate, and breathing air lines that run from the nearby power house to the nuclear facilities onsite, and liquid gas dewars located tothe south of the Paint Shop, which are enclosed by a 6-ft. tall chain link fence. There are underground utilities in the area; these will not be affected by the removal of the Paint Shop due to the methods and restrictions enacted for removal of the structure (see following paragraphs).

It is anticipated that an outside company will place a bid to purchase the paint shop. This company would then dismantle the building and remove it from the site for reuse. The contract for selling the building would impose certain restrictions as to how the building would be dismantled for removal. These restrictions include using hand tools to disassemble the building, and that no heavy duty equipment, overhead equipment, or jackhammers will be used. Only the walls and roof of the building will be removed; the foundation and surrounding pavement and underlying soil will remain undisturbed. Any equipment (such as the large turntable) located within the building is to be removed by cutting the bolts or other connections without disturbing the floor or ground underneath. These restrictions would be imposed to minimize any potential impact to several above-ground and underground utilities in the vicinity of the Paint Shop (see attached drawing) that service the nuclear facilities. These restrictions would also protect the fixed contamination areas located under the asphalt near the Paint Shop, located on the side of the Paint Shop that faces the Power House. (There are plans to remove these fixed contamination areas in the near future; these may be gone before work on removing the Paint Shop is started.)

In the event that a purchaser for the building cannot be obtained, Mound trades will disassemble the building. Before the building demolition is started, the preparatory work described above will be done, Mound workers would use heavy equipment (shear and grappler) to size reduce and remove the building. The equipment will be staged near the northwest corner of the Paint Shop, which is the corner furthest from the liquid gas dewars and the above-ground fire hydrant and fire line meter and valve. Due to the proximity of utility lines (breathing air, steam, condensate return, electrical) that run along the back (east) side of the Paint Shop, some sections of the building may need to be manually disassembled. Mound workers would also abide by the same restrictions against jack hammering, disturbing the soil and foundation. The shear/grappler has a reach of 28 feet; the distance to the utilities located on the piping stanchion is approximately 50 to 70 feet, depending upon direction. As the building is pulled/cut down, the shear/grappler may need to reposition closer to the Paint Shop. To prevent the shear from positioning close enough to the utilities to cause interaction, an administrative limit will be imposed to maintain a distance from the utility lines which is greater than the total reach of the equipment.

ENTRY CONDITIONS (USE Y - YES OR N - NO):

_N_ Any Facility Hardware Modification
_N_ Any Procedure Change or New Procedure
_Y_ Any New Operation, Test, or Experiment
_N_ Maintenance
_N__ Potentially Inadequate Safety Analysis
_N__ Discrepancy between Physical Configuration & SAR
_N__ SAR Change Involving TSR Bases

At least one of the entry conditions must be YES. If not, THEN the USQ process is not the right process for the situation.

USQ PROCESS FORM

This process is not appropriate for changes in Operational Controls (OCs) or Operational Safety Requirements (OSRs) for any authorization basis documentation.

USQ NUMBER:
U-MHT-1998- 124
Contact PIR Office for #

1. IDENTIFICATION:

TITLE: Paint Shop Removal

FACILITY AND LOCATION:
Bldg. & Room No.(s) T-Building, SW/R Complex, HH Building, WD Building, Building 22, Building 23, 38 AND 50

TYPE OF FACILITY:
_X_ Nuclear Facility
____ Radiological Facility with Authorization Basis
____ Other with Authorization Basis

AUTHORIZATION BASIS DOCUMENTS:
MD-10472, Implementation Plan for BIOs, SARs, TSRs, and OCS at the Mound Plant (Draft) as implemented by DOE/OH letter OH-0268-98 dated 12/5/97 and extended by DOE/OH letter OHMB-8058-98 dated 8/31/98 with clarifications as provided in letters MB-0195-98 dated 12/28/97 and MB-0421-98 dated 3/18/98.
MD-10479, Issue 3, *Operational Controls for T-Building*.
Authorization basis documents for Buildings 38 and 50: see attached

2. USQ SCREENING (Use Y - YES OR N - NO)

U-MHT-1998-124

If this issue involves: 1) a potentially inadequate Safety Analysis, or 2) a potential to affect a TSR Margin of Safety, THEN Screening is **Not Applicable. A USQ Safety Evaluation is Necessary. Go to Section 3.**

A. __Y__ Could this change or discovery affect a Structure, System, Component as described in existing Safety Analyses?
B. __N__ Could this change or discovery affect a Procedure as described in existing Safety Analyses?
C. __N__ Does this change or discovery represent a New Operation, Test or Experiment NOT described in existing Safety Analyses?

IF the answers to 2.A., 2.B., and 2.C., are ALL "NO", THEN a USQ Safety Evaluation is Not Necessary. Go to USQ Process Approval Form.
IF the change is a Facility Hardware Modification AND the answer to 2.A. is YES, THEN further screening is Not Appropriate. Go to Section 3.
IF the change is Not a Facility Hardware Modification AND the answer to 2.A., 2.B., or 2.C., is YES, THEN further screening is Appropriate. Go to 2.D., 2.E., & 2.F.

D. __N___ Is the change covered by a pre-approved Categorical Exclusion?
Source Document:
E. __N___ Is the change covered by a pre-approved type of Inconsequential Change?
Source Document:
F. __N___ Is the change covered by a prior USQ Safety Evaluation?
Source Document:

For each YES answer to 2.D., 2.E., & 2.F., identify the Source Document in the space provided above.
IF the answer to 2.D., 2.E., & 2.F. are ALL NO, THEN a USQ Safety Evaluation/Determination is Necessary. Continue to Section 3.
IF the answer to 2.D., 2.E., OR 2.F., is YES, THEN a New USQ Safety Evaluation is Not Necessary. Go to USQ Process Approval Form.

USQ PROCESS FORM

USQ NUMBER: _U-MHT-1998-124____

3. USQ SAFETY EVALUATION/DETERMINATION (Use Continuation pages, as appropriate)

A. Could the PROPOSED CHANGE or DISCOVERY increase the probability of occurrence of an accident previously evaluated in the safety analyses? ____ YES _X_ NO

Explain Why (provide basis): The above-ground utilities that are in the vicinity of the Paint Shop are breathing air, steam and condensate lines, and brine. These utilities service the nuclear facilities (T, SW/R, HH, WD, 22, 23, 38 and 50) and are supported on pipe stanchions. There is also overhead electrical service in the area that services outdoor lighting, deep wells and the East Stack for T-Building.

Breathing air is used to supply clean air to workers wearing bubblesuits. To use examples of other previously analyzed accidents involving the breathing air system, the TERF FSAR includes a failure rate of the breathing air system of Likely (0.01 occurrences or more per year). Brine and steam are used to supply heating and cooling to the buildings. The brine system supplies primary cooling for TERF and the ECS in T-Building. TERF has a backup cooling system; the ECS does not. The brine system also supplies backup cooling for the ERS in SW Building. To use examples of other previously analyzed accidents involving the brine (chilled water) system, the TERF FSAR includes a probability for the unavailability of cooling water for several hours as Unlikely (0.01 to 0.0001 occurrences per year). The methods and administrative limits to be used for the removal of the Paint Shop are not expected to increase these stated probabilities of occurrence for the interruption of breathing air and brine services.

Electrical service in the area supplies outdoor lighting, the deep well system, and the east stack fan of T-Building. The 480V electrical line that services the T Building east stack runs through Emergency Generator 4; this line will be relocated before work begins on removing the Paint Shop. The east stack contains radiation monitoring; therefore power outages would affect these monitors and will need to be coordinated through both the environmental (Bill Farmer) and T-Building (Charlie Sienkiewicz) contacts. The east stack, however, is not required to meet the NESHAPS criteria for limited downtime. (The east stack services fumehoods in rooms 214, 215, 215A, 215C, 216, 218, 227B, 229, 230, 248, 252, and ventilation in rooms 244, 259, 22, 25, 26, 227 downdraft hood, 307, 1, 1A, 1B, 2A, 2B, 2C, 3, 4, 4A, 4B, 4C, 5, 5A, 6, 7, 8, 9, 9A, 10, 20, 78B, and corridors 2, 4, and 9.) An electrical line that supplies the site's deep wells runs directly over the roof of the Paint Shop and will be rerouted along the pipe stanchion so that it will not be an industrial hazard to workers taking down the structure (see attached sketch). Both the east stack and deep well electrical lines will be run through conduit and supported on the piping stanchion. Other electrical lines in the area that service outdoor lighting will be de-energized during Paint Shop removal to eliminate any hazards from potential contact with these live wires. There are electrical lines that run to or over top of the Paint Shop that are no longer in service (abandoned); these will be removed before work on the Paint Shop begins. The live electrical lines in the vicinity of the Paint Shop do not provide service that is considered critical to the operation of the nuclear facilities and therefore any interruption of service would have negligible impact. The interruption of electrical service has been previously analyzed for nuclear operations (TERF used as an example) where the probability of the room ventilation system ceasing to operate was considered Likely. The methods and administrative limits to be used for the removal of the Paint Shop are not expected to increase this probability of occurrence.

The deep wells provide water to the plant water towers, which then supply water to the plant's fire suppression (sprinkler) systems. Interruption of the deep well power supply could impact on the amount of water available to the fire suppression systems in the event of a major fire. This interruption in water supply would not change the probability of occurrence of a fire.

The steam and condensate lines are used to provide temperature control for the various facilities. Interruption of the heating/cooling services would not have any direct impact on the probability of an accident that would involve a release of nuclear material or pose a hazard to workers in the affected facility.

Underground utilities in the vicinity of the Paint Shop would not be affected, as the methods to be used prohibit digging or otherwise disturbing the pavement or soil surrounding the structure.

B. Could the PROPOSED CHANGE or DISCOVERY increase the consequence of occurrence of an accident previously evaluated in the safety analyses? ____ YES _X_ NO

Explain Why (provide basis): Again using the TERF analyzed accidents as a basis for the nuclear facilities, the consequences of failure stated for loss of breathing air is Negligible (will not result in a significant injury or occupational illness or significantly impact the environment) and the consequences for loss of cooling water (brine) is Marginal (may cause minor injury or occupational illness or minor impact to the environment). Loss of heating/cooling (supplied by the steam and condensate lines) in the various nuclear facilities could cause ambient conditions where tritium room monitors might read inaccurately; this would not cause an accident that would result in a release or exposure. A minor power outage is considered to have Negligible consequences; this is consistent with the electrical services in the area of the Paint Shop, as the deep wells and street lighting are not considered critical to the operation of the nuclear facilities.

The electrical lines servicing the deep wells and east stack fan will be run inside of conduit and rerouted along the piping stanchion. Previously analyzed accidents for minor power outages have probability of occurrence of Anticipated with consequences of Negligible (see TERF FSAR, page C-4). The amount of electrical power interruption needed to complete the rerouting of deep well electrical lines will be minimized, with as much of the new line installed as possible before disconnecting current electrical service to complete the changeover. The amount of down time for the deep wells will be minimized as the deep wells supply water to the plant's fire suppression system. Interruption in the supply of water could increase the consequences of a major fire, but the probability that such an event would occur during the short duration that the deep well power was disconnected would be remote. The new connections would be checked as soon as installation was complete to assure that the deep wells were operational. It is not anticipated that the removal of the Paint Shop would result in an accident that would cause damage to the overhead east stack and deep well electrical lines. However, if such an accident occurred, the loss of ventilation to the areas serviced by the east stack would not increase the consequences of previously analyzed accidents, as the areas serviced by the East Stack fan do not have analyzed accidents associated with ventilation failure. In the event of damage to the electrical line servicing the deep wells, any damage would be detected immediately and the power could be restored in a short period of time. This minimal time period would not increase the consequences of a fire, as the probability that a major fire would occur during the brief period of electrical downtime would be remote.

C. Could the PROPOSED CHANGE or DISCOVERY increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the safety analyses? ____ YES _X_ NO

Explain Why (provide basis): Equipment important to safety, described as safety-significant systems, structures, and components (SSCs), within the various nuclear facilities that may be affected by interruption of brine, steam or breathing air service include the building ventilation systems, TERF in T Building, ERS in SW/R Complex, and the radiation monitors. Loss of steam/brine could affect the temperature within the nuclear facilities but would not directly impact on the ventilation systems themselves. The change in temperature inside the nuclear facilities could result in elevated tritium monitor readings, but this would not affect the operability of the monitors themselves. The TERF and ERS operations use the brine system to provide cooling. TERF has a backup system in case the brine system is down, and the ERS uses the brine system as a backup cooling system, so these systems would continue to operate in the event that the brine system were unavailable. Minor power outages have been previously analyzed and found to be Likely occurrences; potential interruption of the east stack fan or deep well power would not increase this probability of occurrence. Electrical interruption to the deep wells would not increase the probability of occurrence of a malfunction of the fire suppression system, as the failure mode is clogging; change in water availability would not impact on this type of failure. While the breathing air system is not included as a SSC, it is a safety-related system. The probability of failure of the breathing air system is discussed in section 3A above. Other SSCs for the nuclear facilities would be unaffected if the brine, steam or breathing air services were interrupted.

D. Could the PROPOSED CHANGE or DISCOVERY increase the consequences of a malfunction of equipment important to safety previously evaluated in the safety analyses? ____ YES _X_ NO

Explain Why (provide basis): There would not be any change in the consequences of the malfunction of equipment important to safety in the event that the brine, steam or breathing air lines were damaged as a result of an accident associated with the removal of the Paint Shop. A power outage to the east stack fan would incur negligible consequences, as this stack does not support the main nuclear areas within T-Building. Fire suppression systems fail due to clogging; interruption in the deep well water supply would not have any impact on this type of malfunction.

E. Could the PROPOSED CHANGE or DISCOVERY create the possibility of an accident of a different type than previously evaluated in the safety analyses? ____ YES _X_ NO

Explain Why (provide basis): Consequences of the accidental breach of the brine, steam, breathing air lines and electrical power to the T-Building east stack fan and the deep wells have already been described. No other types of accidents were considered as credible.

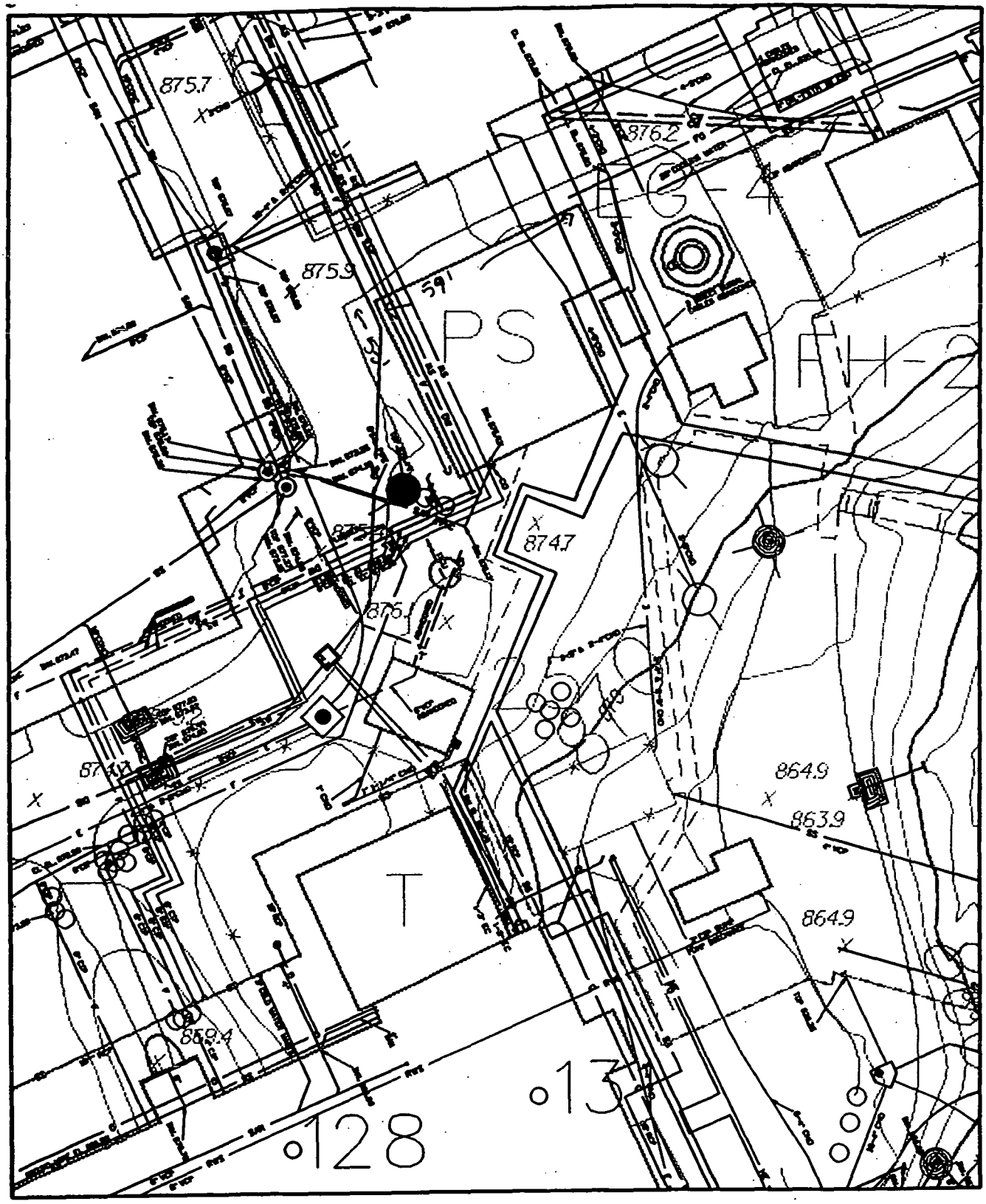
U-MHT-1998-124

F. Could the PROPOSED CHANGE or DISCOVERY create the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the safety analyses? ____ YES _X_ NO

Explain Why (provide basis): The impact on nuclear facilities as a result of potential loss of breathing air, steam, brine, east stack ventilation and deep well electrical services has been analyzed. There are no other potential impacts on the nuclear facilities that could arise to equipment important to safety as a result of accidents associated with the removal of the Paint Shop.

G. Could the PROPOSED CHANGE or DISCOVERY reduce the margin of safety as defined in the basis for any technical safety requirement? ____ YES _X_ NO

Explain Why (provide basis): There are no margins of safety defined in the safety basis documents.



STORM SEWER

SANITARY SEWER

FIRE WATER

DOMESTIC WATER

SUPPLY WATER

TELEPHONE

ELECTRIC LINES

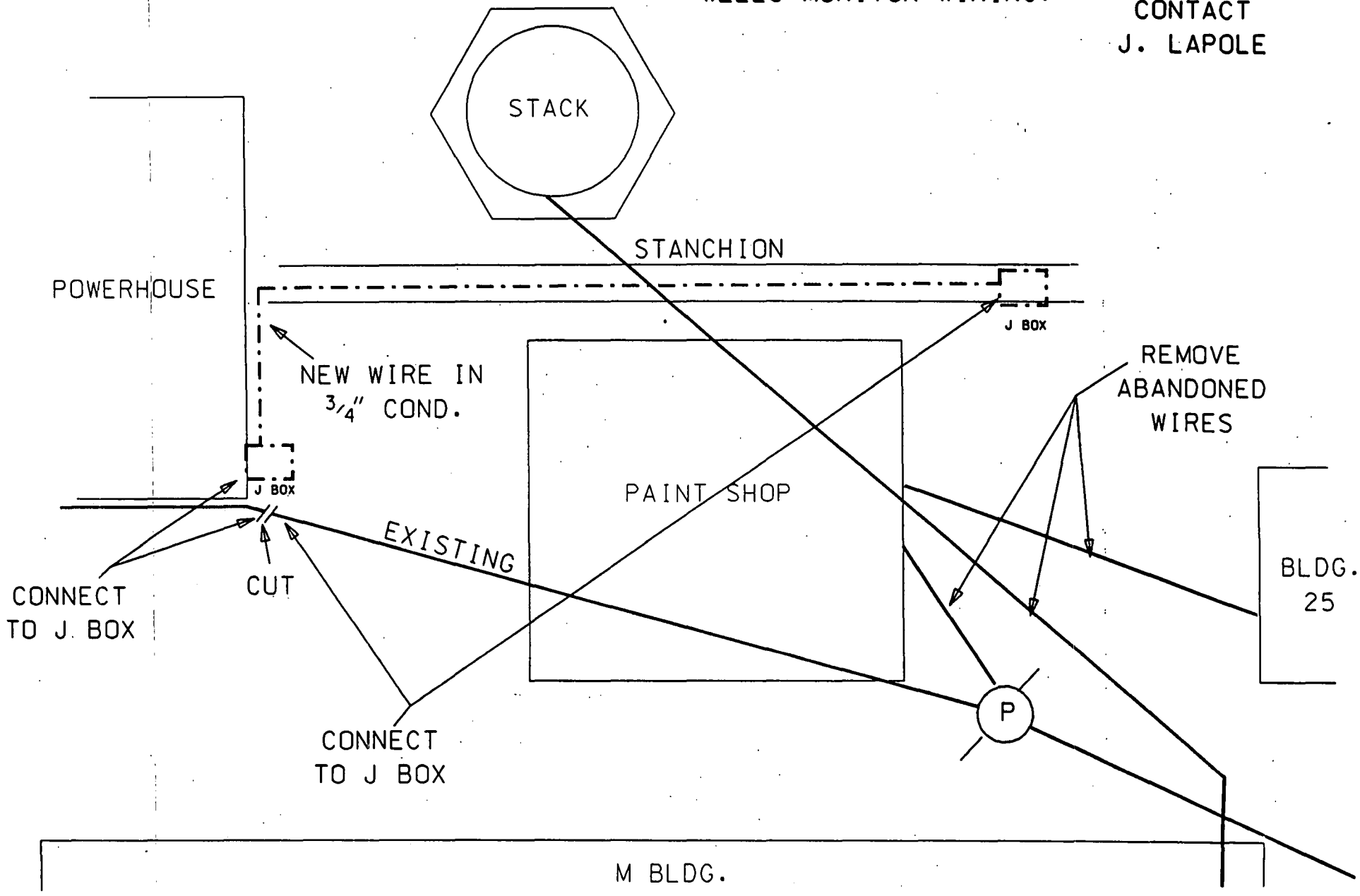
HOT WASTE

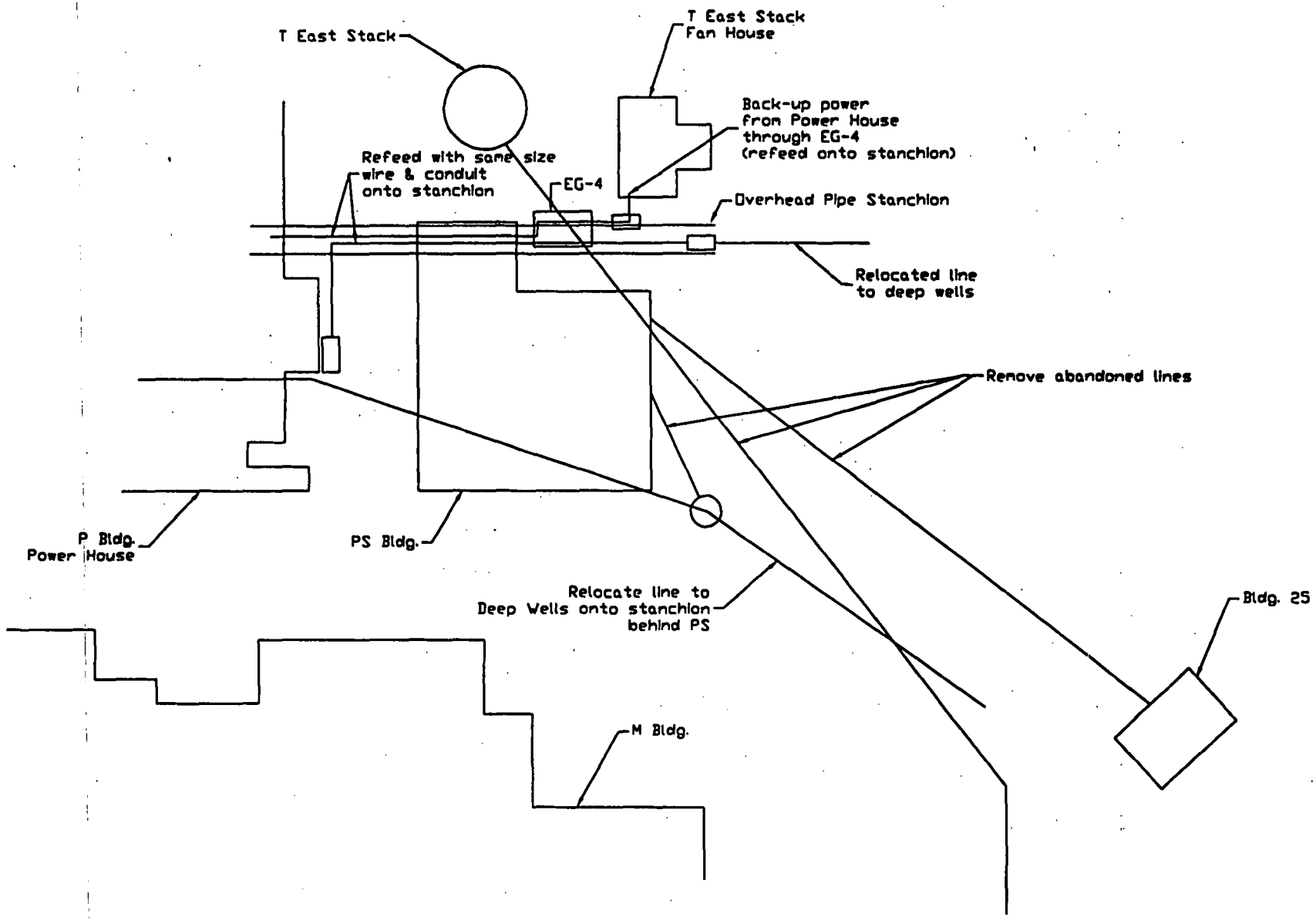
NOTE: REMOVE ABANDONED WIRES AND RE-ROUTE DEEP WELLS MONITOR WIRING.

MSR

F00169

CONTACT J. LAPOLE





Main Hill Non-Rad	Dwg. No. MHNR-PS-004	
Drawing: Relocate Overhead Lines at Paint Shop	By: R. C. Ransbottom	Date: July 29, 1998

Inter-Office Correspondence

Babcock & Wilcox of Ohio

Date : March 1, 1999 cc. file

From : William L. Johanan-OSW 430

Subject: Structural Survey of Paint Shop RE: 29 CFR 1926.850 (a).

To : Bob Ransbottom-Project Engineer

Please be advised that we have performed a structure review and walkdown and found it to be satisfactory based on the demolition process and the work plan.

Please call me if you have any further questions.

William L. Johanan P.E.

STATE OF OHIO
WILLIAM L. JOHANAN
E-44883
REGISTERED
PROFESSIONAL ENGINEER

Appendix B
Radiological
Survey
Results

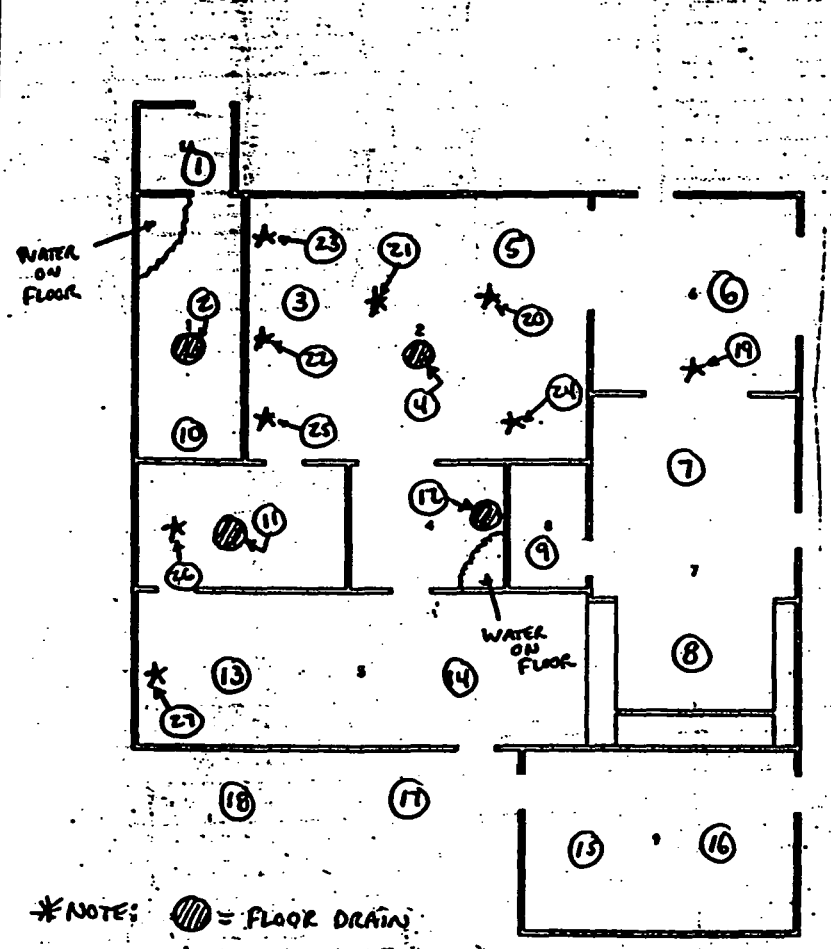
RADIOLOGICAL SURVEY DATA SHEET

F-1/F-27 Page 1 of 4 P3

R-215

LOCATION: (BLDG/AREA/ROOM) PAINT SHOP	SURVEY NO. 99-PS-02
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 021199
	TIME: 1400

MAP/DRAWING



DIRECT READINGS WERE TAKEN ON ALL ACCESSIBLE FLOOR AREAS EXCEPT AREAS SHOWN TO HAVE STANDING WATER. DIRECTS ALSO TAKEN ON ALL FLOOR DRAINS AND VENT DUCTS.

ALL READINGS = < 100 DPM/100 cm² α
< 5000 DPM/100 cm² β/γ

DOSE RATES = < 0.02 MR/HR

MSM 021199

PS BLDG
FIRST FLOOR
BLDG CODE: 3524

*NOTE: ▨ = FLOOR DRAIN
* = OVERHEAD VENT DUCTS

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+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
BICRON NR	3928	030999
NE ELECTRA	5370 / 5371	080299
↓	5365 / 5315	060999
↓	5396 / 5279	061599
N/A	N/A	N/A

Completed by: (Signature) [redacted]	HPM 102/mm/sq	Date: 021199
Completed by: (Print Name) [redacted]		
[redacted]	HPM 5396	Date: 02-15-99
[redacted]	HPM 5396	Date: 2-18-99
Reviewed by: [redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-27	SEE	ATTACHED	→	
			N/A	

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

COMMENTS: NONE

NOTES:
1. See MD-60036, 10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-0620 (2-95)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR019
Batch Ended: 2/15/99 14:30

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

Crosstalk correction performed.

Certainty level for MDA and flags: 95.00%
Recalibration Date: 8/13/99
Serial Number: 26966-2

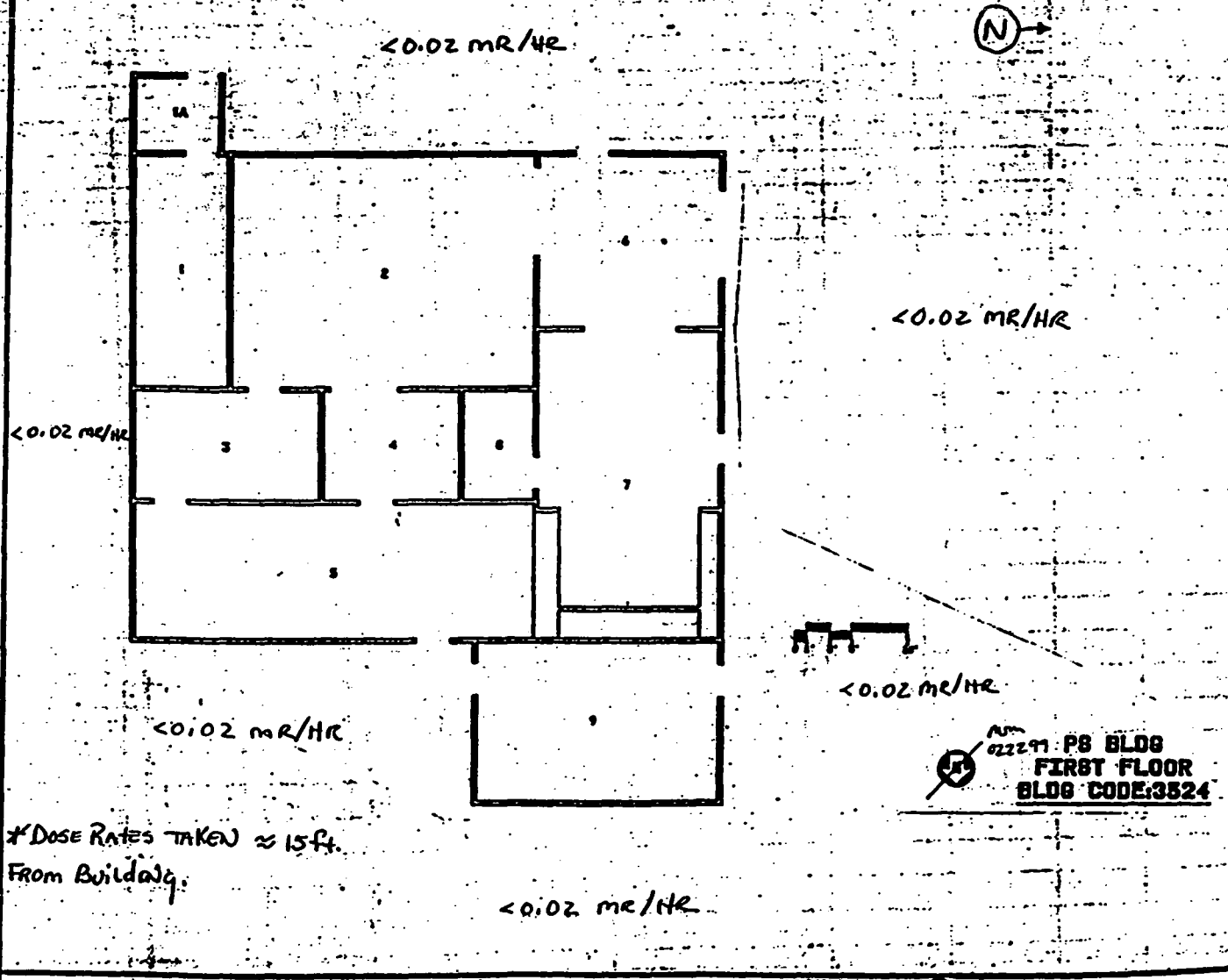
Batch ID: T 99-PS-02 MURPHY/NEAL [27] 02-15-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.1	<MDA	1.7	2.3	<MDA
A2	2	0.0	2.0	<MDA	0.0	1.3	<MDA
A3	3	0.0	1.9	<MDA	0.0	1.2	<MDA
A4	4	0.0	1.9	<MDA	0.4	1.7	<MDA
B1	5	0.0	2.1	<MDA	0.0	1.4	<MDA
B2	6	0.0	2.0	<MDA	2.8	2.7	<MDA
B3	7	0.0	2.0	<MDA	1.6	2.2	<MDA
B4	8	0.0	1.9	<MDA	0.0	1.8	<MDA
C1	9	0.0	2.0	<MDA	2.7	2.6	<MDA
C2	10	1.7	2.0	<AL	0.5	1.7	<MDA
C3	11	0.0	1.9	<MDA	1.5	2.0	<MDA
C4	12	0.0	1.8	<MDA	0.0	1.2	<MDA
D1	13	0.0	2.2	<MDA	1.5	2.2	<MDA
D2	14	0.0	2.2	<MDA	0.5	2.3	<MDA
D3	15	0.0	2.0	<MDA	0.4	1.8	<MDA
D4	16	0.0	2.0	<MDA	0.0	1.2	<MDA
A1	17	0.0	2.0	<MDA	0.0	1.3	<MDA
A2	18	0.0	2.0	<MDA	0.3	1.8	<MDA
A3	19	0.0	1.9	<MDA	0.0	1.2	<MDA
A4	20	0.0	1.9	<MDA	1.6	2.1	<MDA
B1	21	0.0	2.1	<MDA	0.0	1.4	<MDA
B2	22	0.0	2.0	<MDA	1.5	2.3	<MDA
B3	23	0.0	2.0	<MDA	0.0	1.3	<MDA
B4	24	0.0	2.0	<MDA	6.5	3.5	<AL
C1	25	0.0	2.0	<MDA	3.9	2.9	<AL
C2	26	0.0	2.0	<MDA	1.8	2.1	<MDA
C3	27	3.6	2.7	<AL	2.4	2.3	<MDA

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) PAINT SHOP	SURVEY NO. 99-PS-03
PURPOSE: EXTERIOR RADIATION SURVEY	RWP NO. N/A
	DATE: 02/24/99
	TIME: 0843

MAP/DRAWING



* DOSE RATES TAKEN ≈ 15 ft. FROM BUILDING.

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+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
BICRON μR	3928	03/09/99
	A	
N		

Com[redacted]	HPI 7873	Date: 02/24/99
Completed by: (Print Name) [redacted]		
Counted by: (Signature) N/A	HPI	Date:
Counted by: (Print Name) N/A		
R[redacted]	HPI 8996	Date: 2-22-99
Review[redacted]		

ML-0620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

N R

N R

COMMENTS: NONE

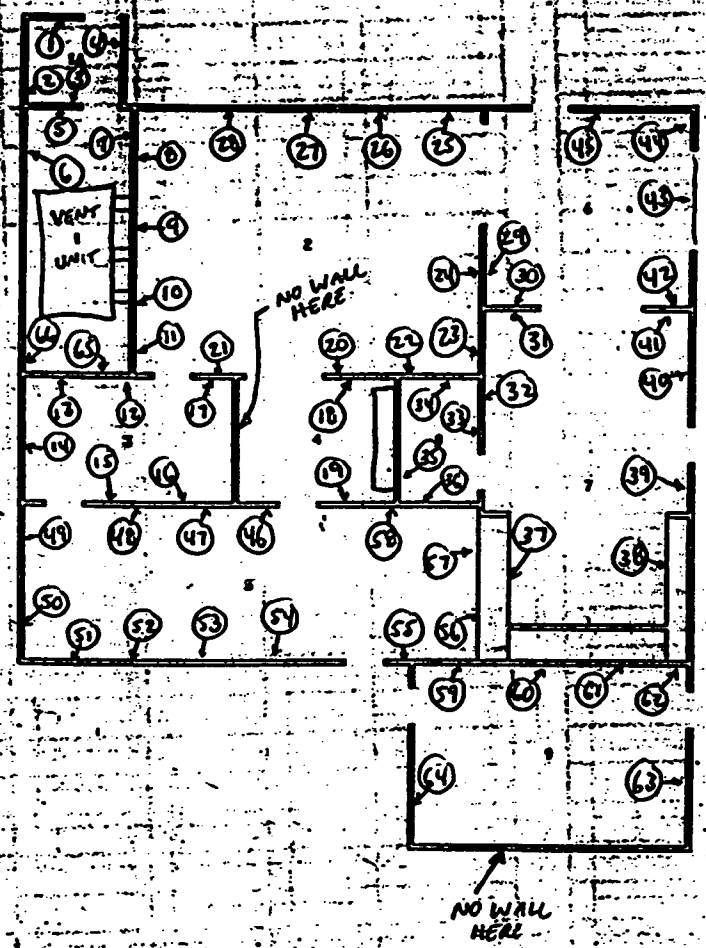
NOTES:
1. See MD-80038.10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) PAINT SHOP	SURVEY NO. 99-PS-04
PURPOSE: FEA RELEASE SURVEY - VERTICAL SURFACES	RWP NO. N/A
	DATE: 2-02-99
	TIME: 1350

MAP/DRAWING



N

* NOTE: DIRECT READINGS ONLY TAKEN AT EACH SURVEY POINT. NO REMOVABLE. SURVEY ON WALLS + DOORS. ALL DIRECT READINGS = < 100 DPM/100 cm² α < 5000 DPM/100 cm² β γ

MRM 022399 PS BLDG FIRST FLOOR BLDG CODE:3524

LEGEND: # = mrem/hr (γ) whole body; # E = mrem/hr (β+γ+γ) extremity on contact; # = mrem/hr neutron; # = air sample number; # = swipe number; α/β = direct count measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5303/5315	060999
↓	5370/5371	080299
N/A	N/A	N/A

Counted by: [redacted]	HPI 7872/7884	Date: 022399
Counted by: [redacted]		
Counted by: (Signature) N/A	HPI N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed by: [redacted]	HPI 5996	Date: 2-24-99
Reviewed by: [redacted]		

ML-0620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Commen
		N/A		

COMMENTS: None

NOTES:

1. See MD-80036, 10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

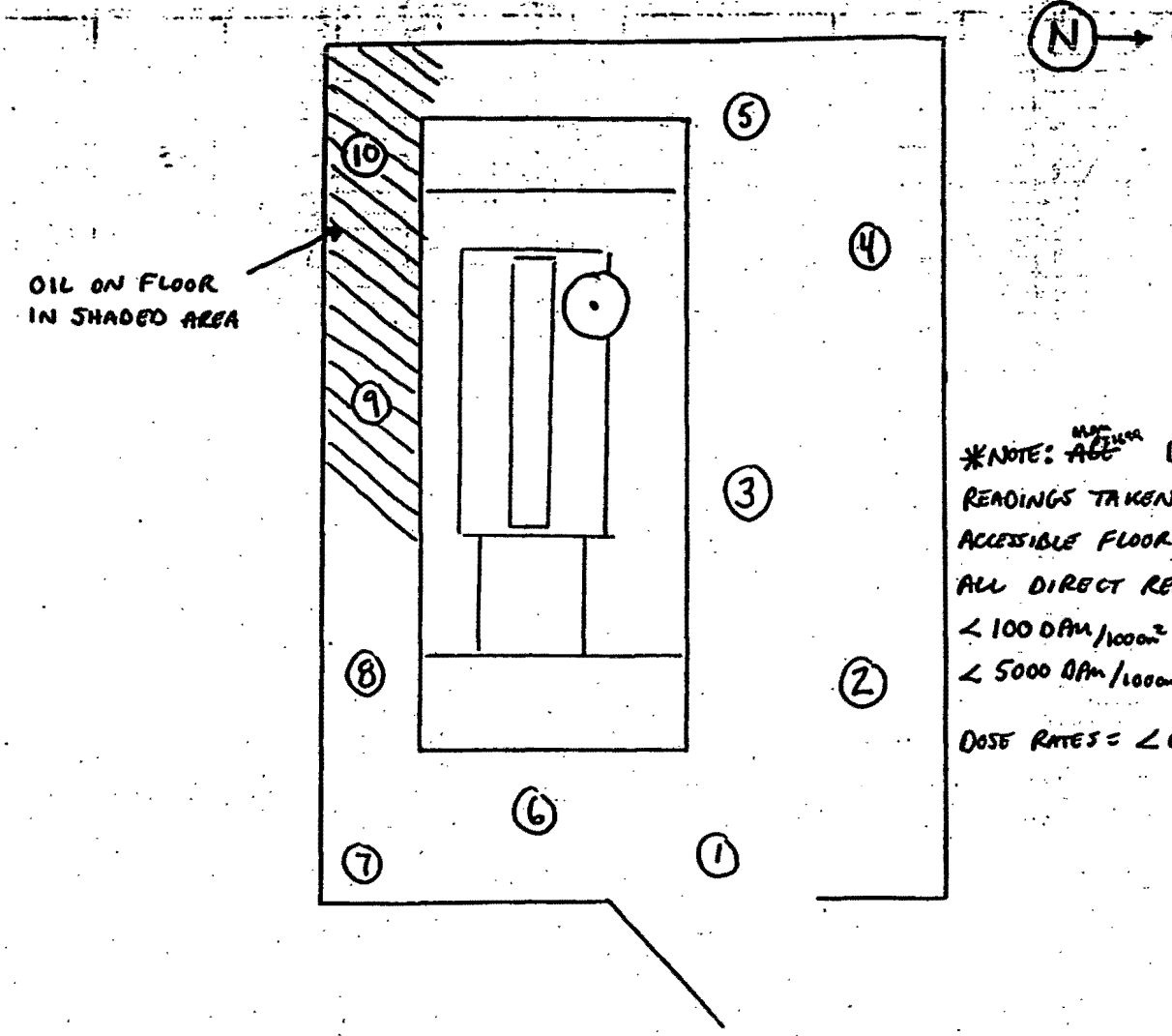
RADIOLOGICAL SURVEY DATA SHEET

I-1/I-10 4 P5 R-215

Page 1 of 4

LOCATION: (BLDG/AREA/ROOM) EG-4	SURVEY NO. 99-EG-4-03
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 021699
	TIME: 0830

MAP/DRAWING



*NOTE: ~~AGE~~ MAP DIRECT READINGS TAKEN ON ALL ACCESSIBLE FLOOR AREAS. ALL DIRECT READINGS = < 100 DPM/100cm² α < 5000 DPM/100cm² β/γ

DOSE RATES = < 0.02 mR/HR

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 ELECTRA	5303/5315	060999
NE ELECTRA	5370/5371	080299
BICRON NR	3928	03/09/99
N/A	N/A	N/A

Co[redacted]	HPS ~~7872~~ 7889	Date: 021699
Completed by: (Print Name) [redacted]		
[redacted]	HPS 5879	Date: 02-16-99
Co[redacted]		
[redacted]	HPS 8996	Date: 2-18-99
[redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-10	SEE	ATTACHED	→	
N/A				

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

COMMENTS: NONE

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR008
Batch Ended: 2/16/99 8:40

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

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T.99-EG-4-03 MURPHY / NEAL [10] 02-16-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.91	<MDA	0.00	1.25	<MDA
A2	2	1.45	2.14	<MDA	0.39	2.38	<MDA
A3	3	0.00	2.24	<MDA	3.04	3.05	<MDA
A4	4	1.45	1.99	<MDA	1.76	3.09	<MDA
B1	5	0.00	2.05	<MDA	0.00	1.50	<MDA
B2	6	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	7	0.00	1.89	<MDA	2.57	2.79	<MDA
B4	8	0.00	1.92	<MDA	0.00	1.46	<MDA
C1	9	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	10	0.00	2.15	<MDA	2.66	2.89	<MDA

Cn 02/18/99

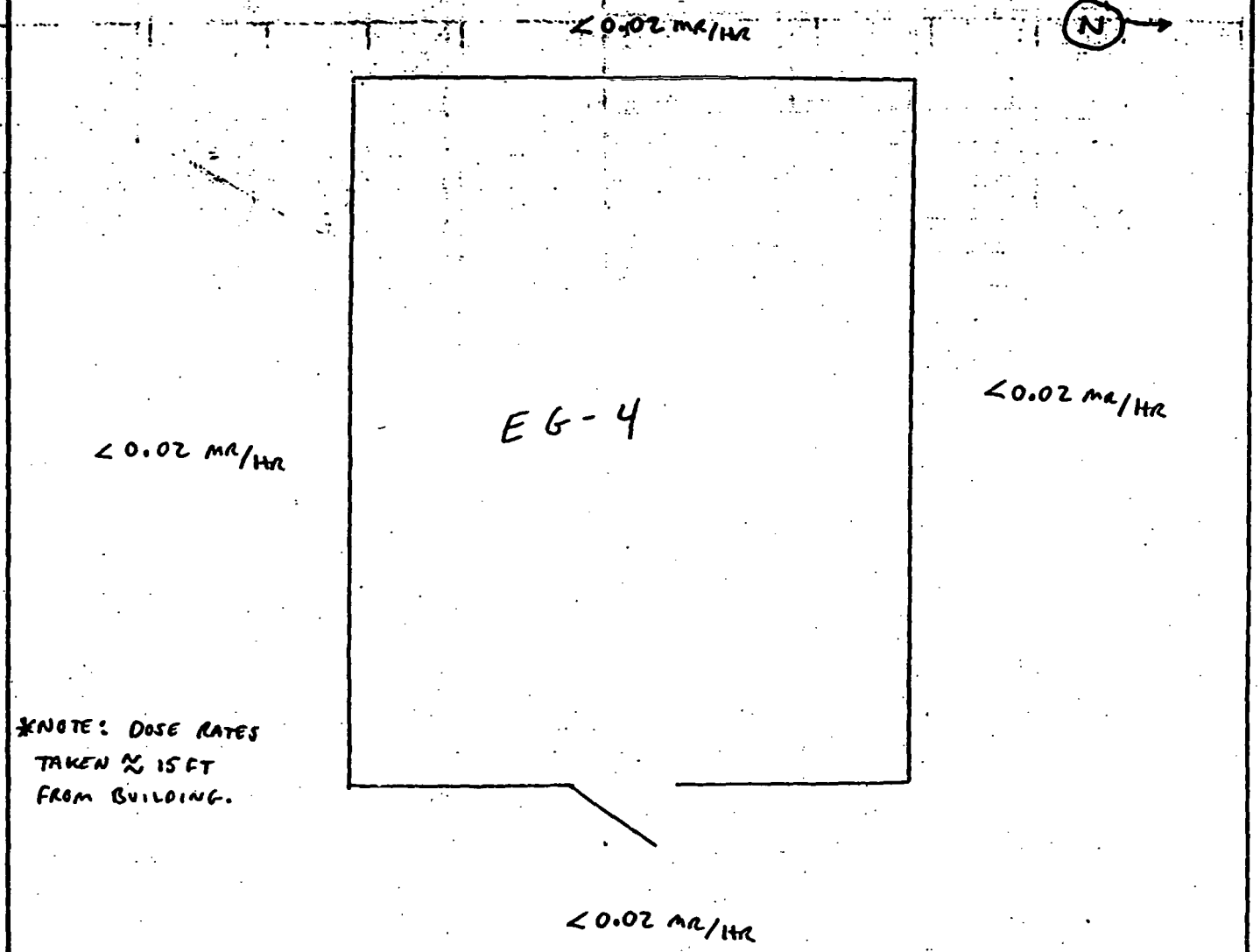
Protocol #: 5 Name:Pw H3 #401393 16-Feb-99 11:51
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-EG-4-03 [T1-T10] MURPHY/NEAL 2-16-99 RLH
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On

S#	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	2Sigma
-1	10.00	55	B	5.40	6.70	12.90	624.		0.00
0	2.00	1		417.10	396.30	0.00	605.	1007.38	103.59
1	2.00	36		0.60	0.30	0.00	648.	1.38	11.75
2	2.00	21		3.10	2.30	0.00	641.	7.18	12.08
3	2.00	31		0.00	0.00	0.00	639.	0.00	0.00
4	2.00	7		1.60	0.00	0.00	654.	3.65	9.73
5	2.00	5		4.60	3.30	0.00	533.	12.19	13.06
6	2.00	48		0.00	0.00	0.00	637.	0.00	0.00
7	2.00	85		0.00	0.00	0.00	602.	0.00	0.00
8	2.00	6		2.60	0.30	0.00	624.	6.14	10.61
9	2.00	38		0.10	0.30	0.00	682.	0.22	11.11
10	2.00	31		2.10	0.80	0.00	627.	4.94	12.71

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) EG-4	SURVEY NO. 99-EG-4-04
PURPOSE: EXTERIOR RADIATION SURVEY	RWP NO. N/A
	DATE: 022299
	TIME: 0830

MAP/DRAWING



*NOTE: DOSE RATES TAKEN ≈ 15 FT FROM BUILDING.

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
BICRON MR	3928	030999
N/A	N/A	N/A

Completed by: [redacted]	HP# 7872	Date: 022299
Completed by: (Print Name) [redacted]		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
R[redacted]	HP# 8916	Date: 2-22-99
Reviewed by: (Signature) [redacted]		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COMMENTS: NONE

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2.4 Radiological Characterization Summary For ~~GP-1~~ PS & EG-4 Structures

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm2)	Surface Contamination Guideline (dpm/100cm²) (Note 2)	COMMENTS
Highest Alpha Smearable Activity	~~99-GP-1-03~~ 99-PS-02	Room ~~48~~ 5	~~7.85~~ 3.60	20	
Highest Alpha Fixed Activity	Note 1	Note 1	<100	100	
Highest Beta Smearable Activity	~~99-GP-1-03~~ 99-PS-02	Room ~~18~~ 2	~~9.07~~ 6.50	1,000	
Highest Beta Fixed Activity	Note 1	Note 1	<5000	5,000	
Highest Tritium Smearable Activity	~~99-GP-1-03~~ 99-PS-02	~~Roof Exhaust Vent~~ Room 6	~~73.21~~ 179.89	10,000	

Note 1: All RSDS' associated with the confirmatory survey were <100 dpm/100 cm2 alpha and <5000 dpm/100 cm2 beta. RSDS' include: ~~99-GP-1-01, 99-GP-1-02, 99-GP-01-03, 99-GP-1-04, 99-GP-1-01, 99-GP-1-02, 99-GP-1-03, 99-GP-1-04, 99-GP-1-05, 99-GP-1-06, 99-GP-1-07, and 99-GP-1-08.~~ 99-PS-02, 99-PS-03, 99-PS-04, 99-EG-4-03, 99-EG-4-04, 99-EG-4-05.

Note 2: Core Team Determined Values

RSDS: Data Sheet that provides radiological field monitoring survey results.

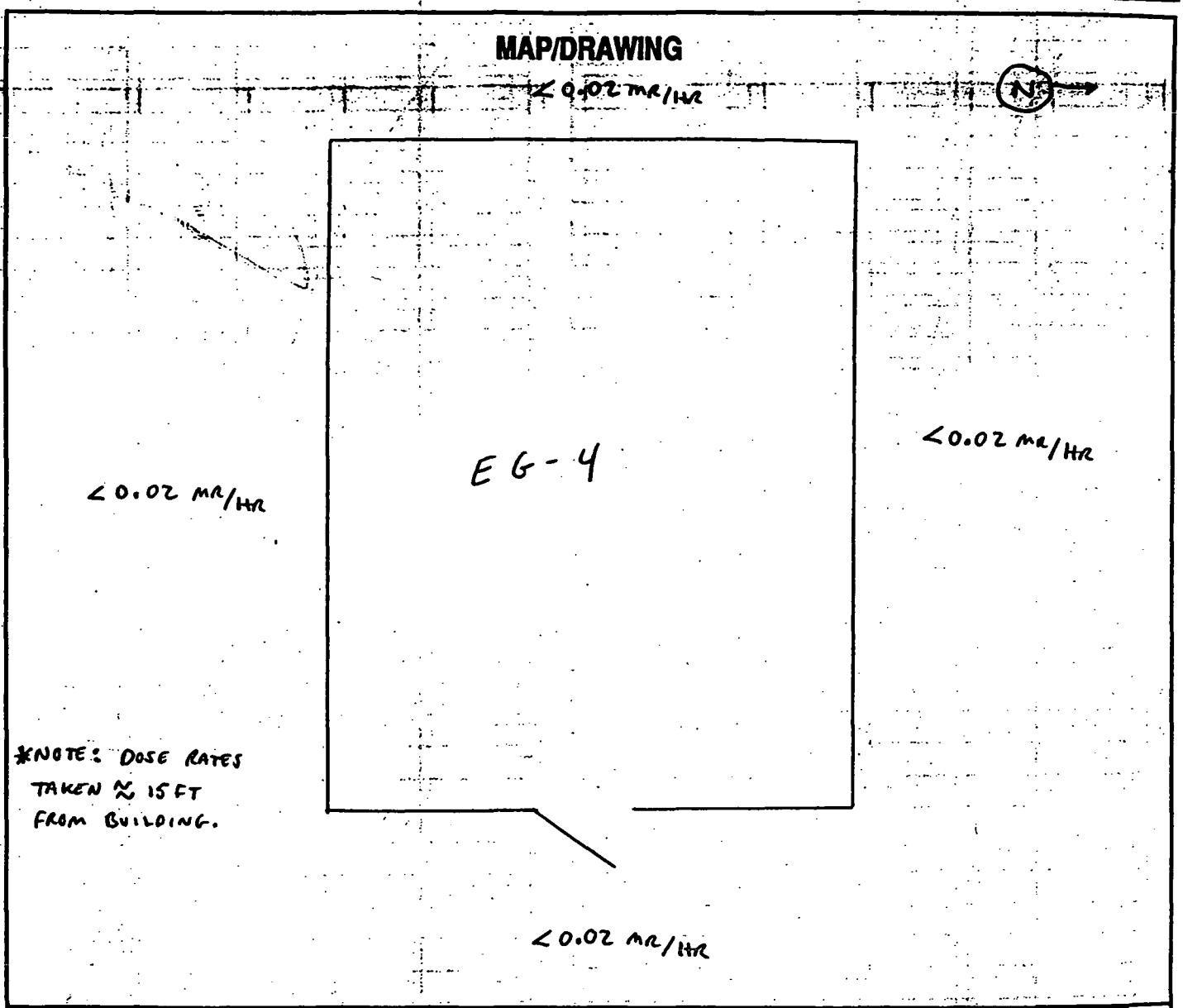
2.5 Associated PRS Table for GP-1

PRS #	CERCLA or BLDG. RELATED	BINNING STATUS	COMMENTS
PRS 211	CERCLA	NFA	See Appendix N.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) EG-4	SURVEY NO. 99-EG-4-04
PURPOSE: EXTERIOR RADIATION SURVEY	RWP NO. N/A
	DATE: 022299
	TIME: 0830

MAP/DRAWING



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
BICRON HR	3928	030999
N/A	N/A	N/A

Completed by: (Signature) [redacted]	HP# 7872	Date: 022299
Completed by: (Print Name) [redacted]		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
R[redacted]	HP# 8916	Date: 2-22-99
Reviewed [redacted]		

ML-9620 (2-98)

99-EG-4-04

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COMMENTS: NONE

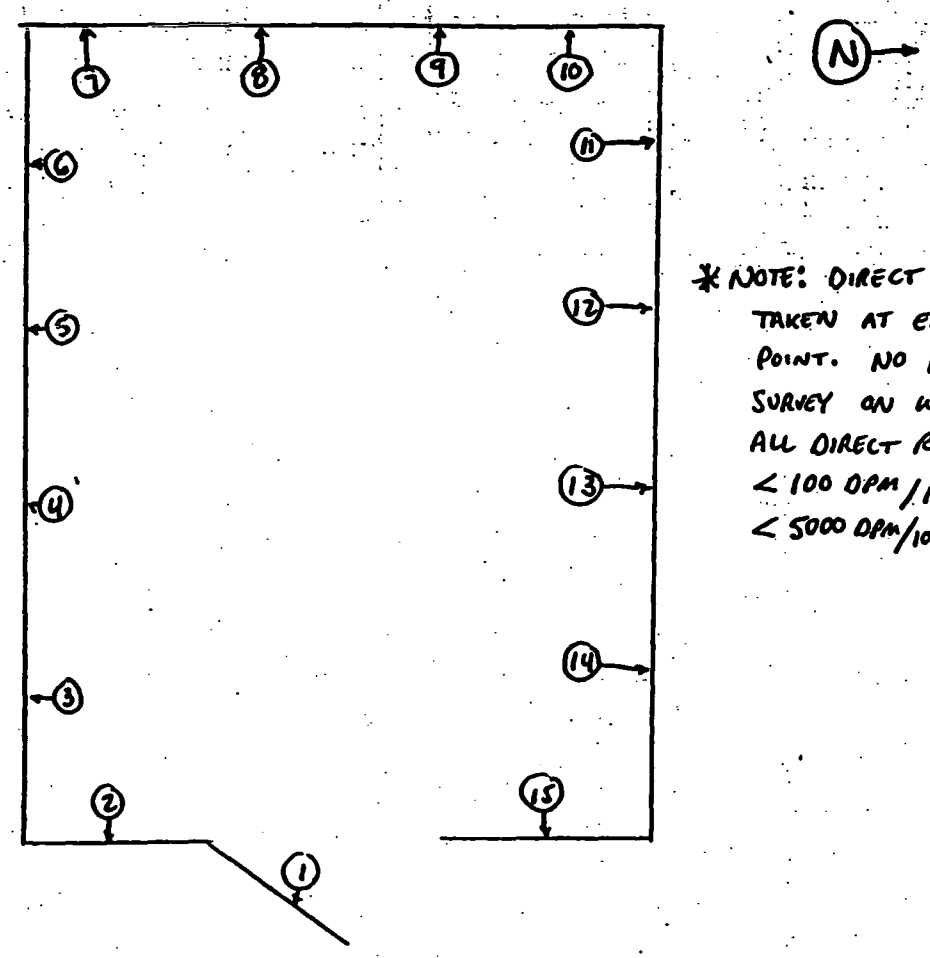
NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) EG-4	SURVEY NO. 99-EG-4-05
PURPOSE: RELEASE SURVEY - VERTICAL SURFACES	RWP NO. N/A
	DATE: 022399
	TIME: 1540

MAP/DRAWING



* NOTE: DIRECT READINGS ONLY TAKEN AT EACH SURVEY POINT. NO REMOVABLE. SURVEY ON WALLS + DOORS. ALL DIRECT READINGS = < 100 DPM/100 cm² α < 5000 DPM/100 cm² β-γ

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 ELECTRA	5303 / 5315	060999
↓	5370 / 5371	080299
N/A	N/A	N/A

Completed by: (Signature) [redacted]	[redacted]	HP# 7872/7873	Date: 022399
Completed by: (Print Name) [redacted]	[redacted]		
Counted by: (Signature) N/A		HP# N/A	Date: N/A
Counted by: (Print Name) N/A			
Re[redacted]		HP# 5996	Date: 2-24-99
Revie[redacted]			

ML-9620 (2-98)

Survey No. 99-EG-4-05

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COMMENTS: NONE

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. 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.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Appendix C
Lead
Survey
Results

Inorganic Analysis
LSDG 16987 PAINT SHED
Sampled 2/18/98

3/5/98

Sample Id	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Copper	Zinc	Dilution
Reg Limit mg/L	5.0	100	1.0	5.0	5.0	1.0	5.0	0.2			
Inst Det Limit	0.0013	0.0004	0.0004	0.0006	0.0009	0.0022	0.0008	0.0001	0.0031	0.0013	
CLEAR_METAL	<0.0052	1.170	0.0609	<0.0024	0.06	<0.0088	<0.0032	<0.0004	<0.0124	747	4X
PAINTED_METAL	<0.0052	1.060	0.068	<0.0024	0.172	<0.0088	<0.0032	<0.0004	<0.0124	805	4X
PREP BLK	<0.0052	<0.0016	<0.0016	<0.0024	0.0278	<0.0088	<0.0032	<0.0004	<0.0124	0.020	4X
LCS	101%	99%	100%	100%	99%	99%	84%	102%	103%	97%	

→ Blank
→ Laboratory Control Sample

Dan Diemunsch
Paint Shed
Samples

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Quanterra
Environmental Services

CASE NARRATIVE

Babcox & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

February 27, 1998

Attention: Gene Jendrek

Quanterra Project Number	: 145.04
SDG Name	: 16987
Date Received	: February 20, 1998
Number of Samples	: Two (2)
Sample type	: Solid

INTRODUCTION

The following samples from Babcox & Wilcox for the paint shed exterior project were received at Quanterra Environmental Services, Earth City, MO for TCLP Metals plus Copper and Zinc analyses. The analytical test performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved

Allen M. Field

Allen M. Field
Quanterra Project Manager

The samples were labeled as follows:

CLIENT ID	LAB ID	MATRIX
PAINTED METAL	16987-001	Solid
CLEAR METAL	16987-002	Solid

ANALYTICAL RESULTS/METHODOLOGY

The analytical results are presented by analytical test in the attached packages and summary reports. This report includes information on client identification numbers, lab identification numbers, preparation date, analysis date, results, units, and results for quality control samples.

The following table is a list of the analyses requested, and the methods used for the above samples:

Analysis	Method
TCLP Metals plus Cu, Zn	EPA 1311/6010/7470

QUALITY CONTROL

Method blanks and laboratory control samples were analyzed with the samples listed above per parameter. A sample duplicate, matrix spike and/or matrix spike duplicate was also performed where applicable for each parameter.

NONCONFORMANCES

There were no nonconformances associated with the analysis of this login.

COMMENTS

Receipt

Login 16987 was received at a temperature of 22°C.

Analytical Notes

Metals

The samples were diluted 4-fold prior to analysis for ICAP metals and mercury.

QUALIFIERS/DEFINITIONS

•	: Values outside of QC limits.
B	: Analyte was found in blank, as well as sample. (organic)
B	: Results were between the PQL and the IDL. (inorganic)
J	: Denotes an estimated value below the detection limit.
U	: Compound was analyzed for but not detected.
NA	: Not applicable.
UG/L	: Micrograms per liter.
MG/L	: Milligrams per Liter.
%REC	: Percent Recovery.
ND	: Parameter was analyzed for but not detected.
QCBLK	: Laboratory Method Blank.
QCLCS	: Laboratory Control Sample.
Qual.	: Qualifier.
UCL	: Upper Control Limit.
RL	: Reporting Limit
pCi/L	: picoCuries per Liter
pCi/G	: picoCuries per gram
MG/KG	: milligrams per gram
UG/KG	: micrograms per Kilogram

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Sample Date : 02/18/98
Receipt Date : 02/20/98
Report Date : 02/27/98

Client ID: PAINTED METAL

Quanterra ID : 16987-001

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilution
Mercury	EPA 7470	02/23/98	02/25/98	02/25/98	0.0004	MG/L	U	0.0008	0.20	4
Arsenic	EPA 6010	02/23/98	02/24/98	02/24/98	0.0052	MG/L	U	1.2	5.0	4
Barium	EPA 6010	02/23/98	02/24/98	02/24/98	1.06	MG/L		0.80	100	4
Cadmium	EPA 6010	02/23/98	02/24/98	02/24/98	0.068	MG/L		0.020	1.0	4
Chromium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0024	MG/L	U	0.040	5.0	4
Copper	EPA 6010	02/23/98	02/24/98	02/24/98	0.012	MG/L	U	0.10		4
Lead	EPA 6010	02/23/98	02/24/98	02/24/98	0.17	MG/L	B	0.40	5.0	4
Selenium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0088	MG/L	U	1.0	1.0	4
Silver	EPA 6010	02/23/98	02/24/98	02/24/98	0.0032	MG/L	U	0.040	5.0	4
Zinc	EPA 6010	02/23/98	02/24/98	02/25/98	805	MG/L		0.40		20

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Sample Date : 02/18/98
Receipt Date : 02/20/98
Report Date : 02/27/98

Client ID: CLEAR METAL

Quanterra ID : 16987-002

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	02/23/98	02/25/98	02/25/98	0.0004	MG/L	U	0.0008	0.20	4
Arsenic	EPA 6010	02/23/98	02/24/98	02/24/98	0.0052	MG/L	U	1.2	5.0	4
Barium	EPA 6010	02/23/98	02/24/98	02/24/98	1.17	MG/L		0.80	100	4
Cadmium	EPA 6010	02/23/98	02/24/98	02/24/98	0.061	MG/L		0.020	1.0	4
Chromium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0024	MG/L	U	0.040	5.0	4
Copper	EPA 6010	02/23/98	02/24/98	02/24/98	0.012	MG/L	U	0.10		4
Lead	EPA 6010	02/23/98	02/24/98	02/24/98	0.060	MG/L	B	0.40	5.0	4
Selenium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0088	MG/L	U	1.0	1.0	4
Silver	EPA 6010	02/23/98	02/24/98	02/24/98	0.0032	MG/L	U	0.040	5.0	4
Zinc	EPA 6010	02/23/98	02/24/98	02/25/98	747	MG/L		0.40		20

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Mercury
Matrix : Solid

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Client ID: NA

Quanterra ID : EXTBLK165811-

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	02/23/98	02/25/98	02/25/98	0.0004	MG/L	U	0.0008	0.20	4
Arsenic	EPA 6010	02/23/98	02/24/98	02/24/98	0.0052	MG/L	U	1.2	5.0	4
Barium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0016	MG/L	U	0.80	100	4
Cadmium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0016	MG/L	U	0.020	1.0	4
Chromium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0024	MG/L	U	0.040	5.0	4
Copper	EPA 6010	02/23/98	02/24/98	02/24/98	0.028	MG/L	B	0.10		4
Lead	EPA 6010	02/23/98	02/24/98	02/24/98	0.0036	MG/L	U	0.40	5.0	4
Selenium	EPA 6010	02/23/98	02/24/98	02/24/98	0.0088	MG/L	U	1.0	1.0	4
Silver	EPA 6010	02/23/98	02/24/98	02/24/98	0.0032	MG/L	U	0.040	5.0	4
Zinc	EPA 6010	02/23/98	02/24/98	02/24/98	0.020	MG/L	B	0.08		4

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP ICAP
Matrix : Solid

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Client ID: NA

Quanterra ID : QCLCS165880-

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutic
Arsenic	EPA 6010	NA	02/24/98	02/24/98	101	%REC				1
Barium	EPA 6010	NA	02/24/98	02/24/98	99	%REC				1
Cadmium	EPA 6010	NA	02/24/98	02/24/98	100	%REC				1
Chromium	EPA 6010	NA	02/24/98	02/24/98	100	%REC				1
Copper	EPA 6010	NA	02/24/98	02/24/98	101	%REC				1
Lead	EPA 6010	NA	02/24/98	02/24/98	99	%REC				1
Selenium	EPA 6010	NA	02/24/98	02/24/98	99	%REC				1
Silver	EPA 6010	NA	02/24/98	02/24/98	84	%REC				1
Zinc	EPA 6010	NA	02/24/98	02/24/98	97	%REC				1

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Client ID: NA

Quanterra ID : QCLCS165961-1

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutio
Mercury	EPA 7470	NA	02/25/98	02/25/98	103	%REC				1

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP ICAP
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Quanterra ID : QC8LK165880-

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Dilutic
Arsenic	EPA 6010	NA	02/24/98	02/24/98	-0.0027	MG/L	B	0.30	5.0	1
Barium	EPA 6010	NA	02/24/98	02/24/98	-0.0008	MG/L	B	0.20	100	1
Cadmium	EPA 6010	NA	02/24/98	02/24/98	-0.0014	MG/L	B	0.005	1.0	1
Chromium	EPA 6010	NA	02/24/98	02/24/98	-0.0012	MG/L	B	0.010	5.0	1
Copper	EPA 6010	NA	02/24/98	02/24/98	0.0031	MG/L	U	0.025		1
Lead	EPA 6010	NA	02/24/98	02/24/98	-0.0017	MG/L	B	0.10	5.0	1
Selenium	EPA 6010	NA	02/24/98	02/24/98	-0.0031	MG/L	B	0.25	1.0	1
Silver	EPA 6010	NA	02/24/98	02/24/98	0.0008	MG/L	U	0.010	5.0	1
Zinc	EPA 6010	NA	02/24/98	02/24/98	-0.016	MG/L	B	0.02		1

Quanterra Environmental Services

Babcock & Wilcox of Ohio, Inc.
One Mound Road
W-219A
Miamisburg, OH 45343

Project: Babcock & Wilcox of Ohio, Inc.

Category : TCLP Metals
Matrix : Solid

Client ID: NA

Sample Date : NA
Receipt Date : NA
Report Date : 02/27/98

Quanterra ID : QCBLK165961

Analyte	Method	Extract Date	Prep Date	Analyses Date	Result	Units	Qual.	Detection Limit	Regulatory Level	Diluti
Mercury	EPA 7470	NA	02/25/98	02/25/98	0.0001	MG/L	U	0.0002	0.20	1

Quanterra February 21, 1998 08:37 am
Account: 11091 Project: 145.04 EG & G Mound QAS No. 145.04 Rev. 2
Master Sample Login: 16987

Project Manager: A. Field

Draft: Final Entered and Reviewed by: Sue Wilson PM Review: Allen Field

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
16987-001	PAINTED METAL	Solid	18-FEB-98 13:00	20-FEB-98 09:15	27-FEB-98	FED-EX	3*		R6954-002
TCLP METALS PLUS CU, ZN.									
1	GW - Glass Jar-2oz	EXTMETAL/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359333:20)	
1		HG/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359333:20)	
1		ICAP/TCLP/Q4	S	COLD	26-FEB-98	17-AUG-98	S1C	(359333:20)	
1		RAD/CSCREEN/Q4	S	COLD	26-FEB-98	19-AUG-98	S1C	(359333:20)	
16987-002	CLEAR METAL	Solid	18-FEB-98 13:00	20-FEB-98 09:15	27-FEB-98	FED-EX	3*		R6954-001
TCLP METALS PLUS CU, ZN.									
1	GW - Glass Jar-2oz	EXTMETAL/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359334:20)	
1		HG/TCLP/Q4	S	COLD	26-FEB-98	18-MAR-98	S1C	(359334:20)	
1		ICAP/TCLP/Q4	S	COLD	26-FEB-98	17-AUG-98	S1C	(359334:20)	
1		RAD/CSCREEN/Q4	S	COLD	26-FEB-98	19-AUG-98	S1C	(359334:20)	

3*=Sample has not been rad screened.

Babcock & Wilcox of Ohio (Mound)

CHAIN-OF-CUSTODY RECORD

2/18/98

SAMPLE ID	Project Name / Location	Grid or Serial #	Collection			Sample Waste Type	Comp. or Grab	No. of Containers	Collector	
			Date	Time	Place				Print	Signature
Painted Metal	MH Paint Shed	N/A	2/18/98	13:00		metal squares	Grab	1	Dan Diemunsch	[illegible]
Clear Metal	MH Paint Shed	N/A	2/18/98	13:00		metal squares	Grab	1	Dan Diemunsch	[illegible]

Relinquished by:	Date	Received by:	Date	Relinquished by	Date
Print Dan Diemunsch	2-18-98	Print GEORGE W Byrd	2/20/98	Print	
Signature [illegible]	Time 13:00	Signature [illegible]	Time 0915	Signature	Time
Received by	Date	Relinquished by	Date	Received by:	Date
Print		Print		Print	
Signature	Time	Signature	Time	Signature	Time

Chain of Custody record is required documenting the date and time of all persons having possession of the samples from time of collection until the final disposition

Please return copy of Chain of Custody Record with the analytical report

Terry 29° UUC-014273

SIC

Analytical Request Form

1 week turnaround time as discussed with Allen Fields

BABCOCK & WILCOX OF OHIO (MOUND)

Sample Destination:	Quanterra
Transport:	Fed Ex
Project Name:	Paint Shed Exterior
Puchase Order:	17052
Waste Type:	metal squares
Sample Method:	Grab
Sample Collector:	Dan Diemunsch
Sample Date:	18-Feb-98

Possible Chemical Hazard Unknown
Possible Radiological Hazard none suspected

SAMPLE ID	Sample Size	TCLP VOA	TCLP SVOA	TCLP Metals (+Cu & Zn)	TCLP Herbicides	TCLP Pesticides	PCBs	Total CN	Reactive Sulfides	pH	Paint Filter	Gross Alpha/Beta	Gamm Spec	Alpha Spec (U, Pu & Th)	Comments
Painted Metal	approx 50 g			X											suspect lead
Clear Metal	approx 50 g			X											based paint

Environmental Services

MC

U14273

Login No.: 1698

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: BABCOCK & WILCOX OFOH

Date: 2-20-98 Time: 0915

Project No: 145.04

Initiated by: [illegible]

Shipper/No: FEDEX 4186 4806 1993

RFA/COC Numbers:

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below): _____

☑ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 22°C

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is".

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) [illegible] Date: 2-20-98

Project Management Review: [illegible] Date: 2-23-98

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

LEAD/ASBESTOS SURVEY REQUEST

COPY

A. PROJECT ENGINEER COMPLETES THIS SECTION

PROJECT TITLE: MAIN HILL NON-RAD

CHARGE NO.: E00194

LOCATION (CRAWL SPACE, PENTHOUSE, ETC.) AND TYPE OF MATERIAL TO BE SAMPLED:

REQUEST LEAD & ASBESTOS SURVEY FOR BLD P.S.
BUILDING SCHEDULED FOR REMOVAL AUG '98.

KNOWN HISTORICAL ASBESTOS INFORMATION (Review the drawings for this project. If asbestos is identified briefly indicate the location, quantity, and identity.)

Yes

PROJECT ENGINEER:	PHONE:	DATE SUBMITTED:
G. GALLAWAY	3124	~~4/98~~ 11/13/97

B. INDUSTRIAL HYGIENE COMPLETES THIS SECTION

FINDINGS:

- ~ 30ft of copper piping is insulated utilizing positive asbestos containing pipetape.
- Flooring materials assumed to contain asbestos.
- Three paint samples collected of interior cream/white paint, gray floor paint, and silver exterior paint. Sample results indicate all three paints are lead containing.

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:

No material to be disturbed without Industrial Hygiene notification. Submittal of OEPA / RAPCA asbestos demolition notifications are required to be submitted prior to demolition of the building.

DATE:	APPROVED:
2-16-98	[signature] AHAS, AHES INDUSTRIAL HYGIENE REP.

ML-8682 (3-94)

LEAD

~~ASBESTOS~~ BULK SAMPLE DATA SHEET

PROJECT TITLE: Paint Shop Demolition	Page No. 1 of 1
BUILDING/LOCATION: P.S.	SURVEY DATE: 2-9-98
SAMPLED BY: [redacted] / [redacted]	HP NUMBER: 8378

HOMO AREA #	SAMPLE NUMBER	AMT.	SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NONFRI.	COND.	SAMPLE RESULTS	COMMENTS
1	980209 12		East Room South wall	Cream & White layers interior bldg. paint	N/A	Poor		
2	980209 13		South entrance of Bldg. on West side.	Exterior Grey Paint	N/A	Poor		
3	980209 14		South entrance of Bldg. on west side	Grey floor paint	N/A	Poor		

ADDITIONAL COMMENTS:

ML-9706

DATA CHEM LABORATORIES
A SORENSON COMPANY

2/13/98

Submitted To:
Matthew Uelen
Babcock & Wilcox of Ohio
1 Mound Ave.
Miamisburg, OH
45342

Reference Data:	Lead
Sample Location:	Not Available
Sample Type:	Paint Chip
Client Sample No.:	98020912 through 98020914
PO #:	Not Available
Method Reference:	3050 / 6010
Sample Set ID#:	98-S-0785
DATACHEM Lab No.:	98-04426 through 98-04428
Preparation Date:	02/13/98
Analysis Date:	02/13/98

The samples were prepared in accordance with EPA method 3050. The samples were then analyzed in accordance with EPA method 6010 using a Perkin Elmer 3000XL ICP spectrometer.

The results are in the enclosed data table.

Robert R. Liversage
Analyst

Reviewer

SALT LAKE CITY OFFICE
969 WEST LAVOY DRIVE
SALT LAKE CITY, UTAH 84123-2547
801 266-7700, FAX 801 266-9902

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3708
513 733-5336, FAX 513 733-5347

MARYLAND OFFICE
17524 MACOUFF AVENUE
OLNEY, MARYLAND 20832
301 924-1987, FAX 301 924-1981

LEADING ANALYTICAL CHEMISTRY INTO THE 21ST CENTURY™

98-S-0785

Results
mg/Kg (ppm)

Client #	DCL #	Pb
98020912	98-04426	76.
98020913	98-04427	19000.
98020914	98-04428	61.
LOD		20.

ND indicates the value is below the limit of detection (LOD)

Robert R. Liversage
Analyst

Reviewer

EG&G MOUND APPLIED TECHNOLOGIES

REQUEST FOR LABORATORY ANALYTICAL SERVICES AND CHAIN-OF-CUSTODY

98-S-0705

REPORT RESULTS TO

Name: Matt Uelen Title: IH

~~EG&G Mound Applied Technologies~~ BWO

P.O. Box 3000 Bldg. ~~B-457~~ A273

Miamisburg, Ohio 45343-3000

Telephone No. (~~513~~) [redacted] 937 · 865-5922 FAX No. (513) 865-~~4645~~ 4730

Date Results Required: RUSH Phone Results: ☐

Special Instructions: (method, limit of detection, etc.)

Rush analysis
Fax results ASAP

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request. Enter a '/' if preservative added.)

SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Lead Content										98 - FOR LAB USE ONLY (task #, QC #, etc.)
980209 12	2-9-98	Bulk	—	X										011156
980209 13	↓	↓	—	X										011157
980209 14	↓	↓	—	X										011158
														CMW

CHAIN OF CUSTODY

Relinquished by: [signature]	Date/Time 2-12-97	
Received by:	Date/Time	
Relinquished by:	Date/Time	
Received by:	Date/Time	
Method of Shipment:		

Preservation Method:

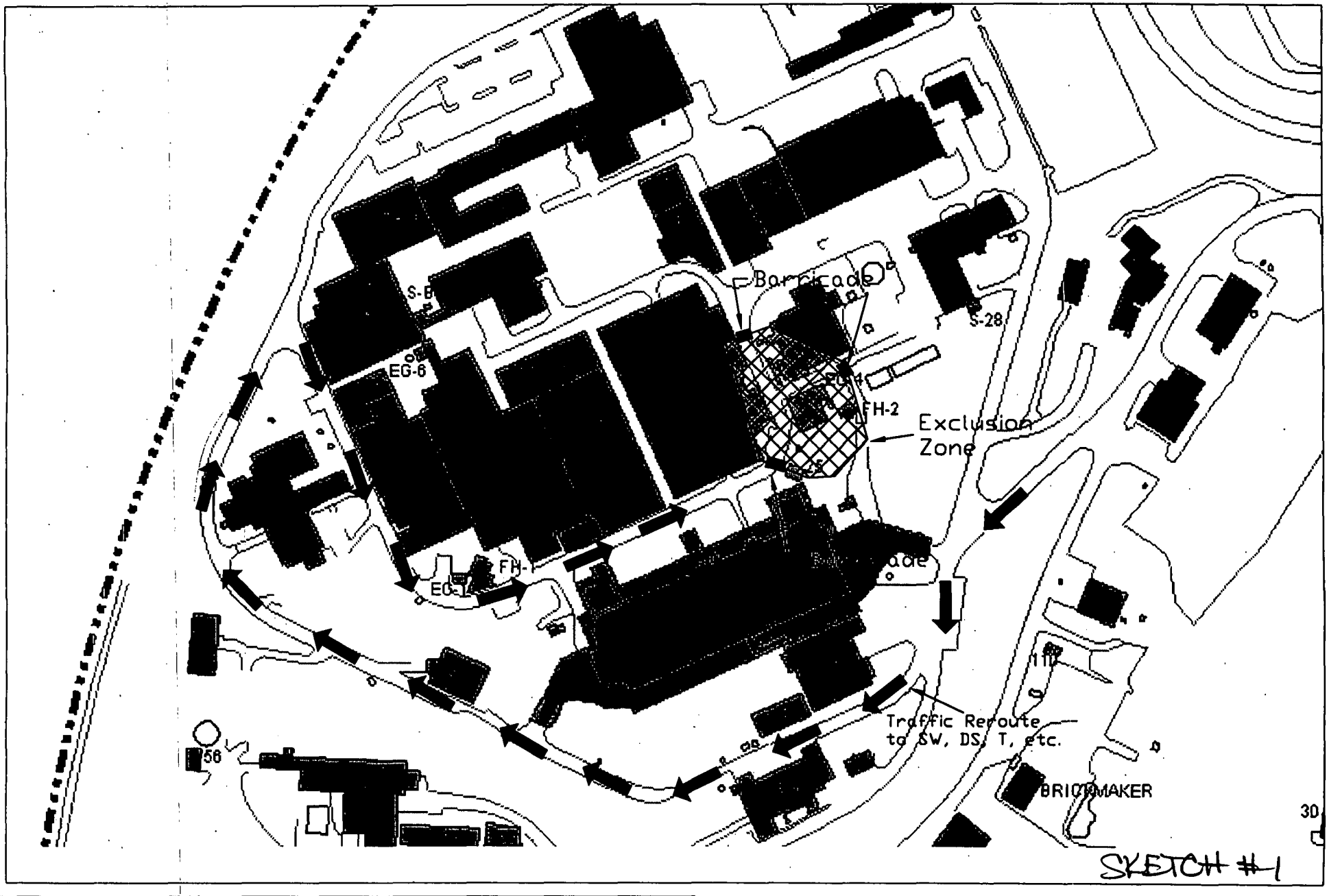
Analyzed by: Date:

Received at Lab By: [signature] Date/Time 2-12-98

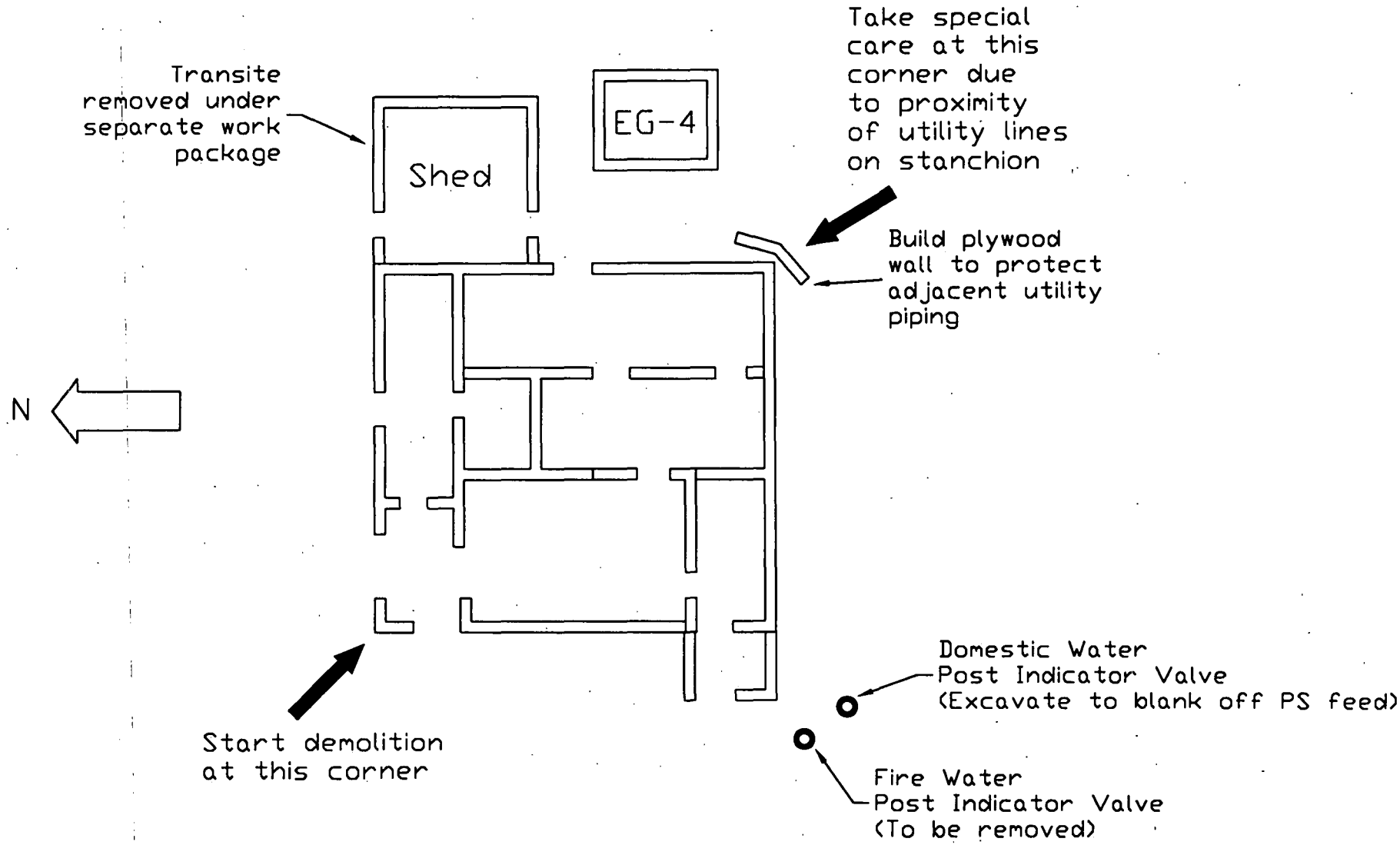
Name of Lab:

ML-9222 (9-94)

Appendix D
Sketches

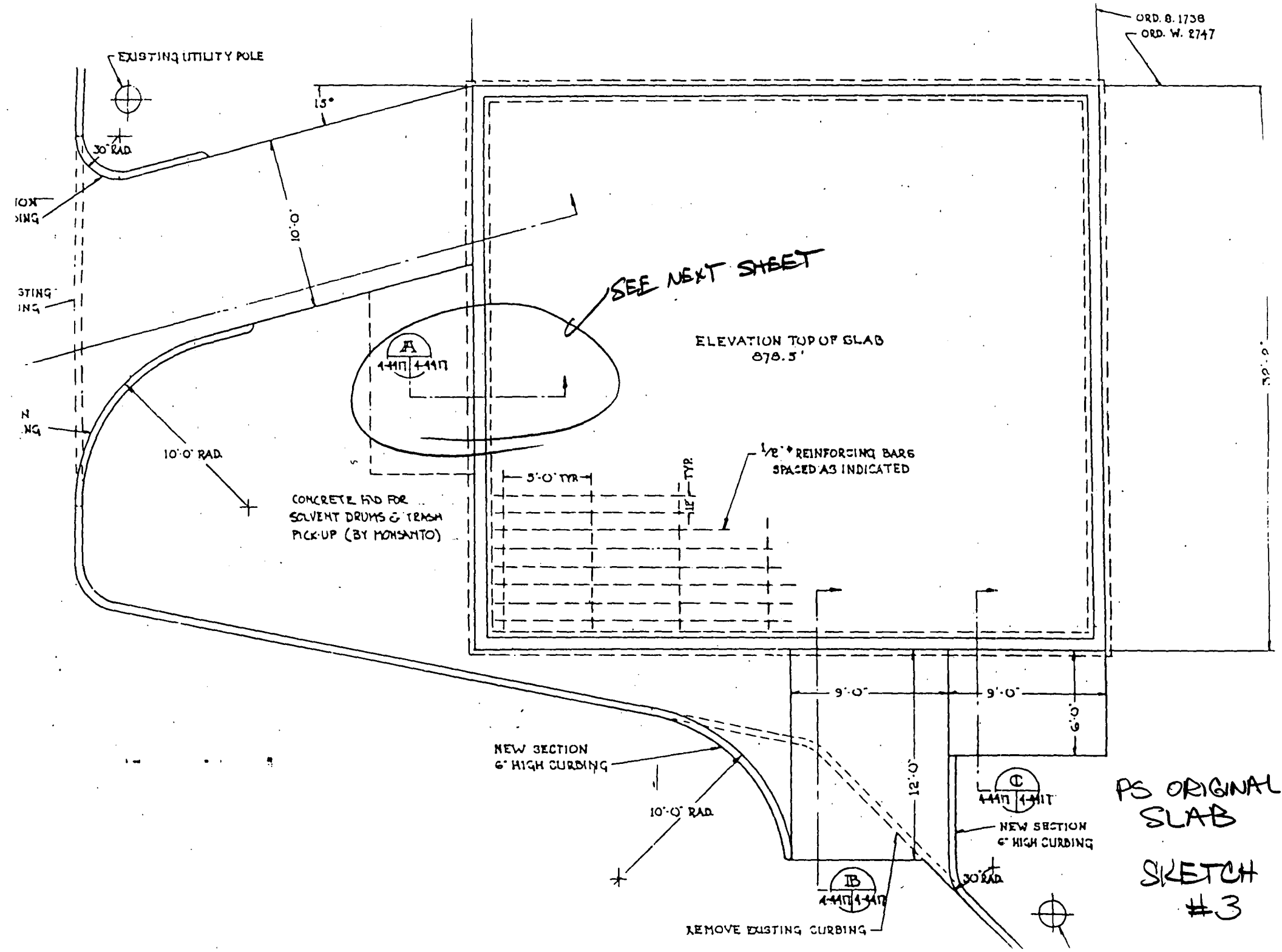


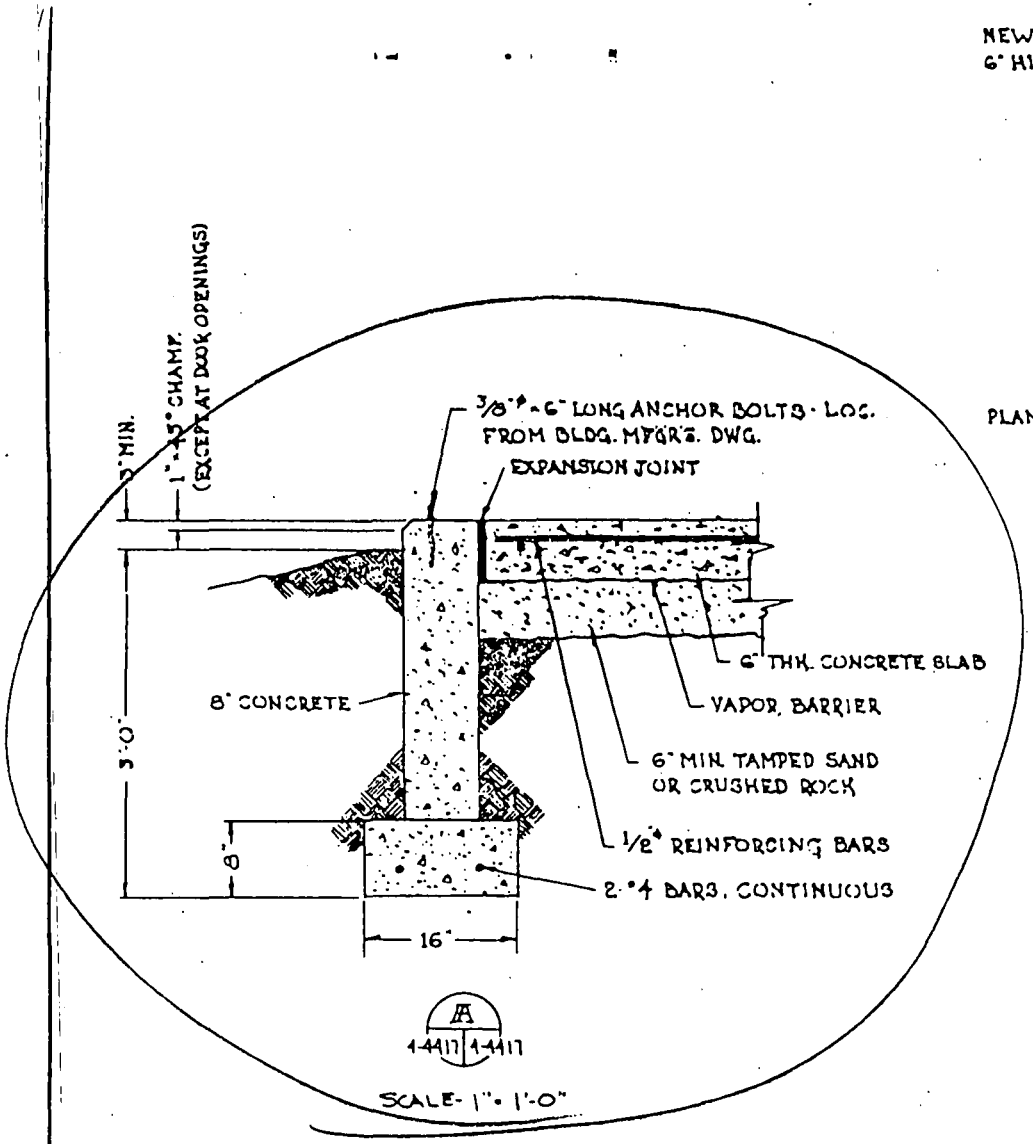
Main Hill Non-Rad	Dwg. No. MHNR-PS-005	Rev: 0
Drawing: Traffic Reroute During PS Demo	By: R.C. Ransbottom	Date: Aug. 3, 1998

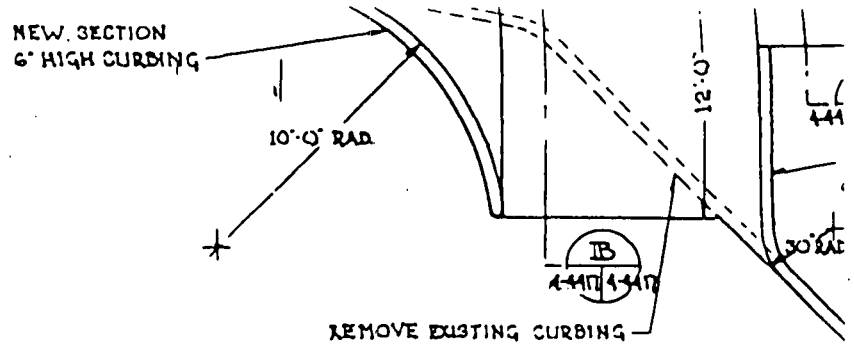


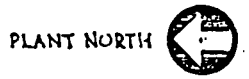
SKETCH #2

Main Hill Non-Rad	Dwg. No. MHNR-PS-010	Rev: 1
Drawing: Demolition of Building	By: R.C. Ransbottom	Date: Feb. 8, 1999

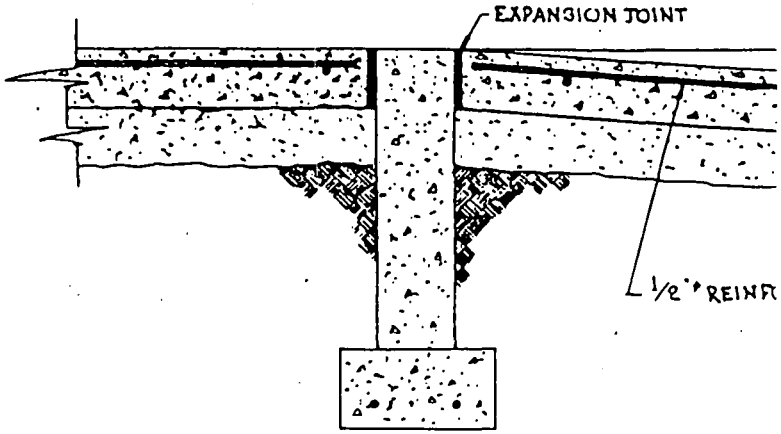

ORD. B. 1738
ORD. W. 2747
EXISTING UTILITY POLE
15°
30' RAD.
10'-0"
SEE NEXT SHEET
ELEVATION TOP OF SLAB
878.5'
A
1-1117 1-1117
10'-0" RAD.
CONCRETE PAD FOR
SOLVENT DRUMS & TRASH
PICK-UP (BY MONSANTO)
5'-0" TYP.
1'-0" TYP.
1/2" ϕ REINFORCING BARS
SPACED AS INDICATED
9'-0"
9'-0"
6'-0"
12'-0"
NEW SECTION
6" HIGH CURBING
10'-0" RAD.
C
1-1117 1-1117
NEW SECTION
6" HIGH CURBING
30' RAD.
B
1-1117 1-1117
REMOVE EXISTING CURBING
PS ORIGINAL
SLAB
SKETCH
#3







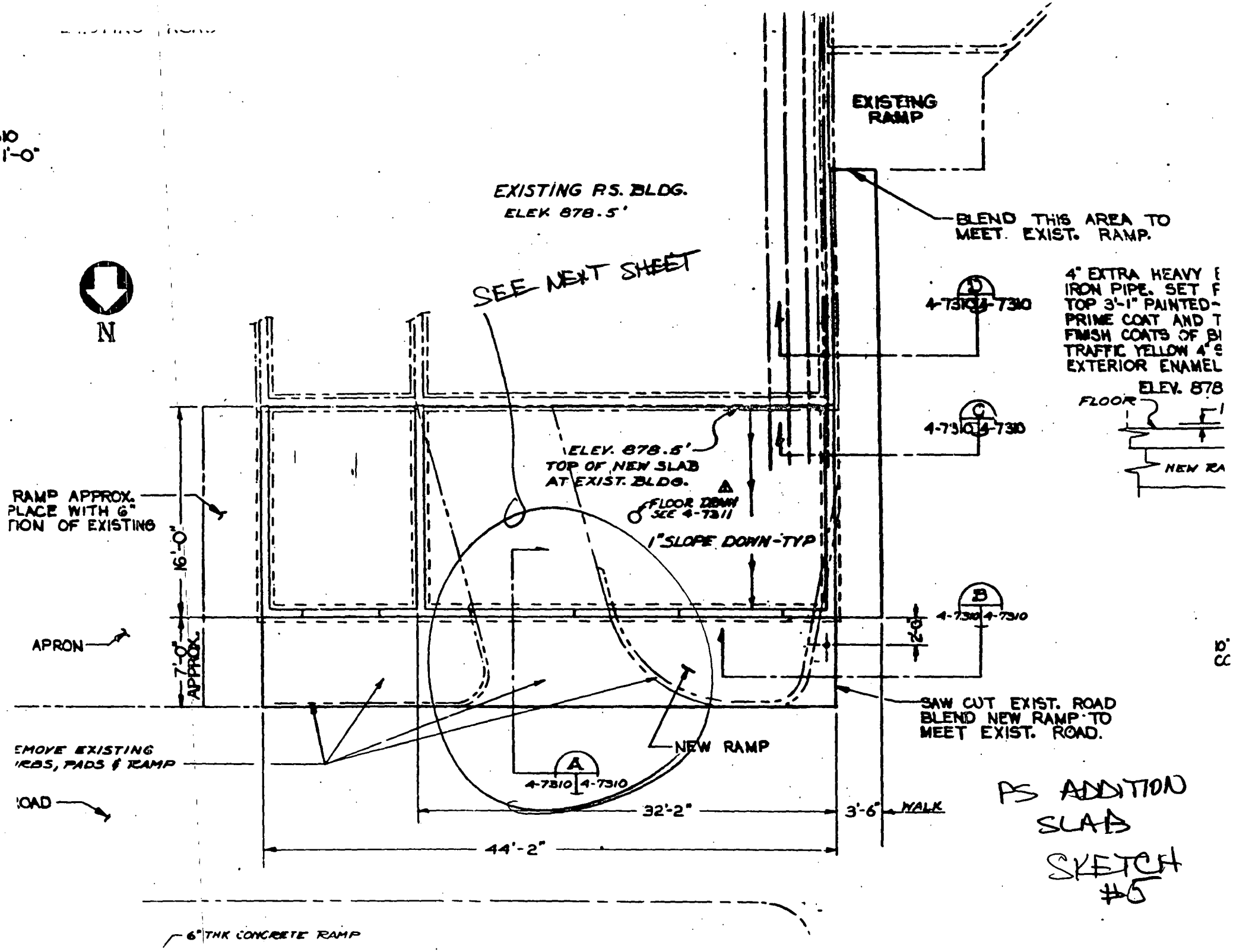
FOUNDATION PLAN
SCALE- 1/4" = 1'-0"

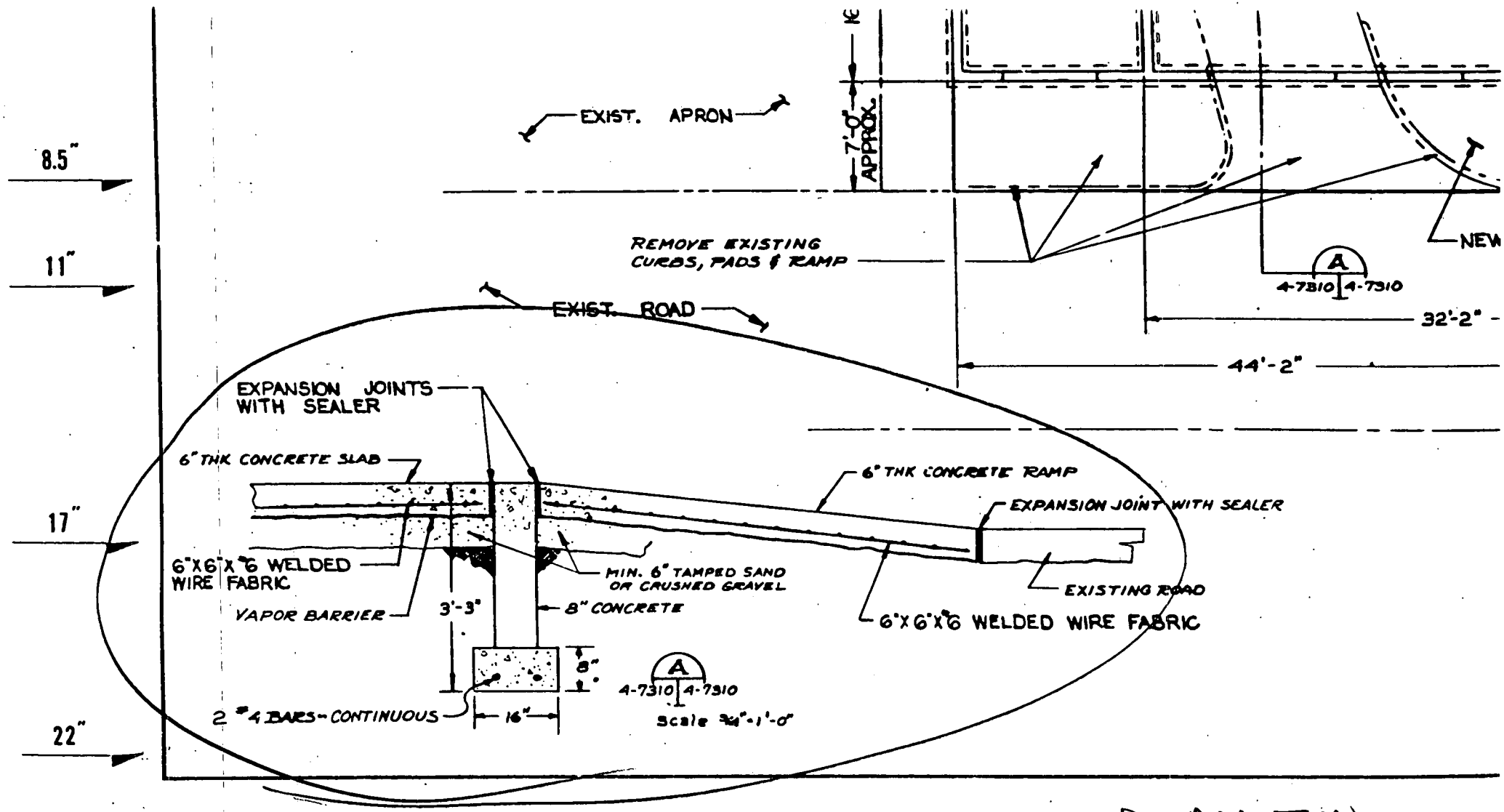


CRONAFLEX-300-11-61-DAYTON BLUE PRINT CO.

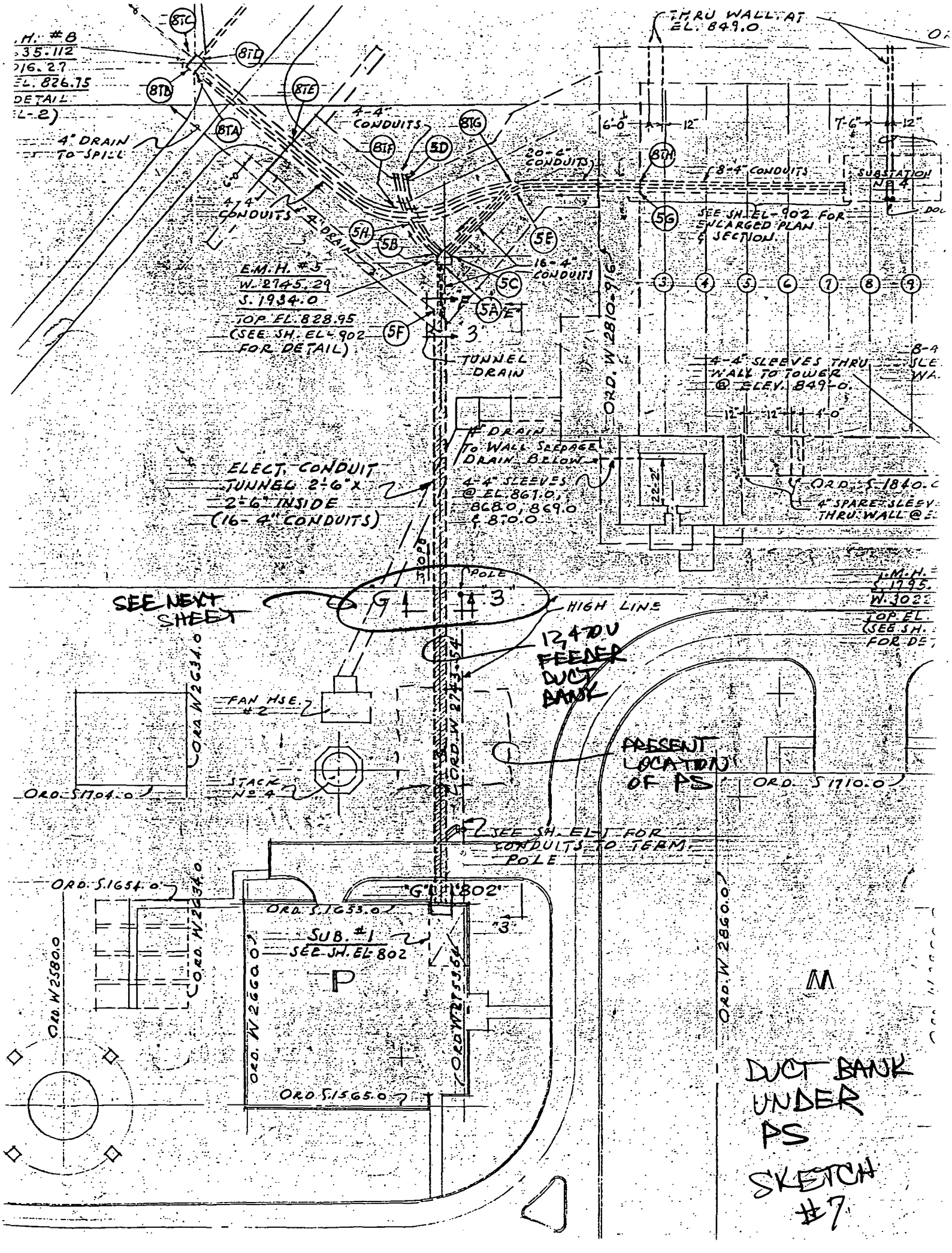
PS ORIGINAL SLAB

CROSS-SECTION SKETCH #4

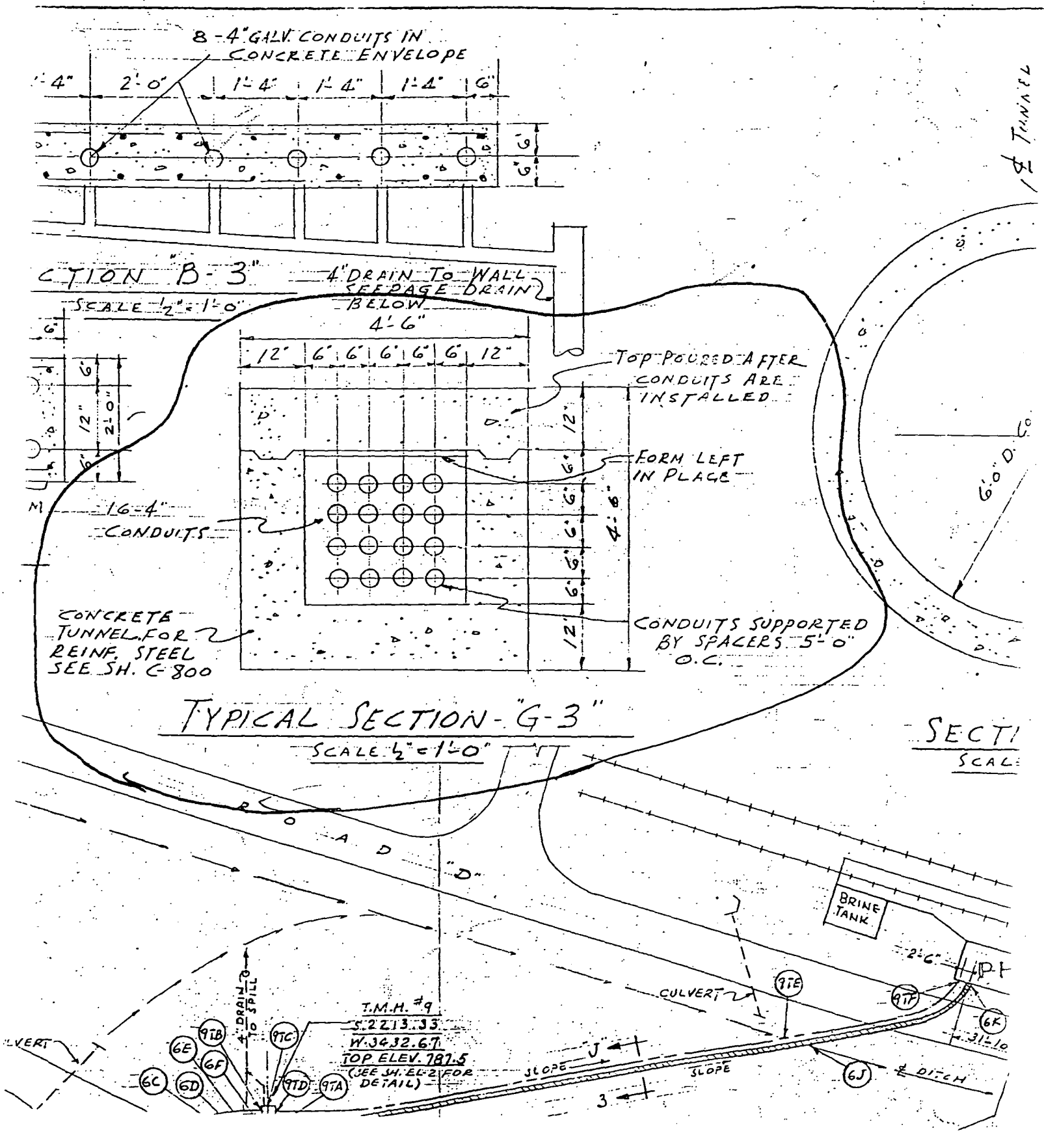

EXISTING RAMP
EXISTING P.S. BLDG.
ELEV. 878.5'
SEE NEXT SHEET
BLEND THIS AREA TO MEET EXIST. RAMP.
4" EXTRA HEAVY
IRON PIPE. SET
TOP 3'-1" PAINTED
PRIME COAT AND
FINISH COATS OF
TRAFFIC YELLOW 4"
EXTERIOR ENAMEL
ELEV. 878
FLOOR
NEW RA
D
4-7310 4-7310
C
4-7310 4-7310
B
4-7310 4-7310
A
4-7310 4-7310
N
ELEV. 878.5'
TOP OF NEW SLAB
AT EXIST. BLDG.
FLOOR DRAIN
SEE 4-7311
1" SLOPE DOWN-TYP
RAMP APPROX.
PLACE WITH 6"
TION OF EXISTING
16'-0"
APRON
7'-0" APPROX.
EMOVE EXISTING
RBS, PADS & RAMP
OAD
NEW RAMP
SAW CUT EXIST. ROAD
BLEND NEW RAMP TO
MEET EXIST. ROAD.
32'-2"
3'-6"
WALK
44'-2"
6" THK CONCRETE RAMP
PS ADDITION
SLAB
SKETCH
#5



PS ADDITION
SLAB
CROSS-SECTION
SKETCH
#6


THRU WALL AT EL. 849.0
4" DRAIN TO SPILL
4-4" CONDUITS
20-4" CONDUITS
8-4" CONDUITS
SUBSTATION No 4
SEE SH. EL-902 FOR ENLARGED PLAN & SECTION
4-4" CONDUITS
4" DRAIN
E.M.H. #5
W. 2745.29
S. 1934.0
TOP EL. 828.95
(SEE SH. EL-902 FOR DETAIL)
16-4" CONDUITS
TUNNEL DRAIN
ORD. W 2810.916
4-4" SLEEVES THRU WALL TO TOWER @ ELEV. 849'-0.
DRAIN TO WALL SEEPAGE DRAIN BELOW
ELECT. CONDUIT TUNNEL 2'-6" x 2'-6" INSIDE (16-4" CONDUITS)
4-4" SLEEVES @ EL 867.0, 868.0, 869.0 & 870.0
ORD. S 1840.0
4" SPARE SLEEVE THRU WALL @ EL
SEE NEXT SHEET
POLE
HIGH LINE
12,470V FEEDER DUCT BANK
ORD. W 2743.54
ORD. W 2634.0
FAN HSE. #2
STACK No 4
ORD. S 1704.0
PRESENT LOCATION OF PS
ORD. S 1710.0
SEE SH. EL-1 FOR CONDUITS TO TERM. POLE
ORD. S 1654.0
"G" 802
ORD. S 1653.0
SUB. #1
SEE SH. EL 802
ORD. W 2660.0
ORD. W 2580.0
ORD. W 2853.54
ORD. S 1565.0
ORD. W 2860.0
DUCT BANK UNDER PS
SKETCH #7

DUCT BANK
UNDER PS
CROSS-SECTION
SKETCH #8



Appendix E
GENERAL WORK PLAN CHECKLIST

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.		
I. 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:		
Electrical Distribution System	YES	
Steam and Condensate	YES	
Domestic Water (Done previously)	NO	
Sanitary Sewer	YES	
Fire Suppression (Done previously by MSR)	NO	
2. What are the required safety systems? **Are all required physical safety systems operational and functioning?**		
List Systems Below:	NO	
None required		
3. Have contingencies been addressed for any potential degradation of the above safety system?	N/A	
4. Are required utilities identified? **Are they operational?**		
List Below:	YES	
Electrical GFCI circuits needed for saw cutting conduits and pipe.		
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	
None required		
6. Has the area/facility been adequately characterized to safely perform the work?		
Physical?	YES	
Chemical?	YES	
Radiological?	YES	
Asbestos?	YES	

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)
7. Based on above characterization, are there any hazardous materials or waste which require abatement?	NO	
Asbestos previously abated under separate work package.	-	
Lead paint and walls do not require abatement	-	
8. Have engineering controls been established for the above identified items?	N/A	
9. Identify unique or special cleaning materials, equipment or waste disposal requirements. List Below:		
Place metal wall material in roll-off for recycling	YES	
Separate any other construction material		
10. **Is appropriate storage available for flammable material?**	-	
11. Have materials that require MSDSs been identified? **Are the MSDS sheets available at the worksite?** List Below:		
None Required	NO	
12. Have lighting and/or emergency lighting requirements been addressed? **Is required lighting available and functioning?**		
Temporary lighting while saw cutting conduits and pipe	NO	
13. Has required personal protective clothing been specified in the JSHA, RWP or HASP? **Is it available at the Job Site?**	YES	
Hard hat, Safety Glasses, Safety Shoes, Orange Vests around heavy duty equipment, hearing protection when using shear and grappler, gloves		
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.**		
As required in IS&H manual	YES	
15. Will elevated work surfaces be required? Will fall protection be required? **Training verified?**	NO	
None required		
16. Will confined space entry be necessary? **Training verified.**	NO	
None required		
17. Will excavating/trenching be necessary? Will shoring be required?	NO	
Excavation for water shut-off done by previous MSR		

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)
18. Is scaffolding required? If so, inspection & tagging per MD-10286 M5 is required. **Has inspection been completed?**	NO	
19. Will air sampling and monitoring capabilities be required due to radioactive or Industrial Hygiene concerns?	YES	
Sample for fugitive dust / Lead dust		
1.2 Traffic/Work Site Control		
1. Any temporary facilities required? (i.e., rest rooms, change rooms, etc.) List Below:	NO	
None required		
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	
See drawing MHNR-PS-005		
3. Have security escort requirements been provided?	NO	
None required		
4. Has transport routing of hazardous material been established?	NO	
None required		
5. **Are personnel access controls established? (i.e., work zones required and posted)** List Below:	-	
6. Has impact to adjacent buildings been considered? (i.e., ventilation, utilities, access, etc.)	YES	
Access blocked at times to parts of M, P, 25 and T east tower		
1.3 Emergency Preparedness		
1. Has an Emergency Communications system been established? **Is it available and verified to be functioning?**	YES	
Radios	YES	

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/ NA/Open)
2. Has the necessary fire equipment been identified? **Is it in place, functional and properly labeled?**		
A. Sprinklers		
B. Pull Boxes		
C. Fire/Smoke Alarms		
D. Extinguishers	YES	
E. Hydrants		
F. Stand Pipes		
G. Unique systems (i.e., Halon, Sand, Foam, etc.)		
3. **Are evacuation routes designated and posted or building exit signs clearly visible?**	-	
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	
None required		
6. Are safety showers, eyewash stations, or decon facilities required? **Are they in place and functional?**	NO	
None required		
7. Does the work affect evacuation routes or assembly areas for adjacent facilities? **Have appropriate notifications been made to affected facilitlies?**	NO	
1.4 Radioactive Material Handling		
1. Are approved containers available?	NO	
None required		
2. Criticality or other alarms identified? (i.e., air monitoring) **Are the alarms in place and operational?**		
3. Are approved storage and/or staging areas available for radioactive materials?	NO	
None required		
4. Is there an approved disposal site and waste profile for all waste to be generated?	NO	
None required		

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/ NA/Open)
1.5 Radiation Protection		
1. Are radiation surveys required? **Are they current?**		
A. Characterization/Assessment Results	YES	YES
B. Core Boring Results	NO	
C. Special Survey Results	NO	
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?		
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	
1.6 Environmental Protection		
1. Are effluent control systems required? **Are they operational, and do they meet appropriate specifications?** List Below:	NO	
None required		
2. Have environmental liquid and airborne sampling and monitoring needs been identified? List Below:	YES	
Fugitive dust		
Lead paint dust		

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/ NA/Open)
3. Are permit modifications/notifications required? **Have modifications/ notifications been completed?** List Below:	YES	
RAPCA		
4. OEPA Notification of Demolition & Renovation filed with RAPCA? (10-day or 20-day notification period required)	Will Be	
5. Are NESHAPs calculations required to determine potential dose at the fenceline? **Has the calculation been completed?**	YES	
I.7 Equipment/Hardware Material		
1. Are any special tools or equipment required to complete activity? List Below:	YES	
Track Hoe mounted Grappler		
Track Hoe mounted Shear		
Roll-offs		
2. Are items requiring calibration identified? **Is the calibration current?** List Below:	NO	
None required		
3. Are calibration procedures available for the above items?	N/A	
4. Has a preventative maintenance program for critical equipment been established? **Is it current and up to date?**	YES	
Heavy Duty equipment		
II. PROCEDURES AND MANAGERIAL CONTROLS		
II. 1 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:	YES	
JSWP		
JSHA		

General Work Plan Checklist

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	Status	
	Work Planning (Yes/No)	Pre-Job (Complete/ NA/Open)
2. Are any permits required? (i.e., RWP, burn, excavation, penetration, etc.) **Are they available at the work site?** List Below:	YES	
3. Have the following been developed?		
A. Davis Bacon Determination (contact General Superintendant)	N/A	
B. Sub Contractor Evaluation (contact General Superintendant)	N/A	
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:	YES	
When heavy duty equipment has limited access, evaluate appropriate manual methods for dismantlement.		
5. Are permanent records (data sheets, log, etc.) required? List Below:	YES	
Superintendent Log		
6. Has a hazard categorization been performed per DOE STD-1027 to determine whether the project could be considered a nuclear facility?	YES	
Not a nuclear facility, but USQ written to cover impact to T Building		
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?		

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)
II. 2 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		
2. Are any system outages required? **Has coordination with building or site been completed?** List Below:	NO	
None Required		
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. 3 Procurement		
1. Has a procurement plan been established for key items or services to ensure delivery to job site when needed? List Below:	NO	
None required		

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)
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	
Standard maintenance training		
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	N/A	
1. Have methods to be used for control of contractors performing work been addressed?	N/A	
A. Specifications		
B. Purchase Order		
C. Inspections		
D. Others		

PRE-JOB BRIEFING RECORD

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A. Time, Date and Location of PJB: _____

B. Applicable Procedure Number: _____

C. Job Description: _____

D. Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

BRIEFING CHECK OFF LIST

JOB SUPERVISOR

	Check When Completed*
1. Scope of work reviewed:	
a. The assignments and responsibilities of each individual were specifically identified.	_____
b. The current facility conditions, tagouts, valve lineups, and work permits relating to this job have been discussed	_____
c. The precautions, limitations, initial conditions, and prerequisites were adequately reviewed.	_____
d. Potential hazards associated with the job have been discussed (JSHA)	_____
e. Specific work covered by RWP (any limitations)	_____
2. All necessary safety equipment and PPE is available.	_____
3. All required personnel have satisfied initial and continuing training requirements to perform The job including training specified on the RWP.	_____
4. All required personnel have reviewed the applicable documentation listed in B. above As it applied to their part of the job.	_____
5. Reliable and adequate communications are available.	_____
6. The required tools and equipment are available.	_____
7. Appropriate log sheets, material transfer, and data recording forms are available.	_____
8. All required documents available at the PJB are approved and current.	_____

**For items not applicable, write in N/A.*

PRE-JOB BRIEFING RECORD (Page 2)

9. Related past problems, unusual events, and occurrences were discussed _____
10. All personnel understand egress procedures and egress areas. _____
11. RWP requirements:
    a. Radiological conditions of the workplace. This should include a review of the most recent Survey of the area. It is important to ensure that the survey is specific to the work area. In cases where a system of unquantified activity will be bereted, discuss the "anticipated activity" to be expected after the breech. _____
    b. Dosimetry requirements. _____
    c. Protective clothing and respiratory protection requirements (cite location of doffing instructions). _____
    d. Job coverage requirements (continuous vs. intermittent). Explain that continuous means "within line of sight and field of control of RCT at all times." _____
    e. Stop Work Levels (SWLs) and other applicable limitations. _____
    f. POCs/RCTs must discuss the type of radiological monitoring to be employed at the job site during and subsequent to the work. Personnel assigned to do the work MUST EXPRESS THEIR FULL UNDERSTANDING of the monitoring to be employed and of the alarm signals if applicable. Workers MUST CONCUR in the type and scope of monitoring planned at the job site before work can begin. _____
    g. Dose reduction/contamination control techniques (e.g., use of; shielding, capture velocity, containment devices).
    h. Personnel and equipment monitoring requirement (including control point locations). _____
    i. Bioassay requirements. Discuss: isotopes to be encountered, proper use of the bioassay information form, use of nosewipes as appropriate (and disposition of nosewipe results), and bioassay frequency if this will be a long term task. _____
    j. Effective date and expiration date of RWP reviewed. _____
    k. Briefly cover WORKER RESPONSIBILITIES (Article 123 of DOE RADCON MANUAL) _____
12. Necessary instrumentation is adequately tested and calibrated. _____
13. Key task steps in which radiological conditions may change and where the RCT will perform in-process surveys to assess radiological conditions. _____
14. If an ALARA Job Review was required, then this would be an appropriate time for a review. _____
15. Radiological hold points, if any. _____
16. Discuss any appropriate response actions to emergencies, such as CAM, alarms, criticality alarms, or increasing radiation levels. _____
17. When radiological health monitoring (e.g. asbestos) is to be employed at the job site during and subsequent to the work, the personnel assigned to do the work MUST EXPRESS THEIR FULL UNDERSTANDING of the monitoring to be employed and of the alarm signals if applicable. Workers MUST CONCUR in the type and scope of the monitoring planned at the job site before work can begin. _____
18. Communications and coordination with other groups. _____
19. Provisions for waste management and job cleanup. _____
20. Open floor to questions. _____

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to ensure safe conduct of the job.

_____

Job Supervisor/Foreman Date

***NOTE:** Completed pre-job briefing sheet must be retained with the work package or maintained in your record file.*

PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A.	Time, Date and Location of PJB:
B.	Applicable Procedure Number:
C.	Job Description:
D.	Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

JOB SUPERVISOR – This is a reminder checklist for the update. The supervisor need only discuss and note changes from the previous day's briefing or update. (Use NC for No Change).

1. Any changes/revisions to safety envelop for work:
   a. New/added assignments and responsibilities of any individual
   b. Changes in facility conditions, tagouts, valve lineups
   c. New or changed precautions/hazards
   d. Valid RWP or other required work permits still in effect
2. Adequate supply of PPE
3. New training, any training coming up on expiration
4. New changes to relevant Category "A" or Category "B" procedures.
5. Equipment and tools calibrations in effect
6. Relevant lessons learned, critique reports
7. RWP revisions:
   a. Changes to radiological conditions of the workplace, particularly with respect to postings.
   b. Change in scope, especially if it is a reduction in scope or Stop Work Levels.
8. Changes to radiological and/or health monitoring.
9. Open the floor to questions.

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

Job Supervisor/Foreman _____ Date _____

NOTE: Completed pre-job update sheet must be retained with the work package or maintained in your record file.

Appendix F
POST JOB CONFERENCE

JOB SPECIFIC WORK PLAN

POST JOB CONFERENCE

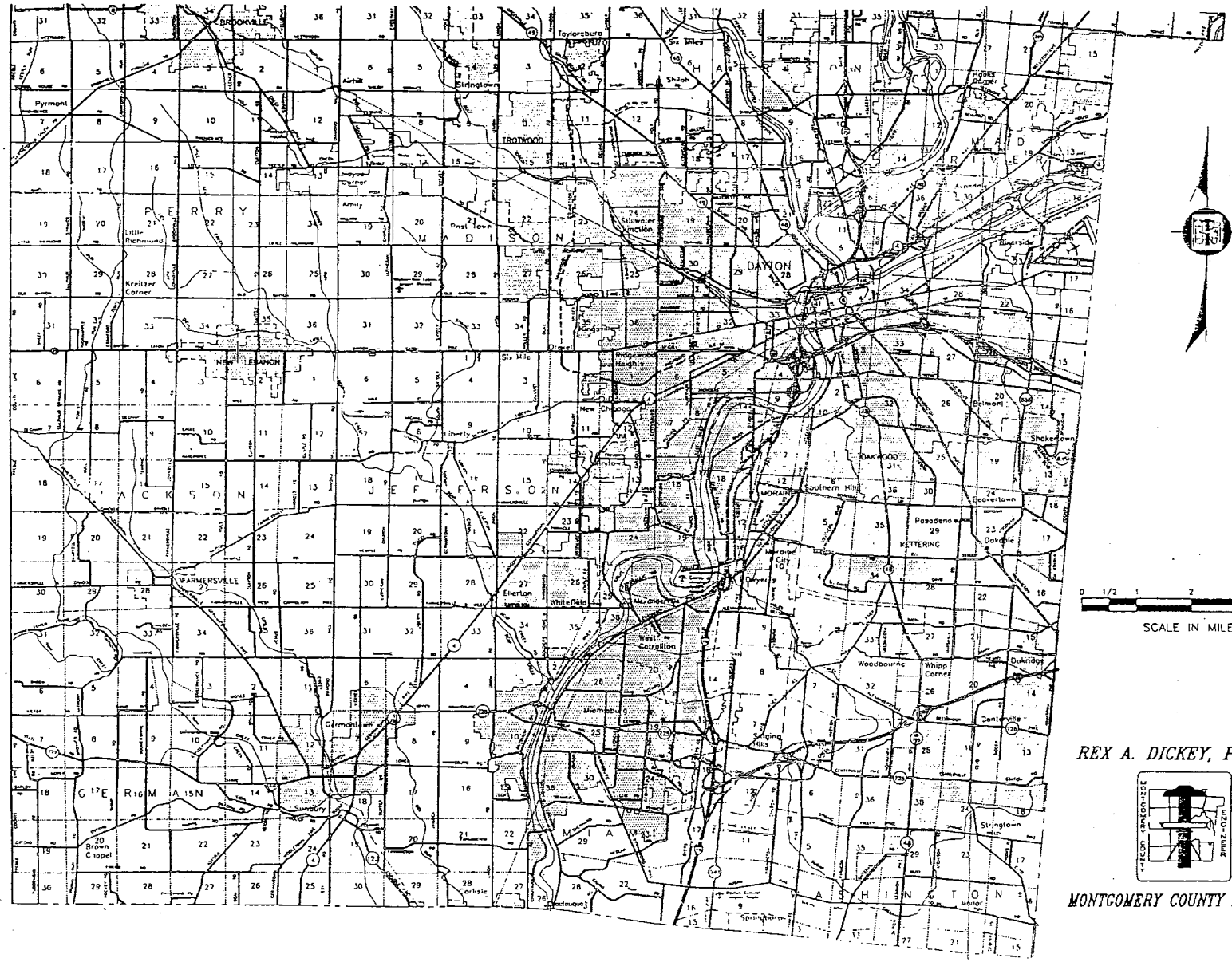
What went well?

What could be improved?

Other Comments:

Page Redacted

Contains Proprietary Information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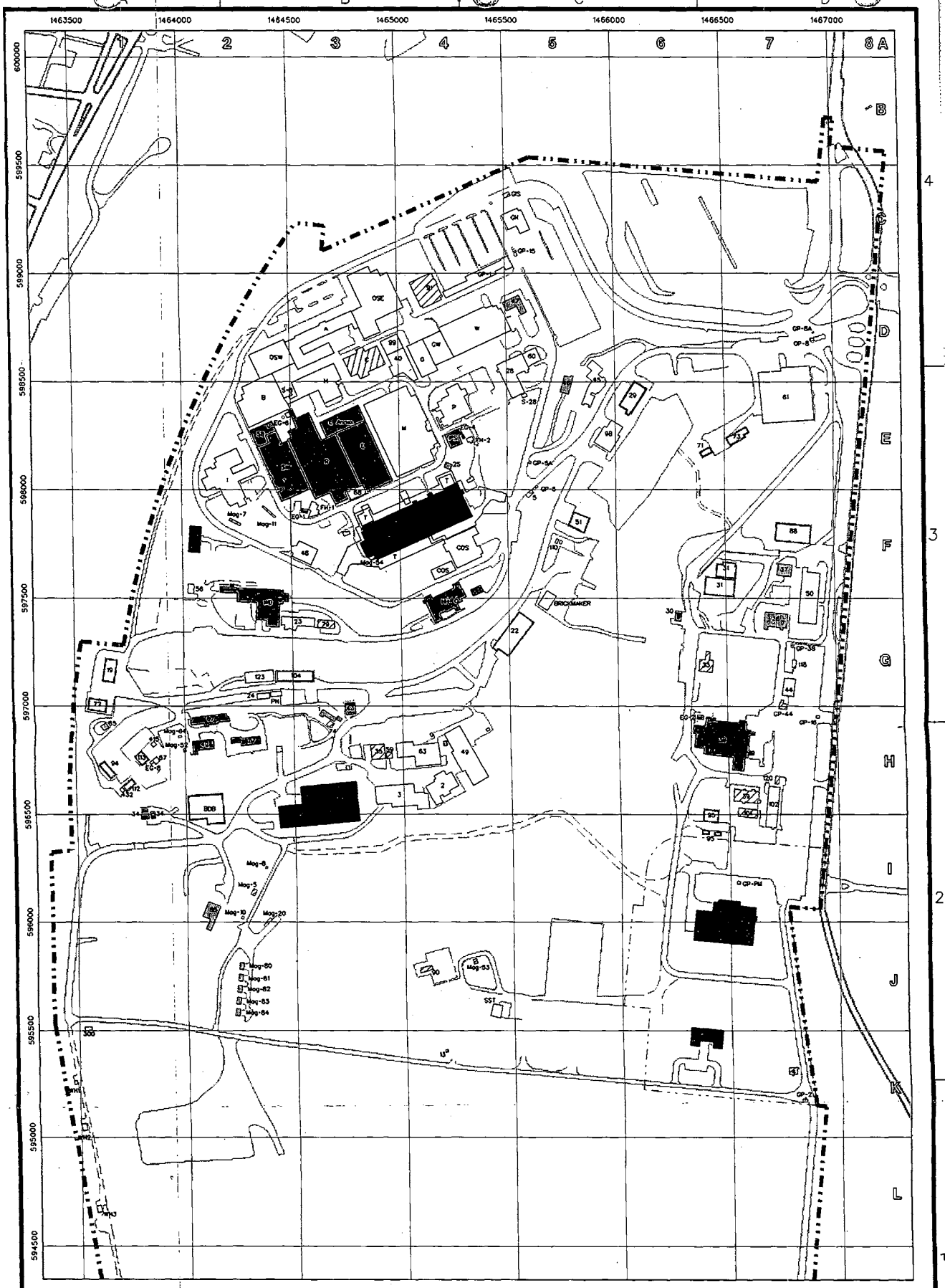
Pyrmont
Taylorsburg
Six Miles
Stringtown
TROTWOOD
Amity
Little Richmond
Kreitzer Corner
Stillwater Junction
Riverside
DAYTON
NEW LEBANON
Six Mile
Ridgewood Heights
New Chicago
Belmont
Shakertown
OAKWOOD
MORAINE
Southern Hills
Beaverlawn
Pasadena
KETTERING
Oakdale
FARMERSVILLE
Ellerton
Whitefield
West Carrollton
Miamisburg
Germantown
Woodbourne
Whipp Corner
Dokridge
Centerville
Stringtown
Brown Chapel
Carlisle
Dayton
Springboro
Manor
0 1/2 1 2 3 4
SCALE IN MILES
REX A. DICKEY, P.E.,P.S.
MONTGOMERY COUNTY ENGINEER
FEBRUARY, 1997



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

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

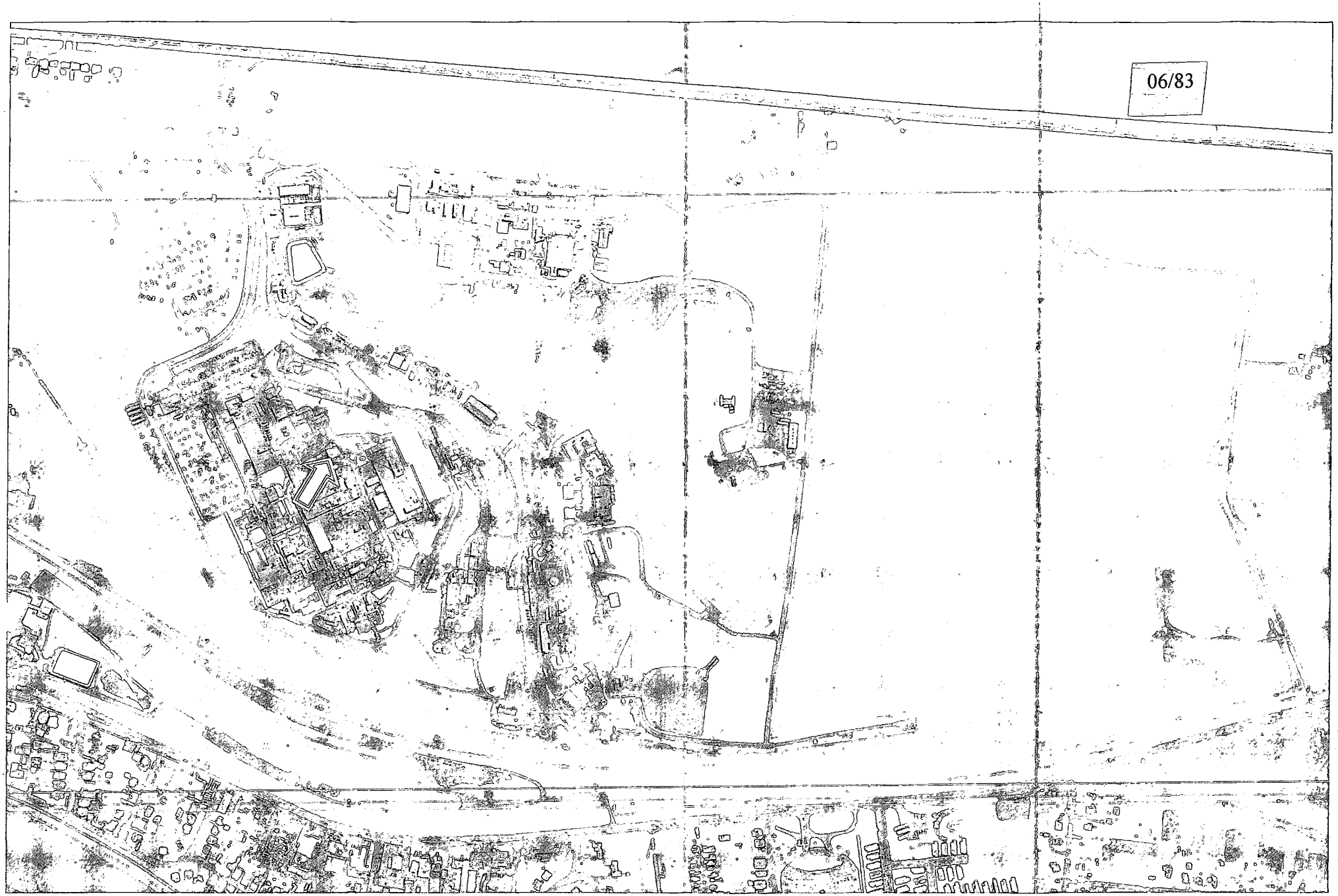
Building Disposition Core Team

01/19/99

DRAWING CLASSIFICATION	SIZE	DRAWING NUMBER	JOB NUMBER
UNCLASSIFIED	D	BLDG DISP	

DWG TYPE	PRMG	CADEC	SCALE	SHEET 1 OF
STATUS		ORIGIN	MSTATION 5.0	

04/04/94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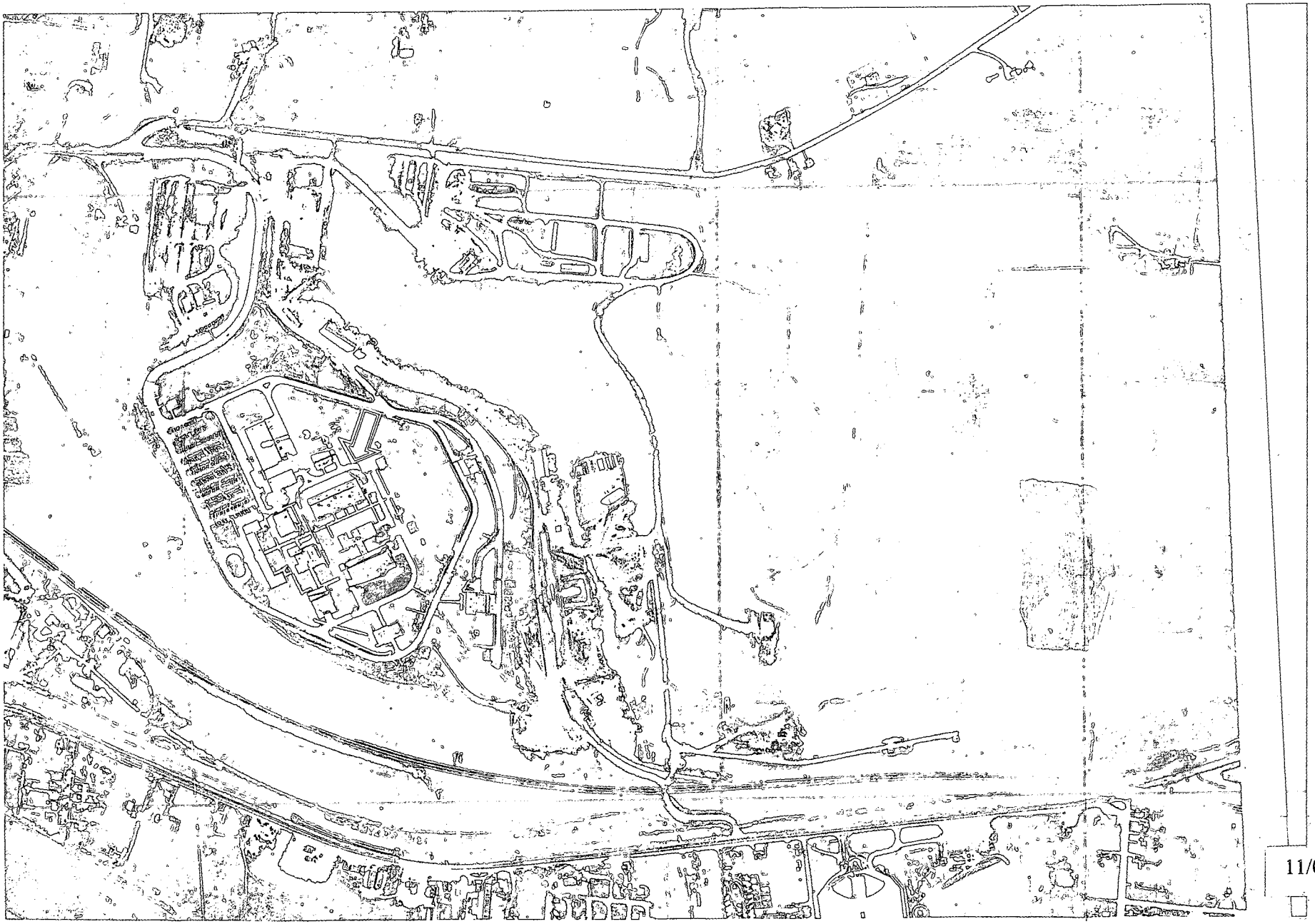

11/08/49